U. S.
OFFICIAL GAZETTE
UNITED STATES
PATENT OFFICE

VOL 873

APRIL
1970

MICRO PHOTO DIVISION

BELL & HOWELL

JLN

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
April 7, 1970 Volume 873 Number 1

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of February 1970

Examiner affirmed	188
Examiner affirmed in part	14
Examiner reversed	28
Total	230

Disclaimers

3,367,589.—*Albert H. Chant, Jr.*, Holland, and *William F Wilson, Jr*, St. David's, Pa. FILM SELECTOR FOR PLASTIC FILM WRAPPING STATION. Patent dated Feb. 6, 1968. Disclaimer filed May 23, 1969, by the inventors; the assignee, *J B. Dove, Inc.*, consenting.

Hereby enters this disclaimer to claims 1, 2 and 3 of said patent

3,385,901. *Christ Tamborski,* Dayton, Ohio, and *Laurence W Breed,* Overland Park, Kans. FLUORINATED CARBINOLS AND METHOD OF PREPARING SAME. Patent dated May 28, 1968. Disclaimer filed Oct 27, 1969, by the assignee, *United States of America as represented by the Secretary of the Air Force.*

Hereby enters this disclaimer to claim 2 of said patent.

Fees In Connection With Amendments to Patent Applications

An increasing number of amendments are being received with improper fees. Because of the problems occasioned thereby, it is suggested that attorneys review the notices pertaining to fees and the Office practice related thereto (823 O.G. 814, Feb. 15, 1966; 828 O.G. 1, July 5, 1966; 828 O.G. 1085, July 26, 1966). Attention is invited to the new form 3.52. Amendment transmittal letter, for additional guidance in computing fees (869 O.G. 1036, Dec. 23, 1969). This form may be obtained from the Receptionist in Building 3 of Crystal Plaza. The new loose-leaf rule book, which will soon be available, includes a sample form (No. 52) also. When submitting the new amendment transmittal letter please include the Art Unit and Examiner's name.

The above notices and new form may also be found as items 24, 25, 29 and 147 in the consolidated listing of notices in the Official Gazette of Jan. 13, 1970.

RICHARD A. WAHL,
Assistant Commissioner.
Mar 13, 1970

Service by Publication

Charles S. Hewitt and Gary L. Timothy

In accordance with Rule 47 cf the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on Sept. 26, 1968, of an application for patent entitled "Expansion Joint With Water Lock," on behalf of Gary L. Timothy, whose last known address is 833 N. Sandy Hook, La Puente, California. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by Charles S. Hewitt without execution by the said Gary L. Timothy. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Gary L. Timothy in connection with the said application must be taken within thirty days of the publication of this notice.

RICHARD A. WAHL,
Assistant Commissioner of Patents

Petition To Revive Practice—Clarification

In clarification of the notice of Dec. 11, 1969 (869 O.G. 1362), the practice set forth in the second paragraph thereof is limited to proposed "responses" *before* final rejection. While a response to a non-final action may be either an argument or an amendment under Rule 111, a response to a final action "must include cancellation of, or appeal from the rejection of, each claim so rejected" under Rule 113.

Accordingly, in any case where a final rejection had been made, the proposed response required for consideration of a petition to revive must be either an appeal or an amendment that cancels all the rejected claims or otherwise prima facie places the application in condition for allowance.

In those situations where abandonment occurred because of the failure to file an appeal brief, the proposed response, required for consideration of a petition to revive, must include a brief accompanied by the proper fee.

RICHARD A. WAHL,
Assistant Commissioner.
Feb. 20, 1970.

Erratum

All references to Design Patent No. 216,880 to George S. Perrin, Fishing Lure, appearing in the Official Gazette of Mar. 17, 1970, should be deleted as the application was withdrawn from issue and the Patent was not issued.

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—April 7, 1970

Patents	1300—No. 3,504,377 to No. 3,505,676, incl.
Designs	26—No. 217,082 to No. 217,107, incl.
Reissues	7—No. 26,846 to No. 26,852, incl.
Def. Pub.	5—No. T873,001 to No. T873,005, incl.
Total	1338

Foreign Patents Received in the Search Center as of February 28, 1970

Source	Date received	Highest number
Australia:		
(*Abstracts*)	Feb. 28, 1970	60,877/68
(*Patents*)	Sept. 8, 1969	288,438
Austria	Feb. 12, 1970	276,485
Belgium	Feb. 16, 1970	684,600
Canada	Dec. 16, 1969	824,340
Czechoslovakia	Feb. 5, 1970	131,300
Denmark:		
(*Applications*)	Jan. 7, 1970	115,385
(*Patents*)	Feb. 28, 1970	114,994
East Germany	Feb. 24, 1970	70,532
Egypt	June 28, 1969	6,873
Finland:		
(*Applications*)	Jan. 7, 1970	41,730
(*Patents*)	Apr 7, 1969	37,180
France:		
(*Patents*)	Feb. 5, 1970	2,003,650
(*Additions*)	Feb. 5, 1970	94,400
(*Medicaments*)	Feb. 5, 1970	6,550 M
(*Additions*)	May 23, 1969	212 CAM
Germany:		
(*Auslegeschriften*)	Feb. 5, 1970	1,815,403
(*Patents*)	Sept. 22, 1969	1,282,547
(*Offenlegungsschriften*)	Feb. 16, 1970	1,915,154
Great Britain	Feb. 12, 1970	1,173,791
India	June 18, 1969	102,055
Ireland	Jan. 19, 1970	28,571
Italy	Mar. 3, 1969	700,000
Japan	Feb. 19, 1970	2,160/70
Korea	Sept. 12, 1969	234/69
Netherlands:		
(*Octrooiaanvragen*)	Feb. 12, 1970	3,830/69
(*Patents*)	Feb. 19, 1970	127,828
Norway:		
(*Applications*)	Feb. 24, 1970	118,543
(*Patents*)	Feb. 26, 1970	117,417
Pakistan	Mar. 3 1964	112,446
Philippine Republic	May 13, 1962	458
Poland	Feb. 5, 1970	58,886
Rumania	Feb. 5, 1970	51,794
Sweden:		
(*Applications*)	Jan. 8, 1970	318,399
(*Patents*)	Dec. 16, 1969	317,742
Switzerland	Nov. 7, 1969	477,042
U.S.S.R.	Feb. 10, 1970	244,821

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445 931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

Hosting Diplomatic Conference

On May 25, 1970, a Diplomatic Conference of great significance in advancing the international economic interests of the United States business community will be convened in our Nation's Capital. This conference, which is expected to be attended by representatives from more than 100 countries, will negotiate a Patent Cooperation Treaty, the purpose of which is to facilitate and improve the procedures for obtaining patent protection abroad. Not since the Washington Conference of 1911 has the United States had the opportunity to host an international industrial property conference of such significance.

The hosting of this Conference by the United States was authorized by a joint resolution (91st Congress, S.J. Res. 90) of both Houses of Congress which was signed into law (Public Law 91–160; 83 Stat. 443) by the President of the United States on December 24, 1969. The Secretary of State and the Secretary of Commerce are authorized to act as hosts of the conference which will be held from May 25 to June 19, 1970.

To meet the costs of extending to our distinguished foreign guests the hospitality of the nation, both the Secretary of Commerce and the Secretary of State, or either of them, are authorized to receive and use contributions, including services, which, for Federal tax purposes, will be deemed to be gifts for the use of the United States. The pertinent provision of the legislation follows:

> Sec. 3. The Secretary of State and the Secretary of Commerce, or either of them, are authorized to accept and use contributions of funds, property, services, and facilities for the purpose of organizing and holding such an international conference. For the purpose of Federal income, estate, and gift taxes, any gift, devise, or bequest accepted by the Secretary of State or the Secretary of Commerce under authority of the Act shall be deemed to be a gift, devise, or bequest to or for the use of the United States.

Contributions under this authorizing legislation may be made by check drawn to the order of the Secretary of Commerce "for PCT Fund" and sent to the Commissioner of Patents, Box 1970, U.S. Patent Office, Washington, D.C., 20231. Contributors responding before printing deadlines will be listed in the official program if they so desire.

Additional information or details are available either by writing to the above address or by telephoning the Office of International Patent and Trademark Affairs, U.S. Patent Office: Area Code (703) 557-3957.

WILLIAM E. SCHUYLER, Jr.,
Commissioner of Patents.

Mar. 24, 1970.

Certificates of Correction for the Week of Apr. 7, 1970

Re. 26,235
Re. 26,551
2,945,505
3,099,630
3,257,537
3,311,532
3,315,080
3,320,180
3,328,041
3,330,341
3,348,341
3,359,831
3,372,097
3,377,331
3,377,384
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3,382,556
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Certificates of Correction for the Week of Apr. 7, 1970

3,437,097
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3,462,439
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3,462,977
3,470,519
3,475,277
3,476,881
3,477,345

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New Loose-Leaf Rule Book

A new up-dated loose-leaf edition of the "Rules of Practice in Patent Cases" dated January, 1970, will be available on or about Apr. 6, 1970, from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. The new edition will be available on a subscription basis rather than the previous single copy basis. The subscription rate of this edition will be $2.00 domestic, plus 50 cents additional for foreign mailing. This price includes the basic manual and future revisions for an indefinite period. Binders for the new loose-leaf rule book will not be available from either the Superintendent of Documents or the Patent Office.

RICHARD A. WAHL,
Assistant Commissioner.

Mar. 12, 1970.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 10, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	3-13-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	12-18-67
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	4-12-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	1-22-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	*11-30-67
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	5-03-68
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	3-28-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*1-12-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	7-01-68
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-30-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	6-16-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-06-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5-13-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	8-19-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	11-21-68
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	9-23-68

Total number of pending applications (excluding Designs)	182,434
Total number of Design applications pending	3,107

Expiration of patents: The patents within the range of numbers indicated below expire during March 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,629,869 to 2,633,570, inclusive
Plant Patents	Numbers 1,172 to 1,177, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE CARL R. BETZ

No. 8213. Decided December 4, 1969

[57 CCPA —; 418 F.2d 942; 163 USPQ 691]

1. PATENTABILITY—COMBINING REFERENCES—OBVIOUSNESS.

"We take note of appellant's argument that the references * * * relied on below do not suggest any reason for combining them and could only have been combined from hindsight from appellant's disclosure. On the basis of this record, we find this contention untenable. The references pertain to analogous art and taken together for what they reasonably disclose and teach, they render the claimed invention obvious to one of ordinary skill in the subject art."

2. SAME—PARTICULAR SUBJECT MATTER—"ELECTROSTATIC PRINTING."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Electrostatic Printing" as unpatentable over the prior art, is affirmed.

APPEAL from Patent Office. Serial No. 467,943.

AFFIRMED.

Richard K. Stevens, John H. Lewis, Jr. (*John A. Crowley, Jr., Francis J. Mulligan, Jr., Stevens, Davis, Miller & Mosher*, of counsel) for appellant.

Joseph Schimmel (*Joseph F. Nakamura*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1, 9 and 19–26 in appellant's application for "Electrostatic Printing." [1] No claim has been allowed.

Illustrative of appellant's claimed invention, FIGS. 1 and 2 of the application drawings are reproduced below:

FIG 1

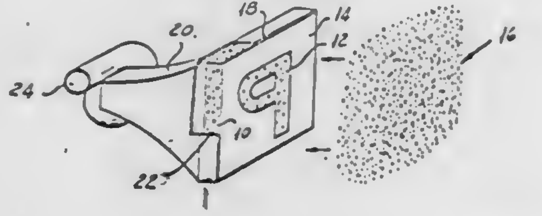
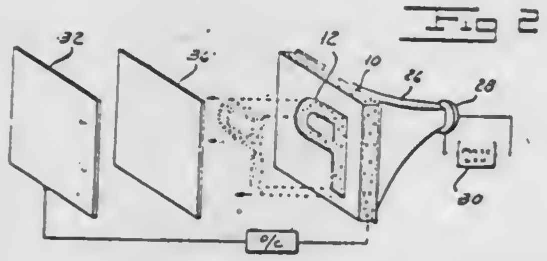


FIG 2



The application discloses a method of electrostatic printing and apparatus for its execution. An image is formed, such as the letter "P," from dielectric (triboelectric) particles on a porous conductive plate 10 and transferred to a sheet of paper 36 interposed in an electrostatic field between the porous plate and a second conductive plate 32. The face of the porous plate is provided with a mask 14. Suitable dielectric pigment particles are drawn against the unmasked areas to form the image through application of a vacuum to the back of the plate by means of vacuum chamber 20. It is disclosed that the particles tend to cling to unmasked areas of the porous plate. Acoustical transducer 26 functions to dislodge the particles and drive them into the electrostatic field. Alternatively, a pulsed piezoelectric transducer or an electric generator serves to apply a shock wave or voltage pulse to porous plate 10, or the particles thereon.

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[1] Serial No. 467,943, filed June 29, 1965. The application states that it is a continuation-in-part of appellant's copending application, Serial No. 419,439, filed December 18, 1964.

Sufficiently illustrative of the appealed claims are method claim 1 and apparatus claim 9:

1. A method of printing including the steps of forming an image of triboelectric particles over an extended area, placing said image adjacent an electric field, and applying a sharp pulse to said image over said area to propel image into said field to cause said image to be transferred electrostatically toward a surface to be printed.

9. Apparatus for printing on a surface including in combination, means for forming an image of dielectric particles, means for establishing an electrostatic field between said image-forming means and said surface and means for applying a sharp impulse to said image-forming means to propel said particles into said field to cause said field to transfer said image to said surface.

The references are:

Frohbach et al., 3,134,849, May 26, 1964.
Kramer et al., 3,180,256, Apr. 27, 1965.
Childress et al., 3,245,341, Apr. 12, 1966.

Frohbach relates to an electrostatic-writing system whereby the writing operation is concurrent with the operation of scanning the original by well-known facsimile-scanning techniques. In the system an electric field is established between spaced electrodes. Pigment or toner powder is introduced into the electric field from one of the electrodes and transferred by operation of the field onto a writing medium being passed transversely through the field. The electrode for introducing pigment or toner into the electric field is in the form of a cone-shaped container with a small opening at the bottom for the emission of powder. It is pointed out that the "opening is made so small that no pigment powder or toner powder will pass through it, despite any external forces, unless the container * * * is vibrated." An electromechanical transducer serves to vibrate the container in response to signals derived from scanning copy. The patent states that this "transducer may be any of the types well known in the art, such as a crystal of either the piezoelectric or ferroelectric type, a magnetostrictive device, or an electromagnetic motor such as the voice coil of a loudspeaker." The pigment or toner powder "may be any of the types employed in xerography or printing."

Kramer discloses a printing apparatus and method in which printing is effected by application of a pulse energy to a rigid plate in contact with porous material containing a liquid printing medium. In one form of the invention, the porous material has a stencil on the side opposite the rigid plate for forming the desired wording or symbol to be printed. Ink is supplied by a reservoir, and the rigid plate forms a part of the housing enclosing the porous material. The outside of the rigid plate is in contact with an impulse-generating device, such as an electrical solenoid. Actuation of the solenoid induces particles of ink to project across the gap between the porous material and the object to print the desired wording. The patent discloses an ultrasonic transducer or loudspeaker as other impulse-generating devices which may be used in lieu of an electrical solenoid.

Childress discloses an electrostatic printing apparatus in which a powder image is formed on the masked side of a porous conductive member by vacuum applied to the unmasked side. An electric field is utilized to transfer the image from the porous member to an image-receiving surface which may be spaced from the masked surface.

In aid of understanding of a pertinent form of the Childress apparatus, FIG. 3 is reproduced below:

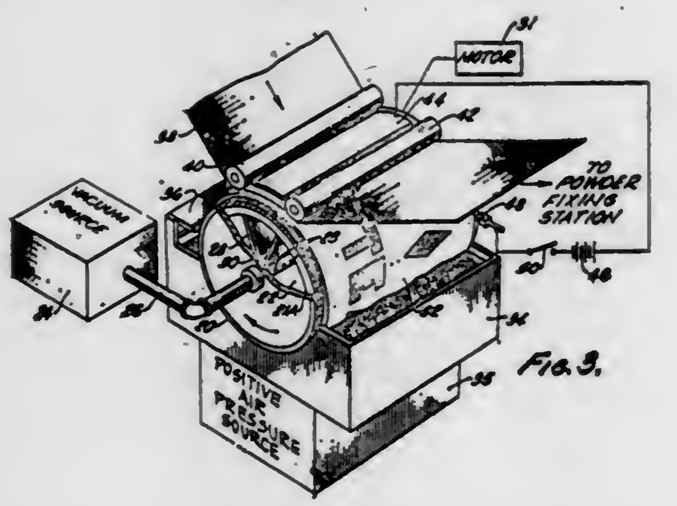

Fig. 3.

The porous member is in the form of a hollow cylinder 20, masked on its outer cylindrical surface 32, capped at both ends and rotated on a hollow perforated shaft connected to a vacuum source 24. The cylinder is rotated through a container 34 of electroscopic powder particles to form a powder image from particles drawn to open areas on the masked surface by vacuum inside the cylinder. Potential source 46 is connected between the cylinder and a conductive plate 44 to establish an electric field for transferring the powder image to a web 38 fed between the cylinder and plate to receive the image. To prevent application of a vacuum while the powder image is being transferred, two stationary walls 28, 30 are fixed on the hollow shaft inside the cylinder in the area beneath the plate. The patent points out:

> It can happen that the ends of the walls 28, 30, which rub against the inner side of the cylinder 20, do not provide a good enough vacuum seal through poor fitting or wear. In such a case * * * if the transfer force of the electric field is not strong enough a slight positive pressure of air may be fed to the V-shaped region from a positive pressure source 39, through a pipe 41, which connects to suitably placed openings in the pipe 23.

Relative to the powder image, it is stated that:

> It is interesting to note that the powder particles, when attracted to the porous surface adhere to this surface even after the vacuum is removed. They also adhere to one another despite the deposition on the surface to a considerable depth. The reason behind this is not clearly understood. It is believed to be either or both the triboelectric charge phenomenon as well as the fact that the powder particles are rather granular and adhere to one another simply due to the compaction of the particles.

All of the claims on appeal were rejected by the Examiner as being unpatentable over Childress in view of Frohbach and Kramer. Additionally, claims 1, 9 and dependent claims 19, 20, 24 and 25 were rejected on Childress alone. As to all claims, the Examiner applied the provisions of 35 U.S.C. 103. Thus, the sole issue here is obviousness.

Method claims 1, 19 and 20 recite broadly the step of applying a sharp pulse to the image to propel it into the electric field. Apparatus claims 9, 24 and 25 recite broadly "means" for applying a sharp impulse to the image-forming means to propel the particles into the electric field.

As noted in our analysis of the Childress patent, it teaches that if the transfer force of the electric field is not strong enough, a source of air under positive pressure may be applied to the V-shaped region behind the image. It was the Examiner's view, approved by the Board, that the step of applying a sharp pulse to propel the image into the electric field may be accomplished by the positive pressure source 39 of Childress. This seems to us to be a rational conclusion. However, with the teaching of Childress that air under pressure may be used to supplement the transfer force of the electric field, if inadequate of itself to transfer the particles in the image areas, we can see nothing unobvious in introducing air under sufficient pressure to dislodge the particles so that they may be transferred by the electric field. It appears to us that Childress would suggest to one of ordinary skill in the art that the particles need to be dislodged by the statement therein that the particles in the image areas adhere to the porous surface even after the vacuum is removed with the clear inference that they need to be dislodged.

While Childress does not make express reference to a "sharp pulse," we think it apparent that a rapid change in pressure takes place resulting in the application of a relatively sharp single pulse to the image particles. FIG. 3 of the Childress drawings shows that the image passes directly from a vacuum to a higher pressure as it enters the V-shaped area.

Method claim 21 calls for an "acoustic pulse" and apparatus claim 22 specifies an "acoustic transducer." Frohbach teaches the combination of an acoustic pulse and an electric field for transferring particles of powder by dislodging the particles with the acoustic pulse and transferring the dislodged particles by means of the electric field. The acoustic pulse is produced by the "voice coil of a loudspeaker." Additionally, Kramer teaches the use of a "loudspeaker' as an impulse-generating device for projecting particles of liquid printing medium from a porous printing member across a gap to the print-recording surface. The Examiner concluded, and we agree, that it would be obvious from the teachings of Frohbach and Kramer to use an acoustic pulse and an acoustic transducer to produce the pulse in Childress. It has been noted that Childress teaches that the transfer force of the electric field may not be strong enough to overcome a slight vacuum and even after the vacuum is removed, the particles adhere to the surface of the porous member. Faced with the teachings of Frohbach and Kramer, the desirability of providing an acoustic transducer in Childress would, in our view, be clearly obvious to one of ordinary skill in the art.

The Examiner rejected claims 1, 9, 19, 20, 24 and 25 on the same combination of references and for the same reasons assigned in rejecting claims 21 and 22. Inasmuch as these claims are broader as to the pulse-applying step and means, we are of the view that the rejection of these is proper for the reasons above stated.

The remaining claims 23 and 26 are directed to the apparatus. Claim 23 specifies a piezoelectric transducer and claim 26 calls for an electrical "pulse generator." Frohbach teaches the use of the piezoelectric transducer as an alternative to the "voice coil of a loudspeaker." We can envision nothing unobvious in its use in Childress.

The electrical "pulse generator" called for in claim 26, considered in the light of appellant's specification, is no more than an auxiliary generator for augmenting the electric field momentarily to aid in starting the transfer of the particles. Childress discloses a source of potential 46 for establishing the electrical field. A generator, as a matter of common knowledge, is one of the most common sources of electric potential. Where the transfer force of the electric field is not of sufficient strength, it would be clearly obvious to increase the energy or to augment the field by adding a second generator to dislodge the particles.

[1] We take note of appellant's argument that the references hereinabove discussed and relied on below do not suggest any reason for combining them and could only have been combined from hindsight from appellant's disclosure. On the basis of this record, we find this contention untenable. The references pertain to analogous art and taken together for what they reasonably disclose and teach, they render the claimed invention obvious to one of ordinary skill in the subject art. As was said by this court in *In re Rosselet*, 52 CCPA 1533, 347 F.2d 847, 146 USPQ 183:

> * * * the test of obviousness is not express suggestion of the claimed invention in any or all of the references but rather what the references taken collectively would suggest to those of ordinary skill in the art *presumed* to be familiar with them.

We have considered the issues raised and arguments advanced by appellant and are not persuaded of reversible error in the decision of the Board affirming the Examiner's rejection of the claims on appeal. **[2]** That decision is, accordingly, affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE PAUL J. MILLER

No. 8212. Decided December 18, 1969

[57 CCPA —; — F.2d —; 164 USPQ 46]

1. PATENTABILITY—PRINTED MATTER—INDICIA ON MEASURING DEVICES—FUNCTIONAL RELATIONSHIP—SECTION 112.

"It seems to us that what is significant here is not structural but *functional* relationship and that it is of no moment with respect to measuring devices such as the spoons, where the volume is measured *by filling the receptacle to its brim*, which could also be true of a cup, in what position on or relation to the receptacle the indicia and legend are placed. Claims 10–12 call for the indicia being 'on' and the legend being 'attached to' the receptacle. Claim 13 specifies that the indicia and the legend are both 'on' the 'cup-shaped receptacle.' This specifies the required functional relationship to carry out appellant's invention and clearly defines the disclosed invention as required by section 112."

2. SAME—SAME—SAME—SAME—SECTION 102 AND 103.

"As for the Examiner's characterization of the indicia and legend as 'unpatentable printed matter,' we note that the Examiner himself recognizes the fact that printed matter, in an article of manufacture claim, *can* be given 'patentable weight.' He did so in allowing claims. His characterization of printed matter as 'unpatentable' is beside the point; no attempt is here being made to patent printed matter as such. The fact that printed matter *by itself* is not patentable subject matter, because non-statutory, is no reason for ignoring it when the claim is directed to a combination. Here there is a new and unobvious functional relationship between a measuring *receptacle*, volumetric *indicia* thereon indicating volume in a certain ratio to actual volume, and a *legend* indicating the ratio, and in our judgment the appealed claims properly define this relationship. No question as to the novelty or unobviousness of the

invention as claimed is before us except with relation to an 'ordinary measuring vessel.' By implication, the Examiner admits that no such combination exists in or would be obvious from an ordinary measuring vessel and we therefore deem sections 102 and 103 to be satisfied."

3. SAME—PARTICULAR SUBJECT MATTER—"MEASURING DEVICE."

The refusal of certain claims in an application entitled "Measuring Device," as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 332,183.

REVERSED.

Thomson & Schovee (*John R. Schovee*, of counsel) for appellant.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MATTHEWS, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

RICH, *Acting Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 10–13 of application Serial No. 332,183, filed December 20, 1963, entitled "Measuring Device." Claims 9 and 14 were allowed in the Examiner's answer.

The disclosed invention has for its purpose the solving of the domestic culinary problem of measuring the ingredients from a cookbook recipe in something other than the full recipe. While it contemplates measuring out multiple recipes, for example a double recipe, it particularly contemplates solving the greater difficulty of measuring out fractional recipes, such as ⅓ or ½. Normally this would involve the calculation of such baffling measurements as ⅓ of ⅔ of a cup, which, it is assumed, would tax the mathematical abilities of many housewives. From the utility point of view, we will assume this to be so in the absence of any assertion by the Patent Office to the contrary. Indeed, we think we can judicially notice the fact.

While the rejection cites no references to establish prior art, we nevertheless have to take prior art into consideration because it is assumed on both sides that common kitchen measuring cups and spoons are well known. This is recognized by the specification which states:

> The required measurements of ingredients of most recipes are in terms of the common fractions of cups, tablespoons, etc., appearing on commercially available measuring cups and spoons.

The problem faced by the housewife or other cook is stated in the specification as follows:

> However, when a housewife wants to make a fractional recipe, few of the computed fractional measurements appear as graduations on commercially available measuring devices. Hence, even if the housewife is able to make the fractional or proportional computations or has a conversion chart, many of the computed measurements are only fractions of the graduations on the housewife's measuring devices. For example, even though a housewife is able to compute that ⅓ of ⅔ cup is 2/9 cup, and ½ of ¾ is ⅜ cup, she will not find such fractional cup graduations on her measuring cup.

We do not doubt that this presents a practical problem for many housewives, and for many cooks who are not housewives.

Appellant has provided equipment—articles of manufacture, under the statute, 35 U.S.C. 101—adapted to ameliorate the mental strain on cooks. The invention takes different forms. In the language of the claims there is, broadly, a measuring receptacle; more particularly, there is a spoon or a cup-shaped receptacle. The first element of each claim is the *receptacle*.

The second element of each claim is, as stated in the specification:

> * * * quantity measuring *indicia* on the receptacle of a selected ratio or proportion to, but different from the actual quantity measured in the receptacle by the indicia. [Emphasis ours.]

To explain, the indicia on a cup or spoon may indicate, for example, that it is measuring one cup or one tablespoon but the actual volumetric content of the receptacle, reading the indicia, in whatever form they may take, against its contents, is something different, say ⅓ cup or ⅓ tablespoon. In other words, the indicia, if taken literally and by themselves, are false.

The third element in each appealed claim is a *legend*, on the receptacle or attached to it, specifying the ratio or proportion of a full recipe which the above-mentioned false indicia actually measure in the receptacle. We do not use the term "false" in any derogatory sense; actually the false designation, coupled with the legend, serves as a computing or mathematical conversion device. A cook following a cookbook recipe and desirous of making ⅓ of the recipe merely selects measuring devices bearing the "⅓ recipe" legend, follows the recipe using these devices, and measures out what it calls for by following the indicia on the measuring receptacles. They perform the calculations automatically and require no further thought.

FIGS. 2 and 3 from the drawings are illustrative:

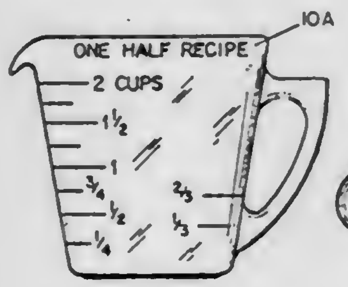

FIG. 2

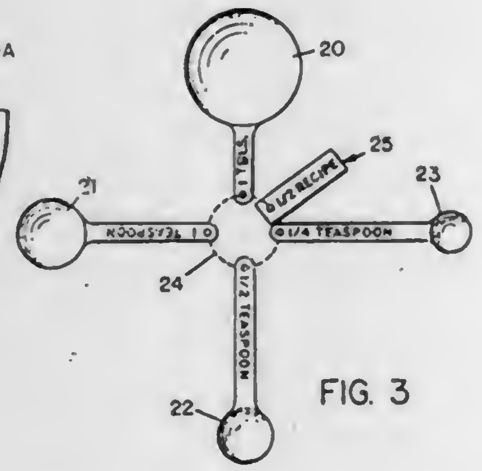

FIG. 3

FIG. 2 shows a measuring cup having the legend "One Half Recipe." The indicia on the side wall reading upward from ¼ cup to 2 cups indicate the points at which the cup's volume is actually ½ of what the indicia state, i.e., filled to "2 Cups" the actual volume is one cup. Similarly in FIG. 3, the familiar set of measuring spoons has been altered in accordance with the invention so that, for example, the spoon 21 to the left bearing the indicia "1 Teaspoon" on its handle actually measures, in accordance with the legend 25, a half teaspoon.

Claim 10 is illustrative of the rejected claims (emphasis ours):

> 10. A measuring device comprising: a *spoon* for measuring ingredients; and volume measuring *indicia* defined in a normal volumetric unit on said spoon of a selected ratio to but indicating a volume different from the actual volume of ingredients being added to and measured in said spoon by said indicia, and a *legend* attached to said spoon specifying said ratio.

In his answer, the Examiner stated that no references were relied on. (Up to that point, it appears that his rejections had been based entirely on prior-art patents.) The rejection by the Examiner which the Board affirmed, and which is before us for review, was as follows:

> Claims 10–13, which recite the combination of a measuring vessel having printed thereon (1) *indicia* specifying a given volume and (2) a *legend* specifying the ratio of this given volume to the actual volume that the vessel is capable of holding, are rejected as defining over any ordinary measuring vessel only by the addition of unpatentable printed matter. In this instance the claimed indicia and legend, being merely placed on the claimed structure in any desired location and manner, do not produce the required cooperative structural relationship necessary before the printed matter can be given patentable weight. It is believed to be well settled that patentable weight can be given printed matter only when a novel relationship exists between said printed matter and the claimed structure.

No authorities were cited by the Examiner in his answer, to support what he said was well-settled law or otherwise. We consider the Examiner's rejection unsound logically, if not self-defeating, and we reverse.

It is noted, first, that the Examiner recognizes the invention of the appealed claims for what it is, namely, a combination of three elements constituting a "manufacture" 35 U.S.C. 101. There is no assertion that the *claimed* invention is non-statutory subject matter.

It is noted, next, that the rejection appears to be based either on 35 U.S.C. 103 or 112 by reason of the statement that it "[defines] over any ordinary measuring vessel only" in a certain respect. The statutory basis is not specified. Thus an "ordinary measuring vessel" is assumed prior art, notwithstanding no references are relied on. The respect in which the appealed claims admittedly *do* "define over" such prior art is in their recitations of the "indicia" and the "legend," two of the three elements of each rejected claim, as clearly recognized by the Examiner. While the Examiner was quite willing to consider such elements as proper parts of the "structure" and in "a definite structural relationship with the wall of the measuring vessel" when, as in the allowed claims, they were required to be in "a specific location," he would give them no weight at all, apparently, when the location was not specified or necessarily restricted. He said, and we repeat (our emphasis):

> In this instance the claimed indicia and legend, being *merely placed on* the claimed structure [meaning the vessel] *in any desired location and manner*, do not produce the required cooperative *structural* relationship necessary before the printed matter can be given patentable weight.

We do not see why this is so and the Examiner does not tell us.[1] We do not see that "structural" relationship—whatever that means—is required to obtain the practical, problem-solving results of appellant's invention. In fact, it is apparent that such restrictions as the Examiner insists on would deprive the FIG. 3 embodiment of the invention of protection. Further, as the Solicitor pointed out at the argument, if all of the indicia of the FIG. 2 cup except the "One Half Recipe" legend and the "2 Cups" indicia were removed from FIG. 2, one would then have the subject matter of the appealed claims; yet, that subject matter would not be protected by the allowed claims.

[1] It seems to us that what is significant here is not structural but *functional* relationship and that it is of no moment with respect to measuring devices such as the spoons, where the volume is measured *by filling the receptacle to its brim*, which could also be true of a cup, in what position on or releation to the receptacle the indicia and legend are placed. Claims 10–12 call for the indicia being "on" and the legend being "attached to" the receptacle. Claim 13 specifies that the indicia and the legend are both "on" the "cup-shaped receptacle."

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[1] The Examiner did not care, apparently, where the *legend* was, for in allowed claims 9 and 14 the legends were merely recited as "on said receptacle." But he did think the volumetric *indicia,* such as the "2 Cups" scale on FIG. 2, supra, should have a *specific* relation to the receptacle other than merely being "on" it.

This specifies the required functional relationship to carry out appellant's invention and clearly defines the disclosed invention as required by section 112.

[2] As for the Examiner's characterization of the indicia and legend as "unpatentable printed matter," we note that the Examiner himself recognizes the fact that printed matter, in an article of manufacture claim, *can* be given "patentable weight." He did so in allowing claims. His characterization of printed matter as "unpatentable" is beside the point; no attempt is here being made to patent printed matter as such. The fact that printed matter *by itself* is not patentable subject matter, because non-statutory, is no reason for ignoring it when the claim is directed to a combination. Here there is a new and unobvious functional relationship between a measuring *receptacle*, volumetric *indicia* thereon indicating volume in a certain ratio to actual volume, and a *legend* indicating the ratio, and in our judgment the appealed claims properly define this relationship. No question as to the novelty or unobviousness of the invention as claimed is before us except with relation to an "ordinary measuring vessel." By implication, the Examiner admits that no such combination exists in or would be obvious from an ordinary measuring vessel and we therefore deem sections 102 and 103 to be satisfied.

The Solicitor seeks some support for sustaining the rejection in *In re Sterling*, 21 CCPA 1134, 70 F.2d 910, 21 USPQ 519, but we find none therein. As we pointed out in *In re Jones*, 54 CCPA 1218, 373 F.2d 1007, 153 USPQ 77, also cited by the Solicitor, the *Sterling* claims were held unpatentable over prior art references. The Solicitor seems to urge that we *ignore* the claim limitations to the indicia and legends because they are printed and because printed matter is not patentable subject matter by itself. For reasons indicated above, we reject that argument.

[3] The decision of the Board affirming the rejection of claims 10–13 is reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,544,246, G. H. Butterfield, CORNEAL CONTACT LENS, **filed** Feb. 20, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c412, *George H. Butterfield, Sr. v. Vogel Contact Lens Company.* **Same, filed** Feb. 24, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–101, *George H. Butterfield, Sr. v. Wisconsin Optical Service, Inc.* **Same, filed** Feb. 24, 1970, D.C., E.D. Wis. (Milwaukee), Doc. No. 70–C–102, *George H. Butterfield, Sr. v. Herslof Optical Company, Inc.* **Same, filed** Feb. 24, 1970, D.C. N.D.N.Y. (Utica), Doc. 70–CV–57, *George H. Butterfield, Sr. v. Dr. Jerome Weiss, doing business as American Contact Lens Laboratory.* **Same, filed** Feb. 25, 1970, D.C., N.D.N.Y. (Utica), Doc. 70–CV–58, *George H. Butterfield, Sr. v. Onondaga Optical Co., Inc.* **Same, filed** Feb. 25, 1970, D.C., N.D.N.Y. (Utica), Doc. 70–CV–59, *George H. Butterfield, Sr. v. Edelstein Optical Lab., Inc.*

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3,068,064, R. L. McDonald, METHOD OF STERILIZING, **filed** Dec. 29, 1969, D.C., W.D. Pa. (Erie), Doc. 125–69, *American Sterilizer Company v. Sybron Corporation and Castle Company, a Division of Sybron Corp.*

3,084,584, A. Iorio, ELECTRICAL MUSICAL INSTRUMENT, **filed** Jan. 22, 1970, D.C., S.D.N.Y., Doc. 70–272, *Iorio Instruments Inc. et al. v. Bell Accordion Corp. et al.*

3,152,793, R. H. Goldberger, PROCESS OF UNIFORMLY BLENDING FINELY DIVIDED CEMENT, SAND AND PIGMENT; **3,179,272**, same, APPARATUS FOR TRANSPORTING AND DISPENSING FINELY DIVIDED SOLID MATERIALS, **filed** Dec. 20, 1968, D.C., S.D.N.Y., Doc. 68–C–5087, *Richard H. Goldberger v. The Flintkote Co. and Harry T. Campbell Sons' Corp.* Consent and order, action discontinued, Dec. 22, 1969.

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3,243,098, R. E. Jacke, LINED RECLOSABLE CONTAINER HAVING OPENING AND RECLOSING MEANS; **3,263,899**, Collura, Hurley and Robinson, CARTON TEAR STRIP ARRANGEMENT WITH RECLOSURE FEATURE; **D. 196,883**, M. H. Robinson, ICE CREAM CARTON, **filed** May 14, 1968, D.C., S.D.N.Y., Doc. 68–C–1958, *St. Regis Paper Company v. Container Corporation of America.* Stipulation of voluntary dismissal, Sept. 19, 1969.

3,251,234. (See Re. 25,834.)

3,263,899. (See 3,243,098.)

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3,323,528, G. G. Link, SPRAYING TYPE ETCHING MACHINE FOR PRINTING PLATES, **filed** Jan. 6, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–5, *George G. Link v. Mueller Color Plate Co.*

3,364,664, D. H. Doane, GREASE EXTRACTOR FOR VENTILATING SYSTEMS, **filed** June 27, 1969, D.C., S.D. Tex. (Houston), Doc. 69–H–613, *Cockle Ventilator Co., Inc. v. Vent Master Corporation and Industrial Metal Fixtures, Inc.* Stipulation and order of dismissal, Dec. 30, 1969.

3,367,480. (See 3,023,738.)

3,372,897, E. R. Lee, REAR VIEW MIRROR, **filed** Jan. 21, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c133, *S. H. Leggitt Company v. Allen Electric & Equipment Co.*

3,395,469, J. J. Gilbert, PRESSING IRONS, **filed** Jan. 7, 1970, D.C., M.D. Fla. (Tampa), Doc. 70–12–C, *Franzus Industries Inc. v. John Oster Manufacturing Co. et al.*

3,401,909, T. L. Kalahar, SUPPORT FIXTURE, **filed** Jan. 5, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c9, *Thomas L. Kalahar, doing business as Perfix Mfg. Co. v. Dur-O-Peg Inc. et al.*

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Re. 25,834, Gelzer and Reed, ADJUSTABLE INDUCTANCE UNIT; **3,251,234**, A. A. Valdettaro, VHF-UHF TELEVISION TUNER, **filed** Jan. 7, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c22, *Sarkes Tarzian, Inc. v. Alps Electric Co., Ltd. et al.*

D. 196,883. (See 3,243,098.)

D. 212,602, R. A. Gera, SECTIONAL SOFA, **filed** Jan. 19, 1970, D.C., M.D.N.C. (Greensboro), Doc. C–13–G–70, *Schnadig Corporation v. National Upholstery Co., Inc. and Hi-Lite of High Point, Inc.* **Same, filed** Aug. 8, 1969, D.C., W.D. Va. (Abingdon), Doc. 69–C–80–A, *Schnadig Corporation v. Sawyers Furniture Company, Inc.* Final judgment by consent, Dec. 29, 1969.

D. 213,347, V. Schreckengost, BICYCLE FRAME, **filed** July 8, 1969, D.C., M.D. Tenn. (Nashville), Doc. 5449, *The Murray Ohio Manufacturing Company v. Spartans Industries.* By agreement case dismissed with prejudice, Dec. 30, 1969.

Plant Pat. 1,882, Simonian and Kazarian, PLUM TREE, **filed** July 15, 1969, D.C., E.D. Calif. (Fresno), Doc. F–324–C, *Neva Kazarian, individually and as administratrix of the estate of Luke Kazarian, deceased v. H. T. Kobashi.* Consent judgment, defendant enjoined, Dec. 30, 1969.

DEFENSIVE PUBLICATIONS

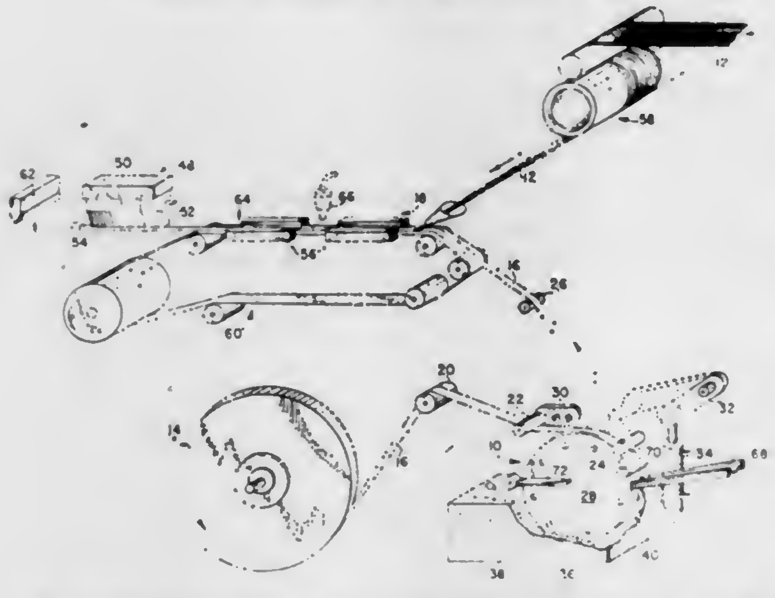
APRIL 7, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T873,001
MELT ADHESIVE APPLICATOR

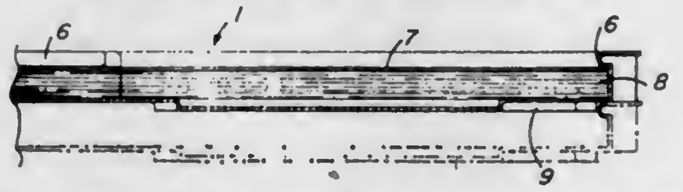
Phara Lee Cobb, Jr., P.O. Box 511,
Kingsport, Tenn. 37662
Filed July 15, 1968, Ser. No. 744,722
Int. Cl. D04h *3/00;* **A24d** *1/06*
U.S. Cl. 156—438
2 Sheets Drawing. 12 Pages Specification



An apparatus for the manufacture of tobacco smoke filter rods said apparatus containing a melt adhesive applicator for applying an adhesive composition to tobacco smoke filter wrap material. The adhesive applicator includes an engraved applicator roll partially immersed in a molten bath of adhesive composition, a doctor blade positioned against the roll and a guide roller system for the wrap material all of which together function to bring the wrap and roll into contact so that the adhesive composition is first deposited on the applicator roll and then on the wrap material.

T873,002
PACKAGE FOR SMALL SETS OF MICROFICHE

Adrian C. Runions, Rochester, and Arthur C. Rissberger, Jr., Webster, N.Y. (both of 1669 Lake Ave., Rochester, N.Y. 14650)
Filed Feb. 3, 1969, Ser. No. 796,096
Int. Cl. B65d *21/02, 71/00*
U.S. Cl. 220—97
1 Sheet Drawing. 6 Pages Specification



A package for microfiche. The package includes a tray having a generally rectangular base panel and side and end walls extending from the edges of the base panel at generally right angles thereto. The tray receives a stack of microfiche and a rigid cover panel. Locking flanges on the upper marginal edges of the side and end walls of the tray overlie the marginal edges of the cover panel to hold the panel and microfiche securely in the tray. The tray also has ridges at the corners of the base panel. These ridges serve to interlock adjacent packages when they are stacked on top of each other. The entire tray is made of plastic sheet which is thermoformed to the desired tray configuration. The base panel is dimensioned so that the corners of the microfiche are spaced from the juncture of side and end walls. This arrangement protects the corners of the microfiche should the package be dropped or impacted.

T873,003
PHOTOGRAPHIC GELATIN HARDENING COMPOSITION CONTAINING MAGNESIUM SULFATE

Lawrence J. Donivan, 1669 Lake Ave.,
Rochester, N.Y. 14650
Continuation-in-part of application Ser. No. 595,353, Nov. 18, 1966. This application Sept. 15, 1969, Ser. No. 858,120
Int. Cl. G03c *1/30*
U.S. Cl. 96—111
No Drawing. 12 Pages Specification

The hardening and swelling of photographic gelatin layers is controlled by treatment with acidic aqueous hardening solutions containing magnesium sulfate and an aldehydic gelatin hardening agent such as a mixture of formaldehyde and succinaldehyde bis-bisulfite. The solutions allow the gelatin layers to be carried through the various processing zones of roller transport processing systems without the production of roller pattern on the layers. Crystallization of salts on the apparatus is also avoided. Representative packaged compositions which are dissolved in water to form a working hardening solution comprise (1) a dry mixture of chemicals containing an aldehyde bisulfite, and magnesium sulfate and (2) an aqueous solution of a mixture of acetic acid and formaldehyde.

T873,004
ADDITION OF IODIDE BEFORE OR DURING FOGGING OF DIRECT-POSITIVE EMULSIONS

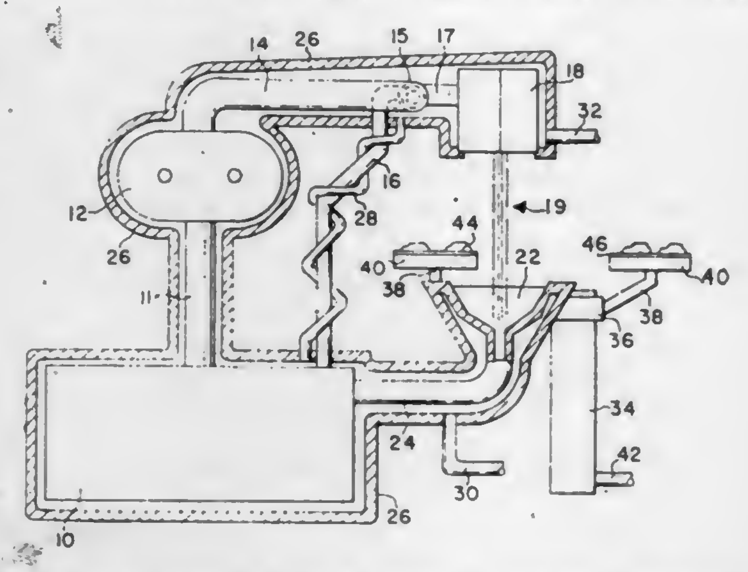
Evan Thomas Jones, Rochester, Kirby Mitchell Milton, Fishers, and Glen Marshall Dappen, Webster, N.Y. (all of Kodak Park Division, Rochester, N.Y. 14650)
Filed Sept. 16, 1969, Ser. No. 858,542
Int. Cl. G03c *1/08*
U.S. Cl. 96—107
No Drawing. 14 Pages Specification

This invention relates to an improved process for preparing direct-positive silver halide emulsions wherein a water-soluble iodide, such as potassium iodide, is added to the silver halide emulsion before or during uniform fogging of the silver halide emulsion. Preferably, the emulsion is heated after the addition of said iodide. Generally, blue-sensitive, direct-positive silver halide emulsions made by this procedure exhibit improved photographic properties such as increased speed, D_{max} increase, increased rate of fogging and improved D_{min}. When the silver halide emulsion comprises grains which are substantially free of sites for the deposition of photolytic silver, D_{min} is highly improved. However, covered-grain, direct-positive emulsions containing sites for the deposition of photolytic silver exhibit improved image properties when prepared by the process. The fogging of the emulsion can be carried out by known techniques and preferably by reduction fogging or reduction and gold fogging. Electron acceptors and/or halogen conductors are preferably used in the fogged, direct-positive emulsions. Emulsions prepared in accordance with this process wherein the halide is predominantly chloride can be processed with developers to provide low D_{min} in the image record.

T873,005
PROCESS FOR MANUFACTURING A PROTECTIVE PACKAGE

Spencer D. Snook and Ted L. Douglas, both of P.O. Box 511, Kingsport, Tenn. 37662
Continuation of application Ser. No. 765,506, Oct. 7, 1968. This application Nov. 3, 1969, Ser. No. 871,663
Int. Cl. B29c *17/04;* **B32b** *1/10*
U.S. Cl. 264—259
2 Sheets Drawing. 10 Pages Specification

An improved process for manufacturing a protective package in which a plastic package component is formed directly from pellets without an intermediate solid film-forming step. As shown in FIGURE 1, a viscous, film-forming thermoplastic is continuously extruded into a falling curtain (**19**). A mold (**44**) contoured to the shape of the article to be packaged is passed through the curtain, thus, coating the mold with the thermoplastic. A pressure differential is created across the coated mold to cause the thermoplastic to assume the desired shape of the mold.



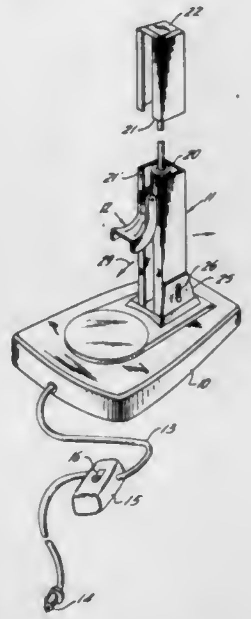
The thermoplastic is then allowed to cool and is removed from the mold. The extruded film must be bubble-free and a preferred material is cellulose acetate butyrate. The mold may be either a male or female type and may be associated with a substrate to which the thermoplastic is bonded as the film is formed over the mold.

REISSUES
APRIL 7, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,846
LIFTING DEVICE, PARTICULARLY VEHICLE JACK

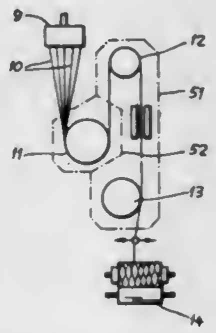
William W. Weiss, Norwalk, Conn., assignor to Superior Electric Motor Sales, Inc., Broadway, N.Y.
Original No. 3,376,019, dated Apr. 2, 1968, Ser. No. 616,830, Feb. 17, 1967. Application for reissue June 18, 1968, Ser. No. 741,835
Int. Cl. B66f *3/44*
U.S. Cl. 254—1 **14 Claims**



A unilateral rotary motion-longitudinal motion translator is mounted on a smooth spindle set on a base; it includes a pair of sleeves, the inner one carrying springs inclined with respect to the spindle; the outer one a car lift attachment. A motor, preferably one which can be plugged into a vehicle cigarette lighter, drives the spindle which will make the car lift attachment travel up the spindle; when the motor is stopped, the [springs will bind and hold a] car *is held* jacked in raised position without further brakes. The ends of the spindle are relieved to prevent over-running of the motion or translator.

26,847
MACHINE FOR TREATING TEXTILE THREAD

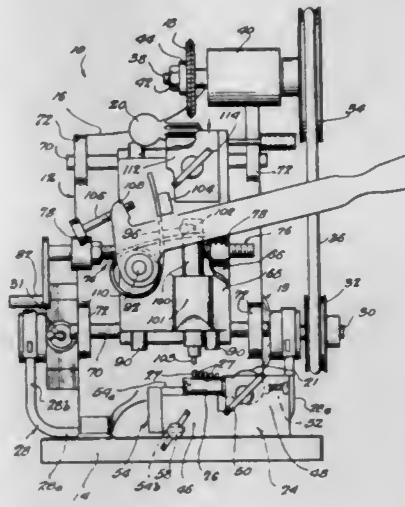
Rudolf C. Jaeggli, Winterthur, Switzerland, assignor to Rieter Machine Works Ltd., Winterthur, Switzerland, a corporation of Switzerland
Original No. 3,317,980, dated May 9, 1967, Ser. No. 396,890, Sept. 16, 1964. Application for reissue Dec. 21, 1967, Ser. No. 710,416
Claims priority, application Switzerland, Sept. 18, 1963, 11,560/63
Int. Cl. D02j *1/22, 13/00*
U.S. Cl. 28—71.3 **5 Claims**



The heated rotatable thread guide elements of the thread relaxing unit are enclosed within a housing. Each housing is provided with sluice means which permit the thread to enter and to leave the housing while inhibiting the exchange of the gaseous matter between the inside and outside of the housing means. In addition, the housing means can be supplied with air conditioning medium.

26,848
KEY CUTTING MACHINE AND METHOD

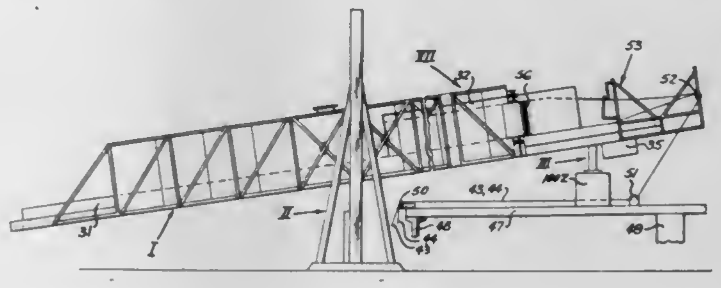
Harry Simon, 9229 S. Bennett, Chicago, Ill. 60617
Original No. 3,118,346, dated Jan. 21, 1964, Ser. No. 149,985, Nov. 3, 1961. Application for reissue July 1, 1968, Ser. No. 746,215
Int. Cl. B23c *1/16, 1/18;* **B21k** *13/00*
U.S. Cl. 90—13.05 **10 Claims**



A key cutting machine and method for providing and preparing a key from a lock cylinder by inserting into the lock cylinder a blank key and providing cuts on a second blank key having a location and depth corresponding to the location of each cylinder pin and its increment of protrusion from the cylinder.

26,849
SYSTEM FOR HANDLING FOAMED PLASTIC

Andrew T. Kornylak, Hamilton, Ohio, assignor to Kornylak Corporation, Hamilton, Ohio
Original No. 3,093,232, dated June 11, 1963, Ser. No. 143,891, Oct. 9, 1961. Application for reissue May 20, 1965, Ser. No. 463,979
Int. Cl. B29b *5/00*
U.S. Cl. 18—4 **23 Claims**



1. In a system for handling foamed plastic, a first endless belt type conveyor, a truss frame for supporting

said first conveyor and means for adjustably supporting said truss frame, means for driving said first conveyor, a second endless belt conveyor adapted to receive material from said first conveyor, means for driving said conveyor, a pair of side fences supported on said truss frame and extending to a point in close proximity to the conveyor surface, at least one of said side fences being transversely adjustable relative to the first conveyor, means for supplying web material as a liner for said first conveyor and said side fences, means for holding said web material to the first conveyor, means for supplying foaming plastic in fluid form to the first conveyor, means adjacent the discharge end of the second conveyor to receive the web material therefrom.

26,850

PREPARATION OF CELLULAR POLYOLEFINS

David A. Palmer, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Original No. 3,341,481, dated Sept. 12, 1967, Ser. No. 380,068, July 2, 1964. Application for reissue Feb. 4, 1969, Ser. No. 807,459

Int. Cl. C08d *13/08;* C08j *1/14*

U.S. Cl. 260—2.5 **28 Claims**

This invention involves a process of preparing cellular thermoplastic polymers which comprises heating in a closed mold the thermoplastic polymer, an azido cross-linking agent, and a blowing agent to expand and foam said polymer.

26,851

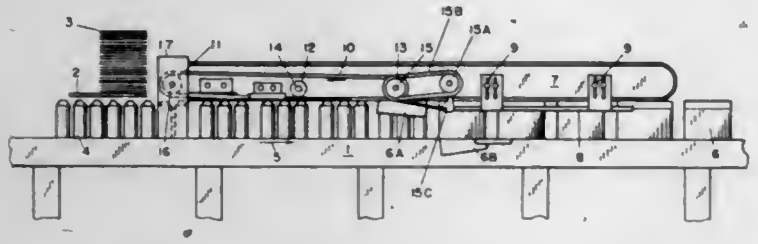
PACKAGING MACHINE AND METHOD

Hermond G. Gentry and Bruce Garrard, Atlanta, Ga., assignors to The Mead Corporation, a corporation of Ohio

Original No. 3,127,720, dated Apr. 7, 1964, Ser. No. 173,581, Feb. 15, 1962. Application for reissue Mar. 29, 1966, Ser. No. 541,056

Int. Cl. B65b *11/48*

U.S. Cl. 53—32 **15 Claims**



13. A method of forming a package for a plurality of articles comprising arranging the articles in a group, moving the group along a predetermined path, placing a wrapper type blank in transverse relation to the path of movement of the group of articles and moving it in substantial synchronism therewith, folding parts of the blank along the leading and trailing edges thereof and on opposite sides of the group of articles in the general direction of the articles so as to cause intermediate parts of the blank along the leading and trailing edges thereof to swing toward the articles, and securing the ends of the blank together.

26,852

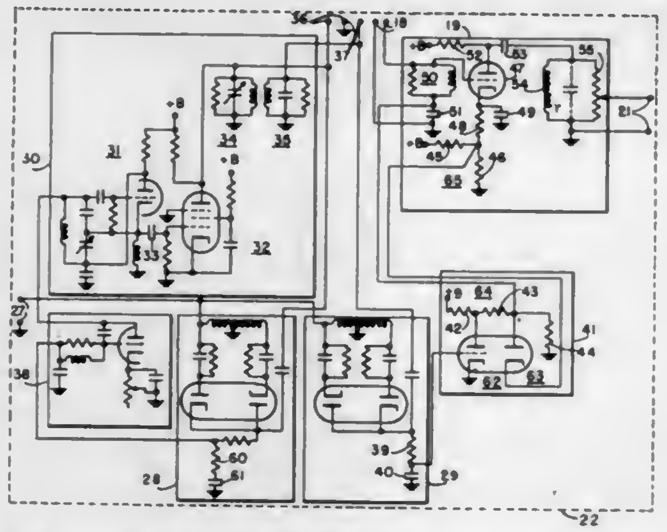
PHASE DETECTOR AND COLOR KILLER

Donald Richman, Fresh Meadows, N.Y., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois

Original No. 2,954,425, dated Sept. 27, 1960, Ser. No. 368,067, July 15, 1953. Application for reissue Sept. 10, 1962, Ser. No. 223,581

Int. Cl. H04n *9/48*

U.S. Cl. 178—5.4 **28 Claims**



1. A compatible color-television receiver comprising: means for receiving either a monochrome image-representative signal or a color image-representative signal including a component representative of the luminance, a component representative of the chrominance, and repetitive color synchronizing signals liable to accompanying noise signals; an image-reproducing device for reproducing either a monochrome or a color image; a monochrome channel between said means and device for translating either said monochrome signal or said luminance component; and a chrominance-signal deriving apparatus between said means and device for translating said chrominance component icluding: means for deriving said chrominance component and synchronizing signals from said color signal, a color reference-signal generator which normally generates reference oscillations in synchronism with said synchronizing signals at a desired phase relation thereto but which may be undesirably out of such synchronism, synchronizing means responsive to said synchronizing signals for normally maintaining said oscillations in such synchronism at said desired phase relation with said synchronizing signals, means including a single phase detector responsive jointly to said synchronizing signals and to said reference oscillations for producing a phase indicative unidirectional control voltage highly immune to said noise signals when said synchronizing signals and oscillations are in such synchronism at said desired phase relation and a lesser control voltage both when said synchronizing signals are absent and when they are out of such synchronism with said oscillations, and means responsive to said unidirectional control voltage for controlling the operation of said apparatus in one mode when said oscillations and said synchronizing signals are in such synchronism at said desired phrase relation and in another mode when said synchronizing signals are absent and when they are present but are out of such synchronism with said oscillations.

PATENTS

GRANTED APRIL 7, 1970

GENERAL AND MECHANICAL

3,504,377

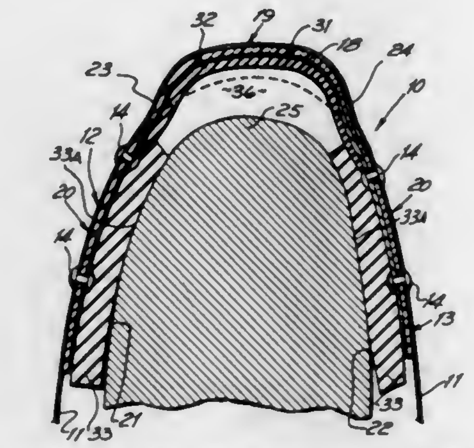
PROTECTIVE SHOULDER PAD

Ernest R. Biggs, Jr., 3759 Chevington Road, Columbus, Ohio 43221, and George D. Busenburg, 2678 Valley View Drive, Columbus, Ohio 43204

Filed Oct. 4, 1968, Ser. No. 765,064

Int. Cl. A41d *13/00*

U.S. Cl. 2—2 **7 Claims**



A protective shoulder pad particularly adapted to be worn by a football player beneath the usual shoulder pads worn in that game. The protective shoulder pad includes an arch-like rigid support having downwardly and outwardly sloping side sections disposed on opposite sides of a central section, the side sections partially defining a substantially U-shaped cross-sectional profile. The central section is in the nature of a corrugation raised out of the U-shaped profile and is defined by creases at the boundaries of the side and central sections. The corrugation or central section is spaced from the wearer's shoulder when the pad is in use with the side sections contacting the chest and back of the user, thereby providing a cantilever pad structure to protect the wearer's shoulder from receiving direct shock impact. Pads are preferably adhered to the inner surface of the side sections to further space the central section from the shoulder, enhancing the cantilever characteristics of the pad.

3,504,378

METHOD OF PRODUCING COMPOSITE STIFFENING MEMBERS FOR COLLARS

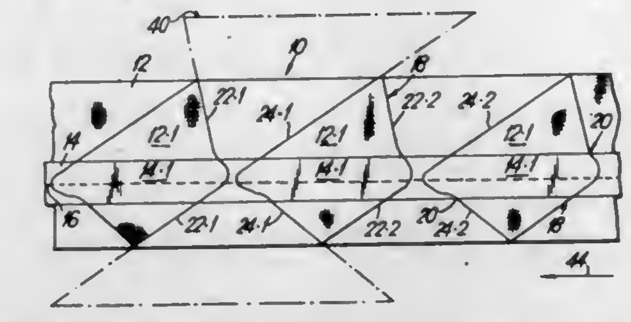
David S. Teperson, Johannesburg, Transvaal, Republic of South Africa, assignor to Dubin-Haskell-Jacobson (S.A.) (Proprietary) Limited, Johannesburg, Transvaal, Republic of South Africa, a corporation of Republic of South Africa

Filed Jan. 17, 1967, Ser. No. 609,871

Claims priority, application Republic of South Africa, Feb. 8, 1966, 66/741

Int. Cl. A41b *3/06*

U.S. Cl. 2—143 **6 Claims**



Manufacture of composite collar stiffeners which includes the preassembly of component parts to form a workpiece from which stiffeners are then cut by feeding the workpiece automatically into reciprocating blanking-out dies.

3,504,379

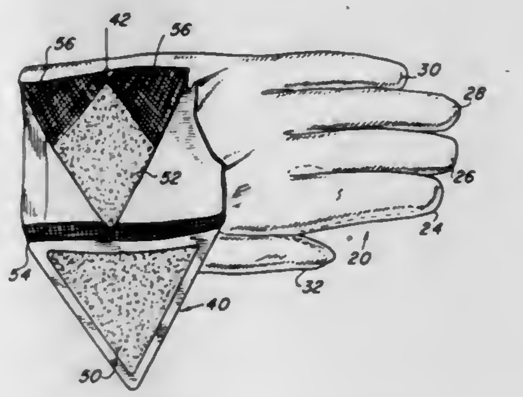
GLOVE

Frank L. Glick, 1216 S. Western Ave., Park Ridge, Ill. 60068

Filed Feb. 7, 1969, Ser. No. 797,388

Int. Cl. A41d *19/00*

U.S. Cl. 2—161 **7 Claims**



An athletic glove in which the back of the glove is open to expose the knuckles of the hand and in which attachment flaps connected to the opposite sides of the glove at the base of the finger stalls and at the wrist of the glove extend across the open back in overlapping relation and may be fastened together to subject the glove to lateral tension to maintain the palm of the glove tightly against the hand to reduce slippage between the hand and the glove. In addition a releasable selectively adhering type of material such as Velcro attached to the gripping surface of the glove cooperates with a mating piece on the shaft to assist in retention of the shaft being gripped.

3,504,380

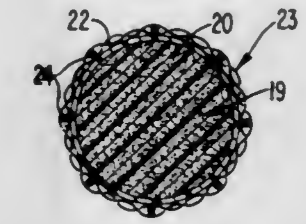
BUOYANT GROMMET FOR CAPS

Paul G. Gallin, 729 Broadway, New York, N.Y. 10003

Filed June 24, 1968, Ser. No. 739,473

Int. Cl. A42b *1/02*

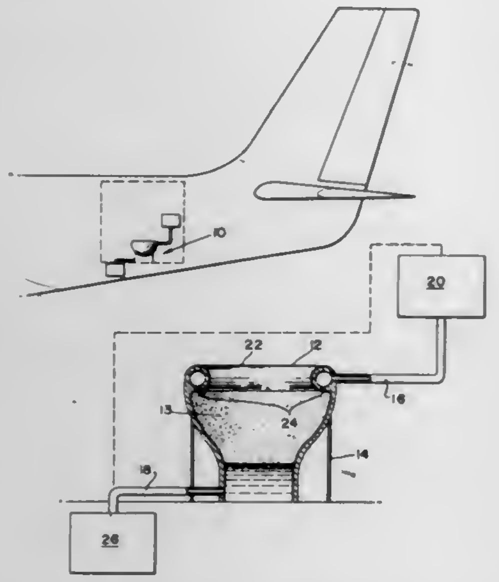
U.S. Cl. 2—199 **4 Claims**



A buoyant grommet adapted to be inserted within the crown of a yachting or like cap is in the form of an annular member having the characteristic of flexibility and also having a substantial degree of torsional resiliency whereby the associated cap may be shaped by twisting the grommet. The grommet is of cellular internal structure and of sufficient bulk to render the associated cap buoyant.

3,504,381
TOILET BOWL

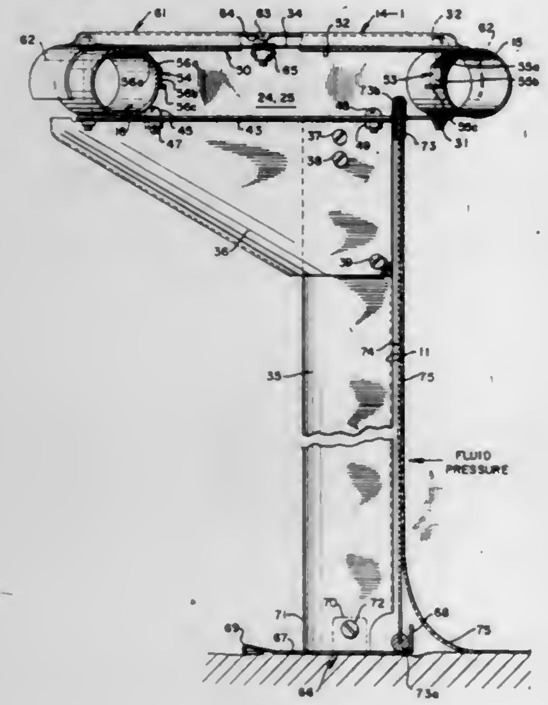
**Davis R. Dewey II, R.F.D. 1, Old Winter St.,
Lincoln, Mass. 01773
Filed Feb. 21, 1968, Ser. No. 707,121
Int. Cl. E03d** *11/13;* **B64d** *11/02*
U.S. Cl. 4—76 3 Claims



A self-contained disposal system which includes a toilet bowl the inner surface of which is coated with a fluorocarbon material which material has a very low adhesion for waste materials. A flush water tank and a waste storage tank are used respectively to introduce flush materials into the toilet bowl and to store the waste and flush materials removed from the bowl.

3,504,382
PLATFORM FOR ABOVE-GROUND SWIMMING POOL

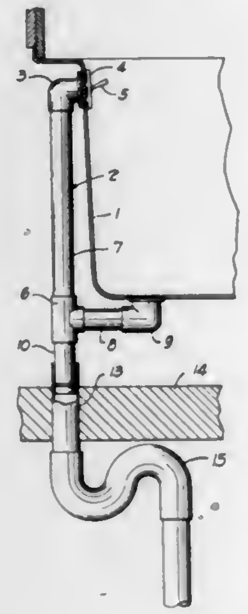
**Erich Schatzki, New York, N.Y., assignor, by mesne assignments, to P. & F. Pool Products Inc., Great Neck, N.Y., a corporation of New York
Filed Mar. 29, 1968, Ser. No. 717,151
Int. Cl. E04h** *3/18*
U.S. Cl. 4—172.19 14 Claims



A platform assembly for use with an above-ground recreational structure such as a swimming pool which is formed by a plurality of platform sections each having a pair of rigid tubular members holding a weight-bearing panel therebetween. Coupling means are secured to vertical reinforcing members for the pool wall and the tubular members are in turn secured to these coupling means. The elongated panel is supported between a pair of the tubular members. The platform assembly also can be extended to provide several widths of load bearing panels thereby providing a wider platform area.

3,504,383
WASTE CONNECTION SEAL

**Stephen A. Young, Monticello, Ind.
(℅ Stephen A. Young Corporation, Flora, Ind. 46929)
Filed Oct. 26, 1967, Ser. No. 678,376
Int. Cl. F16l** *27/12;* **E03c** *1/00*
U.S. Cl. 4—191 1 Claim

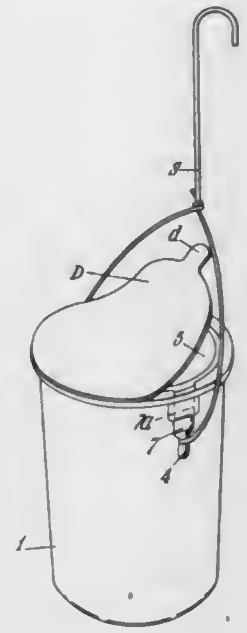


This invention relates to seal construction particularly for bathtub drains which will facilitate the installation of a bathtub and connection of the drain extending therefrom without requiring that the plumber build a special access opening for access to the drain connection which is normally required because of the necessity heretofore of either soldering the connection together or drawing up a slip-nut arrangement of some kind. Specifically the invention contemplates the use of a seal arrangement which is manipulated upon installation of the bath drain alone, not requiring any further attention by the plumber since the seal effected upon introduction of the connecting parts is positive by reason of the construction thereof, and requires no further adjustment or contact by the plumber. The arrangement can obviously be used in other places where accessibility is so reduced as to make the same desirable or where the cost of making such connection combined with accessibility makes the connection of this invention desirable and useful.

3,504,384
TOILET BOWL CLEANING AND DISINFECTING DEVICE

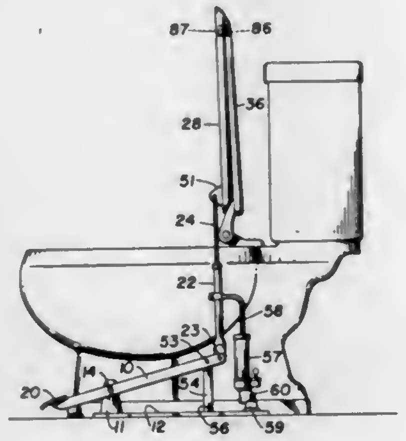
**Jack Augustus Radley, William Stuart Fraser, and George Ernest Moss, Reading, and John Hilton Thompson, Liverpool, England, assignors to Russell Research Limited, London, England
Filed Oct. 14, 1964, Ser. No. 403,833
Claims priority, application Great Britain, Oct. 23, 1963, 41,869/63
Int. Cl. E03d** *9/03*
U.S. Cl. 4—228 15 Claims

A toilet bowl cleaning and disinfecting device to be affixed to the inside of the toilet cistern at a point intermediate the full and flushed levels of the water in the cistern. The device has a non-porous compartment which contains water soluble cleaning medium, and that compartment has at least one aperture through which the entrapped air can escape when the device is submerged in the cistern, through which a quantity of water can flow to form a concentrated solution with a portion of the cleaning medium, and from which the concentrated solution can flow when the water level in the cistern is lowered by flushing. Furthermore, there is a separate non-porous retaining means which contains a water-soluble disinfectant which may be independently exposed to the water.



3,504,385
TOILET SEAT LIFTER

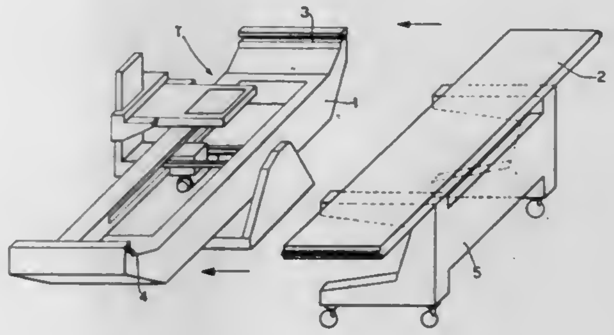
**Marshall Fields, Rte. 1, Box 7, Big Spring, Tex. 79720
Continuation-in-part of abandoned application Ser. No. 582,004, Sept. 26, 1966. This application May 8, 1967, Ser. No. 641,414
Int. Cl. A47k** *3/10*
U.S. Cl. 4—251 5 Claims



A toilet seat lifting device including a lever having a foot pedal at one end thereof pivotally mounted on a base secured to the floor. A sleeve having a right angle rod extending from one end thereof is rotatably attached to the end of the lever opposite the foot pedal. The right angle rod connects to the toilet seat. A hydraulic cylinder pivotally mounted to the floor and connected to the sleeve controls the descent of the toilet seat from its opened to its closed position. For automatic flushing action, a flushing handle connects to an extension of the right angle rod.

3,504,386
X-RAY TABLE, HAVING A REMOVABLE AND REPLACEABLE PATIENT-SUPPORTING BOARD

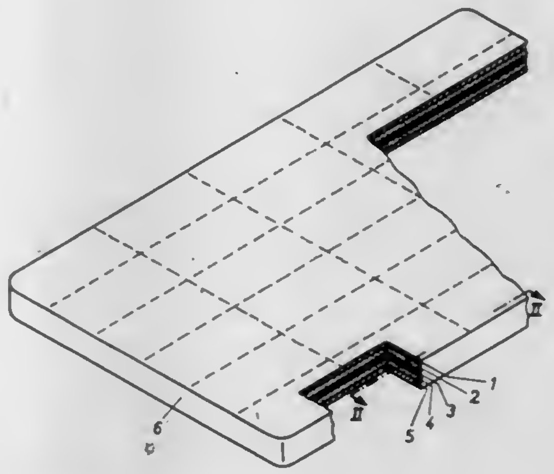
**Guido Rossi, Milan, Italy, assignor to Generay-Generale Radiologica S.p.A., Monza, Milan, Italy, an Italian company
Filed Sept. 20, 1966, Ser. No. 580,759
Claims priority, application Italy, Sept. 21, 1965, 21,077/65
Int. Cl. A47b** *83/04;* **A61g** *7/10*
U.S. Cl. 5—81 3 Claims



An X-ray table comprises an articulated framing with guideways adapted to removably receive a patient-supporting board which is carried on a rollable supporting carriage.

3,504,387
BED COVER

**Paul Hummel, Heidenheim, Germany, assignor to C. F. Ploucquet, Heidenheim, Germany
Filed Dec. 22, 1965, Ser. No. 515,640
Claims priority, application Germany, Feb. 25, 1965, P 36,155
Int. Cl. A47g** *9/02;* **A47c** *27/22*
U.S. Cl. 5—335 14 Claims

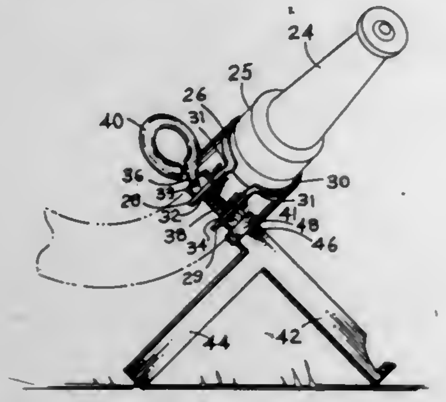


A composite bed cover comprising an outer wrapper which includes two spaced layers of textile material. An insert is received between these layers and comprises a fibrous inner layer and two continuous outer layers of foamed plastic sheet material. The outer layers of sheet material are respectively contiguous with the major surface of the inner layer. At least some adjoining layers are interconnected by suitable means and major areas of each layer are permitted freedom of movement with reference to the adjacent layers.

3,504,388

HOSE COUPLING TOOL

Wilfred Tunstall, 12874 2nd St., Yucaipa, Calif. 92399, and Albert Wegner, 223 Syllmer Court, Calimesa, Calif. 93453
Continuation-in-part of application Ser. No. 525,679, Feb. 7, 1966. This application Oct. 13, 1967, Ser. No. 675,115
Int. Cl. A47g *29/00;* **B25f** *1/00*
U.S. Cl. 7—1 **1 Claim**

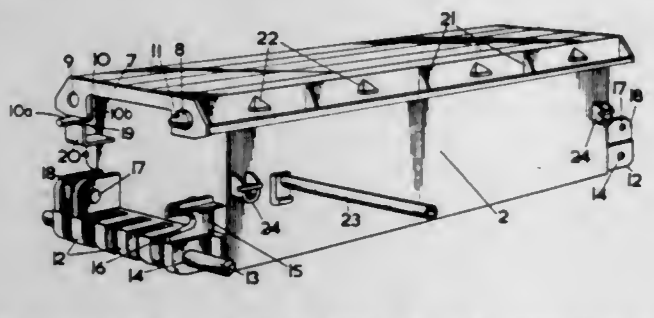


An apparatus for attaching hose collars tightly to a faucet or nozzle and in addition provides a hose support for sprinkling. The device includes a clamp to be attached to a faucet or nozzle by a bolt passing through apertures formed in ears carried by the clamp. A combined bolt tightener and hose elevating member is carried by the threaded end of the bolt for selectively supporting a hose or tightening a bolt.

3,504,389

BRIDGES

Eric Longbottom, Bournemouth, England, assignor to National Research Development Corporation, London, England
Filed Dec. 12, 1967, Ser. No. 689,934
Claims priority, application Great Britain, Dec. 16, 1966, 56,343/66
Int. Cl. E01d *15/12, 15/14*
U.S. Cl. 14—13 **11 Claims**



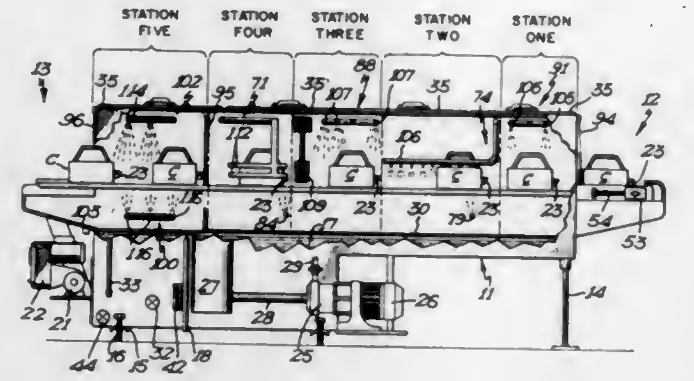
The invention provides girders for the construction of bridges and the like comprising a plurality of sections, each section having two end faces each mating with a complementary face on the adjacent section, each end face having a guide member and a tapered guide slot which engage respectively with the tapered guide slot and the guide member on the complementary face so that the two sections are accurately positioned with respect to each other, and having means rigidly connecting each pair of adjacent sections.

3,504,390

APPARATUS FOR WASHING CARTONS

Cornell M. Wing, 5952 Independence Ave., New Hope, Minn. 55428
Filed May 8, 1968, Ser. No. 727,615
Int. Cl. A47l *15/00;* **B67c** *1/08*
U.S. Cl. 15—56 **3 Claims**

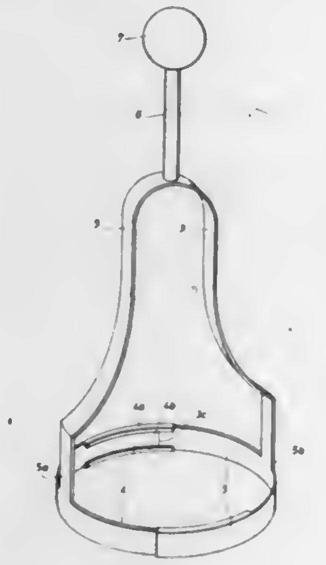
Apparatus for continuously washing reusable, compartmentalized containers, such as plastic, soft-drink cartons. A self-contained unit is provided. Cartons are continuously fed through the apparatus in spaced relationship three abreast. Detergent containing water is discharged under pressure at a plurality of washing stations along the path of the cartons. The wash water is collected and recirculated. Rinse water is sprayed over the cartons at a rinse station. At each station manifold means is provided to direct a stream of water over the cartons in a pattern conducive to efficient cleaning thereof.



3,504,391

BLENDER SCRAPER

Helen A. McCarty, Box 131, Trinity, Tex. 75862
Filed Mar. 11, 1968, Ser. No. 712,137
Int. Cl. B08b *9/00*
U.S. Cl. 15—236 **8 Claims**



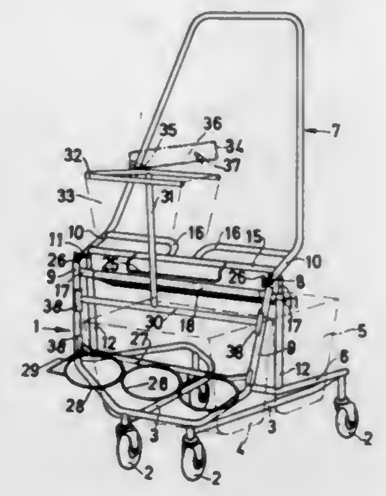
A scraper for removing excess food substance from the interior of a container such as a blender bowl. The scraper comprises a handle member having fork-like arms to each of which is affixed a scraper head. Each of the scraper heads are adjustably interconnected with one another so as to adapt to the circumference of the bowl as the scraping occurs.

3,504,392

TRANSPORT CARRIAGE FOR A CLEANING DEVICE

Jorgen Baek, Rodovre, Denmark, assignor to Det Danske Rengorings Selskab A/S, Charlottenlund, Denmark
Filed June 5, 1968, Ser. No. 734,730
Claims priority, application Denmark, Nov. 15, 1967, 5,708/67
Int. Cl. A47l *13/12, 13/59*
U.S. Cl. 15—260 **7 Claims**

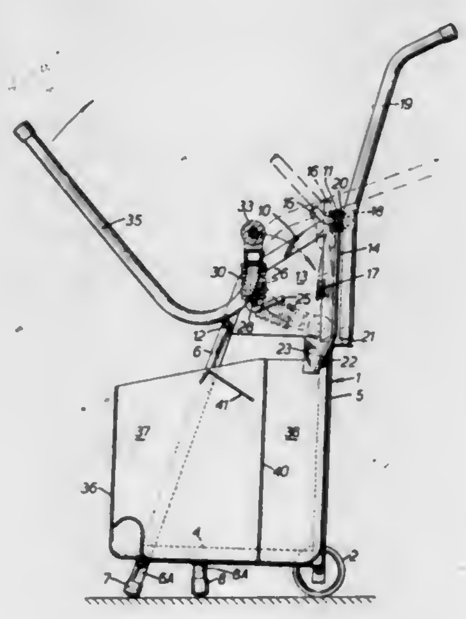
A carriage for transporting a cleaning device having one or more sponge members on a head portion thereof. The carriage is provided with one or more stationary, imperforate and inclined jaw members for supporting the sponge members above a water receptacle and a movable jaw member for squeezing the sponges against the stationary jaw members to press water out therefrom. Holders for additional cleaning accessories may be detachably secured to the carriage.



3,504,393

WRINGING APPARATUS FOR FLOOR MOPS

Peter Ernest Foss, St. Peter Port, Guernsey, Channel Islands, and Alfred Henry Warner, Redhill, England, assignors to Floor Cleaning Services Limited
Filed Dec. 14, 1967, Ser. No. 690,538
Claims priority, application Great Britain, Dec. 14, 1966, 56,005/66
Int. Cl. A47l *13/59*
U.S. Cl. 15—262 **11 Claims**

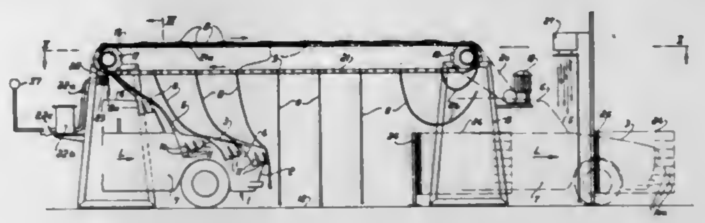


A mop wringing apparatus comprising a fixed reaction member having a surface upon which the absorbent head of a mop can be positioned, a roller support structure pivoted about a pivot axis generally transverse to and spaced from the surface, a roller mounted on the support structure for rotation about an axis generally parallel with the said pivot axis and for bodily movement towards and away from the said pivot axis, and spring means between the support structure and the roller biasing the roller away from the said pivot axis.

3,504,394

APPARATUS FOR DRYING OF WASHED VEHICLES, PARTICULARLY PASSENGER VEHICLES

Gebhard Weigele, Bussardweg 2, Augsburg, Germany, and Johann Sulzberger, Mozartstr. 17, Steppach, near Augsburg, Germany
Filed July 21, 1967, Ser. No. 655,084
Claims priority, application Germany, May 31, 1967, W 44,085
Int. Cl. B60s *3/06*
U.S. Cl. 15—302 **2 Claims**

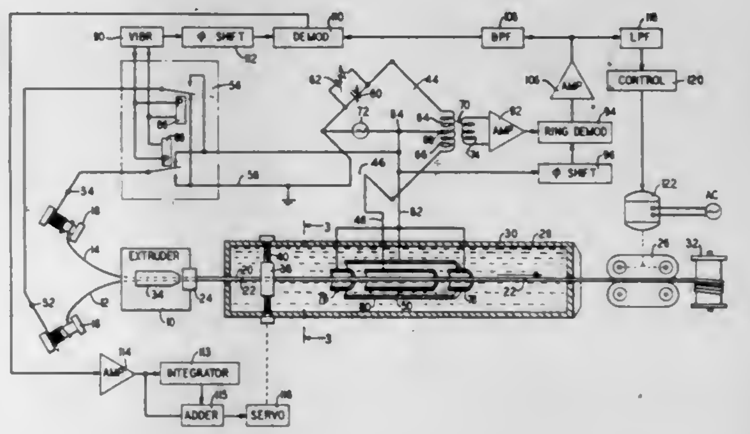


Apparatus for drying vehicles, which apparatus comprises a plurality of absorbent cloths which hang down into the path of movement of the vehicle. The cloths are hung from transverse rods which are fixedly connected to a pair of parallel endless chains positioned over the vehicle. Movement of the chains causes the cloth to be pulled over the vehicle so as to wipe the moisture therefrom. As the cloths approach one of the chain sprocket, they are pulled upwardly past a suction device whereby the moisture is removed from the cloth. The cloths are then carried back to the other end of the device whereby they fall downwardly so as to again hang in the path of movement of the vehicle for further drying action. Similar drying cloths are positioned adjacent the side of the vehicle for removing moisture therefrom.

3,504,395

MANUFACTURE OF INSULATED WIRES

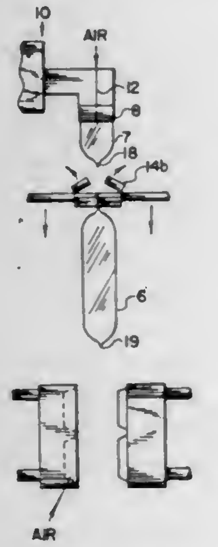
William F. MacPherson, South Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Original application Sept. 16, 1966, Ser. No. 580,095, now Patent No. 3,459,851. Divided and this application Feb. 25, 1969, Ser. No. 813,380
Int. Cl. B29f *3/10*
U.S. Cl. 18—2 **10 Claims**



An apparatus controls extrusion of plastic insulation about two conductors simultaneously to form "an insulated pair." Means in the apparatus alternately compare an index capacitance to the respective capacitances between each conductor and an electrolytic liquid through which the insulated conductors are passed. Measuring means obtain the time-integrated differences between the alternate comparisons. Servo means change the relative rates of extrusion about each conductor on the basis of the time-integrated differences. Simultaneously, control means measure the average values of the alternate comparisons. Second servo means vary the total extrusion rate on the basis of these average values.

3,504,396
APPARATUS FOR FORMING HOLLOW ARTICLES

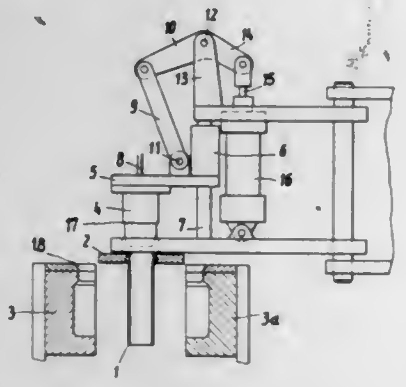
Calvin L. Button and Waldemar E. Woods, Cedar Rapids, Iowa, assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut
Filed July 8, 1966, Ser. No. 563,752
Int. Cl. B29c *17/07;* **B29d** *23/03*
U.S. Cl. 18—5 **3 Claims**



Apparatus for preparing a parison for blow molding and transferring the parison to the blow molding means including an assembly having a pair of opposed releasing sealing members and a pair of opposed gripping sealing members with a separating means between them and a means for moving the entire assembly to transfer the sealed tubular section to a blow molding means.

3,504,397
DEVICE FOR PRODUCING HOLLOW BODIES, BOTTLES OR THE LIKE, OF PLASTICS MATERIAL

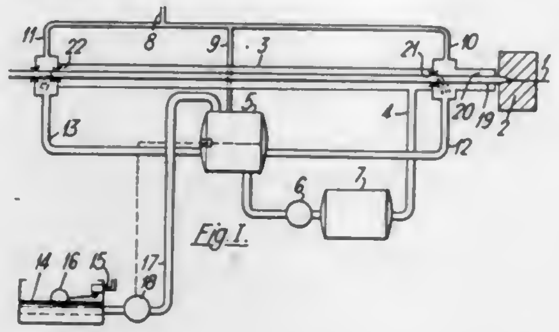
Erhard Langecker, Meinerzhagen, Germany, assignor to Gebr. Battenfeld, Westphalia, Germany, a German company
Filed Oct. 14, 1965, Ser. No. 495,923
Claims priority, application Germany, Oct. 23, 1964, B 79,040
Int. Cl. B29c *17/07;* **B29d** *23/03*
U.S. Cl. 18—5 **4 Claims**



A method and device for the production of hollow bodies as bottles and the like of plastic material in which a mold press is actuated by a toggle lever by pressure means so that a mandrel is engaged into the mold at first by slight actuating pressure and then the mandrel movement is slowed down with simultaneous increase of the actuating pressure.

3,504,398
ELECTRIC CABLES

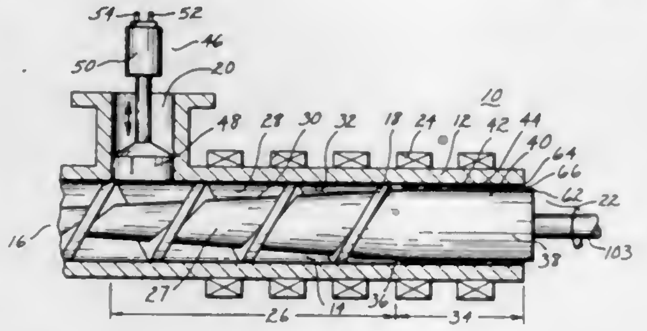
Hayden Albert Moore and Colin Francis Greening Smith, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,272
Int. Cl. B29h *5/28*
U.S. Cl. 18—6 **12 Claims**



Extruded cable insulation is maintained under gas and liquid pressure in a compression chamber to prevent formation of cavities in the plastic material. An extension of the chamber provides improved results with a circulating device disposed in the additional path.

3,504,399
INCREASING THE DENSITY OF THERMOPLASTIC FOAM

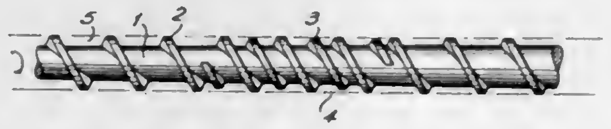
William D. Wolf, Simsbury, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 14, 1968, Ser. No. 705,439
Int. Cl. B29h *19/00, 19/06;* **B30b** *9/20*
U.S. Cl. 18—12 **8 Claims**



Thermoplastic foam is densified in an extrusion apparatus by mulling at low pressure for a relatively short time period within a narrow chamber formed by surface portions of the extruder casing and a rotatably mounted cylinder within the bore of the casing, in order to crush the foam cells to decrease the volume of the voids and increase the density of the scrap.

3,504,400
SESQUITHREAD FEED WORM FOR AN EXTRUDER

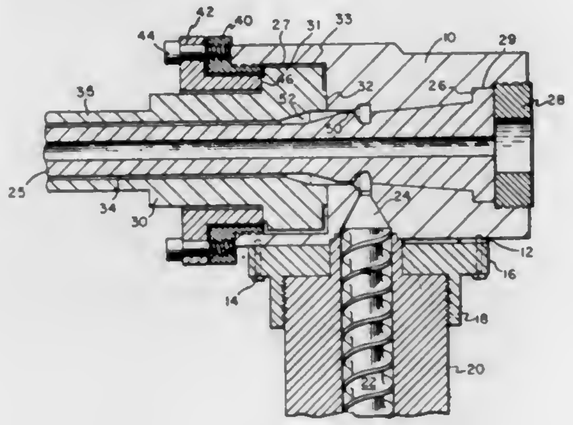
Miltcho Angelov Natov and Evtim Nikolov Evtimov, Sofia, and Stefan Todorov Bankov, Pleven, Bulgaria, assignors to Vish Chimiko-Technologitsheski Institut, Sofia-Darvenitza, Bulgaria
Filed Oct. 23, 1967, Ser. No. 677,171
Int. Cl. B29f *3/02*
U.S. Cl. 18—12 **7 Claims**



An extruder worm having a main helical rib of variable pitch or depth to define an extrusion channel with an extruder body, an additional rib being interwound with the main rib to extend into the channel.

3,504,401
EXTRUDING APPARATUS HAVING EASILY REMOVABLE RETAINING AND ALIGNING APPARATUS

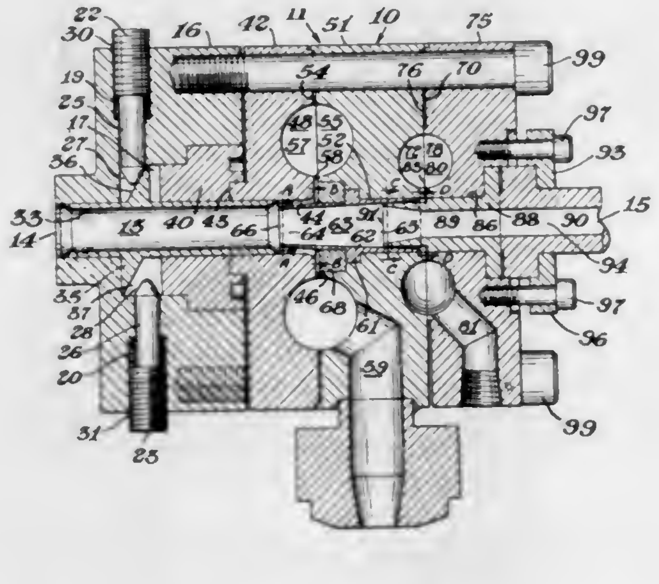
Daryl D. Cerny, Greenville, Ohio, assignor to Ball Brothers Company, Incorporated, Muncie, Ind., a corporation of Indiana
Filed Dec. 28, 1967, Ser. No. 694,240
Int. Cl. B29f *3/00*
U.S. Cl. 18—13 **5 Claims**



Extruding apparatus having a die cylinder retaining assembly utilized to relieve residual high pressure tending to lock the die cylinder about a mandrel and within a housing, the pressure relief thereby permitting the apparatus to be easily disassembled in a short period of time. The die cylinder retaining assembly is further capable of being easily moved without special and elaborate tools to achieve alignment adjustment.

3,504,402
EXTRUSION ADAPTOR

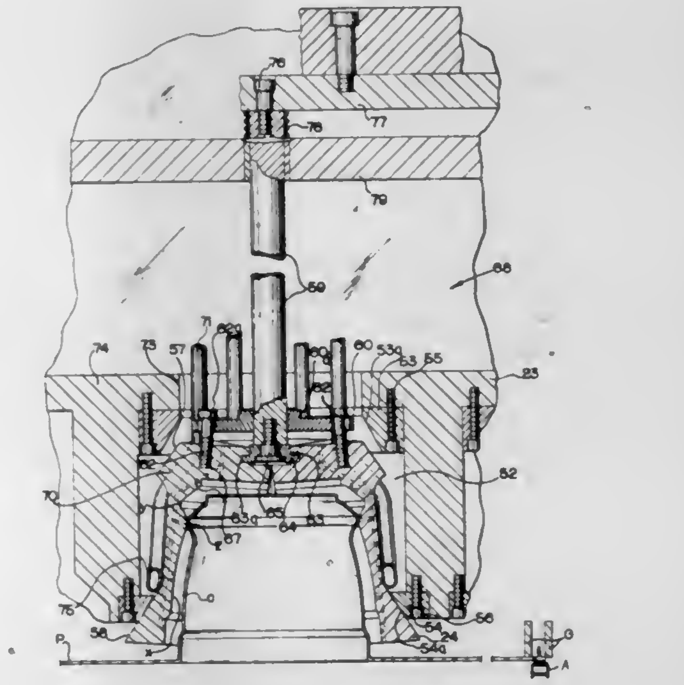
William Ben Wetz, Findlay, Ohio, and Lloyd Edward Lefevre, Bay City, Arthur Lee Leasher, Freeland, and Roger Lee Briggs, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application Nov. 5, 1965, Ser. No. 506,555. Divided and this application Jan. 5, 1968, Ser. No. 705,877
Int. Cl. B29f *3/00*
U.S. Cl. 18—13 **6 Claims**



An adjustable extrusion adaptor is provided wherein two or more concentrically arranged streams are provided, the outer layers coming from an annular inwardly extruding orifice. Variable back pressure is provided for the outermost stream by an adjustably mounted sleeve.

3,504,403
DIFFERENTIAL PRESSURE PLASTIC FORMING MACHINE PARTIBLE MOLD MECHANISM FOR FORMING ARTICLES IN A PLASTIC SHEET

Gaylord W. Brown, Beaverton, and Melvin Otto, Jr., Gladwin, Mich., assignors to Brown Machine Company of Michigan, Inc., Beaverton, Mich., a corporation of Michigan
Filed Mar. 20, 1967, Ser. No. 624,508
Int. Cl. B29c *17/00*
U.S. Cl. 18—19 **20 Claims**

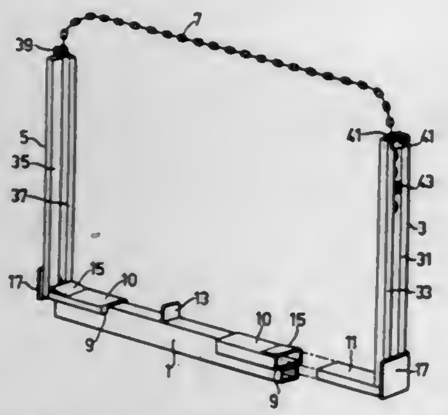


A differential pressure thermoforming machine having a female mold member mounted for movement toward and away from a deformable plastic sheet; sockets in the mold member to receive a plurality of partible die segments which when in closed mated position have radial walls forming a closed end to thereby provide a closed end cavity in each socket; support means pivotally mounting the radial walls of the die segments and thereby mounting the die segments for swinging movements radially outwardly to an expanded position in which the part formed by be readily removed from each closed end cavity; means mounting the die segments for axial travel inwardly and outwardly in the sockets; and spaced apart, axially tapered rings in the sockets automatically swinging the segments to closed mated position when the die segments move axially into the sockets.

3,504,404
DEVICE FOR HANDLING LOADS OF WOOD OR THE LIKE

Knut Yngve Rehnström and Per Albin Strömbeck, Sundsvall, Sweden, assignors to Svenska Cellulosa Aktiebolaget, Sundsvall, Sweden
Filed Mar. 14, 1968, Ser. No. 713,204
Claims priority, application Sweden, Mar. 16, 1967, 3,682/67
Int. Cl. B65d *67/02;* **B60p** *7/06*
U.S. Cl. 24—16 **8 Claims**

A device for handling stacks of cut lumber while maintaining the stack in compact form which includes at least one beam placed transversely under a stack of lumber, a pair of vertical poles, connected to the ends of each beam, at least one of the poles being releasably and adjustably secured to its beam, the poles extending at least half-way up the sides of the stack of lumber and a member extending across the top of the stack of lumber and being adjustably secured to the tops of the pair of vertical poles

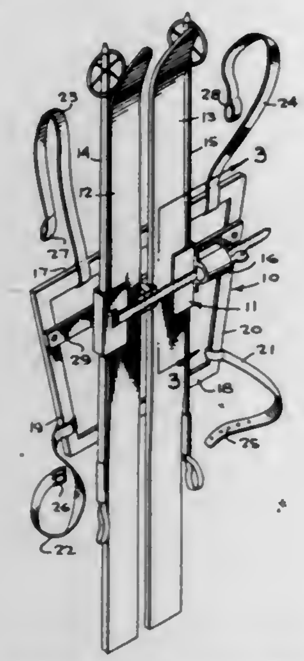


so that the stack is maintained in a unit of compact form and constant shape for handling with conventional loading and unloading devices.

3,504,405

SKI RETAINING DEVICE

Cecily Elliott-Smith, 67 Early St.,
Morristown, N.J. 07960
Filed Mar. 4, 1968, Ser. No. 710,023
Int. Cl. A45f *3/00*
U.S. Cl. 24—81 **3 Claims**



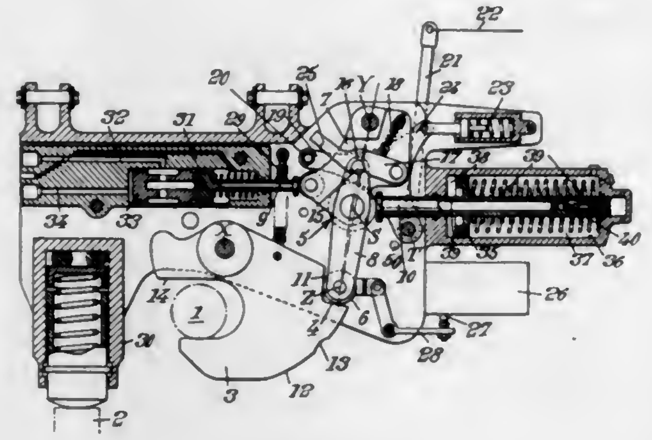
A device for retaining skis comprising a frame assembly, abutment means mounted on the frame assembly, the abutment means having surfaces engageable by opposed sufaces on the skis when the skis are mounted on the device, movable means mounted on the frame assembly engageable with the skis when the skis are mounted on the device for clamping the skis against the abutment surfaces and means mounted on the frame assembly for locking the clamping means in clamping relation with the skis.

3,504,406

LATCH

Marcel René Schott, Columbes, France, assignor, by mesne assignments, to Société Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a corporation of France
Filed Mar. 18, 1968, Ser. No. 713,729
Claims priority, application France, Mar. 22, 1967, 99,816
Int. Cl. A44b *19/00*
U.S. Cl. 24—230 **9 Claims**

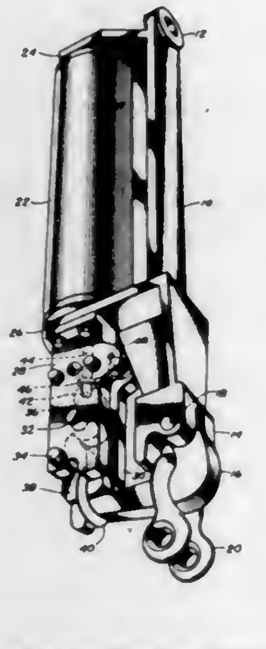
The latch mechanism comprises a retaining member adapted to co-operate with a latching finger of the load to be latched, a locking unit for locking and releasing the retaining member, and principal control means for causing the passage of the locking unit from an active position to a normal release position. The locking unit comprises a toggle joint having two arms angularly blocked at their vertex by a blocking system that can be released under the action of emergency releasing means.



3,504,407

UNDERWATER RELEASE MECHANISM

Kenneth R. Dawson, Burbank, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 29, 1967, Ser. No. 671,881
Int. Cl. A44b *13/00;* **B63f** *21/24;* **B66c** *1/00*
U.S. Cl. 24—241 **7 Claims**

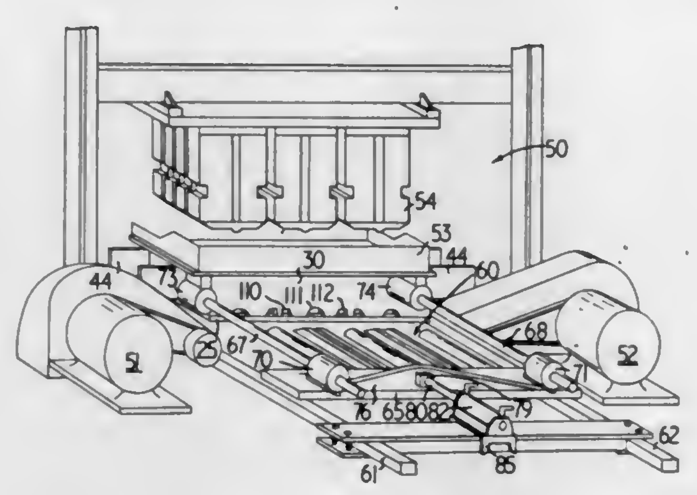


An underwater release device normally positioned between an anchor and a buoyant member including a glass-reinforced epoxy resin housing containing a solenoid and bifurcated at its lower end to receive a pair of interacting lever members of similar material, the lower of said members terminating in a hook normally positioned to confine a loop member attached to the anchor between itself and the housing with the loop essentially carried along the axis of a solenoid armature and a pivot point significantly displaced from said axis, and an upper member engaging the lower member nearest its pivot and being held in position essentially along the axis of the armature by the armature such that when the solenoid is energized, the armature is pulled away from the upper member, thus releasing it. This permits the buoyant force to rotate both lever members to release the loop, permitting the entire device to be carried to the surface by the buoyant member. Another embodiment provides an additional lever stage with high mechanical advantage for handling much larger loads.

3,504,408

APPARATUS FOR MOLDING INTERLOCKING CONCRETE BLOCKS

William E. Jones, 141 Regent St.,
Beaconsfield, Quebec, Canada
Continuation of application Ser. No. 516,299, Dec. 27, 1965. This application Jan. 21, 1969, Ser. No. 797,339
Claims priority, application Canada, Jan. 9, 1965, 920,435
Int. Cl. B28b *7/20*
U.S. Cl. 25—41 **7 Claims**

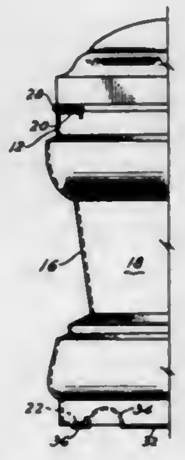


An apparatus for use on a high-speed concrete block moulding machine, so as to form blocks having upper and lower contoured faces, without providing specially contoured pallets to shape and support the blocks. The apparatus includes one or more horizontal members insertable through apertures in sidewalls of the mould prior to filling of the mould. The horizontal members remain in the mould during the forming of the block, and are withdrawn just prior to the block being stripped through the bottom of the mould onto a flat pallet.

3,504,409

REVERSIBLE BLANK FOR A CASKET WALL

Horace D. Keller, Jr., York, Pa., assignor to York-Hoover Corporation, York, Pa., a corporation of Pennsylvania
Filed June 4, 1965, Ser. No. 461,276
Int. Cl. A61g *17/00*
U.S. Cl. 27—6 **4 Claims**

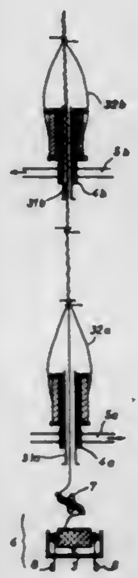


A shaped blank for a casket wall adapted to be connected to other blanks of similar shape to form the sides and ends of a casket body of uniform height and process of forming such body, the upper and lower terminal edges of the wall blanks for said sides and ends being of substantially identical shape and dimensions, and the portions of said wall blanks between said upper and lower terminal edges all having a similar outer contour shaped to provide a different esthetic concept when a casket body formed therefrom is disposed with one edge lowermost than when the body is reversed to dispose the other edge lowermost, whereby the same wall blanks may be used to form two differently appearing casket bodies when bottoms and tops are attached to the selected edges of said casket body.

3,504,410

METHOD FOR THE MANUFACTURE OF ELASTIC TWISTED YARNS AND TEXTILE PRODUCTS

Albert Marcel Cyprien Alexandre, Saint-Pierre-de-Colombier, Ardeche, France
Continuation-in-part of applications Ser. No. 357,443, Apr. 6, 1964, and Ser. No. 423,018, Jan. 4, 1965. This application May 31, 1967, Ser. No. 642,505
Claims priority, application France, Apr. 10, 1963, 931,017; Jan. 8, 1964, 959,728
Int. Cl. D02g *3/32*
U.S. Cl. 28—72 **11 Claims**



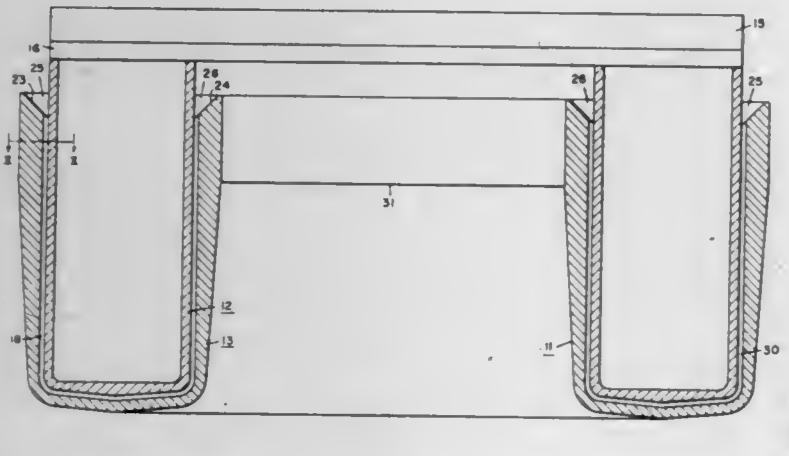
A process for the manufacture of an elastic twisted yarn whereby an elastic material is twisted and covered by at least one covering yarn, after which the elastic material and yarn are shrunk by thermal treatment in a non-oxidizing atmosphere. An elastic twisted yarn having a twisted core of shrinkable elastic synthetic material covered by at least one covering yarn.

3,504,411

PROCESS FOR PRODUCING AN ELECTRODE TIP

Serafino M. De Corso, Media, and Robert W. Corcoran, East McKeesport, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 11, 1967, Ser. No. 674,484
Int. Cl. H01j *9/00*
U.S. Cl. 29—25.14 **27 Claims**

Two annular shells each substantially U-shaped in cross-section and preferably composed of a material having high electrical and thermal conductivity are formed, the dimensions of the axially extending wall portion of smaller diameter and the axially extending wall portion of larger diameter of one shell being such that said one shell can be inserted in the annular space of the other shell with the outside surfaces of the wall portions of the inner shell making close fitting engagement with the inner adjacent wall surfaces of the outer shell. Generally U-shaped grooves are formed in the inner surface of the outer shell or the outer surface of the inner shell, thereby forming lands between the grooves, the grooves serving as fluid flow passageways for cooling the arcing surface of the tip. According to one process, the surfaces of the lands are knurled, the inner shell is then inserted in the outer shell to form a shell assembly and molten brazing compound added in sufficient quantity to completely fill both the fluid flow passageways formed by the aforementioned grooves and the gaps formed by knurling. While the assembly is heated well above the melting point of the brazing alloy the assembly is inverted. The excess braze drains out of the water passages completely opening the same, while remaining in the knurled gaps due to capillary action. According to another process after the grooves are coined either the outer surfaces of the inner shell or the inner surfaces of the outer shell are precoated with braze material, and the assembly then heated to effent brazing. According to still a further process, after large grooves are coined in one shell surface, a smaller groove is coined in the surface of each of the lands formed betwen the larger grooves and braze material placed therein, if desired in the form of a wire, after which the assembly is heated to reduce the braze material to a molten state and effect the brazing operation.



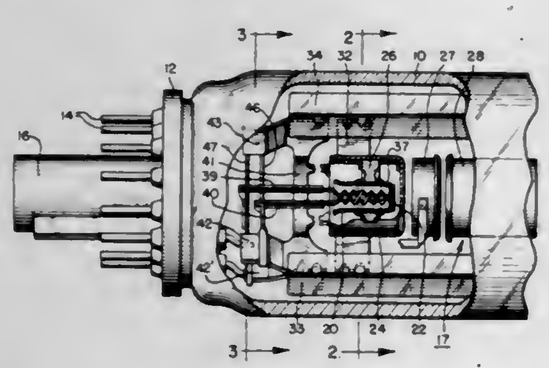
3,504,412
METHOD OF MAKING HEATER SUPPORT FOR PLURAL GUN CATHODE-RAY TUBE

James L. Kraner, Harwood Heights, and Nicholas P. Pappadis, Chicago, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware

Original application May 18, 1967, Ser. No. 639,496, now Patent No. 3,387,166, dated June 4, 1968. Divided and this application Nov. 8, 1967, Ser. No. 681,541

Int. Cl. H01j *9/18, 9/36*

U.S. Cl. 29—25.16 **4 Claims**



A tri-color gun mount for a color television picture tube includes three rigid metal support straps each supported by and extending between two of the three parallel ceramic support rods, and two of the support straps are each provided with a depending integral ear. A pair of flat conductive strip connectors extend from the depending ears to the terminals of the heater element of one of the electron guns, and another pair of flat conductive connectors are respectively welded to the first pair and extend between corresponding terminals of the other two heater elements of the tri-color gun mount.

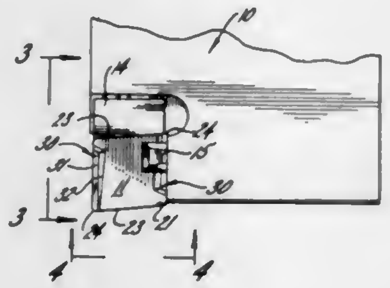
3,504,413
CUTTING BLADES FOR BLOCK-TYPE CUTTING TOOLS

Robert J. Siewert, and Harold J. Matsche, Jr., Fond du Lac, Wis., assignors to Giddings & Lewis, Inc., Fond du Lac. Wis., a corporation of Wisconsin

Filed Apr. 28, 1969, Ser. No. 819,720

Int. Cl. B26d *1/00*

U.S. Cl. 29—96 **3 Claims**



A solid cutting blade of the carbide insert type having grooves in its cutting face surfaces formed for creating positive axial and radial rake angles together with properly disposed chipbreaker surfaces when the blade is mounted in a negative rake block-type tool. Multiple grooves are provided so as to give multiple cutting faces on the same blade.

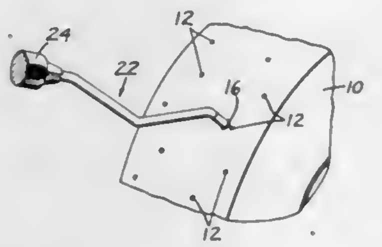
3,504,414
TOOL FOR INSERTING TIRE STUDS

John M. Breen, 15 Stratford Road, Ben Avon Heights, Pittsburgh, Pa. 15202

Filed July 17, 1967, Ser. No. 653,774

Int. Cl. B23p *19/00, 19/02, 19/04*

U.S. Cl. 29—200 **8 Claims**



Tool for inserting tire studs in which the tool supports a stud and presents the stud head end foremost to a blind hole in a tire tread and at an angle thereto and causes the stud to take a nutating motion about the head end while the tool presses the stud toward the tire so the stud will be worked into the hole in the tread until the stud head seats on the bottom of the hole.

3,504,415
TOOL FOR APPLYING AND REMOVING FASTENERS

Charles Auguste Maire, 14 Rue du Pont, 91 Ris Orangis, France, and Jean Julien Blanc, 6 Rue Lacretelle, 75 Paris 15eme, France

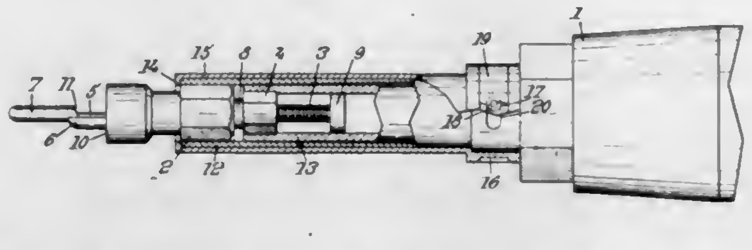
Filed June 9, 1967, Ser. No. 645,036

Claims priority, application France, June 28, 1966, 67,296

Int. Cl. B23p *19/00*

U.S. Cl. 29—200 **4 Claims**

A tool for applying and removing fasteners, comprising an open ended tube having an interior polygonal section for receiving a correspondingly shaped portion of the fastener, and a ring aligned with the tube and having an interior polygonal section identical with that of the tube. The ring is rotatable between a position in which its polygonal section is coincident with that of the tube to permit the polygonal portion of the fastener to be introduced into and extracted from the tube and a position in which its polygonal section is angularly offset with respect to that of the tube to maintain the polygonal portion of the fastener in the tube once it has been introduced.



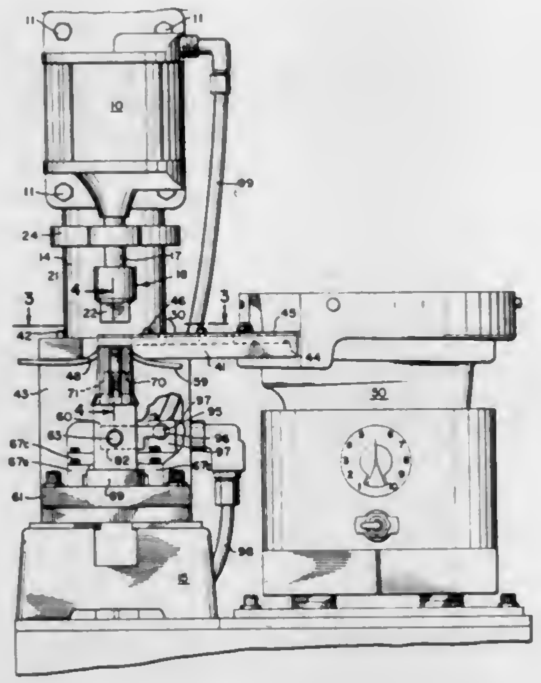
3,504,416
MACHINE FOR ASSEMBLING WIRES INTO ELECTRICAL FIXTURES

Henry W. Schick, Commack, N.Y., assignor to Gilbert Manufacturing Company, Inc., Long Island City, N.Y., a corporation of New York

Filed May 1, 1967, Ser. No. 635,244

Int. Cl. H01r *43/00, 1/00;* **B23p** *19/02*

U.S. Cl. 29—203 **9 Claims**



A machine for assembling current carrying wires into electrical fixtures in which a ram presses a resilient wire-retaining insert member through an opening in a support structure of the machine and into locking engagement with a suitable wire-holding channel in the electrical fixture which is positioned at an assembly station beneath the support structure with the channel in the fixture aligned with the opening in the support structure, the ram preferably being actuated by the movement of the fixture to the assembly station.

3,504,417
LOCATOR IN A CRIMPING TOOL FOR AN ELECTRICAL CONNECTOR

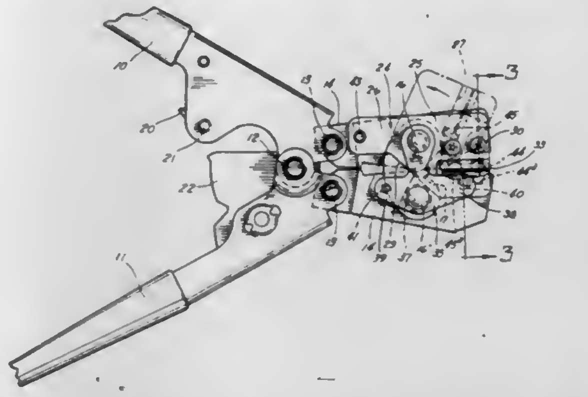
George J. Filia, Shelton, Conn., assignor to Sargent & Company, New Haven, Conn., a corporation of Delaware

Filed Feb. 29, 1968, Ser. No. 709,249

Int. Cl. H01r *43/04;* **B21f** *15/06*

U.S. Cl. 29—203 **17 Claims**

There is provided in a crimping tool for an electrical connector, which tool is of the hand type having a pair of cooperating crimping dies relatively movable to approach one another and separate, a pivotal work locator swingable mannually to a position across corresponding ends and the dies, which defines an opening through which the work extends, and generally of platelike form. The locator is engageable with a conductor to locate it with reference to the dies and is provided with stop means for stopping the locator in angularly adjusted positions.



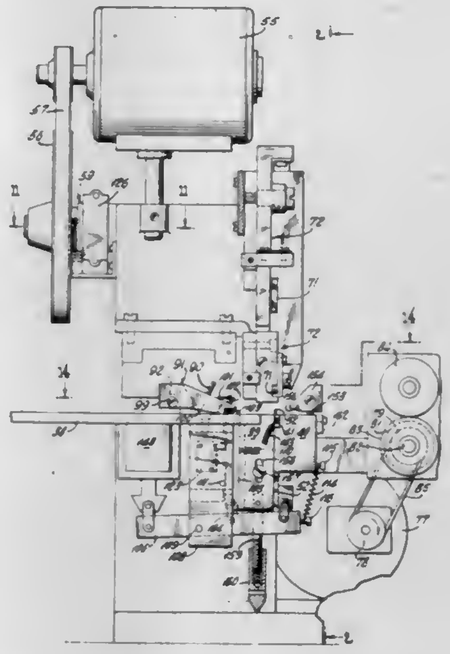
3,504,418
MEANS FOR AUTOMATICALLY FEEDING AND CONTROLLING A DEVICE FOR APPLYING TOP STOPS TO SLIDER FASTENERS

Morris Perlman, 1631 63rd St., Brooklyn, N.Y. 11204

Filed June 12, 1967, Ser. No. 645,249

Int. Cl. B23p *19/04*

U.S. Cl. 29—207.5 **13 Claims**



Apparatus for automatically applying top stops to joined uncut slide fastener stringers. The stringers are pulled past a work station; a stringer gap between the fastener element chains is located by a slider detector; a gap detector blade is positioned within the gap; the motion of the tapes is halted and a pair of top stops applied to a fastener element chain at the work station when the bottom stop of a following fastener element chain strikes the gap detector blade; the gap detector blade is withdrawn from the gap; and the uncut slide fastener stringers are again advanced to begin the next cycle of operation.

3,504,419
UNIVERSAL SPRING COMPRESSOR

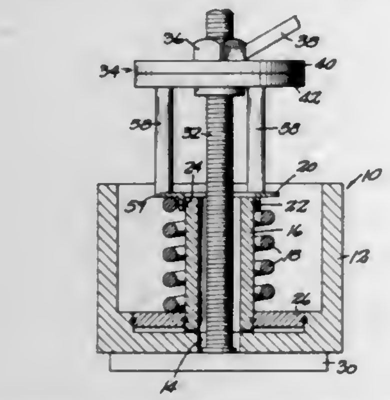
William G. Bozsanyi, South Bend, Ind., assignor of one-half to Eagle T. Shaw, South Bend, Ind.

Filed Oct. 10, 1967, Ser. No. 674,150

Int. Cl. B23p *19/04*

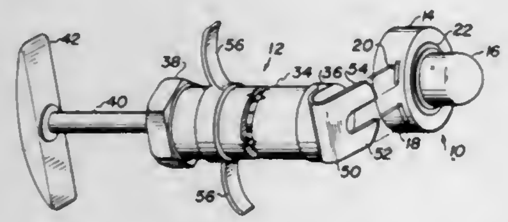
U.S. Cl. 29—227 **2 Claims**

A universal spring compressor having a stud extending through the spring and slidably mounting a presser unit engaging the spring and pressed thereagainst by advancing means. The presser unit has a housing with two relatively shiftable parts one of which pivots work engaging members and the other part provides guide surfaces to change the spacing of the work engaging members upon relative movement of said parts.



3,504,420
PLUGGING DEVICE

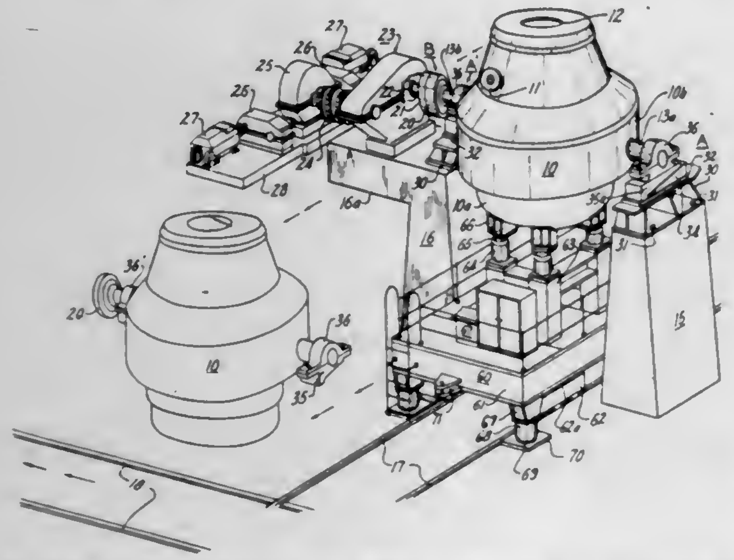
Ray F. Shores, 1930 Searles Road,
Baltimore, Md. 21222
Filed June 15, 1967, Ser. No. 646,405
Int. Cl. B23p *19/02;* **B65d** *39/12*
U.S. Cl. 29—235 **5 Claims**



An expansible plug device molded from flexible material. The plug is formed having an extensible neck in attachment with a right cylindrical shoulder portion. A washer is molded within the shoulder for reinforcement. The plug is adapted for insertion using a hand actuated plunger tool. The tool is characterized in utilizing a fork shaped plug mount cooperating with mated keyways situate within the plug shoulder and beneath the washer.

3,504,421
FURNACE REMOVAL

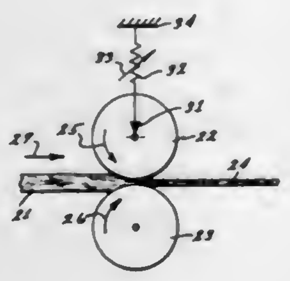
John J. Gill, Beaver, Pa., assignor to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania
Filed Aug. 29, 1967, Ser. No. 664,095
Int. Cl. B22d *19/10*
U.S. Cl. 29—401 **7 Claims**



A shaft-mounted rotatable furnace vessel or converter is provided with bearing housings journaling its shafts that are adapted to be raised and lowered on jack mounts or stands of a pair of spaced-apart stationary support piers. A driven trunnion shaft of the vessel or converter is provided with a conventional separable part type of coupling connecting it to a motor drive mechanism. Each jack mount or stand has a wedge-shaped or inclined slide part carried by a guide member for endwise guided movement, as effected by a reciprocating type of fluid motor operatively-connected to one end of the slide part. Each bearing housing has a slide or wedge-shaped portion cooperating with an associated slide part and adapted to be raised and lowered by endwise movement of the slide part. An end retainer having a pair of spaced-apart portions projects upwardly from the jack mount adjacent an end thereof on which the motor is positioned and through which the motor is adapted to operatively extend in its connection to the slide part. This end retainer has an abutment portion to abut one end of an associated bearing housing; it cooperates with an opposite end retainer that is removably secured on the jack mount to abut an adjacent end of the associated bearing housing. The upwardly-projecting end retainers positively or securely retain or mount an associated bearing housing with respect to the slide part. The end retainers also function to limit the maximum endwise movement of the slide part in either direction. The inclined or wedge-shaped slide portion of each bearing housing is complementary with the slide part to raise and lower the associated housing when the slide part is reciprocated by the fluid motor. The structure enables a converter vessel or furnace to be raised with respect to its piers or stands, in order that a transport car may be wheeled into position between the piers and stands and into a cooperating position under the vessel, that the support or weight of the vessel may be transferred from the stands to the car, and that the vessel with its bearing housings may be transported or moved from an operating station to a repair or maintenance station and, if desired, from the latter station to a hold station, and then returned to an operating station. The car has means for moving it into an aligned position with respect to the bottom of a converter vessel at any of the stations and for endwise-moving the vessel after the second-mentioned end retainer of each of the pair of bearing housings has been removed.

3,504,422
METHOD OF MAKING A DEPTH-TYPE FILTER MEDIA

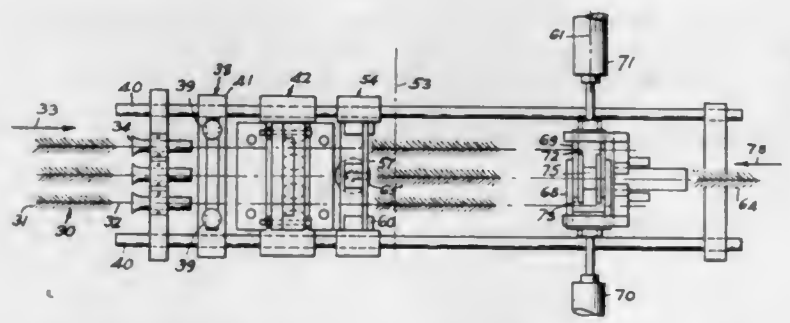
George R. Thalman, Brea, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 703,217
Int. Cl. B23p *17/100*
U.S. Cl. 29—419 **4 Claims**



Disclosed is a method of making a depth-type filter media wherein a flat sheet of randomly disposed metallic wires each having a finite length and a predetermined diameter is heated to a temperature such as to cause each of the wires to sinter at their points of contact with each other. Thereafter, the sintered material is compressed to provide over its entire area a consistent permeability thereby to provide a predetermined porosity to the filter media.

3,504,423
APPARATUS AND METHOD FOR MAKING ARTIFICIAL TREE BRANCHES

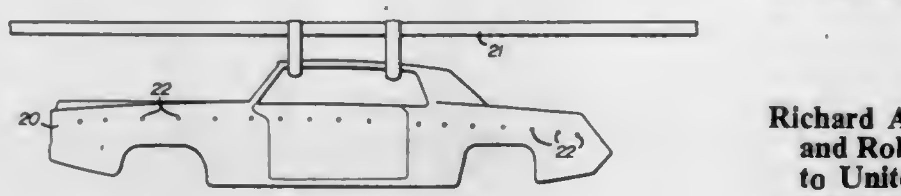
Arthur Kraszeski and Stephen D. Kent, Newburgh, N.Y., assignors to R. O. Kent Corp., New York, N.Y., a corporation of New York
Filed Apr. 18, 1969, Ser. No. 817,525
Int. Cl. B23p *17/00, 19/04, 11/00*
U.S. Cl. 29—419 **36 Claims**



Simultaneously feeding a number of spaced apart long garlands until their ends are adjacent the end of a stem or limb garland, cutting garland twigs from the long garlands and fastening all the garland ends together to form a branch or limb. In the apparatus, a clamp, cutter and feeder are each made of two transversely reciprocating blades. The clamp and cutter also reciprocate longitudinally and re-engage the long garlands automatically after cutting. The cutter turns the needles on the end portions of the twig garlands out of the way and cuts the wires and a minimum number of needles. In the fully automatic machine, a single stem garland is moved to a point adjacent the twig garlands and is similarly fed and cut, the finished branch being automatically discharged from the machine. Optionally, a pre-cut or a long stem garland is manually arranged at the clipping station and the finished branch is manually removed.

3,504,424
METHOD FOR FASTENING TRIM

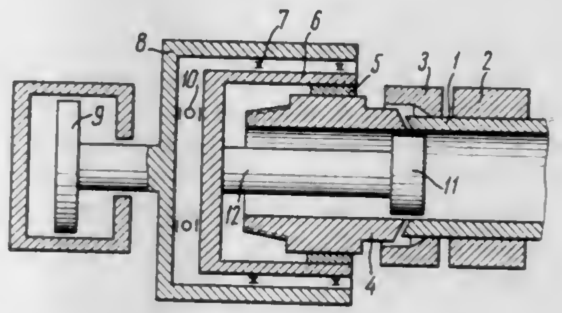
Robert L. Brown, Bloomfield Hills, Mich., assignor to Robin Products Company, Warren, Mich., a corporation of Michigan
Filed June 16, 1967, Ser. No. 646,600
Int. Cl. B23p *11/00, 11/02;* **B21d** *39/00*
U.S. Cl. 29—430 **6 Claims**



A method for securing trim strips to a structural support. The method includes the steps of moving the structural support through successive finishing stations, and at one station welding a plurality of non-corrosive deformable metal members at pre-determined locations on the support. The locations are coordinated with the predetermined desired position of the trim. The welding is done at the surface of the structural support and throughout the entire extent of contact of the deformable metal members and the surface of the structural support to produce a completely exposed peripheral joint. At a subsequent finishing station the structural support is painted. The painting includes the application to the structural support and to the deformable metal members of at least one paint coat providing a continuous paint film which seals the continuous peripheral joints between each of the metal members and the structural support against corrosion. After drying the paint and at a further subsequent finishing station a clip having an aperture therein is located on each of the metal members by moving the clip axially on the metal member. The metal member is of such a length that a portion of it projects beyond the aperture of the clip. The exposed portion of the metal member is distorted to trap the clip between the distorted portion of the metal member and the structural support surface.

3,504,425
METHOD OF FRICTION WELDING

Pavel Moiseevich Sutovsky, Ulitsa Tolstogo 193, kv. 56; Mamed Abdul Ragim Ogly Ashrafov, Ulitsa Sameda Vurguna 3, kv. 1; Gamid Emin Ogly Efendiev, Pr. Neftyanikov 87, kv. 26, all of Baku, U.S.S.R.; Baba Abaskuli Ogly Akhmedov, Ulitsa Lenina 23, kv. 22, Sumgait, U.S.S.R.; Vladimir Ivanovich Timofeev, Ulitsa Kamo 186, kv. 32; and Tovy Noevich Kornev, Ulitsa Mamedalieva 12, kv. 16, both of Baku, U.S.S.R.; Alexandr Shmulevich Gelman, 3 Tverskaya Yamsaya ulitsa 42/8, kv. 23, Moscow, U.S.S.R.; and Mamed Mekhti Mirza Aga Ogly Guseinzade, Ulitsa Nizami 103, kv. 49, Baku, U.S.S.R.
Filed Mar. 6, 1967, Ser. No. 620,996
Int. Cl. B23k *27/00*
U.S. Cl. 29—470.3 **6 Claims**



A method of welding especially useful in welding such items as pipe to screw couplings having different cross-sectional friction areas, in which the parts to be joined are enclosed in a casing commensurate with the final desired shape of the joint and the parts are heated by rotary friction to raise the parts to upsetting and welding temperature. The smaller cross-sectional friction area is upset so that it is substantially equal to the larger, and the parts are welded. An interior mandrel may be used as required.

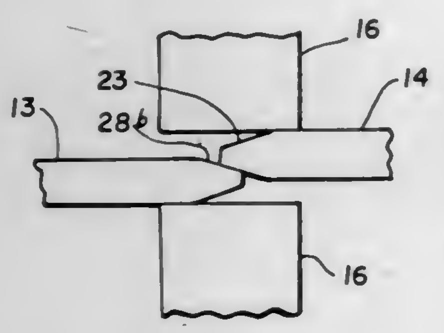
3,504,426
PROCESS FOR BONDING

Richard A. Craig, Hartford, John W. Lane, Manchester, and Robert L. Light, Jr., East Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
No Drawing. Original application Oct. 22, 1964, Ser. No. 405,836. Divided and this application June 9, 1967, Ser. No. 656,973
Int. Cl. B23k *31/02*
U.S. Cl. 29—473.1 **13 Claims**

Non-metallic refractory materials and refractory metals can be bonded to refractory metals by placing a bonding alloy composition between the two layers to be bonded to form a bonding assembly. The bonding alloy composition consists essentially of from 7–45 atomic percent of molybdenum, from 1.5–15 atomic percent in the aggregate of a metal selected from the group consisting of tantalum, columbium, and mixtures thereof, and the balance essentially zirconium with the zirconium content of the alloy being not less than 50 atomic percent of the total composition. The bonding assembly is heated to a diffusing temperature and then to a flow temperature sufficient to melt the bonding alloy. In a typical example, a tungsten-rhenium alloy plate (W–26Re) and a tantalum plate are bonded to opposite sides of a beryllium oxide plate using a bonding alloy having the following composition in atomic percentages: 7 percent tantalum, 36 percent molybdenum, and 57 percent zirconium.

3,504,427
METHOD OF JOINING METAL SHEET AND STRIP

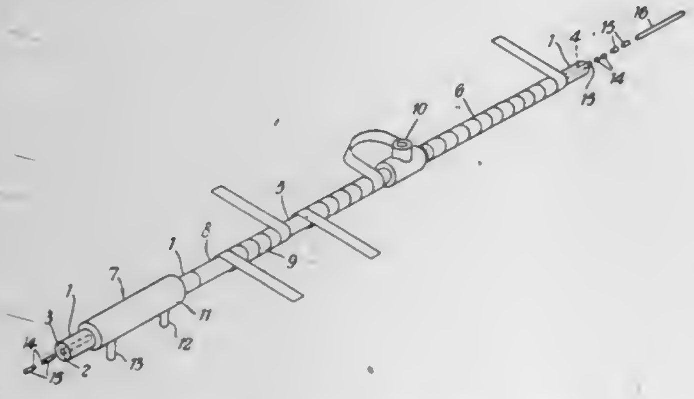
Melvin M. Seeloff, Warren, Ohio, assignor to The Taylor-Winfield Corporation, Warren, Ohio
Continuation-in-part of application Ser. No. 625,098, Mar. 22, 1967. This application Dec. 4, 1967, Ser. No. 687,887
Int. Cl. B23k *31/02*
U.S. Cl. 29—482 **22 Claims**



Improvement over my earlier Patent No. 3,313,911 comprising simultaneously beveling opposite surfaces of each end portion of metal strips or sheets while the ends are separated by either a small or large gap. The beveled end portions are then slightly overlapped and retracted sufficiently to provide triangular voids. These end portions are planished under substantial pressure, while hot or cold, so that the excess metal fills the voids and so that the overlapped welded joint is reduced to the thickness of the parent metal. Cleaning and vibrating apparatus are used preliminarily to remove oxide or other coating and to facilitate pre-planishing.

3,504,428
BONDING OF DISSIMILAR METALS TO ONE ANOTHER

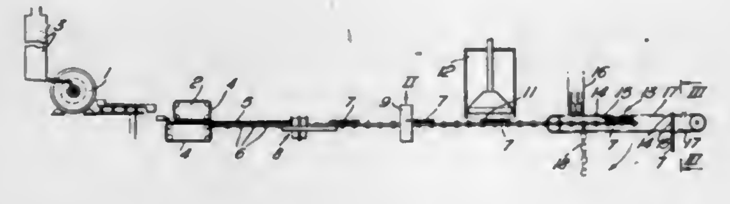
Derek Oscar Walter, Stanmore, and Reginald James Newman, Bexley Heath, England, assignors to Johnson, Matthey & Company Limited, London, England
Filed Aug. 11, 1965, Ser. No. 478,941
Claims priority, application Great Britain, Aug. 13, 1964, 33,014/64
Int. Cl. B23k *31/02*
U.S. Cl. 29—487 **5 Claims**



Pieces, e.g., billets of two dissimilar metals capable upon heating of forming an eutectic alloy are brought together in mutual contact and the pieces, or at least their confronting faces; are heated to a temperature just short of the eutectic-forming temperature; are thereupon briefly further heated to above the eutectic-forming temperature for a period only long enough to form a minimum amount of eutectic alloy necessary for an adequate bond between the two pieces; and thereafter cooling the interface to solidify the bonding eutectic. This stepwise heating and subsequent cooling may be effected in a thick walled silica heating tube, by means of externally disposed heating and cooling means.

3,504,429
METHOD OF PREPARING UNREFINED COPPER ELECTRODES

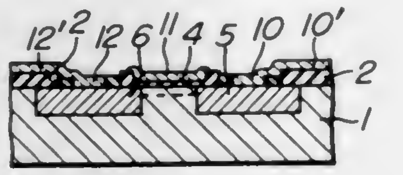
William Richard Noble Snelgrove, Formby, England, assignor to British Copper Refiners Limited, Prescot, Lancashire, England, a British company
Filed Feb. 1, 1966, Ser. No. 524,288
Claims priority, application Great Britain, Feb. 4, 1965, 4,910/65
Int. Cl. C22d *1/16;* **B23p** *17/00*
U.S. Cl. 29—527.6 **9 Claims**



Unrefined copper electrode for use in the process of electrolytically refining copper are prepared in quantity by forming an unrefined copper strip of indefinite length by a continuous casting process and cutting the strip into electrode lengths as it issues from the casting apparatus such that electrodes having a high superficial area are formed. Suspension means are attached to the electrodes thus formed and the electrodes are conveyed to storage while suspended from the suspension means.

3,504,430
METHOD OF MAKING SEMICONDUCTOR DEVICES HAVING INSULATING FILMS

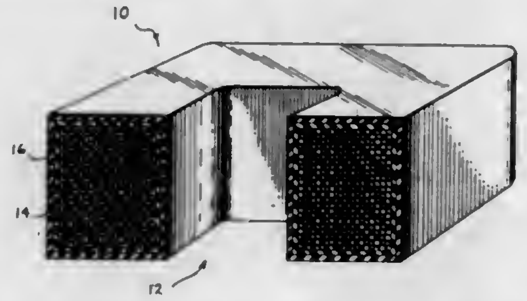
Seiji Kubo, Kokubunji-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 13, 1967, Ser. No. 645,718
Claims priority, application Japan, June 27, 1966, 41/373
Int. Cl. B01j *17/00;* **H01l** *11/14*
U.S. Cl. 29—571 **12 Claims**



A method of making a semiconductor device, such as an insulated control electrode type field effect transistor, in which electrodes are formed in holes provided in insulating films on a source region and a drain region by the photoetching technique in quite a short time because the thickness of said films is made smaller than that of the insulating films upon which a control electrode is formed. According to this method, it is possible to reduce pinhole accidents as well as to provide thick passivation films at desired positions.

3,504,431
METHOD OF MANUFACTURING INSULATED ELECTRICAL MEMBERS

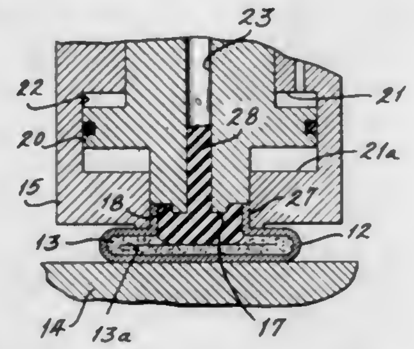
Lawrence J. Guilbault, Akron, Ohio, and David G. Schwenker, Erie, Pa., assignors to General Electric Company, a corporation of New York
Original application Sept. 27, 1966, Ser. No. 582,277, now Patent No. 3,414,856, dated Dec. 3, 1968. Divided and this application June 11, 1968, Ser. No. 751,639
Int. Cl. H01f *7/06*
U.S. Cl. 29—605 **3 Claims**



This invention concerns a method for providing a high temperature protective system for an electrical member wherein an encapsulating envelope of epoxy resin is first applied to a electrical member and then a coating of an alkyd material modified with a butylated melamine formaldehyde resin is applied over the epoxy resin envelope.

3,504,432
METAL FORMING METHOD

Robert M. Frayne, St. Louis County, Mo., assignor to Watlow Electric Manufacturing Company, St. Louis, Mo., a corporation of Missouri
Filed May 13, 1968, Ser. No. 728,479
Int. Cl. H05b *3/00;* **B21d** *22/10*
U.S. Cl. 29—611 **8 Claims**

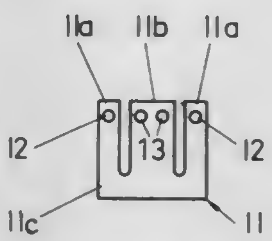


A method of forming a raised flange around an opening in sheet metal (specifically a metal sheathed resistance heater) by applying forces from one side of the metal which includes applying a first sealing force around the opening a spaced distance therefrom, applying a second force to the lip of the opening, and then forcing a column of extrudable material into the opening while slowly withdrawing the second force so that, as the extrudable material is forced into the opening, it moves beneath the lip of the opening and forces the sheet metal around the opening outwardly to form a flange around the opening.

3,504,433
SUSPENSION FOR A RECIPROCABLE BLADE OF A SHAVER HEAD

Bodo Fütterer, Sarnen, Obwalden, Switzerland, assignor, by mesne assignments, to The Gillette Company, Boston, Mass., a corporation of Delaware
Continuation-in-part of application Ser. No. 514,541, Dec. 17, 1965. This application June 6, 1967, Ser. No. 643,991
Int. Cl. B26b *19/02*
U.S. Cl. 30—43.92 **12 Claims**

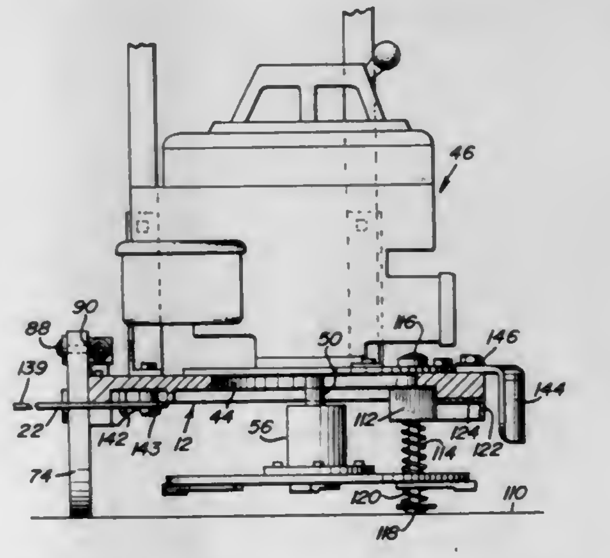
A shaver head having a reciprocating cutter blade cooperating with a shear comb and resilient suspension means maintaining said cutter blade relative to said shear comb. The resilient suspension means is connected to a support to which a shear comb is rigidly mounted,



and, also, is connected to the reciprocable cutter blade so as to resiliently urge the cutter blade into intimate contact with the shear comb and insure rectilinear longitudinal movement of the cutter blade.

3,504,434
ICE EDGER AND LINE CUTTER

Elmer R. Thomsen, 11022 SE. Stephen St., Portland, Oreg. 97214
Filed Nov. 7, 1967, Ser. No. 681,166
Int. Cl. B26b *25/00;* **B27c** *1/10*
U.S. Cl. 30—170 **9 Claims**

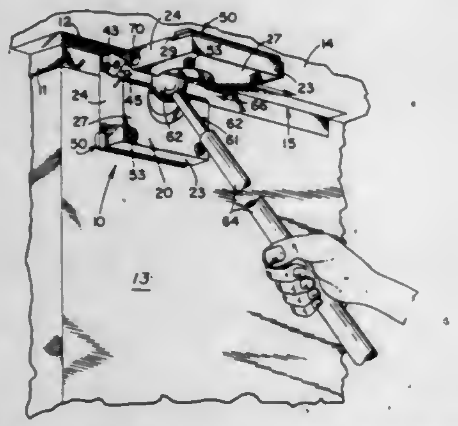


A base adapted to be moved over the surface of a body of ice and including an upstanding driven rotary shaft projecting downwardly below the base and having a rotary cutting assembly mounted on the lower end portion thereof, the base including a plurality of first depending support members spaced about the shaft and supported from the base for vertical adjustment in stationary position relative to the base and an additional support member spaced outwardly from the cutting assembly and from the first support members and supported from the base for free vertical shifting relative thereto with means provided for biasing the additional support member downwardly relative to the base, the thrust effected by the biasing means on the additional support member being generally equal to the portion of the weight of the base which would be supported from the additional support member if it were stationarily mounted and the lower ends of all of the support members were disposed in a single plane.

3,504,435
TAPE SLITTING TOOL

George Sloboda, 6018 N. Maplewood, and Michael Keller, 6025 N. Maplewood, both of Chicago, Ill. 60645
Filed Mar. 18, 1968, Ser. No. 713,586
Int. Cl. B26b *29/02*
U.S. Cl. 30—293 **9 Claims**

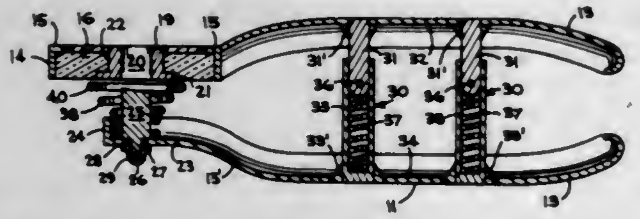
There is disclosed a tape slitting tool comprising a pair of guide arms positioned substantially at right angles to each other, each of the guide arms having an inner edge and an outer edge, the juncture of the inner edges of the guide arms defining a longitudinally extending guide edge, the guide edge having a slot therein adjacent one end thereof and bisecting the angle between the guide arms. A cutting member having a cutting edge and a support section is disposed in the slot in the guide edge so that the cutting member is supported by the guide arms with the cutting edge thereof extending outwardly from the guide edge to engage the tape material to be slit. Each of said guide arms carries a depressible guide bar thereon disposed substantially adjacent to the outer edge of the guide arm and extending longitudinally of the guide arm, whereby said tool is arrangeable in confronting relation with two taped surfaces that define a corner with the guide edge in juxtaposition with the longitudinal axis of the corner for guiding longitudinal movement therealong and the guide bars engaging the adjacent taped surfaces to accommodate variations in the angle between the two taped surfaces as the tool is advanced longitudinally, the guide bars serving to accurately maintain the cutting edge of the cutting member in the appropriate slitting position relative to the tape material. Handle means is carried by the guide arms for manually manipulating the tool.



3,504,436

PAPER PUNCH PRESS TOOL

Albert A. Ebert, St. Louis, Mo.
(205 Palmcrest, Apt. 29, Daly City, Calif. 94015)
Filed Mar. 18, 1968, Ser. No. 713,686
Int. Cl. B26f *1/32*
U.S. Cl. 30—358 **5 Claims**



A hand tool for aligning a punch with a point at the intersection of two lines on a paper sheet. A pair of relatively reciprocating handles are provided with a punch and a hollow die. The die has a surrounding transparent eyepiece with lines scribed thereon. Thus, when the lines of eyepiece are aligned with the lines on the sheet, the punch will be positioned at the intersection.

3,504,437

METHOD OF MAKING CERAMIC ARTIFICIAL TEETH

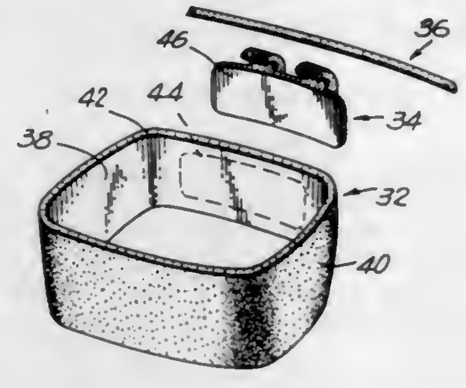
Alfred R. Siegel, % Eigenmann, Templstrasse 1, Innsbruck, Austria
No Drawing. Filed July 19, 1966, Ser. No. 566,202
Int. Cl. A61c *13/00*
U.S. Cl. 32—8 **1 Claim**

Ceramic artificial teeth are produced by the following steps: Fusing at 1400° C. a ceramic base material consisting of 56.7% SiO_2, 11.2% Al_2O_3, 2.5% TiO_2, 2.6% B_2O_3, 8.8% BaO, 2.9% CaO, 10.5% K_2O and 4.8% Na_2O. The fused material is solidified by cooling and is then ground. The ground material is mixed with 0.15% of powdered titanium dioxide which contains no particles of more than 2 microns and contains 25–50% of particles of 0.3–0.6 micron. The resulting mixture is fritted at 800–880° C. for one hour and is then ground. The ground frit is mixed with 35% crystal quartz which is air-classified to a grain size of 5 microns and with 5% by weight of aluminum hydroxide gel containing 7.5% colloidal alumina. The resulting mixture is heated to a temperature of 780–840° C. and subsequently processed in a conventional manner to artificial teeth.

3,504,438

DENTAL APPARATUS AND METHODS

Harold P. Wittman, Seminary Towers W. 22304, and Harvey Wenick, 901 N. Washington St. 22314, both of Alexandria, Va.; and Anthony Gigliotti, 7005 Andrews Ave., Philadelphia, Pa. 19138
Continuation-in-part of application Ser. No. 510,856, Dec. 1, 1965. This application July 27, 1966, Ser. No. 568,185
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 **9 Claims**

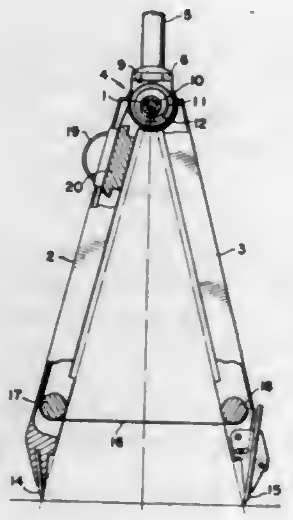


Dental fittings having a low friction exterior comprising, for example, a heat shrunk plastic film provided with a pull tab to enable ready stripping of a portion thereof to enable securement of the underlying apparatus utilizing conventional welding or adhesive bonding techniques.

3,504,439

COMPASS

Genjiro Kimura, 40–1 3-chome, Maehara-cho, Koganei-shi, Tokyo, Japan
Filed Apr. 11, 1969, Ser. No. 815,437
Claims priority, application Japan, Apr. 19, 1968, 43/26,252; Sept. 17, 1968, 43/80,570; Sept. 27, 1968, 43/84,004; Oct. 7, 1968, 43/87,537
Int. Cl. B43l *9/02*
U.S. Cl. 33—27 **7 Claims**



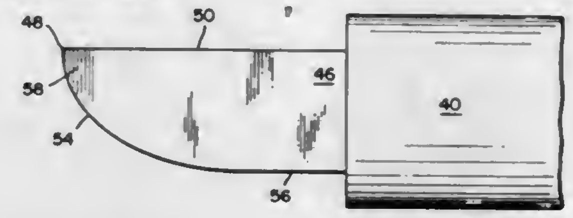
A compass of the type in which a first leg having a needle point at one end and a second leg which may

have a needle point, a pencil lead, a drawing pen or the like at one end are pivotally connected with each other at the other ends thereof by means of a pivot pin, the compass having a reel provided concentrically with the axis of the pivot pin and a tape wound on said reel with one end thereof secured on the reel and the other end thereof being drawn out from the reel along one of said legs and fixed on the other leg after passing around a guide member provided on said one leg. The tape is provided with a scale thereon by which the span of the compass is read when the compass is opened.

3,504,440

HANDTOOL FOR ADJUSTING DENTURES

Ralph G. Fontana, 7645 Giusti Road, Forestville, Calif. 95436
Continuation-in-part of application Ser. No. 652,340, July 10, 1967. This application June 6, 1969, Ser. No. 830,975
Int. Cl. A61c *3/00*
U.S. Cl. 32—40 **4 Claims**



A handtool for adjusting dentures having a handle, a cutting tip formed on a shank secured to the handle, the tip having an arcuate forward edge, a flat upper surface and a convex lower surface. These surfaces meet together to form an arcuate forward cutting edge which is faired into the flat side surface of the shank. The edges at which the side surfaces meet the canvex lower surface form additional cutting edges.

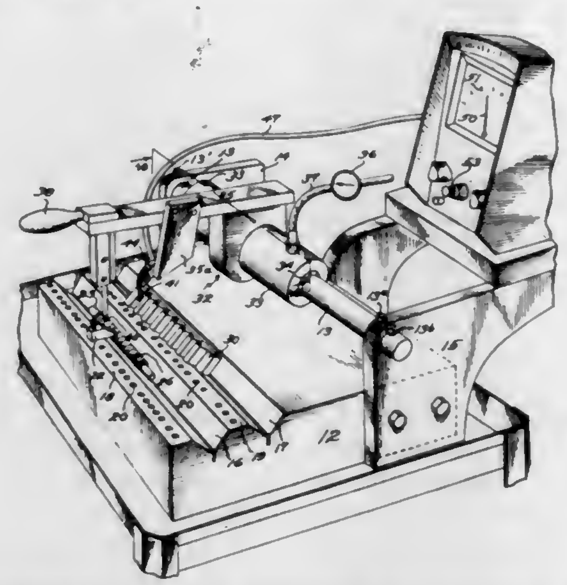
ERRATUM

For Class 33—27 see:
Patent No. 3,504,439

3,504,441

APPARATUS FOR COMPARING WITH A LENGTH STANDARD THE SPACING OF TEST POINTS IN A WORKPIECE

Philip R. Linley, Fairfield, and Francis M. Linley, Jr., Easton, Conn., assignors to Universal Thread Grinding Company, Fairfield, Conn., a corporation of Connecticut
Filed Sept. 8, 1967, Ser. No. 666,274
Int. Cl. A61b *5/08, 5/10;* **B23f** *23/08;* **B23q** *17/04;* **G01d**
U.S. Cl. 33—174 **9 Claims**



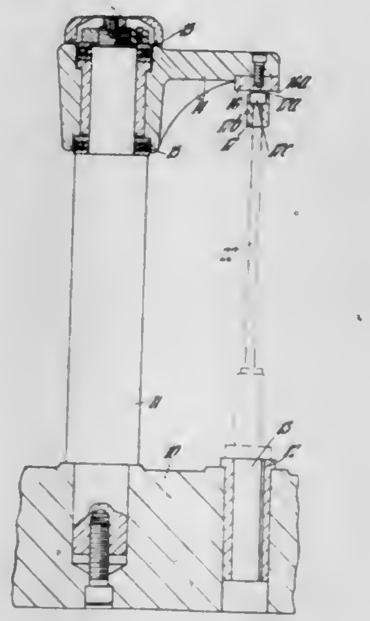
An apparatus for ascertaining with extreme precision any disparity between spacings that separate test points in a specimen workpiece, and spacings that separate corresponding target points in a length standard such as a graduated gauge. The test points on the workpiece may comprise a straight row of shoulders formed by flanks of screw threads that are slanted in relation to the plane of movement of a pilot probe into contact therewith. The target points on the gauge comprise another straight row of shoulders paralleling and disposed closely beside the row of slanted workpiece shoulders so as to be contacted by a sensing probe mounted on a common carriage with the pilot probe.

The sensing probe is cooperative with the gauge shoulders to measure and register displacement of the sensing probe from a calibrated relationship to the pilot probe for ascertaining minute errors in the distances between test points in the workpiece.

3,504,442

SETTING OF CUTTING TOOLS

Arthur Joseph Allen, Hanbury Park, England, assignor to James Archdale & Company Limited, Blackpole Works, Worcester, England, a British company
Filed Apr. 3, 1967, Ser. No. 628,056
Int. Cl. B27g *23/00*
U.S. Cl. 33—185 **5 Claims**



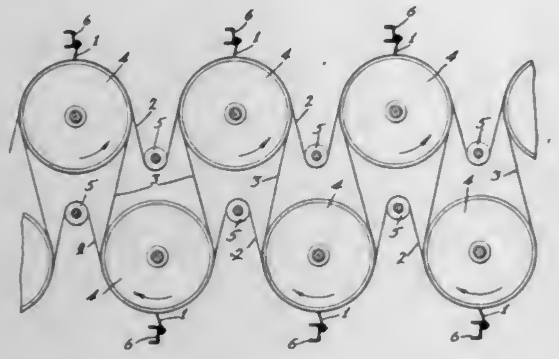
A device for setting cutting tools combined with adjustable adaptors makes use of a swinging arm carrying a gauging surface or a clock indicator gauge. The arm is not adjustable along the column which supports it, but each tool type to be reset is fitted with a thimble of appropriate length to coact with the gauging means on the arm.

3,504,443

CYLINDER DRYER WITH FELT

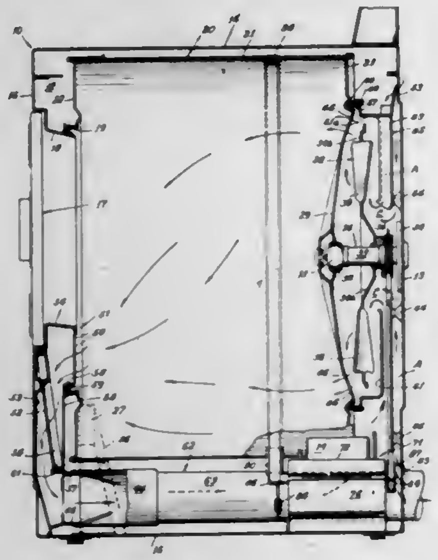
Rune Gustafsson, Stockholm, Sweden, assignor to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden
Filed Mar. 14, 1968, Ser. No. 713,060
Claims priority, application Sweden, Mar. 28, 1967, 4,181/67
Int. Cl. F26b *11/02*
U.S. Cl. 34—117 **6 Claims**

A cylinder dryer in which the material to be dried is pressed between the inner surface of an endless, highly-permeable dryer felt and the outer surface of a heated rotating cylinder. Moisture-laden drying medium is mechanically removed from the outer surface of the dryer felt by a deflecting body which is made of resilient material and projects towards the surface of the felt while it is on the cylinder. Moisture removal may be facilitated by blowing drying medium against the felt downstream of the body and withdrawing drying medium from the surface of the felt upstream of the body.



3,504,444
AIR CIRCULATION ARRANGEMENT FOR DRYERS

James K. Nelson and Terry J. Laue, Effingham, Ill., assignors, by mesne assignments, to Fedders Corporation, a corporation of New York
Filed Mar. 25, 1968, Ser. No. 715,822
Int. Cl. F26b *21/02*
U.S. Cl. 34—131 **12 Claims**

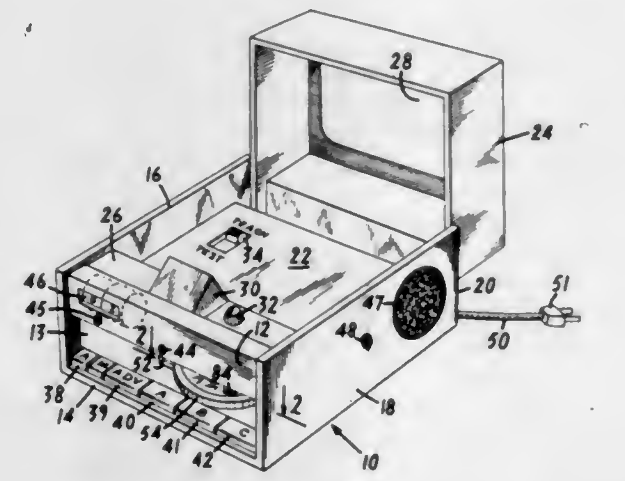


A clothes dryer having a cabinet receiving a clothes-containing cylinder and a propeller-type fan which are rotatable about a horizontal axis, the fan being located between adjacent rear cabinet and cylinder walls with the cabinet wall having a circular axial orifice affording an air inlet radially inwardly of the fan blades, and the cylinder wall having air discharge openings circumferentially spaced about the axis and located radially outward of, but adjacent to, the outer tips of the fan blades.

3,504,445
AUDIO-VISUAL APPARATUS

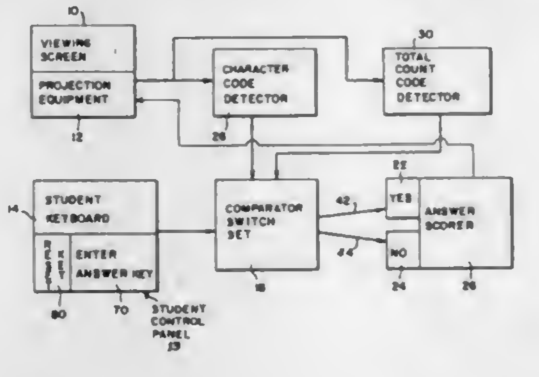
Peter C. Goldmark, Stamford, Arthur Kaiser, Trumbull, and Benjamin B. Bauer, Stamford, Conn., and Warren C. Portman, Mahopac, N.Y., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Apr. 13, 1967, Ser. No. 630,762
Int. Cl. G09b *7/08*
U.S. Cl. 35—9 **23 Claims**

In the described embodiment of the invention, an audio-visual apparatus is provided which has a teaching mode of operation and a testing mode of operation and utilizes a combination cartridge containing circumferential series of transparencies and a central captive record disc. In the teaching mode, the transparencies are selectively projected onto a screen to the accompaniment of audio description reproduced from the record disc and in the test mode of operation, each projected transparency and the accompanying audio information reproduced from the record disc comprises a test question which is answerable as a three element multiple choice. The captive record disc is carried by a motor driven turntable and the transparencies are carried by and secured to a ratchet which is incrementally rotated by a solenoid actuated lever arm. For terminating the reproduction of audio information relating to a selected projected slide, the record disc has recorded thereon sub-audible tone signals separating the segments of audio information corresponding to different transparencies. The transparent disc also includes selectively spaced depressions formed in its lower edge, each depression being aligned with a transparency and corresponding to a correct answer to the question presented to a pupil concerning the transparency.



3,504,446
ANSWER SYSTEM FOR TEACHING MACHINES

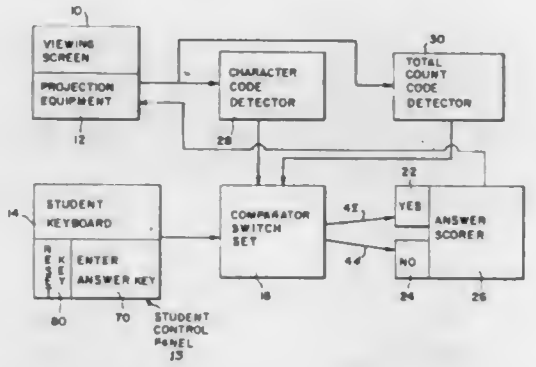
Karl Brunell, Livingston, and Vladimir Paul Honeiser, Lawrenceville, N.J., assignors, by mesne assignments, to Westinghouse Learning Corporation, New York, N.Y., a corporation of Delaware
Filed May 31, 1967, Ser. No. 642,483
Int. Cl. G09b *7/02*
U.S. Cl. 35—9 **4 Claims**



A teaching machine with student constructed answers entered on an alpha-numeric keyboard. Operation of particular keys and groups of key are counted on a set of single-stage binary elements which thus indicate the count only as odd or even. The correct answer is encoded as a combination of the binary states. A supplementary register counts the aggregate or total key operations, which is compared with the correct total.

3,504,447
ANSWER SYSTEM FOR TEACHING MACHINES

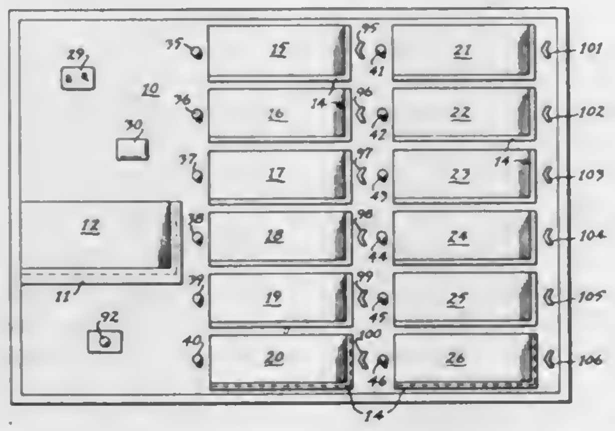
Harvey Jerome Brudner, Piscataway, N.J., assignor, by mesne assignments, to Westinghouse Learning Corporation, New York, N.Y., a corporation of Delaware
Filed May 31, 1967, Ser. No. 642,491
Int. Cl. G09b *7/02*
U.S. Cl. 35—9 **6 Claims**



A motion-picture teaching machine with student-constructed answers to questions. Correctness of answers is evaluated by comparison with correct answers encoded on the film. Substantial information content is disregarded in the registering of the student answer and the coding of the correct answer. A single set of storage elements is used for both answers, the correct answer being encoded as the complement of the changes of state produced by correct-answer operation of a simple form of alpha-numeric keyboard. The advantages of constructed-answer capability over multiple-choice machines are obtained with a minimum of added complexity. The probability of accepting a wrong or randomly-selected answer as correct is negligible, and a correct answer cannot be rejected as incorrect.

3,504,448
EDUCATIONAL DEVICE

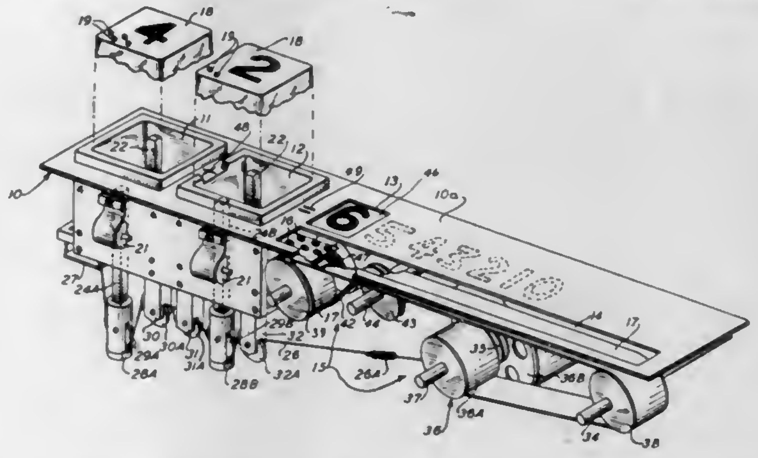
James T. Moore, 1529 Shawnee Drive, and Earl P. Murphy, 621 E. 15th St., both of Bowling Green, Ky. 42101
Filed Apr. 5, 1968, Ser. No. 719,123
Int. Cl. G09b *7/06*
U.S. Cl. 35—9 **7 Claims**



An educational board including a master receptacle for receiving a question card having an electrical bridge for engaging and closing one set of electrical contacts in a series of open contacts, a plurality of answer receptacles on the board for receiving different answer cards, an answer selector switch adjacent each answer receptacle, an electrical signal on the board and a source of electrical energy so connected that when the answer selector switch adjacent the receptacle receiving the corresponding correct answer card is closed, the electrical signal is energized.

3,504,449
DEVICE FOR TEACHING ARITHMETIC

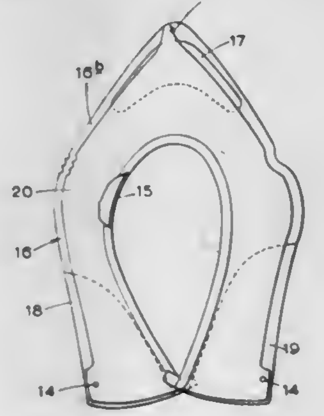
Richard Kobler, West Orange, Thomas J. Gaven, Livingston, and Albert B. Gloor, Ringwood, N.J., assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,220
Int. Cl. G09b *19/02*
U.S. Cl. 35—31 **12 Claims**



A device for teaching arithmetic to children comprises a plurality of recesses for receiving individual blocks. The blocks have numbers and as many dots as the respective numbers imprinted on their top faces. The bottom portions of the blocks are shaped to operate plungers within the recesses to an extent in correspondence with the numbers on the respective blocks as the blocks are inserted into the recesses. The plungers actuate a register to show the number on the block when a block is inserted into a recess and to show the sum of the numbers on the blocks when a plurality of blocks are inserted into respective recesses or sockets. Also, the register includes a tape bearing a series of dots which is moved along an elongate window to show as many dots as the number of dots on the block or blocks inserted in the recesses. As the blocks are removed individually the numbers and quantities of dots are decreased to show the process of subtraction. In this way a child is taught the quantitative significance of pure numbers and the addition and subtraction of pure numbers as well as the addition and subtraction of quantities.

3,504,450
SHOE UPPER ASSEMBLY

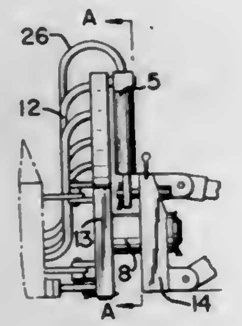
John Gorman Steadman, Bristol, and Raymond Charles White, Hanham, Bristol, England, assignors to Soundwell Investments Limited, Morely Road, Soundwell, Bristol, Gloucestershire, England
Original application Nov. 15, 1963, Ser. No. 323,972, now Patent No. 3,397,418. Divided and this application May 23, 1968, Ser. No. 731,423
Claims priority, application Great Britain, Nov. 18, 1962, 35,575/62; Oct. 23, 1963, 41,918/63
Int. Cl. A43b *23/00*
U.S. Cl. 36—46.5 **1 Claim**



A shoe upper assembly ready for lasting having an outer layer, a separate inner layer and stiffener elements located between the layers. The connection between the layers and the stiffener elements is by adhesives in the absence of stitching.

3,504,451
BACKHOE AS A GRADER AND/OR ANGLE TRENCHER

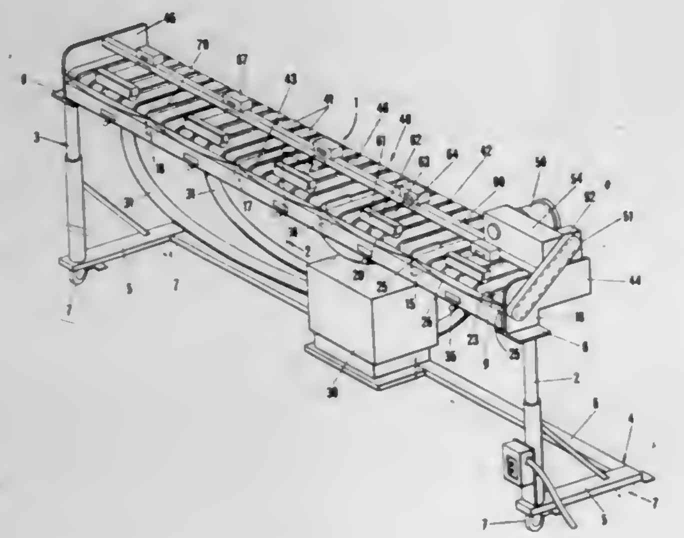
Vern Alvin Brueske, Rte. 1, Box 90C,
Del Mar, Calif. 92014
Filed Dec. 12, 1966, Ser. No. 592,022
Int. Cl. E02f *5/02, 3/85*
U.S. Cl. 37—103 **1 Claim**



A backhoe is provided with apparatus for rotating the bucket about the longitudinal axis of the backhoe body. The tractor is provided with a fixed plate, the backhoe body is provided with a turning plate, and a kingpin connects the two plates for relative rotation. A hydraulic cylinder is attached to the fixed plate and the ram thereof mounted by means of a changeover pin in either a right or left hole at the top of the turning plate to provide for rotation of the latter. The fixed plate is provided with scales and the turning plate is provided with pointers to visually indicate the amount of relative rotation.

3,504,452
MULTILANE SPREADER

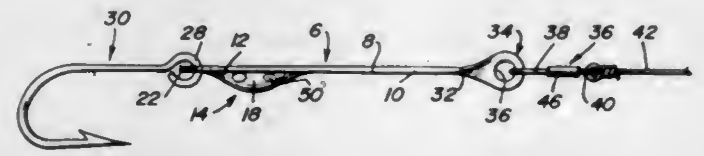
William E. Shea, Washington, N.J., assignor to Sheetmaster Corporation, Boca Raton, Fla., a corporation of Florida
Filed Mar. 28, 1968, Ser. No. 716,836
Int. Cl. D06f *67/04*
U.S. Cl. 38—143 **11 Claims**



A spreader for spreading non self-supporting textile articles such as towels and pillow cases in multiple lanes to an ironer or like apparatus. The spreader consists essentially of a series of short endless belts positioned with one end adapted to operatively engage an ironer positioned over an elongated vacuum source that extends below and longitudinally transverse of the belts. Interposed between the vacuum source and belts is an elongated spreading lip formed with a scalloped lower edge with each scallop defining an individual lane. The individual lanes are further defined by weighted rollers positioned above and in gravity engagement with the belts and by dividing members.

3,504,453
TROLLING AND CASTING FISH LURE

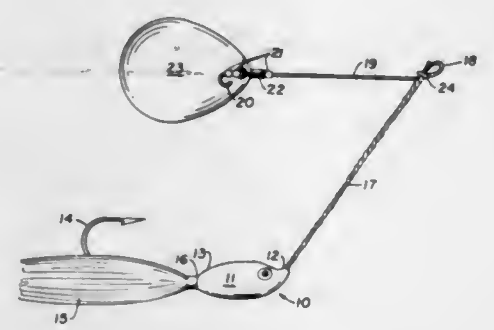
Wesley M. Greenslate, P.O. Box 128,
Martell, Calif. 95654
Filed May 29, 1968, Ser. No. 733,148
Int. Cl. A01k *85/04*
U.S. Cl. 43—42.5 **4 Claims**



A fishing lure is generally teardrop-shaped in plan and has a flat tapering body terminating at its forward end with a 90° twist and an eye for freely receiving a snap fastener. A concavo-convex recess is provided at a rearward portion of the body and the rear end is formed as a crescent-shaped flange.

3,504,454
FISH LURE

Clarence S. Turbeville and Ike J. Walker, Gainesville, Tex., assignors to Bomber Bait Company, Gainesville, Tex., a corporation of Texas
Filed July 10, 1968, Ser. No. 743,755
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.11 **8 Claims**

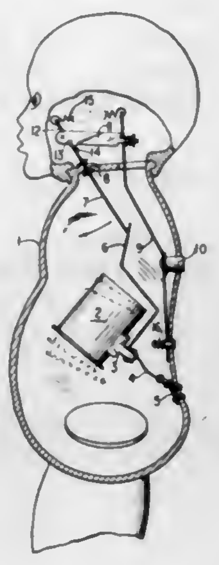


An underwater lure having a body with a head and tail section, a hook extending from the tail section, and a spoon positioned above and parallel with the body which is retained by an upwardly extending extension member having a portion connected to the eye of the hook and embedded in the head of the body. A method of making this fish lure is also provided.

3,504,455
SOUNDING MECHANISM FOR TOY FIGURES

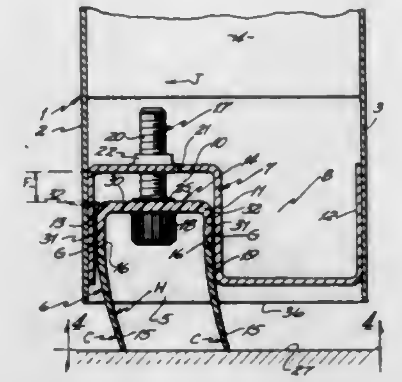
Robert Gardel, New York, and Egon Gorsky, Brooklyn, N.Y., assignors to Lettam, Inc., New York, N.Y., a corporation of New York
Filed May 19, 1967, Ser. No. 639,716
Int. Cl. A63h *3/33*
U.S. Cl. 46—117 **6 Claims**

A sounding mechanism for toy figures such as dolls in which a sound device is mounted on a spring, is moved a certain distance to load the spring and is then suddenly released to vibrate rapidly and to emit a rapid succession of sounds as long as the vibration continues with sufficient amplitude, suitable means being provided for moving and releasing the sound device.



3,504,456
ADJUSTABLE WEATHER SEALING RAIL FOR DOORS

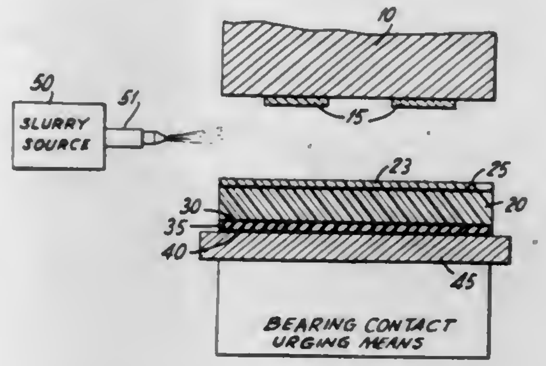
Claud Frederick, Jr., Cincinnati, Ohio, assignor to The Steelcraft Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 16, 1969, Ser. No. 791,721
Int. Cl. E06b *1/70, 7/18*
U.S. Cl. 49—470 **7 Claims**



A weather sealing rail, particularly for the lower edge of a door, in which the door includes a downwardly facing receiving channel formed of sheet metal, with the weather sealing adjustment rail, also of downwardly facing channel configuration interfitted within the receiving rail. The adjustable weather sealing rail is of composite design, formed of a non-metallic material such as a plastic. The upper portion of the adjustment rail is in the form of a stiff channel section formed of a rigid material, such as vinyl. Joined to the lower edges of the rigid channel section is a pair of flexible limbs, also of a plastic material, such as a flexible vinyl. The adjustment rail is held in position within the sheet metal receiving rail by a series of captive adjustment screws. The yieldability of the flexible limbs permits the insertion of an adjusting instrument adjacent the floor into engagement with the adjusting screws to bring the lower edges of the flexible limbs into wiping engagement with the floor surface. The flexible weather sealing limbs yield sufficiently to permit withdrawal of the instrument after the flexible limbs have been adjusted into wiping engagement with the floor surface.

3,504,457
POLISHING APPARATUS

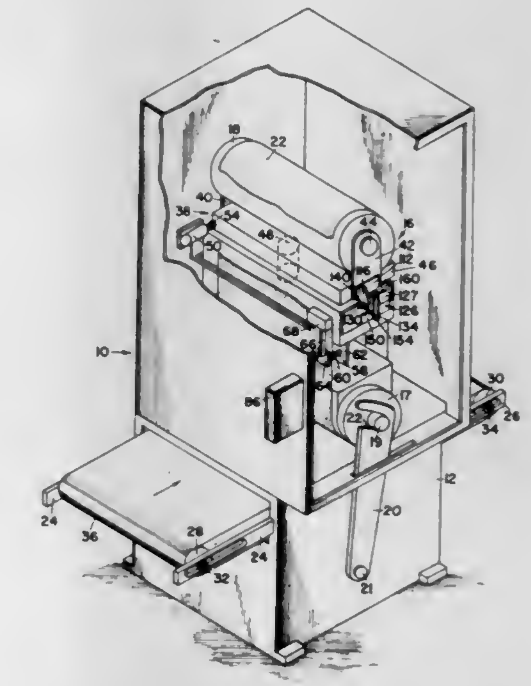
Hans R. Jacobsen, White Plains, and Elmer W. Jensen, Brooklyn, N.Y., assignors to Geoscience Instruments Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1966, Ser. No. 562,757
Int. Cl. B24b *5/00, 29/00, 11/00*
U.S. Cl. 51—131 **4 Claims**



A device for polishing semiconductor wafers wherein the polishing tool comprises a poromeric material of polyurethane reinforced with a polyester and with a polishing slurry thereon is urged into contact with the workpiece.

3,504,458
GRINDING MACHINE

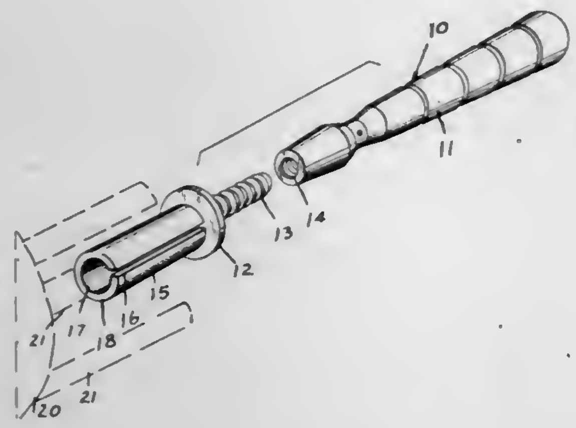
Richard D. Rutt, Wilson, N.Y., assignor to The Carborundum Company, Niagara Falls, N.Y.
Filed July 19, 1967, Ser. No. 654,422
Int. Cl. B24b *21/18*
U.S. Cl. 51—135 **6 Claims**



A grinding machine having a tracking roll pivotable about an axis perpendicular to the longitudinal axis of the roll. An extension arm is provided at the end of the roll and is moveable back and forth between a pair of spaced stops for limiting the oscillating movement of the roll. A double acting hydraulic cylinder is provided for adjusting the oscillation range of the roll by moving the stops in unison when the extension arm tends to dwell against one of the stops.

3,504,459
TERMINAL CLEANING DEVICE

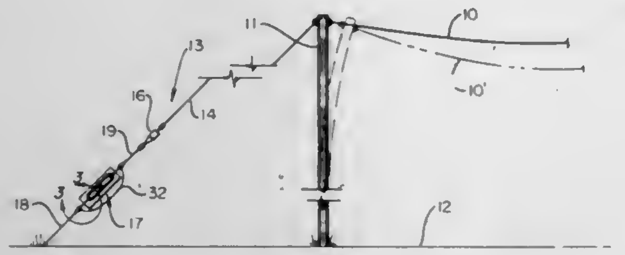
Joseph Spiteri, Erie, Pa., assignor to Truck-Lite Company, Inc., Jamestown, N.Y., a corporation of New York
Filed May 18, 1967, Ser. No. 639,503
Int. Cl. B24d *15/00*
U.S. Cl. 51—393 **2 Claims**



The terminal cleaning device disclosed herein is made up of a generally cylindrical handle, a hollow cylindrical cleaning sleeve, that is split longitudinally and has an abrasive material on the inside thereof. The hollow cylindrical member is made of resilient material so that it fits tightly over the terminal to be cleaned and the slot allows the pin to expand it slightly. The abrasive material on the inner periphery of the sleeve is thereby brought into firm engagement with the outside of the pin, thereby cleaning off any corrosion, dirt or foreign substance in order to provide a good electrical contact.

3,504,460
CATENARY CABLE SUPPORT SYSTEM AND LOAD RELIEF COUPLING CONSTRUCTION THEREFOR

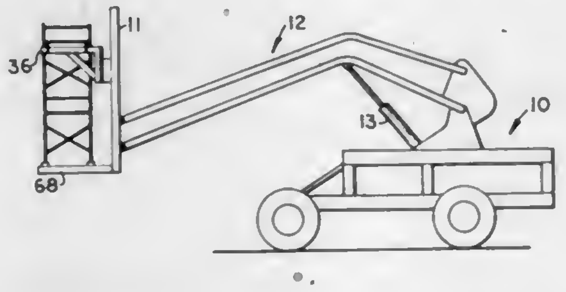
Gerald E. Solberg, San Carlos, Calif., assignor to Granger Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 3, 1968, Ser. No. 695,494
Int. Cl. E04h *12/20;* **F16g** *11/00*
U.S. Cl. 52—98 **4 Claims**



A guyed tower supports a catenary cable from the upper end of the tower. In the supporting guy, two portions are joined by a load relief coupling construction comprised of a relatively inelastic link formed to include a zone of weakness adapted to break under an unusual force applied to the guy. The load relief element also serves to couple the two portions of the guy and is of a material subject to being relatively elongated under application of the unusual force applied to the guy. The load relief element receives the applied load of the guy upon rupture of the link. By elongation of the load relief element, the guy is adapted to elongate and thereby permit the upper end of the support tower to move and permit the catenary cable to increasingly sag and thereby reduce the load carried by the guy. A generally slack length of relatively inelastic cable also couples the two tandem portions of the guy in parallel function with both the link and the load relief element. The slack length of cable is dimensioned relative to the load relief element so as to become taut upon substantial maximum elongation of the load relief element so as to define a predetermined limit to the elongation permitted for the guy.

3,504,461
SCAFFOLD ERECTING EQUIPMENT

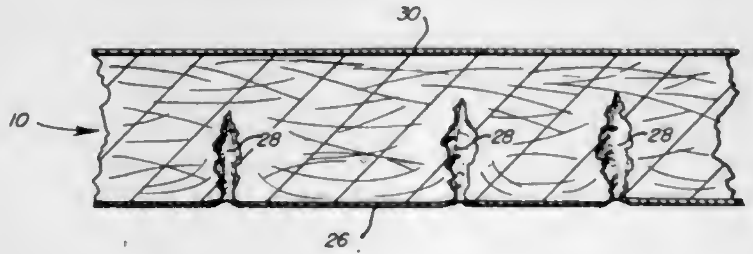
Roy E. Copeland, Concord, Homer E. Holmes, Danville, and Merritt M. Mason, Walnut Creek, Calif., assignors to Gordon H. Ball, Inc., Danville, Calif., a corporation of Nevada
Filed Aug. 26, 1968, Ser. No. 755,348
Int. Cl. E04g *21/00, 7/20*
U.S. Cl. 52—123 **9 Claims**



Equipment for erecting sectional type metal scaffolds. Arms are carried cantilevered fashion by a mobile unit (e.g., pickup unit). The arms carry pivoted latches whereby when positioned on opposite sides of an assembled frame section, the section can be raised by elevating the arms with the latches in section-engaging positions. The next frame section is then assembled below the raised section, after which the two sections are coupled together and the arms lowered to engage and elevate both sections.

3,504,462
LAY-IN TYPE SUSPENDED CEILING AND PANEL THEREFOR

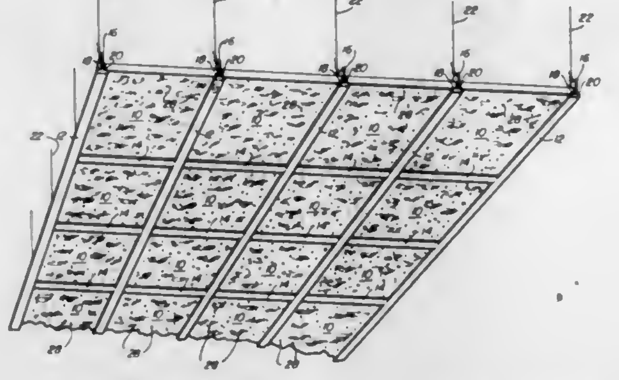
David W. Akerson, St. Paul, Minn., assignor to Conwed Corporation, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 687,583, Dec. 4, 1967. This application Sept. 30, 1968, Ser. No. 763,802
Int. Cl. E04b *1/86, 5/52*
U.S. Cl. 52—145 **12 Claims**



In a lay-in type suspended ceiling, the acoustical panels are comprised of boards of mineral fiber bonded together with an hydrophilic binder, which boards are faced with a perforated metal foil facing and backed with a moisture impermeable membrane, preferably also a metal foil. The foil facing prevents excessive sagging and the foil backing overcomes warping at the panel corners.

3,504,463
LAY-IN TYPE SUSPENDED CEILING AND PANEL THEREFOR

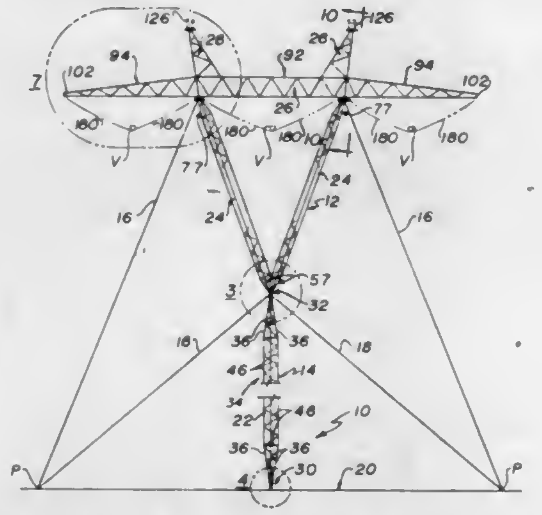
David W. Akerson, St. Paul, Minn., assignor to Conwed Corporation, St. Paul, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 687,583, Dec. 4, 1967. This application Sept. 30, 1968, Ser. No. 763,904
Int. Cl. E04b *1/86, 5/52*
U.S. Cl. 52—145 **9 Claims**



In a lay-in type suspended ceiling, the acoustical panels are comprised of boards of mineral fiber bonded together with an hydrophilic binder, which boards are faced with a metal foil facing. Said foil facing being embossed.

3,504,464
TOWER STRUCTURE AND METHOD OF ERECTING THE SAME

Robert E. Bair, Fort Worth, Tex., and Halvor S. Jensen, Concord, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Mar. 7, 1966, Ser. No. 532,275
Int. Cl. E04h *12/20;* **E04g** *21/00*
U.S. Cl. 52—148 **7 Claims**

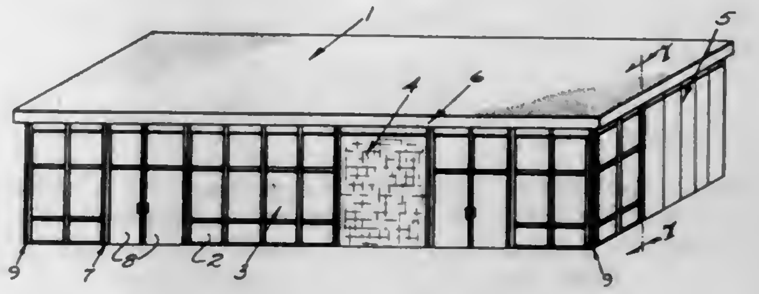


Improved electrical transmission tower and the like comprised of a lower mast secured to the ground by a ball joint means and an upper mast, wherein the lower mast is coupled to the upper mast by a second ball joint means and both masts are guyed to the ground. The guy wires are provided in two sets with the first set of four secured between the top of the lower mast and the ground and the second set of four wires extend from the top of the upper mast to the ground.

The guy wires of each set are paired off with the guy wires of the other set so that one guy wire of one set can be anchored to the same common point on the support surface as a guy wire of the other set. An improved arrangement is provided for assembling the masts at the site of tower installation. The lower mast is tilted into a vertical position and secured by guy wires. The upper end of the lower mast and the lower end of the upper mast are temporarily connected by a length of cable loosely threaded through the upper end of the lower mast. The upper mast is raised to a vertical position atop the lower mast and guided by drawing down the cable through the upper end of the lower mast. The upper mast is secured by guy wires. A helicopter may be used to raise the upper mast.

3,504,465
PREFABRICATED SECTIONAL BUILDING WALL

John H. Brinker, Cincinnati, Ohio, assignor to The Steelcraft Manufacturing Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 27, 1968, Ser. No. 732,291
Int. Cl. E04c *2/74*
U.S. Cl. 52—282 **8 Claims**



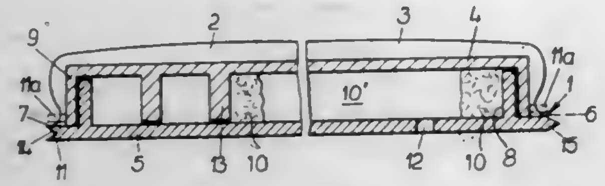
The disclosure is directed to a building wall constructed of prefabricated sections, each comprising vertical load-bearing columns or mullions formed of sheet metal spaced apart from one another, with horizontal beams or transoms, also formed of sheet metal, spanning the spaced vertical columns and clamped under compression between them. The wall sections include closure panels of composite sheet metal construction, together with glass window panes, the closure panels and window panes being arranged in selected relationship and mounted within the several openings delineated by the vertical columns and horizontal beams. The building wall is constructed by assembling the prefabricated wall sections in side-by-side relationship, with the edges of the sections rigidly clamped together. A wall section of this construction is known in the industry as a "window wall."

Each wall section is self-contained, the arrangement being such that the individual wall sections are modular in width and include doorframes, also modular in width. The assembled wall sections are capable of supporting the roof structure of the building and are also capable of resisting lateral forces, such as wind pressure, acting against the wall or walls. The vertical load-bearing columns and the horizontal cross beams are hollow in cross section and are clamped rigidly in assembled relationship by means of tie rods passing through the hollow beams or transoms. Nuts are applied to the opposite end portions of the tie rods in bearing relationship with the webs of the sheet metal beams and tightened to provide a rigid load-bearing assembly. The tie rods thus clamp the cross beams under compression between the load-bearing columns, with the tie rods under tension, to provide a rigid structure. The glass and composite sheet metal panels are placed within the openings delineated by the framing members and secured in place by suitable retaining strips.

3,504,466
WALL TILE

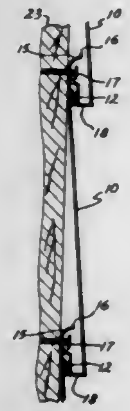
Hilmar Herzog, 120 Hauptstrasse, Nottingen 7531, Germany
Filed Nov. 1, 1967, Ser. No. 679,788
Claims priority, application Germany, Mar. 7, 1967, H 62,039
Int. Cl. B44c *3/12;* **E04f** *13/08*
U.S. Cl. 52—309 **11 Claims**

The wall tile is formed of two parts, each of synthetic rigid resin; one part is adapted to be secured to the wall and formed with a flat rigid base plate with straight sides and upstanding projecting small side walls located inwardly of the outer edges of the plate; the other part is a flat rigid top plate, which may be upholstered or formed with a decorative surface, and has projecting side walls at the outer edge thereof fitting snugly over and around the side walls of the base plate, with small projections and notches being provided on the side walls so that the top plate can be snapped over the bottom plate, and, if damaged, replaced independently of the adhering bottom plate.



3,504,467
SIDING

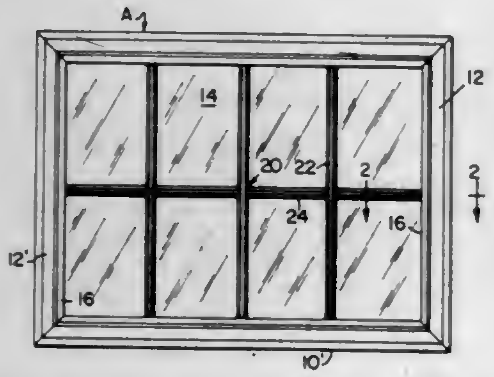
Dorrill Kent Hatch, Jr., Westfield, and James F. Caulfield, North Plainfield, N.J., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 25, 1968, Ser. No. 724,121
Int. Cl. E04c *1/00;* **E04d** *1/00*
U.S. Cl. 52—309 8 Claims



Overlapping and interlocking siding panels are described which require only a single row of fastening means for securing the panels to a support. The siding panels have a longitudinal fastening flange which in cross-section defines a concave surface that is disposed in the same direction as the front surface of the siding panel. The siding panels produce a bevel appearance when installed.

3,504,468
WINDOW GRILL CONNECTORS

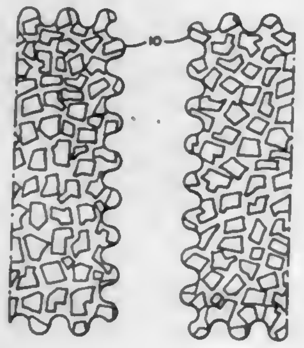
Robert I. Martin, Mount Joy, Pa., assignor to Rimar Manufacturing, Inc., Manheim, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1968, Ser. No. 709,162
Int. Cl. E06b *3/30, 3/02*
U.S. Cl. 52—311 2 Claims



A variety of clips, pins and spring attaching devices which are end connected to removable window grill assemblies and which are adaptable to facilitate ready application and removal of the said window grill assemblies when used in conjunction with windows of various constructions.

3,504,469
INVISIBLE SEAMING TECHNIQUE FOR A MONOLITHIC FLOORING

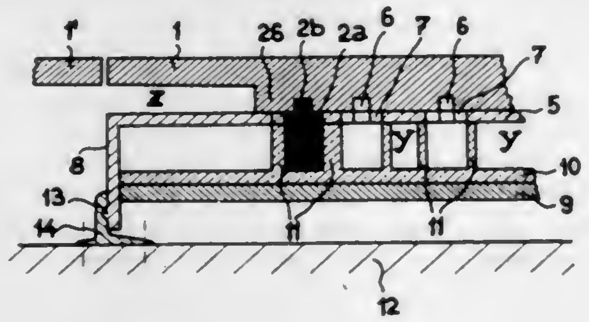
Charles D. Painter, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 28, 1967, Ser. No. 694,294
Int. Cl. E04c *2/10;* **E04f** *15/10*
U.S. Cl. 52—315 1 Claim



Method and apparatus for producing a seamless flooring. A backing material containing a plurality of chips fastened thereto is fastened to a subfloor. Grouting is placed over the backing in the area between the chips so that the grouting and upper surface of the chips form the surface layer of the flooring. In order to hide the seam between abutting edges of the backing layer containing the chips, a scalloped edge is used to form the seam joint.

3,504,470
TILE MOUNTING STRUCTURES

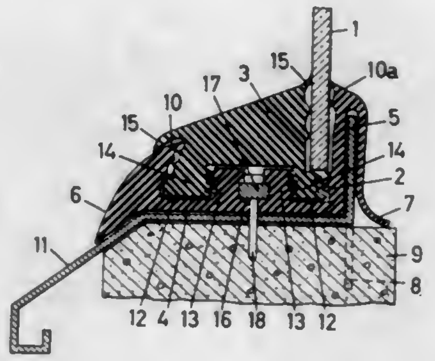
Jean Pincemin, 6 Chemin Desvalieres 93, Ville d'Avray, France
Continuation-in-part of application Ser. No. 456,074, May 17, 1965. This application June 24, 1968, Ser. No. 739,347
Claims priority, application France, May 15, 1964, 974,658; Apr. 15, 1965, 13,357
Int. Cl. E04b *1/90;* **E04f** *13/14*
U.S. Cl. 52—385 5 Claims



A tile mounting panel is provided with a plurality of perforations in which can fit one end of a mounting stud. A plurality of tiles, each having on its back or non-visible face at least one slide in which the other end of the stud can slide, are mounted on the panel by means of mounting studs so as to render the tiles interchangeable and thereby make possible design variations. In a modification of the invention, a pair of anti-condensation zones are provided between the tiles and a sole plate for the panel.

3,504,471
MOUNTING CONSTRUCTION FOR WINDOW PANE

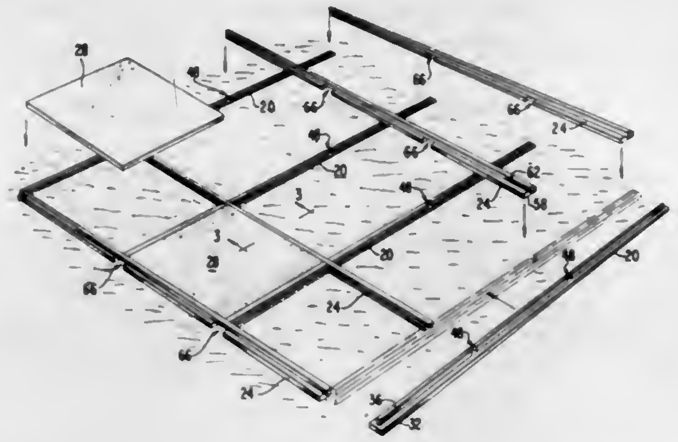
Finn Aspaas, Tollbodgaten 19, Kristiansand S. Norway
Filed Nov. 2, 1966, Ser. No. 591,504
Claims priority, application Norway, Nov. 3, 1965, 160,134
Int. Cl. E06b *3/62*
U.S. Cl. 52—400 5 Claims



Two mating glazing strips, between which a window pane is mounted and watertightly sealed, are securely locked together by interengaging complementary serrations on the strips. A reinforcing shoulder extends from the base into a recess in the bottom strip defined between two lips, one of the bottom strip lips sealingly engaging the pane and the other slip sealingly engaging the base.

3,504,472
PORTABLE PATIO FLOOR STRUCTURE

Andrew B. Clement, 1623 Stonecliff Drive, Decatur, Ga. 30033
Filed Sept. 12, 1967, Ser. No. 667,280
Int. Cl. E04b *5/14;* **E04c** *2/42*
U.S. Cl. 52—477 5 Claims

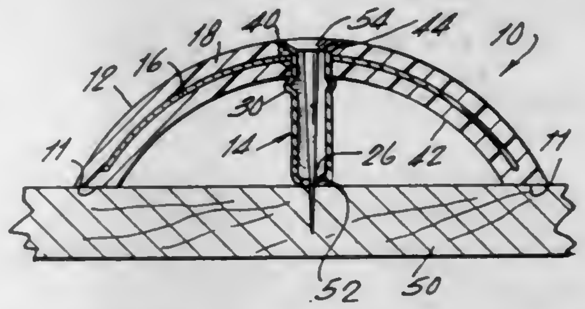


A portable patio floor structure comprising; at least one flooring panel, a plurality of first beams disposed in spaced horizontal relationship and a plurality of second beams disposed transversely of the first beams; wherein all of the beams include means integral therewith for locking the first and second beams together in a readily releasable manner to form a structural latticework for supporting the flooring panel.

3,504,473
COMPOSITE NAILABLE MOLDING STRIP

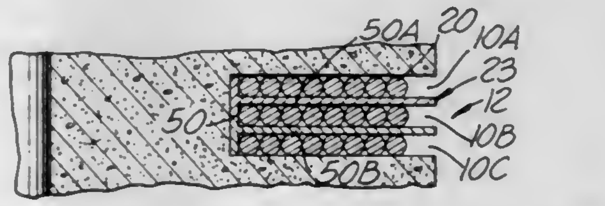
Victor Shanok and Jesse P. Shanok, Brooklyn, N.Y., assignors to Glass Laboratories Company, a New York limited partnership
Filed Mar. 15, 1968, Ser. No. 713,403
Int. Cl. E04f *19/02*
U.S. Cl. 52—717 7 Claims

A composite arcuate molding strip containing an embedded decorative metallic foil. A plurality of tubular attaching devices are disposed along axis of the strip. One end is connected to the strip projecting from the concave face thereof: The attaching device permits fasteners to extend completely through the molding strip without damage.



3,504,474
STACKED RADIAL WINDING

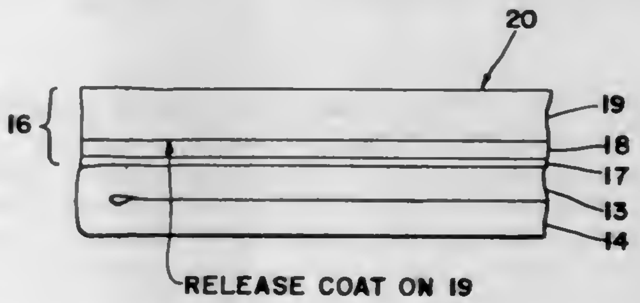
Maximiliaan J. Dykmans, 4434 Mayapan Drive, La Mesa, Calif. 92041
Filed Apr. 2, 1968, Ser. No. 718,177
Int. Cl. E04c *3/26;* **B65h** *81/00;* **B21f** *17/00*
U.S. Cl. 52—741 2 Claims



In prestressing structures of concrete, metal or other materials an elongated element such as wire, strip or the like is wound either within a slot or on the outer surface of the structure such that there is a radial stacking of convolutions of such element. In one arrangement a slot is formed in the concrete having a thickness commensurate with the diameter of wire which is then wrapped to fill the slot and obtain a high concentration of forces in a narrow band. Successive individual slots are so filled by wire wrapping in sections such that one section may be removed without disturbing other sections. The elongated element may be wound such that successive radially disposed layers or convolutions are applied with increasing tension. For minimizing corrosion possibilties the elongated element such as piano wire may be embedded in an epoxy or fibreglass.

3,504,475
PACKAGING METHOD

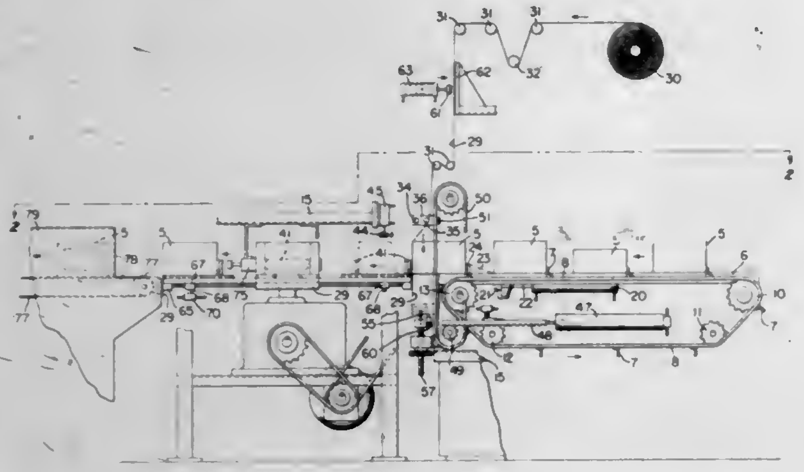
Lester R. Dickard, Painesville, and Robert G. Hamilton, Mentor, Ohio, assignors to Avery Products Corporation, San Marino, Calif., a corporation of California
Filed Aug. 25, 1964, Ser. No. 391,973
Int. Cl. B65b *7/08;* **B65d** *33/20*
U.S. Cl. 53—14 4 Claims



This invention relates to a packaging method and to a novel reclosable or wall-hanging package including one having a removable label that covers an area of pressure-sensitive adhesive.

3,504,476
METHOD OF PACKAGING

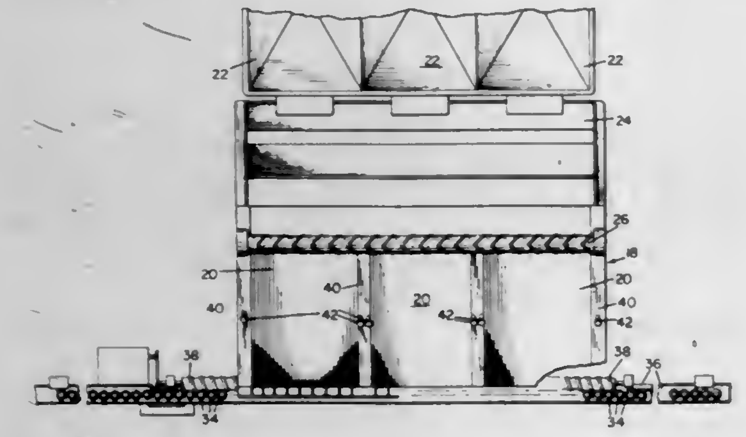
John F. Ehrenfried, Akron, and Charles M. Gardner, Manchester, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 20, 1967, Ser. No. 654,858
Int. Cl. B65b *35/50, 11/30*
U.S. Cl. 53—26 16 Claims



The material to be packaged, referred to herein as the content of a package, may be one or more boxes, or cans on a tray or trays, or a stack of magazines, etc. A series of these, all of the same size or different sizes are fed successively to packaging equipment where each is individually wrapped in heat-shrinkable, heat-sealable film to form an open-ended package with the ends of the film overlapped under the package. The overlapped ends of the film are heated and sealed to one another. The entire package is then heated and the film is shrunk tight on the content, and the edges of the film which extended beyond the content are shrunk in over the ends of the content.

3,504,477
ARTICLE COUNTING AND FILLING MACHINE

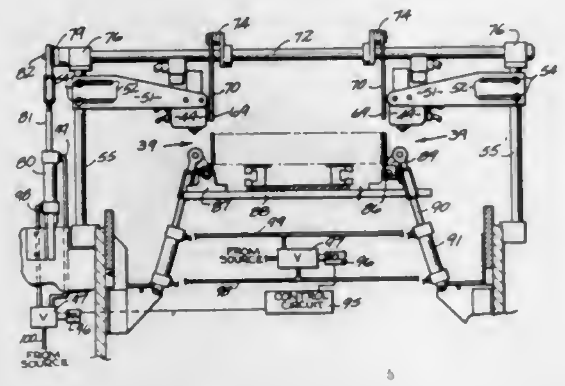
Richard N. Heino, Ashby, Mass.
(P.O. Box 442, Fitchburg, Mass. 01420)
Filed Feb. 19, 1968, Ser. No. 706,302
Int. Cl. B65b *57/20*
U.S. Cl. 53—78 2 Claims



A high speed article counting and filling machine in which the containers to be filled move in a straight line and are precisely separated while being stopped under a line of chutes which in turn receive multiple articles in a timed relationship to the stopping of the containers from an inclined gravity fed line of grooves, said grooves appearing in a plurality of plates which are quickly and easily removed and replaced for counting and filling articles of different sizes, the precise spacing means for the containers comprising an elongated screw shaft, the containers being received in the troughs or roots of the threads therein.

3,504,478
AUXILIARY END FLAP SEALER FOR CARTONING MACHINE

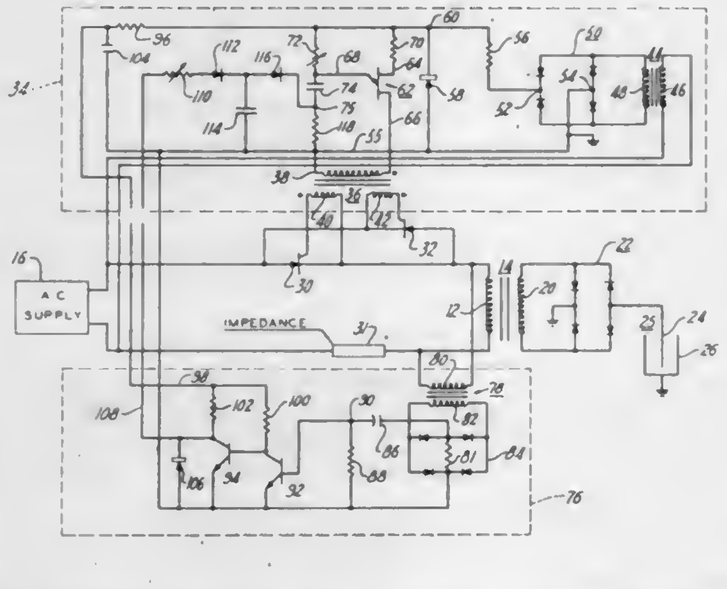
Julian A. Dieter, Cincinnati, Ohio, assignor to R. A. Jones and Company, Incorporated, Covington, Ky., a corporation of Kentucky
Filed Oct. 16, 1967, Ser. No. 675,703
Int. Cl. B65b *49/14, 51/02*
U.S. Cl. 53—196 11 Claims



Auxiliary end flap sealer apparatus for a cartoning machine that includes, for example, (a) an end flap closer disposed at each side of a carton's travel path within a glue dispensing area of the machine, each end flap closer being moveable between a first position where the closer does not affect the movement of the carton blank's end flaps and a second position where the closer holds the end flaps in final sealing position, (b) a guide bar disposed at each side of the carton's travel path within the glue dispensing area and extending between a tab folding area and an end flap closing area, each guide bar being moveable between a first position where the bar is positioned beneath the top of the prefolded tabs on the carton blanks to keep the tabs aligned and a second position where the bar is positioned above the top of the prefolded tabs to permit operation of the closer, and (c) a control system for actuating the end flap closer and guide bars between their first and second positions upon stoppage of the machine.

3,504,479
PRECIPITATOR CONTROL APPARATUS

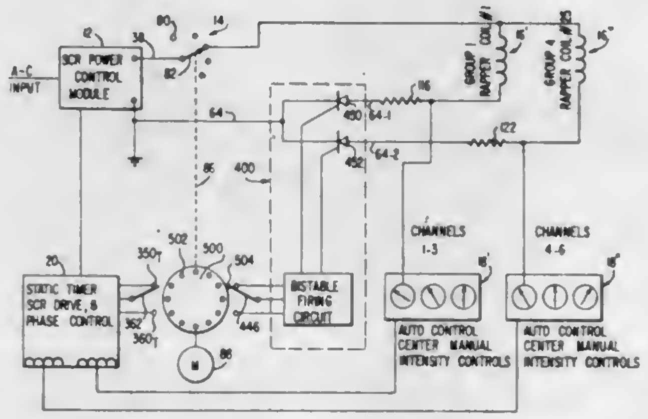
Everett L. Coe, Jr. 9514 E. Fostoria St., Downey, Calif. 90241
Filed Mar. 29, 1967, Ser. No. 626,772
Int. Cl. B03c *3/02;* H02m *1/08*
U.S. Cl. 55—2 15 Claims



A control apparatus and a method for controlling the energy used to recharge an electrostatic precipitator after a spark has occurred having switching means controlled to permit recharging of the precipitator in a time period substantially equivalent to the time between energy pulses supplied to the precipitator under normal operation when no sparking has occurred, to minimize the disruption of dust collection after sparking.

3,504,480
ELECTROSTATIC PRECIPITATOR RAPPER CONTROL SYSTEM

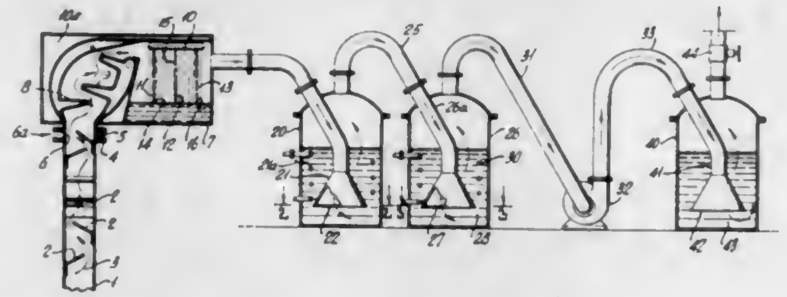
Vincent W. Copcutt, Basking Ridge, and Herbert J. Hall and Harold Van Hoesen, Skillman, N.J., assignors to Research-Cottrell, Inc., Bridgewater Township, Somerset County, N.J., a corporation of New Jersey
Filed Oct. 21, 1966, Ser. No. 588,440
Int. Cl. B03c *3/76*
U.S. Cl. 55—112 10 Claims


A-C INPUT
SCR POWER CONTROL MODULE
STATIC TIMER SCR DRIVE, 6 PHASE CONTROL
BISTABLE FIRING CIRCUIT
CHANNELS 1-3
CHANNELS 4-6
AUTO CONTROL CENTER MANUAL INTENSITY CONTROLS
AUTO CONTROL CENTER MANUAL INTENSITY CONTROLS

A system for controlling a plurality of rappers in an electrostatic precipitator. Power is sequentially fed to a plurality of rappers by a distribution switch. The rappers may receive different amounts of power. The firing angle of SCR devices changes power fed to the rappers. The firing angle is controlled by internal feedback signals as well as by external control signals from operating parameters such as precipitator sparking rate and precipitator current. The use of rapper coil current for internal feedback also compensates for changes in line voltage.

3,504,481
AIR FILTERING SYSTEM

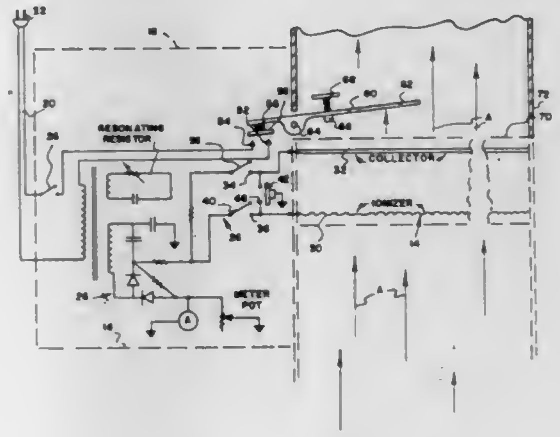
Agop G. Zakarian, 41—46 50th St., Woodside, N.Y. 11377, and Nishan Balikjian, 5800 Arlington Ave., Bronx, N.Y. 10471
Filed Dec. 11, 1967, Ser. No. 695,544
Int. Cl. B03c *3/36;* B01d *47/00*
U.S. Cl. 55—122 4 Claims



Polluted air, smoke and etc., is first forced through an elongated path wherein electrostatic and/or electromagnetic devices intercept and collect carbon-like particles within the polluted air stream and deposits them onto a depository. The polluted air, smoke, etc., is thereafter purified by passing it through a cold-water forced spray and into a cooled solution of sodium carbonate (Na_2CO_3) to remove grease or soot from the polluted air or smoke. The air is thereafter passed through a cooled creosote-based solution for removing the carbon and sulphur content of the smoke. Thereafter, the smoke is passed into a compressor for compressing the smoke to approximately 5–7 atmospheres and thereafter exited into a pressurized enclosure three-fourths filled with water where any residual pollutants remaining in the smoke are removed and the residue pure air exited into the air or ambient surroundings.

3,504,482
ELECTROSTATIC AIR CLEANER AND CONTROL MEANS THEREFOR

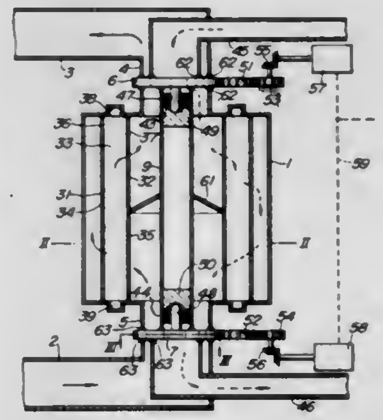
William H. Goettl, 4627 N. Granite Reef Road, Scottsdale, Ariz. 85251
Filed Jan. 22, 1965, Ser. No. 427,221
Int. Cl. B03c *3/02*
U.S. Cl. 55—139 7 Claims



An electrostatic precipitator installed in a building heating system return air duct having a flow sensing means to de-energize the precipitator upon predetermined decrease in air flow rate in the system. The electrostatic precipitator having a grounding means to ground the precipitator to dissipate residual charges therein as the precipitator is removed from the system.

3,504,483
APPARATUS FOR THE REMOVAL OF SULFUR OXIDES FROM WASTE GASES

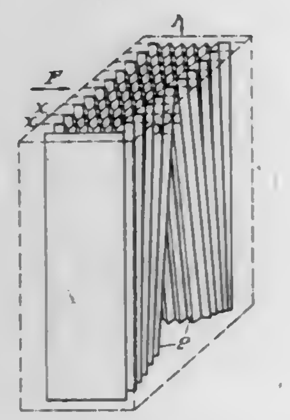
Zensuke Tamura and Yukio Hishinuma, Hitachi-shi, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Sept. 8, 1967, Ser. No. 666,354
Int. Cl. B01d *53/20*
U.S. Cl. 55—180 10 Claims



An apparatus for the removal of sulfur containing acid gases from waste gases exhausted from boiler and other industrial furnaces. The device has a cylindrical body for carrying out desulfurization which is divided into equal-sized chambers so that some of the said acid gases are adsorbed by active carbon in some of said chambers and other of the said acid gases having been previously adsorbed in some other chambers are simultaneously removed from the active carbon in said other chambers by desorbing with carbon dioxide gas or water. Rotating gas passage shifting means sequentially change the passage of gases in the chambers in such a manner that the desulfurization treatment is operated continuously.

3,504,484
INSTALLATIONS HAVING BAFFLE PLATE SEPARATORS

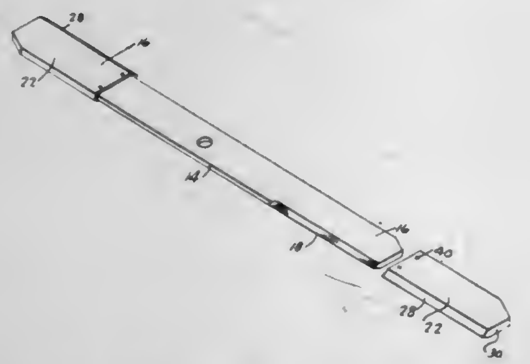
Jean Buffet, Paris, France, assignor to Ameliorair (Societe Anonyme), Paris, France
Continuation of application Ser. No. 643,205, June 2, 1967. This application Jan. 22, 1969, Ser. No. 796,292
Claims priority, application France, Dec. 16, 1966, 87,754
Int. Cl. B01d *50/00;* **E05c** *15/00*
U.S. Cl. 55—257 **10 Claims**



An installation in which a gaseous fluid circulates, such as an air-conditioning installation, having a baffle plate-separator for separating suspended particles, such as water droplets, from the gaseous fluid. The separator comprises several baffle plates mounted pivotably about axes parallel to the flow of the gaseous fluid at the inlet of the separator, these axes being preferably situated in the neighborhood of one of the two edges of the baffle plates parallel to the flow. And locking means are provided, preferably in the neighborhood of the outer edges of the baffle plates, for locking the baffle plates during operation of the installation.

3,504,485
COVER BLADE FOR ROTARY MOWER

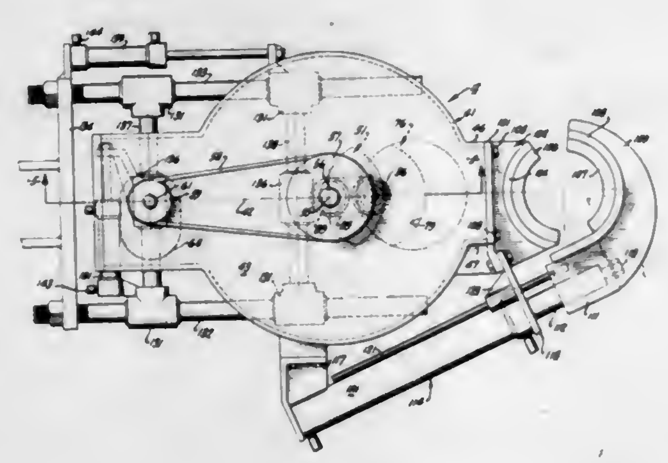
Ralph R. Johnson, Box 246, Ashland, Oreg. 97520
Filed June 28, 1968, Ser. No. 741,121
Int. Cl. A01d *55/18*
U.S. Cl. 56—295 **4 Claims**



Apparatus for sliding onto a rotary mower cutting blade comprising a cover blade made in the form of a slip-on sleeve cover, and having the configuration of the cutting portion of the rotary mower cutting blade, with means to hold the slip-on sleeve cover on the ends of the rotary mower blade so as to produce a sharp cutting edge without requiring dismantling of the rotary blade from the mower for sharpening.

3,504,486
TRUNK SHAKER FOR ATTACHMENT TO A TREE

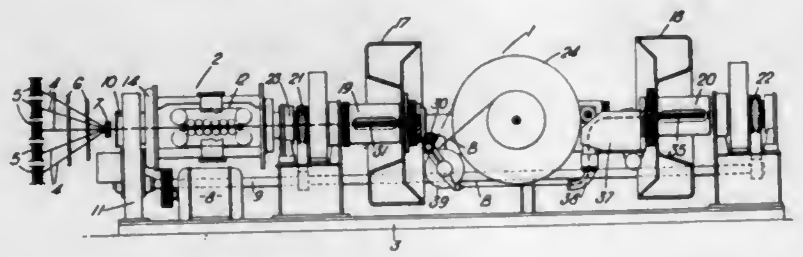
Robert B. Fridley, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Continuation-in-part of application Ser. No. 477,819, Aug. 6, 1965. This application Aug. 21, 1968, Ser. No. 754,319
The portion of the term of the patent subsequent to Oct. 22, 1985, has been disclaimed and dedicated to the Public
Int. Cl. A01g *19/00*
U.S. Cl. 56—328 **1 Claim**



A trunk shaker for attachment to a tree is mounted on a mobile boom and includes a frame housing carrying a motor driving a crank shaft journalled in the frame for rotation about a first axis. A crank pin to which a weight is fastened is journalled in the crank shaft for relative rotation about a second, parallel axis. A sprocket on the crank pin is connected by a chain to a sprocket of a predetermined diameter on the crank shaft so that the weight moves in various straight lines and shakes a tree clamp mounted on the frame in corresponding lines usually defining a geometrical pattern depending upon the chosen ratio of the sprocket diameters and including a bodily rotation of the line pattern about the first axis and correspondingly about the tree trunk axis.

3,504,487
MANUFACTURE OF BUNCHED WIRE

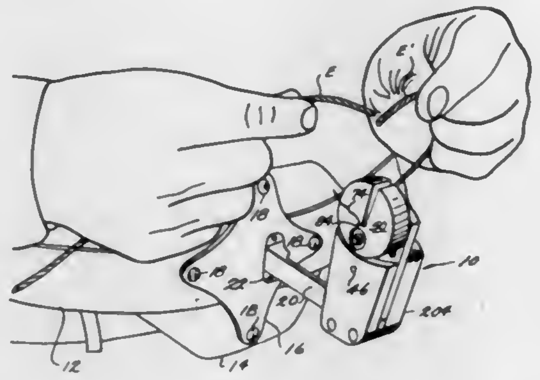
Sidney Richard Santer, West Moors, Dorset, England, assignor to B. & F. Carter & Co. Limited, Bolton, Lancashire, England
Filed Mar. 20, 1968, Ser. No. 714,479
Claims priority, application Great Britain, Mar. 22, 1967, 13,548/67
Int. Cl. D02g *3/36;* **D01h** *7/02;* **D07b** *3/02*
U.S. Cl. 57—12 **11 Claims**



In the manufacture of bunched strand (especially of 100 or more fine wires) by means of a double-twist bunching machine, the material is fed into the machine as a bunch rotating about its own axis faster than the speed of rotation of the flyer of the machine, preferably twice as fast. An endless belt haul-off that rotates about the axis of the bunch can be used to draw the wires from stationary supply reels and feed them as a rotating bunch into the bunching machine.

3,504,488
SPLICING DEVICE FOR YARNS OR THE LIKE

Walter F. Illman, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Continuation-in-part of application Ser. No. 641,357, May 25, 1967. This application Dec. 13, 1968, Ser. No. 783,470
Int. Cl. D01h *15/00, 17/00*
U.S. Cl. 57—22 **27 Claims**



A splicing apparatus for splicing yarns together, the apparatus including a drum member rotatably supported and carrying a splicing or wrapping thread. The drum member is provided with a yarn passage of sufficient size to receive overlapping ends of yarn to be spliced in parallel side-by-side relationship without rotation of the yarn. When the drum member rotates about the overlapping ends of the yarn, thread carried by the drum member is wrapped about the ends of the yarn to provide a tight splice.

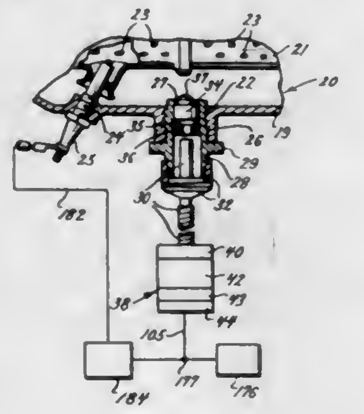
3,504,489
SEMICONTINUOUS FILAMENT YARN

George A. Watson, Charlotte, N.C., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Original application July 3, 1967, Ser. No. 650,795, now Patent No. 3,417,560, dated Dec. 24, 1968. Divided and this application Aug. 5, 1968, Ser. No. 763,468
Int. Cl. D02g *3/02, 3/38*
U.S. Cl. 57—140 **6 Claims**

A semicontinuous filament yarn comprising crimped deregistered tow, longitudinally slit into strips to form a bundle of filaments which filaments are twisted into yarn.

3,504,490
LIGHT SENSITIVE APPARATUS FOR PREVENTING FLAMEOUT IN COMBUSTION ENGINES

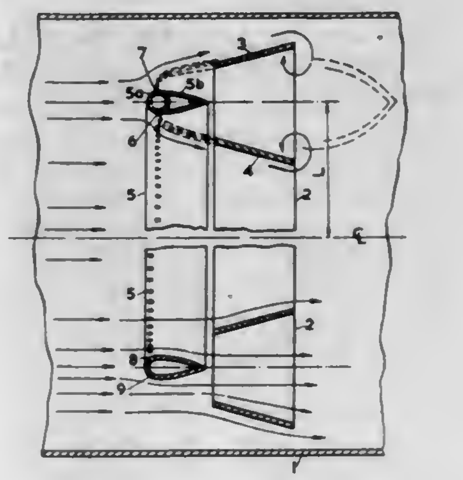
Robert L. Klamm, St. Charles, Mo., assignor to Conductron Corporation, St. Charles, Mo., a corporation of Delaware
Filed Feb. 20, 1968, Ser. No. 706,819
Int. Cl. F02c *7/26;* **F23n** *5/08*
U.S. Cl. 60—39.09 **16 Claims**



An elongated bundle of fiber optics has one end thereof disposed in visual communication with the interior of the housing of a reaction-type combustion engine, and has the other end thereof disposed in visual communication with a light-sensitive element which can respond to light having wavelengths within a narrow range; and that light-sensitive element will act, whenever the light from the flames within that housing falls below the range of wavelengths to which that light-sensitive element responds, to actuate the ignition-initiating system of that engine. Thereafter, that ignition-initiating system will then be kept actuated for a predetermined length of time by a timer to avoid a "flameout" of that engine.

3,504,491
COMBUSTION DEVICES

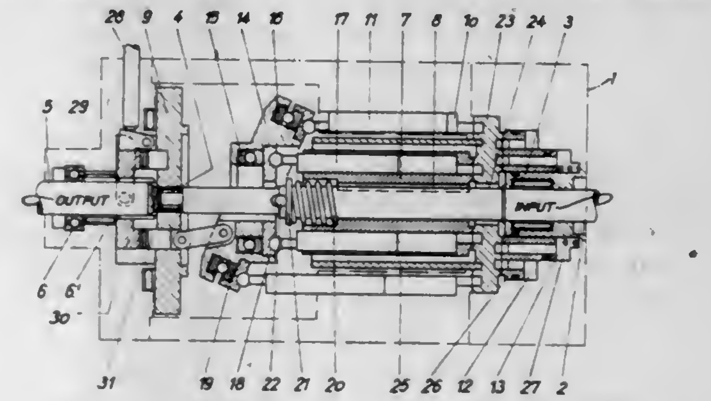
Leslie Desmond Wigg, Fleet, England, assignor to Minister of Technology in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Aug. 5, 1968, Ser. No. 750,085
Claims priority, application Great Britain, Aug. 10, 1967, 36,855/67
Int. Cl. F02k *3/10*
U.S. Cl. 60—39.72 **9 Claims**



A flame stabiliser intended for use in a reheat system comprises an open gutter formed by two concentric annular baffles set at an angle to each other to form a divergent annular passage, and an annular vane of aerofoil section set centrally relative to the passage and upstream of it. Air can be discharged from circumferential rows of holes in the surface of the vane so that a gas stream will be diverted around the gutter by a sheet-like stream of air. Eddies forming at the rear edges of the baffles set up a recirculation zone behind the stabiliser. In a variation, a vane is combined with one of the annular baffles.

3,504,492
POWER-BRANCHING HYDRAULIC AXIAL PISTON TYPE TRANSMISSION

Johannes Neukirch, Alter Durkheimer Weg, 6701 Ungstein, Germany
Filed Apr. 26, 1968, Ser. No. 724,411
Int. Cl. F16d *31/06;* **F04b** *1/12*
U.S. Cl. 60—53 **10 Claims**

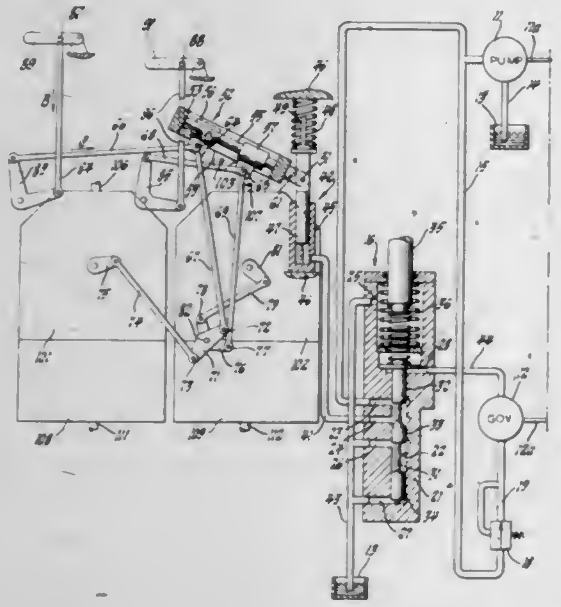


A power-branching axial piston type transmission comprises a stationary cylinder block. A second cylinder block rotating with an input shaft is arranged coaxially in a central bore of the stationary cylinder block. Two swash plates forming an angle with each other are mounted on one common side of the cylinder blocks in a support body rotating with the driven shaft. On the other, input, side of the cylinder blocks there is a common disc shaped pressure distributor valve with a control valving surface having semicircular high pressure and low pressure grooves, the high pressure grooves and the low pressure grooves of both systems being connected with each other. The distributor valve is rotated with the support body through a driver member extending between the stationary and rotating cylinder blocks. The distributor valve is pressed to the cylinder blocks by a pressure member defining pressure chambers.

3,504,493

HYDRAULIC UNIT AND CONTROL LINKAGE WITH OVERLOAD CONTROL

Carl R. Potter, Indianapolis, John A. Clements, Danville, and James J. Mooney, Jr., Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 16, 1968, Ser. No. 753,295
Int. Cl. F15b *15/18;* **B62d** *11/04;* **F04d** *15/00*
U.S. Cl. 60—52 7 Claims

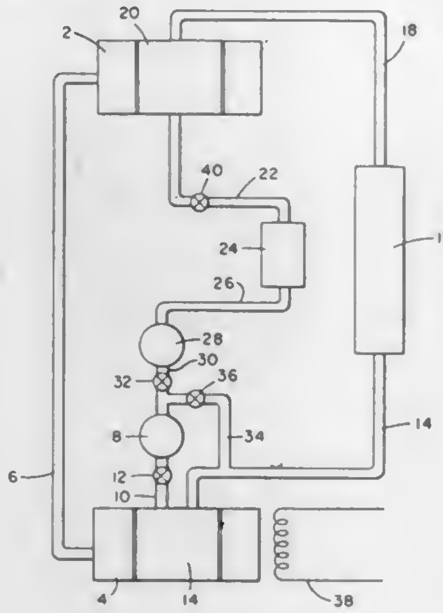


Disclosed herein is a hydraulic unit having a control linkage operative to control the displacement of the hydraulic unit which is preferably comprised of two servo-controlled hydraulic pumps and two hydraulic motors which cooperate to form a variable ratio hydrostatic drive and steer transmission. The control linkage includes an operator control, which is movable fore and aft, and a plurality of links and levers which transmit movement of the operator control to the servocontrol. Movement of the operator controls in the same direction produces equal displacement change in the pumps while movement of the control in opposite directions provides opposite displacement changes. Interposed among and operatively connected to the links and levers is a rotatable carrier assembly which provides pivot points for the control linkage which are adjustable or movable in response to an input power signal to modify or modulate the operator movements so that a given amount of operator movement provides more or less servocontrol movement depending on the position of the pivot points to control the power use in accordance with available power. Also, movement of the carrier, in response to power demand during a steer maneuver, causes the pumps to decrease in displacement without affecting the rate of steer.

3,504,494

INTERMITTENT POWER SOURCE

Warren E. Winsche, Bellport, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 28, 1968, Ser. No. 771,218
Int. Cl. F01k *17/00, 27/00;* **F23n** *1/00*
U.S. Cl. 60—64 3 Claims

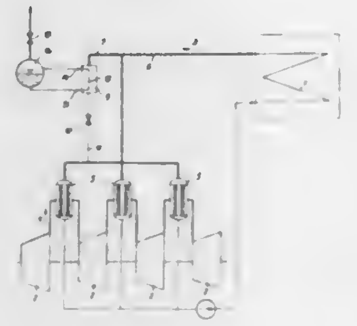


A method of producing closed cycle high energy steam power from a low energy isotope source wherein the heat for steam production is gained by desorbing hydrogen from a first metal hydride bed onto a second metal hydride bed with a hydrogen recycling from the second to the first bed being powered by a low energy isotope source.

3,504,495

MULTIPLE REHEATING APPARATUS FOR STEAM TURBINES

László Heller and László Szücs, Budapest, Hungary, assignors to Transelektro Magyar Villamossagi Kulkereskedelmi, Budapest, Hungary
Filed Oct. 30, 1967, Ser. No. 679,101
Claims priority, application Hungary, Nov. 4, 1966, HE–487
Int. Cl. F01k *7/16, 7/32*
U.S. Cl. 60—73 7 Claims



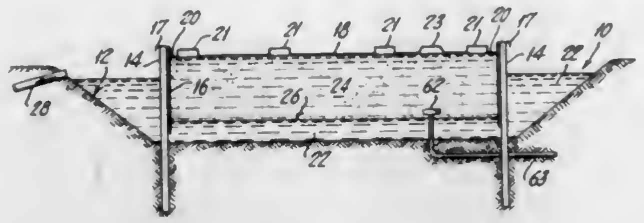
A steam turbine interstage steam reheating system in which heat released by the condensation of mercury vapour is used to reheat the interstage steam.

3,504,496

STORAGE TANK

Walter R. Hnot, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,526
Int. Cl. B65g *5/00;* **E21f** *17/16*
U.S. Cl. 61—.5 10 Claims

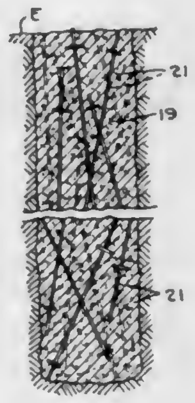
A low evaporative loss open pit storage reservoir for liquid hydrocarbons includes a relatively thin barrier wall means to define an internal enclosure within the open pit. The barrier wall means is supported from the bottom of the open pit with the lower edge of the wall means in raised spaced relationship to the pit bottom to permit free passage of a surrounding body of ballast water to the bottom of the enclosure so that as hydrocarbon liquid is pumped into and out of the enclosure the hydrostatic balance between the surrounding water and the hydrocarbon is always maintained. Excessive water buildup due to rain accumulation within the surrounding body of ballast water is overflowed to a drainage system.



3,504,497

METHOD OF PRODUCING CAST-IN-PLACE PILES OR LIKE BODIES IN A SITUS

Lee A. Turzillo, 2078 Glengary Road, Bath, Ohio 44210
Filed July 27, 1966, Ser. No. 568.156
Int. Cl. E02d *5/36, 5/38;* **E04b** *1/16*
U.S. Cl. 61—35 12 Claims



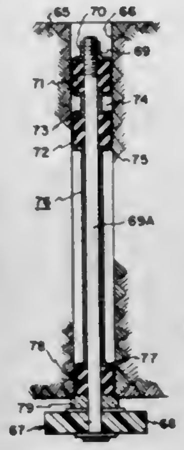
Cast-in-place concrete body formed by pumping hydraulic cement mortar under pressure into a natural or artificial cavity at situs, the mortar having incorporated therein after-setting expansion producing constituents capable of volumetric expansion to maximum potential after and beyond the point of final setting of mortar. Rod means, wire mesh, or other restraining mechanisms located in cast-in-place body to control both amount in directions of forces created by hydration of after-setting expansion producing constituent.

3,504,498

SHAFT SECUREMENT STRUCTURE

Lee Triplett, 2878 South 8600 West, Salt Lake County, Utah
Filed July 26, 1968, Ser. No. 748,065
Int. Cl. E21d *11/00;* **F16b** *13/06*
U.S. Cl. 61—45 3 Claims

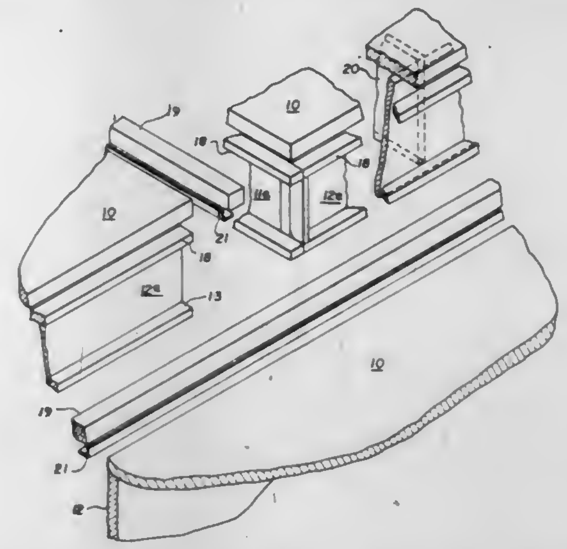
The present invention relates to shafts which are to be secured in a variety of structures, for example, mining formations, drill holes, casings, and the like, and is directed to a suitable, elongate shaft construction incorporating compression-lock friction sleeves at a remote end thereof which can be compressed and thereby expanded in a formation simply by rotating the shaft at a remote point relative to the compression sleeves. In a preferred embodiment of the invention, a stabilizing bushing is employed near the entrance to the formation or drill hole, this so that forces in shear against the shaft and proximate the exterior of the bore of which the shaft is mounted, cannot dislodge a compression-friction lock of the shaft within the bore.



3,504,499

LINING FOR SHAFTS, TUNNELS AND UNDERGROUND CHAMBERS

Samuel Taradash, Liberty Township, Trumbull County, and Nicholas Chlumecky, Poland, Ohio, assignors to Commercial Shearing & Stamping Company, a corporation of Ohio
Continuation-in-part of application Ser. No. 647,128, June 19, 1967. This application Jan. 2, 1969, Ser. No. 788,469
Int. Cl. E21d *11/00*
U.S. Cl. 61—45 5 Claims



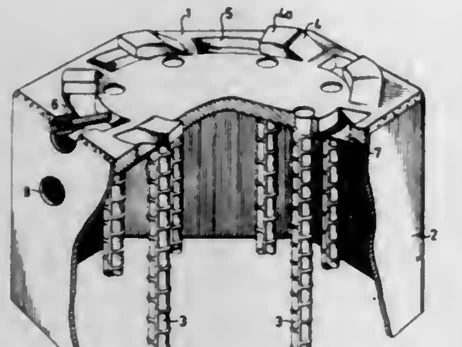
A lining and a liner plate for shafts, tunnels and underground chambers consisting of separate rectilinear arcuate members having radially inwardly extending flanges on all edges bolted together, said flanges being spaced on the arcuate members to form a substantially watertight closed well containing a chemical sealing agent and keeper under compression.

3,504,500

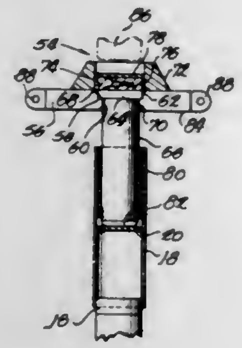
PILE JOINTING DEVICE

Jean Henry Winje Fristedt, Tyreso, Sweden, assignor to Johnson Construction Company AB., Stockholm, Sweden, a limited company of Sweden
Filed May 13, 1968, Ser. No. 728,675
Claims priority, application Sweden, May 17, 1967, 6,905/67
Int. Cl. E02d *5/30, 5/52*
U.S. Cl. 61—53 5 Claims

A pile section has a jointing device secured to the end thereof. The jointing device includes a flat face from which extend a plurality of prong-like connecting elements disposed radially inwardly of the peripheral edge of the plate and distributed in a circle concentric with the common axis of the plate and pile section. The connecting elements extend above the face of the plate, the plate having a recess extending in front of and under each connecting element whereby a pair of such jointing device can be interconnected with one another upon relative angular displacement.



3,504,501
METHOD OF PILE SPLICING AND DRIVING
Gabriel Fuentes, Jr., 1501 Ashford Ave.,
Santurce, Puerto Rico 00923
Original application Jan. 13, 1967, Ser. No. 609,102. Divided and this application Oct. 10, 1968, Ser. No. 766,570
Int. Cl. E02d *5/12;* **F16b** *17/00*
U.S. Cl. 61—53.5 **2 Claims**



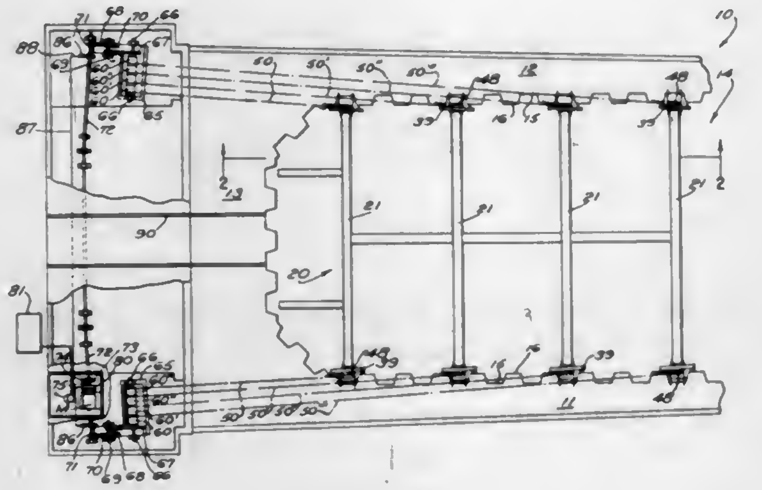
A reinforced concrete pile section which can be spliced to another pile section. Each section is reinforced with longitudinal prestressed reinforcing rods and is cast vertically to orient the concrete. In one embodiment, each end of each section has an annular ring. In splicing sections together, a tubular sleeve is telescoped over the edges affixed to the rings. The sleeve completely encompasses and confines the concrete preventing shattering of the same while being driven. In a second embodiment, the sleeve is telescoped over the ends and bonded to the section with adhesive.

The tubular sleeve has a central transverse plate to completely enclose each pile section.

A special mandrel, which does not damage the pile section, is used as a driving means. It has a resilient liner and is centrally supported within the sleeve.

A tubular, tapered end pile section which can be conveniently shipped and/or stored and which can be affixed to the ring of the first pile section is used at the driving end of the pile section. A removable sleeve is affixed to the end of the last pile section for driving it.

3,504,502
LIFT DOCK FOR A WATER BORNE VESSEL
Luther H. Blount, Poppasquash Road,
Bristol, R.I. 02809
Filed Nov. 6, 1967, Ser. No. 680,639
Int. Cl. B63c *3/06, 1/02*
U.S. Cl. 61—65 **3 Claims**

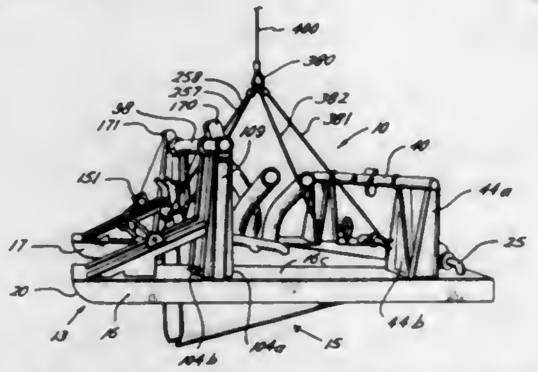


A lift dock apparatus in which the sheaves over which the lifting cables extend to the drums upon which the cables are reeled have their axes all substantially parallel with the axis of the drums.

3,504,503
LOCATING ELEMENTS OF CONSTRUCTION BENEATH THE SURFACE OF EARTH SOILS
Gordon H. Allen, Wheaton, Ill., assignor of fifty percent to Paul C. Sipe, Wheaton, Ill.
Filed Sept. 5, 1967, Ser. No. 665,214
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,214
Int. Cl. E03f *3/06;* **G01d** *21/00*
U.S. Cl. 61—72.1 **18 Claims**

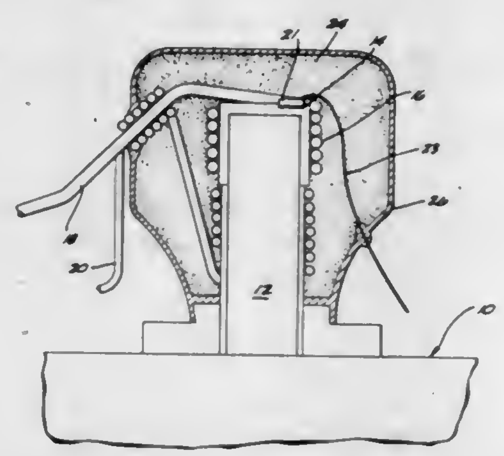
Locating of lines or elements of construction, such as telephone cables, gas mains, sewer lines, water mains and electric service lines buried beneath the surface of the earth, by disposing above said lines or elements of construction and below the surface of the earth a colored, flexiple metal foil product, particularly a steel foil in sheet or tape form and protected against corrosion, the presence and general location of said metal foil being detectable from above the surface of the earth by electronic or like detecting devices.

3,504,504
TRENCHING MACHINE APPARATUS
Hartwell A. Elliott, P.O. Box 5512, Drew Station,
Lake Charles, La.
Filed Sept. 13, 1968, Ser. No. 759,599
Int. Cl. E02f *5/02;* **F16l** *1/00*
U.S. Cl. 61—72.4 **8 Claims**



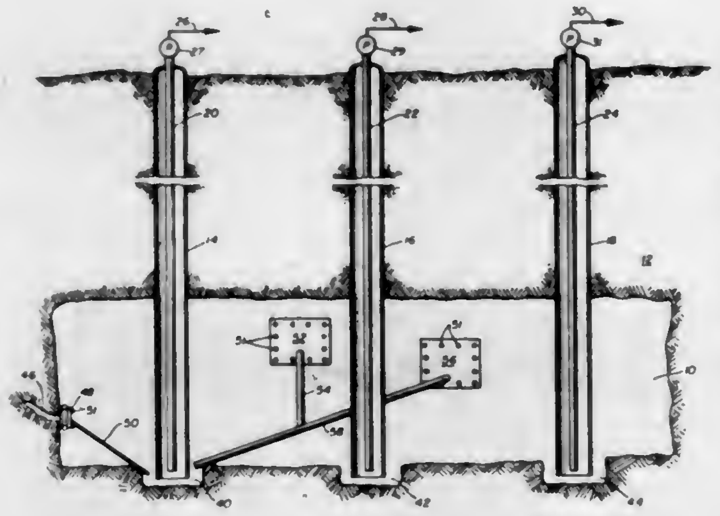
A scoop having adjustable curved jaw members in adjustably suspended between fixed pontoons. A plurality of jet nozzles force fluid outwardly into the space between the jaw members and the jet nozzles, along with cutting edges of the jaw members, cut away earthen formations for burying of a pipeline.

3,504,505
INSULATED CRYOGENIC REFRIGERATOR COLD HEAD
Henry D. Aske, Palos Verdes, and Stanley E. Spencer, Torrance, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 6, 1968, Ser. No. 707,913
Int. Cl. F25b *9/00;* **F25d** *23/08*
U.S. Cl. 62—6 **2 Claims**



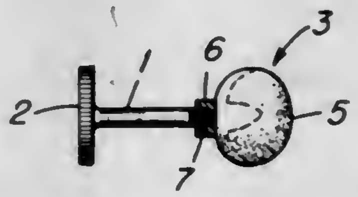
The structure disclosed provides encapsulation of a cryogenic refrigerator cold head and segments of the associated transfer lines in rigid polyurethane foam. The foam acts as a primary insulator for the cold head. The foam is covered with a layer or coating of silicone rubber which maintains the physical integrity of the foam, seals the foam completely from ambient atmosphere, provides mechanical protection for the entire arrangement.

3,504,506
METHOD AND APPARATUS FOR STORING ANHYDROUS AMMONIA IN UNDERGROUND CAVERNS
Sidney E. Scisson, Tulsa, Okla., assignor to Fenix & Scisson, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Aug. 7, 1967, Ser. No. 658,914
Int. Cl. F17c *5/00*
U.S. Cl. 62—45 **7 Claims**



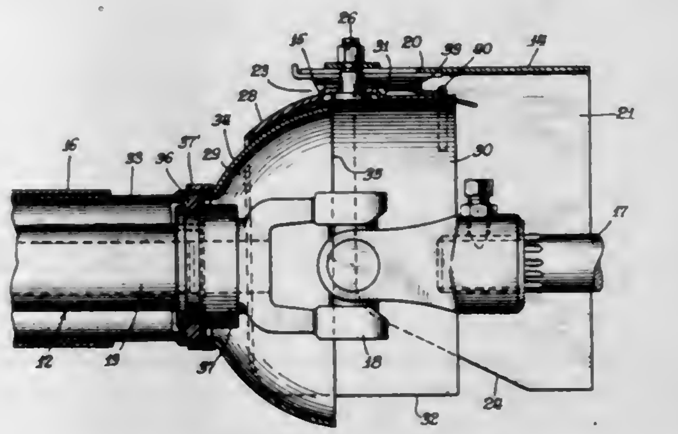
The miscibility of foreign fluids with chemicals, such as anhydrous ammonia, in underground storage caverns is controlled by removing the foreign fluid and/or its reaction product at a time when its density condition is favorable for separation and removal from the cavern. Further separation at the surface is optional depending upon the marketability of the formed solution and/or the components thereof.

3,504,507
METHOD OF VARYING AN ORNAMENTAL ELEMENT OF AN EARRING
Daniel T. Ferro, 48 Lantern St.,
Huntington, N.Y. 11743
Filed Dec. 11, 1967, Ser. No. 689,422
Int. Cl. A44c *7/01, 17/02*
U.S. Cl. 63—12 **1 Claim**



An earring especially for a newly pierced ear lobe, having a cylindrically shaped member to be inserted in the rear of the lobe pierced. A stop element is secured to the rear end of the member to prevent it from being withdrawn through the front side of the lobe. Means such as threaded portions or biasing or friction elements are provided for releasably securing an ornamental element to the front end of the member, whereby the ornamental element may be replaced without removing the cylindrical member from the hole formed in the lobe.

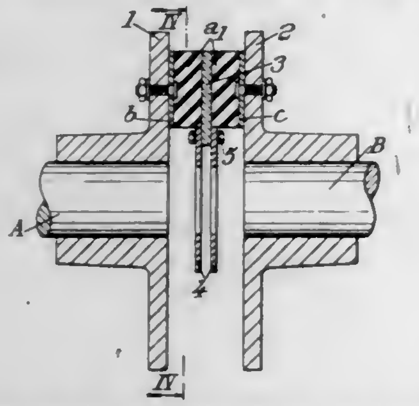
3,504,508
UNIVERSAL JOINT SHIELDING
James H. Bornzin, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Sept. 23, 1968, Ser. No. 761,605
Int. Cl. F16c *1/06;* **F16d** *3/84*
U.S. Cl. 64—3 **20 Claims**



A protective shielding for an articulate power driven shaft arrangement to a machine the shielding comprising an outer stationary housing enclosing a fixed portion of the shaft, and a telescoping housing encompassing the pivotal portion of the shaft and a swingable intermediate housing covering the articulated portion of the shaft and being cooperatively disposed between the outer and telescoping housings to provide shielding therebetween for all possible operating positions of the pivotal shaft portion, and the swingable intermediate housing having a self-centering device to bias it into alignment with the outer housing.

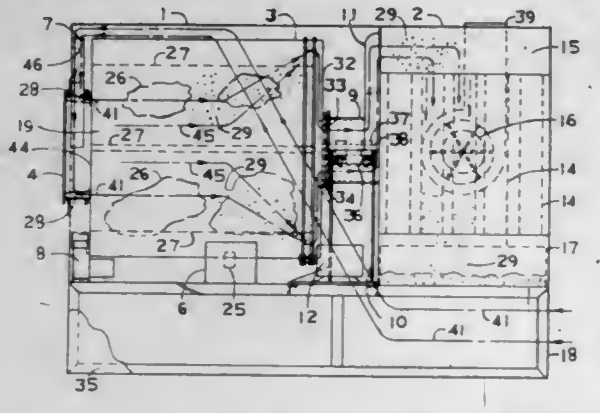
3,504,509
RESILIENT COUPLING DEVICES
Jean-Felix Paulsen, Chateaudun, France, assignor to Luxembourgeoise de Brevets et de Participations, Luxembourg, an organization of Luxembourg
Filed Aug. 2, 1967, Ser. No. 657,984
Claims priority, application France, Aug. 17, 1966, 73,309
Int. Cl. F16d *3/64*
U.S. Cl. 64—14 **5 Claims**

A resilient coupling device to be interposed between two shafts in line with each other and which carry inter-facing flange discs connected with each other through resilient blocks adhered alternately to said discs and forming an annular row, said blocks being either tangential to this row or parallel to the mean direction of the shafts, each of said blocks being divided into two elements adhered to a member mounted floating between the two flange discs.



3,504,510
DRAPERY AND FUR CLEANING MACHINE

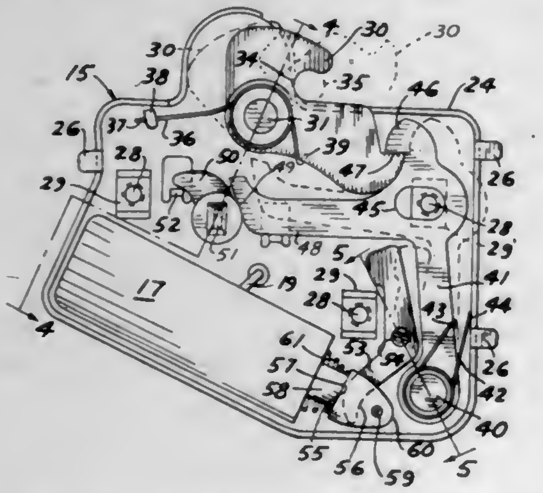
Daniel Freze, 2955 Monterey Road, San Marino, Calif. 91108, and Aubra N. Bone, 13774 Florine Ave., Paramount, Calif. 90723
Filed Oct. 2, 1967, Ser. No. 672,034
Int. Cl. D06f *29/00*
U.S. Cl. 68—18 **8 Claims**



A machine for cleansing sheet material such as draperies, furs, and the like, by the abrading action of particles that serve as a carrier for cleaning materials, freeing the cleansed material of the particles after completion of the cleaning operation, recovery of the particles after they are freed from the cleansed material.

3,504,511
ELECTRIC LOCK RELEASE

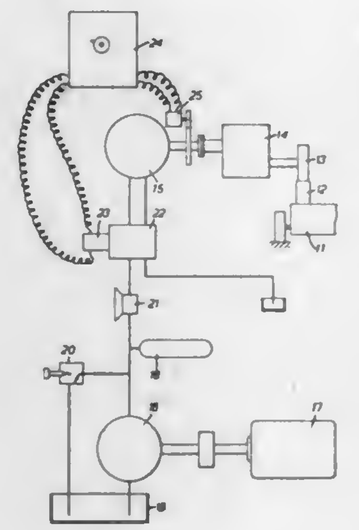
Perry E. Allen, 4644 Round Hill Road, Birmingham, Mich. 48010
Filed Mar. 4, 1968, Ser. No. 710,136
Int. Cl. E05b *65/19;* **E05c** *3/06, 3/16*
U.S. Cl. 70—241 **8 Claims**



The application discloses a trunk lock and a remotely controlled, electrically operated, lock release mechanism for an automobile. The invention resides in the particular construction and arrangement of the elements, which enables the entire assembly, except the control harness, to be self-contained and to be mounted within the limitations specified by the automobile manufacturer, for manually operated locks of the same kind.

3,504,512
APPARATUS FOR CONTROLLING A MANIPULATOR IN ASSOCIATION WITH A FORGING PRESS

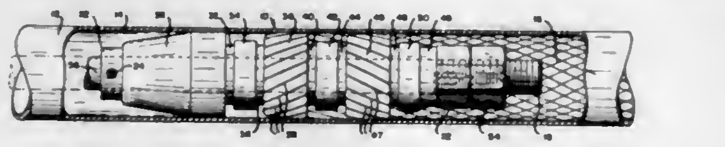
Keith Knowles, Sheffield, England, assignor to The British Iron and Steel Research Corporation
Filed Feb. 12, 1965, Ser. No. 432,185
Int. Cl. B21j *7/46*
U.S. Cl. 72—22 **7 Claims**



Apparatus for controlling the carriage of a double-motion manipulator in association with a forging press, which apparatus comprises means for generating a first electrical signal representing a nominal carriage speed determined relative to a required bite distance and assumed press cycle time, and electrohydraulic system for initially controlling the carriage speed in response to said first signal, means for establishing a second electrical signal representing the difference between the actual and said assumed press cycle times, and means for correcting the operation of said system in response to said second signal.

3,504,513
APPARATUS FOR SCORING A TUBE FOR LINING

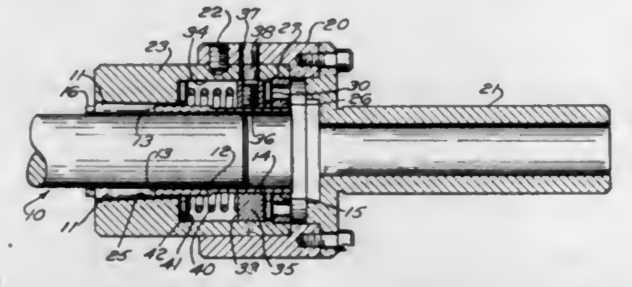
Otis J. Black, Shelby, Ohio, assignor to Copperweld Steel Company, Glassport, Pa., a corporation of Pennsylvania
Filed Aug. 11, 1967, Ser. No. 660,106
Int. Cl. B21d *17/60*
U.S. Cl. 72—112 **4 Claims**



A metal tube is prepared for lining by scoring it on the inside surface. A plastic resilient tube liner is then inserted and the metal tube is swaged causing the metal tube to compress around the plastic tube liner which is gripped by the scoring on the inside surface of the tube. The scoring apparatus has a mandrel means which carries an expanding mandrel for sizing and rounding the tube and a plurality of cylindrical scoring members which have rib-like scoring surfaces at an inclined angle to the longitudinal axis. When the mandrel means is pulled through the tube the scoring members rotate and score a series of parallel helical scores.

3,504,514
ROLLER BURNISHING TOOL

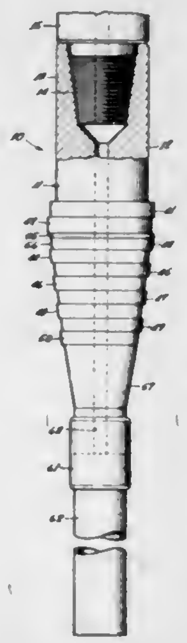
Leonard J. Korson, Manville, R.I., assignor to Madison Industries, Inc., a corporation of Rhode Island
Filed Sept. 20, 1967, Ser. No. 669,223
Int. Cl. B21c *37/30*
U.S. Cl. 72—118 **4 Claims**



A roller burnishing tool having frusto-conical rollers movable circularly in a planetary path to reduce the surface diameter of a workpiece and axially to adjust the diameter of their operation.

3,504,515
PIPE SWEDGING TOOL

Daniel R Reardon, Garden Grove, Calif. (P.O. Box 6127, Long Beach, Calif. 91706)
Filed Sept. 25, 1967, Ser. No. 670,107
Int. Cl. B21d *3/02;* **E21b** *29/00*
U.S. Cl. 72—126 **3 Claims**

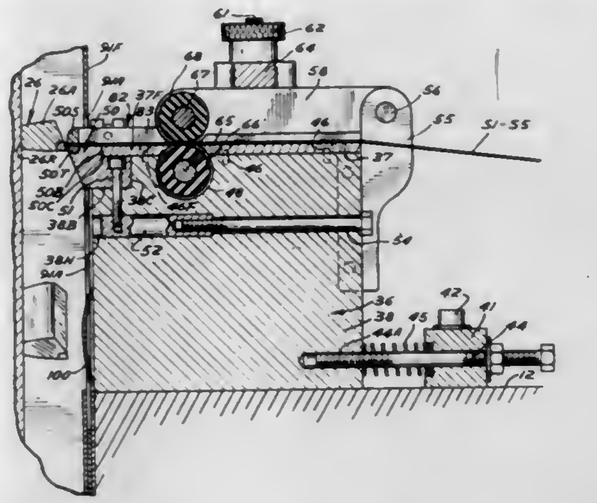


A mandrel providing an integral series of short alternately oppositely eccentric roller pins which progressively decrease in diameter and roller rings journalling respectively on said pins and with progressively decreasing outside diameters.

3,504,516
METAL PRODUCT AND METHOD AND MACHINE FOR MAKING SAME

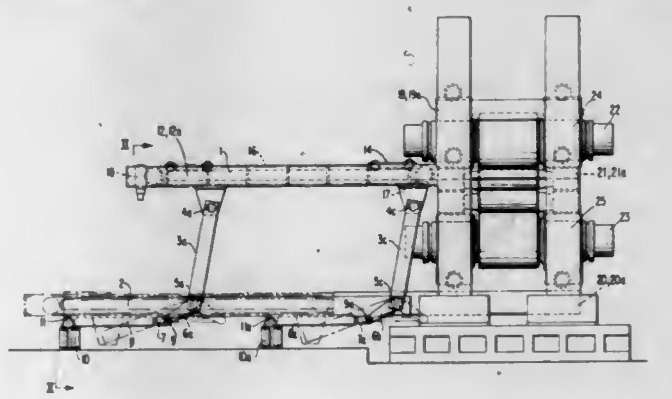
Bertil J. Sundberg, Minneapolis, Minn., assignor to Brunswick Corporation, Chicago, Ill.
Filed Aug. 24, 1964, Ser. No. 391,707
Int. Cl. B21b *1/00*
U.S. Cl. 72—203 **4 Claims**

A metal product made of fibrils of a thickness of about .001 inch to .005 inch and a transverse dimension of about .0005 inch to about .003 inch and method and apparatus for making said fibrils that includes means for supporting rolled strips of metal and guiding said strips, a stationary knife, a plurality of rotary knives, and means for feeding and retaining the strips adjacent the stationary knife to project beyond the edge thereof in positions to have the fibrils severed from the strips by the knives. In one embodiment, the rotary knives are mounted on a disc to extend generally radially relative the axis of rotation while in the other embodiment the rotary knives are mounted to extend generally parallel to the axis of the rotation.



3,504,517
APPARATUS FOR DISMOUNTING AND REMOUNTING THE ROLLS IN A FOUR-HIGH ROLLING MILL

Louis Clement, La Varenne-Saint-Hilaire, France, assignor to Societe Nouvelle Spidem, Paris, France
Filed Apr. 25, 1967, Ser. No. 633,558
Claims priority, application France, Apr. 25, 1966, 58,971
Int. Cl. B21b *31/08*
U.S. Cl. 72—239 **9 Claims**



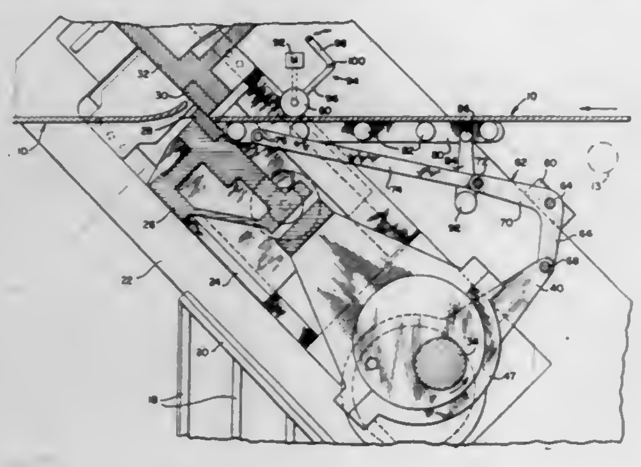
Apparatus for rapidly dismounting and remounting the rolls of a rolling mill, comprising, on one side of the housing window, a vertically adjustable horizontal platform, capable of being brought to the level of each of the work roll chocks of the rolling mill, the said platform comprising a guiding track, coming to fit into the direct extension of one of the guiding tracks providing inside the window at each of the aforesaid levels, the said platform being, moreover, fitted with pulling and pushing means intended to move the work roll chocks in both directions, on the respective guiding tracks.

3,504,518
METAL CUTTING SYSTEM

Randolph N. Mitchell, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Continuation-in-part of application Ser. No. 704,929, Feb. 12, 1968. This application Apr. 8, 1968, Ser. No. 725,251
Int. Cl. B21d *28/02, 28/06*
U.S Cl. 72—331 **19 Claims**

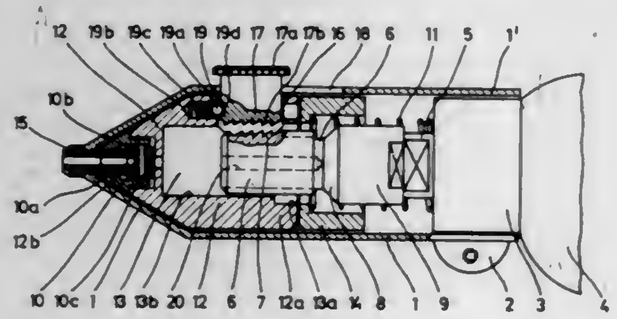
A system for cutitng continuously moving hot metal strip in which the strip is moved vertically and forwardly wtih respect to its line of travel to a cutting station. Cooperating fixed and movable blades angled at approximately 45° to the line of travel perform the cutting operation.

The ends of the strip cut thereby are provided with a convex V-shape which facilitates entry of the strip into the rolls of a rolling mill. An added feature is that the blades may be actuated continuously to cut up the strip into small pieces when a wreck occurs in the rolling mill.



3,504,519
RIVETING TOOL FOR USE WITH MANDREL-EQUIPPED BLIND RIVETS

Ewald Hornung, Mollenbeck, Germany, assignor to Helfer & Co. KG. Feinwerkbau, Rinteln (Weser), Germany
Filed Apr. 22, 1968, Ser. No. 722,829
Claims priority, application Germany, Apr. 26, 1967, H 62,548; Oct. 21, 1967, H 64,242
Int. Cl. B21d *9/05, 31/00*
U.S. Cl. 72—391 **14 Claims**

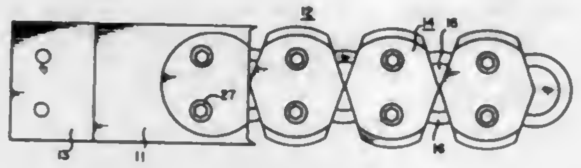


A riveting tool including a housing having a retracting element which is bored for the passage of the mandrel of a blind rivet thereinto. The housing also includes a nosepiece through which the mandrel passes, and a clamping device for engaging and holding said mandrel. A power driven spindle is rotatably mounted in the housing and its leading end projects freely into a bore of corresponding size in the retracting element. The spindle is provided on its exterior surface with saw-tooth threads. A sliding element provided with corresponding female threads is mounted for radial movement into engagement with the threads on the spindle. As the spindle is rotated the sliding element moves longitudinally away from the clamping device exerting a longitudinal force on the axis on the mandrel of the blind rivet so as to set the rivet in place.

3,504,520
TUBE BENDING MANDREL

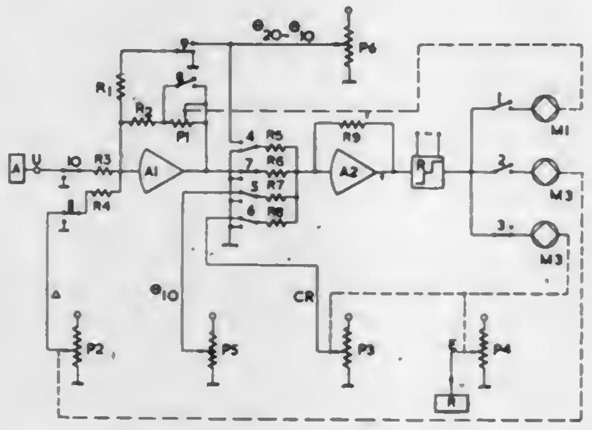
William U. Matson, Oxon Hill, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 26, 1968, Ser. No. 708,357
Int. Cl. B21d *9/00*
U.S. Cl. 72—466 **6 Claims**

An articulated mandrel having a rigid stem portion and a flexible portion for making H-plane bends in waveguides. The flexible portion of the mandrel is comprised of a plurality of links, each having a substantially rectangular cross-section with curved end surfaces. The links are pivotally interconnected by disks having annular rims formed thereon for interlocking engagement with grooves in said links.



3,504,521
METHOD AND DEVICE FOR THE CONTINUOUS ANALYSIS OF THE COMPOSITION OF A GAS

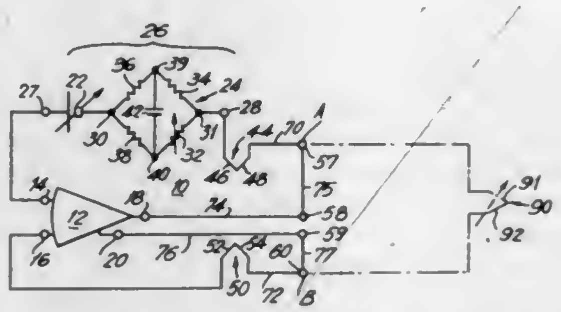
John Luckers, Liege, Belgium, assignor to Centre National de Recherches Metallurgiques, Brussels, Belgium, a corporation of Belgium
Filed Oct. 23, 1967, Ser. No. 677,481
Claims priority, application Belgium, Oct. 25, 1966, 41,119, Patent 688,861
Int. Cl. G01n *31/00*
U.S. Cl. 73—1 **6 Claims**



A gas analyser generates signals and passes them to a calibration unit and thence to a recorder. The calibration unit establishes at least two points on a variable characteristic by analysing separate standard gas samples. The analysis of one standard gas will correct the zero of the characteristic of the calibration unit and the gain characteristic of the calibration unit is corrected while analysing the other standard gas sample. The values of the corresponding points to the established points of the standard gases are then brought into correspondence and analysis of the standard gases is repeated at intervals.

3,504,522
THERMOCOUPLE SYSTEM SIMULATOR

Charles Jasik, Great Neck, Lloyd Silverman, Bronx, and Irving M. Seiger, New York, N.Y., assignors to Chronetics, Inc., Mount Vernon, N.Y., a corporation of New York
Filed Oct. 23, 1968, Ser. No. 769,910
Int. Cl. G01k *15/00, 19/00*
U.S. Cl. 73—1 **10 Claims**

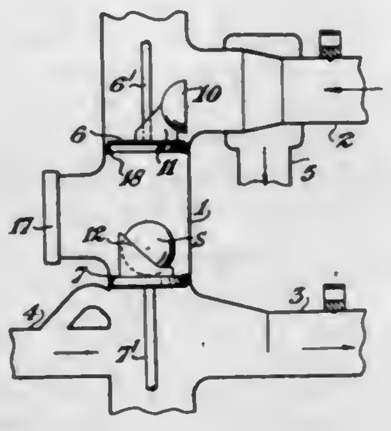


A thermocouple system simulator adapted to simulate a thermocouple junction defined by first and second thermocouple metals disposed at a known temperature.

The simulator has a virtual zero output impedance at its simulation terminals and includes an operational amplifier having a direct-current voltage source and bridge means disposed in the feedback loop thereof. One leg of said bridge means includes first resistance means variable in response to variations in temperature. Said resistance means is maintained at substantially the same temperature as the thermocouple junctions of the simulator.

3,504,523
UNIDIRECTIONAL METER PROVERS

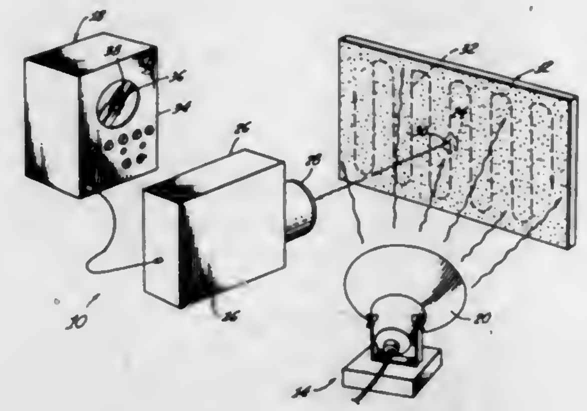
Michael Layhe, Sheffield, England, assignor to General Descaling Company Limited, Worksop, England, a corporation of the United Kingdom
Filed Dec. 14, 1967, Ser. No. 690,463
Claims priority, application Great Britain, Dec. 22, 1966, 57,458/66
Int. Cl. G01f *25/00*
U.S. Cl. 73—3 **15 Claims**



The meter proving apparatus of this invention comprises an interchange section at the terminal ends of the proving loop passage of the sphere or plug through said section being controlled by means of poppet type valves associated with each of which is a stop device to arrest movement of and support the sphere or plug.

3,504,524
METHOD OF THERMAL MATERIAL INSPECTION

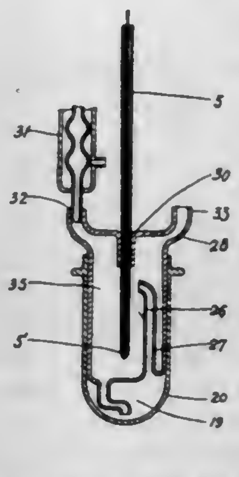
Dale R. Maley, Boulder, Colo., assignor to Automation Industries, Inc., El Segundo, Calif., a corporation of California
Filed Sept. 9, 1966, Ser. No. 578,227
Int. Cl. G01n *25/00*
U.S. Cl. 73—15 **7 Claims**



An infrared nondestructive testing means and method wherein a workpiece is sprayed with a vinyl base vehicle carrying a carbon pigment to form a constant, high emissivity surface in the infrared region which is easily strippable from the workpiece. The surface is heated by a suitable source of radiant energy. The temperature of successive spots is determined by scanning the coated surface with a radiometer. The deflection means of an oscilloscope or other display device are synchronized with the scanning radiometer, displaying flaws on an infrared picture of the workpiece.

3,504,525
APPARATUS FOR MEASURING THERMIC CHARACTERISTICS OF EXTREMELY SMALL AMOUNTS OF TEST MATERIAL

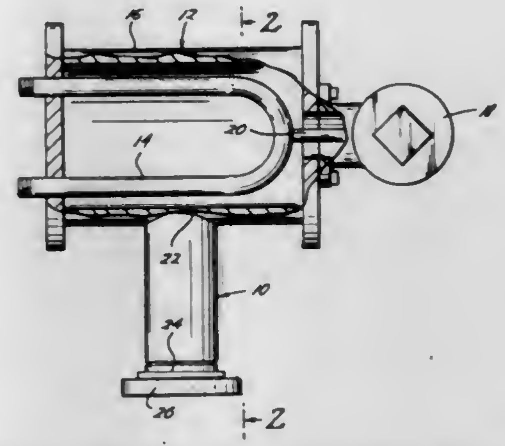
Teruji Ishii, Tokyo, Japan, assignor to Cobble Company Limited, Tokyo, Japan
Continuation-in-part of application Ser. No. 356,911, Apr. 2, 1964. This application Nov. 30, 1965, Ser. No. 510,635
Claims priority, application Japan, Dec. 5, 1964, 39/68,374
Int. Cl. G01n *25/02*
U.S. Cl. 73—17 **1 Claim**



An apparatus for measuring the thermal characteristics of extremely small amounts of test material. The apparatus comprises a plurality of test tubes having temperature measuring thermistors incorporated therein and which tubes are interchangeably fitted within a single apparatus that is adapted to note and record the temperature changes. The tubes are constructed such that melting, freezing and boiling points of the test materials, as well as temperatures of reaction and temperatures of reaction under pressure, can be determined by the use of the appropriate tubes within the apparatus.

3,504,526
VIBRATION ISOLATION MOUNTING MEANS FOR A VIBRATORY MEASURING DEVICE

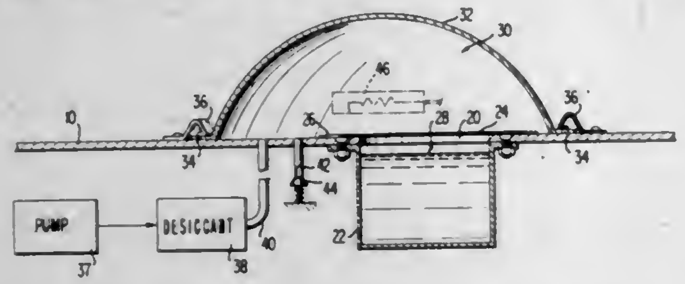
William B. Banks, Houston, Tex., assignor to Automation Products, Inc., Houston, Tex., a corporation of Texas
Filed May 19, 1967, Ser. No. 639,800
Int. Cl. G01n *29/02*
U.S. Cl. 73—32 **4 Claims**



An elongate tubular mounting pedestal for isolating a vibratory hollow body measuring device from external vibrations and supporting the vibratory measuring device in a position perpendicular to the direction of vibration of the measuring device and having a low natural resonant frequency in a torsional direction compared to the frequency of vibration of the measuring device by providing a generally longitudinally extending first slot and a second slot extending generally transversely from the first slot thereby having a low transmissibility.

3,504,527
APPARATUS FOR MEASURING THE MOISTURE VAPOR PERMEABILITY OF A SAMPLE SHEET MATERIAL

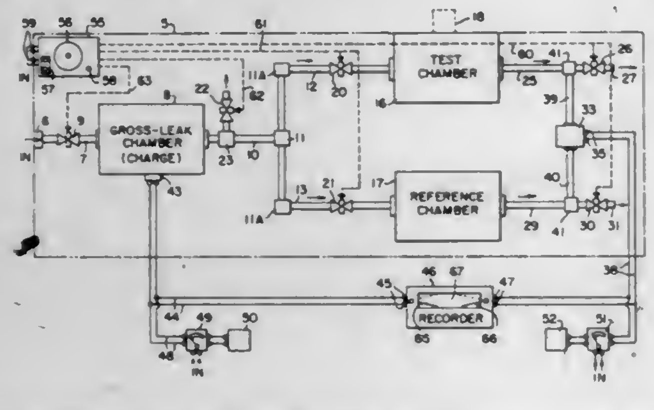
Richard T. Marshall, Englishtown, N.J., assignor to Thiele-Engdahl, Elizabeth, N.J., a corporation of New Jersey
Filed June 20, 1968, Ser. No. 738,661
Int. Cl. G01n *15/08*
U.S. Cl. 73—38 5 Claims



A system intended to measure the moisture vapor permeability of a sample of sheet material. This system includes a testing unit having an interior chamber provided with a moisture responsive electrical sensor of varying impedance. The sample of sheet material is secured across the chamber to divide it into noncommunicating first and second subchambers with the second subchamber enclosing the sensor. Moisture vapor saturated air is supplied continuously to the first subchamber. At an initial starting time a quantity of dry air filling the second subchamber is entrapped therein. Alternating current is applied to the sensor to provide an A.C. output signal proportional to the impedance of the detector. The A.C. signal is rectified to D.C. and applied to a D.C. meter to provide a reading. The change in reading observed during a predetermined time interval provides a measure of the amount of moisture vapor permeated through the sample within the predetermined interval.

3,504,528
FLUID PRESSURE LEAK DETECTOR SYSTEM FOR CLOSED CONTAINERS AND THE LIKE

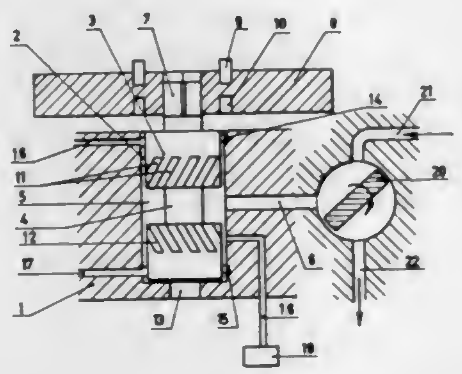
Mark H. Weinberg, Short Hills, Robert Mesuk, Wayne, and Edwin A. Trier, Westbury, N.Y., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 9, 1968, Ser. No. 719,997
Int. Cl. G01m *3/32*
U.S. Cl. 73—49.3 7 Claims



For detecting and measuring leaks and breaks in sealed or sealable containers and the like, air or other gas at low pressure is introduced into a first chamber to charge it full after which it is sealed off at the inlet end. Then the charge in the chamber is permitted to flow out into two further chambers, one designated as a test chamber and the other as a reference chamber and each being of substantially the same volume. The device or item to be pressure tested for leaks is inclosed in the test chamber before the test operations begin. An outlet conduit from each of the test and reference chambers are connected to a differential pressure sensor device preferably of the variable capacitance or resistance type. This varies an output voltage in response to a difference in pressure between the two chambers which varies in magnitude substantially directly in proportion to the differential pressure. The system pressure measured in the input or first chamber falls to an initial lower level as the other two chambers are filled therefrom and should remain stabilized at that level. If it drops below this level immediately, it indicates a leak in the test item of relatively large volume. If no large volume leak is indicated, the test and reference chambers are then cut off substantially simultaneously from the charge chamber. A satisfactory seal in the test device or item will operate to maintain the differential sensor balanced with equal pressure and the output will give a zero deflection on an electrical or indicating measuring instrument connected therewith. If the differential pressure sensor device is increasingly unbalanced, the indicating instrument will indicate the corresponding differential pressure change per unit of time or the leak rate over a predetermined cycle of operation.

3,504,529
ELEMENT FOR HYDRAULICAL MEASURING, CONTROL AND CALCULATING DEVICES

Gilles Gerardus Hirs, Reeuwijk, Netherlands, assignor to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk Onderzoek ten behoeve van Nijverheid Handel en Verkeer, The Hague, Netherlands
Filed July 14, 1967, Ser. No. 653,408
Claims priority, application Netherlands, July 15, 1966, 6609965
Int. Cl. G01n *17/14*
U.S. Cl. 73—54 3 Claims



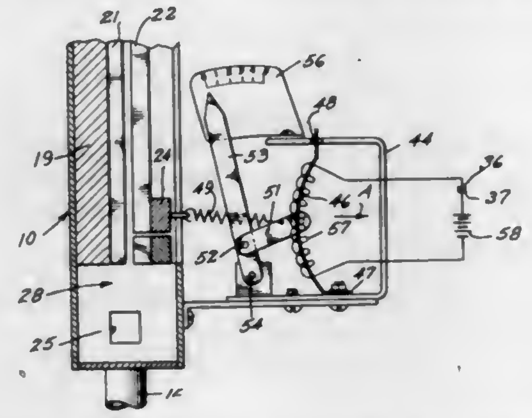
An apparatus for hydraulical measuring, control and calculating systems consists of a stator on which a rotor is supported and driven by means of a helically grooved, pressure-fed fluid bearing. An intermittent fluid feed and an adapted moment of mass inertia of the rotor result in a variable rotation of the rotor, the average speed and the variations of the speed of rotation giving information on the pressure and the viscosity of the fluid at the same time.

3,504,530
DEVICE FOR MEASURING DYNAMIC SURFACE TENSION

James L. McConnell, Stevensville, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Apr. 6, 1966, Ser. No. 540,580
Int. Cl. G01n *13/02*
U.S. Cl. 73—64.4 10 Claims

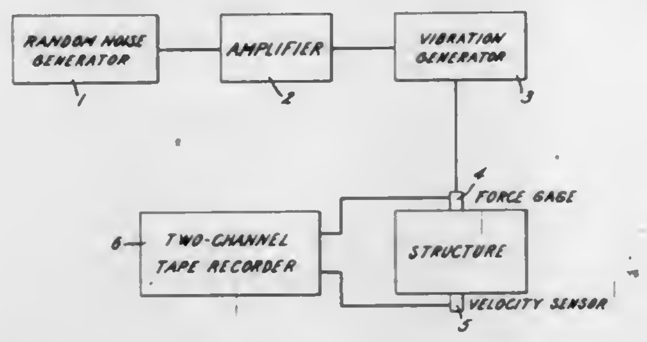
Method and apparatus for measuring the dynamic surface tension of a liquid wherein means are provided to

form a continuously flowing film of liquid between at least one pair of members, one of which is fixed and the other is pivotally supported, the film bridging the space between the two so that the relatively movable member is drawn toward the stationary member by virtue of the surface tension of the film, and means for measuring directly the surface tension forces exerted by the liquid film to thereby provide a direct readout of the surface tension.



3,504,531
MECHANICAL IMPEDANCE TESTING USING RANDOM NOISE EXCITATION

Robert B. Tatge, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 2, 1967, Ser. No. 643,142
Int. Cl. G01m *7/00*
U.S. Cl. 73—67.1 1 Claim

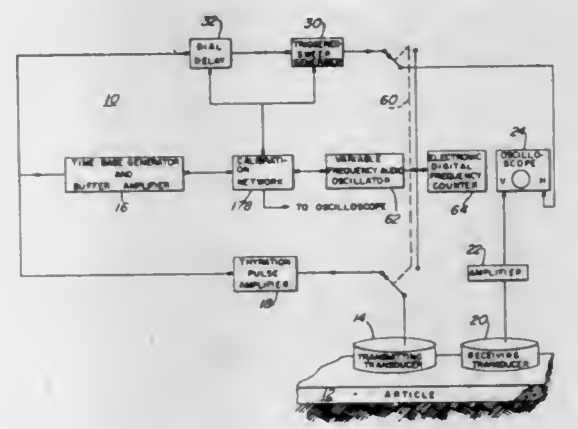


A method and means for measuring mechanical impedance as a function of frequency in a way to eliminate the necessity for long time structural excitation of a subject structure applies a random noise excitation to a structure for a few seconds. The amount of excitation and corresponding response are detected by two transducers which transmit the response from the transducers to a two channel tape recorder where these responses are simultaneously recorded upon separate channels of the recorder. These two test signals are later reproduced and passed through individual channels of a two channel narrow band pass filter, both channels of which are tuned to the same frequency which is of interest, to provide signals representing excitation and response in the substantially single frequency filter band pass. They are then analyzed for magnitude and phase angle of the impedance to determine the response characteristics of the structure.

3,504,532
NONDESTRUCTIVE TESTING SYSTEM

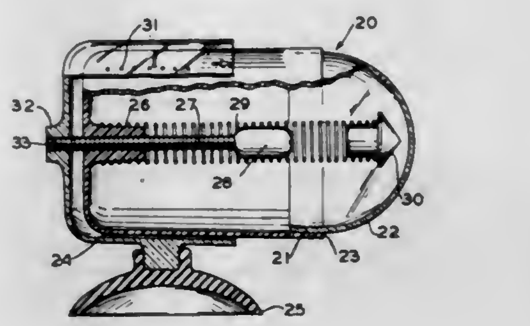
Richard A. Muenow, Glenview, and Harold J. Adler, Skokie, Ill., assignors to James Electronics Inc., a corporation of Illinois
Filed Oct. 31, 1966, Ser. No. 590,703
Int. Cl. G01n *29/04*
U.S. Cl. 73—67.7 8 Claims

The invention provides sonic energy transmitting and receiving transducers which are applied directly to an article under test. A delay circuit is adjusted until it produces a delay exactly equal to the time required for sound to travel from the transmitting transducer to the receiving transducer, that time being a function of the speed of sound in the article. Then, that delay is read out as an indication of the speed of sound in the article, and therefore the characteristics of the article. The delay may be read out on a digital meter or an oscilloscope.



3,504,533
VIBRATION INDICATOR

Charles R. Rodewalt, 3123 Ronald Drive, St. Ann, Mo. 63074
Filed Nov. 13, 1967, Ser. No. 682,367
Int. Cl. G01n *1/00*
U.S. Cl. 73—71 1 Claim

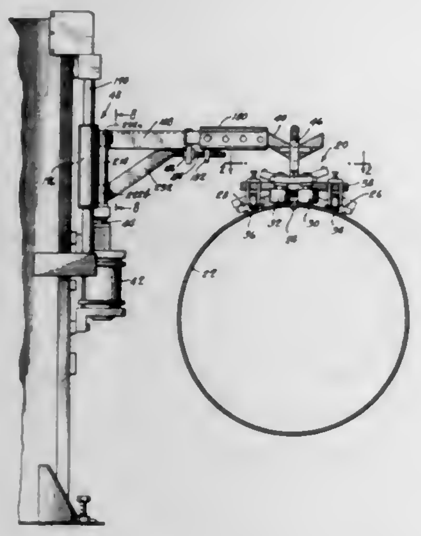


A vibration indicator which is used in the detection of static and dynamic unbalance in a rotating body comprises a spiraled shaped element, means to affixably support said element at one end thereof, a weighted member detachably affixed to the opposite end of said member and an interior longitudinally extending damper such that the reciprocal longitudinal movement of said damper with relation to the spiral element can reduce (or increase) the sensitivity of the vibrating spiraled shaped element.

3,504,534
TRACKING ASSEMBLY FOR ULTRASONIC TRANSDUCERS

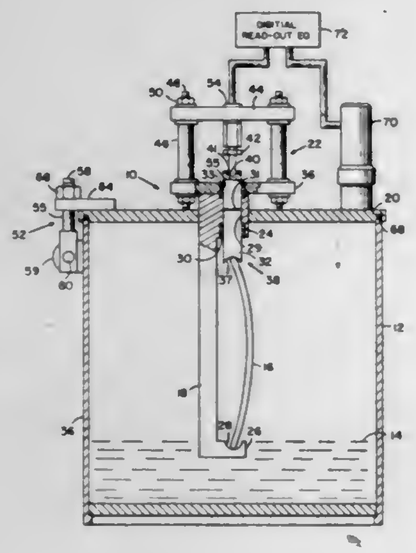
Joseph M. Mandula, Jr., Seven Hills, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed Nov. 9, 1967, Ser. No. 681,772
Int. Cl. G01n *29/00*
U.S. Cl. 73—71.5 18 Claims

Apparatus for mounting a testing transducer, such as an ultrasonic transducer, in a fixed position with respect to an elongated ridge on the surface of a workpiece, such as a weld bead. A carriage assembly rides on the workpiece and has rollers mounted on both sides of the ridge for tracking the ridge. The tracking rollers are mounted for rotation about axes which are positioned on opposite sides of the ridge substantially at right angles to a plane which includes both side edges of the ridge at the base of the ridge. The axes are normally given a slight tilt. The testing transducer is typically positioned at one side of the ridge, held in place by a gimbal support which may be adjusted toward and away from the ridge as well as in a direction along the ridge. A set of outrigger rollers is included for balancing the assembly, only one of the rollers engaging the workpiece at any time. A hinge plate support is employed for carrying the carriage assembly, employing shear pins which are sheared in the event of jamming of the assembly preventing relative movement between the assembly and workpiece, allowing the assembly to rotate away from the ridge under inspection. The pins may be removed manually to swing the carriage assembly away from the ridge for servicing the assembly.



3,504,535
STRESS CORROSION MEASUREMENT APPARATUS

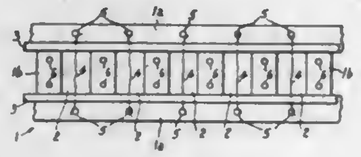
Bernie J. Cobb, Huntsville, and John H. Honeycutt, Madison, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 26, 1968, Ser. No. 708,051
Int. Cl. G01n *17/00*
U.S. Cl. 73—86 **1 Claim**



Apparatus for simulating and monitoring the stress corrosion condition of stored members. The member is submerged in a fluid (acid or alkaline) carried in a tank and is stressed through a loadbeam to a desired level and the tank is sealed to the atmosphere. The loadbeam forms a load cell whose deflection can be measured. A pressure transducer is carried in the closed tank to record pressure changes therein responsive to changes in the characteristics of the fluid. Signals from the pressure transducer and the load cell are fed into a digital read-out and recorder at set intervals to indicate changes in the specimen over a period of time.

3,504,536
TENSILE TEST SAMPLE HOLDER

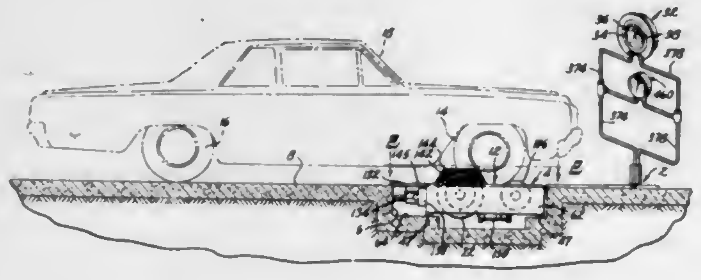
Bernard S. Baker and William Poole, Coventry, England, assignors to Courtaulds Limited, London, England, a British company
Filed May 8, 1968, Ser. No. 727,402
Claims priority, application Great Britain, May 10, 1967, 21,687/67
Int. Cl. G01n *3/08*
U.S. Cl. 73—95 **17 Claims**



A method of mounting a sample of filamentary material preparatory to subjecting it to a tensile test comprising holding the sample at two positions spaced along its length between, at each position, two surfaces of which at least one is a surface of a deformable sheet material. A mounting for carrying out this method and apparatus for handling the mounting are also described.

3,504,537
BRAKE TESTING APPARATUS

Edwin L. Cline, Pasadena, Calif., assignor to Clayton Manufacturing Company, El Monte, Calif., a corporation of California
Filed Sept. 30, 1965, Ser. No. 491,529
Int. Cl. G01l *5/28*
U.S. Cl. 73—126 **12 Claims**

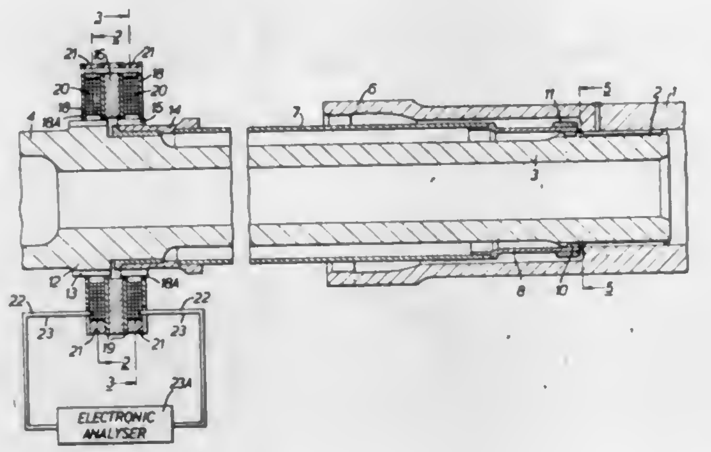


A brake testing device for separately applying a driving torque to two wheels of a vehicle. The indicator means may include over-shoot and under-shoot preventing means.

3,504,538
ELECTRICAL PULSE TRANSMITTING APPARATUS

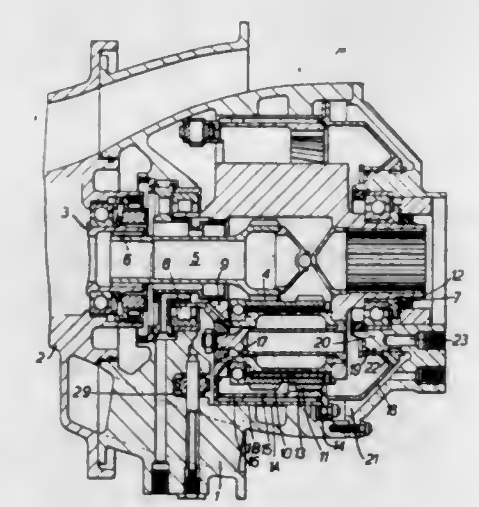
Stuart Alexander Andrews, Elstree, and Morgan Wynne Lewis, Bushey Heat, England, assignors, by mesne assignments, to Rolls-Royce Limited, Derby, England, a British company
Filed Sept. 27, 1967, Ser. No. 670,881
Claims priority, application Great Britain, Sept. 27, 1966, 43,119/66
Int. Cl. G01l *3/10*
U.S. Cl. 73—136 **8 Claims**

Electrical pulse-transmitting apparatus for determining changes in relative rotational positions of two continuously rotatable coaxial members, connected to axially spaced points in a torque shaft wherein the two rotatable members have equal numbers of circumferential teeth and are surrounded by annular stators which have equal numbers of circumferential teeth and are associated with pick-up coils by which electrical pulses produced by changes in magnetic flux in the stators are transmitted to apparatus analysing the phase relationship between the pulses from the two coils.



3,504,539
COMBINED TRANSMISSION GEARING AND TORQUE MEASURING APPARATUS

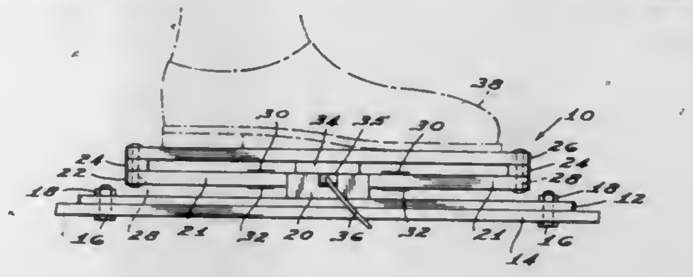
Benjamin William Barlow, Harrow Weald, England, assignor, by mesne assignments, to Rolls-Royce Limited, Derby, England, a British company
Filed Dec. 22, 1967, Ser. No. 694,778
Claims priority, application Great Britain, Dec. 23, 1966, 57,748/66
Int. Cl. G01l *3/14*
U.S. Cl. 73—136 **9 Claims**



Combined transmission gearing and torque measuring apparatus comprising transmission gearing having helical teeth whereby an axial load is applied between meshing gears during transmission of torque, fluid pressure operated means opposing movement under the axial load, and a control for the fluid pressure arranged to vary the fluid pressure with increasing movement under the axial load whereby that pressure is a measure of the torque being transmitted.

3,504,540
FOOT PAD FORCE MEASUREMENT INSTRUMENT

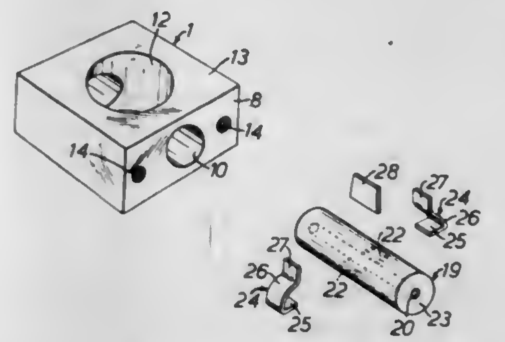
Fred Pradko, Utica, Richard A. Lee, Warren, and Victor A. Kaluza, Mount Clemens, Mich., assignors to the United States of America as represented by the Secretary of the Army
Filed Dec. 6, 1968, Ser. No. 781,737
Int. Cl. G01b *5/12*
U.S. Cl. 73—141 **2 Claims**



A foot pad force measurement device designed for orientation below the feet of a test subject during vibration testing, which device utilizes a double cantilever beam and strain gage arrangement is disclosed.

3,504,541
DETECTOR HEADS

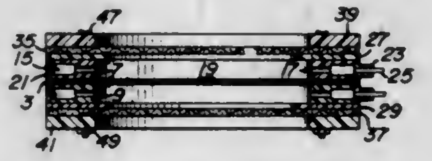
David Wildon Birnstingl, Stroud, England, assignor to Mawdsley's Limited, Dursley, England
Filed Jan. 29, 1968, Ser. No. 701,451
Claims priority, application Great Britain, Feb. 4, 1967, 5,491/67
Int. Cl. G01p *5/08*
U.S. Cl. 73—194 **8 Claims**



An electromagnetic flowmeter head comprises a bored-out non-magnetic metal block within which is secured, by an insulating material moulded in situ, a tube for containing the liquid flow and two opposed electrodes preformed from metal strip and presenting opposed elongated contact surfaces the longitudinal axes of which are parallel to the longitudinal axis of the tube.

3,504,542
AIR FLOWMETER

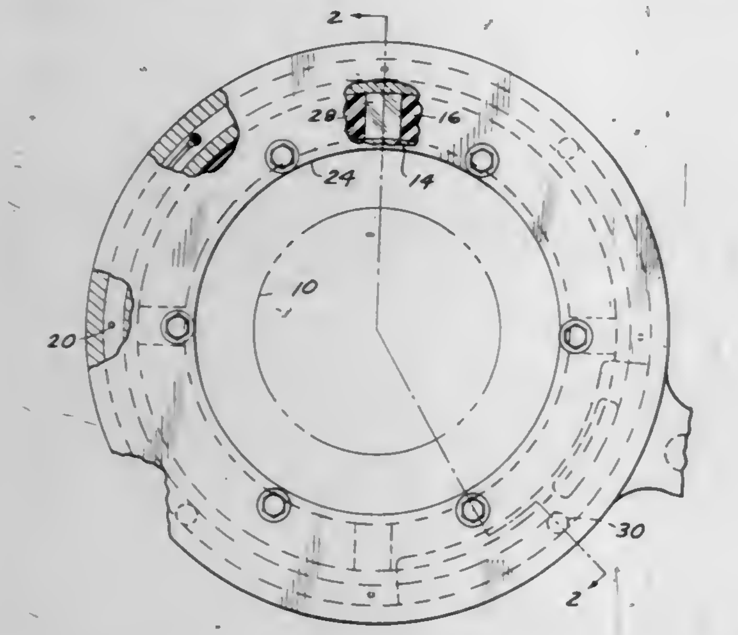
William V. Blevins, Joppa, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 21, 1967, Ser. No. 662,209
Int. Cl. G01f *3/36*
U.S. Cl. 73—205 **7 Claims**



A flowmeter comprising dual sensing elements which maintains a linear pressure-flow signal at a low resistance to flow and at a low range of rate of flow.

3,504,543
GUN BEND SENSOR

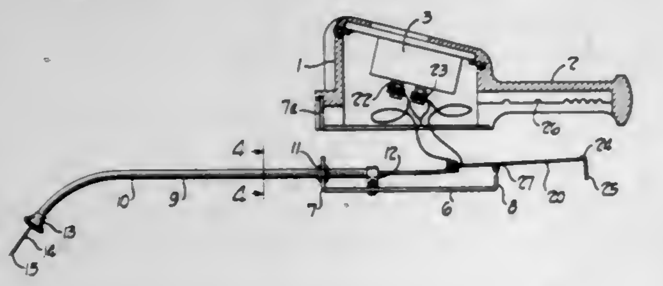
Fred M. Cutting, Milwaukee, Wis., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 8, 1968, Ser. No. 765,893
Int. Cl. G01k *3/14, 7/24*
U.S. Cl. 73—342 **5 Claims**



A gun bend sensor for indicating displacement of a gun barrel. The sensor includes a thermal model ring coaxially mounted about the gun barrel. Temperature responsive elements are mounted in the model ring. When the gun barrel is nonuniformly heated by the sun or the like, the free end of the barrel displaces an amount proportional to the temperature differential throughout the barrel. The thermal model ring is similarly heated and the temperature responsive elements provide an indication proportional to the temperature differential and the gun barrel displacement.

3,504,544
TEMPERATURE INDICATING MEANS FOR FOOD PREPARATION

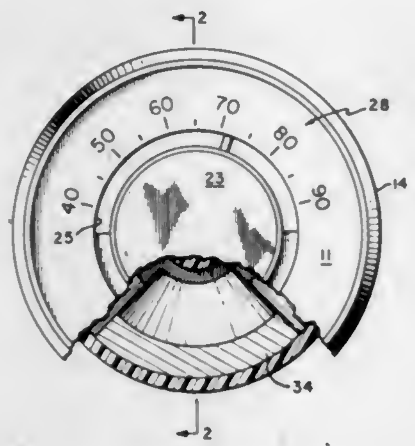
John Tymkewicz, 4159 W. Valley Drive, Fairview Park, Ohio 44126
Filed July 22, 1968, Ser. No. 746,646
Int. Cl. G01k *1/08*
U.S. Cl. 73—352 **4 Claims**



A device for indicating the temperature of food during its preparation, which indicates the internal temperature of the food. Effective indication and cooking to almost a specified condition is possible, since the indicating means are embodied in a probe, having a penetrating portion adapted to be adjustable into and out of a penetrating position, manipulation of the probe being possible from the handle of the probe, at which location the temperature is ascertained. The probe may be positioned at any place within the food being cooked irrespective of the size or form of such food. The penetrating portion of the probe is a sharpened device of hypodermic-like construction so as to furnish temperature indication in a precise area over a relatively wide range of penetration depth.

3,504,545
STABILIZED SPACE CONDITION RESPONSIVE INSTRUMENT

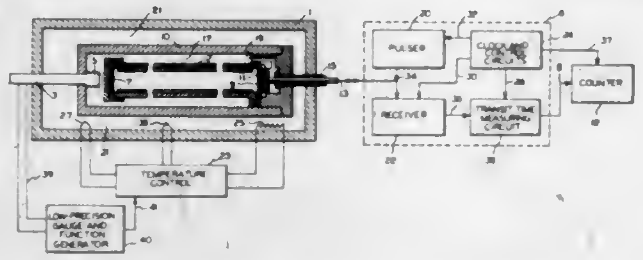
Leo F. Wildgen, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 778,402
Int. Cl. G01k *1/4*
U.S. Cl. 73—363.7 **6 Claims**



A desk thermometer having a scale held at a convenient viewing angle by the body of the instrument which is in the form of a truncated cone. When the conical surface is placed on a desk, the scale is erected by an eccentric weight within the instrument body.

3,504,546
PRESSURE-MEASURING APPARATUS AND PROCESS

George C. Newton, Jr., Concord Road, Lincoln, Mass. 01773
Filed Mar. 21, 1968, Ser. No. 715,041
Int. Cl. G01l *11/00*
U.S. Cl. 73—388 **11 Claims**

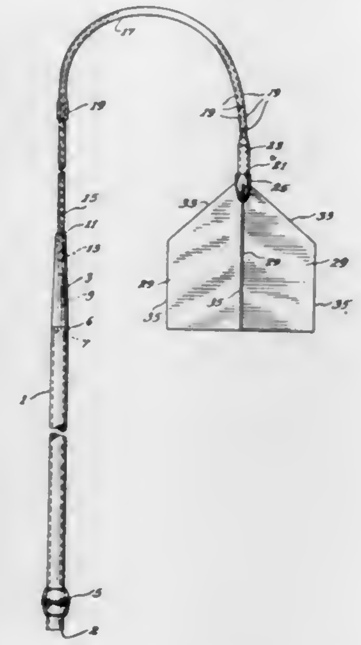


A pressure-measuring apparatus and technique is disclosed in accordance with which elastic waves are propagated within a medium, the pressure of which medium is varied in accordance with a pressure-to-be measured, and the pressure-induced change in the velocity of wave propagation in the medium is sensed to provide a measurement of the pressure thereof. The pressure measurement is made substantially independent of temperature by choice of the medium and/or compensation or thermostating.

3,504,547
STATIC PRESSURE SENSING DEVICE

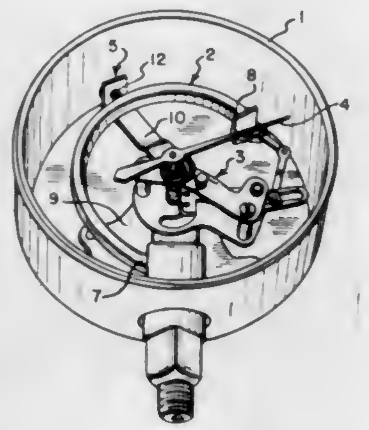
Herman A. Reichert, Michigan City, Ind., assignor to W. F. Dwyer Mfg. Co., Inc., a corporation of Indiana
Filed May 9, 1968, Ser. No. 727,882
Int. Cl. G01l *19/00*
U.S. Cl. 73—388 **5 Claims**

Static pressure in a flowing gas stream can be more accurately measured by attaching a universal point connection member such as a piece of thin flexible tubing having small, clean, burr-free holes adjacent its free end to act as pressure sensing pickup points, to the end of a piece of rigid tubing, fastening to the free end of the flexible tubing, vanes, fins or other device which will cause the free flexible tubing end to trail out and align itself with the gas stream, and inserting the flexible tubing into the duct in which gas pressure is to be measured. Inaccurate signals which are caused by turbulence are thereby eliminated.



3,504,548
PRESSURE GAUGE WITH RETARD MECHANISM

Ernest H. Grauel, Bridgeport, Conn., assignor to American Chain & Cable Company, Inc., Bridgeport, Conn., a corporation of New York
Filed Apr. 11, 1968, Ser. No. 720,561
Int. Cl. G01l *7/04*
U.S. Cl. 73—397 **3 Claims**

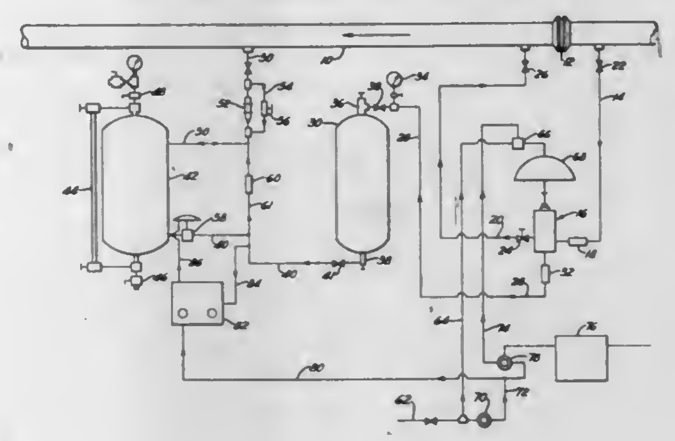


The improvement in a Bourdon pressure gauge comprising a retard member positioned in the path of flexing movement of the Bourdon tube for engagement therewith at a point intermediate its ends and in response to a predetermined pressure for decreasing the effective length of the tube.

3,504,549
COMPOSITE PIPELINE SAMPLER

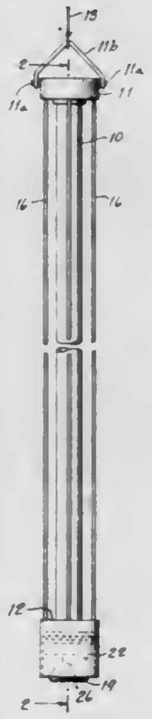
Billy H. Davis and Samuel I. Grant, Odessa, and Billy M. Medley, Monahans, Tex., assignors to Gulf Refining Company, Houston, Tex., a corporation of Delaware
Filed Dec. 14, 1967, Ser. No. 690,528
Int. Cl. G01n *1/14*
U.S. Cl. 73—422 **2 Claims**

A composite sample of liquids flowing through a pipeline is obtained by installing an obstruction in the pipeline to produce a pressure drop sufficient to cause appreciable flow through a sampling line connected to the pipeline upstream and downstream of the obstruction. A sampler pump in the sampling line periodically displaces a portion of the liquid flowing through the pump into a sample collecting system maintained full of liquid and at a pressure enough higher than the pipeline pressure to prevent vaporization of volatile components of the liquid sampled.



3,504,550
LIQUID SAMPLER

Edward W. Koch, 28 Polhemus Terrace, Whippany, N.J. 07981, and David C. Dorsi, 240 Morris St., Stirling, N.J. 07980
Filed Apr. 15, 1968, Ser. No. 721,287
Int. Cl. G01n *1/10*
U.S. Cl. 73—425.4 **8 Claims**

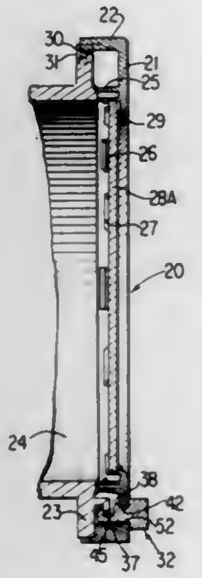


A liquid sampler for obtaining an undisturbed sample of liquid from the bottom of a tank is made up of an open-ended tube. The bottom of the tube contains a spring-loaded diaphragm or iris valve which in the open, untwisted position permits unrestricted flow of the liquid to be sampled into the bottom of the tube through the tube and out of the top of the tube as the sampler is passed downwardly within the fluid to be sampled. Upon contact of the sampler with the bottom of the tank the diaphragm or iris valve is closed. The sampler now containing the sampled liquid is then lifted from the tank.

3,504,551

PLASTIC HINGED RING AND LOCKING DEVICE FOR GAUGE

Leonard J. Bohenek, Northampton, Pa., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 7, 1968, Ser. No. 711,352
Int. Cl. G01p *1/02*
U.S. Cl. 73—431 **9 Claims**

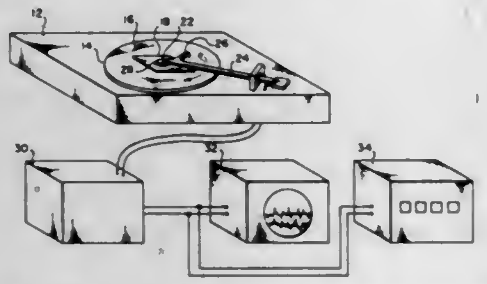


A hinged-type closure member or bezel for the dial face of an instrument or the like in which a cam locking member having cam surfaces is snap-fitted into the bezel and slidably cooperates with locking means on the instrument casing.

3,504,552

PARTICLE CONTACT COUNTER AND METHOD

Alexander J. Hiller, Bowie, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 22, 1967, Ser. No. 685,008
Int. Cl. G01b *5/28*
U.S. Cl. 73—432 **8 Claims**



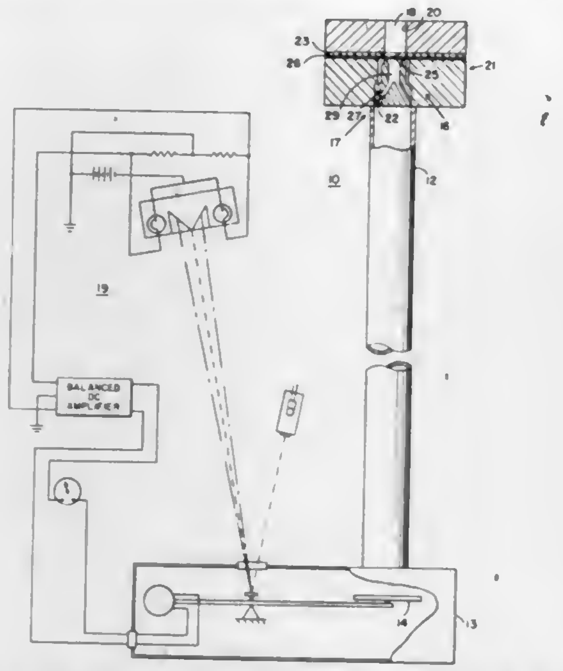
The number of particles present in a given volume of fluid is determined by placing the particles on a smooth surface and uniformly scanning the surface with a stylus which generates an electrical signal on contacting the particles. The signal is representative of the movement of the stylus caused by contact with the particles and therefore is representative of the number of particles contacted and the size of the particles.

3,504,553

APPARATUS FOR DETERMINING PARTICLE SIZE AND IMPROVED FEED MECHANISM THEREFOR

Kenyon Stevenson, Huntsville, Ala., Martin L. Essick, Newport News, Va., and Earl D. Rosserman, Grant, Ala., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed May 6, 1968, Ser. No. 726,937
Int. Cl. G01n *15/02*
U.S. Cl. 73—432 **4 Claims**

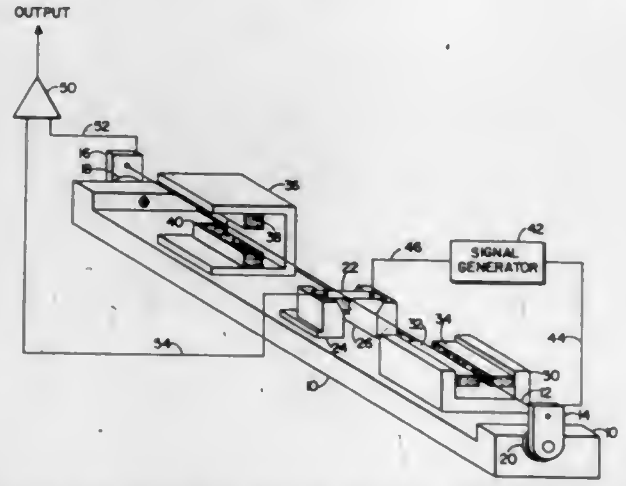
A feed mechanism for use in an apparatus for determining the particle size distribution of powdered or finely divided materials such as particles which form solid propellants for use in rockets. The feed mechanism is disposed to inject the powder to be measured into a settling chamber as a dispersion of single crystals in the settling medium. The particles to be measured are placed in a sample chamber, on a thin diaphragm, carried in the sample chamber above a deagglomerator which is in the form of one or more passages in communication with the sample chamber and a settling chamber. Upon pressurization of the sample chamber, the diaphragm ruptures, permitting the sample to enter the deagglomerator with significantly reduced crystal breakage.



3,504,554

VIBRATING WIRE ANGULAR RATE SENSOR

Daniel G. Taylor, Minneapolis, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,561
Int. Cl. G01p *3/48*
U.S. Cl. 73—505 **3 Claims**



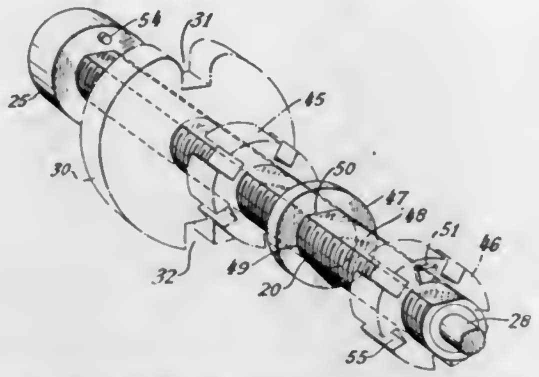
A vibrating wire gyroscope in which the nodal point at the center of the wire is located by a metal tape so as to permit the wire to vibrate in substantially one plane only.

3,504,555

CONTROL UNITS MORE PARTICULARLY FOR THE ELECTRICAL CIRCUITS OF VALVE ACTUATORS

Jeremy J. Fry, Bath, England, assignor to Rotork Engineering Company Limited, Somerset, England
Filed Oct. 25, 1967, Ser. No. 677,943
Claims priority, application Great Britain, Dec. 15, 1966, 56,164/66
Int. Cl. F16h *25/24*
U.S. Cl. 74—89.15 **10 Claims**

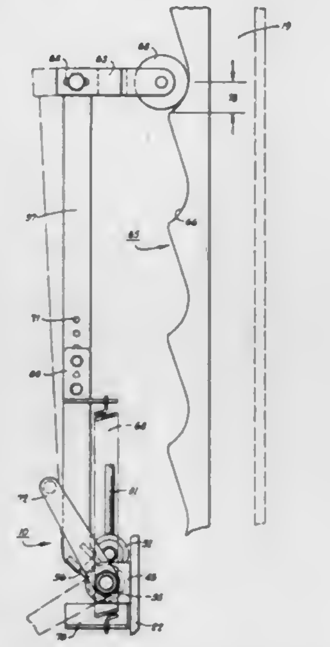
An electrical control unit for a valve actuator includes a pair of switches which are actuated to de-energize the motor in accordance with the movement of the actuator output shaft to predetermined positions. The output shaft movement is transmitted to a rotatable, threaded shaft on which is mounted a travelling nut restrained against rotary movement until it reaches one or more limit positions determined by end stops at which time it pivots a switch actuating plate. One end stop is adjustable on the threaded shaft which is provided with a flat portion along its length. The adjustable stop comprises a locking washer which has a D-shaped aperture fitting the shaft and which is located between a pair of clamping nuts.



3,504,556

SPEED TRIGGERING DEVICE

Robert G. Mills, Galt, Ontario, Canada, assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Apr. 30, 1968, Ser. No. 725,406
Int. Cl. F16h *21/44, 21/54, 25/18*
U.S. Cl. 74—96 **9 Claims**



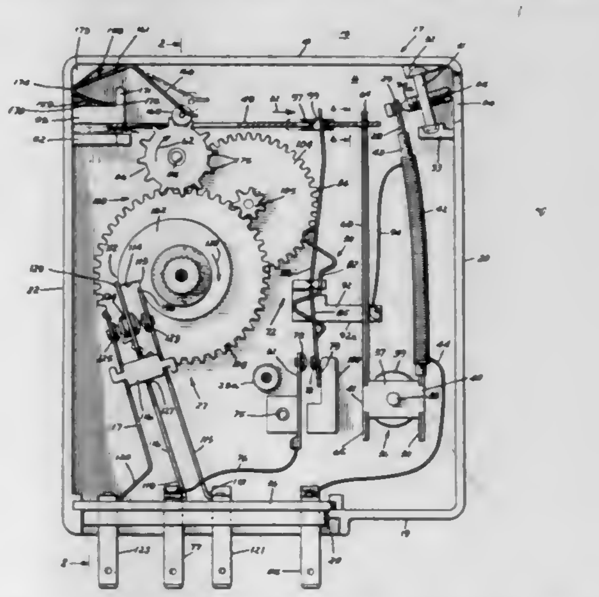
A device for mechanically actuating a control mechanism when a predetermined velocity is attained between relatively moving parts of an apparatus on which the control mechanism is contained. The device includes a cam track for mounting on one of the parts and a pivot supported follower for mounting on the other of the parts. Excessive speed produces increased pivotal displacement of the follower for actuating a control mechanism.

3,504,557

THERMAL MOTOR

Lee O. Woods, Morrison, and Donald L. Haag, Sterling, Ill., assignors to General Electric Company, a corporation of New York
Filed Jan. 8, 1969, Ser. No. 789,835
Int. Cl. F25d *21/06;* **F16h** *25/06*
U.S. Cl. 74—128 **8 Claims**

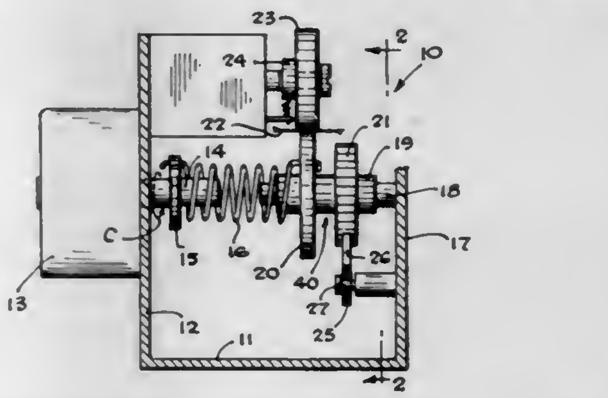
A thermal motor includes a bimetallic drive mounted for sequential deflection in opposite directions and a rotatably mounted ratchet wheel. A pawl is connected to the bimetallic drive and mounted for sliding movement in axially opposite directions in response to deflection of the bimetallic drive in its opposite directons. The pawl includes a bifurcated section spanning the ratchet wheel and a spring dog which engages the ratchet wheel and rotates it a predetermined incremental amount in a first direction as the pawl moves in one direction. The dog exerts some force on the ratchet wheel tending to rotate it in a second direction as the pawl moves in its other direction. A restraining spring allows free rotation of the ratchet wheel in its first direction while restraining rotation of the ratchet wheel in the opposite direction. One form of the restraining spring includes a pair of spaced arm sections joined by a transverse section. The distal end of one arm section and its junction with the transverse section engage a pair of spaced spart seats while the junction of the transverse section with the other arm section abuts a support surface. The distal end of the other arm section resiliently urges an idler wheel into engagement with the ratchet wheel. In another form, the spring is a helically wound member mounted on the axial post for the ratchet wheel and engaging the ratchet wheel to be loosened or tightened about the post dependent on the direction the ratchet wheel is moved.



3,504,558

HIGH-SPEED WEB FEED ESCAPEMENT MECHANISM

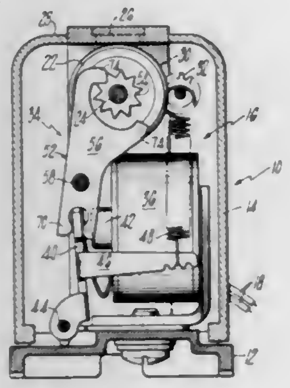
Walter J. Zenner, Des Plaines, Ill., assignor to Extel Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 21, 1968, Ser. No. 715,063
Int. Cl. F16h *27/04*
U.S. Cl. 74—143 **8 Claims**

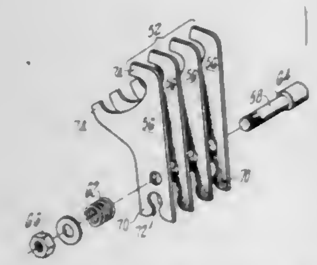


A high-speed precision web feeding device for telegraph recorders and other business machines, employing a ratchet wheel engaged by a symmetrical two-armed pawl member with each pawl having one tooth-engaging surface for blocking movement of the ratchet and another tooth-engaging surface for rotating the pawl away from the ratchet, depending upon the direction of ratchet rotation. The symmetrical construction permits reversal of direction of web feed and the mechanism advances the web in a continuous, unarrested motion in each step.

3,504,559
STEPPED DRIVE MECHANISM

Ralph B. Shaw, Jr., Manchester, and Ernest G. Hoffman, Hamden, Conn., assignors to Veeder Industries Inc., Hartford, Conn., a corporation of Connecticut
Filed Apr. 24, 1968, Ser. No. 723,693
Int. Cl. F16h *27/00;* **C05g** *5/18*
U.S. Cl. 74—143 **11 Claims**

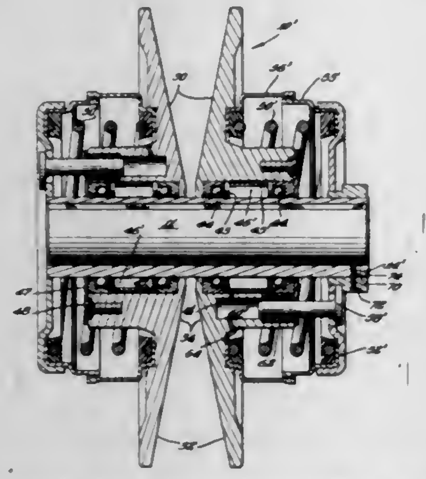




A verge drive for a magnetically actuated counter includes a laminated verge drive arm consisting essentially of a plurality of thin, parallel plates in side-by-side operative relationship. The plates are coaxially mounted for movement in substantial unison but also are independently rotatable relative to each other.

3,504,560
VARIABLE SPEED PULLEY

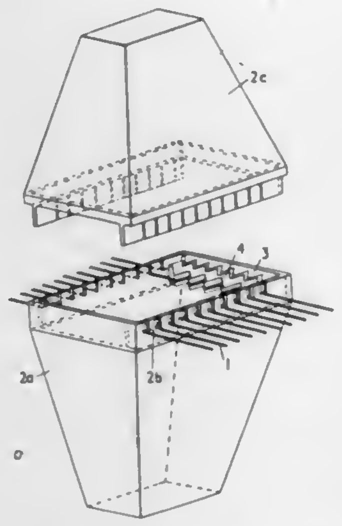
Erich Anton Wunsch, Stuttgart, Germany, assignor to Gerbing Manufacturing Company, Elgin, Ill., a corporation of Illinois
Filed Apr. 25, 1968, Ser. No. 724,099
Int. Cl. F16h *55/52*
U.S. Cl. 74—230.17 **8 Claims**



A V-type variable pitch pulley comprising a pair of relatively movable pulley halves mounted on a sleeve, one of the halves being supported by bearing means having lubricant packed therein, means to bias the pulley halves together, a series of pins connected at one end to the sleeve, and circumferentially arranged pin bearings mounted on the movable pulley half with the pins being movable axially of the pin bearings as the distance between the pulley halves is varied and as the movable pulley half slides on its bearings.

3,504,561
BELT DRIVE

Kenneth Pennycuick, Sark, Guernsey, Channel Islands, England, assignor to British Ropes Limited, Doncaster, Yorkshire, England, a British company
Filed July 19, 1968, Ser. No. 746,044
Claims priority, application Great Britain, July 19, 1967, 33,118/67
Int. Cl. F16g *1/28;* **F16h** *7/02*
U.S. Cl. 74—237 **3 Claims**

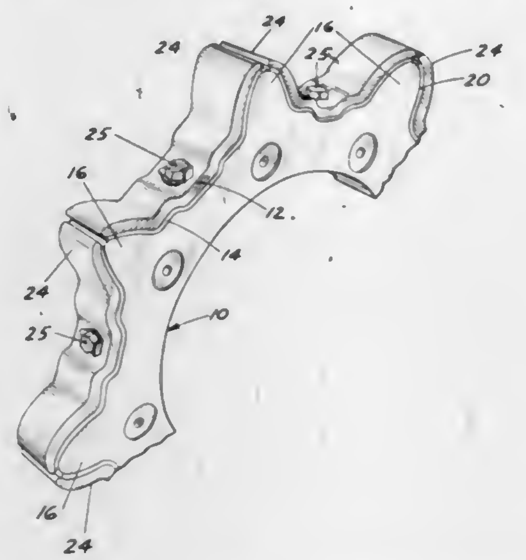


A flexible belt drive comprises a multiplicity of spaced high tensile filamentary elements in the desired width and transmission units located transversely on the spaced elements in spaced relation longitudinally thereof to facilitate a positive transmission of power.

A method of forming the belt comprises the steps of aligning a series of spaced filamentary elements and securing transmission units transversely thereof, at spaced intervals longitudinally of the filamentary elements.

3,504,562
CUSHIONED TOOTH SPROCKET WHEEL

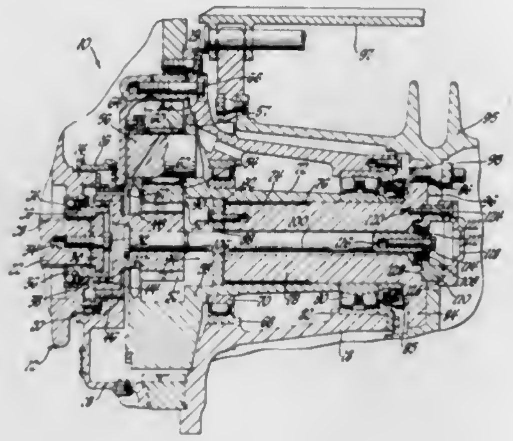
Edward Hirych, Rochester, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 31, 1968, Ser. No. 772,282
Int. Cl. B62d *55/12;* **F16h** *55/12, 55/14, 55/30*
U.S. Cl. 74—243 **5 Claims**



A cushioned tooth sprocket including a plurality of wear plates removably mounted on sprocket teeth of a sprocket body. An elastomer is positioned intermediate the wear plates and the sprocket body to cushion externally applied loads.

3,504,563
EXTERNAL FINAL DRIVE DISCONNECT

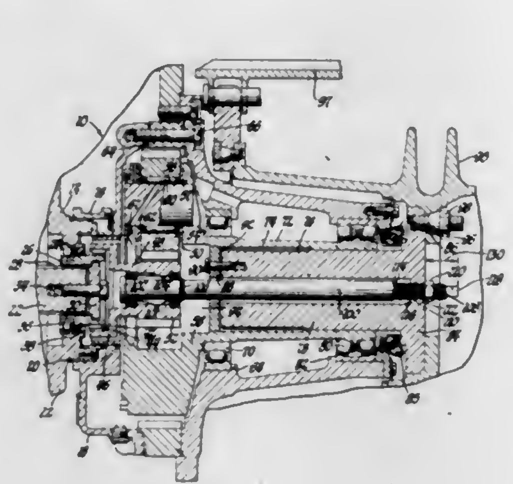
James C. Polak, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 18, 1968, Ser. No. 760,537
Int. Cl. F16h *57/00;* **F16d** *11/10*
U.S. Cl. 74—405 **16 Claims**



A final transmission drive assembly embodying an externally accessible disconnect device used on a vehicle to disconnect the drives between the transmission output and the final drive input, permitting field preparation of the vehicle for towing, said final drive assembly including means accessible at the hub of the usual drive wheel for axially sliding the central bolt or quill shaft, the sun gear, and the internally splined final drive input shaft to a new position such that the latter shaft is completely disconnected from an externally splined coupling member which is rotated by the axle or cross-drive transmission output shaft, while the sun gear remains in mesh with the planet pinions.

3,504,564
EXTERNAL FINAL DRIVE DISCONNECT

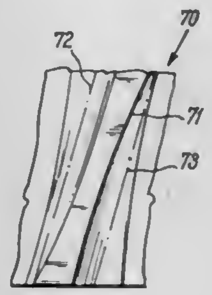
Nathaniel B. Kell, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 2, 1968, Ser. No. 764,405
Int. Cl. F16h *35/00;* **F16d** *11/10*
U.S. Cl. 74—405 **7 Claims**



The final transmission drive shown has a planetary reduction gear assembly and an externally accessible disconnect device for use on a vehicle to disconnect the drives between the transmission output and the final drive input, permitting field preparation of the vehicle for towing. The final drive assembly includes threaded means accessible at the hub of the usual drive wheel for axially rotatably moving a central bolt shaft and slidably moving the sun gear and the internally splined final drive input shaft to a new position such that the latter shaft is completely disconnected from an externally splined coupling member which is rotated by the axle or cross-drive transmission output shaft, while the sun gear remains in mesh with the planet pinions.

3,504,565
SPUR GEAR SYSTEM OF CROSSED AXES AND METHOD OF MANUFACTURING SAME

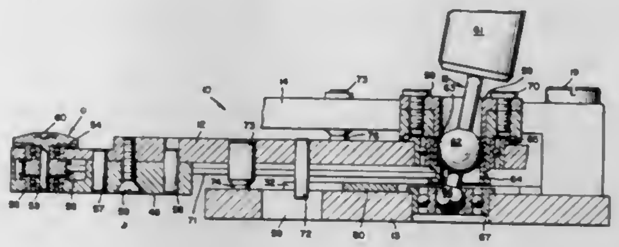
Gerd Lichtenauer and Herbert Loos, Munich, Germany, assignors to Carl Hurth Maschinen- und Zahnradfabrik, Munich, Germany, a corporation of Germany
Filed June 25, 1968, Ser. No. 739,829
Claims priority, application Germany, July 3, 1967, H 63,183; May 17, 1968, 1,752,391
Int. Cl. F16h *55/04;* **B21d** *53/28;* **B23f** *19/06*
U.S. Cl. 74—458 **7 Claims**



A gear train comprising a pair of spur gears operating with crossed axes wherein a plane lying midway between and parallel to the gear axes intersects the gear flanks in straight lines and wherein further a cylinder encircling the gear and cutting the teeth at their respective midplanes will define with said teeth a series of concavely curved lines.

3,504,566
MECHANICAL ALIGNMENT DEVICE

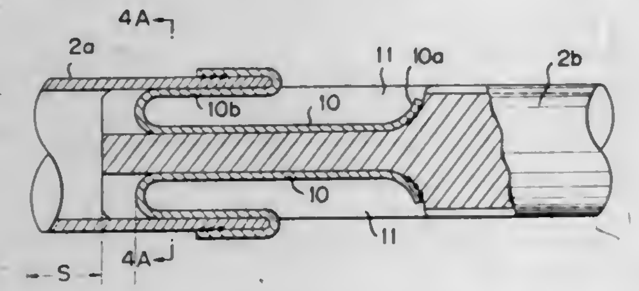
Rudolf F. Zurcher, Newport Beach, Calif., assignor, by mesne assignments, to GTI Corporation, Meadville, Pa., a corporation of Rhode Island
Filed May 31, 1968, Ser. No. 733,347
Int. Cl. G05g *7/00*
U.S. Cl. 74—469 **25 Claims**



An alignment fixture for precisely positioning and orienting small objects is disclosed. A pair of plates are coupled to a control stick which is movable about a pivot point associated with one of the plates to cause the other plate to translate relative to the one plate. A rotatable platform adapted to receive a small object is mounted upon and supported by the other plate and coupled by a pulley system to said control stick whereby the platform may be rotated by rotating the control stick about its axis. The control stick can be held between a thumb and finger and twirled and pivoted as desired to obtain wide angle rotation and rapid translation of the platform.

3,504,567
COLLAPSIBLE STEERING SHAFT CONSTRUCTION

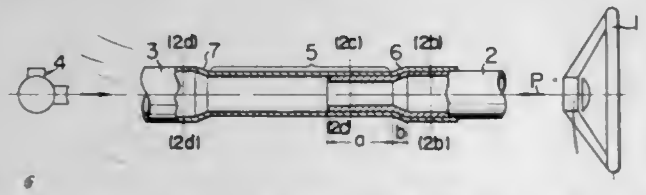
Susumu Ohashi, Nagoya-shi, and Keigo Sasaki, Toyota-shi, Japan, assignors to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota-shi, Aichi-ken, Japan
Filed May 15, 1968, Ser. No. 729,149
Claims priority, application Japan, May 25, 1967, 42/33,213
Int. Cl. B62d *1/18*
U.S, Cl. 74—492 **8 Claims**



A steering shaft construction, particularly for a vehicle, which is collapsible upon impact of the vehicle in a manner to absorb impact forces and prevent injury to a driver comprises a shaft divided axially into two parts which are telescopic in respect to each other. One of the parts fits into the other and is secured to the other by a connecting member which will deform under a predetermined force to permit the retarded telescopic movement of the two parts out of the way of the driver of the vehicle. The connecting member is designed as a shock absorbing member that is secured between the inner and outer parts in a manner to permit a gradual peeling off or deformation of the member and permits a controlled retarded telescopic movement to absorb the energy of impact in proportion to the amount of plastic deformation of the shock absorbing connecting member.

3,504,568
IMPACT-ABSORBING STEERING SHAFT

Masayuki Nakamura, Gunma-ken, and Kunitaka Nakahara, Tatebayashi-shi, Japan, assignors to Fuji Jyukogyo Kabushiki Kaisha, Tokyo-to, Japan
Filed Sept. 10, 1968, Ser. No. 758,857
Claims priority, application Japan, Jan. 26, 1968, 43/4,691; July 1, 1968 (utility model), 43/55,733
Int. Cl. B62d *1/18*
U.S. Cl. 74—492 **5 Claims**

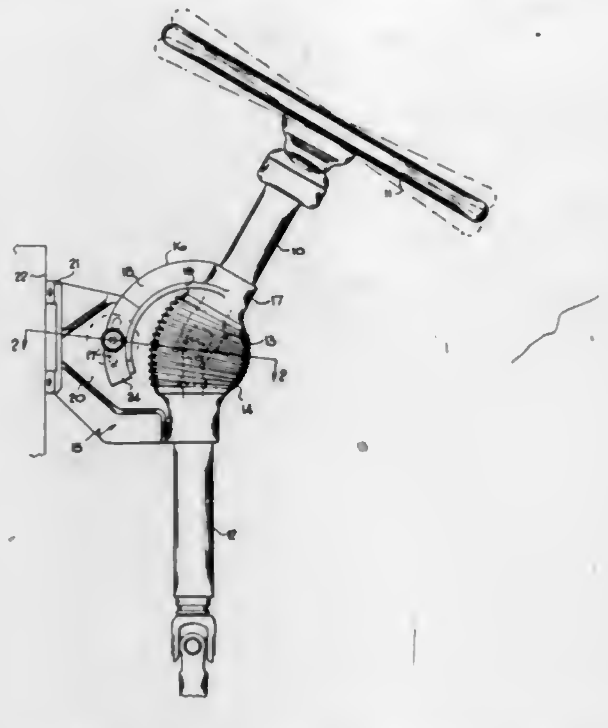


An impact-absorbing steering shaft is made up of at least upper and lower tubular shaft members fitted together with a telescopic joint, the cross section of the steering shaft being circular near its ends but being elliptical at a part of the telescopic joint and adjoining parts, whereby the single shaft is capable of operating doubly to transmit steering control torque and to absorb excessive impact energy applied axially to the shaft.

3,504,569
STEERING COLUMN ADJUSTING MEANS

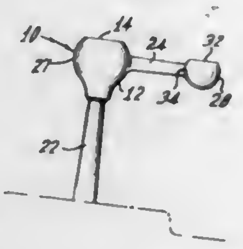
Harry Zoltok, Winnipeg, Manitoba, Canada, assignor to Motor Coach Industries Limited, Winnipeg, Manitoba, Canada
Filed May 6, 1968, Ser. No. 726,960
Int. Cl. B62d *1/18*
U.S. Cl. 74—493 **5 Claims**

An air operated piston and cylinder assembly locking a steering column in position by friction engaging segments on the column and on the support structure of the vehicle. The piston and cylinder assembly is also provided with an internal spring which maintains some clamping effect in the event that the air to the cylinder is lost.



3,504,570
GEAR SHIFT DEVICE

James M. Dudley, P.O. Box 8541, Jacksonville, Fla. 33011
Filed Jan. 19, 1968, Ser. No. 699,235
Int. Cl. G05g *1/10*
U.S. Cl. 74—544 **4 Claims**

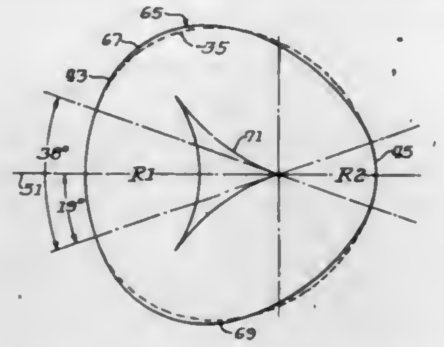


A unitary gear shift device threadedly attached to the upper end of an upstanding gear shift lever including a knob above the lever which has an enlarged flat surface at the top thereof. A shank extends rearwardly from the knob and a handle is attached thereto transversely thereof for forming a T-shaped handle spaced rearwardly of the knob for engagement by the operator's hand for shifting the gears primarily into the forward or neutral positions. The handle has a flat upper surface to more nearly conform to the operator's hand. A gear shift pattern is associated with the flat surface on the knob and such flat surface is primarily engaged by the palm of the operator's hand during depression of the lever downwardly to shift the gears into reverse position.

3,504,571
CONSTANT DIAMETER CAM

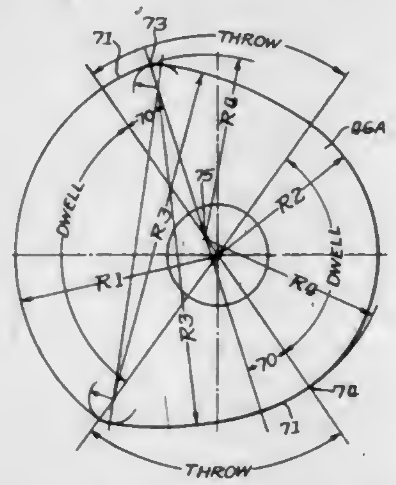
Tong Soo Kim, Des Plaines, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 7, 1967, Ser. No. 688,765
Int. Cl. F16h *53/00*
U.S. Cl. 74—567 **4 Claims**

For the drive of a cam driven intermittent in strip feed mechanisms, a novel profile constant width cam rotatable between fixedly spaced followers. The profile minimizes follower acceleration at the initial part of each follower phase and at a point where the direction of acceleration is reversed.



3,504,572
CAM FOR INTERMITTENT FEED MECHANISM

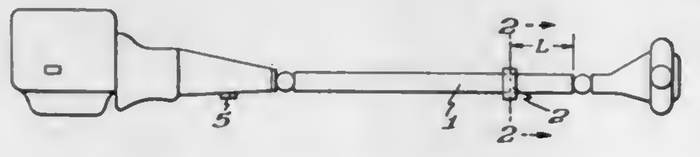
Raymond W. H. Kim, Morton Grove, and Tong Soo Kim, Des Plaines, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 7, 1967, Ser. No. 688,785
Int. Cl. F16h *53/00*
U.S. Cl. 74—567 **7 Claims**



Disclosed for use in a motion picture apparatus is an intermittent film moving mechanism driven by a constant diameter cam, to produce intermittent film advancing strokes of a film engaging member. The cam construction has an improved profile for substitution for a constant width profile cam in an existing intermittent mechanism. The disclosed profile causes gradual acceleration of the cam follower during an initial period of the film advancing stroke thereby effecting a reduction in the shock occurring as the film engaging member engages perforations of the film.

3,504,573
DEVICE FOR CONTROLLING BENDING VIBRATION OF VEHICLE DRIVE TRAIN SYSTEM

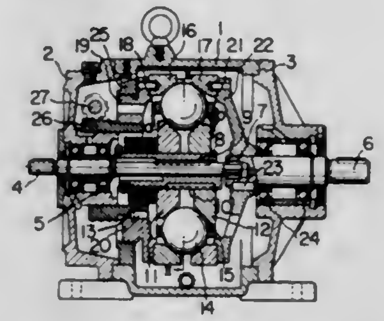
Akio Yoshida, Toyota, Japan, assignor to Toyota Jidosha Kogyo Kabushiki Kaisha, Toyota, Japan
Filed June 27, 1968, Ser. No. 740,754
Claims priority, application Japan, June 28, 1967, 42/41,882
Int. Cl. F16f *15/10*
U.S. Cl. 74—574 **3 Claims**



Bending vibation control device for drive train system of Hotchkiss drive vehicle comprises weight fitted on propeller shaft system coaxially therewith. Heaviness and position of the weight on shaft which transmits the driving force of the engine to the vehicle are interrelated to control bending vibration of drive train system.

3,504,574
PLANET-BALL TYPE, STEPLESS SPEED-CHANGING DEVICE

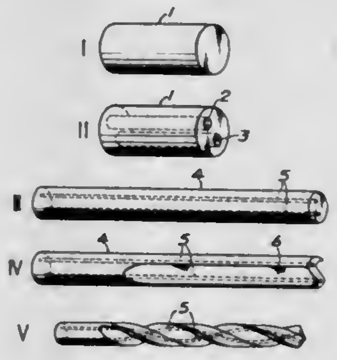
Kenzo Okabe, Nagoya-shi, Japan, assignor to Asahi Seiki Kogyo Kabushiki Kaisha, Asahi-machi, Higashikasugai-gun, Aichi-ken, Japan
Filed May 8, 1968, Ser. No. 727,582
Claims priority, application Japan, Oct. 3, 1967, 42/63,318
Int. Cl. F16h *15/50*
U.S. Cl. 74—796 **3 Claims**



Planet balls lying in a common orbit and clamped between four beveled contact surfaces of two sun rollers rotating with an input shaft of a first outer ring, and of a differential outer ring coupled to an output shaft are caused by rotation of the input shaft to undergo planetary power transmission operation with respective virtual axes of gyration, one of the contact surfaces being formed by a concave arcuate generatrix. The first outer ring is adjustably movable in the axial direction to cause variation in the orientation of the virtual axes of gyration of the planet balls and thereby to vary the speed ratio between the input and output shafts.

3,504,575
METHOD OF MAKING FLUTED DRILL AND THE LIKE

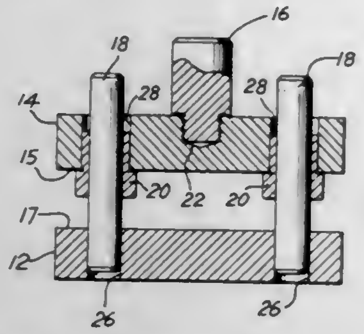
Masao Makino and Muneaki Tesaki, Akashi, Japan, assignors to Kobe Steel Ltd., Fukiai-ku, Kobe, Japan
Filed Aug. 21, 1967, Ser. No. 661,976
Claims priority, application Japan, Oct. 3, 1966, 41/65,260
Int. Cl. B21k *5/02*
U.S. Cl. 76—108 **3 Claims**



A method of making drills and the like having oil passages therein comprising boring holes, which are several times as large in diameter in cross-section as the oil passages in the intended drill or the like, in a thick stock material which is several times as large in cross-section as the intended drill or the like at required places, heating the stock material, forging or rolling the same by any method for forming them into an elongated intermediate stock material corresponding in diameter to the intended drill or the like, and finishing it by any method to provide a drill or the like having oil passages therein.

3,504,576
METHOD FOR MAKING PRECISION DIE SETS

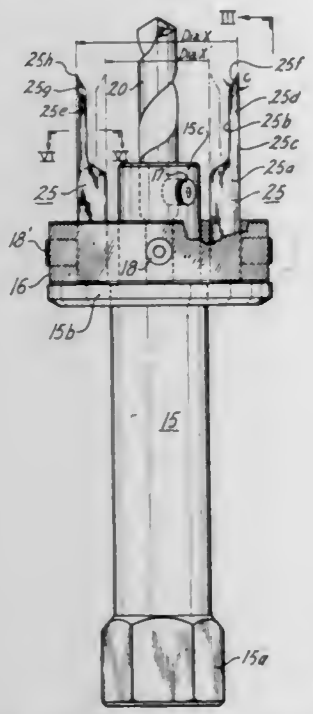
Robert L. Silberman, Highland Park, Ill., and Lester L. Logan, Berea, Ohio, assignors to Die Supply Corporation, a corporation of Ohio
Filed July 12, 1968, Ser. No. 744,420
Int. Cl. B21k *5/20;* **B21d** *53/10;* **B23q** *3/00*
U.S. Cl. 76—107 **4 Claims**



A precision die set comprising a punchholder and a die holder and a method of making a precision die set. The punchholder and die holder are guided for precise movement relative to one another by guide posts secured at one end to the die holder and cooperating with bushings which are affixed to the punchholder. The guide posts and bushings are loosely received in non-precision made openings in the punchholder and die holder and are retained in place by epoxy adhesive. Epoxy adhesive is applied between the bushings and punchholder and between the guide posts and die holder and before the epoxy adhesive is cured, the guide posts are disposed perpendicular to the die holder and parallel to one another, with the guide posts engaging with their associated bushings so as to properly position the bushings in the punchholder. Then, the epoxy adhesive is cured to retain the components in precise assembled relationship.

3,504,577
BELT HOLE CUTTER

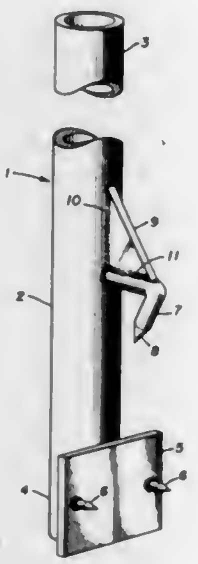
Joseph A. Parenti, Rte. 7, Box 330,
Morgantown, W. Va. 26505
Filed Sept. 17, 1968, Ser. No. 760,176
Int. Cl. B23b *51/04*
U.S. Cl. 77—79 **5 Claims**



A rotative hole cutting device for a heavy, somewhat soft, resilient, fabric-like material in the nature of belting is provided with a forwardly-extending drill stem that first enters the material, and with a pair of opposed, especially-constructed and positioned key-like cutter elements that follow the drill stem and quickly and efficiently cut-out a circular hole in the material. The drill stem serves to guide movement of the cutter elements and to retain the part or fragment being cut-out in position until the completion of the operation.

3,504,578
APPARATUS FOR SEPARATING OBJECTS

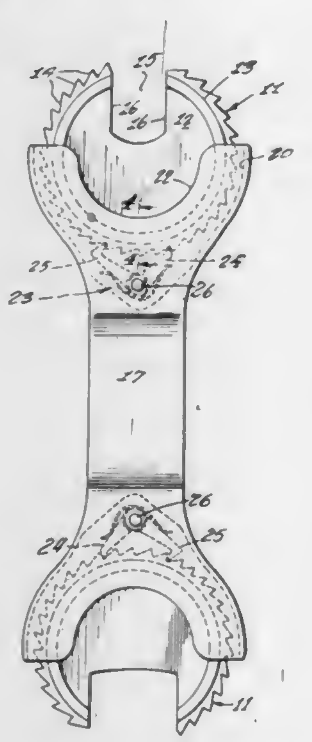
James W. Shannon and Horace B. Dowell, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,039
Int. Cl. B67b *7/00*
U.S. Cl. 81—3.47 **1 Claim**



An apparatus for opening drums and the like comprising a bar having secured to one end thereof at least one transversely extending rod, and having the other end thereof serving as a handle, and at least one transversely extending hook-shaped member positioned intermediate the handle and the rod and lying in the same longitudinal plane as the rod.

3,504,579
OPEN END RATCHET WRENCH

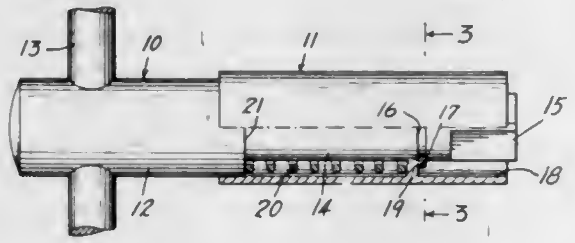
Dwayne L. Harlan, 31227 8th Ave. S.,
Federal Way, Wash. 98002
Filed Nov. 2, 1967, Ser. No. 680,228
Int. Cl. B25b *13/00, 13/46*
U.S. Cl. 81—58.2 **1 Claim**



An open end ratchet wrench having a rotatable disk, containing a series of teeth along its peripheral edge, a nut or bolthead receiving slot at one point of the edge, the rotatable disk being supported rotatably free in a handle.

3,504,580
EJECTOR-TYPE WRENCH OR KEY

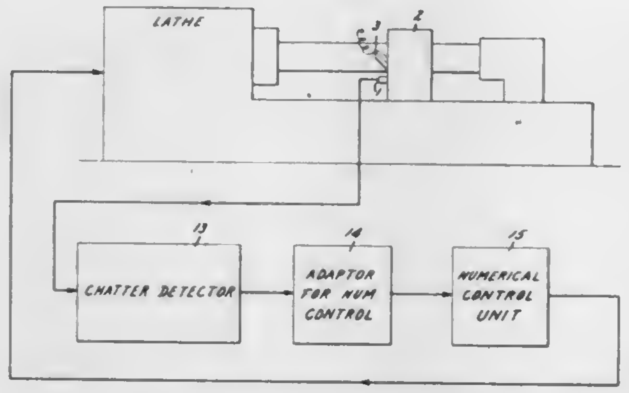
Seymour A. Ostrager, Bronx, N.Y., assignor to Miracle Instrument Co., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 740,966, June 28, 1968. This application Nov. 8, 1968, Ser. No. 774,367
Int. Cl. B25b *13/02*
U.S. Cl. 81—90 **3 Claims**



A wrench or key device incorporating ejector means for removal from the engaged workpiece, wherein the device comprises two primary parts, namely a substantially two-diameter key body part and an elongated ejector sleeve, the operating end of which normally terminates short of the key end of the body part, the sleeve being slidable on the body part against the action of tensional means sufficiently to expose a split ring groove on the shank of the body part for attachment and detachment of the spring ring supporting the parts in normal position.

3,504,581
APPARATUS FOR EARLY DETECTION OF TOOL CHATTER IN MACHINING OPERATIONS

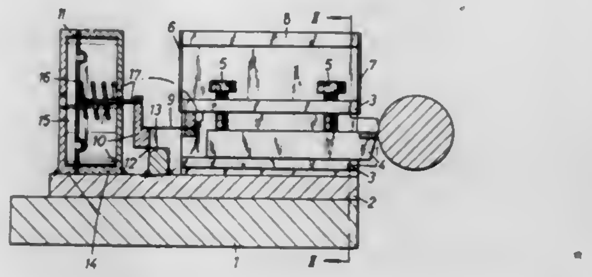
Bjorn Weichbrodt and Stephen E. Grabkowski, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 24, 1967, Ser. No. 632,974
Int. Cl. B23b *1/00*
U.S. Cl. 82—1 **6 Claims**



A method and apparatus for automatic control of machining operation so that high metal removal rate can be obtained without the risk of unstable cutting conditions (tool chatter). The apparatus detects incipient tool chatter during a machining operation by the use of the essential method of determining the vibration characteristics of the cutting tool and assembly and then regulates the speed of the feed of the cutting edge. By detecting variation from normal vibration of the cutting tool, a signal is generated causing the control to automatically adjust feed speed so as to keep the machining operation just on the verge of chatter.

3,504,582
TOOL CARRIER FOR MACHINE TOOLS

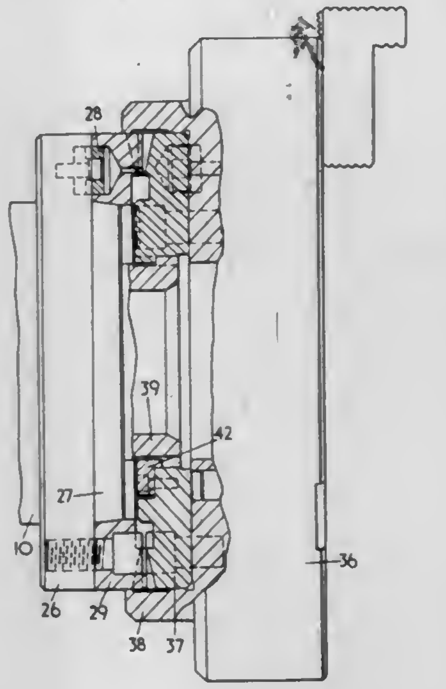
Gerhard Klee, Frankfurt am Main, and Norbert Jeschke, Urberach, Germany, assignors to Samson Apparatebau AG., Frankfurt am Main, Germany
Filed Apr. 7, 1967, Ser. No. 629,208
Claims priority, application Germany, Apr. 13, 1966, S 103,157
Int. Cl. B23b *21/00*
U.S. Cl. 82—24 **10 Claims**



The present invention concerns a tool carrier for machine tools with a base plate connected to a carriage or the like and a tool holder, in which the tool holder together with the tool is selectively adjustable by fluid operable means relative to the base plate when the latter is at a standstill, by minute strokes, for instance, within the range of 1 millimeter.

3,504,583
LATHES

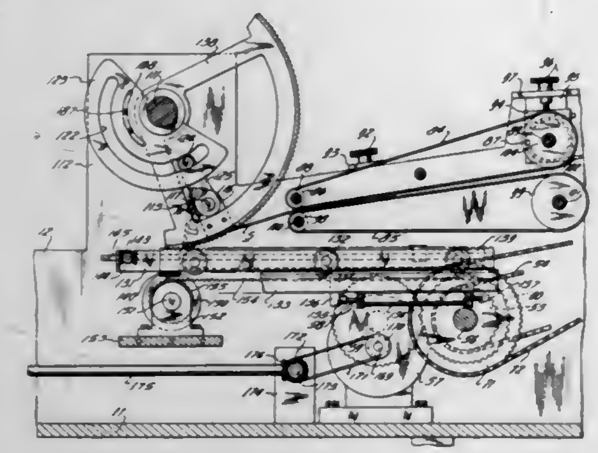
Julius Harman, Baginton, England, assignor to Alfred Herbert Limited, Edgwick, Coventry, Warwickshire, England, a British company
Filed Nov. 13, 1967, Ser. No. 682,094
Claims priority, application Great Britain, Nov. 11, 1966, 50,647/66
Int. Cl. B23b *19/02*
U.S. Cl. 82—30 **8 Claims**



A lathe spindle is provided at its end with an annular toothed coupling member for engagement with a like member on a chuck. A draft member extends through the spindle and has a head adapted for inter-locking engagement with the toothed coupling member on the chuck for applying an axial pull to the chuck for accurately and firmly inter-engaging the two toothed coupling members.

3,504,584
APPARATUS FOR DIE CUTTING AND SCORING PAPER SHEETS

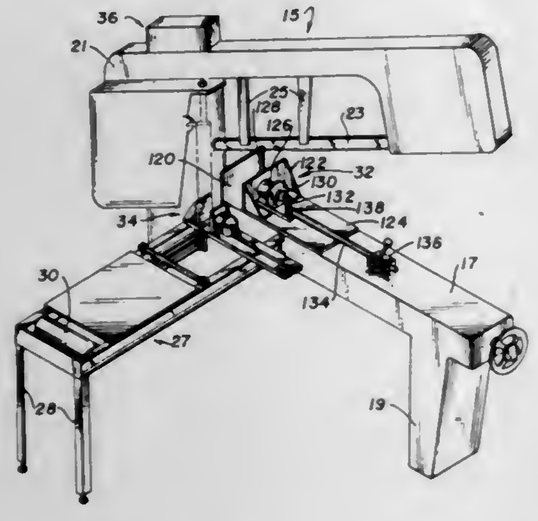
Clovis F. Deslauriers, Harbor Drive,
Port Chester, N.Y. 10573
Filed May 13, 1968, Ser. No. 728,695
Int. Cl. B26d *3/08;* **B31b** *1/20*
U.S. Cl. 83—9 **12 Claims**



A pressure applying member having a segmental arcuate surface is reciprocated about a horizontal axis and synchronously to the reciprocation of a die bed. Said arcuate surface is provided with cam actuated stops yieldingly mounted to position a paper sheet on said arcuate surface and the die bed. The pressure applying member is reciproated by cranks imparting to and fro motion or rotary reciprocation to toothed segments meshing with pinions connected to the axis of the pressure applying member. The pressure applying member is provided with toothed segments meshing with racks arranged on the die bed to reciprocate said die bed synchronously with the pressure applying member. The die bed is supported during the cutting and scoring operation by a roller rotated to and fro by the reciprocation of the die bed through racks carried by the die bed and and meshing with pinions connected to the axis of the roller.

3,504,585
AUTOMATED MACHINE TOOLS

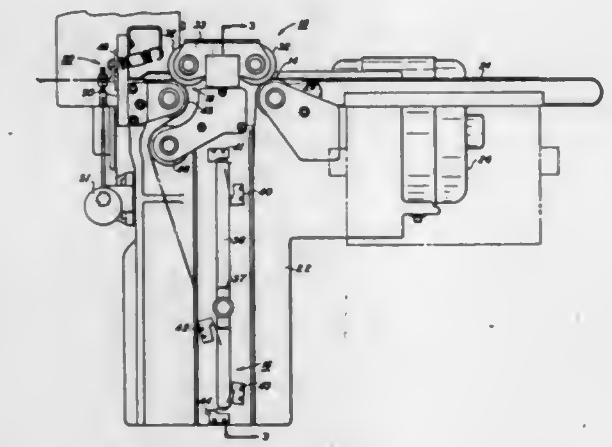
Gerald R. Harris, 1230 Camelia Drive,
Livermore, Calif. 94550
Filed Oct. 27, 1967, Ser. No. 678,593
Int. Cl. B26d *1/46*
U.S. Cl. 83—42 **7 Claims**



A machine tool, here illustrated as a band saw, capable of efficient operation by programming a console and initially providing the tool with stock material is disclosed. The material is fed to the work area of the machine in predetermined increments by means of an indexing mechanism which grips the stock and moves it forwardly by a predetermined amount as set directly with respect to the mechanism itself. A main vise secures the stock and an indexing mechanism or movable vise retracts and waits a signal to take a second grip on the stock to index the same to the next work position. The movable vise is formed to grip the stock and advance it to the main vise in a manner which prevents the stock from gradually moving up out of the main vise on successive advancements thereof. The movable vise is also formed and mounted to compensate for misalignment with the main vise and stock warpage.

3,504,586
ROLL CONVERTER CONTROL

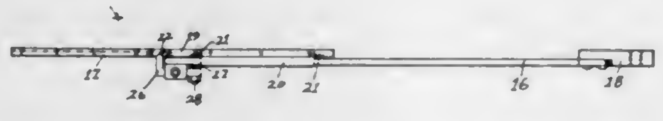
Thomas J. Acquaviva, Jr., Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Apr. 22, 1968, Ser. No. 723,114
Int. Cl. B26d *5/26*
U.S. Cl. 83—65 **10 Claims**



A control for roll stock converters of a type having a stock feeding means and a stock cutter, the control including coincidence gate means adapted when triggered to stop the stock feeding means while actuating the cutter to cut the length of stock fed forward thereto, control gate means for each preselectable sotck length adapted when triggered to trigger said coincidence gate, adjustable length control means for readying a selected one of the control gate means for triggering, and means responsive to feed of stock adapted following feed of the selected stock length forward to the cutter to trigger the readied control gate means.

3,504,587
DIE CUTTING MACHINE FOR LABELS AND THE LIKE

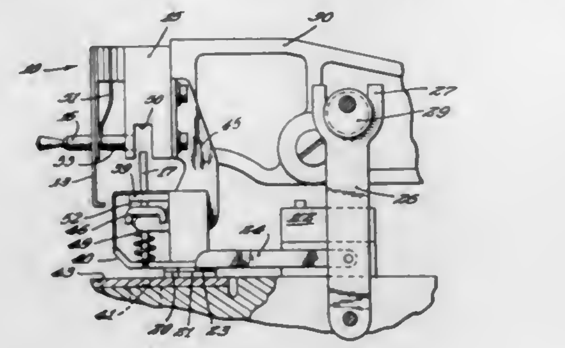
Howard R. Maschinot, Erlanger, Ky., assignor to The Printing Machinery Company, Cincinnati, Ohio, a corporation of Ohio
Filed May 14, 1968, Ser. No. 729,000
Int. Cl. B26d *5/22*
U.S. Cl. 83—276 **2 Claims**



A die cutting machine wherein label feed is accomplished through a cam actuated bell crank connected to a pusher means. The arrangement provides positive action of said cam on said bell crank when moving said pusher means on a return stroke and a spring urged label feeding stroke. A safety connection is provided between the bell crank and the pusher means whereby if the return stroke or the pusher means is obstructde, the bell crank can continue to move without damaging the machine or endangering the operator.

3,504,588
PUNCHING CONFIGURATION

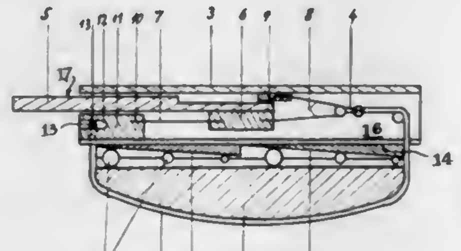
Wilbur E. Thomas, Wayne, N.J., assignor to General Binding Corporation, Northbrook, Ill., a corporation of Delaware
Filed Nov. 29, 1967, Ser. No. 686,633
Int. Cl. B26f *1/14*
U.S. Cl. 83—685 **5 Claims**



A punching tool for stacks of sheets of paper having a rectangular cross section body member, and an integral tip having a central cutting projection.

3,504,589
CAPOTASTO

August H. Wowries, 162 Oskar-Hoffmann-Strasse,
463 Bochum, Germany
Filed Mar. 19, 1968, Ser. No. 714,185
Claims priority, application Germany, June 20, 1967, W 44,207
Int. Cl. G10d *3/04*
U.S. Cl. 84—318 **4 Claims**

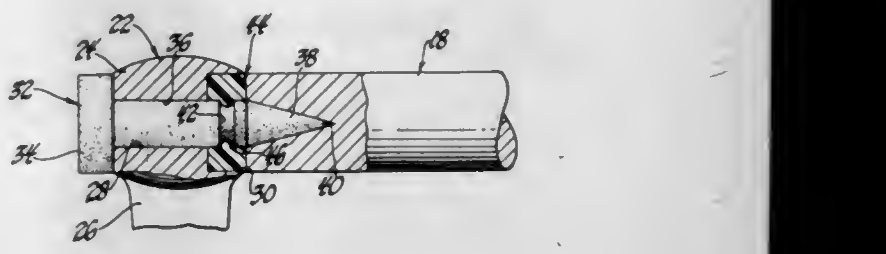


A capotasto for musical string instruments that have a finger board, of the type of a guitar, has an inelastic, flexible holding strap for connection to the neck of the instrument. This strap can be selectively tensioned for fixing the capotasto in a desired position on the neck and can be released for moving the capotasto to the desired position on the neck. The capotasto includes blocklike means for doubling a manually applied force for tensioning the holding strap.

3,504,590
MUSICAL INSTRUMENT CONSTRUCTION

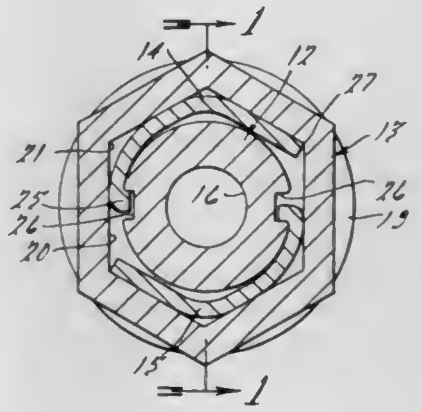
Russell B. Bedford III, 8000 E. Avon Lane,
Lincoln, Nebr. 68505
Filed Apr. 20, 1967, Ser. No. 632,282
Int. Cl. G10d *7/00*
U.S. Cl. 84—380 **9 Claims**

A key mounting means for a musical instrument in which a low friction, wear resistant plastic member is disposed between the supporting post and the key hinge rod, and in one embodiment, the key hinge pivot is also formed of low friction plastic material, the hinge rod being secured in the post by means of an annular flange on either a retainer member or the low friction plastic member, the flange being received in a groove formed in a portion of the hinge rod within the post. Relatively movable parts are insulated from wear by moving against such low friction plastic material.



3,504,591
TORQUE LIMITING NUT

Clarence E. Christophersen, Los Angeles, Calif., assignor to Aeroquip Corporation, Jackson, Mich.
Filed Jan. 17, 1969, Ser. No. 792,071
Int. Cl. F16b *31/02*
U.S. Cl. 85—61 **4 Claims**

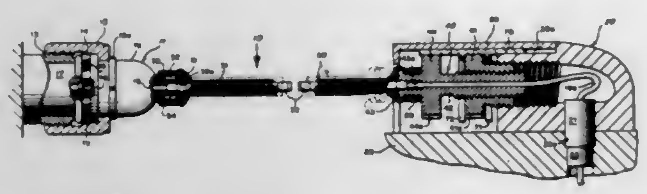


A torque limiting nut comprising a polygonal shell rotatably supported by an internally threaded tubular body. Leaf type springs disposed between the shell and body are hooked at one end into grooves in the body and extend around the body in the same direction, tending to expand outwardly. Torque is transmitted from the shell through the leaf springs to the body until the leaf springs deflect, at which point the shall will rotate about the springs and body at a predetermined torque Backing off the shell causes the spring ends to engage the corners of the shell, unscrewing the body of the nut.

3,504,592
ELECTRICAL CONNECTOR

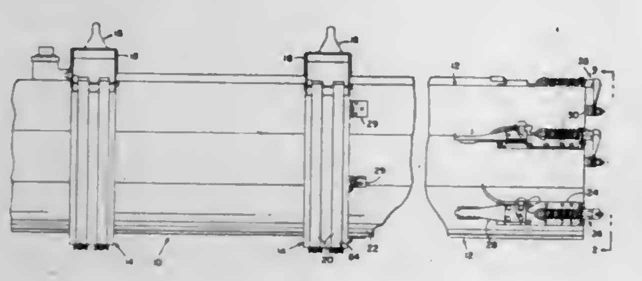
Carl A. Damm, Upper Black Eddy, Albert C. Eichmann, Huntingdon Valley, and William J. Halpern, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 8, 1968, Ser. No. 719,629
Int. Cl. F41f *5/02;* **B64d** *1/06*
U.S. Cl. 89—1 **14 Claims**

An electrical connector including a flexible armored sheath having an insulated conductor threaded therethrough an electrically connected between a plug unit and a breech cap which is adapted for applying a firing signal to a pyrotechnic cartridge and which has flanged spring pins formed to function both as ground contacts and as spent cartridge extracting means. A braided sheath encircles the armored sheath and is mechanically connected at one end to the breech cap and at the other end through a turnbuckle-like sheath stretching assembly to the plug unit. The stretching assembly enables the braided sheath to be longitudinally stretched so that it tightly grips the armored sheath and forms therewith a more rigid conduit.



3,504,593
AIRBORNE ROCKET LAUNCHER

Earl C. Ricks, Donald J. Conn, and Wiley B. Vickers, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 25, 1968, Ser. No. 770,492
Int. Cl. F41f *3/04*
U.S. Cl. 89—1.807 7 Claims

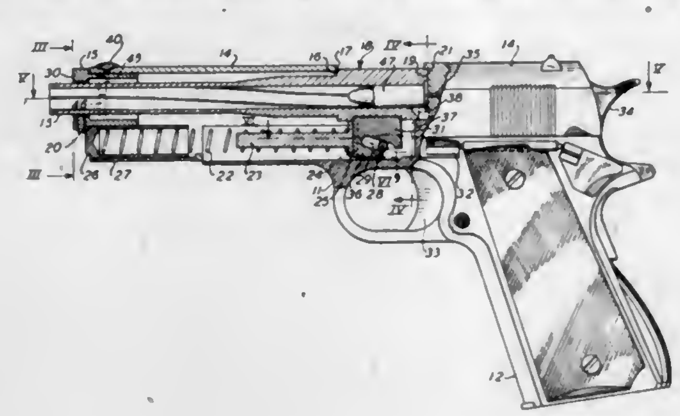


A light-weight, reusable, and field repairable rocket launcher. The launcher includes a cluster of interchangeable launch tube assemblies held and supported by two bulkheads. The bulkheads comprise interchangeable and interlocking castings that are clamped together with clamping bands. The launch tube assemblies each comprise a rocket launch tube with an easily releasible detent and an igniter assembly. The detent includes a member extending into the tube for engagement with the rocket and retention thereof in the tube during transportation of the launcher and for release of the rocket responsive to ignition thereof. The igniter assembly includes a rocket tail engaging member which is secured between the tube and the rocket in spring biased relation. An igniter head is carried by the tail engaging member, substantially along the longitudinal axis of the tube and is held in engagement with the rocket by the spring assembly. The tail engaging member is disposed for rotational movement for displacement of the igniter head from a first position of engagement with the rocket to a second position which clears the launch tube to permit rearward unloading or loading.

3,504,594
SUB-CALIBER, SELF-RELOADING FIREARM WITH BARREL POSITION ADJUSTING MEANS

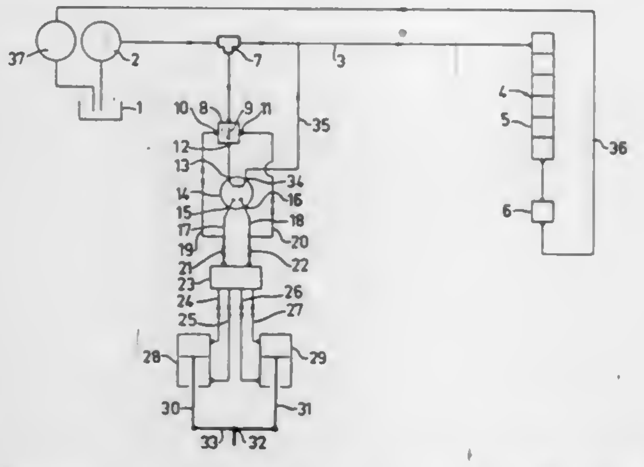
Thomas A. Greeley, 289 Central Ave., West Caldwell, N.J. 07006
Filed May 23, 1968, Ser. No. 731,465
Int. Cl. F41c *5/00*
U.S. Cl. 89—163 7 Claims

A sub-caliber self-reloading firearm comprising a frame, a slide, a sub-caliber barrel and sub-caliber cartridge holder as a single unit, an extractor and a sub-caliber magazine, said barrel being improved by having no grooves across the top and a depending block formed with a slot, open-minded and sloping downwardly and rearwardly, a slide stop with a pin portion in said frame and received in said slot, said block being separately formed and silver-soldered in a square-milled space in the bottom of the barrel, a flanged bushing disposed between the forward end of the barrel and said slide, said bushing having a lug locking it against longitudinal movement with respect to said slide upon insertion and turning to position, nylon-tipped sight-adjusting screws in said bushing for attachment to said centering said barrel in the slide, the flange of said bushing being knurled and overlapping a cup received in said slide and in which is housed the front end portion of a coil return spring, and a rod over which the rear end portion of said spring fits, the rear end of which rod is enlarged to provide a spring seat bifurcated rearwardly to straddle the barrel block and engage abutments on the frame, whereby the barrel on firing is tilted and unlocked from the slide to effect operation of the extractor.



3,504,595
HYDRAULIC CONTROL DEVICE

Karl Thore Lindblom, Alfta, Sweden, assignor to Ostbergs Fabriks AB, Alfta, Sweden, a Swedish joint-stock company
Filed June 20, 1968, Ser. No. 738,681
Claims priority, application Sweden, June 22, 1967, 8,939/67
Int. Cl. F15b *13/06, 15/18;* **B62d** *5/00*
U.S. Cl. 91—414 6 Claims

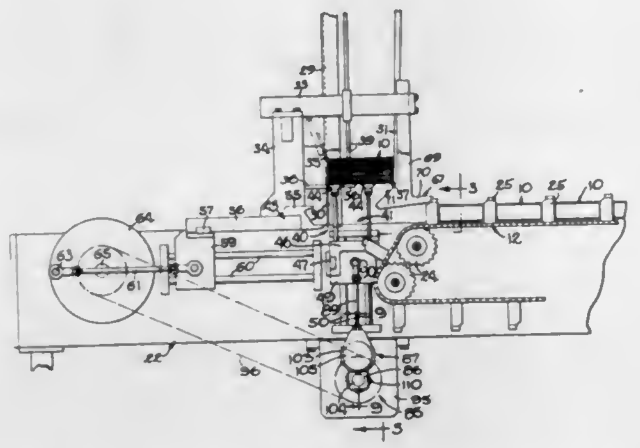


Hydraulic control device, as for a vehicle such as a tractor, is characterized by a "rough control" unit and a "fine control" unit, with means for rapid change therebetween.

3,504,596
MACHINE FOR ERECTING CARTONS

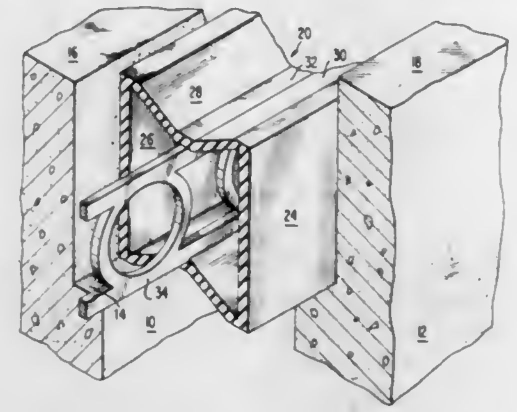
Dale H. Hirasuna, Rockford, Ill., assignor to Riegel Paper Corporation, Rockford, Ill., a corporation of Delaware
Filed Feb. 5, 1968, Ser. No. 703,135
Int. Cl. B31b *1/76, 5/00*
U.S. Cl. 93—53 9 Claims

Flattened cartons are opened into erected positions by a set up and control unit as the cartons are drawn downwardly from a magazine into a transfer station by a transfer device. Thereafter, the cartons are shoved laterally out of the transfer station and onto a conveyor by a pusher and, as an incident to such shoving, are shifted into and latched in overcenter positions by the set up unit in order that complete control of the cartons may be maintained without danger of the cartons reassuming their flattened conditions during their transfer to the conveyor. A drive mechanism reciprocates the transfer device up and down between the transfer station and the magazine and operates with a differential action to cause the transfer device to dwell for a relatively long interval just below the cartons in the transfer station thereby to eliminate the need for precisely controlling the time of release of the cartons from the transfer device.



3,504,597
ROADBED JOINT SEAL

Robert L. Pare, 27 Chiswick Road, Edgewood, R.I. 02905
Continuation-in-part of application Ser. No. 647,503, June 20, 1967. This application May 13, 1969, Ser. No. 837,982
Int. Cl. E01c *11/10*
U.S. Cl. 94—18 10 Claims

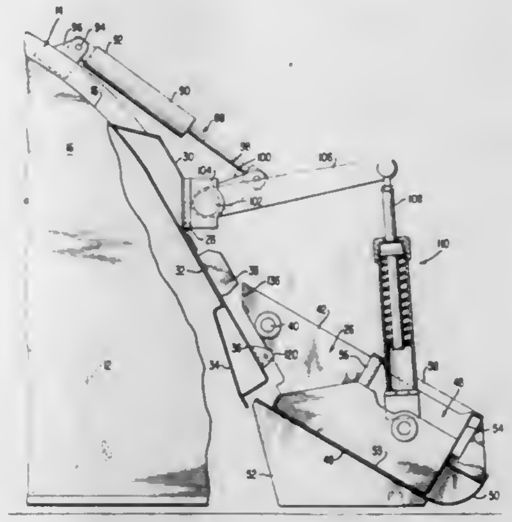


An elastomer joint seal for modular, slab-like construction elements such as pavements, roads, wall panels and the like. The seal is generally elongated and is placed between facing edges of adjacent modular elements. A spring element runs longitudinally of the seal and is vertically disposed. By virtue of the internal geometry of the elastomer, movement of the modular elements in relation to each other results in deformation of the spring element in a vertical plane. The plane of the spring is thus at right angles to the horizontal plane of modular elements.

3,504,598
PULVERIZER-MIXER WITH A VIBRATORY TAILBOARD

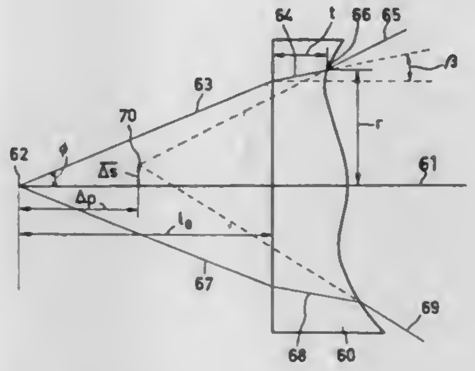
Edwin J. Haker, Elm Grove, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 672,864, Oct. 4, 1967. This application Jan. 22, 1969, Ser. No. 796,943
Int. Cl. E01c *19/02*
U.S. Cl. 94—40 5 Claims

A traveling pulverizer-mixer of the type having rotary tines operating within a hood has an adjustable vibratory tailboard for precompaction immediately after pulverizing and mixing. The vibratory tailboard can be raised and lowered as required and additionally some amount of the weight of the pulverizer-mixer may be selectively applied to the vibrating tailboard as desired.



3,504,599
OPTICAL SYSTEM FOR USE IN MAKING COLOR-PHOSPHOR MOSAIC SCREENS

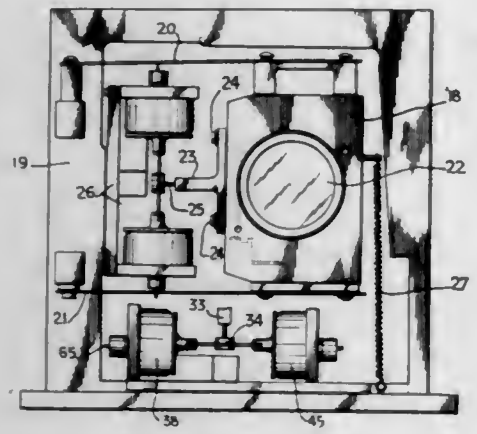
Piet Gerard Joseph Barten, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 20, 1966, Ser. No. 604,527
Int. Cl. G03
U.S. Cl. 95—1 1 Claim



A device for projecting a pattern of symmetrical arranged apertures in a color selection mask onto a display screen for a color television display tube. This device includes a lens system positioned between a light source and the mask whose strength varies in the radial direction from its optical axis. The virtual image of the light source produced by the annular zone of the lens system undergoes a substantially equal displacement parallel to the optical axis as that which the center of deflection of the electron beam undergoes in a direction parallel to the axis of the tube as a function of the instantaneous angle of deflection of the electron beam. The strength of the lens system in a radial direction from its optical axis varies so that the vertical image of the light source produced by the annular zone of the lens system undergoes a displacement in the direction of the eccentricity of the light source relative to the optical axis which, together with any real displacement of the light source in this direction, is substantially equal to the mean displacements which the centers of deflection of the electron beam undergoes along this annular zone in the direction of the eccentricity of the beam relative to the axis of the tube as a function of the instantaneous angle of deflection of the electron beam.

3,504,600
CHARACTER PRESENTATION DEVICE FOR PHOTOTYPOGRAPHICAL APPARATUS

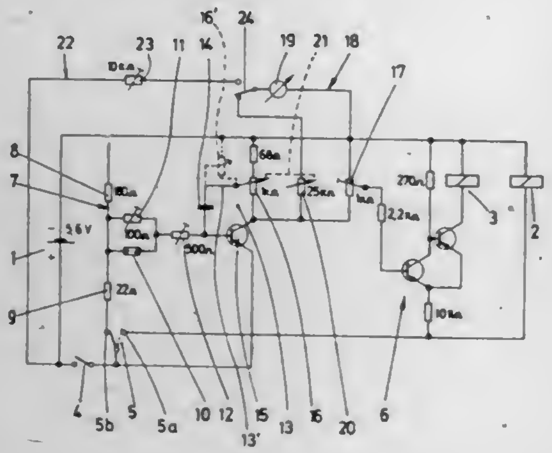
Wolfgang O. Grube, Leonia, N.J., and Uri Z. Escoli, New York, and Joel S. Harris, Valley Stream, N.Y., assignors to Eltra Corporation, a corporation of New York
Filed July 3, 1967, Ser. No. 650,841
Int. Cl. B41b *13/08*
U.S. Cl. 95—4.5 **6 Claims**



A device, for use in photocomposing machines, which corrects misalignment of characters projected from a character matrix through an optical projection system onto an output film plane. A pair of optical lenses are mounted in front of the output film plane, one of which is moved vertically by the motion of connected integrating linkages so as to cause a corrective vertical shift in the optical path of character rays passing through the lens, while the other is similarly moved horizontally to effect a horizontal correction.

3,504,601
ELECTRONIC EXPOSURE CONTROL FOR A PHOTOGRAPHIC SHUTTER

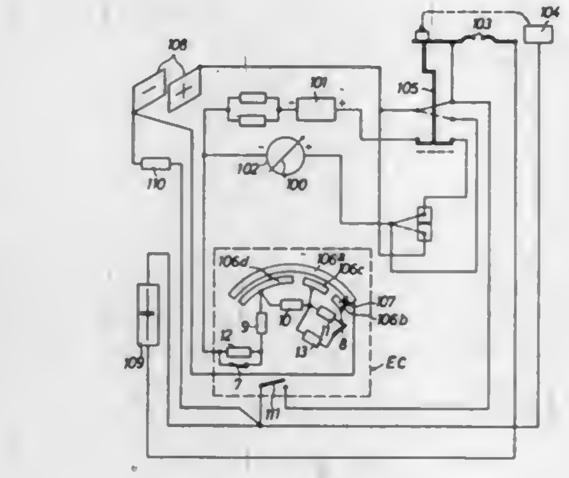
Joachim Schubert, Munich-Solln, Germany, assignor to Ernst & Wilhelm Bertram, Munich-Pasing, Germany
Filed June 26, 1967, Ser. No. 648,803
Claims priority, application Germany, June 27, 1966, B 87,735
Int. Cl. G03b *7/08, 9/58*
U.S. Cl. 95—10 **4 Claims**



An exposure control device for a photographic shutter wherein exposure factors such as aperture setting and film sensitivity are compensated for without effecting the photo resistance. The device contains a delay circuit comprising a release switch, a current source, a capacitor connected to the photo resistor, a sweep circuit arrangement connected at the output side to the capacitor, and electrical control members for responding to the exposure adjustment and/or film sensitivity. The delay circuit further includes a feed-back circuit containing therein the capacitor, at least one of the control members, and an amplifying element.

3,504,602
CAMERA FOR OPERATION WITH DIFFERENT SOURCES OF ARTIFICIAL LIGHT

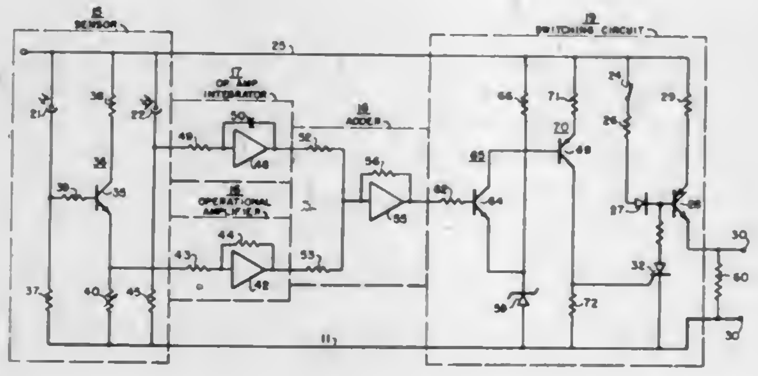
Gerd Kiper, Dieter Engelsmann, and Günter Fauth, Unterhaching, Horst Karl, Munich, and Helmut Nusser, Grafing-Stadt, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed July 10, 1967, Ser. No. 652,347
Claims priority, application Germany, July 21, 1966, A 53,066
Int. Cl. G03b *7/16*
U.S. Cl. 95—10 **16 Claims**



A camera with built-in exposure meter which is designed to operate with two or more sources of artificial light. The output member of the exposure meter is connected with a light-sensitive element for operation in daylight and with a variable resistor in automatic response to placing of a source of artificial light into operative position. The resistor can furnish a different range of resistances for each guide number and comprises a series of fixed resistances. The number of resistances which are connected in circuit with the output member is variable as a function of the distance from the subject. The exposure time can be set in automatic response to placing of a source into operative position.

3,504,603
AUTOMATIC EXPOSURE CONTROL SYSTEM

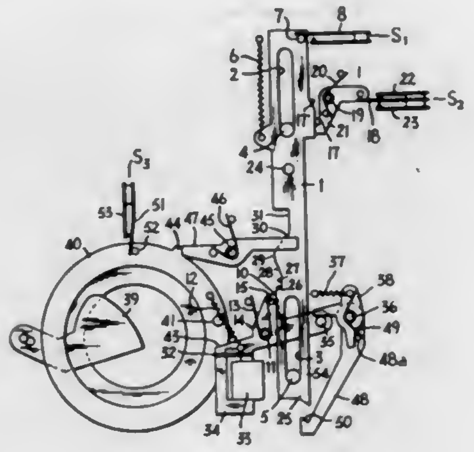
Kenneth J. Brzonkala, Elberon, and William L. Dudley, Shrewsbury, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Aug. 24, 1967, Ser. No. 663,178
Int. Cl. G03b *7/08;* **H01j** *39/12*
U.S. Cl. 95—10 **6 Claims**



An automatic exposure control system for controlling the shutter speed of a camera wherein information in the form of a voltage directly proportional to the illuminance of a scene is integrated linearly by an operational amplifier integrator and combined electrically with information representative of film speed to actuate an electronic switching circuit adapted to control the period of actuation of a camera shutter control mechanism.

3,504,604
CAMERA MECHANISM FOR DETECTION OF BRIGHTNESS AND CONTROL OF EXPOSURE

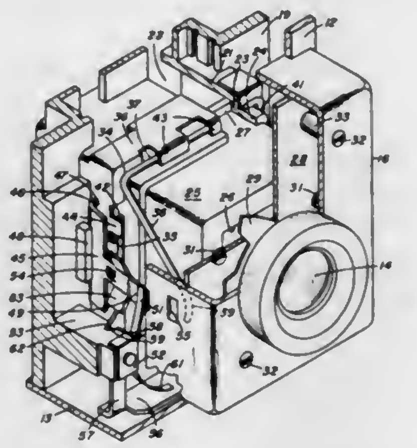
Kiyoshi Kitai, Tokyo, Japan, assignor to Kabushiki Kaisha Hattori Tokeiten, Tokyo, Japan
Filed Feb. 12, 1968, Ser. No. 704,709
Claims priority, application Japan, Feb. 14, 1967, 42/9,056
Int. Cl. G03b *7/08, 9/58*
U.S. Cl. 95—10 **10 Claims**



An electronic shutter mechanism has a member actuated by an electromagnet controlled by an electric circuit which prior to an exposure senses the brightness of a subject to determine whether the brightness is above or below a selected level and thereafter serves as a timing circuit to control the time of an exposure in accordance with the brightness of the subject.

3,504,605
PHOTOGRAPHIC CAMERA WITH RETRACTILE LENS HOUSING

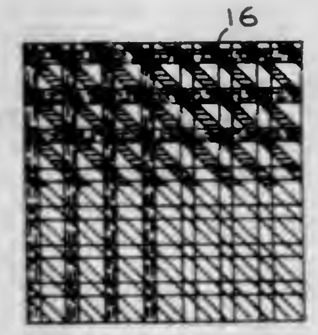
James F. Scudder and Frederic A. Mindler, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 18, 1967, Ser. No. 610,087
Int. Cl. G03b *17/04*
U.S. Cl. 95—11 **8 Claims**



A photographic camera with a retracting lens housing having opposing torsional springs urging the housing to an extended position and a latch mechanism releasably retaining the housing in a retracted position. The torsional springs include an elongate central section and a movable leg section extending at an angle relative to the central section to engage the housing and urge the housing toward its extended position. The latch mechanism includes a plurality of movable release members having a portion thereof accessible from the exterior of the camera for releasing the members and thereby permitting movement of the housing to its extended position.

3,504,606
PHOTOGRAPHY USING SPATIAL FILTERING

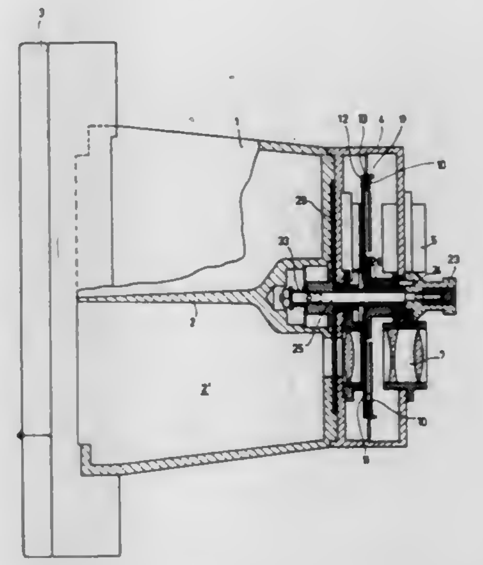
Albert Macovski, Palo Alto, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Continuation-in-part of application Ser. No. 466,547, June 24, 1965. This application Apr. 28, 1967, Ser. No. 651,077
Int. Cl. G03b *33/00*
U.S. Cl. 95—12.20 **15 Claims**



There is provided by this invention a spatial filter which has the property that when it is placed adjacent to a sensitized material, such as panchromatic film of the type used in black and white photography or thermoplastic material, that the different colors of light passing through that filter onto the sensitized material are encoded. Thereafter, when the developed transparency, which is made from the sensitized material has light projected therethrough, this light may be focused at a focal plane at which there is presented three diffracted images respectively disposed about a central or real image. By using a mask with the proper colored gelatins therein, the three diffracted images only may be permitted to pass therethrough and then superimposed to form a colored image of the original scene or object which was photographed on the sensitized surface in combination with the spatial filter.

3,504,607
MULTIPLE SHOT CAMERA

Roelof Bok, Gildestrast 8, Kampen, Netherlands
Filed Sept. 22, 1967, Ser. No. 669,858
Claims priority, application Germany, Sept. 27, 1966, B 67,962
Int. Cl. G03b *35/08*
U.S. Cl. 95—18 **5 Claims**

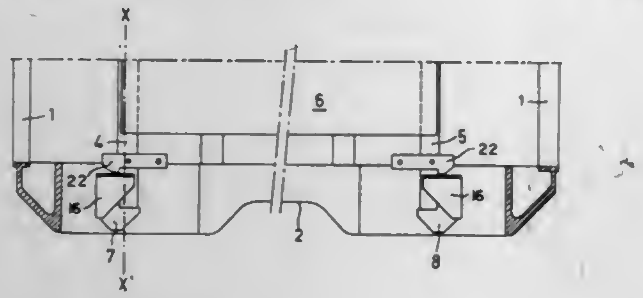


A photographic camera with a plurality of objective lenses for making a number of identical photographs. The objective lenses have a common diaphragm and shutter. The diaphragm and shutter consists of apertured discs which are rotatable about a central axis. The apertured discs have a circular central area and two side lobes. By rotating the disc the amount of light falling on the objective lenses is adjustably controllable. A selectively spring pawl operates the shutter to either take a single or multiple photograph.

3,504,608
MECHANICAL LOCKING DEVICE FOR A FILM MAGAZINE IN A MAGAZINE SUPPORT

Jacques Lebra, Sartrouville, Seine-et-Oise, France, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 19, 1966, Ser. No. 580,422
Claims priority, application France, Sept. 20, 1965, 31,987
Int. Cl. G03b *19/10*
U.S. Cl. 95—19 **8 Claims**

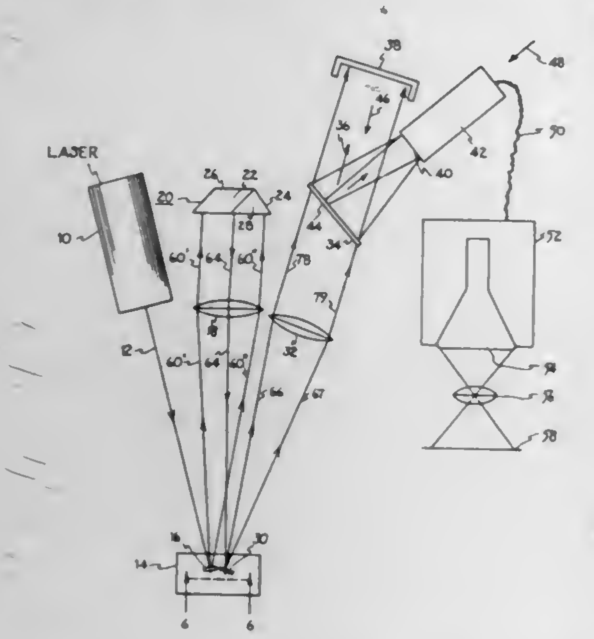


This invention relates to a support having an aperture into which a magazine is insertable and a device for releasably locking the magazine therein. The device includes a bolt which is initially locked from pivoting and is moved axially away from the aperture upon insertion of a magazine, and is returned axially toward the aperture for locking the magazine therein. An arm is subsequently pivoted which releases the bolt to pivot and allow ejection of the magazine.

3,504,609
OPTICAL DATA SELECTION AND DISPLAY

Philip J. Donald, Woodbury, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed July 26, 1967, Ser. No. 656,143
Int. Cl. B41b; G08b *23/00;* **G02f** *1/34*
U.S. Cl. 95—4.5 **8 Claims**

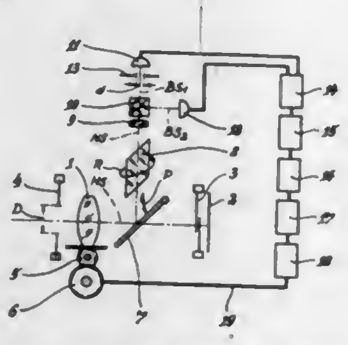


An optical data selection and display system for use in a photocomposing apparatus or the like. An image of any selected one of many alphanumeric, graphic, or digital characters is created and displayed at a fixed location in space. A laser beam source directs a light beam through a path including, in the order named, a first rotatable sector-sweeping galvanometer mirror, a condensing lens, a right-angle deflection-rotating prism, back through said condensing lens, a second rotatable sector-sweeping galvanometer mirror, and a hologram matrix of individual character-representing halograms arranged in rows and columns, whereby the laser beam can be horizontally and vertically deflected to any selected character-representing hologram of the hologram matrix. The illumination of any one of the holograms causes the creation of a corresponding graphic character at a common utilization location.

3,504,610
METHOD AND APPARATUS FOR AUTOMATICALLY FOCUSSING OPTICAL DEVICES

Dieter Dönitz, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

Filed Feb. 28, 1966, Ser. No. 530,724
Claims priority, application Germany, Mar. 4, 1965, V 27,965
Int. Cl. G03b *3/10*
U.S. Cl. 95—44 **17 Claims**

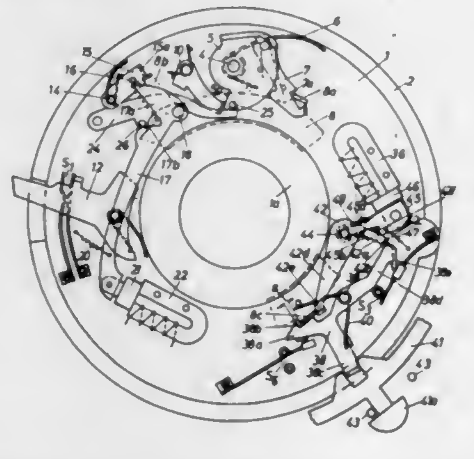


The invention relates to cameras incorporating an objective for focusing on an object to establish an electronic effect, and incorporating that type of device in which an imaging means provides a pair of images of the object on which the objective is to be focused, these images being continuously scanned photoelectrically so as to determine the degree of contrast and to provide electrical currents corresponding to the degree of contrast. These currents are then compared and the objective is adjusted with respect to the object until variations in the currents are at a minimum.

3,504,611
PHOTOGRAPHIC CAMERA WITH A DEVICE FOR THE ELECTRONIC CONTROL OF THE EXPOSURE TIME

Carl Fritz Richter and Hermann Heinz Schill, Calmbach, Black Forest, Germany, assignors to Prontor-Werk Alfred Gauthier G.m.b.H., Calmbach, Black Forest, Germany, a corporation of Germany

Filed June 2, 1967, Ser. No. 643,089
Claims priority, application Germany, June 4, 1966, P 39,617
Int. Cl. G03b *9/64, 9/62*
U.S. Cl. 95—53.3 **12 Claims**

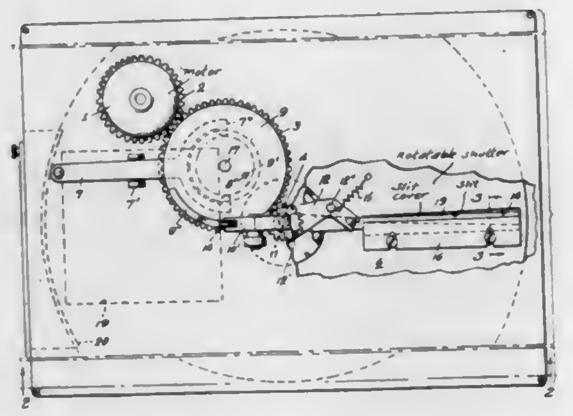


A photographic camera with a shutter having an electronically controlled timing device and a lock operably connected to the timing device and influenceable thereby for locking the shutter in the open position. Further, an additional electronic circuit and a second locking device operably connected to the shutter and the additional electronic circuit are provided. The second locking device is controlled by the additional electronic circuit for retarding the opening motion of the shutter upon the release thereof for a certain time period.

3,504,612
HIGH SPEED SHUTTER

Charles W. Lyle, Havre-de-Grace, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 18, 1967, Ser. No. 661,731
Int. Cl. G03b *9/26, 29/00*
U.S. Cl. 95—60 **4 Claims**

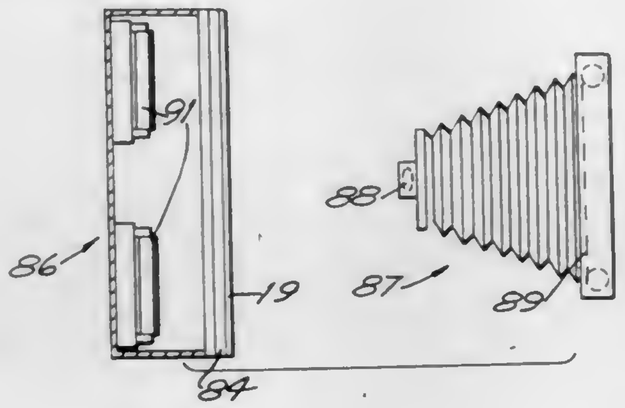


A rotary camera shutter capable of opening to expose a large area of film at high speeds. The shutter and the film advance are connected to the motor by reduction gears. The driving gears of the shutter and film advance are chosen so that the shutter will make more than one revolution for each cycle of the driving gear and the film advance.

3,504,613
PROCESS AND APPARATUS FOR REPRODUCING A MUSICAL SCORE

Thomas S. Wagner, 250 W. 85th St. 10024, and Regis Benoit, 170 W. 74th St. 10023, both of New York, N.Y.

Filed Jan. 30, 1967, Ser. No. 612,478
Int. Cl. G03b *15/00*
U.S. Cl. 95—85 **12 Claims**

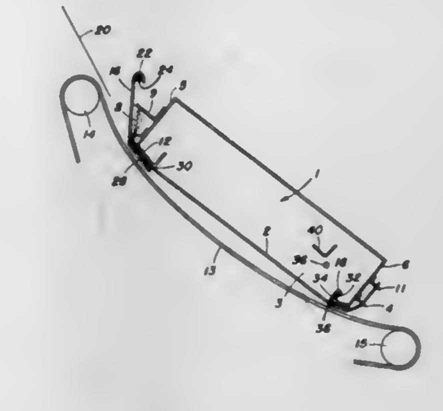


A musical score is reproduced by manually arranging in overlapping relation a set of symbol-bearing transparent elements carrying opaque musical symbols thereon. The symbol-bearing elements have a pressure-sensitive soft wax adhesive backing to enable them to be removable secured to a light-transmitting base. The resulting arrangement is then photographed on a reduced scale with a camera on one side of the arrangement and a light source on the opposite side. The light passes from the back of the arrangement, through the base, and through the multiplicity of layers of elements and their pressure-sensitive backings. From the photographic copies, printing plates, such as rotogravures or offset plates, can be made by conventional techniques.

3,504,614
AMMONIA TANKS FOR USE IN DEVELOPING DIAZO SENSITIZED MATERIAL

Stanley Lewis Lyons, Beckenham, and William Bert Pead, London, England, assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 21, 1967, Ser. No. 617,614
Int. Cl. G03d *3/12, 3/00*
U.S. Cl. 95—94 **1 Claim**

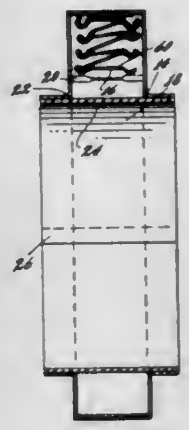


An apparatus for developing a sensitized material by passing the material across an aperture of the developing tank which contains a gaseous developing media. The tank has a plurality of tensioned filaments stretched across the aperture to prevent the material from falling into the tank as it passes over the aperture. A slip screen is positioned at the leading edge of the aperture to reduce the friction at the leading edge thereof.

3,504,615
NONTURBULENT FIRE DAMPER

John C. Kurz, Philadelphia, Pa., assignor to Air Balance, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed June 7, 1968, Ser. No. 735,472
Int. Cl. F16k *13/04*
U.S. Cl. 98—1 **12 Claims**



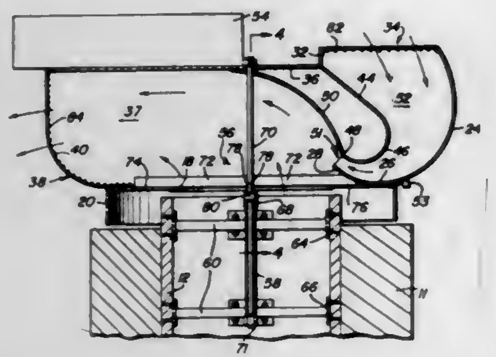
A nonturbulent fire damper for use in high pressure air duct systems including a plurality of fire resisting damper blades maintained in open position by a fusible element and mounted exteriorly of the air stream and a heat disintegrating cover mounted upon the fire damper construction about the periphery of the air stream, said cover serving to shield the damper blades and the fusible element from impingement by the air stream travelling within the said duct system.

3,504,616

ANTI-DOWNDRAFT CHIMNEY HEAD

Gabriel E. Helm, Box 112, Kneeland, Calif. 95549
Filed June 20, 1968, Ser. No. 738,602
Int. Cl. F23l *17/02*

U.S. Cl. 98—68 **7 Claims**



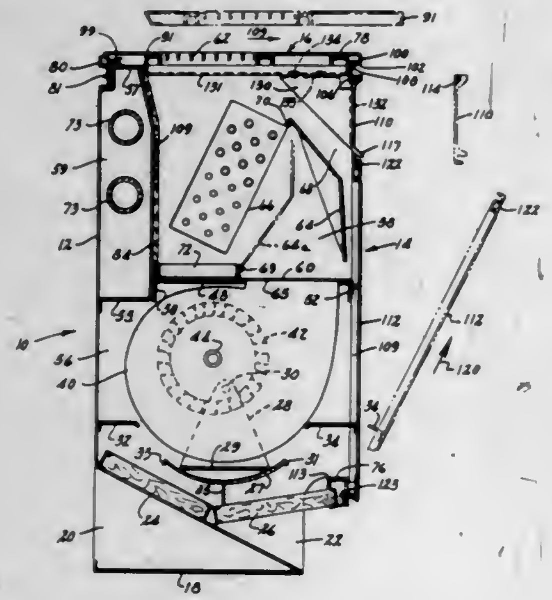
A chimney head that prevents a downdraft entering a chimney regardless of the angle of the downdraft. The chimney head is pivotable and adaptable to normal conditions or lesser angle downdrafts. The head receives the exhaust from the chimney and the downdraft collecting openings to disperse the same.

3,504,617

UNIT VENTILATOR CONSTRUCTION

Edward Robert Merklin and Donald Ray Schuster, Columbus, Ohio, assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1968, Ser. No. 710,806
Int. Cl. F24f *7/00;* **F24h** *3/08*

U.S. Cl. 98—33 **10 Claims**



This invention relates to a unit ventilator comprising an upright housing containing one or more fans for developing an upwardly flowing air stream which exits through a discharge grille in the housing top wall, and a heat exchange coil in the upper portion of the housing arranged to be contacted by the air stream as it flows toward the discharge grille.

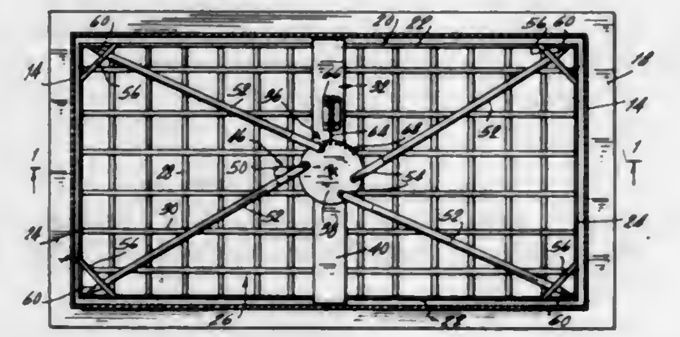
3,504,618

AIR DUCT REGISTER WITH ANCHORING DEVICE

Irving Rosner, 103 Remsen Ave., Brooklyn, N.Y. 11212
Filed Mar. 11, 1968, Ser. No. 712,228
Int. Cl. F24f *13/08*

U.S. Cl. 98—108 **2 Claims**

An air duct register, diffuser, or the like having an improved retaining or anchoring device which secures the register to the end of a duct and/or to a wall at an opening therein. Such anchoring means includes a plurality of reciprocable detent members such as rods which are selectively simultaneously advanced in generally radially outward directions to engage the end of the air duct and/or opening in the wall, whereby securely to mount the register, and are simultaneously retracted to release the register.

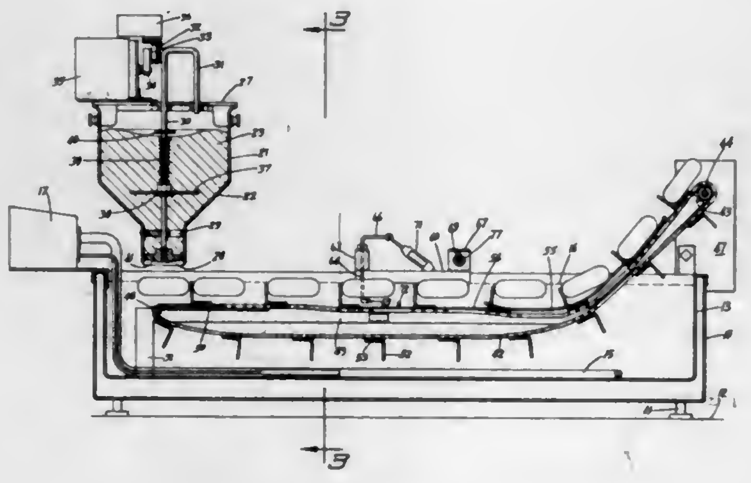


3,504,619

DOUGHNUT MAKING MACHINE

Amos M. Fester and Paul D. Brogard, St. Paul, Minn., assignors to Amos' Gold-N-Good Donut Co., Inc., St. Paul, Minn., a corporation of Minnesota
Filed Apr. 12, 1968, Ser. No. 720,896
Int. Cl. A47j *37/12*

U.S. Cl. 99—354 **10 Claims**



A compact table-top automatic doughnut making machine for use at lunch counters and the like where freshly cooked doughnuts are sold in moderately large volume. The machine includes a long relatively deep and narrow tank for containing the cooking fat or oil which is heated by automatic thermostatically controlled means. A dough extruding unit is mounted over one end of the tank to form and drop rings of raw dough into the oil. The dough is moved along the tank to cook on one side, turned over automatically and cooked on the other side, lifted out of the oil to drain and then discharged from the opposite end of the machine. The machine can be readily disassembled for easy cleaning and is characterized by novel transport and turn-over means.

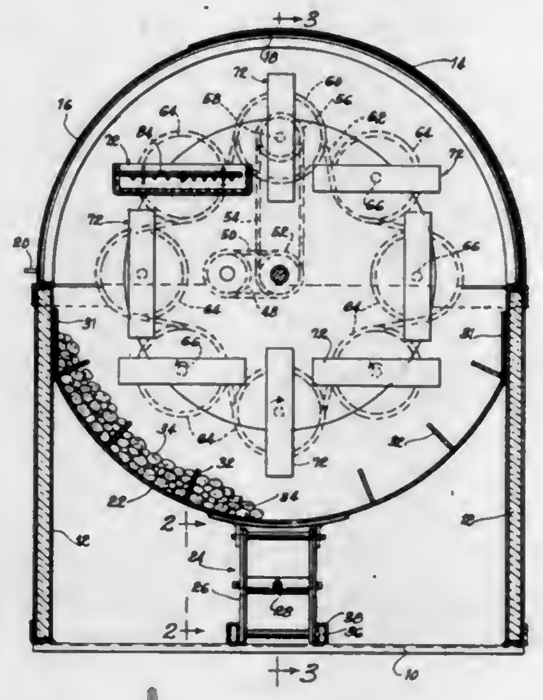
3,504,620

BROILER CONSTRUCTION

Carl A. Gerhardt, 2430 N. Bernard, Chicago, Ill. 60647
Filed July 11, 1968, Ser. No. 744,141
Int. Cl. A47j *37/04*

U.S. Cl. 99—427 **8 Claims**

A broiler construction comprising a plurality of food holding means mounted on driven supports. The supports are mounted on a rotatable frame, and drive means are provided for rotating the frame, and for rotating the supports relative to the frame. The drive means for the frame include a clutch permitting disengagement of these drive means whereby the supports for the food holding means can be rotated while the frame is stationary. The food holding means comprise rectangularly shaped baskets which are large compare to the distance between respective axes but which are arranged and driven so that they can be rotated without interfering with each other.

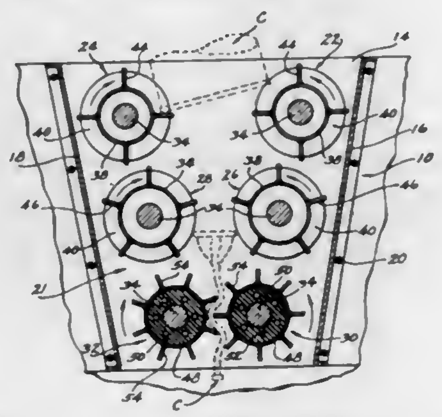


3,504,621

MEANS FOR CRUSHING OR FRACTURING DISPOSABLE CONTAINERS

Harold J. Qualheim, 111 S. Vincennes Circle, Racine, Wis. 53402
Filed Apr. 22, 1968, Ser. No. 722,898
Int. Cl. B30b *9/20, 3/04*

U.S. Cl. 100—96 **2 Claims**



A machine for compacting or crushing discardable containers, such as metal cans, bottles and other frangible objects. A plurality of opposed sets of rollers engage the object which passes between them and which is finally deposited in a receptacle for disposal.

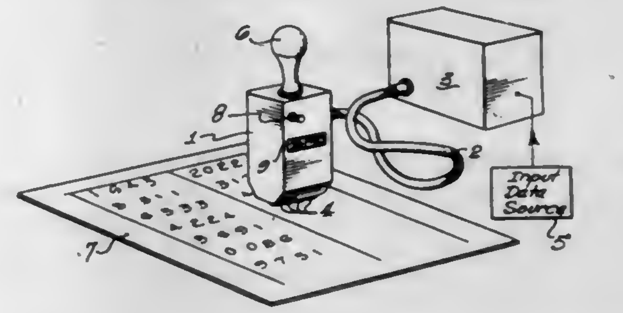
3,504,622

PRINT WHEEL SETTING AND DETENTING MEANS WITH ELECTRICAL CONTROLS THEREFOR

Ralph Morrison, 2787 Yorkshire Road, Pasadena, Calif. 91107
Filed Sept. 13, 1968, Ser. No. 759,564
Int. Cl. B41j

U.S. Cl. 101—99 **8 Claims**

A small hand-held stamp has a series of wheels or belts which carry type for marking numbers or other characters. These are positioned automatically in response to electrical signals, as from a computer. On demand, the stamp sets itself to the desired data. It may then be used manually to mark the data on an ordinary sheet of paper, a printed form, or a manufactured article. In one form, number wheels are rotated quasi-continuously through individual slip clutches. The position of each wheel is sensed, and each is stopped automatically at the correct position as determined by comparison and logic circuitry.



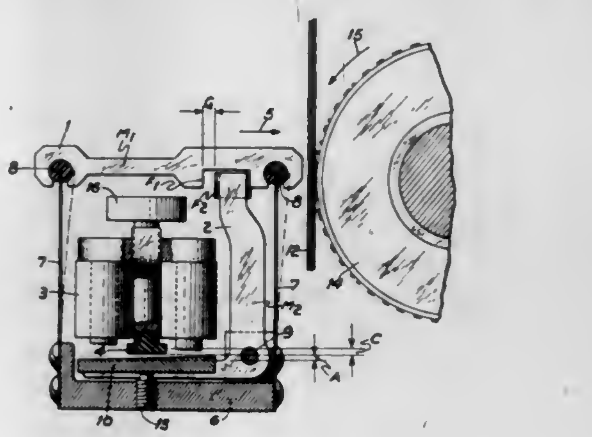
A form is shown in which the hand stamp is connected by a flexible cable to a control box which contains the comparison, logic, and driving circuitry. Another form shown uses no cable; the hand stamp is inserted into a cavity in a control box, where it is automatically set. It is then removed for use.

3,504,623

HAMMER ARRANGEMENT FOR HIGH-SPEED PRINTERS

Karel J. Staller, Rutherford, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed Apr. 3, 1968, Ser. No. 718,603
Int. Cl. B41j *9/00*

U.S. Cl. 101—93 **8 Claims**



A hammer arrangement is provided for high-speed printers in which the hammer is propelled by an actuator toward a printing base, and means are included for stopping said actuator and for storing the kinetic energy of said actuator, whereby said actuator rebounds and collides with the hammer producing a shock resulting in the reduction of the dwell time of the hammer.

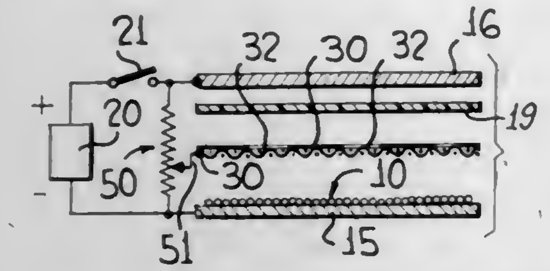
3,504,624

METHOD AND APPARATUS FOR ELECTROSTATIC PRINTING

John B. Kennedy, Jr., Chicago, Ill., assignor to Continental Can Company, Inc., N.Y., a corporation of New York Continuation of application Ser. No. 386,182, July 30, 1964. This application Oct. 31, 1968, Ser. No. 772,438
Int. Cl. B41f *15/14*

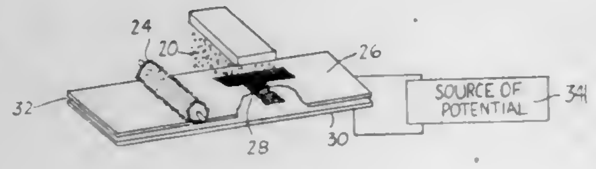
U.S. Cl. 101—114 **24 Claims**

An electrostatic coating process and apparatus wherein conductive carrier particles and/or non-conductive toner particles are carried by an electrostatic field, or electrostatic fields, from a base electrode toward, or to, a substrate for applying a selective coating thereto. A stencil screen is interposed between the base electrode and the substrate such that the substrate is coated with toner particles in a pattern defined by apertures in the stencil.



3,504,625
ELECTROSTATIC PRINTING

Clyde O. Childress, Palo Alto, Calif., assignor to Monsanto Graphic Systems, Inc., St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 385,033, July 25, 1964. This application May 3, 1968, Ser. No. 726,477
Int. Cl. B41m *1/12, 1/34, 1/40*
U.S. Cl. 101—129 **17 Claims**

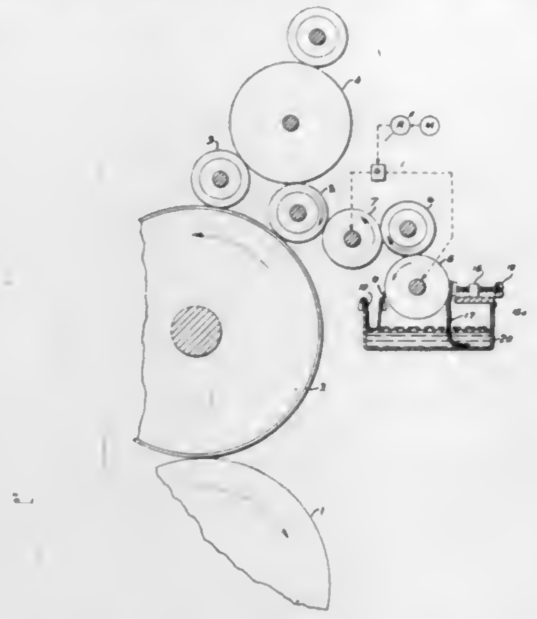


An improved process for printing or decorating conductive surfaces such as hot metal or glass is disclosed. A conductive image-apertured screen is disposed parallel to the surface and an electric field is established and maintained between the screen and the surface. Finely divided organosilicone coated powders, such as high silica content glass forming metal oxide frits, are applied to the outer surface of the screen and pass into the field and deposit on said substrate in the form of said image. The organosilicone coating is applied to the powder particles by dispersing the particles in an organosilicone such as a silane or a siloxane, heating the dispersion at about 100° C. to 800° C. until dryness and breaking up mechanically any agglomerates that are formed.

3,504,626
PRINTING PRESS DAMPENING CONTROL SYSTEM

Emory W. Worthington, 957 E. Glen Ave., Ridgewood, N.J. 07450
Filed Apr. 13, 1965, Ser. No. 447,805
Int. Cl. B41l *23/00, 25/00*
U.S. Cl. 101—148 **12 Claims**

1. A dampener control system for a printing press comprising a fountain for holding dampening fluid, roller means positioned above said fountain, means for rotating said roller means, adjustable capillary feed means in fluid communication with said fountain and the feed portion of said roller means for feeding said fluid to said roller means, a plurality of adjusting means, each for setting any one of a range of predetermined pressures between said feed means and roller means at a respective point axially along said roller means; and fluid transfer means inter-connecting said roller means with said press means for transferring said fluid thereto.



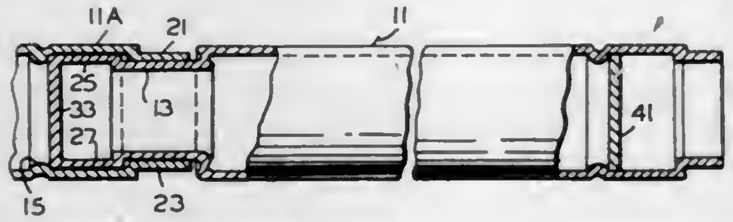
3,504,627
RESIN-BACKED ELECTROTYPE PRINTING PLATE AND PROCESS FOR THE PREPARATION THEREOF

John A. Elder, Jr., Plainfield, and John B. Wheeler III, Middlesex, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed June 1, 1966, Ser. No. 554,328
Int. Cl. B41n *1/12;* **B41m** *1/14*
U.S. Cl. 101—395 **5 Claims**

Resin-backed, undistorted electrotype printing plates capable of being registered in form-color printing processes have been made by bonding a metal electrotype shell to a thermoplastic polyhydroxyether resin composition modified with a polyurethane elastomer and plasticizer.

3,504,628
PACKAGING FOR SLURRY EXPLOSIVES

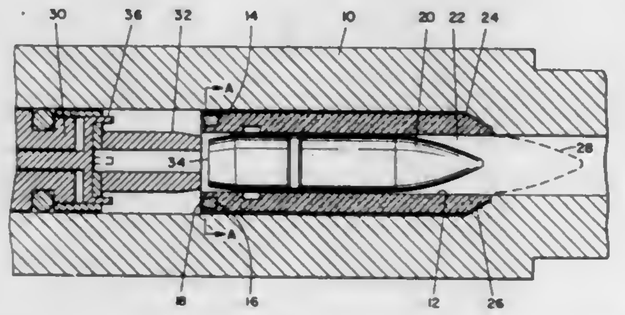
Douglas H. Pack, 2650 Milo Way 84117; Wayne O. Ursenbach, 4635 South 1175 East 84117; and Frank Hatton-Ward, 1340 Sunset Drive 84116, all of Salt Lake City, Utah
Continuation-in-part of application Ser. No. 330,861, Dec. 16, 1963. This application Sept. 24, 1965, Ser. No. 497,587
Int. Cl. F42b *1/02, 3/18*
U.S. Cl. 102—24 **1 Claim**



1. A blow molded plastic container capable of being assembled with other like containers to form an elongated assembly, said container comprising an elongated tube of uniform outside diameter throughout most of its length, said tube having a male coupling on one end and a female coupling on the other end, and adapted to be filled with explosive between said couplings, said female coupling being of the same overall outside diameter as the tube and the male coupling being enough smaller to fit within a female coupling on another like tube, interengageable locking means on the inside of the female coupling and on the outside of the male coupling, the arrangement being such that on assembly of filled plural like containers, the male coupling will tightly press upon and pack the explosive in the adjacent container, whereby a substantially rigid and continuous explosive column of explosive may be assembled, the tubular walls being slightly deformable when filled to make possible insertion past minor obstacles into boreholes of essentially the same diameter as said outside diameter.

3,504,629
PRIMER FOR USE WITH CASELESS AMMUNITION

James O. Mack, Jr., Salt Lake City, Utah, assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,316
Int. Cl. F42b *5/02, 9/02*
U.S. Cl. 102—38 **8 Claims**



A combustible primer is provided for a round of caseless ammunition in the form of a ring secured in an annular cavity in the base of the propellant charge of the caseless round.

3,504,630
COMBUSTIBLE CARTRIDGE WITH FIBROUS POROUS BASE HAVING CRYSTALLINE EXPLOSIVE DISPOSED THEREIN

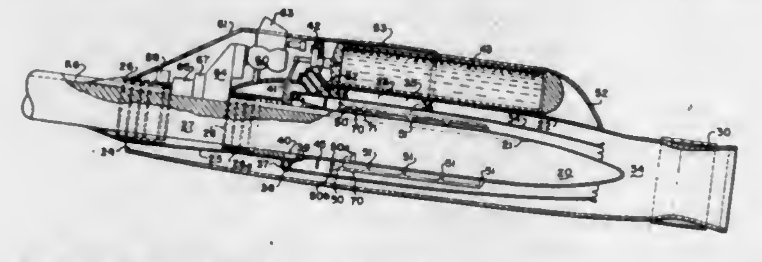
Jean Paul Picard, Morristown, N.J., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Mar. 14, 1968, Ser. No. 712,913
Int. Cl. F42b *1/00*
U.S. Cl. 102—43 **24 Claims**

A combustible cartridge having a fibrous base containing voids wherein are deposited a crystalline explosive which is held in position in relation to the base by electrostatic forces.

A process wherein a fibrous base is dispersed in water and treated with anionic charge-inducing agent. The base is then treated with a binding agent to facilitate forming. Subsequently, a crystalline explosive is added to the dispersion and the item is formed and dried. Prior to the addition of the explosive, it is treated with a cationic charge-inducing agent to facilitate bonding to the fibrous base.

3,504,631
SELF-CONSUMING RAMJET VEHICLE

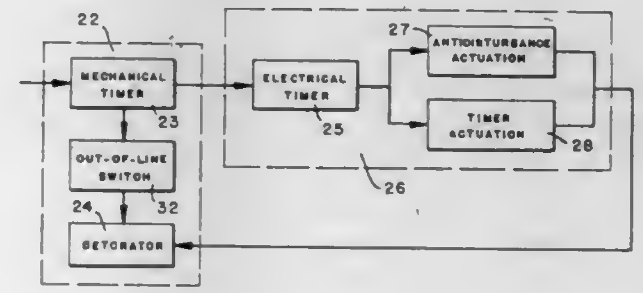
Charles Alexander Lindley, Woodland Hills, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California
Filed Sept. 16, 1963, Ser. No. 310,982
Int. Cl. F02k *7/10*
U.S. Cl. 102—49.8 **11 Claims**



1. A ramjet vehicle comprising:
a nose section having flight control surfaces thereon;
an engine section separated from said nose section and comprising an air passage connected between an air inlet and an exhaust nozzle and means for injecting fuel into the incoming air in said passage for combustion therewith;
a solid fuel spar rigidly connected at one end with said nose section and having its other end inserted into said engine section for continually melting by combustion within the engine section to provide a supply of molten fuel for said fuel injection means; and
means for driving said spar into said engine section as said other end of said spar is melted.

3,504,632
TIME DELAY FUZE

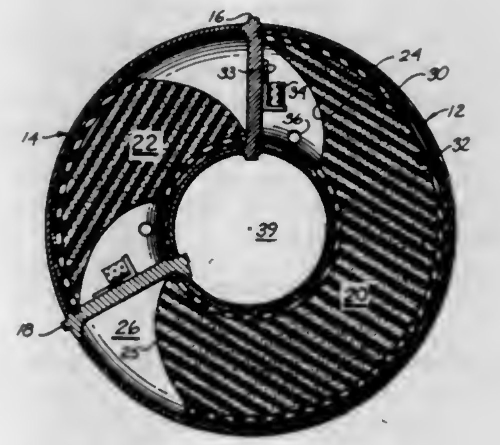
Gaylon L. West, Robert H. Forster, Donald G. Quist, and Robert L. Clapp, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 4, 1968, Ser. No. 734,843
Int. Cl. F42c *9/02*
U.S. Cl. 102—70.2 **6 Claims**



A fuze having a mechanical safety, a mechanical arming delay timer, an electronic arming timer, an anidisturbance firing mechanism, and a second electronic timer to detonate the fuze after a prescribed period of time if the anti-disturbance firing mechanism is not activated.

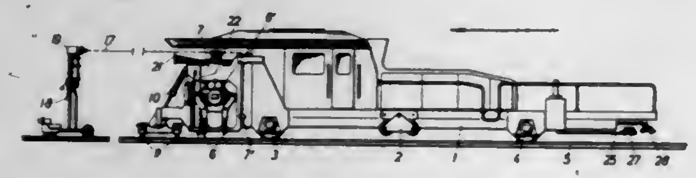
3,504,633
NEUTRAL BURNING GAS GENERATOR GRAIN

Robert K. Jefferies and Philip Albanese, Waco, Tex., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Jan. 24, 1967, Ser. No. 611,403
Int. Cl. F42b *1/00*
U.S. Cl. 102—99 **6 Claims**



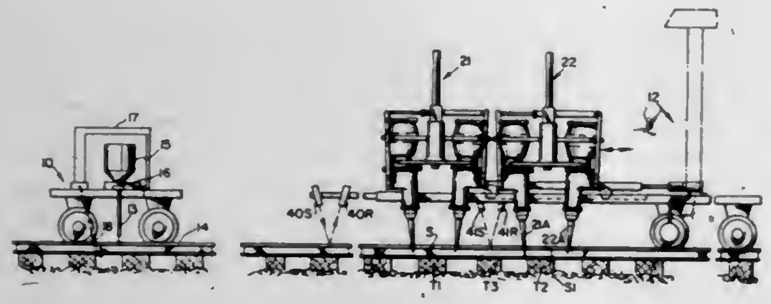
A curvilinear, gas-generating end-burning solid grain which has a constant bending radius and achieves neutral burning, since both the initial and terminal burning surfaces are contoured to a concave involuted shape.

3,504,634
MOBILE TRACK LINER
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna 1, Austria
Filed Nov. 13, 1967, Ser. No. 682,339
Claims priority, application Austria, Nov. 12, 1966, A 10,757/66
Int. Cl. E01b *33/02*
U.S. Cl. 104—7 **10 Claims**



A mobile track liner comprising a frame mounted on wheels for mobility on the track, track shifting means for fine-lining mounted on the frame, a second frame connected to the first frame forwardly thereof, and additional track shifting means on the second frame for coarse lining the track before it is fine-lined.

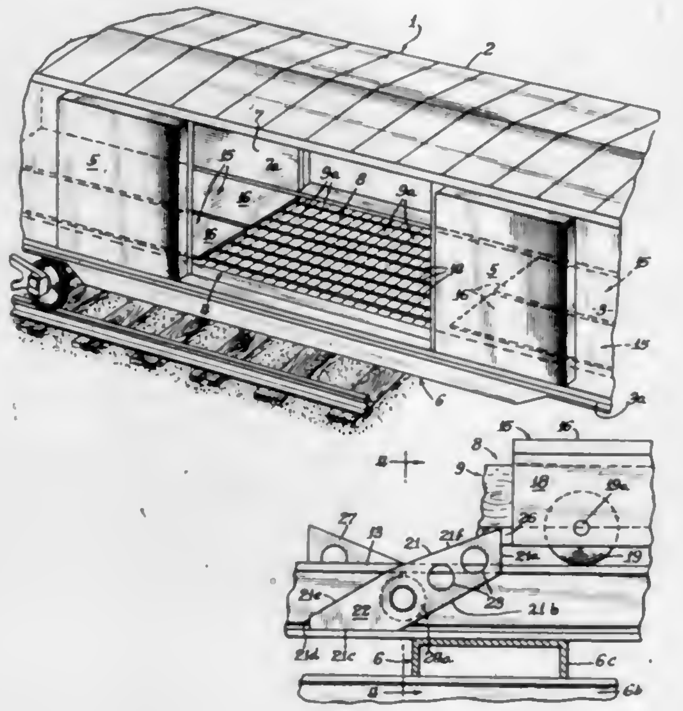
3,504,635
WORKHEAD POSITIONING MEANS
John Kenneth Stewart and Helmuth Rolf Erich von Beckmann, Columbia, S.C., assignors to Canada Iron Foundries Limited, Montreal, Quebec, Canada
Filed Jan. 15, 1968, Ser. No. 698,001
Int. Cl. E01b *27/16*
U.S. Cl. 104—12 **8 Claims**



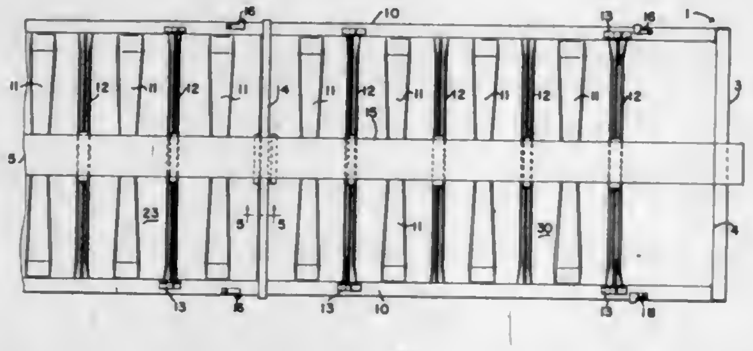
A railway track tamping machine having a fixed tamping head mounted on the chassis of the machine and a second tamping head mounted on the chassis of the machine behind the fixed tamping head and movable longitudinally of the chassis relative to the fixed tamping head, is provided with a detector which detects a first index on the track related to a first tie to be tamped and initiates a control means to control the forward travel of the vehicle to position the fixed head over the first tie to be tamped; and a second detector which detects a second index related to a second tie to be tamped and initiates a control means to actuate a motor on the vehicle to move the second tamping head on the chassis relative to the first tamping head to position the second tamping head over the second tie to be tamped.

3,504,636
RAILROAD CAR CONSTRUCTION
Franklin P. Adler, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,607
Int. Cl. B61d *45/00;* **B65j** *01/22;* **B61d** *3/00*
U.S. Cl. 105—366 **7 Claims**

A railroad box car having a movable dolly arrangement glideable over the car floor from a storing position to an unloading position in front of the car doors, said dolly arrangement comprising a flat platform having depending thereunderneath caster elements engageable in recessed trackways in the car floor spaced so that the platform is very close to the floor and where there is provided a stop means in the trackway releasably positionable to limit the movement of the platform from the stored position or to the unloading position.

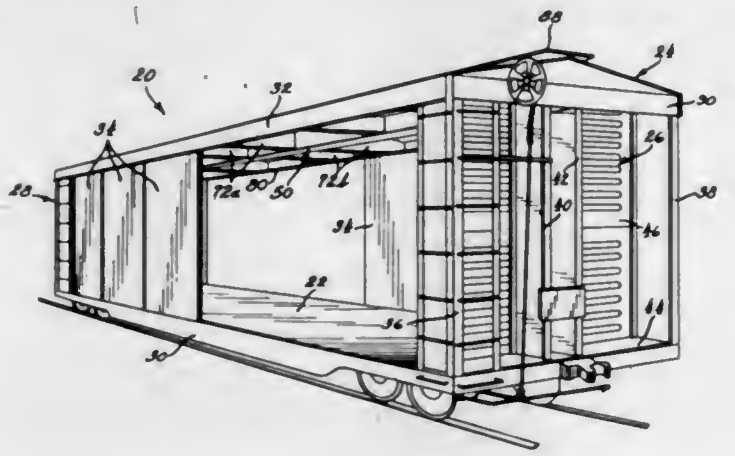


3,504,637
OPEN TOP RAILROAD CAR HAVING A REMOVABLE ROOF STRUCTURE THEREFOR
Roy W. Miller, Highland, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 1, 1967, Ser. No. 665,071
Int. Cl. B61d *39/00*
U.S. Cl. 105—377 **16 Claims**



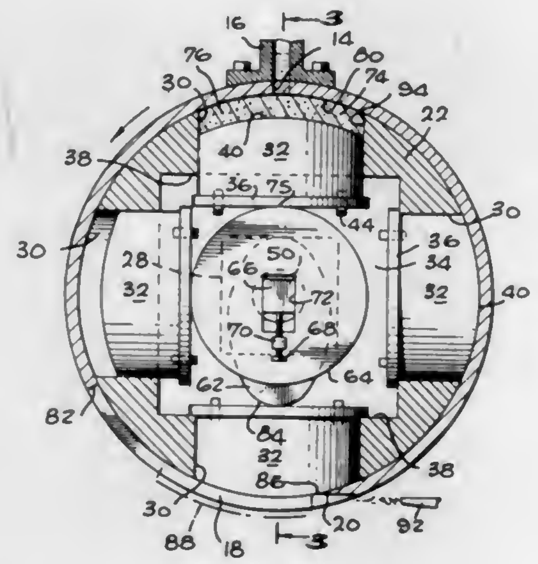
A removable roof structure on a gondola railroad car having an open top wherein the roof structure comprises a plurality of separable roof sections releasably held together by a splice carline roof overlapping arrangement and wherein is provided on each roof section, roof section stacking structure for mounting one roof section upon the other for storage and wherein the splice structure receives a stop mounted on the car and the corner of the roof end section is provided with a corresponding cooperating corner stop or stake to limit movement of the roof sections when placed atop the open car structure and wherein there is provided roof locking means on the roof sections and on the open top car portion for locking of the roof sections as a unit on the open top car body.

3,504,638
FREIGHT VEHICLE
Bernard J. Yelin, Buffalo, and Norman V. Bahler, Cheektowaga, N.Y., assignors to Nationwide Railroad Leasing, Inc., Chicago, Ill., a corporation of Illinois
Filed June 22, 1966, Ser. No. 559,492
Int. Cl. B61d *17/08, 17/12, 19/00*
U.S. Cl. 105—404 **14 Claims**



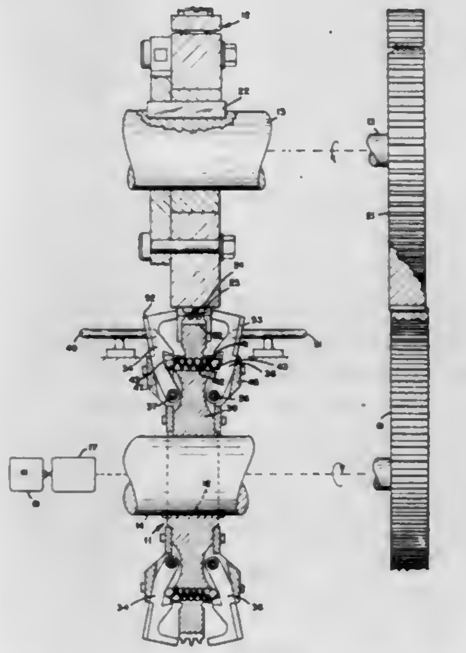
The present invention relates to railway freight cars and other freight vehicles of a type where the side walls of the car or vehicle are comprised substantially entirely of movable doors, such doors for example being horizontally slidable on corresponding ones of a plurality of door tracks so as to permit at least one-half of the length of either car side to be opened thereby facilitating the loading and unloading of relatively long lading.

3,504,639
FOOD PORTIONING MACHINE
Benjamin Lilien, % Los Angeles Meat Co., 3315 E. Vernon Ave., Los Angeles, Calif. 90058
Filed Oct. 18, 1967, Ser. No. 676,313
Int. Cl. A21c *5/04;* **A22c** *7/00*
U.S. Cl. 107—15 **6 Claims**



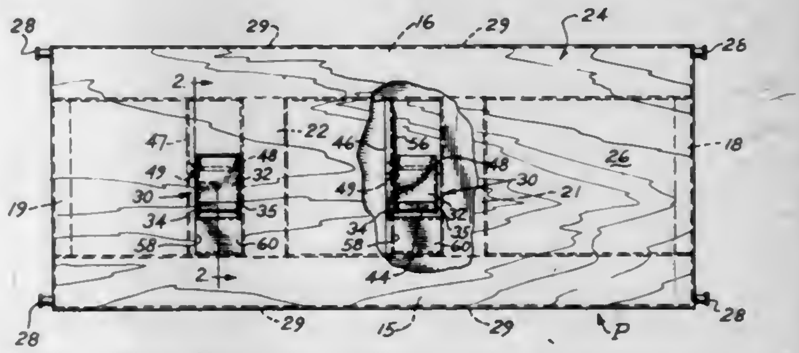
Food portioning machine comprising a stationary casing having a filling and a discharge opening, a drum rotatable in the casing, and having a plurality of radially disposde cylinders, each capable of registering with the filling opening while another of the cylinders registers with the discharge opening, the machine being designed so that each of the pistons can reciprocate for a limited distance within their respective cylinders, so that a predetermined amount of material can be received within the outer end of a cylinder against the piston therein when such cylinder is disposed at the filling opening, to form said material into a predetermined shape, and such preshaped material portion is ejected from the cylinder by the piston when such cylinder is disposed at the discharge opening, so that by providing a number of such radially disposed cylinders and their respective pistons radially within the drum, a relatively large number, e.g., four or more, preshaped portions of material, such as gound meat patties, can be provided during each revolution of the drum, thus providing a high production rate.

3,504,640
CONTINUOUS FOOD SHAPING APPARATUS
Leo W. Eiden, Minneapolis, Larry D. Huston, Buffalo, and Richard H. Remde and Roy E. Singer, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,517
Int. Cl. A21c *11/04*
U.S. Cl. 107—69 **3 Claims**



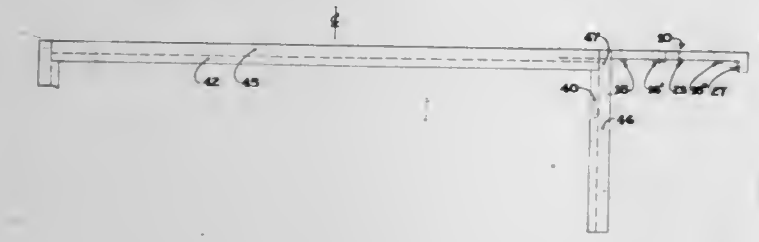
An apparatus for shaping food product from a moving sheet of cereal dough. A pair of rotary shapers having matching dies and cutters cooperate to simultaneously shape and sever the dough sheet as the dough passes between the rotating shapers, a pair of fingers is associated with matching dies to place a crimp in a sheet of cereal dough as the sheet is shaped and severed by the rotating shapers.

3,504,641
LADING PANELS WITH TINE RECEIVING ELEMENTS
Russell M. Loomis, Palos Heights, Ill., assignor to Unarco Industries Inc., a corporation of Illinois
Filed July 10, 1968, Ser. No. 743,834
Int. Cl. B65d *19/00*
U.S. Cl. 108—51 **22 Claims**



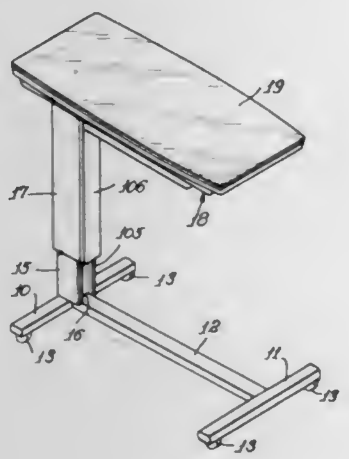
A panel for separating and/or carrying lading comprises spaced tine receiving elements pivotally mounted in at least one of the faces of the panel. The tine receiving elements have openings for receiving the tines of a fork lift and the panel face is constructed to provide for substantially horizontal movement of the tines into and out of engagement with the elements to enable the panel to be lifted by the tines from a horizontal position and swing to a substantially upright attitude when the panel is lifted through the tine receiving elements.

3,504,642
EXTENDABLE PLATFORM
Edward J. Kovach, 312 W. 76th St.,
New York, N.Y. 10023
Filed Jan. 25, 1968, Ser. No. 700,457
Int. Cl. A47b *1/00*
U.S. Cl. 108—65 **5 Claims**



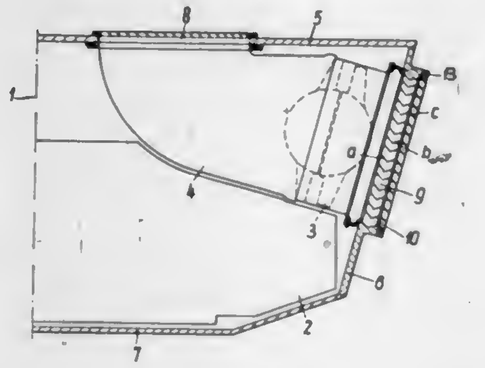
A leg-supported extendable platform wherein the platform is comprised of a plurality of spaced parallel slats, divided into a plurality of sections, with the slats of adjacent sections being interleaved with each other in a telescopic relationship whereby the sections may be extended and retracted with respect to each other in a single plane. The platform is mounted on a leg-supported frame and in the fully retracted position has a length equal to the length of the frame. In an extended position, the platform extends beyond the frame in a cantilever fashion and, therefore, the platform may be extended and retracted without the necessity of moving the supporting structure.

3,504,643
OVERBED TABLE
Francis J. Burst and Eugene H. Fullenkamp, Batesville, Ind., assignors to Hill-Rom Company, Inc., Batesville, Ind., a corporation of Indiana
Filed Sept. 26, 1966, Ser. No. 582,087
Int. Cl. A47b *9/00, 85/00*
U.S. Cl. 108—144 **9 Claims**



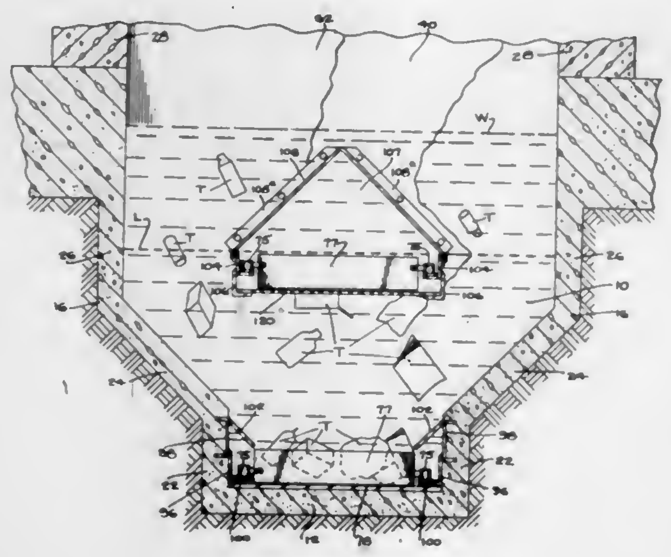
An overbed table rendered safe for use with electrically operated hi-low hospital beds by a lock mechanism that prevents downward movement of the table even though it be heavily overloaded, together with manually operable mechanism for unlocking the table and moving the same downwardly.

3,504,644
BULLETPROOF GRATING FOR ARMORED VEHICLE AIR INTAKE AND DISCHARGE OPENINGS
Horst Schibisch, Kornwestheim, Wurttemberg, Germany, assignor to Firma Dr. Ing. h.c.F. Porsche KG., Stuttgart-Zuffenhausen, Germany
Filed Jan. 10, 1968, Ser. No. 696,923
Claims priority, application Germany, Feb. 11, 1967, 1,578,345
Int. Cl. E06b *9/02*
U.S. Cl. 109—49.5 **10 Claims**



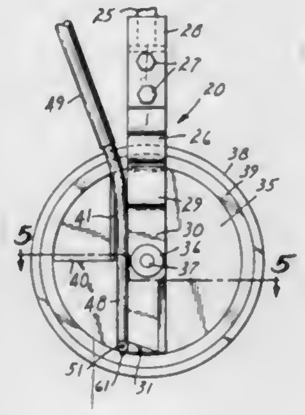
A bulletproof closure for air intake and exhaust openings of armored vehicles, having a plurality of rows of profile bars, which are staggered in relation to each other and arranged in the direction of air flow. The outer row of profiled bars is detachably secured to the vehicle by means of a frame for easy removal in the field once they have been damaged.

3,504,645
ENCLOSED CONVEYOR RETURN RUN FOR INCINERATORS
William G. Davenport, Philadelphia, Pa., assignor to Beaumont Birch Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 15, 1968, Ser. No. 753,037
Int. Cl. F23g *3/00;* **F23j** *1/06*
U.S. Cl. 110—8 **10 Claims**



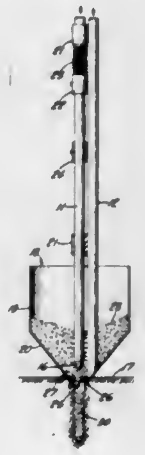
An incinerator having an underlying, below-grade trench filled with water within which is accommodated a flight conveyor having vertically spaced runs both submerged in the water, the lower ash-conveying run being disposed in the bottom of the trench to transfer ash and other residue of the material burned in the incinerator to a discharge station located externally of the incinerator beyond and above the far end of its said underlying water-filled conveyor trench, and the upper return run of the conveyor being housed within a casing which serves not only to deflect the burnt residue from entering the upper run as it is discharged from the combustion chamber of the incinerator into said water-filled trench but also to prevent any of said residue floating in the water to enter said upper return run.

3,504,646
NITROGEN KNIFE
Harold R. Trahms, Janesville, Minn. 56048
Filed Nov. 15, 1967, Ser. No. 683,173
Int. Cl. A01b *15/16;* **A01c** *23/02*
U.S. Cl. 111—7 **3 Claims**



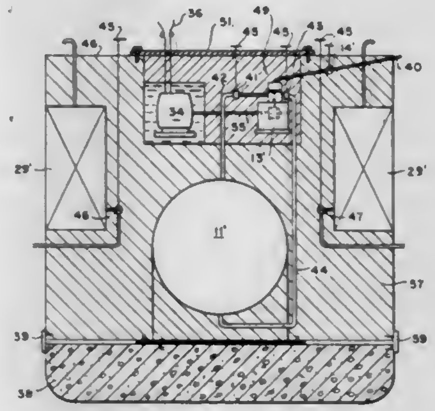
Apparatus including a coulter for forming a vertical trench in the soil, a fixedly positioned gouge extending transversely outwardly away from the coulter for forming a generally horizontal trench spaced beneath the surface of the soil, and a supply of liquid or gaseous nitrogen, including pure nitrogen and/or nitrogenous compounds, having conduit means extending to a position behind the knife edge for introducing the nitrogen directly into the soil adjacent the horizontal trench. The apparatus further includes valve means for controlling the flow of nitrogen and for preventing the flow of nitrogen from the supply when the nitrogen knife is disengaged from the soil.

3,504,647
FERTILIZER APPLICATOR
Kay Krarup, 115 Hickerson Drive,
Oildale, Calif. 93308
Continuation-in-part of application Ser. No. 394,214, Sept. 3, 1964. This application Apr. 20, 1967, Ser. No. 644,743
Int. Cl. A01c *5/02*
U.S. Cl. 111—96 **2 Claims**



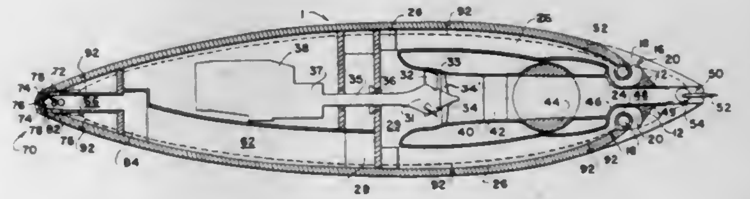
A fertilizer applicator having a hopper with a dibble rod mounted therein for extension and retraction through an aperture in the bottom of the hopper, the aperture having a sealing means to prevent excess discharge of fertilizer after use and further including a sealing tube coaxial with the dibble rod and having a sealing end complementary to the aperture sealing means.

3,504,648
DEEPWATER HYDRAULIC POWER UNIT
Frederick A. Kriedt, 1819 M St. NW.,
Washington, D.C. 20036
Filed Apr. 29, 1968, Ser. No. 725,027
Int. Cl. B63g *8/00;* **F01b** *29/00;* **F03b** *13/10*
U.S. Cl. 114—16 **7 Claims**



The present invention is a power unit for a deep submersible vessel deriving its motive power from seawater at a great pressure, throttled through a positive displacement fluid motor into an evacuated sphere.

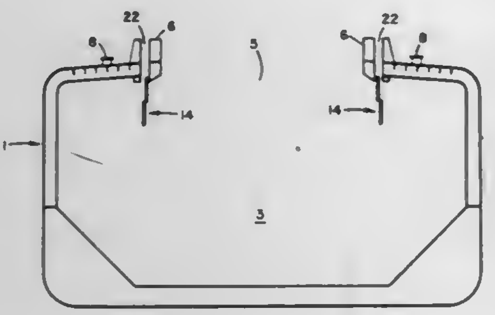
3,504,649
HYDROFOIL PROPULSION AND CONTROL METHODS AND APPARATUS
Paul A. Scherer, Bell Station Road,
Glenn Dale, Md. 20769
Filed Oct. 16, 1967, Ser. No. 675,379
Int. Cl. B63b *1/18*
U.S. Cl. 114—66.5 **22 Claims**



Hydrofoils having prime movers, pumps intakes near trailing edges, exhaust ports in trailing edges and near leading edges, air ports near leading and trailing edges, adjustable blocking devices associated with the ports, pressure sensors in surfaces of the hydrofoils and relays controlling the blocking devices in response to signals from the sensors are described herein.

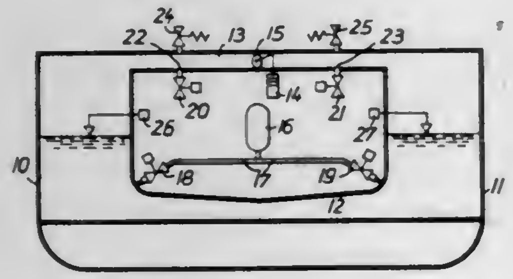
3,504,650
CARGO SHIPS
Moshe de Leon, New York, N.Y., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed July 18, 1968, Ser. No. 745,818
Claims priority, application Israel, Aug. 10, 1967, 28,486
Int. Cl. B63b *25/24*
U.S. Cl. 114—75 **9 Claims**

A cargo ship for carrying bulk cargoes of various natures characterized by a shifting board arrangement to enable the transportation of grain and the like in the most efficacious manner. Shifting boards are arranged along opposite sides of cargo holds and adapted to be lowered into position to prevent shifting of the cargo and retracted into a storage enclosure to permit filling the cargo holds to a greater capacity when carrying other bulk materials, such as ores.



3,504,651
SHIP STABILIZING SYSTEM

Horst Halden, Hamburg, and Jürgen Fehlauer, Wolfsburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed June 4, 1968, Ser. No. 734,410
Int. Cl. B63b *43/06*
U.S. Cl. 114—125 8 Claims

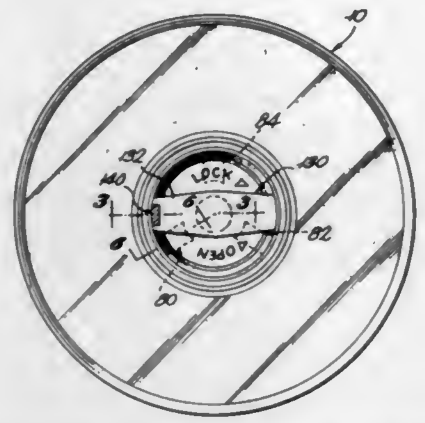


A system for stabilizing ships of the type having a liquid storage tank with first and second portions, in fluid communication with each other, located on opposite sides of a ship. The level of the liquid in the tank can be changed quickly, this being done with means which communicate with the tank for introducing a pressure medium into the tank at a point below the surface of the liquid in the tank and with two separately closable outlet means communicating with the respective tank portions for allowing the liquid and/or the air in one or the other or both the tank portions to escape.

3,504,652
VISUAL INDICATOR MEANS FOR A CONTAINER LOCKING MECHANISM

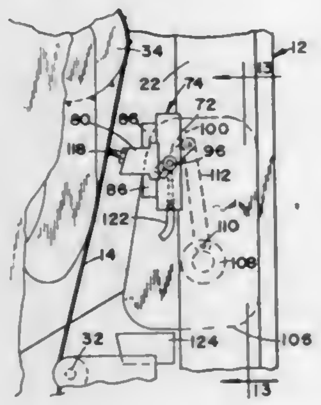
John D. Norman, Jr., Auburn, Ala., assignor to Perfection Plastics, Inc., Opelika, Ala., a corporation of Alabama
Filed Nov. 2, 1967, Ser. No. 680,238
Int. Cl. G01d *11/24*
U.S. Cl. 116—114 6 Claims

Two body portions of a container are held together by a locking mechanism including rotatable actuating means. Colored indicating portions are supported by one of the body portions and a light refracting and transmitting means is carried by the actuating means for transmitting the color from said indicating means to provide a visual indication as to whether the locking mechanism is locked or unlocked.



3,504,653
ADHESIVE HANDLING AND COATING MACHINE

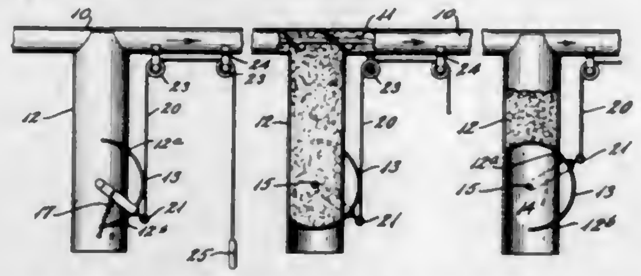
Hans G. Faltin, 4135 Wilshire Drive, and Carl A. Sutton, 4281 Old Orchard Road, both of York, Pa. 17402
Filed Nov. 22, 1967, Ser. No. 685,122
Int. Cl. B05c *11/00*
U.S. Cl. 118—5 13 Claims



Mechanism to handle strandular adhesive material delivered thereto in solid state and discharge it in heated liquid state for delivery to articles to be adhered thereby to other articles, and provided with means to prevent undesired leakage of liquid adhesive from either the delivery or inlet means of the mechanism when operation is discontinued.

3,504,654
TRIP FEEDER FOR LIVESTOCK

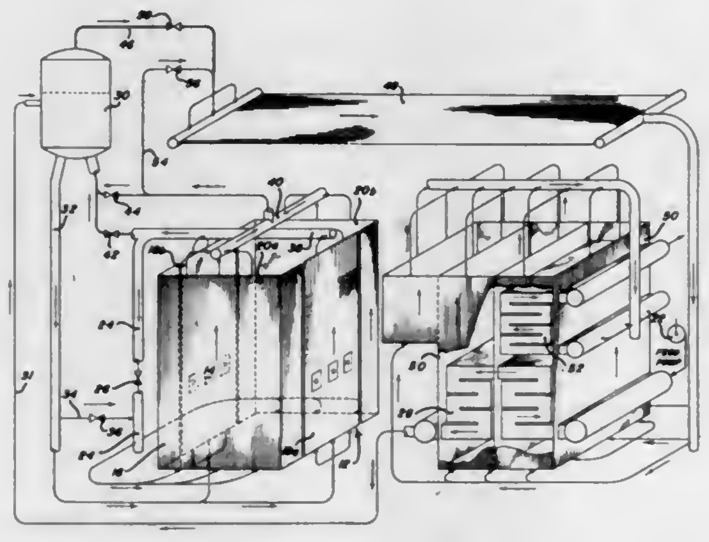
Petrus J. Geerlings, Waterloo, and Joseph Jacob Hoffmann, Charlotte, Iowa; Leola Hoffmann, executrix of the estate of Joseph Hoffmann, deceased, assignor of fifty percent to Leola Hoffmann, as legatee
Filed May 4, 1967, Ser. No. 636,064
Int. Cl. A01k *5/00*
U.S. Cl. 119—56 2 Claims



A conveyor which supplies a group of hoppers with individual uniformly curved discharge gates mounted to swing from a position normally retaining the feed in the hoppers to a second position to release a predetermined quantity of feed while simultaneously interrupting the flow from said hopper.

3,504,655
NATURAL CIRCULATION START-UP SYSTEM FOR ONCE-THROUGH STEAM GENERATOR

Walter P. Gorzegno, Florham Park, N.J., assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York
Filed Oct. 11, 1967, Ser. No. 674,550
Int. Cl. F22d *7/00*
U.S. Cl. 122—406 15 Claims



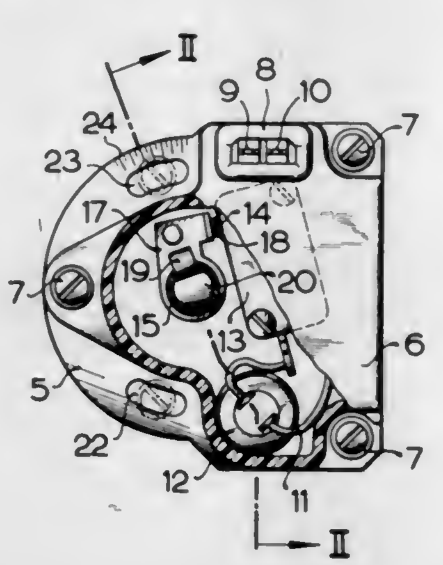
A once-through vapor generator including means for operating the generator during start-up by natural circulation subsequently converting to forced circulation during high pressure normal operation of the generator.

ERRATUM

For Class 123—32 see:
Patent No. 3,504,681

3,504,656
INTERNAL COMBUSTION ENGINE

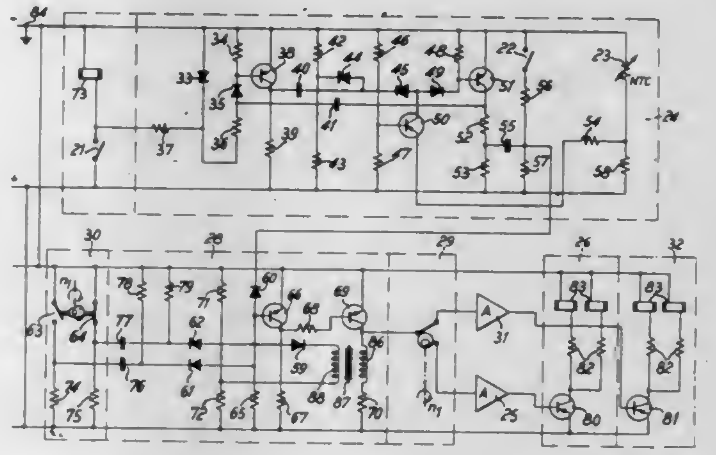
Hans-Dieter Bastam, Gerlingen, Wolfgang Rehmann, Pforzheim, and Josef Wahl, Stuttgart-Kaltental, Germany, assignors to Robert Bosch GmbH., Stuttgart, Germany
Filed Apr. 9, 1968, Ser. No. 719,989
Claims priority, application Germany, Apr. 19, 1967, B 70,609
Int. Cl. F02b *3/00*
U.S. Cl. 123—32 9 Claims



An internal combustion engine has an inlet conduit for combustible fluid, a closure member mounted in this inlet conduit and turnable between a plurality of first positions in each of which it permits passage of combustible fluid through the conduit and a second position in which it closes the conduit against passage of the combustible fluid. Feed means normally feeds combustible fluid into the conduit. A rotatable shaft is connected with the closure member so that the same can turn between the aforementioned positions thereof. A control means is provided adjacent the shaft and can be activated for terminating the operation of the feed means. Activating means is associated with the shaft and the control means and activates the latter to thereby terminate the operation of the feed means when the shaft rotates in a sense which results in movement of the closure member from one of the first positions to the second position thereof.

3,504,657
SYSTEM FOR ENRICHING THE FUEL MIXTURE ON COLD STARTS IN AN ELECTRICALLY CONTROLLED INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE

Dieter Eichler, Bonlanden, Wolfgang Reichardt, Stuttgart-Rohr, Peter Schmidt, Stuttgart-Botnang, Hermann Scholl, Stuttgart, and Josef Wahl, Stuttgart-Kaltental, Germany, assignors to Robert Bosch GmbH, Stuttgart-Germany
Filed May 16, 1968, Ser. No. 729,673
Claims priority, application Germany, May 24, 1967, B 92,696
Int. Cl. F02m *13/00*
U.S. Cl. 123—32 14 Claims



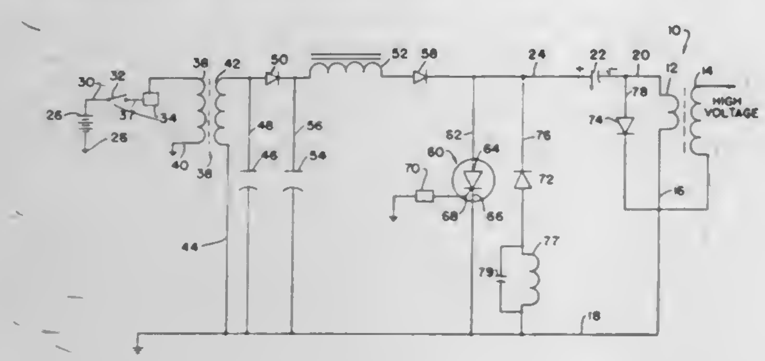
Control signals are generated in synchronism with the rotation of the shaft of an engine. These control signals with a monostable multivibrator into the unstable state, in which it remains for duration of time depending on at least one operating parameter of the engine. An electromagnetically controlled fuel injector injects fuel during the time the multivibrator is in the unstable state. For a cold start, an astable multivibrator furnishes an additional control signal to the monostable multivibrator between successive synchronized control signals, thus causing additional fuel to be injected during each operation cycle.

3,504,658
CAPACITIVE-DISCHARGE IGNITION SYSTEM

Leon A. Chavis, Detroit, Mich., assignor to Mallory Electric Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 28, 1967, Ser. No. 663,716
Int. Cl. F02p *1/00;* **H05b** *37/02, 39/04*
U.S. Cl. 123—148 2 Claims

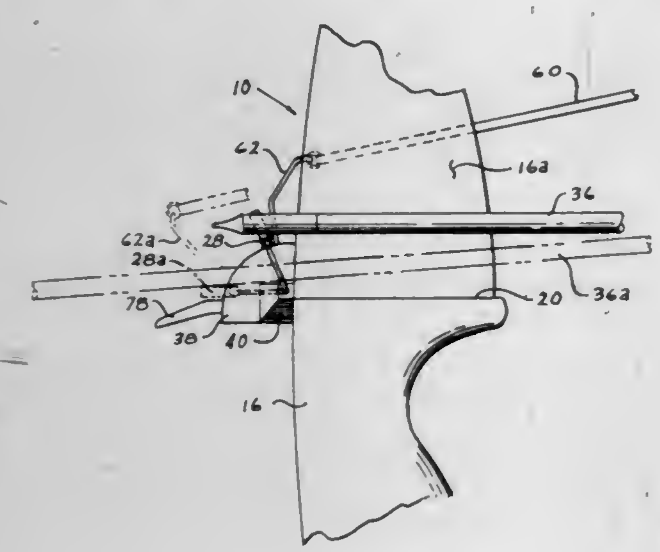
The capacitive-discharge ignition system utilizes a capacitor to develop the high voltage necessary to fire a vehicle spark plug. The capacitor is placed in series with the primary winding of a step-up transformer. A silicone controlled rectifier is provided in parallel with the capacitor. The capacitor is initially charged. When the silicone controlled rectifier is triggered to conduct, it causes the capacitor to discharge through the primary of the transformer. The discharge is sudden and results in inducing a voltage in the secondary winding sufficient to fire a spark plug.

After the capacitor has discharged, the magnetic field about the primary winding of the transformer collapses. The collapsing field recharges the capacitor in the opposite polarity. A diode is provided in parallel with the primary winding of the transformer. The diode forms part of a circuit which permits the capacitor to discharge in the opposite direction. The capacitor does not discharge through the primary winding of the transformer. After the capacitor has again discharged, the field about the primary winding collapses to charge the capacitor to the original polarity. The cycle is then repeated.



3,504,659
PIVOTED BOWSTRING RESPONSIVE ARROW SUPPORT DEVICE

Charles E. Babington, 35 Locust Drive,
Springboro, Ohio 45066
Filed Apr. 19, 1968, Ser. No. 722,699
Int. Cl. F41b *5/00*
U.S. Cl. 124—24 **20 Claims**

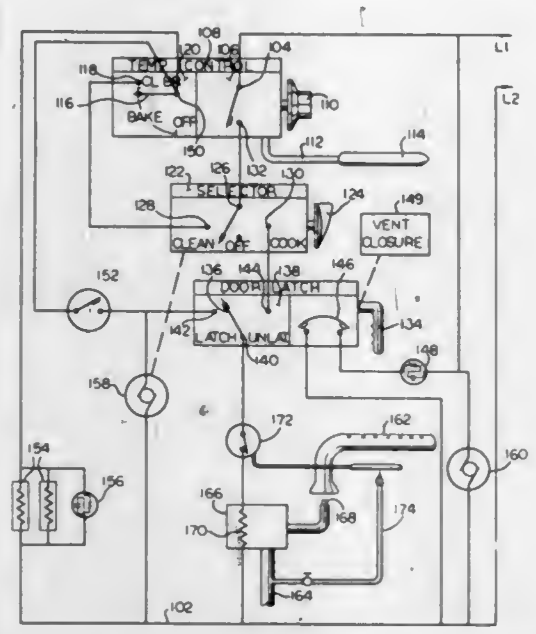


An arrow rest pivots out of the path of the arrow and its feathers or fletchings after the bowstring is released. The position of the arrow rest is controlled by an elastic band connected between the arrow rest and the bowstring and it may be prepositioned by a cocking lever.

3,504,660
OVEN CONTROL

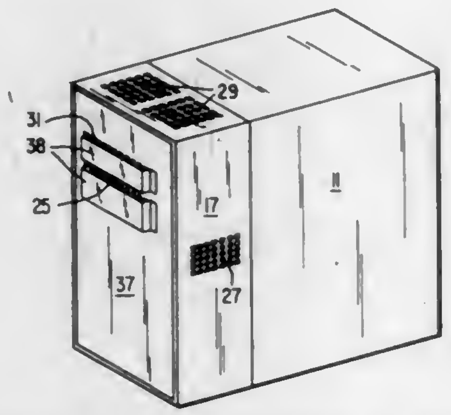
George McArthur, Jr., Delaware, and Anthony J. Schwartz, Worthington, Ohio, assignors to Glenwood Range Company, Taunton, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 680,368, Nov. 3, 1967. This application Nov. 25, 1968, Ser. No. 778,691
Int. Cl. A21b *1/00;* **F24c** *15/32*
U.S. Cl. 126—21 **38 Claims**

Apparatus and method are disclosed for warming up an oven by initially supplying heat at a low rate and, after the oven is warm enough to permit a sufficient draft through the oven vent, supplying heat at a high rate at least partly from a gas burner. The heat is initially supplied either from an electric heater or a gas burner, and subsequently is supplied from both the initial source of heat and a gas burner.



3,504,661
ATMOSPHERIC VENT SYSTEM

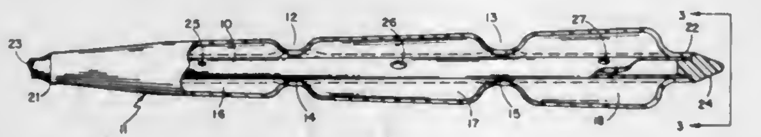
Richard L. Morris and Harlan H. Blievernicht, Indianapolis, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Feb. 28, 1968, Ser. No. 708,927
Int. Cl. F24h *3/00;* **F23j** *11/00*
U.S. Cl. 126—116 **4 Claims**



A combustion air inlet and flue gas exhaust arrangement to provide proper combustion for a gas furnace adapted for exterior use and therefore subjected to varying wind velocities and directions.

3,504,662
INTRA-ARTERIAL BLOOD PUMP

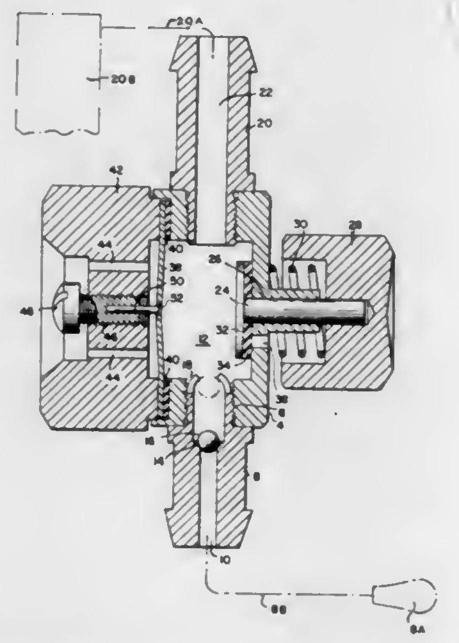
Robert T. Jones, Lexington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed May 16, 1967, Ser. No. 638,867
Int. Cl. A61b *19/00;* **A61m** *1/00*
U.S. Cl. 128—1 **13 Claims**



An intra-arterial or "balloon" type pump for use, for example, in the aorta by insertion through the femoral artery, up the arterial tree and into the aorta. The pump is divided into separate fluid retaining compartments which are adapted to be pneumatically actuated at different rates to provide, for example, a controlled action and/or actuation of the middle compartment or compartments prior to or at a more rapid rate than the end compartments.

3,504,663
AIR FLOW CONTROL

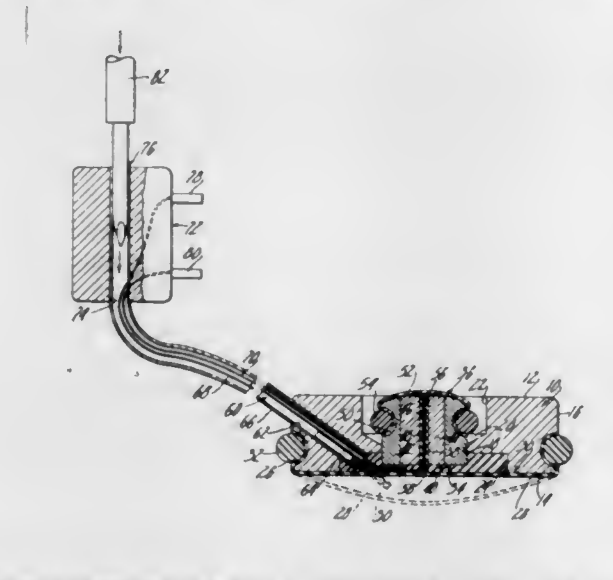
William C. Edwards, Plandome Manor, N.Y., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1965, Ser. No. 500,431
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 **5 Claims**



An air bleeding device for a sphygmomanometer comprises a chamber communicating with a cuff, and closed in part by a diaphragm having a cylindrical aperture. A cylindrical pin extends into the aperture from the outside to form an annular passage which varies in length in accordance with cuff pressure to provide a constant rate of decrease of pressure.

3,504,664
SENSING ELEMENT SUPPORT

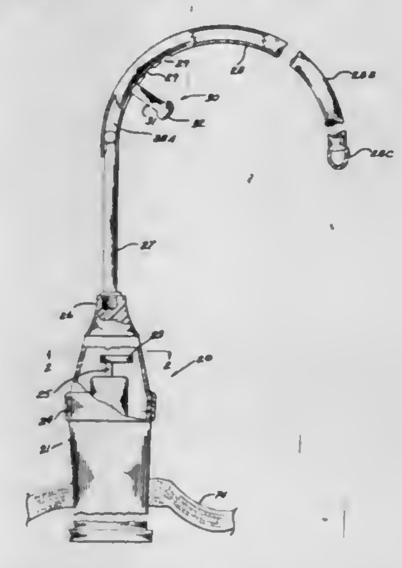
Ihsan A. Haddad, Brighton, Mass., assignor to Instrumentation Laboratory, Inc., a corporation of Massachusetts
Filed Dec. 17, 1965, Ser. No. 514,727
Int. Cl. A61b *5/05*
U.S. Cl. 128—2.1 **15 Claims**



A support structure for a miniature polarographic cell (0.002″ diameter cathode) suitable for pO_2 measurements of brain tissue under the skull includes a stainless steel support disc ⅜″ in diameter and 0.110″ thick. The sensing cell is exposed at one side of the disc and a diaphragm is secured over the opposite side. A passage through the disc, in which the cell leads are disposed allows the diaphragm to be inflated. The construction permits sterilization and positive positioning of the cell in the desired measurement location.

3,504,665
MEDICAL GYNECOLOGIC OSCILLATOR

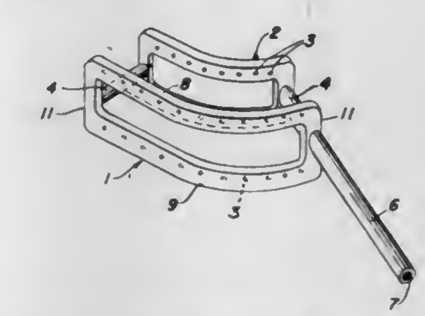
Maurice I. Bakunin, 881 Lafayette St., Bridgeport, Conn. 06604; Leonard Napoli, 60 Rosebrook Drive, Stratford, Conn. 06075; and Raphael J. Costanzo, 119 Park St., Bridgeport, Conn. 06604
Filed July 10, 1967, Ser. No. 652,351
Int. Cl. A61h *19/00*
U.S. Cl. 128—36 **17 Claims**



This invention is directed to a medical gynecologic oscillator adapted to function as a limited aid for stimulating the erotic clitoral, vaginal and/or labial areas, to obviate frigidity, vaginismus and other related causes of sexual deficiency and/or sexual incompatibility. The medical gynecologic oscillator comprises an instrument which includes a housing containing an oscillator and a source of electrical power for energizing the oscillator. A projection extends outwardly from the housing to which there is connected an exciting means for stimulating the erotic areas when actuated. The exciting means is shaped to include a first portion and a second portion, the latter being adapted to be readily inserted into the vagina to engage the erotic areas thereof. The first portion has connected thereto an appendage shaped to excite the clitoris when the instrument is placed in operation. Variously shaped appendages are provided depending upon the anatomic variations and requirements of particular patients.

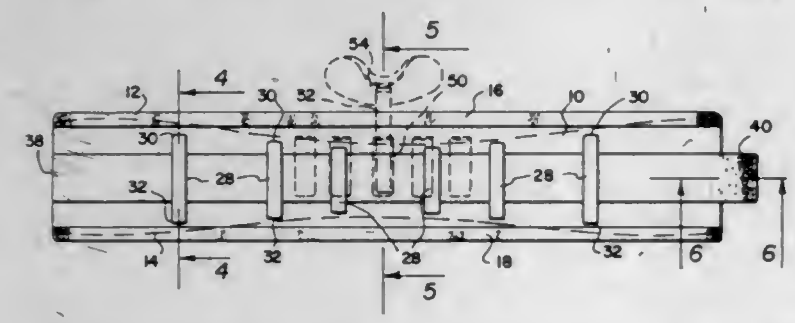
3,504,666
TEETH CLEANING AND GUM MASSAGING DEVICE

Lawrence O. Vireno, 139 Kinross Drive,
San Rafael, Calif. 94901
Filed Aug. 9, 1967, Ser. No. 659,498
Int. Cl. A61h *13/00*
U.S. Cl. 128—66 **2 Claims**



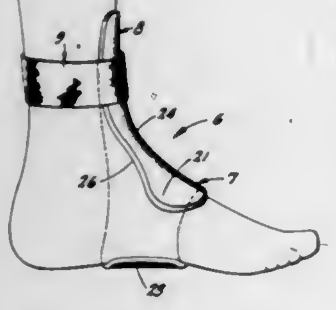
A continuous tube formed by a pair of connected hollow or tubular frames. Each frame is of a rectangular form and is curved longitudinally to conform to about one-half of the arc of teeth and gums in the mouth. Two such parallel hollow or tubular frames are connected in the middle of each opposite end portions by a connecting tube so that the spaced parallel hollow or tubular frames form a continuous cavity to receive fluid under pressure. On the sides of the tubes or hollow members facing one another are a plurality of minute perforations for directing pressurized spray of fluid toward the dentition and the investing tissues with a cleansing and massaging action. The length and shape of the parallel hollow frames are such that each forms a half of the complete arc of the teeth in the mouth thereby to cover the teeth in about one-half of the mouth, both on the outside and also on the inside of the dentition, and to cover the upper and lower halves of the dentition on one side of the mouth simultaneously. A tubular handle is extended from the front end of the buccal hollow member in extension of the front connecting tube for the convenient manipulation of the device and to serve as an intake tube for the fluid. The lingual tube or hollow member is shorter than the buccal tube or hollow member to facilitate insertion and movement of the unit.

3,504,667
HEAD BRACE
Archie J. McFarlane, 2022 N. 7th St.,
Phoenix, Ariz. 85006
Filed Nov. 14, 1966, Ser. No. 594,143
Int. Cl. A61h *1/02;* **A61f** *5/04*
U.S. Cl. 128—75 6 Claims



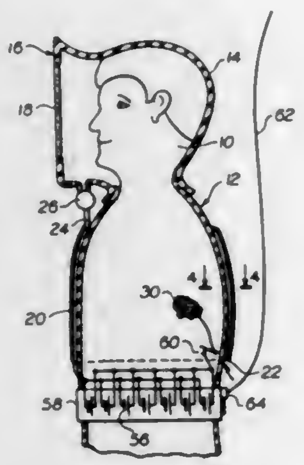
A head brace, including a flexible band having opposite edges at one side of said band and a median portion of said band at said one side provided with removable connection means and a plurality of substantially rigid stay members over which said edges are folded, such that said connection means may be engaged to hold the ends of said stays in juxtaposition relative to said band.

3,504,668
FOOT SUPPORT
Robert E. Boudon, 579 Corbett St.,
San Francisco, Calif. 91414
Filed Sept. 13, 1967, Ser. No. 667,408
Int. Cl. A61f *3/00, 13/06*
U.S. Cl. 128—80 9 Claims



A generally rigid light weight brace type support for a human foot to compensate for a condition commonly known as "drop-foot." The support includes an arch portion which generally surrounds the arch of the foot of the wearer and an upright ankle portion which is to be secured against the front of the leg of the wearer below the calf. The support is formed from a moldable material, such as fibre glass, covered with an internal cushioning material, such as foam rubber.

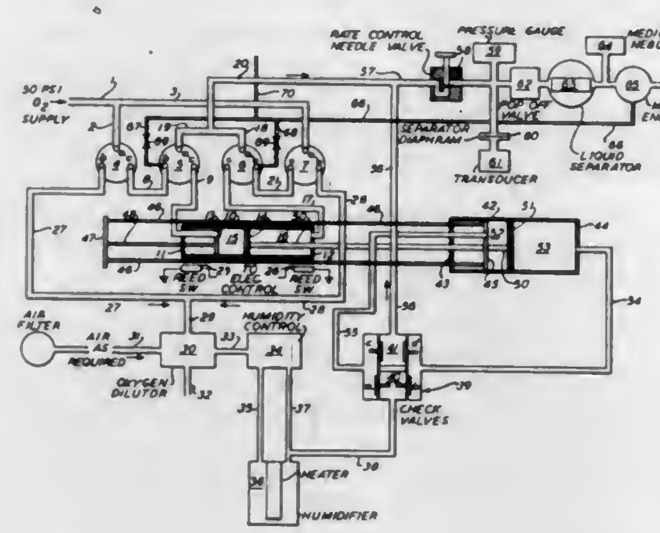
3,504,669
COMBINED DIVING DEVICE AND ELECTROLYSIS OPERATED OXYGEN GENERATOR
David Albert, 19 Beverly Road,
New Rochelle, N.Y. 10804
Filed Sept. 7, 1967, Ser. No. 666,050
Int. Cl. A62b *7/02;* **B01j** *7/00*
U.S. Cl. 128—142 8 Claims



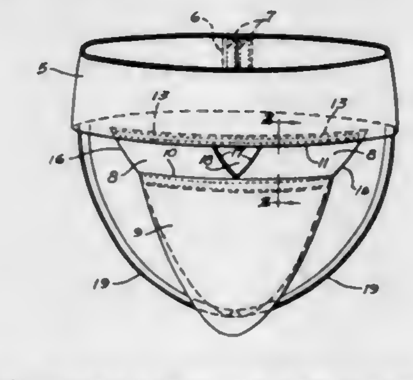
This specification discloses apparatus for breathing under water. It includes an oxygen generator that uses a current of electricity to decompose the water into oxygen and hydrogen; and the oxygen is supplied to a mask or helmet worn by the diver. When used with sea water, there are filters for removing unwanted gases from the oxygen. The electric current is supplied by a battery worn by the diver for short dives and is supplied through a conductor from a boat for long dives. The oxygen generator is preferably a part of the suit worn by the diver with a pocket into which water enters between the electrodes of the generator. Wire gauze electrodes permit the suit to be flexible. The rate of generation of oxygen is adjustable automatically by the pressure in the oxygen generator pushing water out of the pocket and reducing the wetted area of the electrodes.

3,504,670
RESPIRATOR
Orville Alf Hoel, Madison, Wis., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 13, 1967, Ser. No. 682,461
Int. Cl. A62b *7/02*
U.S. Cl. 128—145.8 4 Claims

Apparatus comprising a pair of aligned cylinders each having a piston therein with the pistons being fixed on a common rod, one cylinder being fed alternately on opposite piston sides through a first pair of solenoid operated valve assemblies from an oxygen supply and the other being fed alternately on opposite piston sides through a first pair of check valves from an air supply combined with exhaust oxygen from said one cylinder. A second pair of solenoid operated valve assemblies alternately govern the feeding of a direct supply line to a patient with oxygen from said one cylinder, and a second pair of check valves alternately govern the feeding of said supply line to said patient with a combination of air and exhaust oxygen from said other cylinder. Initiation of flow is controlled either by the patient's inhalation response, an electronic timer circuit or by manual control while termination of flow by de-energization of the solenoids is controlled by Reed switches. Percentage air-oxygen delivered is governed by a new oxygen dilutor valve, volume of inhalation is controlled by adjustable cylinder ends, and liquid is removed from the system by a new liquid separator.



3,504,671
ATHLETIC SUPPORT
Henry G. Nelkin, Kansas City, Mo., assignor to H. G. Enterprises, a co-partnership
Filed Mar. 6, 1968, Ser. No. 711,087
Int. Cl. A61f *5/40;* **A41b** *9/02;* **A41d** *5/00*
U.S. Cl. 128—158 8 Claims

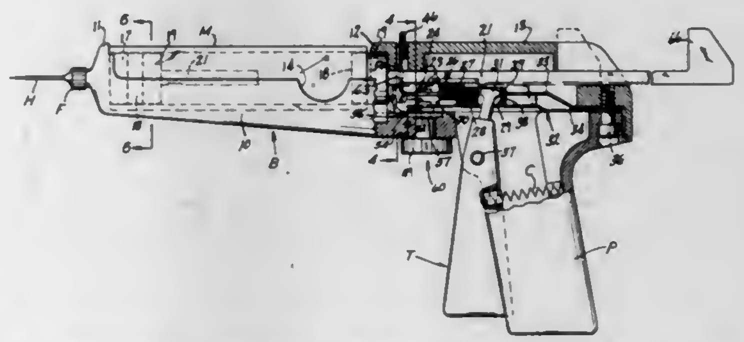


An athletic support having a belt made of a wide band of longitudinally elastic fabric, a pouch of longitudinally and transversely extensible fabric, and a pair of longitudinally elastic fabric bands of substantially the same width as the belt, secured to the belt in spaced relation and extending downwardly to the pouch at an oblique angle to converge at the upper edge of the pouch, and leg straps extending from the lower end of the pouch to points on the belt spaced longitudinally of the belt from each other and from the obliquely extending bands. The obliquely extending bands are secured to the top edge of the pouch and bottom edge of the belt by elastic tape. The pouch has its top edge close to the bottom edge of the belt so that the distance between the pouch and the belt is less than the width of the tape from which the belt and converging bands are formed.

3,504,672
SURGICAL AND ANIMAL BANDAGING
Jacob R. Moon, St. Mary's Road, Box 642,
Hillsborough, N.C. 27278
Filed Jan. 19, 1968, Ser. No. 699,133
Int. Cl. A61f *13/02*
U.S. Cl. 128—169 6 Claims

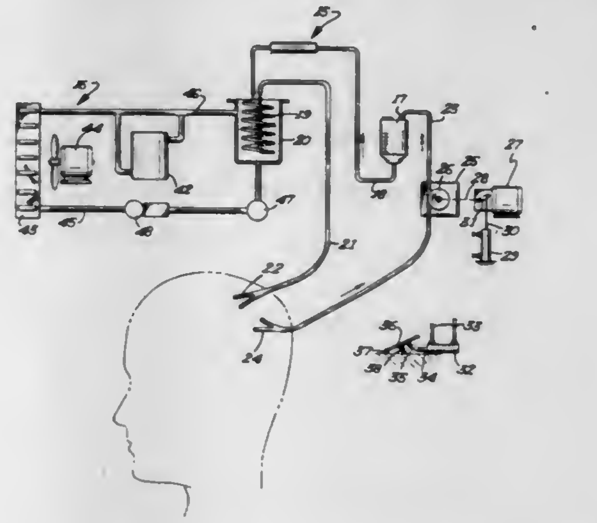
A bandage suitable for animal and surgical application comprises a seamless tube knit of synthetic yarn and having at one end a Velcro hook strap, the tube when flat and wrapped as a bandage exhibits substantial stretch in all directions and a fuzzy surface adapted to engage and be securely held by the hooks of the Velcro strap.

3,504,673
INJECTOR DEVICE WITH DOSAGE SELECTOR
Fred Parisi, New Haven, Conn., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 664,019, Aug. 29, 1967, which is a continuation-in-part of application Ser. No. 488,978, Sept. 21, 1965. This application Mar. 17, 1969, Ser. No. 813,797
Int. Cl. A61m *5/24*
U.S. Cl. 128—218 7 Claims



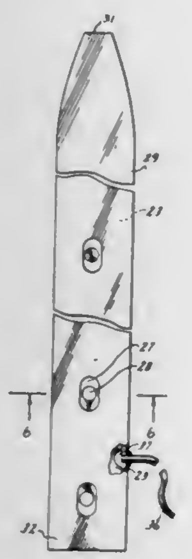
A manually operated injector device useful in introducing predetermined quantities of fluid, e.g., pharmaceuticals into animals having a semicylindrical holder for a capsule of medicinal fluid, a trigger contained in a pistol grip for advancing a rack and rack driver, and a dosage selector which is effective to control the stroke of the rack and thereby the dosage amount which is injected.

3,504,674
METHOD AND APPARATUS FOR PERFORMING HYPOTHERMIA
Emil S. Swenson, 247 106th Ave. NW., Coon Rapids, Minn. 55433; William L. Koski, 2715 Washington Ave. N., Minneapolis, Minn. 55411; and Juan Negrin, 108 E. 81st St., New York, N.Y. 10029
Filed Dec. 22, 1966, Ser. No. 604,008
Int. Cl. A61b *17/36;* **A61f** *7/12*
U.S. Cl. 128—303.1 5 Claims



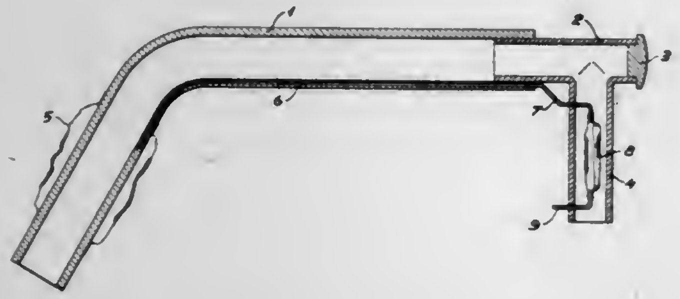
A method and apparatus for performing local hypothermia of the central nervous system by extravascular profusion, wherein liquid coolant which is cooled to a temperature of approximately 30° C. to —30° C. is circulated directly over a selected portion of the central nervous system through a supply catheter. The coolant is returned to a cooling system through a return catheter by means of a pump device which longitudinally compresses the exterior surface of the yieldable return catheter.

3,504,675
DISPOSABLE SURGICAL TOURNIQUET
William A. Bishop, Jr., 2620 N. 3rd St.,
Phoenix, Ariz. 85004
Filed Dec. 10, 1965, Ser. No. 513,135
Int. Cl. A61b *17/12;* **A61f** *13/00*
U.S. Cl. 128—327 **1 Claim**



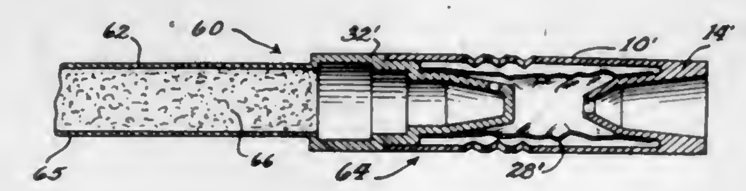
A surgical tourniquet including a continuous longitudinally extending stiffening member enclosed in an elongated plastic bladder, said stiffening member including openings therein positioned longitudinally of the stiffening member. Opposite sides of the enclosing bladder are sealed to each other through the openings in said stiffening member.

3,504,676
ENDOTRACHEAL BALLOON CATHETER PROVIDED WITH INFLATION PRESSURE REGULATING VALVE
Vagn Niels Finsen Lomholt, Vodroffsvej 50A,
Copenhagen, Denmark
Filed June 13, 1967, Ser. No. 645,777
Claims priority, application Denmark, June 16, 1966, 3,099/66
Int. Cl. A61m *25/00, 16/00*
U.S. Cl. 128—351 **3 Claims**



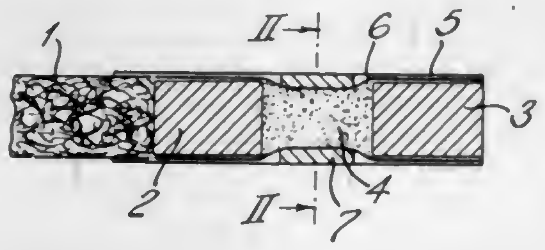
A respiratory catheter in which the tube for delivering respiration air under pressure to a patient's lungs is enclosed along a portion of its lower end with a bladder of non-resilient material adapted to engage the patient's trachea and provide a seal preventing entry of vomit to the lungs, the bladder being connected with a separate source of air under lesser pressure than that delivered to the lungs by means of a pipeline connected with a two-way blocking valve disposed in the tube and controlled by the respiration air. The respiration air during the inhalation phase closes the two-way valve and applies pressure to the outside of the bladder at the downstream end to maintain the seal, whereas, during exhalation, the absence of the respiration air pressure allows the two-way valve to open to enable the lower pressure air to provide sufficient inflation of the bladder for sealing purposes.

3,504,677
CIGARETTE AND/OR CIGARETTE HOLDER
Max J. Doppelt, 1920 W. Sunnyside Ave.,
Chicago, Ill. 60640
Continuation-in-part of application Ser. No. 665,541, Sept. 5, 1967. This application Feb. 19, 1969, Ser. No. 800,500
The portion of the term of the patent subsequent to Aug. 12, 1986, has been disclaimed
Int. Cl. A24d *1/04;* **A24f** *5/04, 5/06*
U.S. Cl. 131—9 **7 Claims**



A cigarette or cigarette holder for reducing the quantity of particulate, tar and nicotine, provide a cooler smoke, and considerably reduce toxic gasses. It includes an apertured housing surrounding a porous fibrous member which is crinkled to form an irregular asymmetrical inside surface and passageway through which the smoke passes and which will blend air passing into the housing through the apertures and through the pores, with the smoke and has means prior to entrance of the smoke into said passageway for changing the direction of the normal flow of the smoke from an axial to a radial direction to direct it against the crinkled or kinked surfaces of the fibrous member.

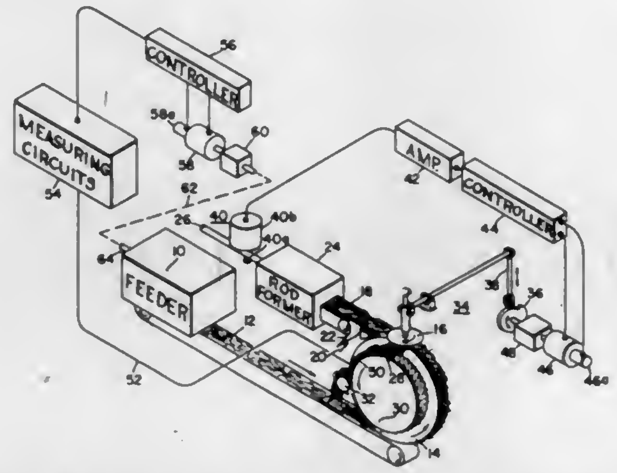
3,504,678
MOUTHPIECES FOR CIGARETTES
Roger Edward Pitt, London, England, assignor to Molins Machine Company Limited, London, England, a corporation of Great Britain
Filed Sept. 10, 1968, Ser. No. 758,807
Claims priority, application Great Britain, Sept. 15, 1967, 42,271/67
Int. Cl. A24d *01/04, 01/06*
U.S. Cl. 131—10.5 **7 Claims**



A cigarette filter is disclosed which is adapted to function as a mouthpiece for a cigarette, the said filter being constituted of at least three stages one of which comprises particulate filtering material on either side of

which plug material is disposed. The particulate material is enclosed in an inner wrapper covered by an outer wrapper which surrounds the multi-stage unit and to which outer wrapper an annular constricting element is affixed, the latter being disposed between the inner and outer wrappers and functions to secure a tighter packing of the particulate matter and prevent smoke by-pass.

3,504,679
CONTROL SYSTEM FOR A CIGARETTE-MAKING MACHINE
Walker B. Lowman, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed June 8, 1960, Ser. No. 34,748
Int. Cl. A24c *5/34*
U.S. Cl. 131—21 **3 Claims**



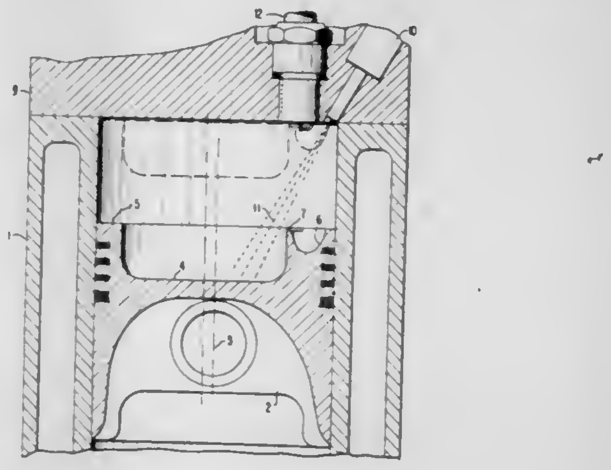
1. For use in a cigarette-making machine which includes adjustable stream forming means for forming a primary tobacco stream, means defining a final tobacco stream whence a cigarette rod is formed, conveying means between said primary and final streams, and a removal means adjacent the conveying means, said conveying means including a forward feeding conveyor for conveying tobacco from a discharge end of the primary stream to said removal means, said removal means acting to divide the tobacco reaching it into said final stream and an excess stream, and said conveying means further including a return feed conveyor for receiving the excess stream and conveying it to the discharge end of the primary stream adjacent the upstream end of the conveying means:

apparatus for maintaining a substantially constant rate of flow of tobacco in said excess stream, which apparatus comprises
- (a) a first detector disposed adjacent said final stream for measuring the amount of tobacco per unit length in said final stream,
- (b) means responsive to said first detector for controlling said removal means to adjust the portion of the flow from said forward feeding conveyor which is diverted to form said excess stream and to maintain the amount of tobacco per unit length in said final stream substantially constant,
- (c) a second detector disposed adjacent said return feed conveyor for measuring the amount of tobacco in said excess stream,
- (d) means responsive to said second detector for controlling said adjustable stream forming means to maintain substantially constant the rate of flow of tobacco in said excess stream as formed by said removal means,
- (e) said removal means including a carded drum for returning said excess stream to said primary stream, and wherein said second detector comprises gauging means mounted adjacent said drum for measuring the amount of tobacco carried thereby, and
- (f) said carded drum including a facing peripherally mounted thereon, a plurality of carding points projecting from said facing, and means providing a metal surface at least partially overlying said facing, said metal surface being operatively associated with said gauging means.

3,504,680
METHOD OF TREATING AND FOR STORAGE OF TOBACCO
Walter T. Carll, Rte. 2, Hopkins, S.C. 29061
No Drawing. Filed Dec. 12, 1967, Ser. No. 689,808
Int. Cl. A24b *3/12, 9/00*
U.S. Cl. 131—140 **3 Claims**

A process for treating tobacco in order to preclude the growth of fungi and the production of mycotoxins thereon, for eliminating the ordering up of tobacco prior to storage, and also prior to transportation, and for the preservation of the flue-cured tobacco in air-tight containers.

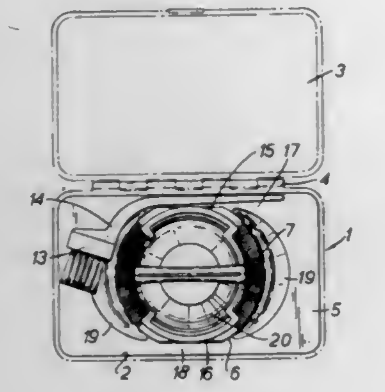
3,504,681
STRATIFIED CHARGE ENGINE
Hermann Winkler, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Jan. 11, 1968, Ser. No. 697,168
Claims priority, application Germany, Jan. 14, 1967, D 52,013
Int. Cl. F02b *3/00, 75/02;* **F02d** *39/02*
U.S. Cl. 123—32 **16 Claims**



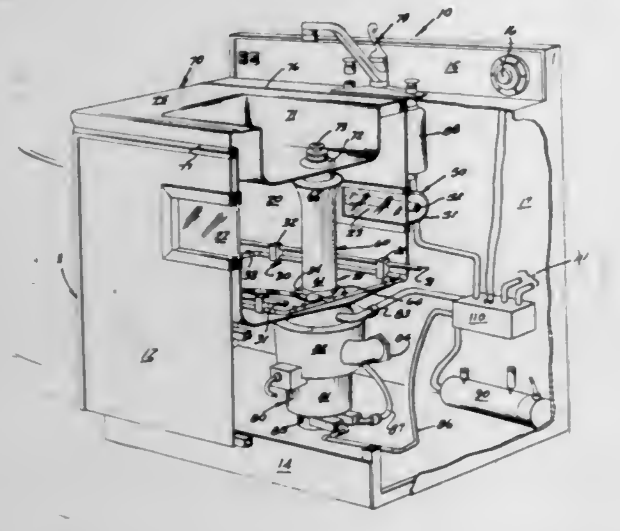
An injection-type internal combustion engine which operates with applied ignition and with a layer charge, in which the working piston is provided with a small recess or trough forming an auxiliary combustion space in the compression end position of the piston, whereby the recess or trough is located at a place of the piston bottom lying within the direction of the injected fuel just prior to the injection end and a spark plug is so arranged in the cylinder head above this recess as to cooperate with the auxiliary combustion space in the ignition of the relatively richer mixture present in the recess.

3,504,682
APPARATUS FOR CLEANING ARTIFICIAL EYELASHES
David Howard Aylott, Welwyn Garden City, England, assignor to Eylure Limited, Welwyn Garden City, England, a British company
Filed Feb. 1, 1966, Ser. No. 524,127
Int. Cl. A45d *44/16, 44/18*
U.S. Cl. 132—85 **6 Claims**

A container or kit for storage and treatment of artificial eyelashes in which support members are provided for the eyelashes, the support members being curved both in plan and in section, and a clamping member cooperates with the support members to clamp the eyelashes on the curved support members.



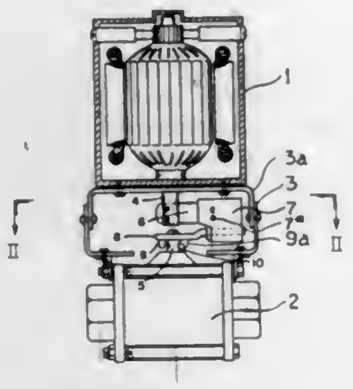
3,504,683
APPARATUS FOR WASHING DISHES
Henry Timmer, Grand Rapids, Charles D. Leedy, Sparta, and Frederick R. Hoop, Jenison, Mich., assignors to Arthur W. Carlson, Muskegon, and Theodore Schaap and Henry Timmer, Grand Rapids, Mich.
Filed Jan. 9, 1967, Ser. No. 608,187
Int. Cl. B08f *3/00*
U.S. Cl. 134—172 **8 Claims**



A dishwashing chamber having reciprocating nozzle grid provided in the bottom of the dishwashing chamber which traverses back and forth across the bottom of the chamber and sprays the dishes positioned therewithin. The nozzle grid is driven by means of a flexible, stainless steel cable which also supplies water, detergent and the like to the nozzles. The nozzle grid is pressurized by means of a pump and the water flows directly out of the drain after running off of the dishes and the sides of the tub. The relatively high pressure under which the water emits from the nozzle grid negates the necessity of recirculating the wash water in order to operate the unit economically.

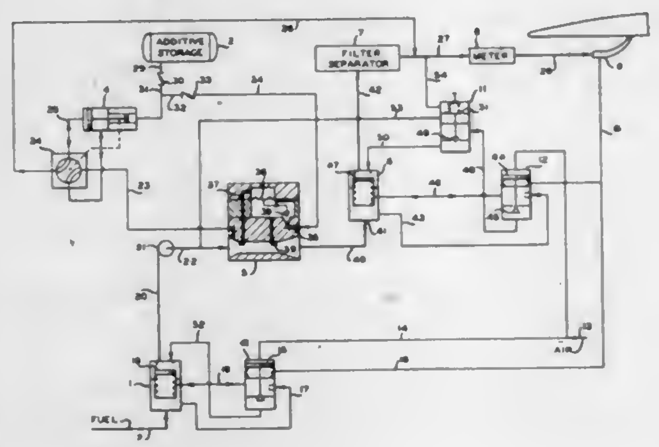
The washing cycle is completed by means of a hot rinse. The water for this rinse is heated in a special water heating enclosure having a circular jacket and an elongated heating element positioned therein. A baffle plate is provided adjacent the outlet to thoroughly mix the water as it issues therefrom. The rinse water is sprayed through the high pressure grid assembly directly onto the dishes and then allowed to flow out of the drain and, thus, no recirculation occurs. After completion of the rinse, a germicidal lamp assembly positioned without the enclosure transmits light thereinto via a window to completely sterilize the dishes and the inside of the dishwashing chamber.

3,504,684
VALVE IMPACT OPERATING METHOD
John J. Ziccardi, Evans City, Pa., assignor of fifty percent to William B. Jaspert, Pittsburgh, Pa.
Filed Apr. 3, 1967, Ser. No. 627,802
Int. Cl. F16k *31/10, 31/04*
U.S. Cl. 137—1 **2 Claims**



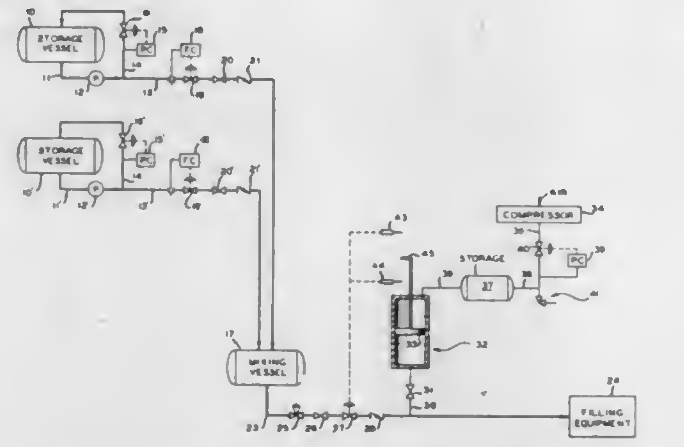
An electric motor operated actuator for plug valves and the like, in which the valve is angularly movable through an arc and is actuated by an impact device that is operated by the electric motor to produce a stroke or strokes on the valve to move it to the stop position.

3,504,685
USING FLUID TO WHICH A SUBSTANCE IS ADDED TO MOTIVATE ADDITIVE
Earl E. Kleinmann, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,815
Int. Cl. G05d *11/00;* **F17d** *1/00*
U.S. Cl. 137—3 **11 Claims**



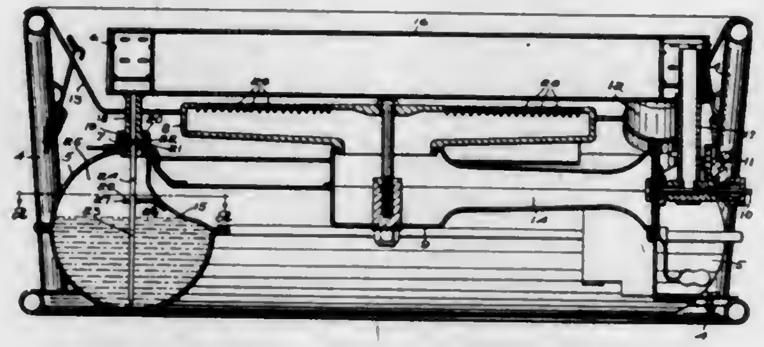
Method and apparatus for dosing a material into a fluid and for feeding the dosed fluid at a substantial, constant, predetermined pressure, but at varying rates of flow, and using said fluid for motivating an additive injection which doses said additive into said fluid. In one embodiment, an anti-icing and anti-microbial additive is blended into a jet fuel by passing the same through a primary valve, controlled responsive to pressure at the discharge end of the blending system. Means are provided for maintaining between said valve and the end of the system a pressure drop zone. An additive injection means is motivated by the fluid which has entered the blending system and fluid, which has been used to motivate said injection system, is discharged from the injection system to a point downstream from said pressure drop zone. Various controls and interrelated pressure and flow means are provided.

3,504,686
FLUID BLENDING SYSTEM
Delbert J. Cooper and George F. Ford, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,606
Int. Cl. E03b *5/00, 11/00;* **F17d** *1/00*
U.S. Cl. 137—3 **4 Claims**



Two or more fluid streams are passed at constant rates to a mixing vessel, and the resulting mixture is delivered to a point of utilization. An accumulator is connected to the delivery conduit to receive excess flow. The accumulator contains a movable piston which actuates control mechanism to regulate a valve in the delivery conduit.

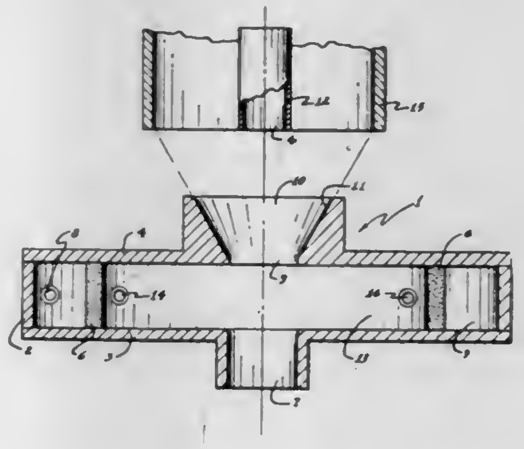
3,504,687
SAFETY DEVICE FOR LIQUID FUEL BURNER
James M. Dunston, Natick, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 23, 1968, Ser. No. 754,885
Int. Cl. F16k *17/14;* **F23n** *1/00*
U.S. Cl. 137—68 **5 Claims**



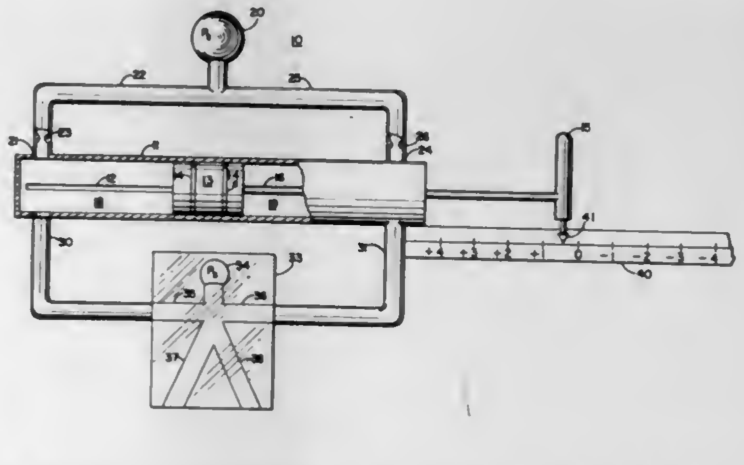
A safety device for a liquid fuel burner having a reservoir capable of being filled with liquid fuel under pressure up to a predetermined level providing a vapor space above the liquid fuel in the reservoir comprising a fuel feed tube for conducting liquid fuel from the reservoir to the burner, the fuel feed tube being mechanically rupturable at a predetermined point within the vapor space upon deformation of the reservoir wall caused by pressure within the reservoir to cut off the flow of liquid fuel from the reservoir to the burner.

3,504,688
SIGNAL LIMIT DETECTOR FOR VORTEX AMPLIFIERS
Donnie R. Jones, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Dec. 9, 1964, Ser. No. 417,851
Int. Cl. F15c *1/16*
U.S. Cl. 137—81.5 **11 Claims**

1. A device for sensing rate of rotation of an unconfined stream of fluid having an axial rate of flow, comprising a hollow member having an outwardly diverting inner wall providing large and small openings at the opposite ends of said member, means for introducing fluid through the small opening in said member, whereby rotating fluid proceeding through said small opening flares outwardly in the region between said small and large openings at an apical angle functionally related to the rate of rotation of the fluid, said inner wall having a predetermined apical angle such that for rates of rotation of the fluid above a predetermined value of said fluid approaches sufficiently close to said inner wall to produce boundary layer effects between the fluid and said inner wall of a magnitude to cause said fluid to attach to said inner wall and that for rates of rotation of said fluid below said value the fluid does not attach to said wall, and a fluid receptor defined by a wall providing a first ingress orifice located downstream of the large end of said member, said wall of said hollow member and said wall of said fluid receptor being discontinuous to provide a space therebetween, said receptor being located such that there is a large change in fluid flow to said first ingress orifice upon said stream of fluid attaching to said inner wall of said member.



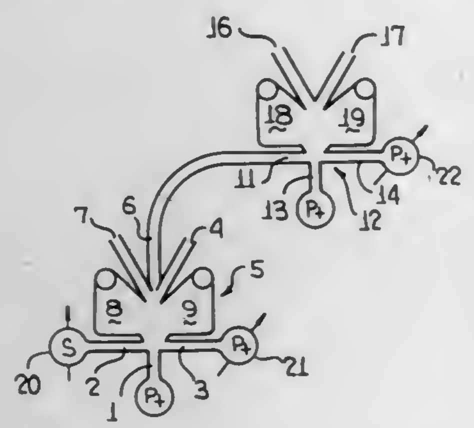
3,504,689
TRANSDUCERS
Jeffrey M. Lazar, South St. Paul, Minn., assignor to Honeywell, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 30, 1967, Ser. No. 664,487
Int. Cl. F15c *3/02;* **F16k** *11/07*
U.S. Cl. 137—81.5 **8 Claims**



Apparatus comprising a chamber having a slideable piston therein for differentially varying the amounts of fluid vented from portions of the chamber on opposite sides of the piston, thereby producing a fluidic output signal.

3,504,690
PRESSURE BAND DETECTOR

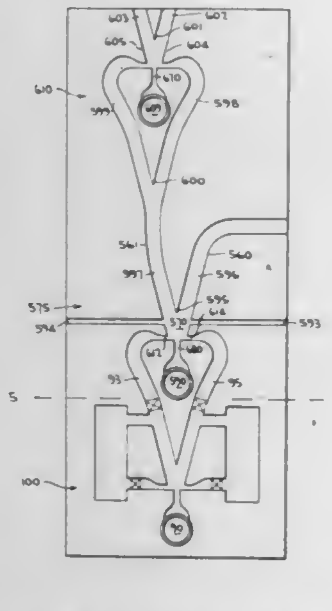
Howard L. Rose, 8823 Lanier Drive, Silver Spring, Md. 20910
Filed Oct. 14, 1965, Ser. No. 495,963
Int. Cl. F15c *1/14, 4/00*
U.S. Cl. 137—81.5 **10 Claims**



A pressure band detector comprising first and second fluid amplifiers each having a power nozzle for issuing a power stream, an output passage, and a pair of control nozzles. The output passage of the first amplifier has a narrow ingress orifice relative to the apex of the power stream at said orifice. An input signal to be detected is applied to one of the control nozzles of the first amplifier and an adjustable bias pressure is applied to the other control nozzle to limit the portions of said pressure profile alignable with said ingress orifice. The output passage of said first amplifier is connected to a control nozzle of said second amplifier and provides an input signal therefor. A further adjustable bias pressure is connected to the other control nozzle of the second amplifier to limit the range of pressures received at the output passages of said second amplifier due to deflection of the second amplifier power stream by the second amplifier input signal.

3,504,691
FLUIDIC OSCILLATORY SYSTEM INSENSITIVE TO PRESSURE AND TEMPERATURE

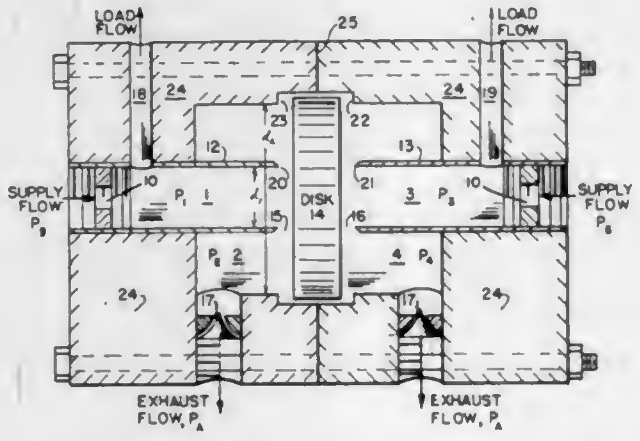
Carl J. Campagnuolo, Chevy Chase, and Shea O. Rutstein, Bethesda, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 18, 1966, Ser. No. 595,538
Int. Cl. F15c *1/08*
U.S. Cl. 137—81.5 **4 Claims**



A pure fluid oscillator system which can produce an oscillatory output whose frequency is insensitive to pressure and temperature fluctuations of the working medium. The system comprises a temperature insensitive fluid oscillator with its output conduits coupled to the control conduits of a fluid amplifier. The fluid oscillator and fluid amplifier are supplied by the same pressure source.

3,504,692
PNEUMATIC OSCILLATOR

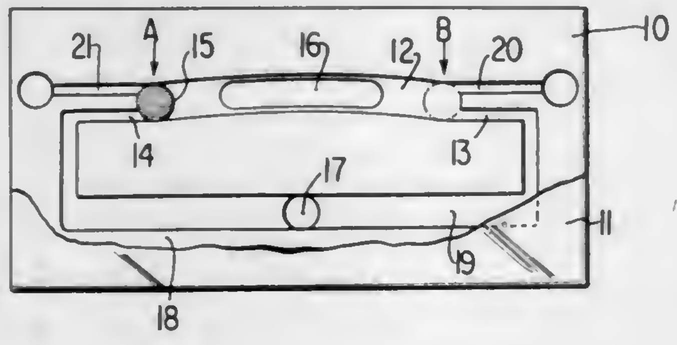
Seth R. Goldstein, Waltham, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed May 31, 1966, Ser. No. 553,983
Int. Cl. F15c *1/08;* **G06m** *1/12*
U.S. Cl. 137—119 **9 Claims**



A pneumatic oscillator provides a triangular waveform pressure output as a function of time from a constant pressure source. A disk moving back and forth at the frequency of the pressure waveform alternately connects and separates two plenum chambers on each side of the disk. The constant pressure source is connected to one of these plenums through an orifice; the other plenum being connected to the atmosphere through an orifice. The connection of the two plenum chambers for one position of the disk is also restrictive to pneumatic flow from one chamber to the other. The resulting triangular pressure increase and decrease in the source-connected plenum is made available as an output by an external connection to the plenum.

3,504,693
FLUIDIC MEMORY APPARATUS

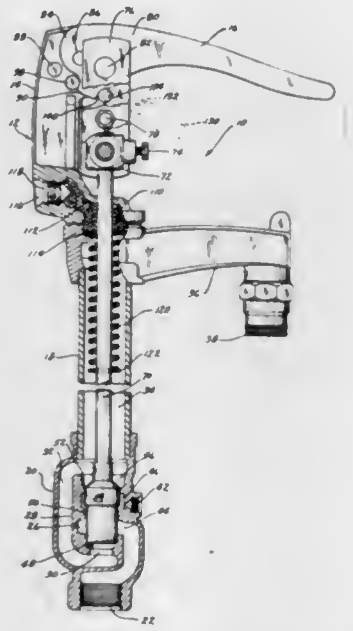
Robert B. Hartman, Bridgeport, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 629,254
Int. Cl. G06m *1/12;* **F15c** *3/06, 1/08*
U.S. Cl. 137—119 **9 Claims**



Apparatus including a passive binary counter and/or memory arrangement wherein a single pulse of air will cause movement of a means such as a ball, disc, or globule of liquid, from one bistable position to another in a passage, there being a vent between said bistable positions.

3,504,694
ACTUATING ASSEMBLY FOR A HYDRANT

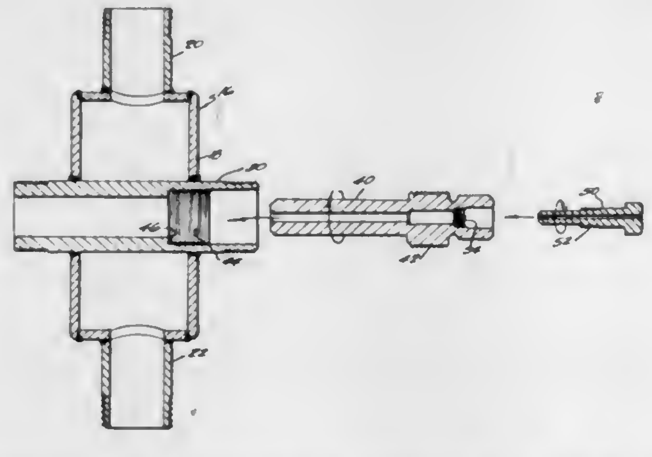
Wayne B. Noland, Avon Lake, Iowa, assignor to Woodford Manufacturing Company, Des Moines, Iowa, a corporation of Iowa
Filed May 16, 1967, Ser. No. 638,891
Int. Cl. E03b *9/14*
U.S. Cl. 137—303 **4 Claims**



A hydrant having an upstanding pipe with a valve body in its lower end comprising a pair of chambers into which a valve member extends, the inlet water pressure being in communication with the upstanding pipe through the one chamber and the upstanding pipe being in communication with a drain port through the second chamber, a handle connected to the upper end of a rod in the pipe and a valve member connected to the lower end of the rod, the valve member being movable to one position, a winter positon, wherein the first chamber is closed and a second chamber is open to drain water from the upstanding pipe, and movable to a second position, a summer position, wherein the valve member closes both chambers and water remains in the upstanding pipe. Packing material is compressed into a chamber around the valve member actuating rod and is maintained under pressure by a spring carried on the actuating rod and engaging a washer on the rod and forming the bottom of the packing chamber.

3,504,695
NATURAL HEAT MANIFOLD

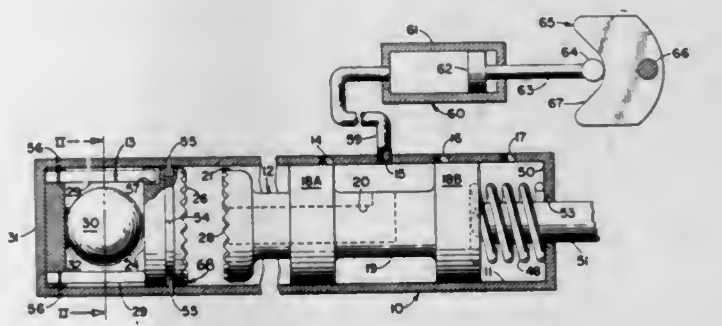
Joseph N. Rogers, P.O. Box 353, Marrero, La. 70072
Filed Aug. 3, 1967, Ser. No. 658,222
Int. Cl. E21c *43/12;* **F16l** *53/00*
U.S. Cl. 137—340 **1 Claim**



A natural heat manifold in which the purpose is to keep an oil well which flows hot, making a great percentage of water with the oil, from freezing; and in which the type of oil well has to be gas lifted by constant flow of gas through a small choke which freezes during the winter months causing the flow of gas to stop. By means of the natural heat manifold installed on gas lift oil wells, the oil wells may remain with constant flow of gas without stoppage resulting in elimination of freezing during the winter.

3,504,696
VALVE ROTATOR

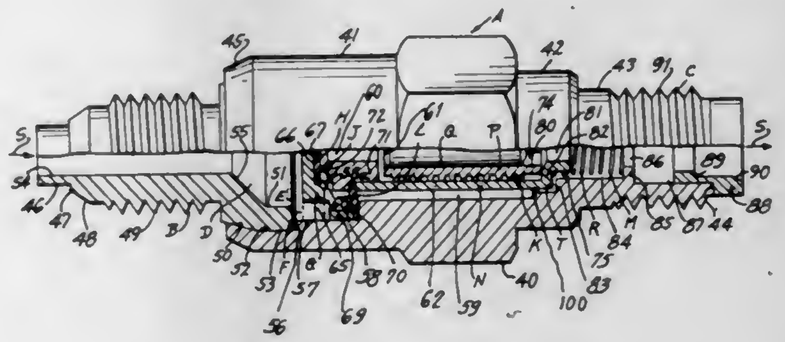
Jack McCurley, Dallas, Tex., assignor to LTV Electro-Systems, Inc., Greenville, Tex., a corporation of Delaware
Filed Apr. 21, 1967, Ser. No. 632,817
Int. Cl. B64c *13/00;* **F16k** *29/00*
U.S. Cl. 137—331 **12 Claims**



A mechanism for rotating and thus preventing uneven wear of a reciprocating valve element. A large portion of the mechanism is disconnected from the valve element while the latter is in its normal operating range; rotation occurs, in one modification, when a resilient means moves the valve element to a non-operative position. In another modification, thermally deformable elements respond to temperature changes to rotate the valve element while it is in its non-operative position.

3,504,697
MOVABLE METER-UNIT RESTRICTION

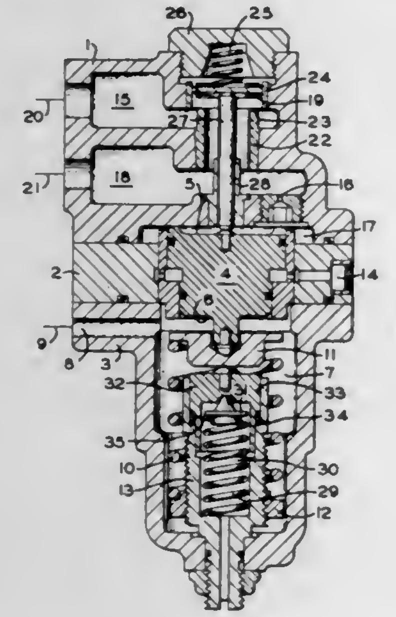
Francis E. Colgan, Midland Park, N.J., assignor to Auto Research Corporation, Boonton, N.J., a corporation of Delaware
Filed Jan. 9, 1968, Ser. No. 696,530
Int. Cl. F16k *15/00*
U.S. Cl. 137—469 **10 Claims**



In a lubricant distributing system having a pump and a conduit system to supply a plurality of bearings and points, at each bearing and point a high restriction flow apportioning unit associated therewith to control the volume of lubricant supplied thereto; the units each having a bore therethrough with a closed tubular flow restriction means therein having a spiral flow restriction passageway therethrough; the flow restriction means having a flow cut-off valve at the inlet end thereof; the valve is attached to the flow restriction means; the restriction means being normally spring biased in a position to stop flow past the valve; the restriction means being supported in the unit by a device which permits the restriction means to be moved toward or away from the flow cut-off position, respectively, to cut-off or permit flow through the unit.

3,504,698
VARIABLE LOAD RELAY VALVE DEVICE

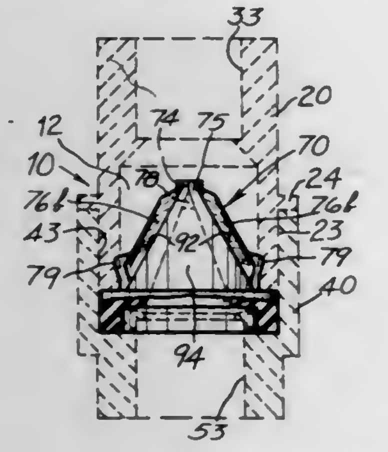
Richard K. Frill, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Aug. 5, 1968, Ser. No. 750,190
Int. Cl. B60t *8/18;* **F16k** *31/163*
U.S. Cl. 137—495 5 Claims



A relay valve device operable responsively to the degree of vehicle air spring pressure as determined by the vehicle load for effecting delivery of brake-actuating fluid to the brake cylinder at a pressure commensurate with the vehicle load, said relay valve device being characterized by fail-safe means operable for causing the relay valve device to effect at least the delivery of fluid pressure corresponding to a minimum brake application consistent with an "empty" load condition of the vehicle in the event of failure of air spring pressure.

3,504,699
CHECK VALVE

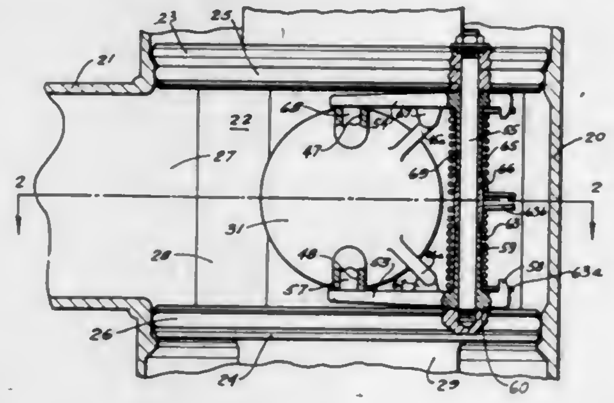
Frederick G. J. Grisé, Barre, Mass., assignor to Grimar, Inc., Clinton, Mass.
Filed Mar. 20, 1967, Ser. No. 624,546
Int. Cl. F16k *15/14, 17/02, 7/12*
U.S. Cl. 137—525.1 5 Claims



A check valve with a rigid annular housing enclosing a flexible valve member having shaped and tapered opposite wall portions fitted freely but very closely within the housing to stabilize flat opposite wall portions interconnected thereby under back pressure, and multiple coacting stiffening ribs extending lengthwise of and projecting outwardly from each flat wall portion, and provided with projections from both flat wall portions deformed by said housing and operative through the stiffening ribs to maintain the open downstream ends of the flat wall portions in mutual engagement absent relatively higher pressure upstream than downstream.

3,504,700
SWING CHECK VALVE

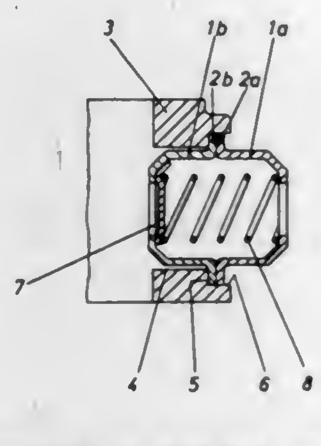
John Gordon Baker, Evansville, Wis., assignor to Baker Manufacturing Company, Evansville, Wis., a corporation of Wisconsin
Filed June 9, 1966, Ser. No. 556,309
Int. Cl. F16k *15/03*
U.S. Cl. 137—527.4 9 Claims



The spool of a pitless well unit is provided with discharge ports at opposite sides of an inlet passage. The ports are controlled by swing valve discs. Each disc is pivoted to a parallel pair of horizontal arms, the pivot axis being in a vertical plane, diametral of the disc. Each pair of arms pivots on a vertical shaft extending between the spool flanges, the shaft carrying a tandem pair of torsion springs, each one of which bears against a lug on the corresponding arm, thus biasing the valve disc to its closed position, effecting a tight seal independently of back pressure and gravity. Suitable lug stops are provided for the purposes of limiting the angle of disc pivot relative to the arms and total swing of the disc and arm assembly.

3,504,701
VALVE ASSEMBLY AND METHOD OF INSTALLATION

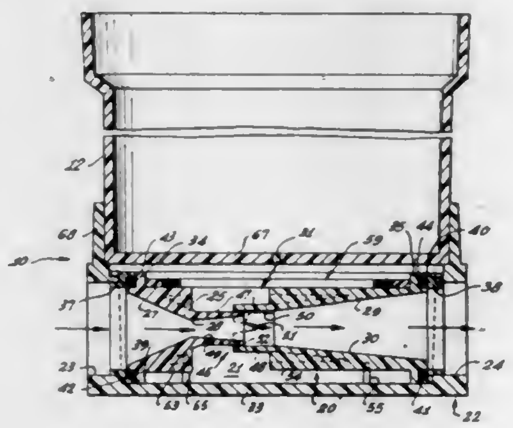
Friedrich Gross, Bergfeld, Germany, assignor to Westinghouse Bremsen- und Apparatebau, G.m.b.H., Hannover, Germany
Filed Nov. 22, 1967, Ser. No. 685,200
Claims priority, application Germany, Dec. 15, 1966, W 38,701
Int. Cl. B21d *53/00;* **F16k** *17/04*
U.S. Cl. 137—540 8 Claims



A valve assembly in which a pair of valve housing segments are assembled in axial abutment to preload the spring of a spring-biased check valve enclosed therebetween, and are simultaneously fixedly installed as a valve assembly in a bore in a housing by means of a radially outwardly extending flange on the abutting end of each segment, one or both of the flanges being sloped toward the other so as to be radially spaced relative to a counterbore and to axially abut the shoulder between bore and counterbore, and upon further insertion of the segments in the bore by application of axial force on the outermost member, the flange or flanges will bend to a position perpendicular to the axis of the housing segments thereby moving the segments toward one another to compress the spring and simultaneously enlarging the flange periphery into tight radial engagement with the counterbore to fixedly install the segments in the bore in axially assembled relationship.

3,504,702
FLUID MIXING DEVICE

Ralph D. Collins, Beverly Hills, and Don C. Willis, Marina Del Rey, Calif., assignors to Spec, Inc., Beverly Hills, Calif., a corporation of California
Continuation-in-part of application Ser. No. 564,059, July 11, 1966. This application Oct. 24, 1968, Ser. No. 770,155
Int. Cl. B01f *5/04;* **B05b** *7/30*
U.S. Cl. 137—604 19 Claims

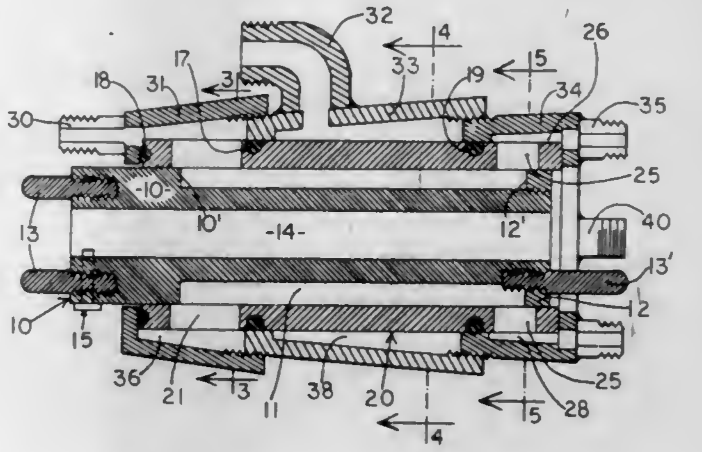


A device for mixing water with a soil-conditioning fluid and having a base with a circular reservoir-mounting flange upstanding from a wall having an opening forming the upper side of an elongated sump recess, the recess being formed with inlet and outlet openings in its opposite ends. A reservoir is disposed above the base and held by the mounting flange, and a venturi-type mixing unit is disposed in the sump recess with conical inlet and outlet sections of the unit seated against the respective openings and connected by a telescoping tubular joint. A retainer overlying the mixing unit has wedge elements for extending the ends of the venturi sections into seats around the inlet and outlet openings, and ports are formed in the connecting joint for the entry of soil-conditioning fluid from the reservoir into the water flowing through the unit. One using system is a permanent sprinkler system, and an alternative has a portable stand for connection to hoses.

3,504,703
ROTARY SPOOL VALVE

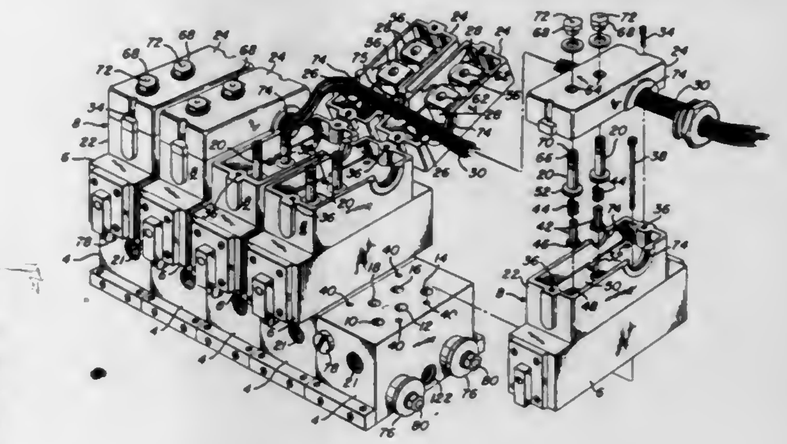
Edward Bozoyan, 1812 West St., Union City, N.J. 07087
Continuation-in-part of application Ser. No. 528,677, Jan. 4, 1966. This application Dec. 7, 1967, Ser. No. 688,760
Int. Cl. F16k *11/08, 5/02, 27/06*
U.S. Cl. 137—625.23 9 Claims

A control valve having a cylindrical rotary spool disposed in a relatively short sleeve with apertured levels and enveloped with an annular manifold at each level. The spool having longitudinal fluid passages in its outer surface and a blank hollow interior for actuation and/or feedback. The passages communicate continuously with conversely cycling fluid-output ports, and upon arcuate rotation of the spool one port is connected with the fluid-supply level and another with the fluid return level.



3,504,704
VALVE AND CONTROL ASSEMBLY

Robin K. Beckett and Allen J. Moffat, Wilmington, Ohio, assignors to Beckett-Harcum Company, Wilmington, Ohio, a corporation of Ohio
Filed Apr. 29, 1968, Ser. No. 724,945
Int. Cl. F16k *11/07, 31/12, 27/04*
U.S. Cl. 137—625.64 12 Claims

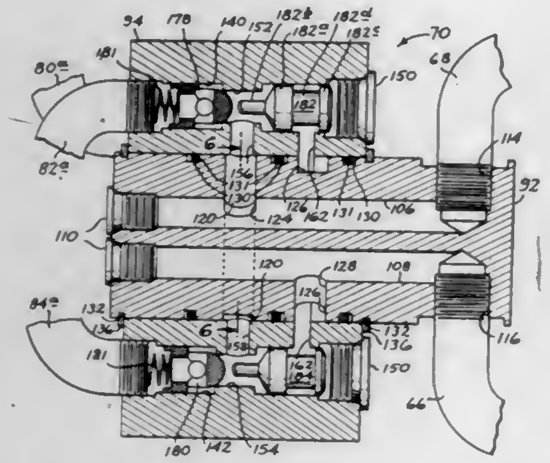


The valve and control assembly comprises three units in a vertical stack, with any number of stacks secured in side by side relation, to produce a compact integrated structure. The uppermost unit is constituted of an electrical section and a mechanical section easily separable, so that the electrical section containing solenoid coils, a terminal block, and a portion of a cable or conductor group, may be readily disassociated from the mechanical section without severing any electrical connections, to fully expose for inspection or replacement the mechanical constituents of the assembly.

3,504,705
REVOLVING CONNECTOR

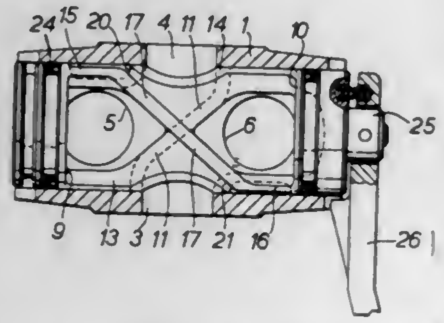
Delano Wight, Gresham, and Henry F. Chochrek, Portland, Oreg., assignors to Cascade Corporation, Portland, Oreg., a corporation of Oregon
Filed Oct. 9, 1967, Ser. No. 673,717
Int. Cl. F17d *1/00;* **E03b** *1/00;* **E03c** *1/00*
U.S. Cl. 137—615 8 Claims

A revolving connector interposed between two relatively rotatable devices, with the connector including a nonrotatable spool mounted on one of the devices and a rotatable member journaled on the spool and mounted for rotation with the other of the devices. A pair of fluid-flow courses extend through the spool and rotatable member accommodating fluid flow between the two devices. Check valve means mounted in one of the fluid-flow courses normally permits fluid flow through that course in one direction only. The other fluid-flow course in the pair includes a pressure-responsive element which is operable, on the introduction of pressure fluid to said other course, to open the check valve permitting a reverse flow of fluid therethrough.



3,504,706
VALVES

Lothar Peter Schmitz, Pudsey, near Leeds, England, assignor to The Drum Engineering Co. Limited, Dudley Hill, Bradford, Yorkshire, England
Filed July 16, 1968, Ser. No. 745,272
Claims priority, application Great Britain, Dec. 22, 1967, 58,389/67
Int. Cl. F16k *39/06*
U.S. Cl. 137—625.43 **2 Claims**

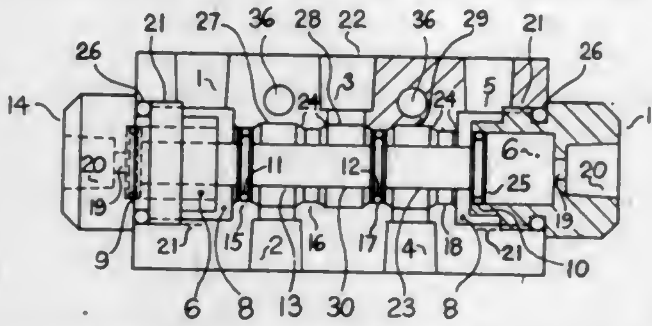


A rotary valve having a first position whereby a first and a second port are connected to a third and a fourth port respectively, and a second position whereby the first and second ports are connected to the fourth and third port respectively. The valve is radially balanced by fluid pressure.

3,504,707
COAXIAL CYLINDER OPERATED 5-PORTED DOUBLE ACTING POPPET VALVE

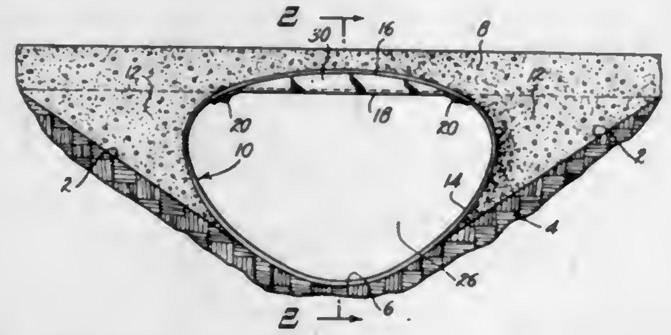
Alan C. Brooks, Irvington, N.J.
(P.O. Box 747, Union, N.J. 07083)
Filed Apr. 26, 1967, Ser. No. 634,008
Int. Cl. F16k *31/12*
U.S. Cl. 137—625.66 **1 Claim**

A valve is disclosed which includes a body member having an internal passageway along its longitudinal axis with the body member having a plurality of ports transversely intersecting the internal passageway thereof. A spool is located in the internal passageway and is movable between a first and second position. The spool includes pistons at opposite ends thereof and at least one enlarged poppet means intermediate its ends thereof which establishes preselected flow paths through the ports and the internal passageway of the body member in accordance with whether the spool is in its first or second position. A pair of end caps threadably engage opposite ends of the internal passageway of the body member. Such end caps include a cylinder portion which receives the aforementioned pistons of the spool and such end caps further include an enlarged head portion having an aperture by means of which fluid pressure can be conveyed into the cylinder portion thereof against the associated piston of the spool. Additionally such enlarged head portion functions as a stop to limit the travel of the end caps when they are screwed into the body member.



3,504,708
INVERTED ARCH PIPE

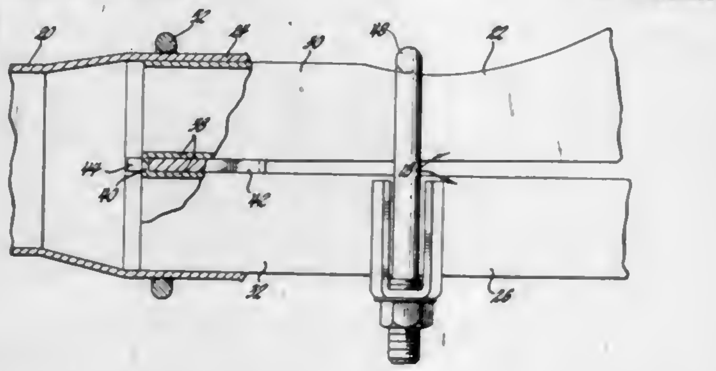
J. Stanley René, 1210 Parkway Court, Lafayette, Ind. 47905
Filed May 11, 1967, Ser. No. 637,682
Int. Cl. F16l *1/00, 9/18*
U.S. Cl. 138—105 **1 Claim**



A culvert pipe shaped to define a lower flow channel portion of generally rounded V-shape and an upper somewhat flat arch portion with a horizontal and perforated tie plate joining the ends of the arch. The tie plate divides the interior of the conduit into a lower flow channel and an upper air vent compartment closed at one end, the volume of the vent compartment comprising only a minor portion of the total volume in the conduit.

3,504,709
BRANCHED CONDUIT

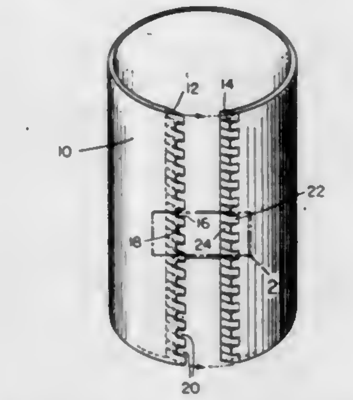
Thomas R. Cassel, Birmingham, Harry L. Redding, Pontiac, and John A. Walford, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,781
Int. Cl. F16l *9/18*
U.S. Cl. 138—116 **2 Claims**



A branched conduit formed from a single length of pipe wherein intermediate portions of the pipe are formed to a generally D-shape and transversely cut intermediate of the formed portion to the substantially flat side wall. The pipe is then reversely bent upon itself so that the end portions of the semi-circular walls form a substantially annular transverse outlet and the flat walls are in juxtaposed relationship and commonly joined by a continuously reversely bent juncture wall. Reinforcing means are provided between the flat wall and, in combination with the juncture wall, provide columnar strength for the branched conduit under compressive loading of the end portions.

3,504,710
VULCANIZED FIBER SHELL FOR A ROVING CAN

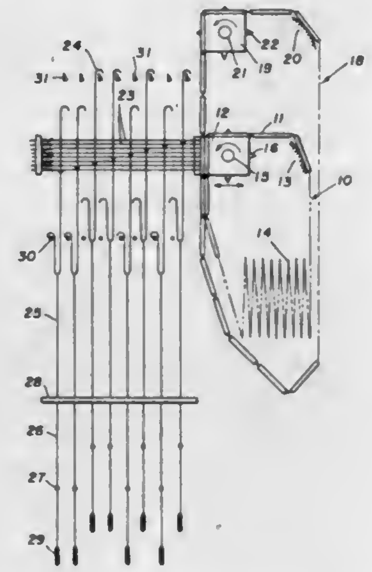
Harry R. Pancoast, Wilmington, Del., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1968, Ser. No. 764,244
Int. Cl. F16l *9/10*
U.S. Cl. 138—170 **5 Claims**



A sheet for providing a cylindrical shell for a roving can includes a pair of ends having complementary tapered portions disposed to interlock with each other when the ends are joined. Each of the ends may include tapered portions disposed in different planes with respect to other tapered portions.

3,504,711
MULTIPLE CARD CHAINS FOR JACQUARD LOOM

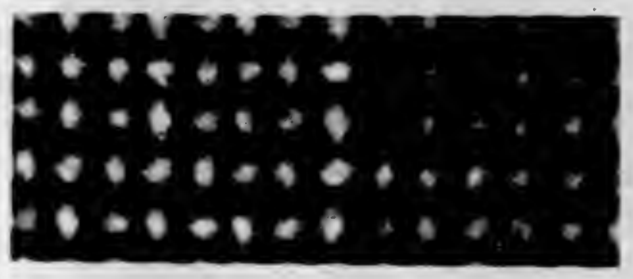
Paul D. Emerson, Raleigh, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Feb. 1, 1968, Ser. No. 702,295
Int. Cl. D03c *3/00, 15/00, 19/00*
U.S. Cl. 139—59 **11 Claims**



In the weaving of certain orthogonal and flat fabrics, at least two Jacquard card chains are utilized simultaneously to actuate a single Jacquard needle system whereby the number of Jacquard cards required to program a given pattern is substantially reduced.

3,504,712
WOVEN STRETCH FABRIC

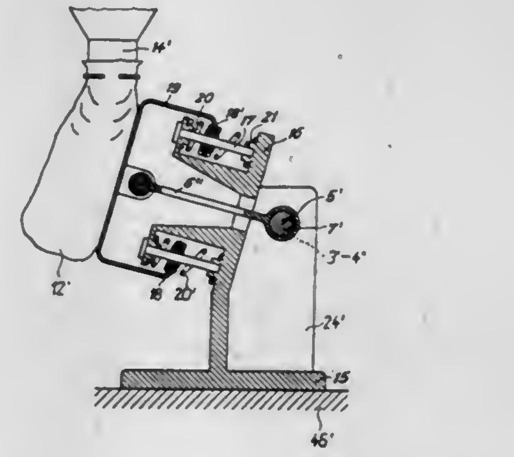
Joseph H. Dusenbury and Samuel G. Thompson, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Original application Nov. 24, 1964, Ser. No. 413,570, now Patent No. 3,409,960, dated Nov. 12, 1968. Divided and this application Sept. 15, 1966, Ser. No. 579,592
Int. Cl. D03d *15/08, 3/00*
U.S. Cl. 139—421 **1 Claim**



A woven stretch fabric having stretch characteristics in the filling direction in excess of 25% composed of fill yarns that have a twist multiple less than about 2.6 resulting in a degree of twist insufficient to produce internal compacting forces.

3,504,713
BEATER DEVICE FOR FACILITATING THE FILLING OF SACKS

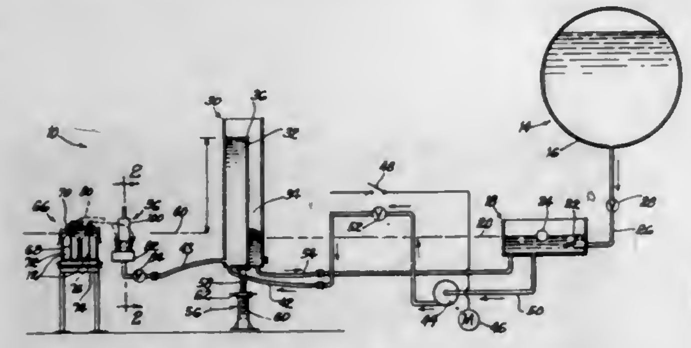
Bruno Gmür, St. Gall, Switzerland, assignor to Gebruder Buhler, Uzwil, Switzerland
Filed Feb. 11, 1966, Ser. No. 526,744
Claims priority, application Switzerland, Feb. 19, 1965, 2,248/65; July 2, 1965, 9,306/65
Int. Cl. B65b *1/20;* **B01f** *13/08*
U.S. Cl. 141—77 **16 Claims**



A beater device for use during or after the filling of sacks which are supported at their tops from a filling device in a manner permitting the sack to hang downwardly, comprises a beater plate which is supported in an oblique position on resilient bearings. The plate carries at its rearwardly extending end two spaced support plates which engage around a shaft piece, the support plates being spaced apart and positioned on the shaft piece by spacer sleeves and by a central rubber bearing or bushing located between the plates. The rubber bushing is carried at the end of a rod which is operated by a crank or eccentric to impart a to and fro beating movement to the shaft piece and to the support plate and beater plate carried thereby. The shaft piece is held for swinging back and forth movement above a resiliently supported foundation on a pivot link which is connected to each end of the shaft piece through resilient bushings or bearings.

3,504,714
BOTTLE-FILLING APPARATUS FOR HANDLING FOAMY LIQUIDS

Chauncey M. Bell, 1050 W. Kinzie St.,
Chicago, Ill. 60622
Filed Feb. 14, 1968, Ser. No. 705,545
Int. Cl. B65b *1/04, 3/04, 37/00*
U.S. Cl. 141—244 16 Claims

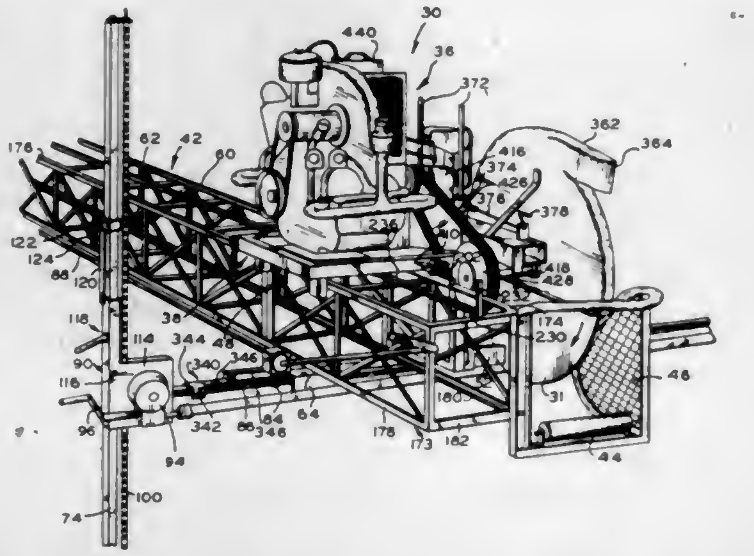


An apparatus for simultaneously filling a plurality of bottles with a liquid, comprising means for supporting the bottles, a movable filler frame having a plurality of spigots adapted to be inserted into the bottles, a supply manifold, a plurality of branch conduits connected to said spigots and projecting downwardly into said manifold, a vent manifold, a plurality of vent conduits connected between said vent manifold and said branch conduits, a vent valve connected between said vent manifold and the atmosphere for breaking the siphonic action in said branch conduits after the bottles have been filled, so as to minimize the dribbling of the liquid from said spigots when they are withdrawn from the bottles, a main conduit extending upwardly into said supply manifold, a standpipe extending upwardly from said supply manifold above the entrance of said main conduit, whereby any bubbles in the entering liquid will tend to travel upwardly to the atmosphere within said standpipe, a measuring tank for holding enough liquid to fill all of the bottles simultaneously, the lower portion of said measuring tank being below the liquid level to which the bottles are to be filled, whereby liquid will remain in said measuring tank after the bottles have been filled, said main conduit being connected to said measuring tank below said liquid level, whereby said main conduit is always filled with the liquid, a first supply valve in said main conduit, means for filling said measuring tank including a supply source of the liquid, a supply level tank, a float valve in said supply level tank for admitting the liquid from said source to maintain the desired supply level in said supply level tank, a supply conduit connected to said measuring tank below the minimum liquid level therein, a selectively operable pump for pumping the liquid from said supply level tank to said supply conduit to fill said measuring tank, a second supply valve connected into said supply conduit to prevent backflow of the liquid, said measuring tank having an overflow partition over which the liquid will flow when the liquid rises above the overflow level, an overflow receptacle for receiving the overflowing liquid from said measuring tank, and a return conduit connected between said overflow receptacle and said supply level tank, said overflow receptacle affording room for any foam which may form therein.

3,504,715
PORTABLE SAWMILL

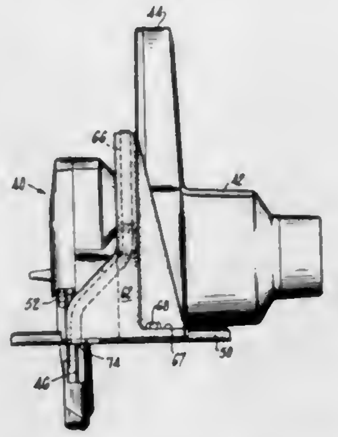
Thomas R. Miles, Portland, Oreg., assignor to International Enterprises of America, Inc., Portland, Oreg., a corporation of Oregon
Filed June 27, 1967, Ser. No. 649,315
Int. Cl. B27b *5/00*
U.S. Cl. 143—33 36 Claims

A carriage movable along a track carries an engine, a lower horizontal saw, an adjustable upper horizontal saw and a vertical saw. The track is trussed, includes a plurality of sections dowelled together, and is extensible by adding sections. A pair of crossfeed rails support the track and have racks engaged by pinions carried by the tracks and driven by worm gear crossfeed drives interlocked by an extensible quick-connecting shaft. The crossfeed drives can be driven selectively either forwardly or in reverse, and can be backed off slightly after each cut to provide clearance for the vertical saw as the carriage is returned to the starting position. A cross-feed gauge on the rail at the offbear end where the operator is stationed can be adjusted along the rail by the operator during the cutting stroke of the carriage, and serves to stop the crossfeed at the desired point after the carriage has been returned. The rails are carried by slides movable along easily assembled and dis-assembled corner end stands secured by corner braces. Each of the two slides at one end are movable together up or down the stands by vertical travel worm gear drives carried by the slides and driving sprockets meshing with chains stretched between and secured to the tops and bottoms of the stands. The two vertical travel worm gear drives at each end of the mill are interlocked by a quick-connecting shaft. Uniform vertical travel of each interlocked pair of worm gear vertical travel drives is effected by cranking only one of the drives, and a vertical travel gauge indicates the extent of travel and has marks thereon to indicate board width and compensation for one or two kerf widths. The carriage includes a main frame carrying the engine and a detachable attachment frame carrying the saws, the power transmitting elements from the engine to the saws, a hydraulic pump and a hydraulic motor which drives a pinion meshing with a rack fixed to the track. The rack includes a plurality of rack sections which are stretched if necessary to make them of the same lengths as the track sections so that the end teeth of all the rack sections start at the same point. The rack sections and guide bar sections are shimmed to the track sections, and grooved rollers of the main frame of the carriage run on the guide bar sections. Stabilizing rail sections shimmed to the track sections are bracketed by a pair of rollers on horizontal axes on the main frame of the carriage. The engine is end-mounted on a vertical bracket of the main frame of the carriage. The engine drives through a flywheel coupling the hydraulic pump, a V-belt drive driving the vertical saw and a right-angle drive driving the horizontal saws, all of which are mounted with the saw arbors on the attachment frame which can be easily removed from the main frame and replaced by a second attachment frame carrying a chain saw or other power tool to be driven by the engine and moved by the carriage. For sawing long logs, a sled-like slide is mounted on the bottom of the central portion of the track and is initially supported by a vertically adjustable auxiliary crossfeed guide supported by a stand and dogs driven into a portion of the log below the level at which boards are to be initially cut. After the initial boards have been cut, the slide and the track are moved over the newly sawed horizontal surface which supports the slide to prevent sag in the track.



3,504,716
POWER TOOL AND GUIDE THEREFOR

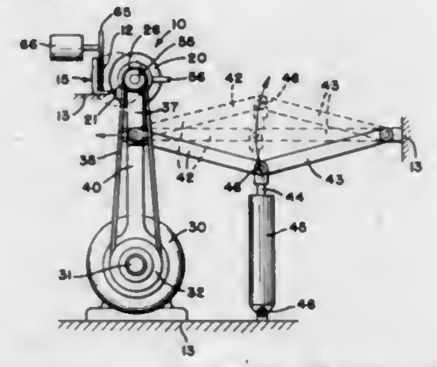
Walter R. Bush and William R. Davis, West Simsbury, and Peter H. Morganson, Winsted, Conn., assignors to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Dec. 28, 1966, Ser. No. 605,234
Int. Cl. B27b *9/04, 11/02*
U.S. Cl. 143—43 13 Claims



An optical conduit is fixedly mounted on a portable power tool having a terminal device such as a saw blade so that the image pick up end of the conduit is pointed at a line marking the path of travel of the terminal device along a workpiece at a point in advance of the travel of the tool along the workpiece to convey an image of the workpiece so that the user may closely follow and accurately guide the terminal device through the image on the viewing end of the conduit which is disposed conveniently for viewing. The image pick up end of the conduit may be in engagement with the surface of the workpiece, incorporate a focusing lens, be grooved to receive a portion of the terminal device or be bifurcated to provide two spaced ends aligned along the axis of the terminal device to amplify any misalignment of the terminal device from the desired path. The image viewing end may present a magnified image as by the enlargement thereof and may include reference indicia to indicate the relative position of the terminal device to the image being viewed.

3,504,717
APPARATUS FOR CUTTING A CONTINUOUSLY MOVING STRIP OF MATERIAL

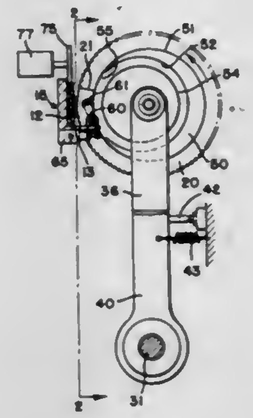
Barry A. C. Pittman and Carl W. Maxey, Everett, Wash., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Apr. 8, 1968, Ser. No. 719,453
Int. Cl. B26d *5/38*
U.S. Cl. 143—46 7 Claims



A saw for making a cut perpendicular to the direction of movement of a continuously moving strip of material is formed from a discontinuous helical blade having a cutting edge on its circumference. The speed or rotation of the blade and the pitch angle of the helix are correlated with the longitudinal speed of the strip of material so that the cutting edge of the blade does not move longitudinally relative to the material and thus is able to effect a square cut in the material. The discontinuity in the blade is prevented from engaging the material by an electronic means associated with the actuator which moves the saw into cutting relation with the material.

3,504,718
APPARATUS FOR CUTTING A CONTINUOUSLY MOVING STRIP OF MATERIAL

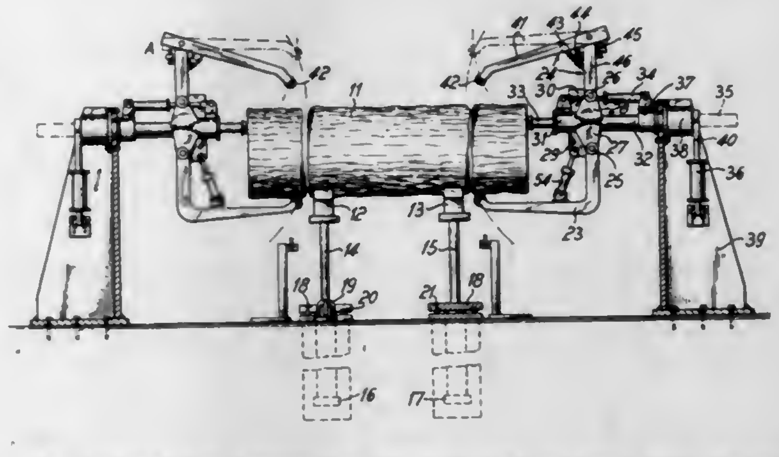
Barry A. C. Pittman, Everett, and Kenneth M. Cage, Marysville, Wash., assignors to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Apr. 8, 1968, Ser. No. 719,454
Int. Cl. B26d *5/38*
U.S. Cl. 143—46 2 Claims



A saw for making a cut perpendicular to the direction of movement of a continuously moving strip of material is formed from a discontinuous helical blade having a cutting edge on its circumference. The speed of rotation of the blade and the pitch angle of the helix are correlated with the longitudinal speed of the strip of material so that the cutting edge of the blade does not move longitudinally relative to the material and thus is able to effect a square cut in the material. The discontinuity in the blade is prevented from engaging the material by mechanical means associated with the actuator which moves the saw into cutting relation with the material.

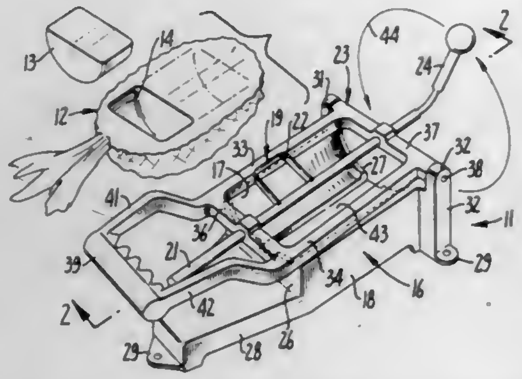
3,504,719
CENTERING DEVICE FOR LOGS

Günther Don, Rinderstra. 4, Hiddesen, near
Detmold, Germany
Filed Mar. 22, 1967, Ser. No. 625,184
Claims priority, application Germany, Mar. 22, 1966,
R 42,902
Int. Cl. B27l *5/02;* **B23b** *15/00*
U.S. Cl. 144—209 8 Claims



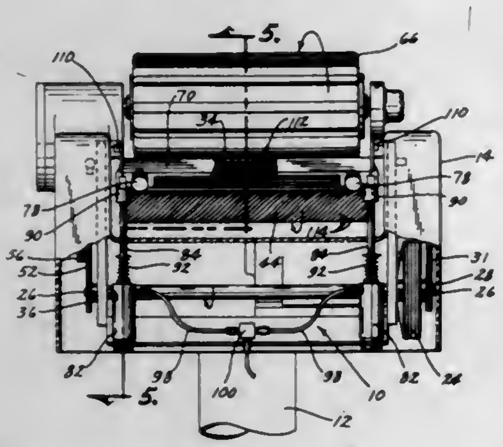
A device for centering logs to be moved into wood peeling machines, the device having tong-like centering levers for actuating controls for movement of the lifting devices.

3,504,720
MACHINE FOR DISHING PINEAPPLES AND THE LIKE
Thomas F. Mason, 175 San Rafael Way,
San Francisco, Calif. 94127
Filed Oct. 9, 1967, Ser. No. 673,799
Int. Cl. A23p *1/00;* **B26d** *3/22*
U.S. Cl. 146—6 **14 Claims**



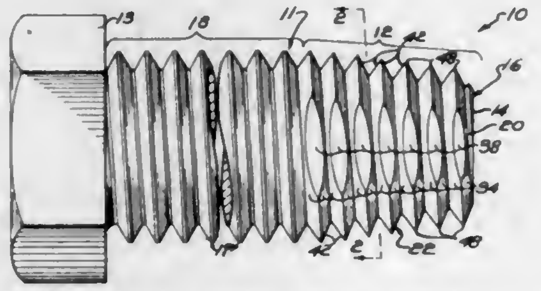
A machine for dishing pineapples constructed with a cradle formed for holding a pineapple half cut side up, a frame pivotally attached to the cradle and formed to fit down over a pineapple half held in the cradle, with the frame carrying a cutter journaled therethrough for rotation around the long axis of the pineapple half and a blade carried on the cutter of a substantially U-shaped configuration adapted to rotate through the pineapple half and cut half discs therefrom to leave a hollowed out portion in the pineapple; the cutter blade is carried for longitudinal adjustment so that multiple cuts may be made for providing different sized cavities in the pineapple half, and certain alternate configurations allow for adjustment of the machine to accommodate different sized pineapple halves, for coring the pineapple, and other variations.

3,504,721
SKINNING APPARATUS WITH AUTOMATIC BLADE CONTROL
Ray T. Townsend, Des Moines, Iowa, assignor to Townsend Engineering Company, Des Moines, Iowa, a corporation of Iowa
Continuation-in-part of application Ser. No. 616,692, Feb. 16, 1967. This application Feb. 20, 1968, Ser. No. 706,940
Int. Cl. A22c *17/12*
U.S. Cl. 146—130 **7 Claims**



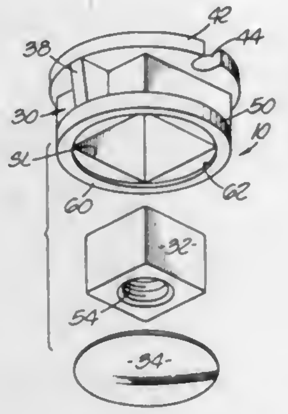
A meat skinning machine of the type having a skin gripping roll and a concave shoe cooperating with a skinning blade and the gripping roll to pull the skin through the machine and part the skin from a piece of meat. A stripper roll is mounted adjacent the gripper roll to strip the skin from the gripper roll after the skin has been removed from the meat. The shoe and skinning blade are held concentrically with the gripping roll by air piston means. The air piston means are controlled by a photoelectric cell means which functions to instantaneously move the shoe and blade to the skinning position as soon as the meat approaches the close proximity of the blade. The instantaneous initial bite of the blade into the meat is enhanced and accelerated by pivoting the shoe above and forwardly of the point of engagement of the blade with the oncoming meat to be skinned. The method involves the holding of the shoe adjacent the gripping roll concentrically with sufficient force to grip the removed skin but with insufficient force to prevent puncture of the skin by the gripping roll. The method further holds the skin uniformly against the gripper roll, and then strips the skin from the gripper roll by a remotely located stripper roll to insure that a uniform thickness of skin is removed.

3,504,722
THREAD FORMING AND LOCKING FASTENER
Arthur R. Breed, Euclid, Ohio, assignor to The Lamson & Sessions Co., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 20, 1968, Ser. No. 777,220
Int. Cl. F16b *33/02, 39/30*
U.S. Cl. 151—22 **15 Claims**



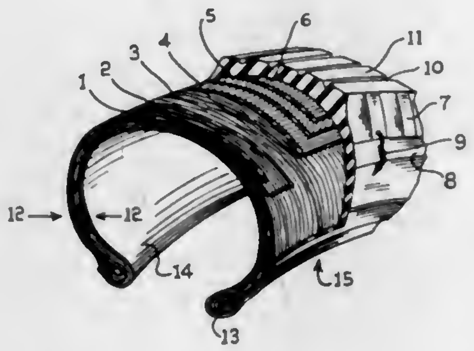
An improved threaded fastener includes a thread convolution having wide flank portions. Interspersed with these wide flank portions are high crest portions having a narrower flank width and greater crest height than the wide flank portions. In one embodiment, the thread convolution is located on a tapering, leading end of the fastener and is adapted to form a cooperating internal thread in the receiving opening in a host member. In another embodiment, the thread convolution is located on a cylindrical shank of the fastener and establishes a prevailing torque for relative rotation between the fastener and an internally threaded member. The improved thread is formed by applying pressure to the crest of a thread convolution at circumferentially spaced locations along the thread convolution.

3,504,723
FLOATING NUT INSERT
Kenneth V. Cushman and William R. Zoller, Santa Ana, Calif., assignors to Delron Fastener Division Rex Chainbelt Inc., Santa Ana, Calif., a corporation of Wisconsin
Filed May 27, 1968, Ser. No. 732,262
Int. Cl. F16b *39/00*
U.S. Cl. 151—41.7 **4 Claims**



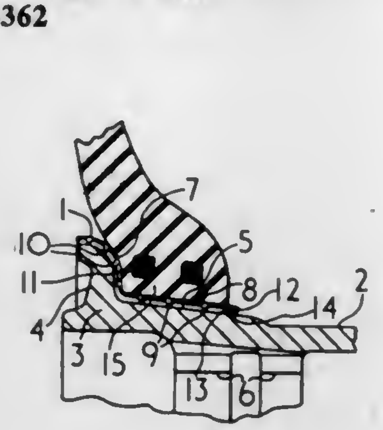
The inventon is a fastener insert of the floating nut type adapted particularly for use as a "molded-in" fastener which is potted in. The nut in the insert floats to permit alignment with a securing bolt. The bore or space within the shell of the fastener is square and the floating nut is square but of smaller size to allow limited freedom of relative movement for alignment. The fastener insert can be made by die casting and its construction greatly facilitates fabrication processes.

3,504,724
RADIAL TIRE CONSTRUCTION
Lawrence R. Sperberg, Box 12308,
El Paso, Tex. 79912
Continuation of application Ser. No. 504,424, Oct. 24, 1965. This application May 8, 1968, Ser. No. 727,751
Int. Cl. B60c *9/08, 9/20*
U.S. Cl. 152—354 **8 Claims**



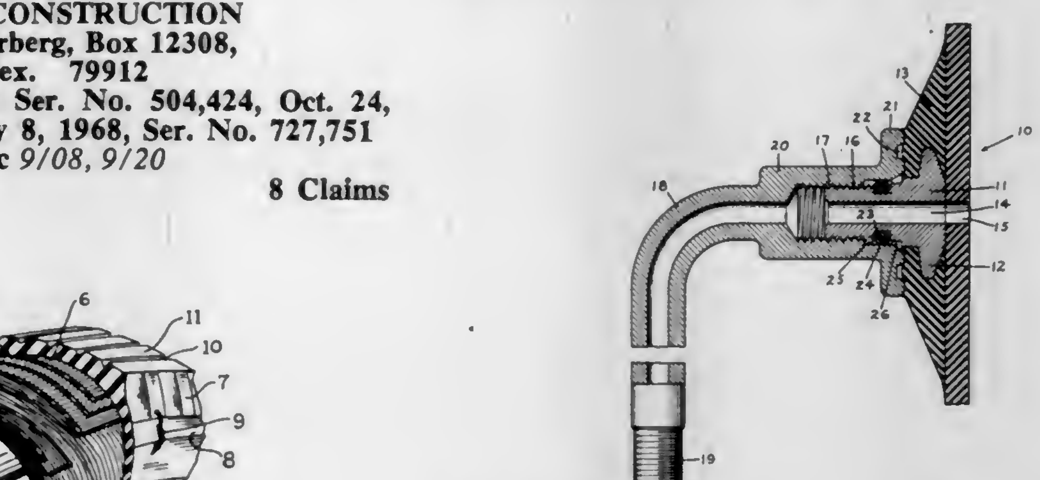
An improved radial ply constructed tire, in which a relatively nonextensible textile or ply material, such as steel or fiber glass, is used in the radial plies, while a more extensible textile, such as rayon or nylon is used in the belt plies. This construction takes advantage of the characteristics of tire cord material by placing a non-extensible or very low extensible ply material on the inside plies, and a somewhat higher extensible high impact energy material on the outside plies.

3,504,725
VEHICLE WHEEL ASSEMBLIES
Henry Raymond Fletcher, Ward End, Birmingham, and Glyn Benbow Roberts, Sutton Coldfield, England, assignors to The Dunlop Company Limited, London, England, a British company
Filed Nov. 7, 1967, Ser. No. 681,254
Claims priority, application Great Britain, Nov. 15, 1966, 51,116/66
Int. Cl. B60b *21/12*
U.S. Cl. 152—362 **9 Claims**



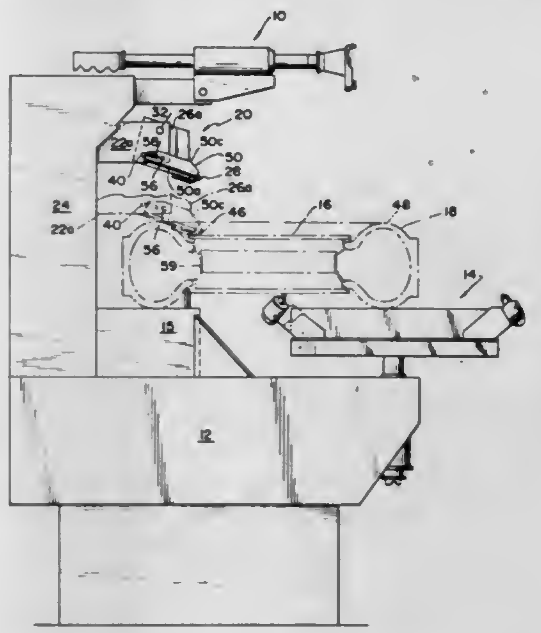
A vehicle wheel and tyre asembly having a bent transmission barrier interposed between the wheel rim and the tyre to prevent heat from the brake from being transmitted to the tyre and causing premature failure. It may be secured to or formed as part of either the wheel rim or the tyre bead region, or it may be a device separate from both wheel and tyre.

3,504,726
VALVE STEM
Daniel Lejeune, Clermont-Ferrand, France, assignor to Compagnie Generale de Etablissements Michelin raison sociale Michelin & Cie, Clermont-Ferrand, France
Filed July 6, 1967, Ser. No. 651,611
Claims priority, application France, July 19, 1966, 69,999
Int. Cl. B60c *29/00*
U.S. Cl. 152—429 **3 Claims**



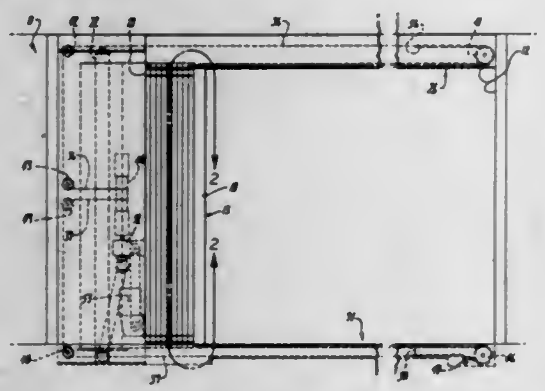
An improvement in valves for tubes for pneumatic tires in which the fixed stem portion or barrel of the valve of an inner tube is threaded into a valve stem extension to accommodate it to different styles of wheels and hub caps and in which an air-tight seal is provided between the fixed barrel and the stem extension by means of an O-ring mounted in a groove in the barrel and in sealing engagement with a smooth wall in the stem extension, the stem extension being threaded on the barrel outwardly of the O-ring seal and the stem extension further having a flange thereon for engaging the inner tube or for compressing a gasket against the inner tube when the stem extension is used on an inner tube having a conventional barrel affixed thereto.

3,504,727
GUIDE FOR BEAD BREAKER SHOE ASSEMBLY
Ray A. Scott, Fort Dodge, Iowa, assignor to The Coats Company, Inc., a corporation of Iowa
Filed Mar. 7, 1968, Ser. No. 711,362
Int. Cl. B60c *25/08*
U.S. Cl. 157—1.24 **14 Claims**



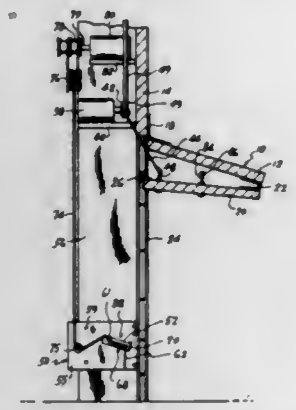
A guide for a bead breaker shoe utilized in forcing the side wall of a tire inwardly to separate the tire bead from the rim bead seat, characterized in that a movable locking member is associated with the bead breaker shoe to normally hold the shoe against movement radially inwardly with respect to the rim, the locking member being movable to a released position permitting free-swinging movement of the shoe after the shoe has moved axially past the rim periphery.

3,504,728
SIDE COILING PARTITION
Russell Wardlaw, San Rafael, Calif., assignor to The Cookson Company, San Francisco, Calif., a corporation of California
Filed Sept. 30, 1968, Ser. No. 763,876
Int. Cl. A47h *3/10;* **E06b** *3/92, 9/17*
U.S. Cl. 160—26 **4 Claims**



Side coiling partition having cables travelling in upper and lower tracks for advancing the partition and having means for preventing the cable from dropping out of the upper track and means for filling the lower track.

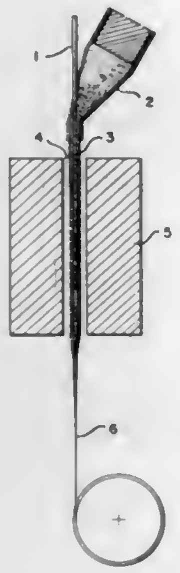
3,504,729
AUTOMATIC CLOSING SYSTEM FOR BIFOLD OVERHEAD DOORS
James A. Alton, P.O. Box 26, Peoria, Ill 61601
Filed June 10, 1968, Ser. No. 735,781
Int. Cl. E05f *15/10*
U.S. Cl. 160—188 **1 Claim**



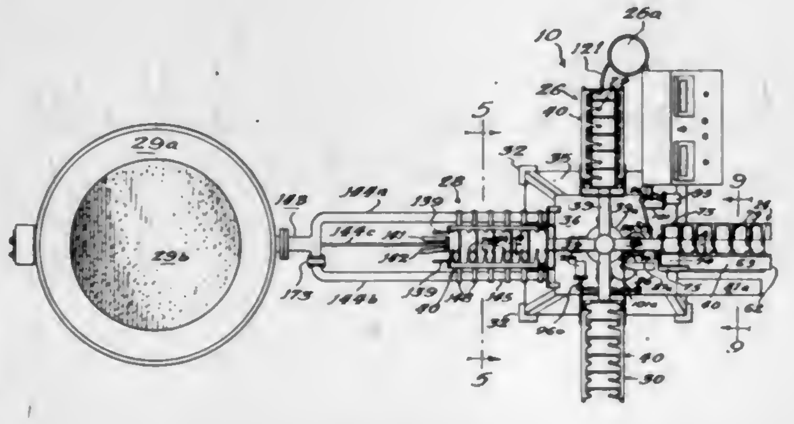
A double folding overhead door is provided with automatically operated latches to pull the door into vertical position and to hold the door in this position. Each latch includes a slide bar with hook which engages an eyebolt on the door. When the latch is closed the actuated door cannot be opened.

3,504,730
METHOD OF PRODUCING EXTREMELY THIN WIRES FROM HIGH-MELTING METALS OR ALLOYS
Walter Dannöhl, Wiesbadener Str. 22, Frankfurt am Main, Kelkheim-Munster, Germany
Continuation-in-part of application Ser. No. 830,679, July 30, 1959. This application Sept. 11, 1963, Ser. No. 308,621
Claims priority, application Germany, Aug. 6, 1958, D 28,697
Int. Cl. B22d *27/02*
U.S. Cl. 164—50 **7 Claims**

1. A method for producing extremely fine wires from initial wires or rods of high-melting metals or alloys, said wires or rods being less than 6 mm. in diameter, comprising the steps of introducing a rod of said material into a mold, enveloping said rod while it is in said mold, with a plastic sheath consisting essentially of a mixture of all materials necessary in high melting temperature glass, heating the enveloped rod to dry said sheath, thereafter heating the enveloped rod until said sheath is sintered as a glass or ceramic and becomes soft, further heating said rod to a temperature above the melting point of the metal or alloy, and drawing said sheath to a thin capillary while said metal or alloy is at a temperature above its melting point.

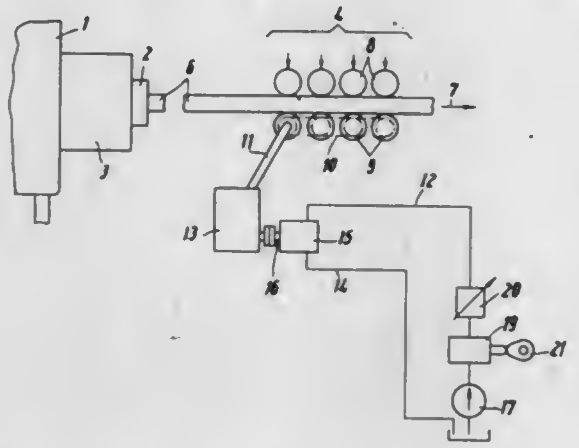


3,504,731
BATTERY ELEMENT FABRICATING MACHINE
John E. Farmer, Chicago, Ill., assignor to Farmer Mold and Machine Works, Inc., a corporation of Illinois
Filed June 29, 1967, Ser. No. 650,119
Int. Cl. B22d *19/00*
U.S. Cl. 164—270 **21 Claims**



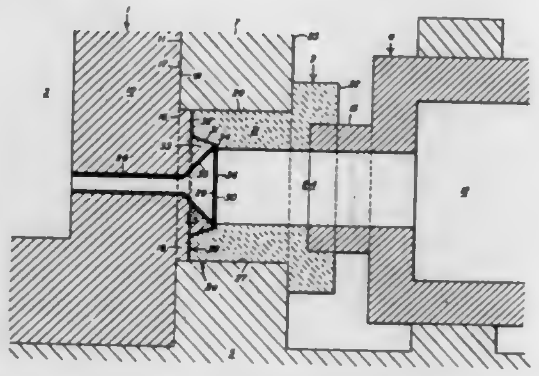
A machine for assembling battery plates and separators into groups by the cast-on method of forming posts and straps on the plates. The machine has a central vertically movable and rotatable column with a plurality of radially outwardly extending plate holding baskets, each of which is rotatably connected to the column and movable therewith between a loading station wherein battery plates are loaded with the basket angularly oriented with respect to horizontal and wherein the plates are loaded with the lugs of the plates projecting upwardly therefrom; a fluxing station; a molding station wherein particular valve means are provided to permit rapid and accurate flow of molten lead into cavities for the formation of battery posts and straps on the lugs of the plate; and an unloading station.

3,504,732
APPARATUS FOR CONTINUOUSLY CASTING METALS
Alfred J. Wertli, 15 Poststrasse, 8406 Winterthur, Switzerland
Filed Sept. 5, 1967, Ser. No. 665,616
Claims priority, application Switzerland, Sept. 3, 1966, 12,794/66
Int. Cl. B22d *11/12*
U.S. Cl. 164—282 **5 Claims**



The rollers which grip the emerging cast strand and advance the cast strand in a series of short rapid strokes are driven through a hydraulic motor. The hydraulic motor is operated in an intermittent manner through a pressure medium which is delivered to the hydraulic motor in similar intermittent manner.

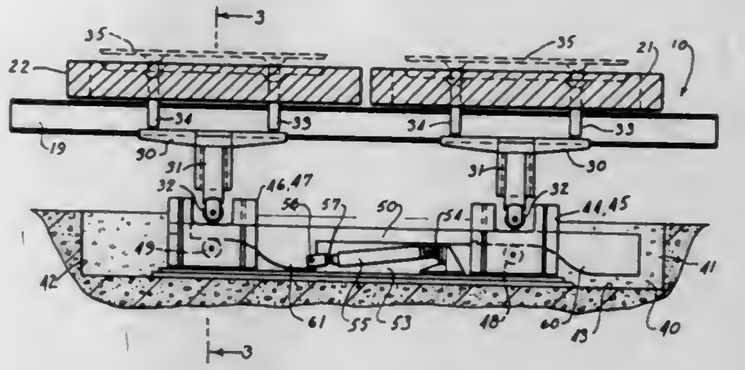
3,504,733
DIE CASTING MOLD ASSEMBLY
Loren W. Smith, Eggertsville, N.Y., assignor to Dresser Industries, Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 444,459, Mar. 31, 1965. This application May 2, 1966, Ser. No. 546,991
Int. Cl. B22d *17/04, 39/00*
U.S. Cl. 164—314 **9 Claims**



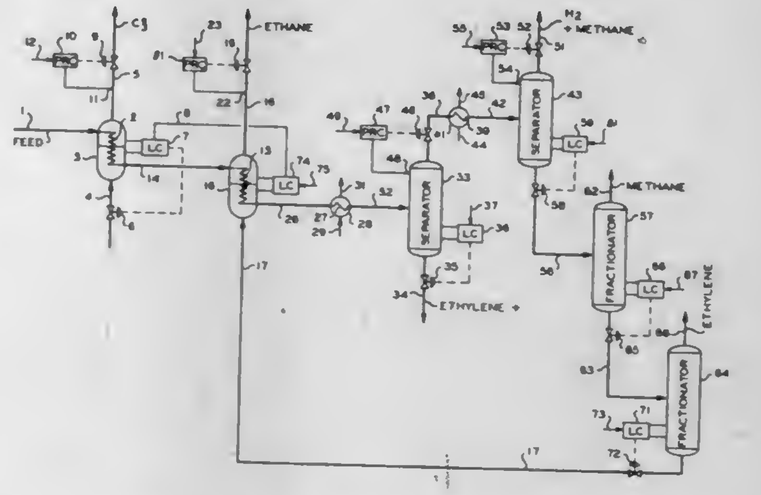
A die casting mold assembly having a charging cylinder connected to a cavity in a mold and an initially unsealed joint in the connection in advance of the cavity and mounted at one end by an outer surface on the mold, the joint being exposed to the liquid metal being cast at the outset of an injection and the bounding surface on the mold being of sufficient area to freeze any metal forced into the joint and thereby seal it against leakage.

3,504,734
ELECTRODE KNOCKOUT MECHANISM
Norman Lesk, Laurelton, N.Y., assignor to Treadwell Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1968, Ser. No. 717,340
Int. Cl. B22d *17/22, 29/00*
U.S. Cl. 164—347 **2 Claims**

A knockout mechanism for a casting wheel characterized by the fact that cast anodes of copper (electrodes) formed in molds carried by the wheel are brought by rotation of the horizontal wheel to a knockout position and upon reaching this position are positively ejected partially from the casting mold so that they project upwardly sufficiently to be engaged by mechanical lifting means or by a manual lifting means and conveyed to a point for use or shipment.



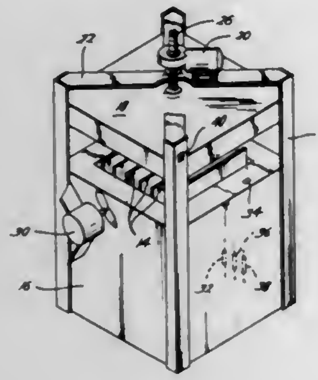
3,504,735
CONTROL OF LIQUID LEVEL OF REFRIGERANTS IN SERIALLY CONNECTED INDIRECT HEAT EXCHANGERS
James W. Hobbs, Bartlesville, Okla., and Dale E. Lupfer, Sweeny, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 19, 1968, Ser. No. 776,976
Int. Cl. F25j *3/08*
U.S. Cl. 165—1 **8 Claims**



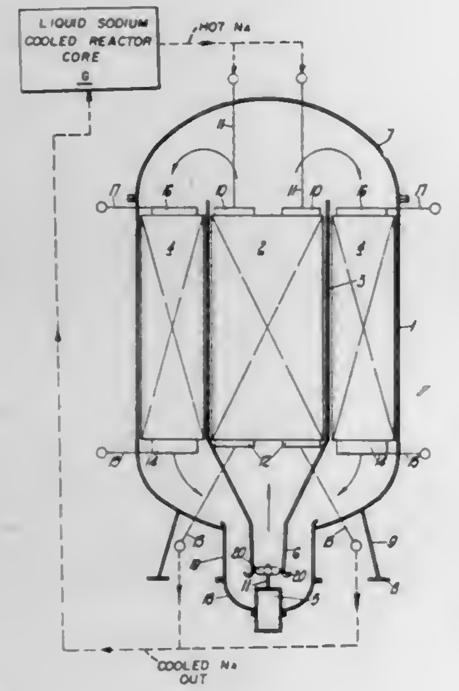
A feedstream to be cooled is passed through first and second indirect heat exchangers in series. A refrigerant is passed at a variable flow rate from a limited source thereof through the second heat exchanger. The flow rate of a refrigerant to the first heat exchanger is manipulated to vary the liquid level of refrigerant in the first heat exchanger responsive to the liquid level of refrigerant in the second heat exchanger.

3,504,736
METHOD OF AND APPARATUS FOR PROTECTING ELECTRONICS IN A TEMPERATURE COMPENSATING MEANS
Gilbert H. Tausch, Houston, Tex., assignor to Camco, Incorporated, Houston, Tex., a corporation of Texas
Filed Mar. 5, 1968, Ser. No. 710,615
Int. Cl. F28f *17/00*
U.S. Cl. 165—2 **6 Claims**

A method and apparatus for protecting electronic components from undesired environmental changes by placing a heat transfer surface adjacent the components for transferring heat to and from the components, and when the temperature of the components decrease to a desired lower value enclosing the components and the heat transfer surface in an insulated container whereby the heat generated by the components will maintain the components above the lower limit, and when the temperature of the components increases retracting at least a portion of the insulation container away from the heat transfer surface. A metal heat transfer box enclosing the electronic components and an insulated container enclosing the box and components and when the temperature of the components increases to a desired value actuating means retracting at least a portion of the insulated container away from the box allowing the box to dissipate heat from the components, providing additional cooling of the exposed box when the container is retracted, and when the temperature of the components decreases closing the insulated container around the box and further heating the components when the temperature of the components reaches a predetermined desired low value.

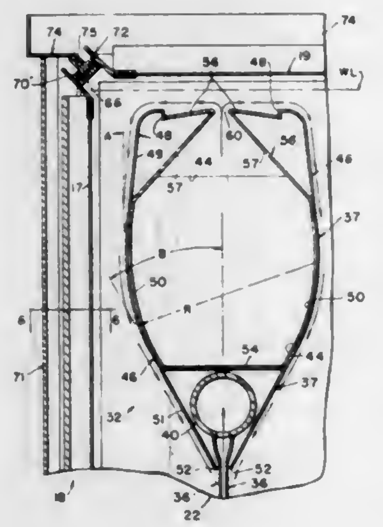


3,504,737
HEAT EXCHANGERS
Anthreas Nicholas Charcharos, 1 Craven Gardens, Harold Park, Romford, England, and Peter Anthony Taylor, 21 Southsea Ave., West Worthing, England
Filed Aug. 23, 1966, Ser. No. 574,386
Claims priority, application Great Britain, Aug. 25, 1965, 36,585/65
Int. Cl. F28d *15/00;* **F25f** *21/00;* **F22b** *1/02*
U.S. Cl. 165—107 **4 Claims**



A heat exchanger wherein hot liquid metal is passed through a first bank of tubes within a containment vessel to heat a gas contained therein under pressure, and the heated gas is circulated in heat exchange contact with a second bank of tubes within the vessel to heat a fluid passed through such second bank of tubes.

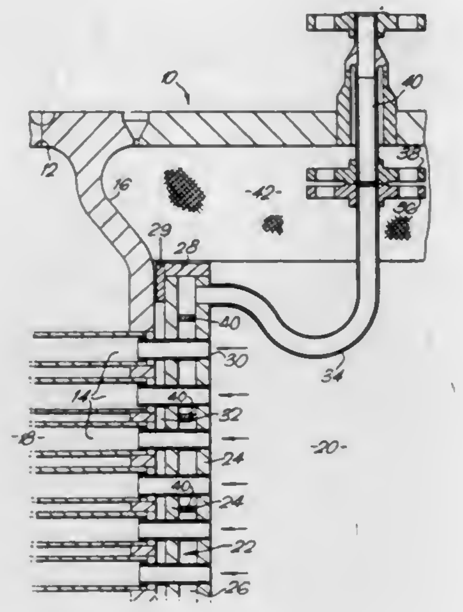
3,504,738
FALLING FILM-TYPE HEAT EXCHANGE UNIT
James W. McGuffey, Lansing, Mich., assignor to Tranter Manufacturing, Inc., Lansing, Mich., a corporation of Michigan
Filed Oct. 23, 1967, Ser. No. 677,343
Int. Cl. F28d *3/02*
U.S. Cl. 165—117 **16 Claims**



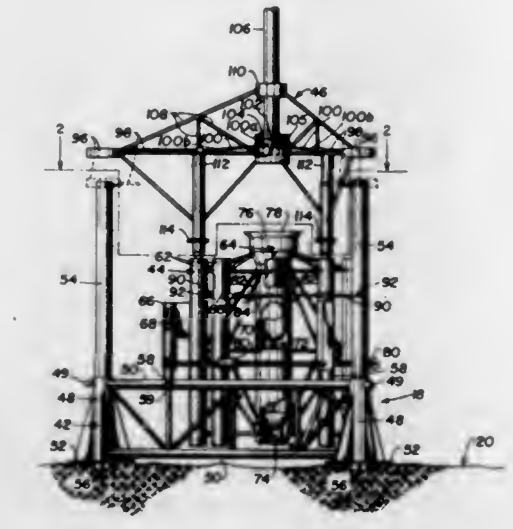
A falling film type of heat transfer or interchange unit is disclosed, in which, in the illustrated embodiment, a bank or series of parallel upright, hollow, substantially flat and vertically elongated heat transfer plates internally circulate a liquid to be cooled. The plates are each externally cooled by a thin film of water which gravitates in a uniform thickness or depth along the sides thereof from an open-topped distributor or manifold thereabove. Each of these is of large internal cross-section and coolant handling capacity, extending the entire horizontal length of its associated transfer plate, and the distributor manifolds receive pump-circulated cooling water from a large stilling box at an upper end thereof. After falling over the sides of the manifolds and down the bank of plates associated therebeneath, the water collects at the bottom of the improved unit and returns to its external water circulating means (not a part of the disclosure).

3,504,739
SHELL AND TUBE HEAT EXCHANGERS
Roy George Pearce, Foster Wheeler House, Chapel St., London, NW. 1, England
Filed June 6, 1968, Ser. No. 735,017
Claims priority, application Great Britain, June 15, 1967, 27,761
Int. Cl. F28f *9/02, 9/20*
U.S. Cl. 165—134 **12 Claims**

This invention relates to improvements in shell and tube heat exchangers in which heat exchange takes place between one fluid passing through the tubes and another fluid surrounding the tubes and within the shell. This heat exchanger has a tube plate which extends across the shell and to which the tubes are connected, and this tube plate is shielded by a fluid-cooled shield plate, preferably liquid cooled, which is positioned in front of the tube plate and has stub tubes extending through it to feed the hot fluid directly to the tubes of the heat exchanger, the arrangement being such that the opposite faces of the shield plate are subjected to substantially identical pressures.

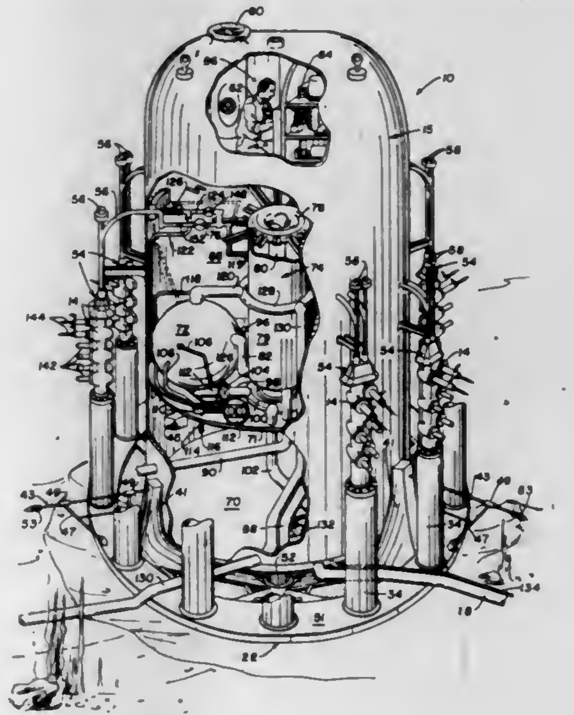


3,504,740
SUBSEA SATELLITE FOUNDATION UNIT AND METHOD FOR INSTALLING A SATELLITE BODY WITHIN SAID FOUNDATION UNIT
William F. Manning, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 28, 1967, Ser. No. 663,799
Int. Cl. E21b *7/12, 33/035*
U.S. Cl. 166—.5 **74 Claims**



This specification discloses a three-component subsea foundation unit comprising a base structure, a conductor pipe template structure, and a removable handling structure. The base structure has a plurality of peripheral jackets through which piles are driven for fixing the foundation unit on a marine bottom. The conductor pipe template structure, through which the subaqueous wells are to be drilled and in which a subsea satellite body will later be cradled, is adjustably supported on the base structure so that it can be leveled prior to drilling wells therethrough. The removable handling structure holds the base and conductor pipe template structures rigidly together during installation and is removed thereafter. The satellite body, lowered from a surface handling vessel to just above the foundation unit on the marine bottom, after the completion of the wells therethrough, is drawn down into the subsea foundation unit by a tether line, having one end wound on a remotely controlled winch drum located either within or without the shell of the satellite body, at the other end anchored by a releasable spear latched within the conductor pipe template structure. The underwater operations are performed in conjunction with a tool-carrying submersible work vehicle.

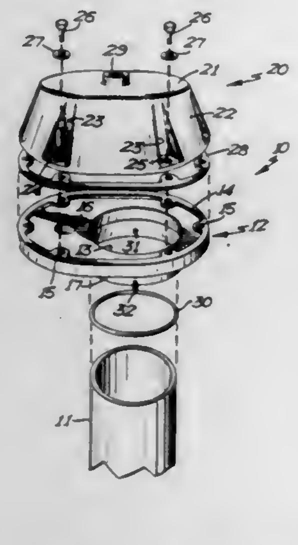
3,504,741
UNDERWATER PRODUCTION SATELLITE
Charles Ovid Baker, Garland, and William A, Talley, Jr., Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed June 27, 1968, Ser. No. 740,578
Int. Cl. E21b *33/035, 43/01*
U.S. Cl. 166—.5 **26 Claims**



This specification discloses a method and apparatus for the production of subaqueous deposits of fluid minerals through a subsea satellite system. The wells are drilled in a circular pattern through a template on the marine bottom serving also as base upon which the satellite body is installed. The production and control passages of each of the wells are connected to production equipment within the satellite body by separate connector units, independently lowered into place from a surface vessel, to form portions of fluid paths between the passages within the subsea wellheads and the production equipment within the shell of the satellite. Such an installation permits production through the satellite, installed on the template base, after only one of the wells has been drilled and completed. The produced fluids are separated and/or metered within the satellite prior to being transported to storage. Flowline tools are programmed to enter the various subaqueous wells through the connector units. Hydraulic circuitry and controls are provided for pumping the tools and chemicals down through the various wells and for retrieving the tools. Also disclosed is a hot water well utilized as a heat source, in conjunction with a heat exchanger unit within the satellite for warming the produced fluids after a pressure cut is taken to prevent the formation of hydrates, and, if necessary, for warming that portion of the interior of the satellite body where personnel will work.

3,504,742
WELL CAP DEVICE

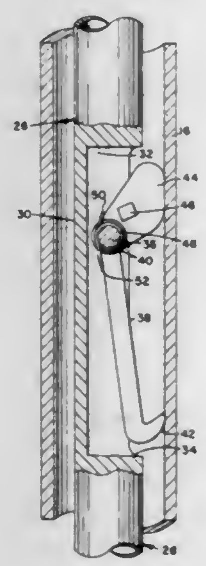
Jay D. Crawford, Sheffield, Iowa, assignor to Martinson Manufacturing Company, Inc., Sheffield, Iowa, a corporation of Iowa
Filed Aug. 12, 1968, Ser. No. 751,922
Int. Cl. E21b *33/03*
U.S. Cl. 166—75 **5 Claims**



A well cap device for closing the upper open end of a cylindrical well casing and comprising a well cap base having an opening therein and adapted to be mounted on the upper end portion of a well casing. A well cap cover detachably mounted on the well cap base and an annular sealing element interposed between the well casing and the well cap base and progressively urged in sealing relation therebetween as the well cap base is urged downwardly into position on the well cap casing.

3,504,743
MECHANICAL LINE LATCH

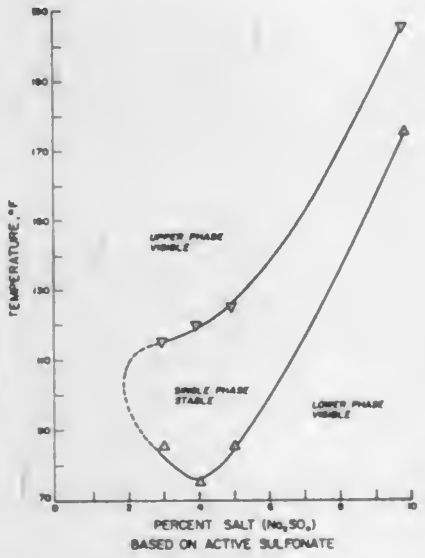
William A. Winters, Calgary, Alberta, Canada, assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed July 24, 1968, Ser. No. 747,318
Int. Cl. E21b *23/00*
U.S. Cl. 166—214 **6 Claims**



A latching mechanism for use with wire line operated well tools that includes a latch member engageable with the lower end of a conduit extending into a well bore to prevent upward movement of the wire line, latching mechanism, and well tool upwardly through the conduit. A release arm is incorporated in the latching mechanism to release the latching mechanism when the release arm is lowered below the lower end of the conduit whereby the wire line, latching mechanism and well tool can be raised through the conduit.

3,504,744
PRODUCTION OF CRUDE OIL USING MICELLAR DISPERSIONS

John A. Davis, Jr., and William J. Kunzman, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 514,477, Dec. 17, 1965. This application July 15, 1968, Ser. No. 748,897
Int. Cl. E21b *43/16, 43/22*
U.S. Cl. 166—252 **23 Claims**



Crude oil from oil-bearing subterranean formations having a temperature in excess of about 80° F. is recoverable by adding to a stabilizable mixture of micellar dispersion constituents an amount of an ionic additive effective to stabilize the mixture at the temperature of the formation, injecting the stabilized micellar dispersion into the formation and displacing it through the formation to recover crude oil from a production means in fluid communication with the reservoir.

3,504,745
USE OF FOAMS TO PREVENT VERTICAL FLOW IN TAR SANDS DURING IN-SITU COMBUSTION

Lloyd E. Elkins, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed May 8, 1968, Ser. No. 727,684
Int. Cl. E21b *43/24, 43/16, 33/13*
U.S. Cl. 166—261 **7 Claims**

Tar is produced from a tar sand by injecting a heating fluid into the sand through wells to reduce the tar viscosity. A flooding fluid also may be used. Leakage of fluids vertically along the heated well casing or the cement sheath around the casing is decreased or prevented by injecting a foaming agent solution around the casing. If the leaking fluid is not a permanent gas, a gas is injected after the foaming agent solution to form a foam.

3,504,746
METHOD OF SEALING A WALLED SYSTEM WITH POLYVINYL PYRROLIDONE

Milton Freifeld and George S. Mills, Boonton, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 502,385, Oct. 22, 1965. This application June 19, 1968, Ser. No. 738,108
Int. Cl. C09k *3/12;* **E21b** *33/138*
U.S. Cl. 166—295 **9 Claims**

In a method of sealing a walled system against fluid passage through its walls, the improvement which comprises injecting into the system and into any proosity in its walls an aqueous water-shutoff substantially ungelled, non-crosslinked composition comprising a mixture consisting of (1) a 1% to 20% aqueous solution of polyvinyl pyrrolidone polymer having a Fikentscher (K) value of 20 to 150 and (2) a catalytic amount of a redox catalyst system consisting essentially of hydrazine and a peroxide polymerization catalyst in a molar ratio of at least two moles of peroxide to one mole of hydrazine.

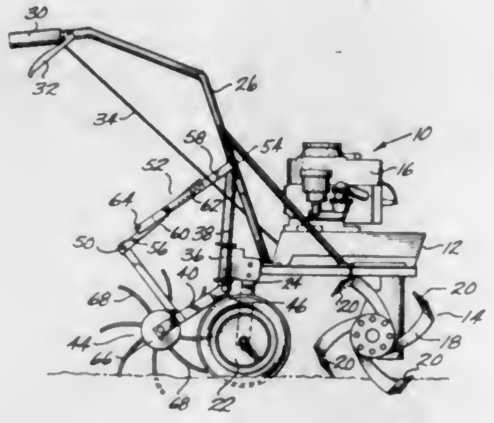
3,504,747
FORMATION ACIDIZING

Thomas C. Vogt, Jr. and John L. Fitch, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed Mar. 21, 1968, Ser. No. 715,072
Int. Cl. E21b *43/27*
U.S. Cl. 166—307 **16 Claims**

This specification discloses a method of acidizing a subterranean formation. A mixture of an acid gas such as hydrogen chloride and a diluent gas is forced into the formation from the well. As the gaseous mixture travels through the formation, the acid gas dissolves in water contained therein to form an acid which attacks acid-reactive formation materials such as carbonates. The presence of the diluent gas in the injected mixture increases the penetration depth of the treatment. Subsequent to introduction of the acid gas-diluent mixture, water may be injected into the formation in order to remove solid plugging deposits and effect further increase in permeability.

3,504,748
DRAG WHEEL FOR A GARDEN TILLER

Paul H. Croft, 5501 76th W. Tacoma, Wash. 98467
Filed Jan. 2, 1969, Ser. No. 788,440
Int. Cl. A01b *33/02*
U.S. Cl. 172—42 **5 Claims**

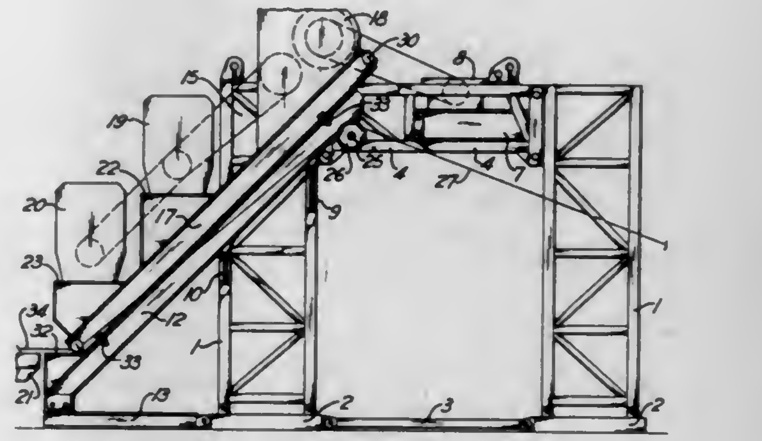


A wheel comprising a hub and a plurality of radiating tines is supported rearwardly of the tiller. The supporting means is adjustable so that the amount of penetration of the drag wheel into the soil can be controlled, and the drag wheel can be lifted up into a transport position above the ground level. The drag wheel is mounted for sideways pivotal movement, to facilitate turning. The drag wheel includes means for varying its willingness to turn freely in the soil.

3,504,749
OIL WELL DRILLING SUBSTRUCTURE AND POWER PLANT

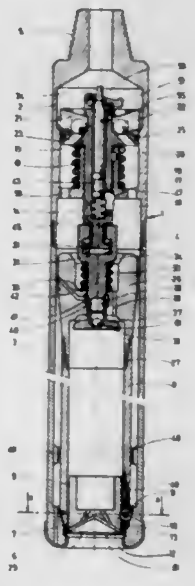
Erwin A. Campbell and Cecil Jenkins, Tulsa, Okla., assignors to Lee C. Moore Corporation, Tulsa, Okla., a corporation of Pennsylvania
Filed Oct. 31, 1968, Ser. No. 772,340
Int. Cl. E21b *3/06*
U.S. Cl. 173—151 **11 Claims**

A forwardly inclined drawworks is mounted on the front end of a horizontal skid frame that also supports one or more engines in a forwardly inclined position. The frame is skidded up a ramp supported by the back of a tall substructure until the frame is flat against the ramp with the drawworks upright at the top of the substructure and the engines upright below and behind the drawworks. The inclined frame then is detachably connected to the ramp.



3,504,750
CORING DEVICE WITH CONTROLLED RELEASING

Wladimir Tiraspolsky, 69 Avenue Victor Cresson, 92 Issy-les-Moulineaux, France; Roger Rouviere, Quartier Fontfiguiere, 13 Aix-en-Provence, France; and Yves Willm, 153 Avenue Henri Sellier, 92 Suresnes, France
Filed Mar. 6, 1968, Ser. No. 711,095
Claims priority, application France, Mar. 9, 1967, 98,208
Int. Cl. E21b *9/20, 25/00*
U.S. Cl. 175—244 **19 Claims**

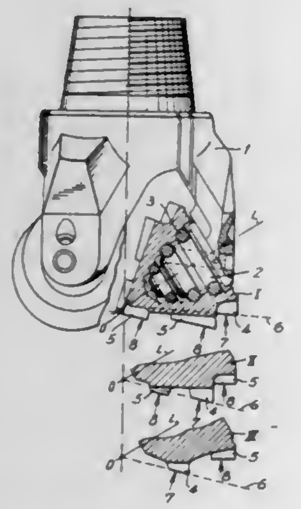


Coring device having a tubular body member provided with a drill crown at its lower part and surrounding a core-barrel wherein is housed a plug which is provided with ground cutting elements at its lower part. This device includes releasable means for locking the plug on the lower part of the core-barrel, this means being adapted to be controlled by a series of elemental operations which comprises at least a variation in the pressure of the flushing fluid.

3,504,751
DRILL BIT

Tariel Georgievich Agoshashvilli, Volgogradsky prospekt 72, korpus 2, kv. 29; Anatoly Stepanovich Mokshin, Volgogradsky prospekt 58, korpus 1, kv. 48; Leonid Pavlovich Konstantinov, Lomonosovsky prospekt 23, kv. 495; and Jury Evgenievich Vladislavlev, Ulitsa Gorkogo 25, kv. 71, all of Moscow, U.S.S.R.; Eduard Lvovich Komm, Oktyabrsky prospekt 365, kv. 43, Ljubertsy, Moskovskoi oblasti U.S.S.R.; and Anatoly Petrovich Okulov, Komsomolsky prospekt 25, kv. 83; and Rudolf Moiseevich Eigeles, Suschevskaya ulitsa 8–12, kv. 37, both of Moscow, U.S.S.R.

Filed Feb. 20, 1968, Ser. No. 706,879
Int. Cl. E21b *17/00*
U.S. Cl. 175—331 **2 Claims**

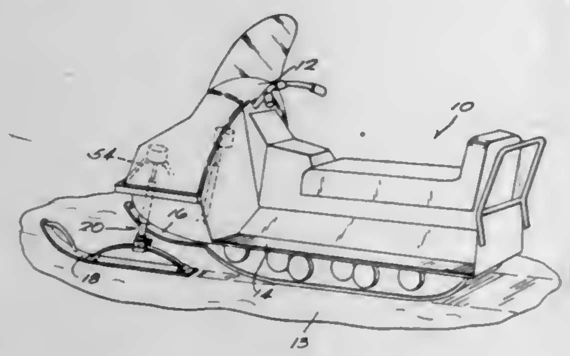


A drill bit capable of engaging the entire area of a face with the teeth of cutters, exerting not only impact action on the face, but also slipping thereover by an optimum value depending upon the mechanical properties of the rock. This is achieved by regulation of the sizes and mutual arrangement of toothed rims on each cutter.

3,504,752
MECHANISM FOR SNOW VEHICLE

Vernon Charles Milward, Peterborough, Ontario, Canada, assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Dec. 5, 1967, Ser. No. 688,171
Int. Cl. B62m *27/00;* **B62b** *13/00*
U.S. Cl. 180—5 **17 Claims**

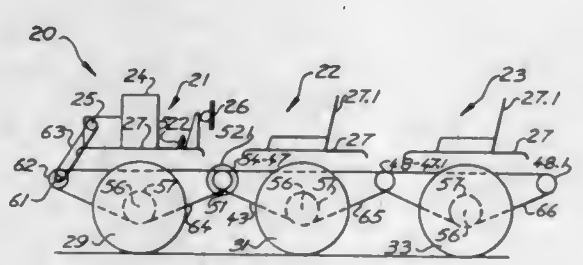


Disclosed herein is a snow vehicle with runners which are independently vertically adjustable to vary the distance of the runners from the frame and thus vary the tilt or attitude of the snow vehicle. Each runner is connected to the frame by a column which is movable through a vertically aligned sleeve secured to the snow vehicle frame. In certain embodiments, the columns are moved vertically by hydraulic motors. In other embodiments, movement of the columns is afforded by linkage operated by hand or pedal controls. External splines on the columns cooperate with an internal spline on a yoke to enable rotary movement of the column for steering purposes.

3,504,753
ARTICULATED VEHICLE

Russell Rutley, Nanaimo, British Columbia, Canada (Line Ridge, R.R. 1, Wellington, British Columbia, Canada)

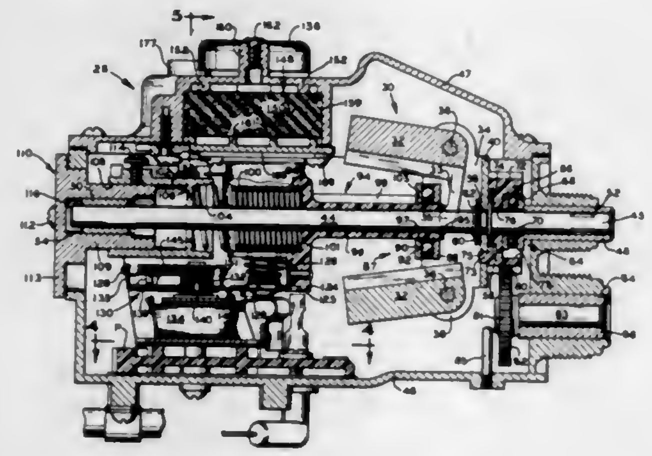
Filed Apr. 29, 1968, Ser. No. 724,983
Claims priority, application Great Britain, May 3, 1967, 20,412/67
Int. Cl. B62k *17/34*
U.S. Cl. 180—14 **31 Claims**



Articulated vehicle of at least two cars, closely spaced ground engagement means preferably tracks, or wheels having low pressure tires, co-axial of a transverse axis of each car and having total width substantially that of the cars. Prime mover driving a sprocket of a differential of each car with the wheels or tracks spaced apart centrally for a drive chain. Vertical stabilizing means between adjacent frame members of the cars, adapted to control jack knifing in a vertical plane. Steering gear for relative rotation of the first and second cars, provision for adding cars with each car being driven.

3,504,754
VEHICLE SPEED CONTROL DEVICE

Robert Marie, Hagerstown, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Continuation-in-part of application Ser. No. 528,624, Sept. 28, 1966, now Patent No. 3,410,361. This application Oct. 17, 1967, Ser. No. 675,918
Int. Cl. B60k *33/00*
U.S. Cl. 180—108 **22 Claims**

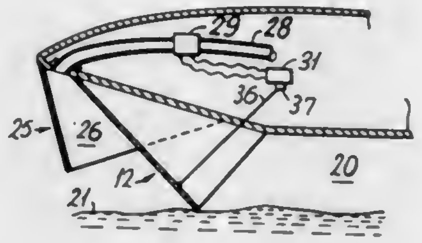


An electro-mechanical device for speed regulation for an automotive vehicle which utilizes manifold vacuum modulated by atmospheric pressure to control the engine throttle and thereby maintain the vehicle at a desired speed is provided. A regulator means senses the actual speed of the vehicle and feeds vacuum pressure modulated by atmospheric pressure to a servo means which controls the throttle setting. An electrical circuit includes means for actuating the regulating means to lock the vehicle at the desired speed and also includes means to actuate the regulator means to advance the speed of the vehicle. Additional means are also provided in the form of a holding circuit arrangement which insures that the speed regulator has a "memory" so that after braking or throttle pedal acceleration the vehicle will again automatically assume the preselected speed.

3,504,755
GAS-CUSHION VEHICLES

Denys Stanley Bliss and Christopher Sydney Cockerell, Southampton, England, assignors to Hovercraft Development Limited, London, England, a British company

Filed July 18, 1968, Ser. No. 745,760
Claims priority, application Great Britain, July 19, 1967, 33,257/67
Int. Cl. B60v *1/16*
U.S. Cl. 180—118 **14 Claims**

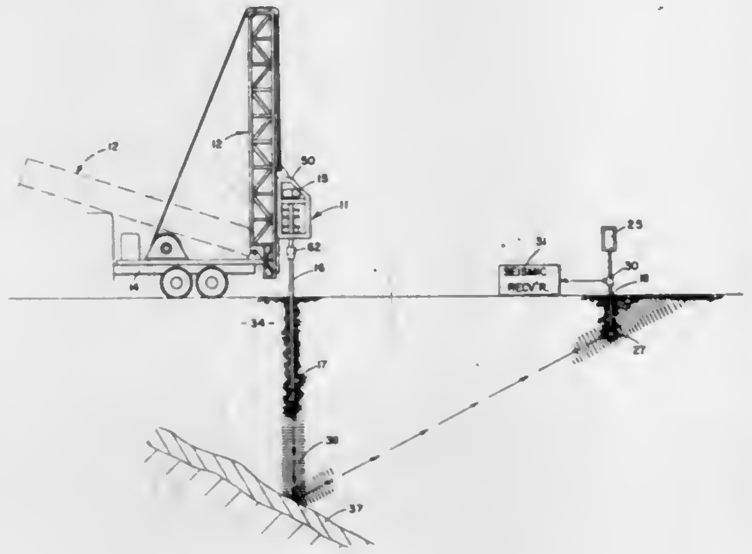


A gas-cushion vehicle in which the supporting cushion is contained by successive flexible walls. The innermost flexible wall is of greater depth than the next wall and if the innermost wall drags on the surface over which the craft is travelling an additional cushion is formed between the two flexible walls. This may be effected manually or automatically in response to wall movements.

3,504,756
METHOD FOR PROVIDING EFFICIENT SONIC COUPLING TO THE EARTH IN A SEISMIC SURVEY SYSTEM

Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406

Filed Sept. 11, 1968, Ser. No. 759,110
Int. Cl. G01v *1/14*
U.S. Cl. 181—.5 **4 Claims**

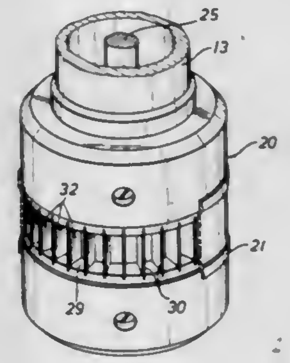


High-level sonic energy is mechanically generated by an orbiting-mass oscillator means and is coupled to an elongated rod member to cause longitudinal vibration of such rod member, with little or no transverse vibration thereof. The rod member has anchor means at one end thereof which is tightly driven into the ground by rotational drive which rotates the rod member about its longitudinal axis, such drive being facilitated by the longitudinal vibration energy imparted to the rod member. The longitudinal vibration energy, which is along an axis substantially normal to the torsional drive, while it facilitates the driving of the rod member does not interfere with the tightness of the coupling to the earth, thereby assuring efficient coupling of the sonic energy to the earthen material. The sonic energy passes into the ground and is reflected back by the strata to a receptor rod member coupled to the earth at a convenient distance therefrom, where such energy is appropriately detected by means of a transducer.

3,504,757
ACOUSTIC WELL-LOGGING APPARATUS

Joseph E. Chapman III, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Nov. 20, 1968, Ser. No. 777,422
Int. Cl. G01v *1/40*
U.S. Cl. 181—.5 **16 Claims**



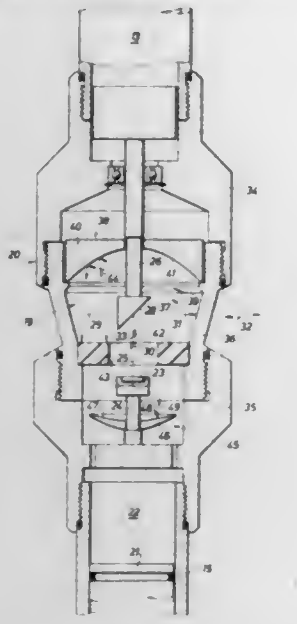
As a preferred embodiment of the invention disclosed herein, directional high-frequency acoustic transducer means are operatively mounted within a tubular housing and adapted for progressively scanning the circumference of a well bore wall surrounding the transducer means. To provide an efficient acoustic-energy passage around the transducer means without significantly weakening the housing, upper and lower sections of the housing are longitudinally separated and tandemly joined by a plurality of thin rigid members spaced around the resulting peripheral opening and uniquely arranged in one of several disclosed manners so as to only minimally obstruct the passage of acoustic energy therethrough.

3,504,758
ACOUSTIC WELL-LOGGING APPARATUS

Stanley T. Dueker, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Feb. 19, 1969, Ser. No. 800,685
Int. Cl. G01v *1/00*
U.S. Cl. 181—.5 **9 Claims**

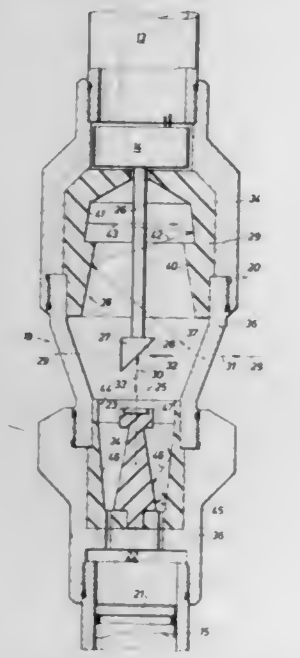
As a preferred embodiment of the invention disclosed herein, acoustic transducer means are fixed in a well tool housing for operation along a selected generally-longitudinal axis. An acoustic-energy reflector is rotatably mounted within a portion of the housing having an upright wall through which acoustic energy can be passed laterally, with the reflector facing the transducer means and operatively inclined across the aforesaid operating axis to redirect acoustic energy passing to and from the transducer means. Accordingly, upon rotation of the reflector, acoustic energy is efficiently directed between the transducer means and the perimeter of a borehole surrounding the housing. To at least minimize extraneous signals or interference from spurious or misdirected acoustic energy, one or more particularly-shaped reflectors are operatively arranged in relation to the transducer and rotating reflector for deflecting such misdirected acoustic energy toward suitable energy-absorbing means.



3,504,759

ACOUSTIC WELL-LOGGING APPARATUS

Walter E. Cubberly, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Feb. 19, 1969, Ser. No. 800,692
Int. Cl. G01v *1/C0*
U.S. Cl. 181—.5 **15 Claims**

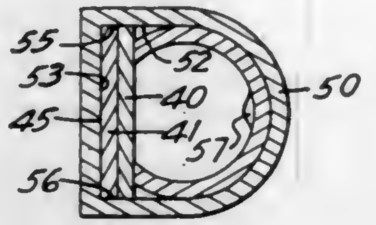


As a preferred embodiment of the invention disclosed herein, acoustic transducer means are fixed in a well tool housing for operation along a selected generally-longitudinal axis. An acoustic-energy reflector is rotatably mounted within a portion of the housing having an upright wall through which acoustic energy can be passed laterally, with the reflector facing the transducer means and operatively inclined across the aforesaid operating axis to redirect acoustic energy passing to and from the transducer means. Accordingly, upon rotation of the reflector, acoustic energy is efficiently directed between the transducer means and the perimeter of a borehole surrounding the housing. To at least minimize extraneous signals or interference from spurious or misdirected acoustic energy, energy-attenuating means are operatively arranged in relation to the reflector and transducer to prevent such undesirable effects.

3,504,760

STETHOSCOPE BUSHING

David Littmann, Needham, Mass., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Mar. 4, 1968, Ser. No. 709,993
Int. Cl. A61b *7/02*
U.S. Cl. 181—24 **11 Claims**

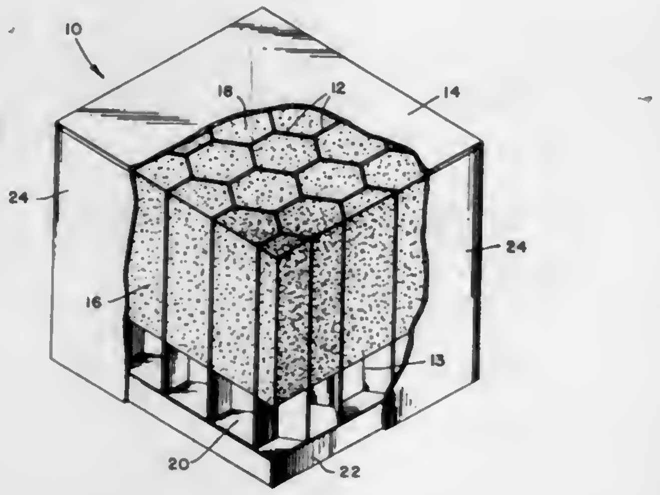


A stethoscope bushing is shown wherein the bushing includes improved means for rigidly connecting ear tubes to a leaf spring contained within a Y-shaped sound tube of the stethoscope.

3,504,761

PRESSURE-INSENSITIVE, SANDWICHED, ACOUSTIC MATERIAL HAVING A HONEYCOMB CORE

Shelby F. Sullivan, Arcadia, and Harper John Whitehouse, Hacienda Heights, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 18, 1969, Ser. No. 834,439
Int. Cl. E04b *1/99*
U.S. Cl. 181—33 **6 Claims**



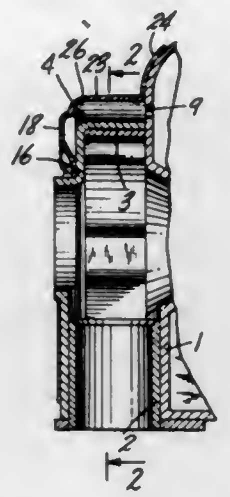
This invention relates to a pressure-insensitive, sandwiched, acoustic material having a honeycomb core, at one end of which is a compliant wall or skin and at the other end of which is a noncompliant wall. Between the walls, the honeycomb cells are filled part way with a matrix of air-mixed aluminum flake and polyurethane, a film of gas adhering to each flake, the balance of the cell, at the noncompliant wall, being filled by a gas at ambient pressure.

3,504,762

SOUND-ABSORBING SYSTEM FOR REFRIGERANT COMPRESSOR

Knud V. Valbjorn, Nordborg, and Bendt Wegge Larsen, Augustenborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Nov. 17, 1967, Ser. No. 684,047
Claims priority, application Germany, Nov. 18, 1966, D 51,581
Int. Cl. F01n *7/10*
U.S. Cl. 181—40 **2 Claims**

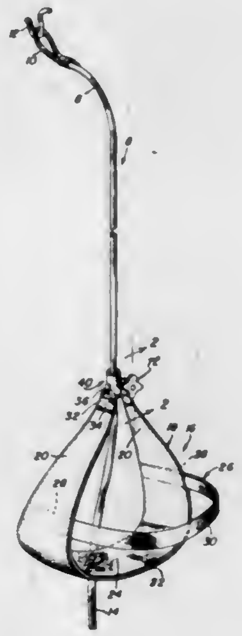
A sound-absorbing system for refrigerant compressors consisting of throttle passages cooperative with and in communication with one or more sound-absorbing or silencer chambers which are constructed from independently pre-fabricated components made from metallic sheet material and assembled in fixed relationship. A wall of a component common to the silencer chambers has a plate provided with channels that define jointly with the wall elongated throttle passages of suitable cross section and sinuous paths for absorbing noise of suction or discharge refrigerant gas.



3,504,763

FIRE ESCAPE DEVICE

Nicholas A. Rabelos, Atlanta, Ga., assignor of twenty-five percent to Thomas M. Lowe, Jr., Atlanta, Ga.
Filed July 23, 1968, Ser. No. 746,977
Int. Cl. A62b *1/14*
U.S. Cl. 182—7 **7 Claims**



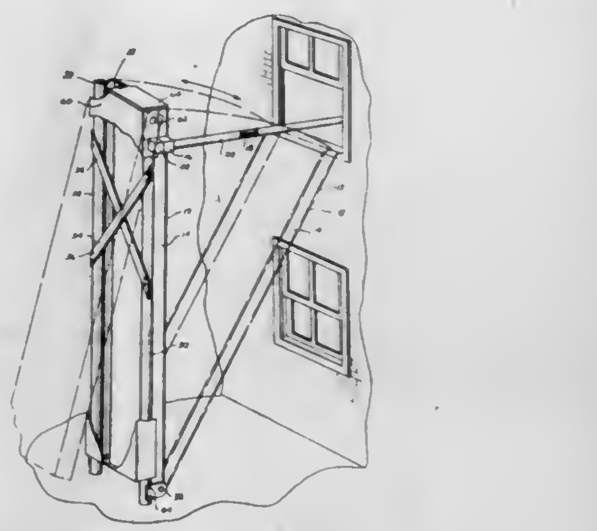
A descending manually controllable sleeve is slidable on a suspended support rope of requisite length. A sling serves to harness and seat the escapee and is operatively hung from the sleeve. Rope grips are built into the sleeve and frictionally grip the rope and are controlled by a knob-equipped hand regulated setscrew.

3,504,764

INTRUDER RESISTANT FIRE ESCAPE

Royal H. Lawson, 7834 St. Boniface Lane, Baltimore, Md. 21222, and Andrew L. Lawson, Rte. 5, Box 38B, Pasadena, Md. 21122
Filed Nov. 24, 1967, Ser. No. 685,510
Int. Cl. A62b *1/20;* **A65g** *11/00*
U.S. Cl. 182—48 **1 Claim**

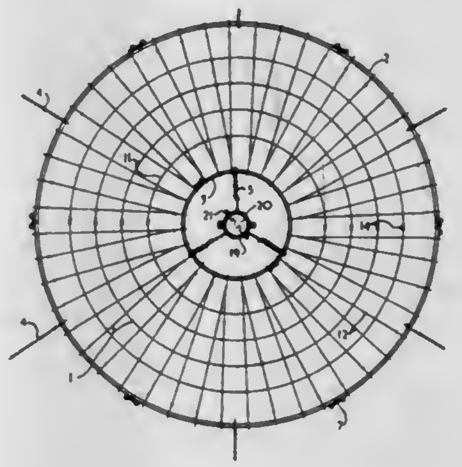
This invention relates to a fire escape apparatus which comprises a slide mechanism that is hingedly attached to a vertical standard and which can be released so as to fall or pivot by gravity, pulley, or spring pressure towards the window against which it leans so that the person can slide down to safety. This apparatus has a special utility in areas where the fire escape apparatus needs to be constructed so as to be resistant to burglary or intruder attempts.



3,504,765

SAFETY NET

Harry B. Sullivan, Box 241, Thamesville, Ontario, Canada
Filed May 13, 1968, Ser. No. 728,447
Int. Cl. A62b *1/22*
U.S. Cl. 182—138 **7 Claims**



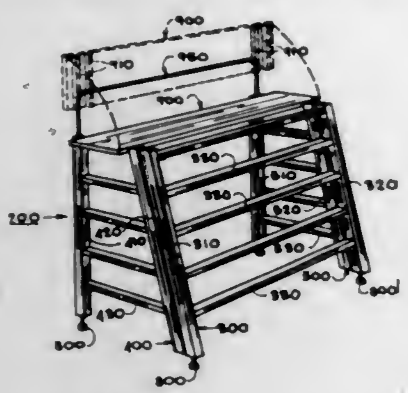
A safety net with a flexible body and a rigid peripheral frame for releasably suspending the flexible net body in a rising structure such as a poured concrete silo; the peripheral frame having a plurality of suspending members individually connectible with and releasable from each silo form ring as it is successively arranged in place whereby the net creeps up contemporaneously with the wall of the structure as it rises layer upon layer.

3,504,766

LADDERS

Joseph Emmett Boyd, 4462 Fenwick, Warren, Mich. 48092
Filed Mar. 13, 1968, Ser. No. 712,787
Int. Cl. E06c *1/18*
U.S. Cl. 182—104 **12 Claims**

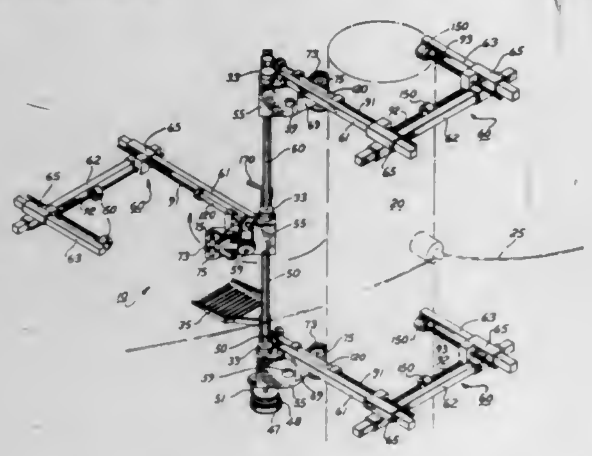
Improvements in ladders are disclosed, comprising, in combination, at least a pair of ladder sections, each said ladder section having a pair of rails and rungs joining said rails, and hinge means hinging said ladder sections together side by side, the adjacent rails of said ladder sections connected together by said hinge means, said ladder sections swingable relative to each other via said hinge means between a stowage position in which said ladder sections are folded together for stowage and a work position in which said ladder sections are swung away from each other for use as a ladder.



3,504,767
MECHANICAL POLE CLIMBER

Delmar C. Sherman, Chattanooga, Tenn., assignor to Sherman & Reilly, Inc., Chattanooga, Tenn., a corporation of Tennessee

Filed July 15, 1968, Ser. No. 745,339
Int. Cl. A63b ***27/00;*** **E04g** ***3/00***
U.S. Cl. 182—136 10 Claims

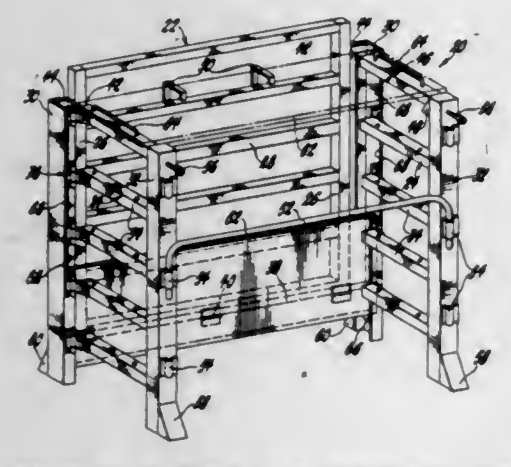


A portable mechanical pole climber having three pivotal clamping arms, any two of which hold the climber against the pole while a third is pivoted to clear obstructions. A motor powers a friction belt drive for movement up and down and also powers a clamping action of the arms to expand or contract according to the pole's taper. A manual control engages the motor for either up or down travel and is biased to a central brake position.

3,504,768
LADDERS

Joseph Emmett Boyd, 4462 Fenwick, Warren, Mich. 48092

Filed June 21, 1968, Ser. No. 739,119
Int. Cl. E04g ***1/34***
U.S. Cl. 182—152 17 Claims

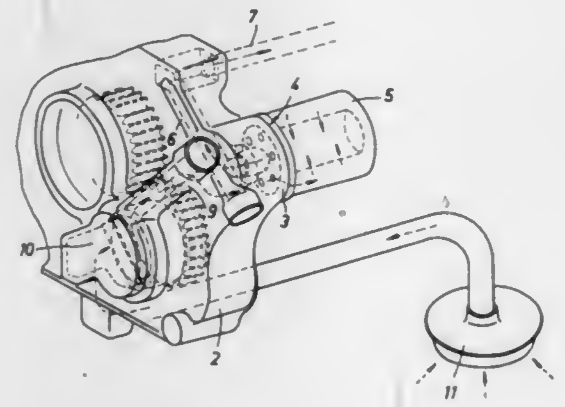


Improvements in ladders are disclosed, comprising, framework means, a ladder section having a pair of rails and rungs joinning said rails, and hinge means hinging said ladder section to said framework means so that said ladder section is swingable about a horizontal axis between a vertical stowage position and an angled work position.

3,504,769
INTERNAL COMBUSTION ENGINE INCLUDING LUBRICATION SYSTEM

Hermann Mettig, Rodenkirchen, Germany, assignor to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany

Filed Aug. 21, 1967, Ser. No. 661,907
Claims priority, application Germany, Aug. 30, 1966, K 60,132
Int. Cl. F16n ***13/02;*** **F01m** ***11/02***
U.S. Cl. 184—6 5 Claims



A lubricating oil circuit for a reciprocable piston internal combustion engine having a housing comprising a crank case with an end face and with a lubricating oil distributing conduit in said crank case. A pressure cast gear box cover is connected to said end face and is provided with a receiving surface internally for receiving a lubricating oil filter, said gear box cover also being adapted to receive a lubricating oil pump. The gear box cover has cast directly therein first conduit means establishing communication between the pressure side of the pump in said gear box and the inlet of said filter and also has cast directly therein second conduit means establishing communication between the outlet of said filter and said lubricating oil distributing conduit in the engine housing including said crank case.

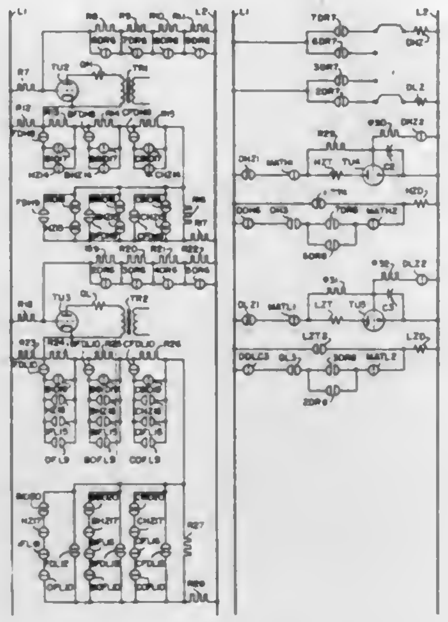
3,504,770
ELEVATOR SUPERVISORY SYSTEM

Henry C. Savino and John Suozzo, Hackensack, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 17, 1967, Ser. No. 675,907
Int. Cl. B66b ***1/34***
U.S. Cl. 187—29 23 Claims

A zoned demand elevator supervisory system wherein the lower section of each zone is considered separately for the purpose of improved down elevator service. If a quota of two down calls per car serving down calls in a particular zone is exceeded, an additional car is assigned to the zone. Under typical conditions, the first car assigned to down calls in a zone will proceed to the highest down call in the zone, while the second will proceed to the highest down call in the lower section of the zone. However, when down calls have gone unanswered at selected floors in the lower section of a zone for a predetermined time, the lower section of that zone receives priority.

Ordinarily up demands receive preference over down demands for the assignment of available cars, but when at least one car is serving up calls, and for a predetermined period of time after the last car serving up calls completes its upward trip, down demands receive preference over up demands. In addition, during periods of heavy down traffic, the preference of a particular down demand is reestablished if the assignment of a car to the demand is cancelled by the registration of a car call in the car assigned.

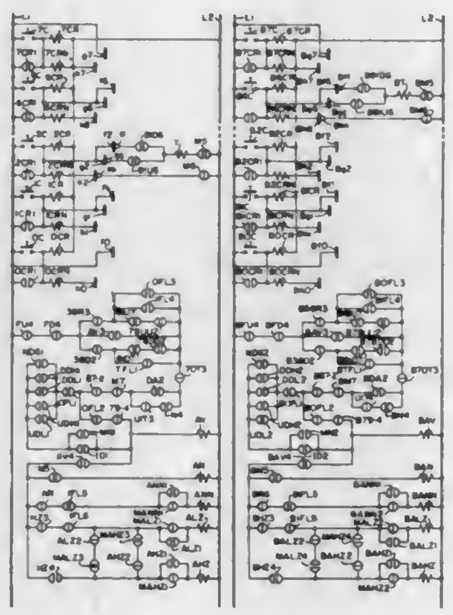


When no demands exist, an idle car at the main floor is sent to an intermediate floor to park. When a demand for service is registered while a car is proceeding to the parking floor, normal car assignment procedures are suspended for a time sufficient to assign the parking car to the demand if it is in position to answer the corridor calls creating the demand.

3,504,771
ELEVATOR SUPERVISORY SYSTEM

John Suozzo and Henry C. Savino, Hackensack, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 17, 1967, Ser. No. 675,879
Int. Cl. B66b ***1/18***
U.S. Cl. 187—29 31 Claims

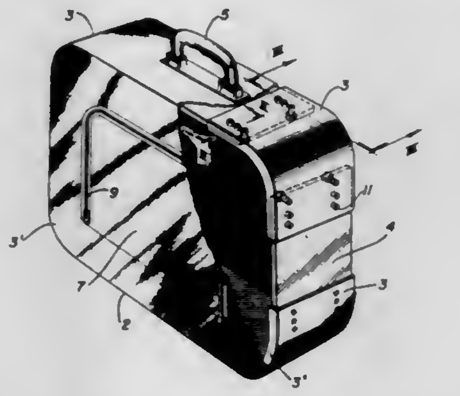


A zoned demand elevator supervisory system in which cars can become available at any floor at which they complete a trip including the main floor and the basement. Available cars located in a zone are associated with a particular zone although they will not necessarily be located in, nor be dispatched to serve demands within, the associated zone. Cars are only dispatched in response to car calls or specific demands for service some of which are artificially created by the system. The demands for service are given preference in accordance with a pattern determined by one of several automatically selected modes of operation. Demands for service can be cancelled or denied registration if the system senses that another car is in position or will soon be in a position to satisfy the calls creating the demand. Available cars are then assigned to serve a demand for service which has been given preference in accordance with a predetermined selection pattern associated with the particular demand.

3,504,772
EXTENSIBLE SUITCASE AND FRAME

Francis J. Barry, 11 Tahanto Road, Worcester, Mass. 01602

Filed Mar. 21, 1968, Ser. No. 714,961
Int. Cl. A45c ***7/00***
U.S. Cl. 190—45 5 Claims



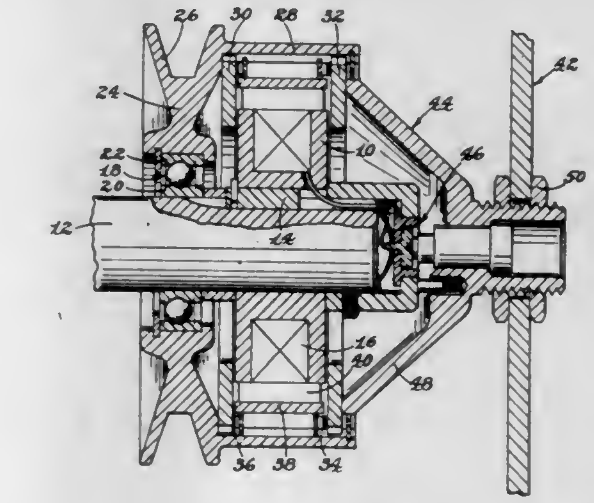
An extensible suitcase comprising:

(a) four flat rigid panels defining top, bottom and end walls of a suitcase;
(b) four rounded corner pieces overlapping the ends of said panels;
(c) means for adjustably securing said corner pieces to said panels whereby a substantially rigid and box-like rectangular suitcase frame is defined which facilitates the variation of the height and length of the frame;
(d) a two-way stretchable elastic fabric covering over the outer surface of the frame and defining front and back walls of a suitcase;
(e) means for securing said covering to the frame; and
(f) means for access to the interior of the suitcase through the front wall of said covering.

3,504,773
DUAL ARMATURE ELECTROMAGNETIC CLUTCH AND BRAKE

Donald L. Miller, Horseheads, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

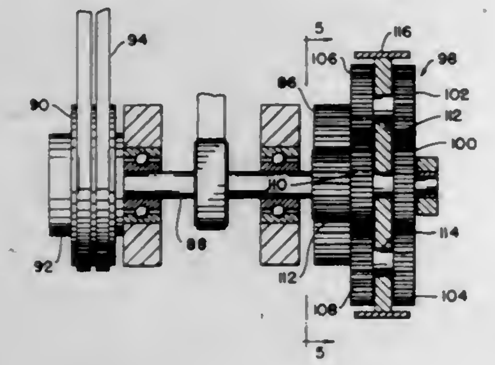
Filed Aug. 29, 1968, Ser. No. 756,108
Int. Cl. F16d ***11/04, 67/06***
U.S. Cl. 192—18 4 Claims



An electromagnetic, coil-engaged, spring-released dual armature clutch. By selecting armature springs having different spring rates, the torque build-up is softer and, by placing one armature on either side of the coil to maintain a maximum friction radius, the total transmitted torque of the clutch is increased. As a safety feature, the armature biased by the stronger spring is then biased to bear against a stationary braking body to achieve braking whenever that armature is not in torque transmitting contact with the magnet body.

3,504,774
STRUCTURE FOR AND METHOD OF DRIVING A METAL WORKING PRESS

Fredrich J. Rode, Chicago, Ill., assignor to Di-Dro Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Sept. 25, 1967, Ser. No. 670,119
Int. Cl. F16d *21/08, 47/02;* **F16h** *21/38*
U.S. Cl. 192—48.7 3 Claims



Structure for and a method of starting presses stalled at approximately bottom dead center, which presses have a drive train including a continuously driven fly wheel, a drive shaft and a friction clutch therebetween, is disclosed.

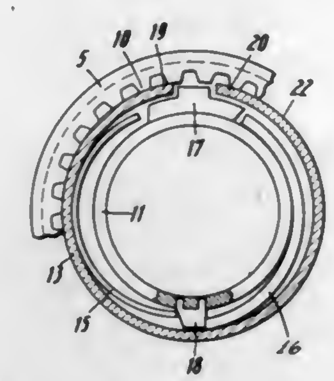
The method of starting the presses includes the step of first disengaging the friction clutch, disconnecting the press load from the friction clutch, engaging the friction clutch under no load and subsequently placing the press load on the engaged friction clutch.

The structure for disconnecting the press load from the friction clutch and for subsequently placing the press load on the engaged friction clutch may be either a positive clutch installed for reverse operation in series with the friction clutch between the fly wheel and drive shaft or a gear train between the drive shaft and press drive gear including a sun gear and planetary gears and means for selectively permitting rotation of the planetary gears about the sun gear for a portion of a revolution of the press drive shaft and subsequently locking the planetary gears in a fixed position with respect to rotation about the sun gears for rotation about their axes.

3,504,775
AUTOMOTIVE SYNCHRONIZING CLUTCH

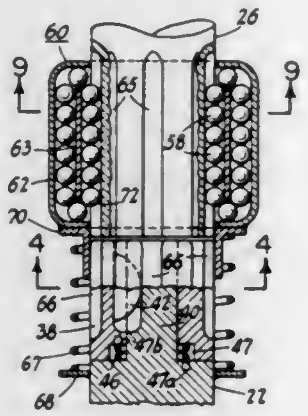
Hans Reich, Tamm, Wurttemberg, Jörg Austen, Weinsberg, Wurttemberg, and Emil Kunz, Kornwestheim, Wurttemberg, Germany, assignors to Firma Dr. Ing. h.c.F. Porsche KG, Stuttgart, Germany
Filed June 11, 1968, Ser. No. 736,084
Claims priority, application Germany, June 24, 1967, 1,630,941
Int. Cl. F16d *11/04*
U.S. Cl. 192—53 11 Claims

The split synchronizing ring of the clutch is prestressed in an oval shape in the disengaged position of the clutch and is moved into a substantially circular shape by the cooperating friction surface of the axially shiftable clutch sleeve in the engaged position of the clutch, with the free ends of the ring being spaced radially inwardly from the sleeve by a distance approximately 0.5 to 1 mm. Spreading balls or separate conical surfaces are provided to assist the movement of the ring radially inwardly during synchronization.



3,504,776
DRIVE SYSTEM HAVING SPLINE-TYPE QUICK DISCONNECT CLUTCH

Angelo J. Misentl, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed May 29, 1967, Ser. No. 641,845
Int. Cl. F16d *7/02, 23/00, 43/20*
U.S. Cl. 192—55 4 Claims

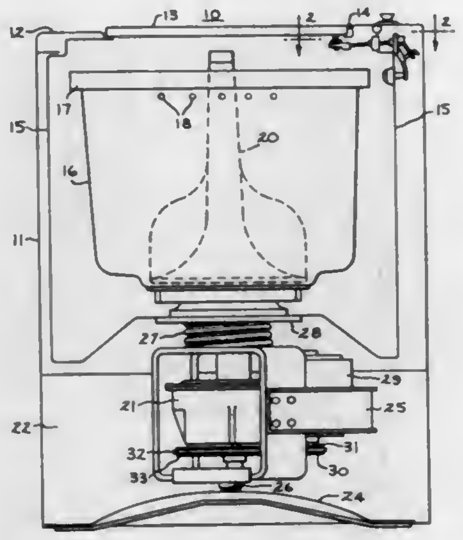


In connection with a spline-type clutch preferably a ball bearing spline clutch, an annular portion disposed over the reduced end of the driven shaft and keyed thereto to permit sufficient lost arcuate motion between the annular portion and the driven shaft to allow time for the balls of the clutch to be lowered into the splines of the annular portion before there is substantial torque developed incident to driving the shaft.

3,504,777
COMBINED UNBALANCE AND LID SWITCH

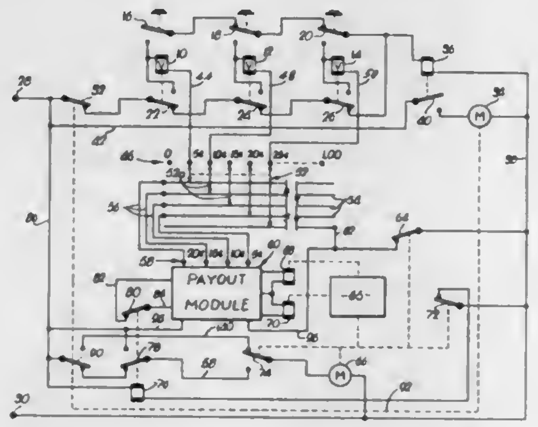
Richard A. Waugh, Lyons, Ill., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 716,844, Mar. 28, 1968. This application June 6, 1969, Ser. No. 835,879
Int. Cl. H01h *35/02, 3/16*
U.S. Cl. 192—136 6 Claims

A support frame is mounted in the cabinet of a washing machine with a bracket pivotally mounted on the frame. A switch is fixedly attached to the bracket and a link is mounted on the bracket for free pivotal movement and extends between the switch actuator and the lid of the machine. A first spring is mounted between the switch mechanism and the like to bias these elements apart. A latch is pivotally mounted on the frame. The latch has a first arm disposed for engagement by the washing machine but upon gyrations of the tub beyond a predetermined limit and a second arm normally engaging the bracket to restrain it from movement. The latch and bracket are interconnected by a second spring. Closing the lid pivots the link to depress the switch actuator and stress the first spring. Gyration of the tub beyond a predetermined limit moves the latch to release the bracket for pivotal movement by the first spring to release the actuator and stress the second spring. Opening the door releases the link so that the second spring is effective to return the bracket and latch to their first positions.



3,504,778
MULTIPLE PRICE COIN CHANGER FOR VARIABLE PRICE VENDING MACHINES

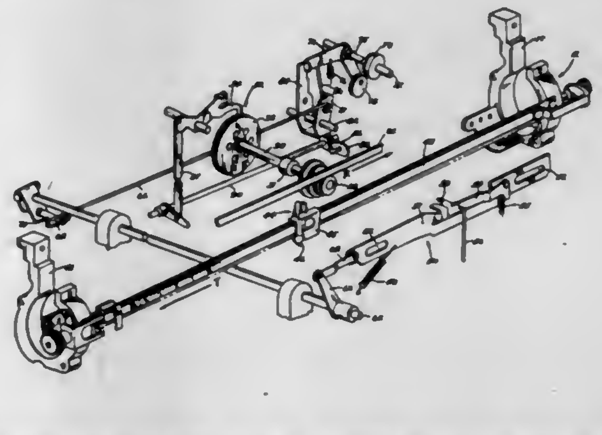
James F. Ptacek, Kansas City, and Robert E. Patterson, Raytown, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Dec. 20, 1967, Ser. No. 692,222
Int. Cl. G01f *11/00*
U.S. Cl. 194—10 16 Claims



A multiple price vending machine employs credit registering and change determining apparatus having a plurality of price terminals, a number of over-price connections, and a totalizer element which establishes electrical continuity between the over-price connections and the price terminals corresponding to the amounts of over-deposit for each price for which change will be returned to the customer. Vend solenoids or the like for the articles to be dispensed are connected in series with appropriate price terminals, and a payout module is employed having gating transformers therein connected in series with corresponding over-price connections. Each of the gating transformers controls the operation of a silicon controlled rectifier, the various rectifiers in turn controlling the energization of change payout solenoids. When the deposit is in excess of the price of the selected article, a series circuit is established through the vend solenoid, the totalizer element, the appropriate over-price connection, and the gating transformer or transformers which cause the payout of proper change. Since only a very small percentage of the total voltage drop across the series circuit is required to operate the change determining portion of the same, it is possible to apply the changer to different types of existing vending machines with a minimum modification of their circuitry.

3,504,779
MARGIN CONTROL IN TYPING MACHINE

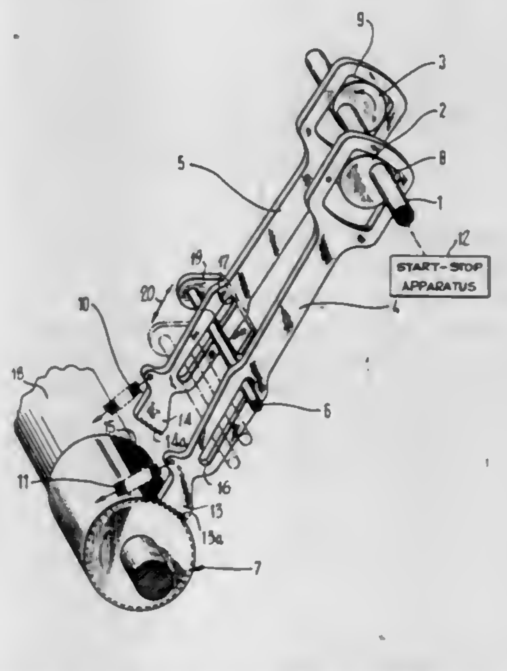
Helmut Marum, Colonia, N.J., assignor to Vari-Typer Corporation, Newark, N.J., a corporation of Delaware
Filed Nov. 8, 1967, Ser. No. 681,338
Int. Cl. B41j *29/50, 21/02*
U.S. Cl. 197—63 3 Claims



A margin positioner for a typewriting machine which has an escapement mechanism for spacing between impressions. The return movement of the carriage is to an overtravel position, and there is provided a sensing means which operates the escapement independently from impression typing to advance the carriage from its overtravel position to the desired margin position.

3,504,780
LINE SHIFT DEVICE OF ELECTRICALLY OPERATED TELE-COMMUNICATION TYPEWRITERS

Rudolf Rekewitz, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Feb. 23, 1968, Ser. No. 707,702
Claims priority, application Germany, Mar. 8, 1967, S 108,701
Int. Cl. B41j *19/76*
U.S. Cl. 197—114 1 Claim

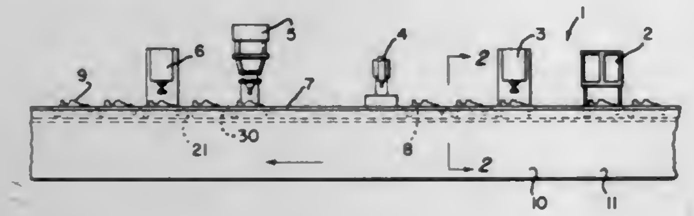


This invention is directed to a device for electrically operated typewriters, particularly of the tele-communication type and provides means for the linewise shifting of the platen roller. The shift means is engaged during the entire operating stroke of the feeder gear of the platen roller for shifting the platen roller with a steady force to rotate the platen roller with a steady speed. The line space obtainable for each incremental rotation of the platen roller is variable by appropriate selection of the stroke of the shift means in response to the variable setting of a pair of levers which are pivotably mounted about a movable shaft which is displaceable in the direction toward the axis of a feeder gear which rotates the platen roller. The levers include gripper teeth which engage corresponding serrations or gear teeth in the feeder gear to advance the platen roller to the next line.

3,504,781
MANUFACTURING TRANSFER SYSTEM

Richard P. Lehmann, Lansing, and Robert J. Seccombe, Dearborn Heights, Mich., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 5, 1968, Ser. No. 702,979
Int. Cl. B65g *25/12*
U.S. Cl. 198—19 **5 Claims**



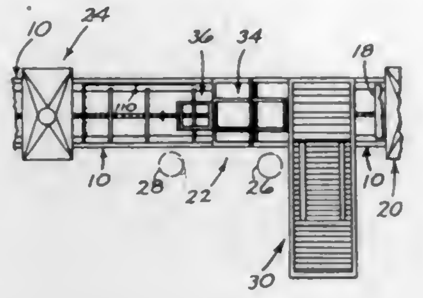
A transfer system for conveying workpieces along a manufacturing line through successive work stations including a longitudinal row of pallets movably supported and guided along a path extending through the work stations, a reciprocating transfer bar extending along the path under the pallets and carrying means to engage the pallets and carry them along during its forward stroke and means to disengage the pallets during the rearward stroke of the transfer bar. Means is provided to disengage each individual pallet from the transfer bar during its forward stroke in the event that the individual pallet arrives at a work station or nears a preceding pallet so that the individual pallet can remain stationary while other pallets can move forwardly during the following forward stroke of the transfer bar. Allowing the pallets to remain stationary while the other pallets continue moving prevents the immediate stoppage of a manufacturing line in the event a single work station has a temporary interruption or is slower than usual. Also, the allowance for "float" of pallets allows individual work stations to vary cycle times without interfering with other work stations.

3,504,782
APPARATUS FOR LOADING STIFF SHEET MATERIAL ON MOVING CONVEYERS

Robert J. Slagle, Springfield, James P. Petermann, Eugene, and Russell W. Wilson and Leslie M. Steffensen, Springfield, Oreg., assignors to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

Filed Nov. 17, 1967, Ser. No. 683,873
Int. Cl. B65g *37/02, 47/02, 59/02*
U.S. Cl. 198—29 **7 Claims**

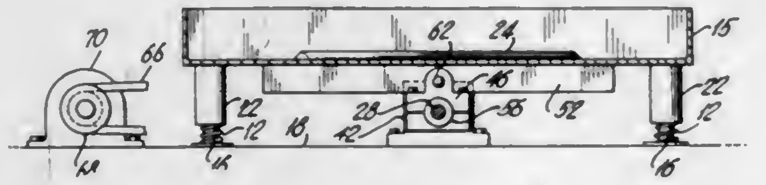
Apparatus for loading sheet material on a primary conveyer moving horizontally at a predetermined rate comprises a sectional loading conveyer arranged above the primary conveyer and aligned therewith. The upstream section is pivotally mounted so that its upstream end oscillates between raised and lowered positions. Indexing means adjust its upstream end to a level corresponding to the level of a stack of sheets fed one at a time. The upstream feeds the sheets to the downstream section which, in turn, feeds them to the primary conveyer. Sheet alignment abutment means are associated with the primary conveyer for aligning the sheets.



3,504,783
METHOD AND APPARATUS FOR SEPARATING TANGLED, COILED HELIXES

August Kuschnereit, 38 Nostrand Ave., Brentwood, N.Y. 11717

Filed Dec. 9, 1968, Ser. No. 791,840
Int. Cl. B01f *9/00;* **B65g** *47/24*
U.S. Cl. 198—33 **12 Claims**

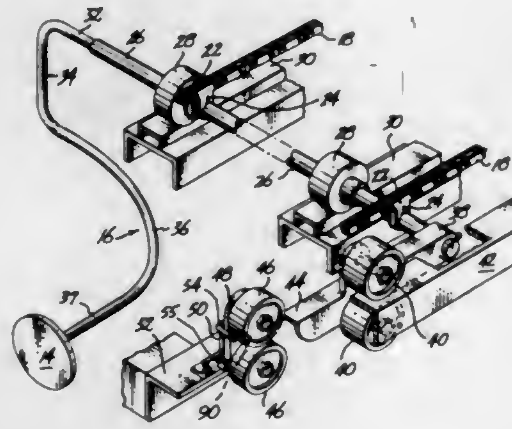


The specification and drawings disclose a vibrating plate for separating tangled, coiled helixes in which the plate vibrates the helixes without translational motion thereof and causes freed helixes to be thrown clear of the tangled mass.

3,504,784
ARTICLE PUSHER MECHANISM FOR BAG-FILLING MACHINES

Billy P. Noyes, Seattle, Wash., assignor to Alvin C. Formo

Continuation of application Ser. No. 543,115, Apr. 18, 1966. This application Nov. 14, 1968, Ser. No. 775,849
Int. Cl. B65g *19/02*
U.S. Cl. 198—170 **4 Claims**

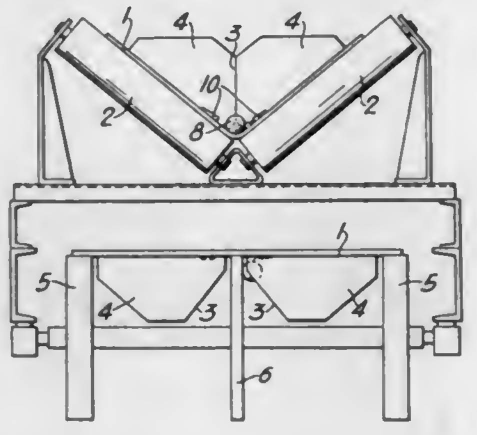


An endless chain loop carries and moves elevationally a depending curved pusher arm having on its lower end a pusher head engageable with an article to move it into the open mouth of a bag at a bag-filling station. Control mechanism extending around the path of travel of the carrier controls swinging of the pusher arm relative to the carrier to move the pusher head in a linear path during the bag-filling operation and then to swing the arm backward as the portion of the carrier supporting the arm moves upward so as to withdraw the pusher head from the filled bag in a direction opposite to the direction of movement of the carrier despite continued unidirectional movement of the carrier.

3,504,785
V-TROUGH-SHAPED CONVEYOR BELT, PARTICULARLY FOR STEEP CONVEYING

Werner Gartner, Heiligenhaus-Hetterscheid, Germany, assignor, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Feb. 7, 1968, Ser. No. 703,664
Int. Cl. B65g *15/44*
U.S. Cl. 198—198 **2 Claims**

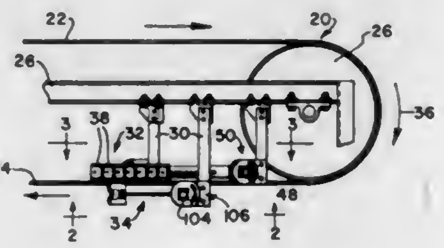


The invention relates to a V-trough-shaped conveyor belt, particularly for steep conveying, with baffle plates, which are arranged opposite one another on both inclined parts of the belt and form a wall that intersects the major portion of the cross section of the conveyor. These baffle plates are essentially triangularly constructed and their vertically joined edges are recessed somewhat in the vicinity of the bending place of the conveyor belt. By such a design of the baffle plates it is possible to support the returning belt by a centrally arranged guide or by supporting wheels.

3,504,786
CONVEYOR CLEANER

Carl G. Matson, 401 E. Central Blvd., Kewanee, Ill. 61443

Filed Jan. 2, 1968, Ser. No. 695,049
Int. Cl. B65g *45/00*
U.S. Cl. 198—230 **9 Claims**

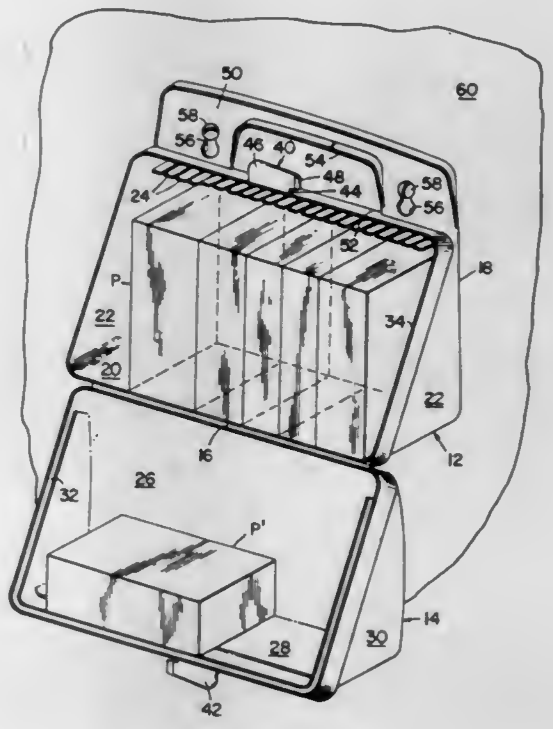


A conveyor cleaner or belt scraper especially adapted to scrape the upper surface of the lower or return run of an endless belt conveyor and constructed to provide a plurality of blades arranged diagonally of the length of the run in overlapping echelon fashion so as to cause the scraped material to be directed toward and discharged at one edge of the run.

3,504,787
FIRST AID KIT CONTAINER

Brock F. Brockway, Mill Valley, Calif., assignor to E. D. Bullard, Sausalito, Calif.

Filed Aug. 5, 1968, Ser. No. 750,187
Int. Cl. A45c *11/00;* **B65d** *11/00, 25/24, 43/16*
U.S. Cl. 206—12 **2 Claims**

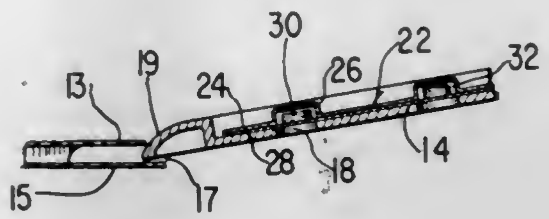


A container for a first aid kit that opens along diagonals of two opposed sides so as to afford easier access to the contents of the container. Resilient clips are provided for retaining first aid items within the container. Because each half of the container has two triangular sides, the utility of the container for purposes other than that intended is reduced.

3,504,788
PACKAGE

Burton J. Gray, Valley Forge, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Filed July 5, 1968, Ser. No. 742,887
Int. Cl. B65d *83/04, 5/38, 85/56*
U.S. Cl. 206—42 **6 Claims**



The disclosure is directed to a container for medicament tablets which has a rigid tray supporting a press-through packet of the tablets and a slip-fit outer sheath. The rigid tray may be marked with the time sequence of doses for the regimen of treatment contemplated with the tablets.

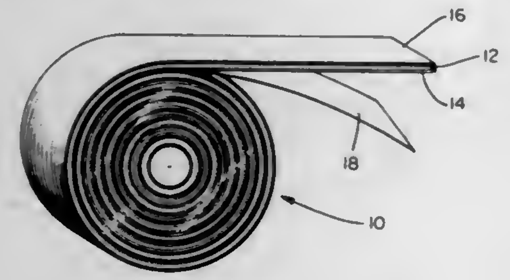
The present invention is directed to packages for solid dose forms and, more particularly, is directed to a three component package made up of a press-through packet, a rigid tray to support the packet, and an outer sheath to protect the packet and rigid tray. The invention will be described with regard to tablets, although it is to be understood that it applies to other solid dose forms, and broadly to any item which may be packaged in a press-through packet.

3,504,789

THERMOSETTING ADHESIVE BONDED WRAPPER

Edwin J. Bozewicz, Mount Holly, N.J., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 27, 1968, Ser. No. 740,611
Int. Cl. B65d *85/67;* **B65h** *75/00*
U.S. Cl. 206—59 5 Claims



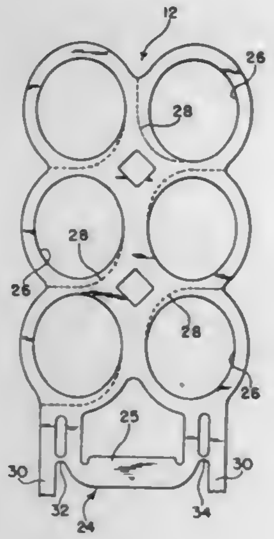
An adhesive tape includes a main non-porous body having a thin layer of resin on one side and a catalyst on the other side. In a roll, the two sides are separated by a paper or insulating material therebetween. Upon wrapping an article, the top surface contacts the bottom surface and a thermosetting reaction takes place.

3,504,790

CONTAINER PACKAGE

Ronald C. Owen, Harwood Heights, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 29, 1968, Ser. No. 773,695
Int. Cl. B65d *71/00*
U.S. Cl. 206—65 7 Claims



A container package including at least one carrier device made from a resilient, deformable and elastic plastic material providing constrictive apertures therein for receiving containers corresponding in number and placement to the apertures, the carrier device further including weakened lines configured and arranged relative to the apertures to permit separation or removal of the containers when the weakened line is broken or severed.

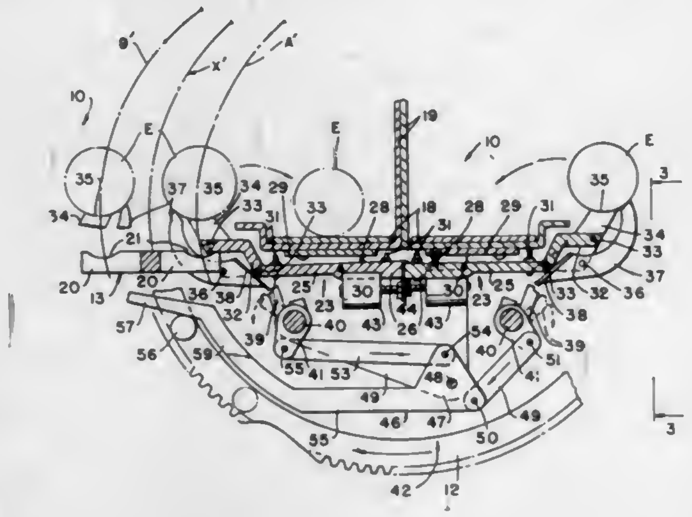
3,504,791

EGG GRADING KICK-OFF CONTROL LINKAGE

Clarence Page, Southfield, Mich., assignor to Page and Cox, Detroit, Mich., a partnership

Continuation-in-part of application Ser. No. 642,051, May 29, 1967, now Patent No. 3,426,894. This application Apr. 23, 1968, Ser. No. 723,517
Int. Cl. B07b *13/08*
U.S. Cl. 209—74 9 Claims

Rows of transversely aligned eggs are transported and successively deposited by an orbital transfer bar onto rows of opposed scale beam weighing units. Eggs of a given weight are displaced by parallel rows of oppositely acting, oscillatory kick-off members onto a pair of transversely traveling conveyor belts paralleling and between the scale beam rows; and a linkage common to the sets of fingers is operated by a tappet on the transfer bar unit, on each orbital cycle of the latter, to trip the finger linkage and displace eggs of proper weight onto the belts. The linkage includes two sets of crank operated trip fingers and links connecting their cranks to a common actuator therebetween; and the actuator is in the form of an elongated rocker arm having an operating tail or extension periodically engaged by the orbiting transfer bar tappet to operate the sets of kick-off members.

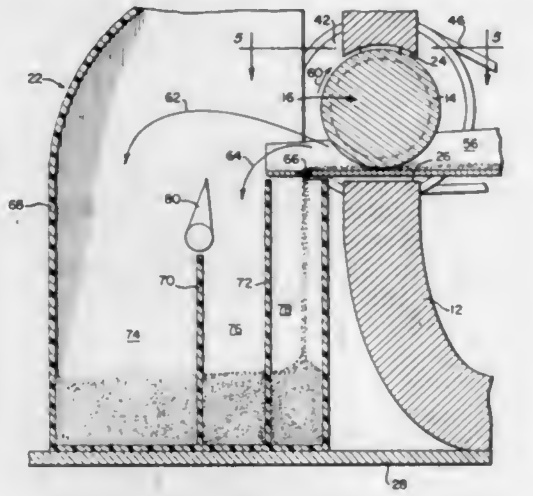


3,504,792

LIFT-TYPE INDUCED ROLL MAGNETIC SEPARATOR AND SEPARATION METHOD

Robert B. Grieve and James Hall Carpenter, Jacksonville, Fla., assignors to Carpco Research & Engineering, Inc., Jacksonville, Fla., a corporation of Florida

Filed Dec. 4, 1967, Ser. No. 691,680
Int. Cl. B03c *7/04*
U.S. Cl. 209—214 11 Claims



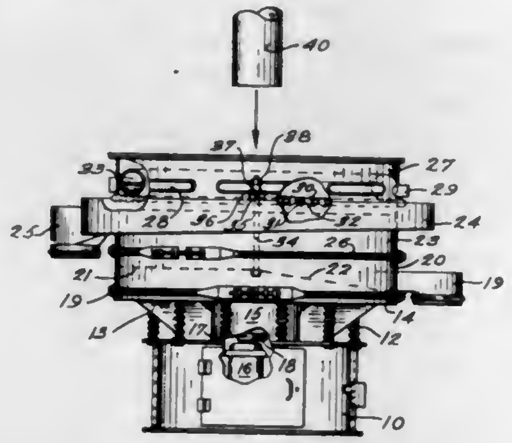
A method and an apparatus for separating dry granular materials of differing magnetic susceptibility wherein the materials to be separated are vibratingly fed along a substantially horizontal path into proximity with the lower portion of an inductively magnetized, rotating rotor so that the material of relatively higher magnetic susceptibility will be attracted upwardly toward the rotor and be propelled outwardly therefrom along a path vertically inclined from said horizontal path while the material of relatively lower magnetic susceptibility continues to move along said horizontal path after passing from proximity with the rotor.

3,504,793

VIBRATORY SEPARATOR CONSTRUCTION

John B. Eaton, Westhill, Ontario, and John L. More, Montreal, Quebec, Canada, assignors to Separator Engineering Ltd., Montreal, Quebec, Canada

Filed Aug. 4, 1967, Ser. No. 658,470
Int. Cl. B07b *13/16, 1/28*
U.S. Cl. 209—255 15 Claims



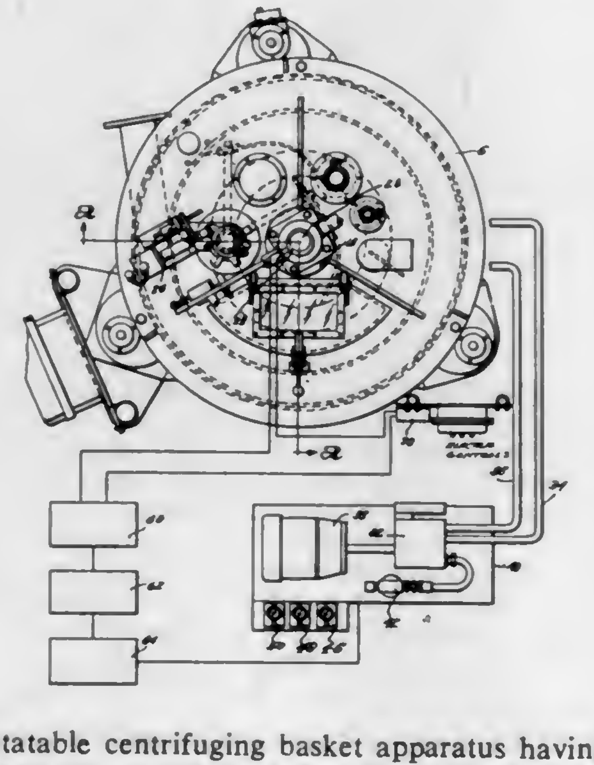
The disclosure relates to the construction of vibratory separators employing screens through which fine material is caused to pass while the coarse material is retained upon the screen. More in particular the disclosure relates to a frame unit for a vibratory separator. The frame unit includes a wall of circular cross-section having upper and lower rims, a collector plate having at least one portion sloping downwardly to a lower edge which contacts the wall, an outlet in the wall immediately above the lower edge, and trough means extending outwardly from and around the entire periphery of the wall and sloping downwardly from one or more points at or below the level of the upper rim and terminating in discharge means.

3,504,794

METHOD AND APPARATUS FOR CONTROLLING OPERATION OF A CENTRIFUGAL

David M. Tholl, Cumberland, R.I., and Ernest J. Zitke, Brockton, Mass., assignors, by mesne assignments, to The De Laval Separator Company, Poughkeepsie, N.Y., a corporation of New Jersey

Filed Feb. 12, 1968, Ser. No. 704,808
Int. Cl. B04b *13/00*
U.S. Cl. 210—78 10 Claims



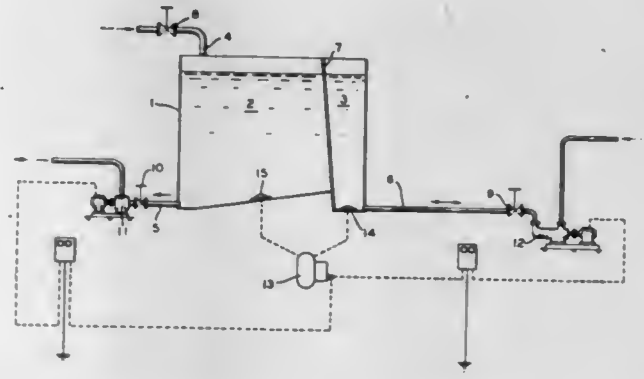
A rotatable centrifuging basket apparatus having variable speed power driving means is regulated by a speed sensing apparatus arranged to continuously sense changes in rotative speed of the basket. The sensing apparatus is particularly designed to operate at relatively low rotative speeds at which the basket is driven when moved into engagement with a scraper blade or plow for removing caked material from the inner peripheral surface of the basket at the end of a centrifuging cycle. The sensing device controls speed stabilizing means for adjusting the power driving means in response to change in basket speed within a specific range to increase power driving forces and maintain the basket at a proper rotative speed for carrying out the plowing operation without danger of stalling or causing excessive wear of the equipment.

3,504,795

WATER SLUDGE SEPARATION SYSTEM AND METHOD

Peter Frederick Johnson, Sanderstead, Surrey, England, assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware

Filed July 7, 1969, Ser. No. 839,418
Int. Cl. C02c *3/00*
U.S. Cl. 210—83 9 Claims



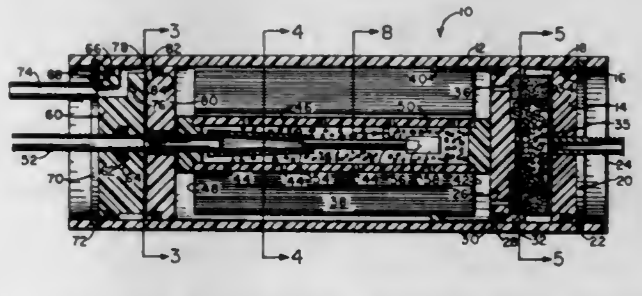
Process and apparatus for removing water bands which form during the thickening of sludges, particularly sawage sludge, but which remain interspersed between the layers of stratified sludge. The apparatus comprises a tank divided into at least two compartments by a substantially vertical perforate partition through which the aforesaid water bands are controllably removed.

3,504,796

REVERSE OSMOSIS APPARATUS

Donald T. Bray, Escondido, Calif., assignor to Desalination Systems, Inc., San Diego, Calif., a corporation of California

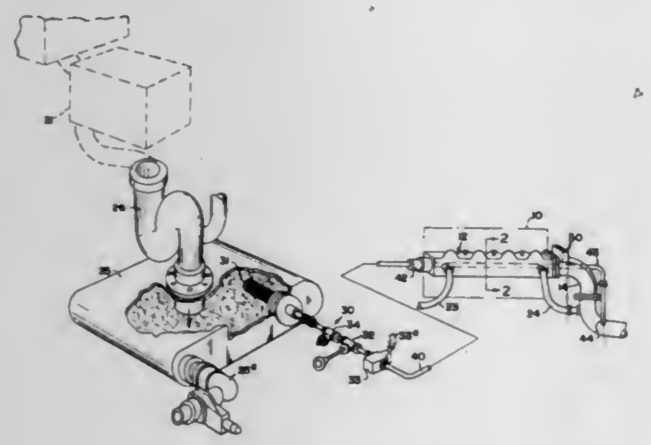
Filed Aug. 1, 1968, Ser. No. 749,447
Int. Cl. B01d *13/00*
U.S. Cl. 210—137 11 Claims



Reverse osmosis apparatus employing a membrane pack or module wound around a perforated tube inside a pressure container, and from which container brine is released through a conduit formed by a spiral groove in the face of a plug which is maintained in contact with another surface. The spiral groove is of such length and diameter so that the conduit offers resistance to flow of brine to regulate its release from the container and to maintain liquid pressure therein. A plurality of two or more grooved face plugs may be employed to form an extended conduit for desired control. The perforated tube around which the membrane pack is wound may contain a water purifying material and the outlet of such tube may be equipped with a collapsible plastic tube valve to shut off water flow if membrane rupture occurs.

3,504,797
WASTE DISPOSAL SYSTEM

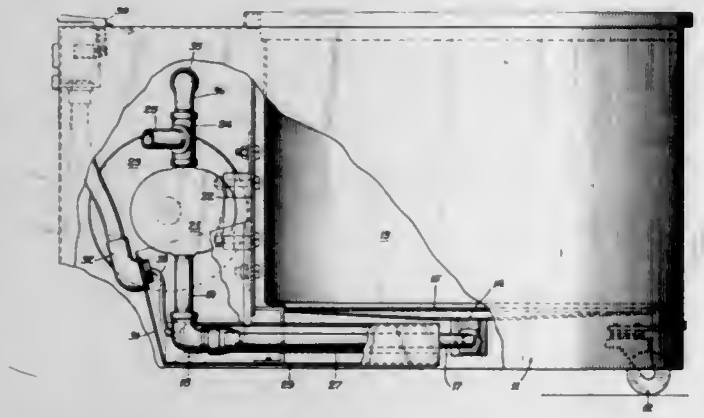
James S. Reid, Hudson, Ohio, assignor to Standard Products Company, Cleveland, Ohio, a corporation of Ohio
Filed June 26, 1968, Ser. No. 740,164
Int. Cl. B01d *1/14*
U.S. Cl. 210—152 **8 Claims**



A waste disposal system for a vehicle in which a dissipatus tube is located in the exhaust manifold with the hot exhaust gases vaporizing and purifying the liquid waste material as it passes through the tube.

3,504,798
FILTER

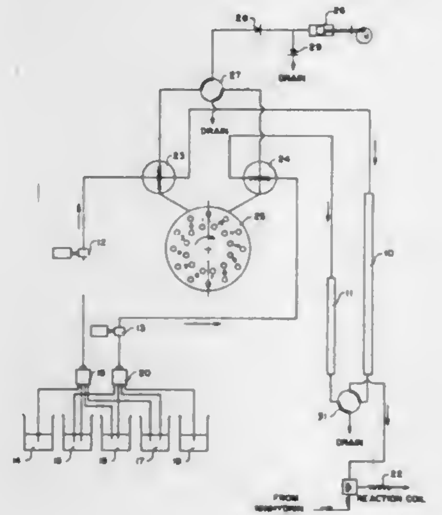
Richard J. Anetsberger, Northbrook, Ill., assignor to Anetsberger Brothers, Inc., Northbrook, Ill., a corporation of Illinois
Filed June 4, 1968, Ser. No. 734,434
Int. Cl. B01d *23/20, 29/42, 35/18*
U.S. Cl. 210—181 **3 Claims**



Vacuum filter for extremely hot liquid cooking fat comprising a container for the liquid with filter means and an outlet at the bottom, a pump inlet conduit extending from the container outlet to a simple gear pump operable to draw liquid through the filter means and discharge the same through an outlet conduit connected to the discharge side of the pump, and pulse-suppressing means to insure smooth-flowing discharge of the liquid in the form of a closed-end pipe of substantial length connected with the outlet conduit directly adjacent the discharge side of the pump, with an electric heating heating cartridge mounted adjacent the pump inlet conduit and a metal shroud surrounding it for directing heated ambient air against the pump, and a double-throw switch for controlling operation of pump and cartridge, whereby the cartridge may be selectively energized to melt congealed residual cooking fat to permit operation of the pump and thus eliminate the necessity of providing any arrangement for manually draining the pump and adjacent conduits after each filtering operation.

3,504,799
SAMPLE INJECTOR

David G. Ogle, Sunnyvale, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Apr. 2, 1968, Ser. No. 718,166
Int. Cl. B01d *15/08*
U.S. Cl. 210—198 **16 Claims**



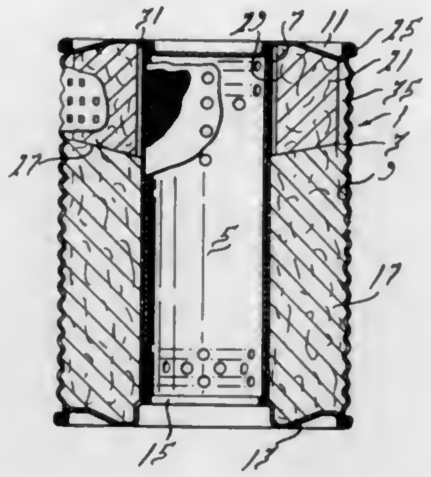
A sample injector for ion exchange chromatography employing rotary, high pressure, shear-type valves for measuring a quantity of sample into each of the sample loops while the valve associated therewith is in one of two positions and connecting the sample loop to the head ot a resin packed column in series with a suitable eluent while the valve associated therewith is in the other position. Shear-type annular seals made of resilient material are employed between the flat shear-type valve faces of the rotary sample injecting valves. Each seal includes an annular cap of low friction plastic material to provide a wear resistance sealing face against an opposing valving face. The annular cap includes sidewalls on the inside and outside circumferences to constrain the annular seal of resilient material to the space therebetween. A gap is maintained between the shear-type valve faces to prevent smearing one face with the sample in the measuring loop carried by the other face. Samples are stored in rows on a rotary table which is stepped to sequentially connect samples to the high pressure sample injecting valves. When a sample measuring loop is in line with a sample reservoir on the rotary table, a transfer pump draws sample out of the reservoir into the measuring loop.

3,504,800
FILTER INCLUDING HIGH FLOW MOLDED ELEMENT

Louis F. Niebergall and James C. McLaren, Racine, Wis., assignors, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware
Continuation of application Ser. No. 185,661, Apr. 6, 1962, and a continuation of applications Ser. No. 451,761, and Ser. No. 451,762, both Apr. 29, 1965, which are divisions of said Ser. No. 185,661. This application Jan. 11, 1967, Ser. No. 613,385
Int. Cl. B01d *25/02, 25/06, 27/00*
U.S. Cl. 210—317 **8 Claims**

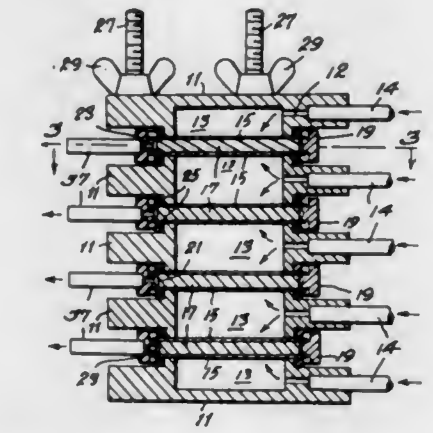
A high flow molded element formed of uniform diameter resin coated viscose rayon fibers is used in a parallel dual media-dual flow filter to remove particles above a

predetermined size. The element is made to a predetermined size, density, porosity, and flow resistance and being essentially rigid it resists unloading. It may be conically shaped to have a substantially uniform rate of flow or internally flocked to provide more uniform porosity. An end cap may be adhered to the element as a subassembly and the inlet and outlet faces are preferably spaced from adjacent portions of the housing to insure flow to the entire areas of these faces.



3,504,801
SPACED WALL TYPE, REVERSE OSMOSIS FILTER ASSEMBLY

Nelson E. Alexander, Frederick, Md., assignor to the United States of America as represented by the Secretary of the Army
Continuation-in-part of application Ser. No. 510,459, Nov. 26, 1965. This application July 25, 1969, Ser. No. 845,002
Int. Cl. B01d *31/00, 13/00*
U.S. Cl. 210—321 **4 Claims**

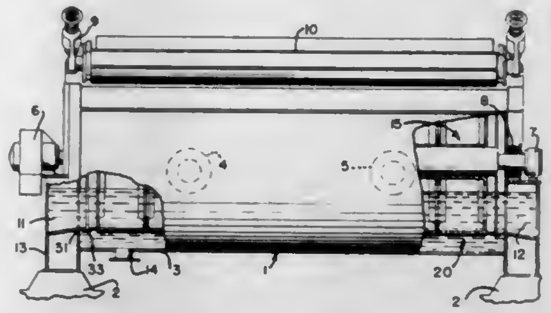


An apparatus for the treatment of solutions by reverse osmosis having a series of chambers separated by membrane filters supported on porous metal discs.

3,504,802
ROTARY DRUM FILTER

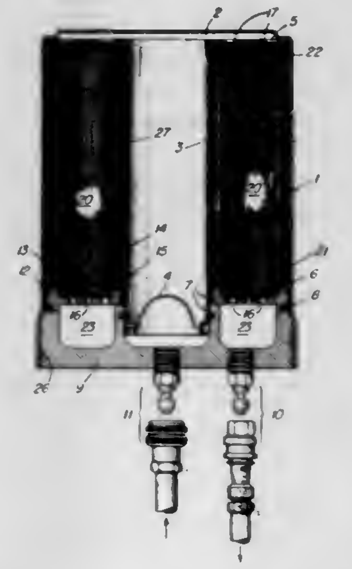
Oscar Luthi, Nashua, N.H., assignor to Improved Machinery, Inc., Nashua, N.H., a corporation of Delaware
Filed May 8, 1967, Ser. No. 636,758
Int. Cl. B01d *33/06*
U.S. Cl. 210—404 **12 Claims**

An open cylinder decker or rotary drum filter mounted for rotation in a slurry containing bath. The filter includes a central core having a spider mounted on the core. Loosely mounted on the core are a plurality of hollow plastic modular sections secured together to form a drum. There is a modular section on each side of the spider arranged so that as the core is rotated, the spider drives the plastic modular sections from a point near the outer periphery of the drum. The modular sections are provided with holes to allow liquid to pass into the inside of the drum. The modular sections have openings to provide interconnecting passages between the sections. There may be a filtrate outlet at either or both ends of the drum.



3,504,803
PAPER ROLL FILTER STRUCTURE

George E. Brayman, Brewster, N.Y., assignor, by mesne assignments, to Eagle Empire Corporation, White Plains, N.Y., a corporation of New York
Filed June 8, 1967, Ser. No. 644,572
Int. Cl. B01d *27/04*
U.S. Cl. 210—439 **3 Claims**

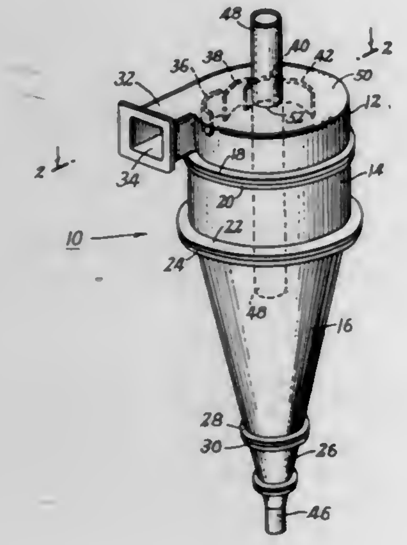


A filter unit using a paper (or like material) roll having a central opening as the filter element, said roll having its ends positioned between contiguous perforated end plates, in which the liquid to be filtered passes through the filter in a direction parallel to the longitudinal axis of the central opening of the paper roll and wherein the base plate at the liquid exiting end of the roll has inner and outer annular wedge members disposed such that they penetrate the paper roll (when in place) near the inner and outer edges of the end of the roll. The annular wedges effect radial stresses that compress the outer layers of the roll against the inner wall of a surrounding container and the inner layers against the outer wall of a core element disposed in the central opening.

3,504,804
CENTRIFUGAL SEPARATOR

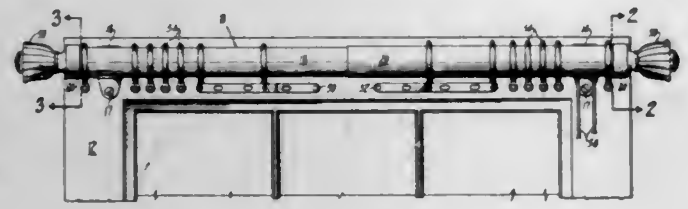
Marvin K. Newman, Southfield, and Orlan M. Arnold, Grosse Pointe Park, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Original application Sept. 26, 1967, Ser. No. 670,727, now Patent No. 3,439,810, dated Apr. 22, 1969. Divided and this application July 23, 1968, Ser. No. 765,719
Int. Cl. B01d *21/26*
U.S. Cl. 210—512 **11 Claims**

A centrifugal separator for classifying liquids containing suspensions of solid material wherein the centrifugal separator utilizes the high pressure tangential inlet flow of liquid and solid suspensions to create a vortexing action within a conically shaped separating chamber. The vortexing liquid is guided within the inlet scroll and in the conical separating chamber to induce liquid flow toward the walls of the separating chamber to thereby provide for a more efficient settling action on the suspended solid particles. Provision is also made to increase the separating effect just prior to the area of exit of the clarified liquid.



3,504,805
TELESCOPING SUPPORT ROD AND UNIVERSAL END CAP THEREFOR

Kieran D. Doyle, Wallingford, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Apr. 13, 1967, Ser. No. 630,323
Int. Cl. A47h *1/022, 1/02*
U.S. Cl. 211—105.3 7 Claims

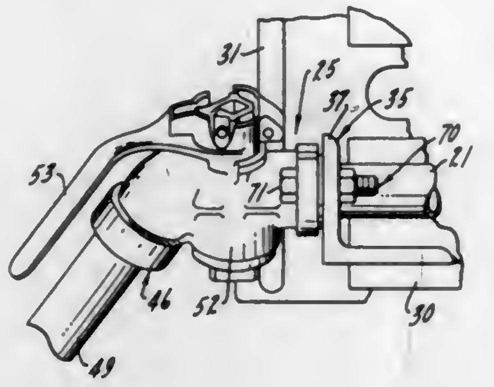


A telescoping support rod having a universal end cap or finial with an annular recess in the end thereof and provided with peripheral walls and a pair of axially extending tangs spaced from the walls for selectively and compressively engaging the ends of the telescoping rod members so as to frictionally secure the universal end cap on either of the rod members.

3,504,806
ANGLE COCK AND MOUNTING ASSEMBLY

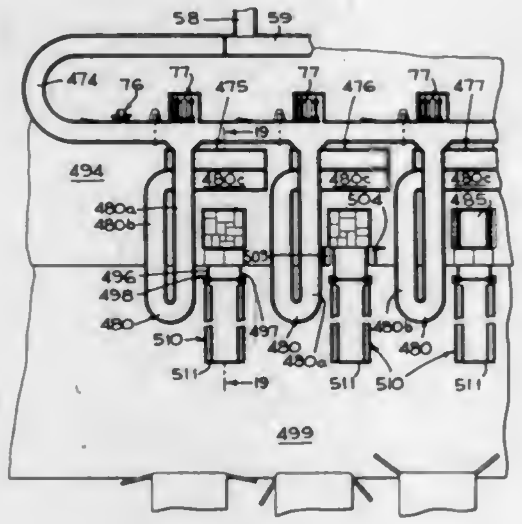
Charles L. Spees, Elkhorn, Wis., assignor to Union Tank Car Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 19, 1968, Ser. No. 753,606
Int. Cl. B61g *5/06*
U.S. Cl. 213—1 4 Claims

An angle cock and mounting assembly for the trainline system of railway rolling stock. The angle cock unit and its mounting structure are so constructed that a passed coupler riding up onto a unit and subjecting it to an excessive amount of stress merely causes the unit to shift without damage to it, the mounting structure, or the trainline.



3,504,807
APPARATUS FOR SEPARATING AND LOADING ARTICLES ON PALLETS

Stanley McWhorter Weir, Palo Alto, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Nov. 3, 1967, Ser. No. 705,246, now Patent No. 3,442,403, dated May 6, 1969. Divided and this application Oct. 4, 1968, Ser. No. 765,218
Int. Cl. B65g *47/34*
U.S. Cl. 214—11 3 Claims

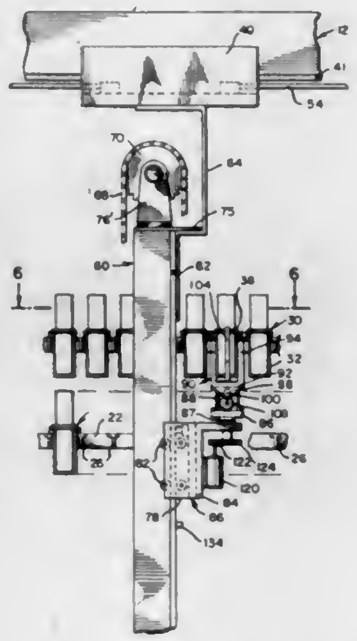


A warehousing system is comprised of conveying means for carrying a plurality of articles destined for different loading stations toward a separating zone in which the articles are separated and directed to their prescribed station, and means is provided at the station for palletizing the articles.

3,504,808
BOOK STORAGE AND RETRIEVAL APPARATUS

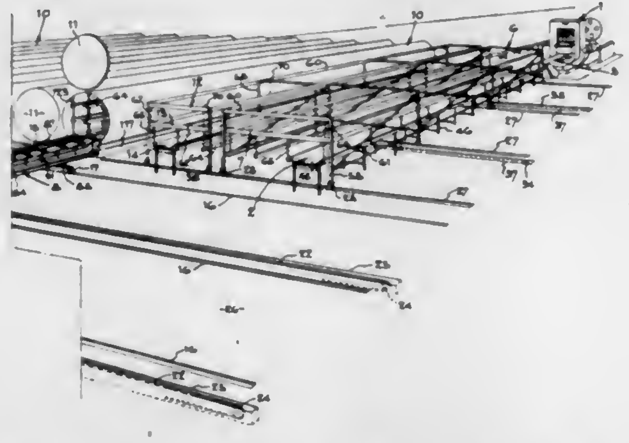
Eustratios Nicholas Carabateas, 35 George Sissinl St., Athens, Greece
Continuation of application Ser. No. 551,041, May 18, 1966. This application Apr. 15, 1969, Ser. No. 817,285
Int. Cl. B65g *1/00*
U.S. Cl. 214—16.4 4 Claims

Apparatus for storing and retrieving books comprises a plurality of book storage frames and a special selector mechanism associated with each of said frames. Each of the frames includes a plurality of closely spaced, horizontally extending brackets, on which a plurality of unique bookholders are supported. Each bookholder holds a single book, and includes horizontally extending flanges, so as to permit a book to be supported on adjacent brackets. The bookholder further includes a retaining portion which is adapted to be engaged by a grasping member on the selector mechanism, so that any bookholder (with its book) can be removed from or returned to a special location in the book storage frame. The invention particularly lends itself to the automatic selection and retrieval of books, inasmuch as each location in a given storage frame can be identified by row and column addresses, which, in a known fashion, can be used to automatically control the selector mechanism.



3,504,809
CHARGING MECHANISM FOR BLOCK HANDLING APPARATUS

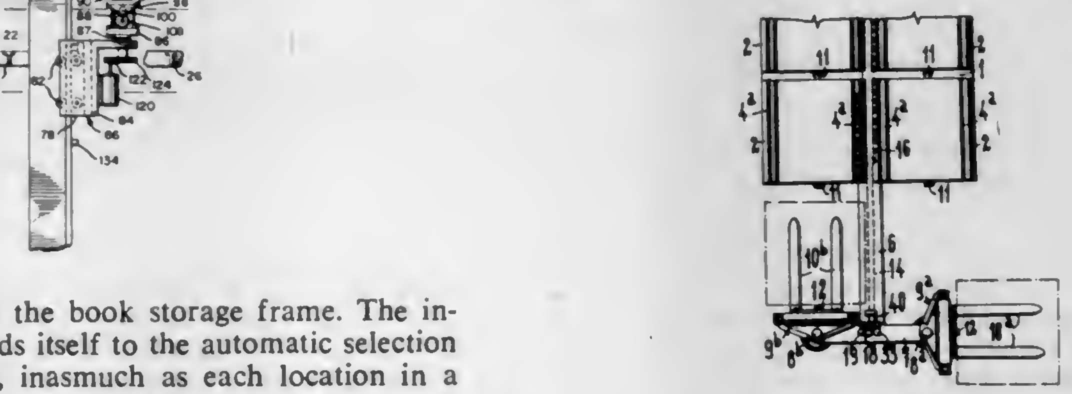
William E. Todd, Cincinnati, Ohio, assignor to The E. W. Buschman Company, Inc., Cincinnati, Ohio, a corporation of Ohio
Original application July 28, 1966, Ser. No. 568,683, now Patent No. 3,412,878, dated Nov. 26, 1968. Divided and this application Apr. 30, 1968, Ser. No. 738,744
Int. Cl. B65g *47/90*
U.S. Cl. 214—26 3 Claims



An apparatus for handling concrete building blocks which are pressed from a moist concrete mixture in a block forming machine and cured in a series of autoclaves, each autoclave having pallet support rails located in planes one above the other. The disclosure is particularly directed to a charging mechanism which shuttles relative to a transfer mechanism, which accumulates the freshly pressed blocks upon pallets, and relative to the autoclaves and to an exit mechanism. The charging mechanism includes an extensible ram arranged to be extended longitudinally into the transfer mechanism to lift and remove the pallets of freshly formed blocks, the ram thereafter being retracted and shuttled to a selected autoclave. At this point the ram is elevated to a selected set of pallet support rails in the autoclave, extended into the autoclave, then lowered to deposit the palletized blocks upon the rails, after which the ram is again retracted. The cured blocks from the autoclave are removed by extension, elevation and retraction of the ram and may thereafter be transferred to the exit mechanism.

3,504,810
TRUCK PROVIDED WITH A LOADING DEVICE

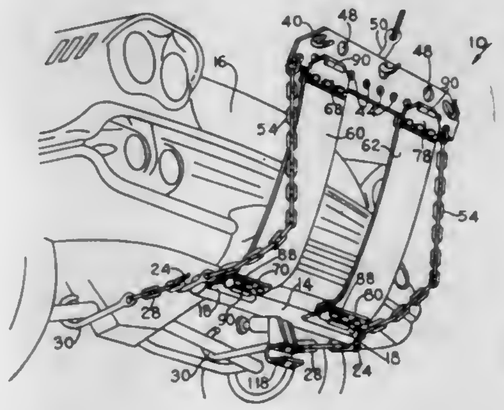
Fedde Walda, Leendert Sparreboomstraat 15, Rotterdam, Netherlands
Filed Feb. 26, 1968, Ser. No. 708,141
Claims priority, application Netherlands, Feb. 28, 1967, 6703389
Int. Cl. B60p *1/46*
U.S. Cl. 214—75 2 Claims



A truck has a loading device for placing containers in two rows extending longitudinally of the loading surface of the truck. The device comprises a support arm which extends centrally and longitudinally of the loading surface and is parallel thereto, and which is longitudinally displaceable. A horizontal cross arm is mounted on the outer end of the support arm so as to extend laterally of the support arm, and a vertically extending frame is pivoted to the cross arm on a vertical axis that is substantially displaced from the support arm. A fork is vertically movable in the frame in order to pick up a container and then, after pivoting of the frame, to deposit the container on the loading surface at the rear end of one of two rows of containers extending longitudinally of the loading surface.

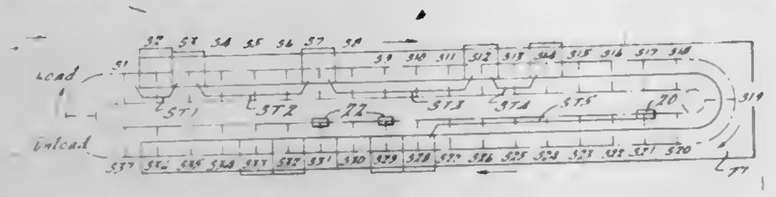
3,504,811
TOWING APPARATUS

Edward F. Wegener and Thure H. Wegener, both of Cranbury-South River Road, Cranbury, N.J. 08512
Continuation-in-part of application Ser. No. 683,410, Nov. 15, 1967, which is a continuation of application Ser. No. 575,920, Aug. 19, 1966, which, in turn, is a continuation of application Ser. No. 399,222, Sept. 25, 1964. This application Apr. 5, 1968, Ser. No. 719,212
Int. Cl. B60d *1/14;* **B66c** *1/22*
U.S. Cl. 214—86 8 Claims



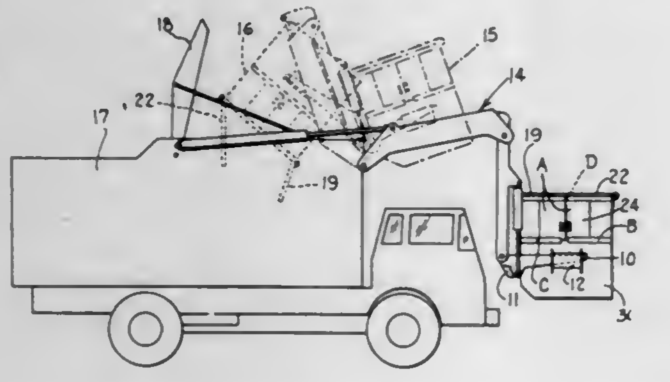
A vehicle lift and tow bar includes an upper bar and a lower bar, between which extend a pair of flexible slings to cradle the end of a wreck to be towed. A rigid telescoping spacer bar arrangement is coupled between the lower bar and the tow truck, and means are provided for coupling the tow bar to a wreck vehicle by way of cables extending from the telescoping spacer bars along a guide on the lower bar to the undercarriage of the wreck.

3,504,812
CONVEYING MACHINE
Chester G. Clark, Grosse Pointe Woods, Mich., assignor to The Udylite Corporation, a corporation of Michigan
Filed Apr. 1, 1968, Ser. No. 717,712
Int. Cl. B65g *35/00;* **B23q** *7/00*
U.S. Cl. 214—89 **10 Claims**



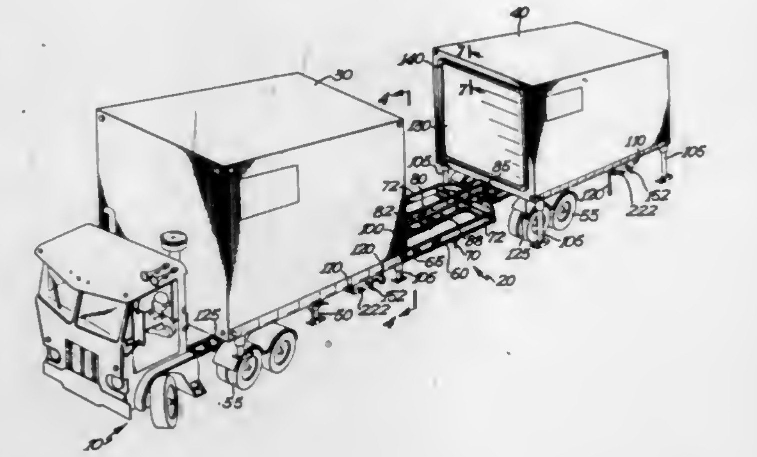
A conveying machine for conveying workpieces through a series of treating stations including guide means on which a plurality of work carriers are movably mounted and are interconnected to each other at spaced intervals. Each work carrier comprises a carriage frame on which a carriage is mounted for movement between a lowered position and a raised position in response to the up and down movement of an elevator chassis. Each carriage incorporates engaging means thereon and the elevator chassis incorporates a reciprocable member having supporting means thereon which engage the engaging means on the carriages for lifting the carriages during the ascending movement of the chassis and also travel in unison with the carriages and through an increment corresponding to the advancing movement of the carriages from one station to the next station. The work carriers are advanced from one station to the next station either in response to the reciprocating motion of the engaged supporting means or by driving means connected to the interconnecting means. The workpieces are suspended from a supporting arm affixed to each carriage of each work carrier.

3,504,813
REFUSE CONTAINER
Learnard R. Weir, 23 Timrod Way, Greenville, S.C. 29607
Filed July 22, 1968, Ser. No. 746,413
Int. Cl. B65f *3/02;* **B65d** *43/20*
U.S. Cl. 214—302 **2 Claims**



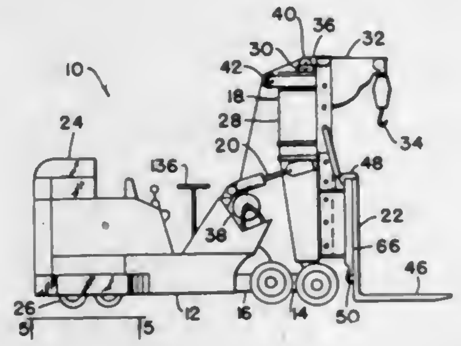
A refuse container suitable for use with a front end loader has a pair of longitudinally slidable doors for closing an opening in each of the longitudinal sides thereof. A first stop is carried by the container adjacent the front end loader for preventing sliding movement of an adjacent door to open position during dumping, and a second stop is provided for engaging the other door for preventing opening of that door during dumping.

3,504,814
PLURAL-UNIT CARGO CARRIER
James K. McCleary, Minneapolis, Minn., assignor of forty percent to Gerald A. Bensfield, Minneapolis, Minn.
Filed Feb. 5, 1968, Ser. No. 703,092
Int. Cl. B60p *1/64*
U.S. Cl. 214—515 **8 Claims**



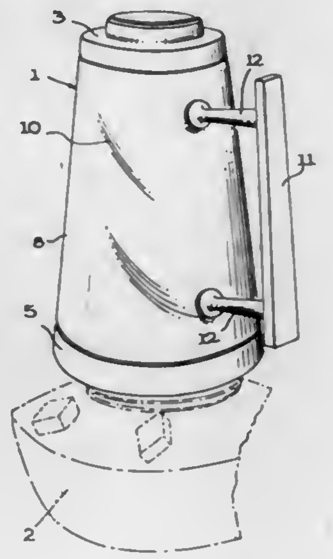
A plural-unit cargo carrier in which a tractor-trailer or straight-body truck will carry a plurality of cargo-carrying bodies designed to hold less than carload lots for distribution at varying points to be unloaded without requiring that the motive source and driver remain during such unloading operation. The individual bodies include a self-contained power source operated from the pneumatic supply of such a tractor or truck with provisions for securing the cargo-carrying body in any one of a number of positions on the chassis member for stability purposes or for maximum loading and with provisions for sealing adjacent units to prevent the entrance of dirt and moisture between the same at the access openings therein.

3,504,815
TANDEM WHEEL STEERING MECHANISM FOR A LIFT VEHICLE
John V. M. De Bona, Orchard Lake, Mich., assignor to Darin & Armstrong, Inc., Detroit, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 522,629, Jan. 24, 1966. This application Aug. 14, 1967, Ser. No. 660,251
Int. Cl. B65g *47/00;* **B62d** *1/10;* **B60b** *1/54*
U.S. Cl. 214—672 **3 Claims**



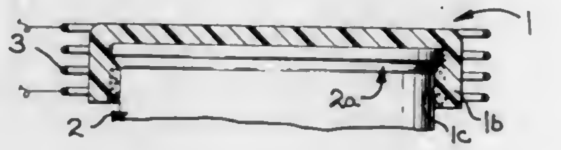
A mobile crane comprising a truck, a crane chassis pivotally connected to the truck at one end thereof, a crane pivotally connected to and extending upwardly from the chassis, and an extensible link pivoted at opposite ends to the truck and crane, a fork removably secured to the crane and a weight positioned on the other end of the truck, tandem wheels at the end of the truck and means for suspending the tandem wheels for vertical movement and arcuate movement toward each other and for providing positive steering for each of the dual wheels during movement thereof.

3,504,816
CONTAINER FOR A FOOD BLENDER AND LIQUEFIER
Walter May Weichsel, Mexico City, Mexico, assignor to Motores y Aparatos Electricos, S.A. de C.V., Mexico City, Mexico, a corporation of Mexico
Filed Aug. 28, 1968, Ser. No. 755,841
Claims priority, application Mexico, Feb. 29, 1968, 101,800
Int. Cl. B65d *23/00*
U.S. Cl. 215—1 **10 Claims**



A vessel having an inner cavity defined by a wall inclined inwardly from the bottom to the top thereof. Self-clearing means are included on the inner surface of the wall and a base unit is removably attached to the bottom of the vessel.

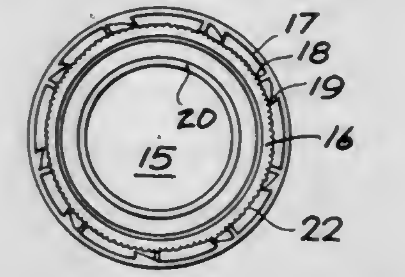
3,504,817
CLOSURE AND METHOD OF APPLYING SAME
James E. Heider, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed May 14, 1968, Ser. No. 728,969
Int. Cl. B65d *41/02*
U.S. Cl. 215—38 **20 Claims**



This invention relates to a closure for application to a finish portion of a container characterized by the incorporation in such closure of an annular band of thermoplastic material having incorporated therein a heat-actuated foaming agent thereby permitting the foaming of the annular band of thermoplastic material after the closure is loosely applied to the container finish. Additionally, this invention relates to the method of applying closures to containers involving the in situ expansion of a thermoplastic portion of the closure into intimate engagement with the container finish after the application of the closure to the container finish.

3,504,818
TAMPER PROOF BOTTLE CLOSURE
Harry Crisci, P.O. Box 231, New Castle, Pa. 16103
Filed Nov. 25, 1968, Ser. No. 778,475
Int. Cl. B65d *41/20*
U.S. Cl. 215—42 **3 Claims**

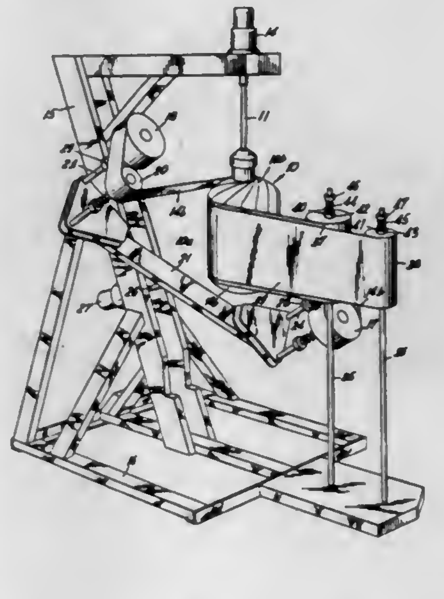
A tamper proof milk bottle and closure combination in which the bottle has configurations about the neck thereof registering with configurations on a separable portion of a closure engageable therewith. The bottle and closure being formed of resilient material and permitting engagement of the closure on the bottle neck by threading and flexibly yielding engagement of the registering configurations which are arranged to prevent reverse rotation as necessary to remove the closure whereby a portion of the closure breaks away and remains on the neck of the bottle indicating tampering.



3,504,819
LAMP ENVELOPES
Frank Veres, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Feb. 21, 1966, Ser. No. 529,161
Int. Cl. H01k *1/28, 1/34*
U.S. Cl. 220—2.1 **22 Claims**

Fluorescent lamp envelopes which are initially formed from thermally crystallizable glass and in which a portion of the interior surface of the envelope, such as the upper interior arcuate portion, is converted to a substantially completely reflecting thermally crystallized portion. This portion consists of finely divided crystals dispersed in a glassy matrix and reflects light. The remainder of the glass envelope, such as the lower section of the enevelope and opposite the reflecting surface, is transparent to the reflected light so that the reflected light will pass out through the walls of that portion of the enevelope which is transparent. The transparent section can be vitreous or partially crystallized.

3,504,820
SPACED WALL RECEPTACLE HAVING WOUND COMPOSITE INSULATION BETWEEN THE WALLS
Alfred Barthel, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Original application Apr. 1, 1966, Ser. No. 545,517. Divided and this application Nov. 26, 1968, Ser. No. 794,823
Int. Cl. B65d *25/18*
U.S. Cl. 220—9 **5 Claims**



A spaced wall container for low boiling liquefied gases, such container having cylindrical side walls of substantially circular cross-section and end walls of substantially spherically convex shape, the space between the walls of such container being filled with composite insulation wherein strips of insulation of a low thermally conductive material and strips of insulation of a radiation reflective material are longitudinally wrapped about the inner wall of the container and other strips of low thermally conductive material and radiation reflective material are wrapped girth-wise about the cylindrical side walls of the container.

3,504,821
BOX

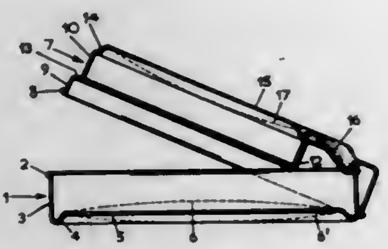
Kees Wolbers, Baarn, Netherlands, assignor to N.V. Maatschappij voor Wasverwerking, Amersfoort, Netherlands, a corporation of the Netherlands

Filed July 6, 1967, Ser. No. 651,519

Claims priority, application Netherlands, July 8, 1966, 6609611

Int. Cl. B65d *43/04, 1/00, 3/00*

U.S. Cl. 220—43 **5 Claims**



A box with a bottom section and a cover section fitting about said bottom section, which cover section has a pivot on said bottom section in order for the box to be opened when pressure is exerted on an edge thereof. The cover is provided with an indentation so that the upper rim of the bottom section may be gripped between the sidewall of the cover and said indentation in the snapped-open position of the box, thereby preventing the bottom section from slipping out of the user's hand.

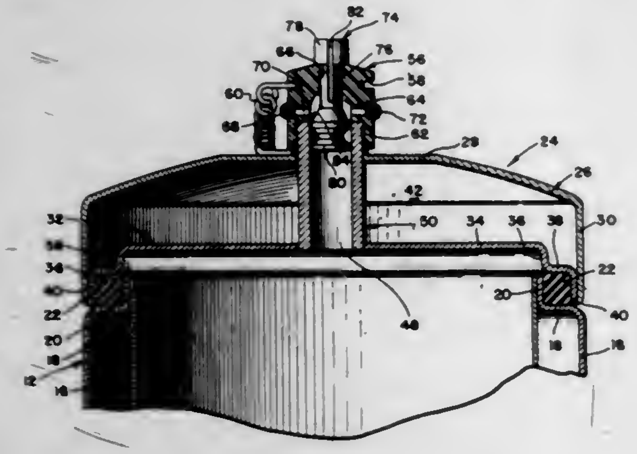
3,504,822
CONTAINER AND VENTING DEVICE

Frank Haloski, Downers Grove, Ill., assignor to Vacuum Can Company, Chicago, Ill., a corporation of Illinois

Filed May 28, 1968, Ser. No. 732,754

Int. Cl. B65d *51/16*

U.S. Cl. 220—44 **6 Claims**



A venting device is provided for use with a container for storing and dispensing liquids. The device permits venting of vapor from withtin the container when a maximum predetermined pressure is reached, prevents liquid from leaving the container through the vent opening, and permits air to enter the container to prevent the formation of a vacuum as liquid is removed from the closed container through a dispensing opening.

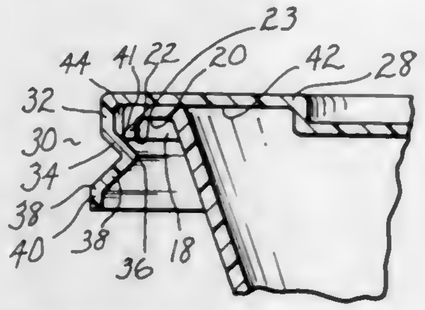
3,504,823
CONTAINER

James C. Logomasini, Wilbraham, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed May 6, 1968, Ser. No. 726,930

Int. Cl. B65d *43/10, 21/00*

U.S. Cl. 220—60 **4 Claims**



Sealing configurations in a lid and complementary body which include a rim on the body extending outwardly from the top edge of the body, having a pendant portion at the outer edge of the outwardly extending portion, and a stackable lid having a resilient skirt which includes an inwardly tapering portion for compressively bearing against the pendant portion of the rim to create a seal between the two parts.

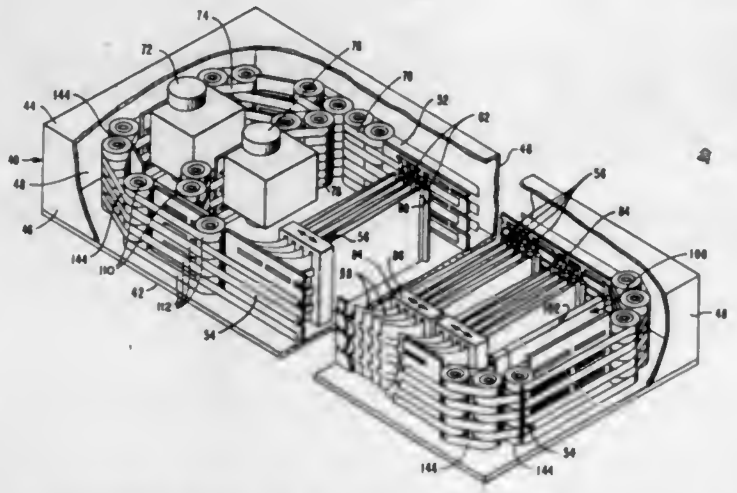
3,504,824
RANDOM ACCESS STRIP STORAGE SYSTEM

Clement H. Kalthoff, Boulder, Colo., and Leo J. Rigbey, Winchester, England, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed June 5, 1968, Ser. No. 734,807

Int. Cl. G06f *1/00*

U.S. Cl. 221—87 **24 Claims**



A storage system is provided in which randomly selected magnetic recording strips are ejected from individual storage cell chambers and carried by an entry path portion of a continuous transport to selected ones of a plurality of read-write processing stations. The strips are held by vacuum to pulley mounted belts for movement therewith and may be directed into the selected processing stations by the use of movable cornering guides. Processed strips are carried by a return path portion of the transport, and are directed into their storage chambers by pneumatically operated guide vanes.

3,504,825
PNEUMATIC CONTROL OF PRESSURE POURING LADLE

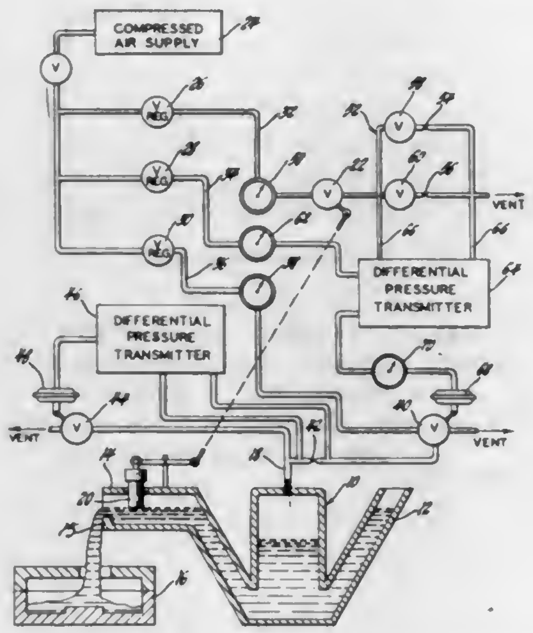
Milton J. Diamond, Saginaw, Mich., and Robert J. Kinsey, Danville, Ill., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,259

Int. Cl. B22d *17/32;* **F27d** *3/14*

U.S. Cl. 222—61 **10 Claims**

A pneumatic control circuit develops a pressure signal as a function of metal height in the pouring spout and controls the ladle air pressure to maintain constant metal height. A differential pressure sensor in the ladle air supply line controls a vent to relieve air pressure when metal is added to the ladle.


COMPRESSED AIR SUPPLY
V
V REG.
V REG.
V REG.
V
V
V
VENT
DIFFERENTIAL PRESSURE TRANSMITTER
DIFFERENTIAL PRESSURE TRANSMITTER
V
VENT
V
VENT

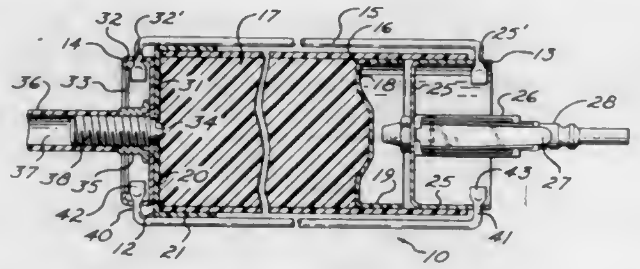
3,504,826
SEALANT CONTAINERS AND DISPENSERS

Ewell Lee Carlton, 11850 Edgewater Drive, Lakewood, Ohio 44107

Filed May 16, 1968, Ser. No. 729,806

Int. Cl. B67b *7/24*

U.S. Cl. 222—82 **13 Claims**



There is disclosed herein a container for viscous material adapted for dispensing the material therefrom by means of fluid pressure. There is further disclosed a support for receiving the container and spout means for penetrating the container to release the material.

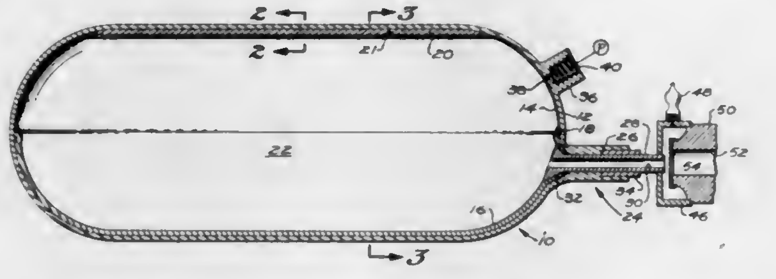
3,504,827
PRESSURE OPERABLE STORAGE AND EXPULSION CONTAINER

Kenneth W. Larson, Long Beach, Calif., assignor to Aerojet General Corporation, El Monte, Calif., a corporation of Ohio

Filed Apr. 10, 1968, Ser. No. 720,137

Int. Cl. B65d *35/28*

U.S. Cl. 222—95 **16 Claims**



A container according to the present disclosure includes a deformable metallic bladder which is capable of expelling fluid contained therein by deformation of the bladder. A pressurant is utilized for deforming the bladder.

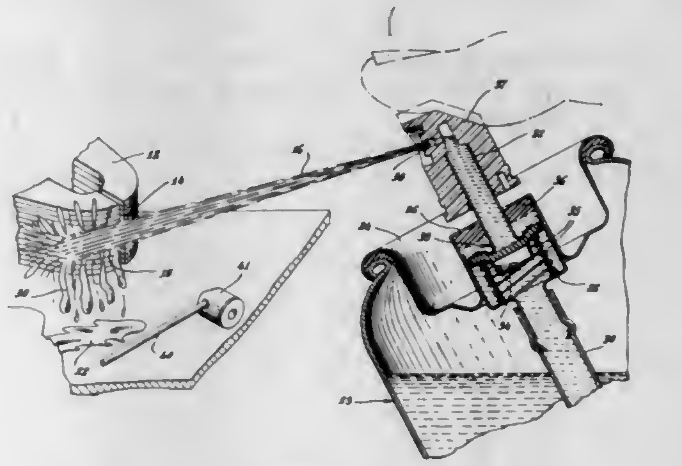
3,504,828
METHODS AND APPARATUS FOR CLEANING TAPE RECORDER TRANSDUCER HEADS AND SIMILAR DEVICES

George M. Stephenson, Georgetown, Conn. (℅ Miller-Stephenson Chemical Company, Inc., Rte. 7, Danbury, Conn. 06810)

Filed July 14, 1966, Ser. No. 565,172

Int. Cl. B65d *83/00*

U.S. Cl. 222—402.24 **6 Claims**



Portable cleaning apparatus for dislodging and removing accumulated deposits of foreign matter from tape recording transducer heads and the like, utilizing an Aerosol container carrying a pressurized charge of volatile organic solvent and a liquified Aerosol propellant, and incorporating an aerosol release valve with a discharge nozzle communicating with an enlarged hollow valve stem chamber connected to the interior of the Aerosol container by an internal metering orifice substantially larger than the discharge nozzle, providing a heavy stream of rapidly moving solvent fluid capable of dislodging and sluicing away accumulated deposits of oxide, dirt and other materials.

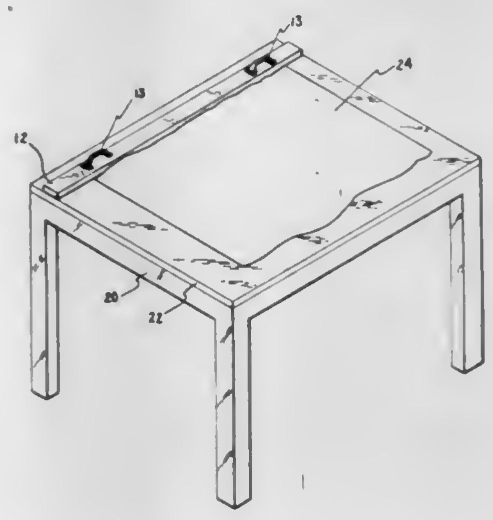
3,504,829
PIN BAR

Harry J. Smakel, 1212 E. 4th St., Santa Ana, Calif. 92701

Application Mar. 11, 1965, Ser. No. 438,927, which is a continuation-in-part of application Ser. No. 552,348, May 23, 1966. Divided and this application June 3, 1968, Ser. No. 761,356

Int. Cl. D06c *15/00*

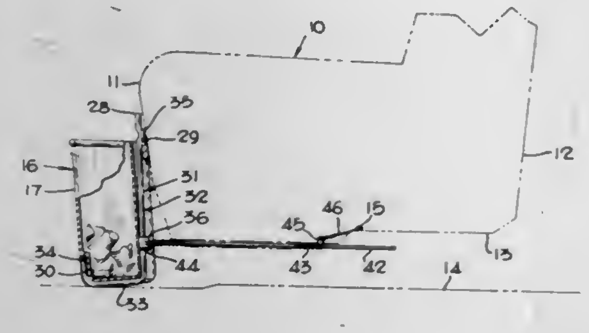
U.S. Cl. 223—61 **1 Claim**



A pin bar which comprises an elongated, straight, flat bar having along its undersurface at least two rows of pins which can be forced into a porous surfaced table. The bar has on its upper surface, handles to lift and position the bar and is useful in combination with the porous surfaced table in sizing of fabric by providing a portable and removable line up against which the edge of a fabric can be butted to provide a straight alignment of the fabric.

3,504,830
LITTER DISPOSAL UNIT IN AN AUTOMOBILE ASSEMBLY

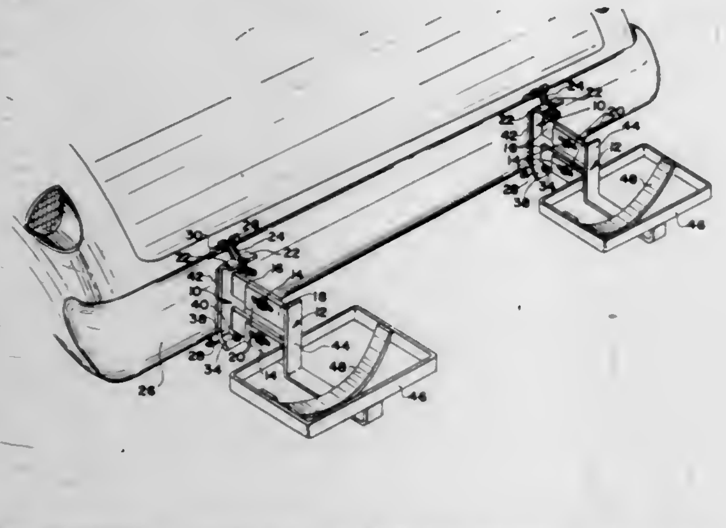
Earl M. Trammell, Jr., 39 Salem Estates, Ladue, Mo. 63124
Continuation-in-part of application Ser. No. 724,509, Apr. 26, 1968. This application Jan. 17, 1969, Ser. No. 791,940
Int. Cl. B60n *3/08*
U.S. Cl. 224—29 **16 Claims**



A utility device, such as a litter container or the like, is held against either the front or rear sides of the automobile front seat that is selectively adjustable in position forwardly or rearwardly. A mounting means includes a substantially L-shaped container frame for holding the container. A fitting is slidably adjustable along an upstanding rod portion of the L-shaped container frame to locate an elongate arm attached to the fitting, up against the underside of the seat. The fitting is selectively attachable in predetermined, adjusted position on the container frame to accommodate the underseat height. This fitting rigidly interconnects the container frame and the rearwardly extending arm to preclude tilting of the container and container frame when urged against the seat side under loading of a resilient means.

3,504,831
LOAD CARRYING BUMPER HITCH

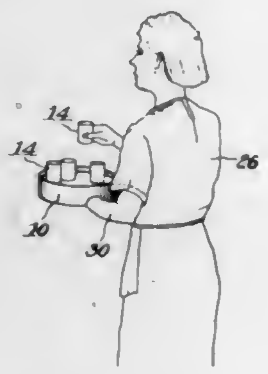
Ronnie L. Highnote, 139 E. Oak St., Alexandria, Va. 22301
Filed Dec. 17, 1968, Ser. No. 784,395
Int. Cl. B60r *9/10*
U.S. Cl. 224—42.03 **3 Claims**



This invention comprises a bracket having means for mounting it securely on an automobile bumper with vertical plate means having a plurality of vertically spaced substantially horizontal slots therein, and a load carrying bracket having similar plate means with matching slots, connected by bolts passed through corresponding slots in both plate means for tightening to fix the brackets in any angular and axial relative adjustment between the brackets in the vertical plane, within the range of the slot lengths and spacings. The load carrying bracket may be designed for any specific needs, the one illustrated comprising a minibike tire rack, whereby a minibike may be carried by a pair of these brackets mounted in properly spaced relation and adjustment on the bumper.

3,504,832
FOOD AND DRINK SERVING TRAY

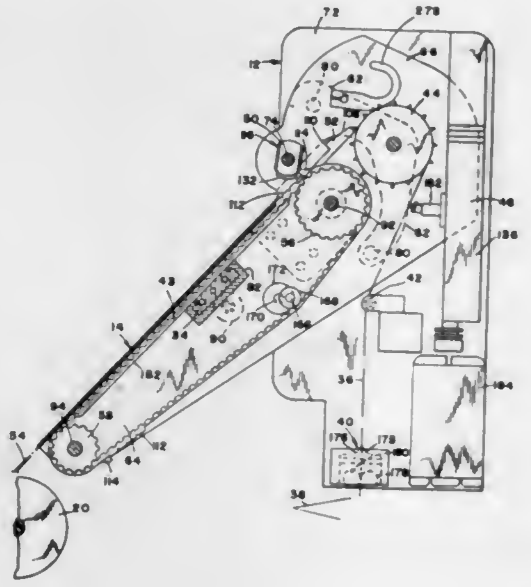
Patrick Corvetti, 3475 Greystone Ave., Bronx, N.Y. 10471
Filed Apr. 22, 1968, Ser. No. 723,018
Int. Cl. A47g *23/06*
U.S. Cl. 224—48 **5 Claims**



A serving tray having bottom handle means and means to use an arm of the server as a tray support when the hand of the server grasps the handle means.

3,504,833
INSERTING MACHINE FOR HIGH SPEED WEB PRESSES AND THE LIKE

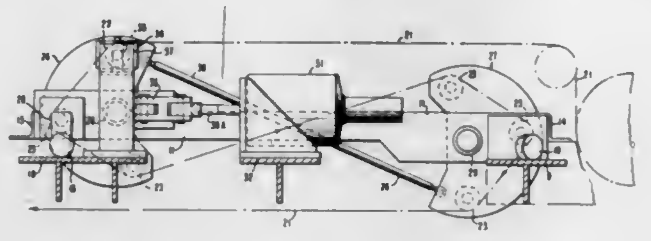
Hans G. Faltin, 4135 Wilshire Drive 17802, and Carl A. Sutton, 4281 Old Orchard Road 17803, both of York, Pa.
Filed May 12, 1967, Ser. No. 638,019
Int. Cl. B65h *35/10*
U.S. Cl. 225—97 **29 Claims**



A machine attachable to high speed web presses or other web processing machinery and operable to feed a strip of separable inserts, separate the leading one successively and feed it to a printed web for attachment thereto with adhesive, at a predetermined location.

3,504,834
WEB ALIGNING APPARATUS

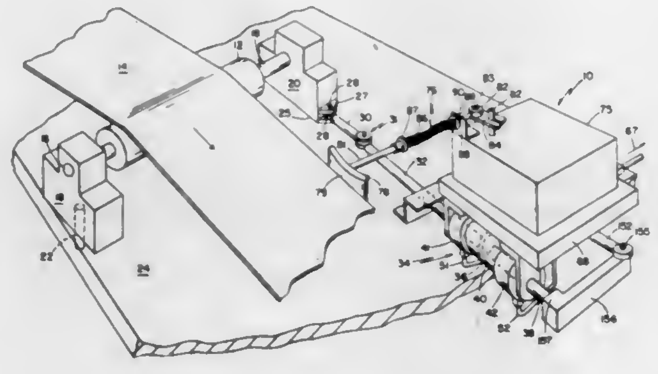
Frank J. Guest, Brevard, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 29, 1968, Ser. No. 733,178
Int. Cl. B65h *23/12*
U.S. Cl. 226—22 **9 Claims**



An improved apparatus for obtaining maximum lateral divergence of a moving web without surface abrasion of the web by passage over spaced multiroll assemblies along an S-shaped path, wherein the roll assemblies are adapted with means for inclining the rolls transversely about the roll assembly axes thereby causing the web to follow a true helical path.

3,504,835
WEB REGISTRY CONTROL APPARATUS

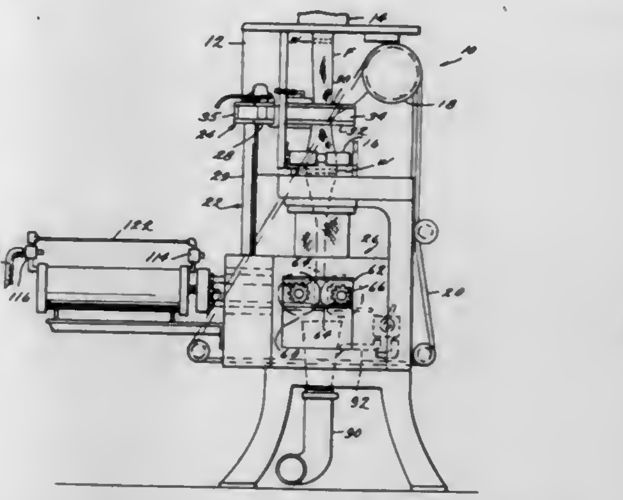
John Gurney Callan, Sharon, Mass., assignor to Knox, Inc., South Walpole, Mass., a corporation of Massachusetts
Filed Dec. 29, 1967, Ser. No. 694,713
Int. Cl. B65h *25/06*
U.S. Cl. 226—23 **2 Claims**



Apparatus is provided for detecting movements of a moving web out of registry with requipment operating thereon and for actuating adjustment mechanism to restore registry. The detector is designed to produce opposite actuation of the adjustment mechanism according to movements of the detector control (web or element movable therewith) from registry with a nul zone of the detector to registry with operating zones thereof at either side of the nul zone. The detector is movably mounted and is moved by feedback mechanism in proportion to adjustment actuation in the direction to restore registry of the nul zone with the control when a movement of the control away from such registry terminates. The feedback enables adjustment proportional to web movement with simple on-off type controls.

3,504,836
MEANS FOR ADVANCING OR CONVEYING MATERIAL

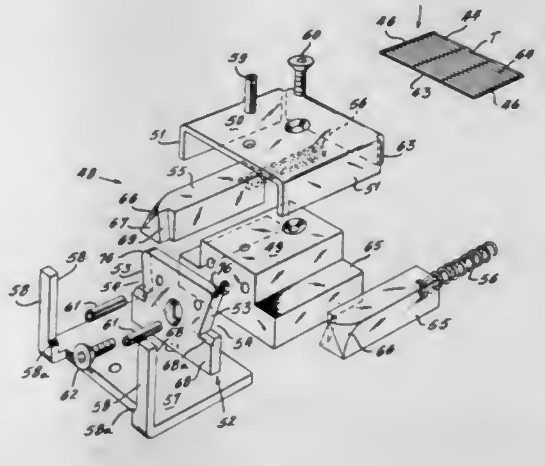
Jack F. Macon, High Point, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware
Original application Jan. 13, 1967, Ser. No. 609,149, now Patent No. 3,448,594. Divided and this application Jan. 7, 1969, Ser. No. 789,462
Int. Cl. B65h *17/22*
U.S. Cl. 226—153 **3 Claims**



A device for positively engaging and differentially conveying an article or material passing therethrough. The device includes at least one roller cooperating with an opposed surface, the roller having a portion of its peripheral surface defining with the opposed surface a nip which cooperates to positively engage and convey the article during a portion of the rotation of the roller and another portion of its peripheral surface defining a nip with the opposed surface which is out of contact with the article or material and therefore does not positively influence the movement of the article or material. The roller may be intermittently or continuously rotated.

3,504,837
STAPLING MACHINE AND METHOD OF FORMING STAPLES

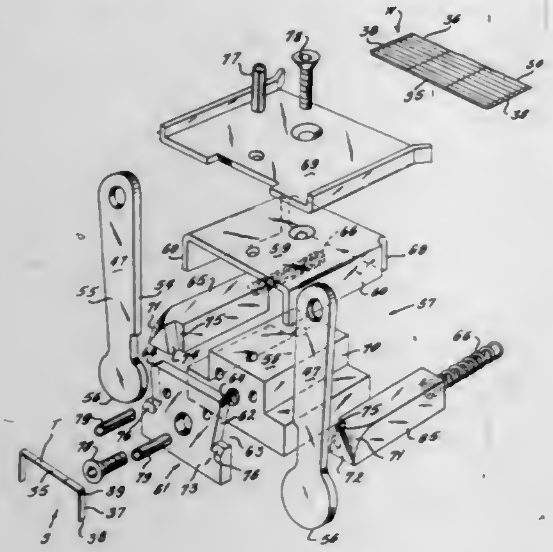
Anthony E. Cairatti, Herrin, Ill., assignor to Werner Schafroth, Herrin, Ill.
Filed Apr. 24, 1968, Ser. No. 723,703
Int. Cl. B21d *13/10;* **B23p** *17/02;* **B23g** *3/02*
U.S. Cl. 227—83 **10 Claims**



A stapling machine for forming and driving staples formed from a band of cut wires in which the forming block has retractable portions which are gradually retracted by the cut wires or staples as they are being formed by means contacting said cut wires outwardly from the bend between the leg and crown portion of the staple being formed.

3,504,838
BOTTOM STAPLER

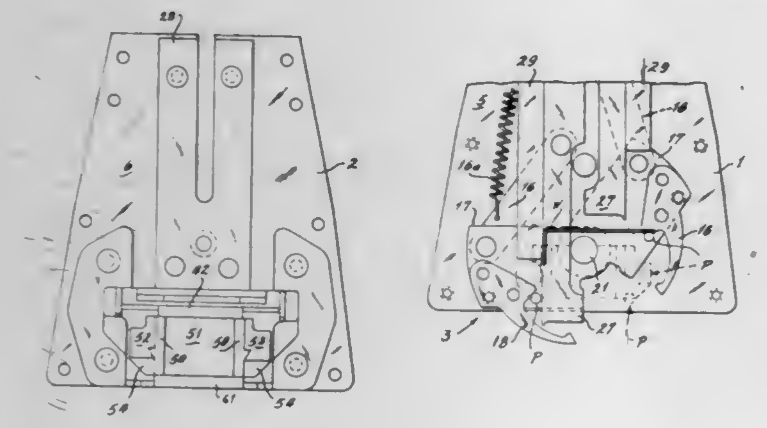
Anthony E. Cairatti, Herrin, Ill., assignor to Werner Schafroth, Herrin, Ill.
Filed Apr. 24, 1968, Ser. No. 723,702
Int. Cl. B27f *7/10, 7/16;* **B31b** *1/68*
U.S. Cl. 227—89 **9 Claims**



A stapling machine for forming and driving staples formed from a band of cut wires in which the forming block has retractable portions which are gradually retracted by the cut wires or staples as they are being formed by means contacting said cut wires outwardly from the bend between the legs and crown portions of the staple being formed.

3,504,839
STAPLING MACHINE

Anthony E. Cairatti, Herrin, Ill., assignor to Werner Schafroth, Herrin, Ill.
Filed Apr. 24, 1968, Ser. No. 723,692
Int. Cl. B25c *5/04, 7/00;* **B27f** *7/10*
U.S. Cl. 227—108 **9 Claims**

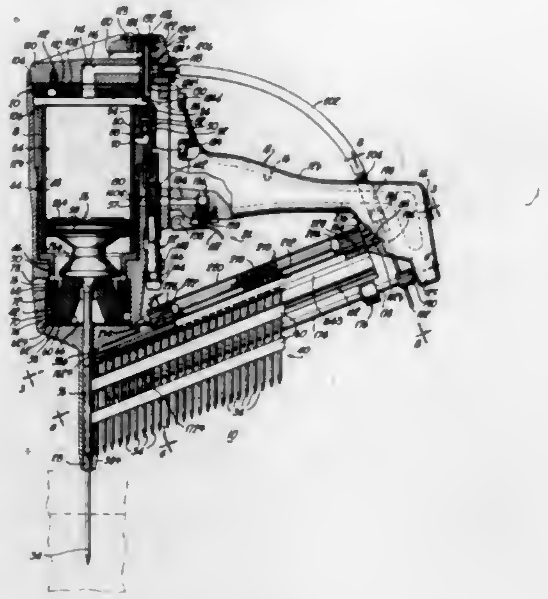


A stapling machine for forming and driving staples formed from a band of cut wires in which the forming block has retractable portions which are retracted by means other than the staple driving blade or the staple being driven.

3,504,840
FASTENER DRIVING TOOL

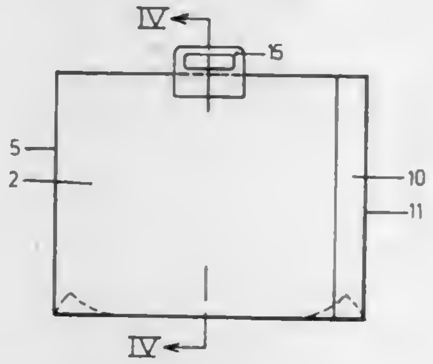
Oscar A. Wandel, Mundelein, and George W. Seifert, Chicago, Ill., assignors to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois
Filed Feb. 28, 1968, Ser. No. 709,029
Int. Cl. B25c *1/04*
U.S. Cl. 227—130 **21 Claims**

A fastener driving tool comprising a drive track and a driver slidable in said track. A magazine assembly for supplying fasteners to said drive track including support means for holding a row of fasteners disposed with their shanks in spaced apart relation and a helical worm with a portion thereof disposed between a pair of adjacent fasteners in said row. Rotor means for tuning said worm to advance fasteners toward said drive track in synchronism with the power and return strokes of said driver in said drive track.



3,504,841
FOLDABLE PACKING BAG

Joseph Bramson, Burg. S'Jacoblaan 24, Bussum, Netherlands
Filed July 23, 1968, Ser. No. 746,850
Claims priority, application Germany, Aug. 16, 1967, B 72,211
Int. Cl. B65d *33/06*
U.S. Cl. 229—22 **2 Claims**



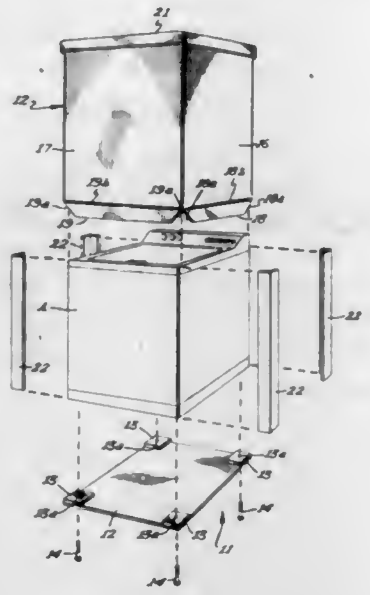
A foldable packing bag made of flexible material comprises two side walls interconnected along their top edges and along one pair of corresponding side edges. The opening left between the other pair of corresponding side edges may be closed by a closing flap attached to one of the side walls and adapted to adhere to the other side wall. The bag comprises a foldable bottom which consists of extensions of the two side walls at the lower ends thereof, which have been folded to the inside and adhered to each other along their free edges.

3,504,842
SHIPPING CONTAINER FOR BULKY ITEMS

Charles W. Grafslund, 4281 Old Orchard Road, Minneapolis, Minn. 17403
Filed Mar. 17, 1967, Ser. No. 623,886
Int. Cl. B65d *15/00, 85/64*
U.S. Cl. 229—23 **4 Claims**

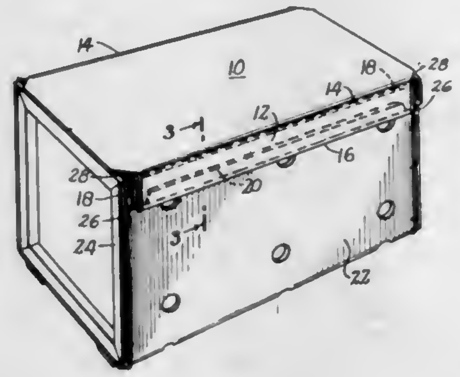
A shipping or storage container for bulky articles or items including a base member, means for positioning the item on the base member, a tubular carton member receivable over the article and about the sides of the base member, a plurality of flap members extending from the

base of said tubular body for forming about the base member and arranged for attachment to the underside of said base member, and cap means for closing the uppermost end of the tubular body.



3,504,843
CONTAINER LID

Joseph McCrea, Rockaway, N.J., assignor to Stapling Machine Co., Rockaway, N.J., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 759,031
Int. Cl. B65d *45/00*
U.S. Cl. 229—45 **1 Claim**

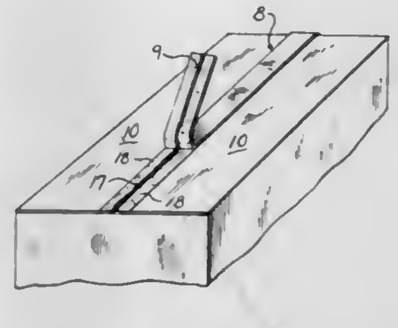


A container lid formed of a single sheet of foldable material having at each side locking flaps which extend downwardly around the outer faces of the slats at the upper edges of the front and rear sides of the container, around the lower edges of said slats and upwardly into the spaces between said slats and the underlying lining material.

3,504,844
COMBINATION WITH A CARTON OF A COMPOSITE STRIPPABLE TAPE AND TEAR STRING APPLIED TO MEETING EDGES OF CARTON WALLS

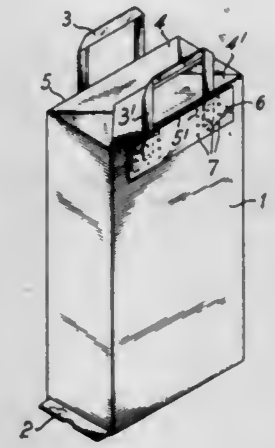
Robert J. Stark, West Bend, and Walter A. Westphal, Mequon, Wis., assignors to Rexford Paper Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 25, 1967, Ser. No. 663,401
Int. Cl. B65d *17/20*
U.S. Cl. 229—51 **1 Claim**

A strippable or peelable tape having a gummed or adhesive surface portion to adapt the tape for application to the meeting edges of carton or box walls or flaps for securing purposes wherein the tape is multiplied and there is applied to the outer gummed surface of one ply of the tape, along its longitudinal median, a string or filament which will overlie the crevice between the flap or wall edges of the box or carton whereby, when the tape is stripped from the carton or box wall or flap joints, the adhesive and paper residue over the crevice will be ruptured and there will be no bridge or unbroken layer of residue over the crevice. Between the adjacent faces of a pair of plies of the tape which are held together by a complete adhesive coating there are reinforcing filaments embedded in the adhesive coating, many of which filaments extend transversely of the tape from margin to margin.



3,504,845
BAG OR SACK

Willy Niemeyer, Natrup-Hagen, Germany, assignor to Windmoller & Holscher, Lengerich, Germany
Filed May 7, 1968, Ser. No. 727,235
Claims priority, application Germany, May 16, 1967, W 39,755
Int. Cl. B65d *33/06, 31/16*
U.S. Cl. 229—54 **7 Claims**

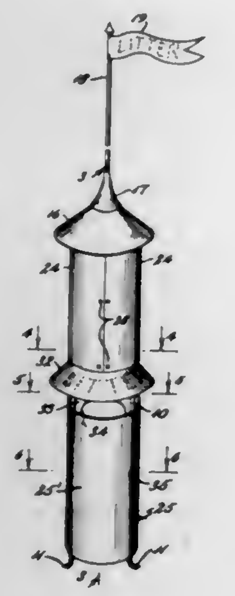


A bag or sack having a block closure at least at one of its ends is provided with a carrying handle arrangement at said one end which comprises two U-shaped carrying handles attached to opposite side walls of the bag, the free ends of the limbs of each U-shaped handle being attached to the associated side wall adjacent the block closure, the carrying handles being disposed opposite each other so that the hand grip part of each carrying handle formed by the base of the U is parallel with the folds of the block closure and the hand grip part of the other handle.

3,504,846
MULTIPLE STORAGE TRASH COLLECTION AND FLAG DISPLAY UNIT

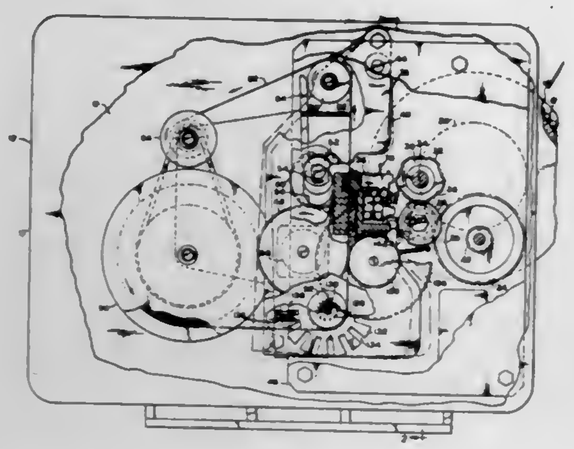
Jack H. Barnhill, 135 Wilderness Road, Bristol, Va. 24201
Filed July 24, 1968, Ser. No. 747,341
Int. Cl. B65d *91/00*
U.S. Cl. 232—43.2 **9 Claims**

A multiple unit for storage of articles of various kinds, a separate receptacle for trash, and a support for a flag. This unit includes a lower compartment with an annular receiving opening around its upper portion, an apron or shed extending inwardly around the opening with a door for the insertion and removal of a trash receptacle. Above the trash receptacle is an independent storage compartment defined by exterior wall, casing or housing of sections detachably mounted for carrying advertising and above which is a mounting for a flag pole. The device is supported by means of adjustable legs for mounting on an uneven surface.



3,504,847
MEASURING APPARATUS WITH SHAFT ENCODER HAVING CAM ACTUATED READOUT MEANS INCLUDING TAPE PUNCH AND TELEMETERING SWITCH

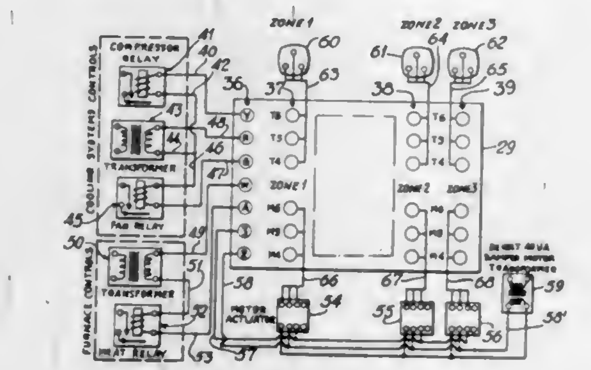
Harold G. Lee, Portland, Oreg., assignor to Leupold & Stevens Instruments, Inc., Portland, Oreg., a corporation of Oregon
Filed Apr. 8, 1968, Ser. No. 719,464
Int. Cl. G06c *29/00;* **G06f** *3/08*
U.S. Cl. 235—61 **10 Claims**



A measuring apparatus is described including a shaft encoder having cams forming a revolution counter and readout means for sensing such cams to indicate the counter reading. The cam sensing elements are mounted on a carriage which is pivoted between sense, store, and clear positions. The sensing elements are moved to either of two longitudinal positions on the carriage upon engagement with the cams which have raised and recessed portions arranged in a binary code, and are stored in this longitudinal position until they are all cleared into the same position before the next counter reading is taken. The carriage may cause the sensing elements to actuate a tape punch in one cam sensing position, or to actuate a telemetering switch in another sensing position without actuating such punch, while later in the store position the sensing elements may operate the telemetering switch to produce an electrical readout signal indicating the previously sensed counter reading.

3,504,848
MULTIPLE ZONE AIR HEATING AND COOLING SYSTEM FOR CHANGE-OVER CONTROL SWITCH

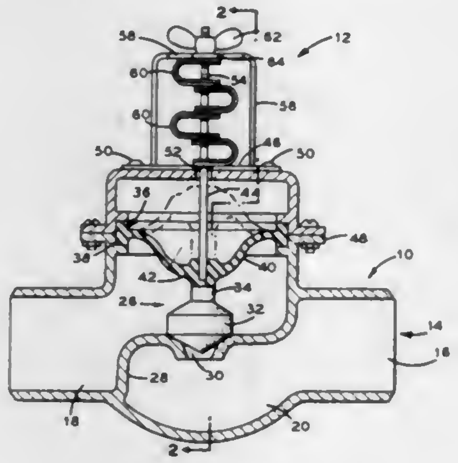
Richard N. Foster, Clifton, and Stanislaus Plepis, Elizabeth, N.J., assignors to Trolex Corporation, Clifton, N.J., a corporation of New Jersey
Filed Oct. 25, 1967, Ser. No. 678,043
Int. Cl. F24f *11/08*
U.S. Cl. 236—1 **4 Claims**



An air heating and cooling system employing a single switch at a control center controlling operation of the system and a multiplicity of zones in the system, wherein the control switch employs a simple, compact assemblage having simultaneously actuated wafer switches controlling the several zones. Further, each zone incorporates a thermostat control in regulating the temperature in each zone and the control switch having an off-setting disengaging the circuits of the entire system.

3,504,849
SNAP ACTING VALVE AND CONTROL MECHANISM THEREFOR

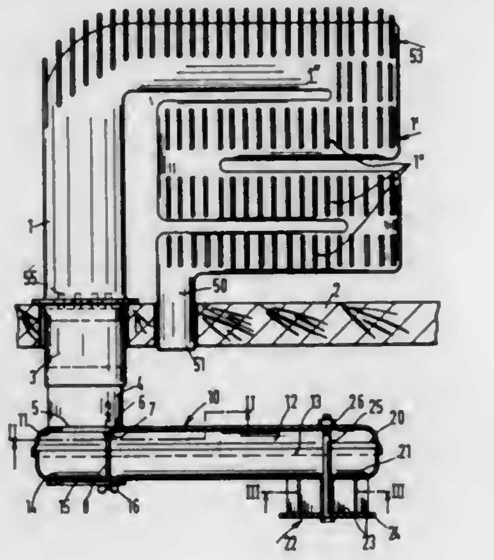
Frederic R. Quinn, Red Hook, N.Y., assignor to Zyrotron Industries, Inc., South Hackensack, N.J.
Original application Nov. 25, 1966, Ser. No. 596,954. Divided and this application Sept. 16, 1968, Ser. No. 762,256
Int. Cl. F16k *31/56;* **G05d** *23/10*
U.S. Cl. 236—48 **2 Claims**



The combination of a valve for regulating the flow of a fluid and a control mechanism therefor wherein said valve includes a valve body having an inlet chamber including the stem portion and an outlet chamber. The passage communicates with the inlet and outlet chambers. A valve member is provided which has a plug mounted for reciprocating movement in the valve body between the valve closed position in which the plug closes the passage and the valve open position in which the plug opens the passage. The valve member includes a circular portion having a resilient and flexible web connecting the plug with the circular portion. The web has a central planar position which is adapted to be flexed between a position in which the web is inclined upwardly and inwardly above the central position corresponding to the valve open position and a position in which the web is inclined downwardly and inwardly below said central position corresponding to the valve closed position. Accordingly, when the valve member is moved so that the web passes the central position its force characteristic is such as to quickly move the valve plug to the valve open or the valve closed position.

3,504,850
SPACE HEATER

Willi Mossbach, Kirchseeon, Germany, assignor to Philipp Kreis, Munich, Germany
Filed May 16, 1968, Ser. No. 729,606
Claims priority, application Germany, May 16, 1967, K 62,297
Int. Cl. F24b *7/06*
U.S. Cl. 237—52 **5 Claims**

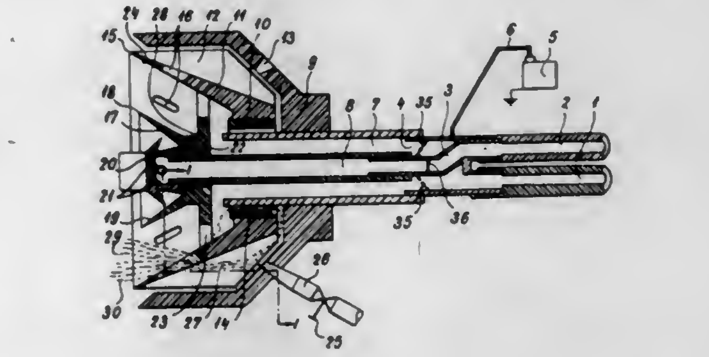


A space heater which is completely closed against the room to be heated receives the combustion air from below the floor through a channel laterally attached for pivotal movement to the inlet duct passing through the floor to the combustion chamber of the heater.

3,504,851
ELECTROSTATIC SPRAY GUN

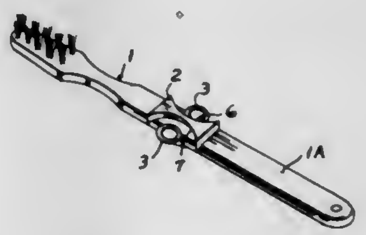
Jenö Demeter, Budapest, Hungary, assignor to Villamos Automatika Intezet, Budapest, Hungary
Filed June 4, 1968, Ser. No. 734,452
Claims priority, application Hungary, June 15, 1967, VI 548
Int. Cl. B05b *5/00;* **B44d** *1/08*
U.S. Cl. 239—15 **3 Claims**

A spray gun for the simultaneous atomisation of several different fluid materials having separate channels and passages carrying said fluid and concentrically arranged bells surrounded by a spray head. In the channels grids are arranged and electrically connected to a high-voltage power source to decelerate the flow of the fluid and to produce turbulence in it. In the spray gun there is provided an air space between the internal surface of the spray head and the blades fitted over the outer surface of the outer bell, said air space being connected with an air cushion between the glass sleeve of the outer bell and the outer surface of the outer passage, and said air cushion opening into the inner bell. In said spray head there are bores connected to a compressed air duct. In the mantle of said outer bell air passage openings are located.



3,504,852
MOUTH RINSING DEVICE

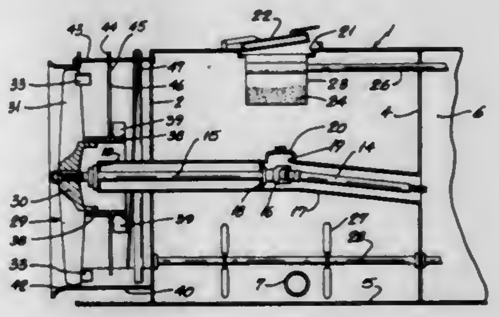
Bobby R. Abbott, 3808 SW. 40th Place, Oklahoma City, Okla. 73119
Filed June 21, 1968, Ser. No. 738,949
Int. Cl. E03b *9/20;* **H46b** *5/02*
U.S. Cl. 239—24 **2 Claims**



A toothbrush handle is provided, intermediate its ends, with a transverse V-shaped conduit having its open ends disposed on opposing sides of the handle. A longitudinally extending transversely coextensive projection formed on the surface of the handle between the open ends of the conduit is provided with opposing concave wall surfaces for respectively nesting a peripheral portion of a water faucet outlet end and directing a portion of the water stream through the conduit.

3,504,853
SPRAYING AND DUSTING MACHINE

Hector Delorme, 1 St. Paul St., Farnham, Quebec, Canada
Original application June 30, 1966, Ser. No. 561,860, now Patent No. 3,396,801. Divided and this application Apr. 9, 1968, Ser. No. 719,988
Int. Cl. A01n *17/08*
U.S. Cl. 239—77 **9 Claims**

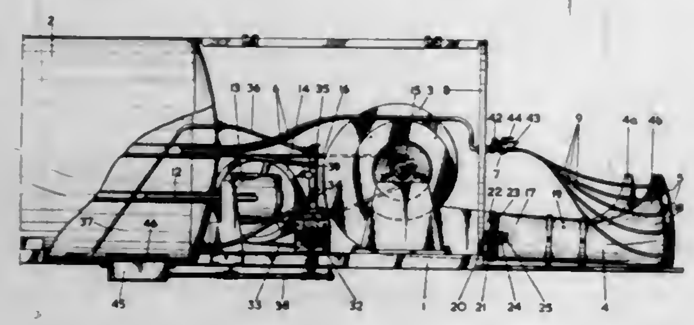


The present invention relates to a spraying and dusting machine in which a blast of air is generated and suitably deflected towards foliage that is to be sprayed or dusted, means being provided for feeding, spraying or dusting material to the air blast, the latter being formed as a ring of air ejected radially of the machine.

3,504,854

LIQUID SPRAYING APPARATUS

Petrus Johannes Alloysius de Kinkelder, Zuidelaan 42, Zevenaar, Netherlands
Filed May 1, 1968, Ser. No. 725,673
Int. Cl. A01h *17/08*
U.S. Cl. 239—78 **8 Claims**

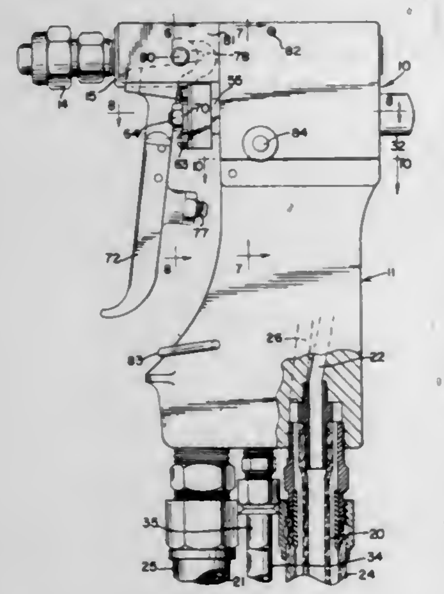


A trailer mounted liquid sprayer towed and powered by a tractor having a centrifugal blower delivering air to a pair of quick release, pivotally mounted, outwardly flaring spray mouths. A low pressure pump delivers spray liquid from a tank to triangular-shaped diffusion chambers in the mouth openings through a distributor manifold. Push fitted pipes connect the spray liquid to the diffusion chambers.

3,504,855

DISPENSING APPARATUS

Herbert W. Volker, Naperville, Ill.
(8175 Denver St., Ventura, Calif. 93002)
Filed Mar. 13, 1968, Ser. No. 712,827
Int. Cl. B05b *15/02*
U.S. Cl. 239—112 **16 Claims**

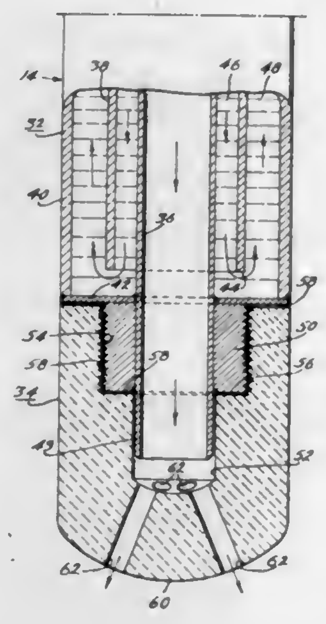


A spray gun adapted for dispensing foam type plastics or other coating materials which is characterized by feed lines for the coating materials which are encased in return lines with valves which are selectively positioned to control the flow of the material so as to provide for continuous return flow to the supply source without passage through the discharge control valves of the gun, thereby enabling the temperature of the material in the infeed line to be maintained constant when use of the gun is interrupted. The discharge control valves and passageways in the gun head are arranged to facilitate cleaning and the control valve assemblies are readily removable as complete units for cleaning and repair. A solvent flush valve is arranged in the infeed passageways to enable the valves and passageways to be flushed out with solvent while in place and while the coating material is recirculated through the supply lines.

3,504,856

OXYGEN LANCE ASSEMBLY

Louis Hinkeldey, Jr., 1103 Stokes Ave., Collingswood, N.J. 08108; Milton H. Koeneman, 21 Cobblestone Drive, Paoli, Pa. 19303; and Jerome A. Spieckerman, 2 Tendlar Lane, Malvern, Pa. 19355
Continuation of application Ser. No. 627,823, Apr. 3, 1967. This application May 15, 1969, Ser. No. 827,107
Int. Cl. B05b *1/00, 15/00*
U.S. Cl. 239—132.3 **4 Claims**

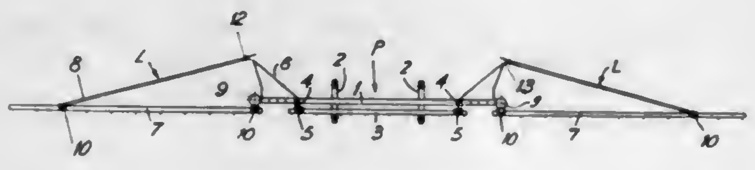


An oxygen lance assembly for use in steel refining furnaces comprising a water cooled metal lance having a replaceable nozzle of refractory material on the lower end thereof. The water cooling channels of the lance do not extend into the nozzle so that cooling may continue in the event of nozzle failure to prevent consumption of the lance.

3,504,857

LIQUID SPRAYERS FOR THE TREATMENT OF CROPS

Vincent P. M. Ballu, Epernay, Marne, France, assignor to Tecnoma, Paris, France, a French body corporate
Filed Feb. 21, 1968, Ser. No. 707,108
Claims priority, application France, Mar. 6, 1967, 97,567
Int. Cl. B05b *1/20*
U.S. Cl. 239—168 **8 Claims**

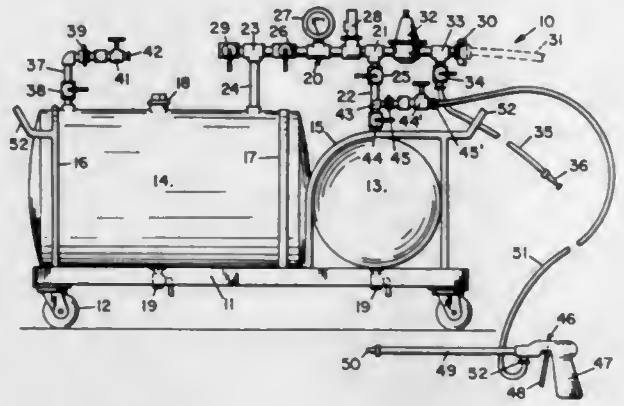


A sprayer made of a central section and two lateral sections, foldable over the central section and swingable laterally to clear obstacles. Each section has a U-shaped beam for receiving therein a pipe to which are secured spray nozzles; and the connection of each lateral section to the central section being such as to tend to maintain the lateral sections in substantial alignment with the central section.

3,504,858

PORTABLE WASHING AND RINSING MACHINE

Walter Frank Liddiard, 200 Gateway Blvd., Apt. 1606, Don Mills, Ontario, Canada
Filed Oct. 27, 1967, Ser. No. 678,646
Int. Cl. B60s *3/00*
U.S. Cl. 239—172 **4 Claims**

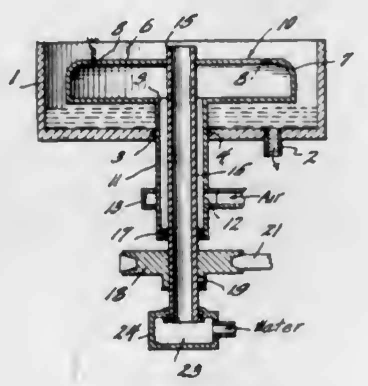


A wheeled chassis having a washing solution tank and a rinse water tank mounted thereon, with a compressed air manifold connected to the tanks for pressurizing the contents thereof. At least one spray gun has a flexible hose connectable selectively to the two tanks, and a nozzle-equipped flexible hose is also provided on the manifold for blowing of air. The machine may be used for cleaning the interior of railroad cars, in which event compressed air may be supplied by connection of the manifold to the signal line of the car.

3,504,859

SPINNER-TYPE SPRAY DEVICE

Robert S. Babington, 1113 Ingleside Ave., McLean, Va. 22101, and Albert A. Yetman, 12316 Kembridge Drive, Bowie, Md. 20715
Filed Sept. 14, 1967, Ser. No. 667,823
Int. Cl. B05b *3/10*
U.S. Cl. 239—224 **10 Claims**



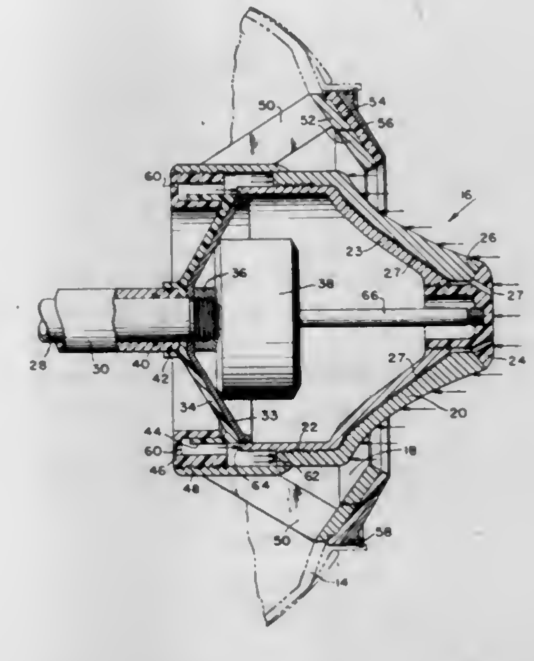
The invention is directed to a fluid spraying device wherein a fluid is dispensed on a rotating surface to be acted upon by centrifugal force so as to form a thin film on the surface. Air or other gas is passed through the film to disperse spherical minuscule droplets from the film in the form of a fine spray, the droplet size being a function of the rotational speed of the surface.

3,504,860

ADJUSTABLE SPIKE NOZZLE FOR THRUST MOTORS

Kenneth C. Wilson, Cumberland, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 7, 1964, Ser. No. 380,962
Int. Cl. B63h *11/10*
U.S. Cl. 239—265.19 **3 Claims**

1. In a variable throat area convergent-diveregnt nozzle of the isentropic spike type for use with a gaseous thrust motor having a cowl member fixed to the rear end of the motor and having an annular surface forming the outer wall of the convergent portion of the nozzle and terminating in a circular opening at the throat of the nozzle, a circular spike member movable axially relative to said opening having a first portion forming the inner wall of the convergent portion of the nozzle and a second downstream portion forming the inner wall of the divergent portion of the nozzle, said inner wall of the convergent and divergent portions being subjected to pressure of the gas, producing a first force tending to move the spike member forwardly to increase the area of the throat, the improvements, in combination, comprising:



(a) said spike member having a cylindrical tubular portion slideably disposed within a stationary tubular cylinder and having an annular end surface of considerably less area than the projected area of said convergent-divergent portions, said cylinder communicating with said chamber, to produce a second force tending to move the spike member rearwardly to thereby decrease the area of the throat,

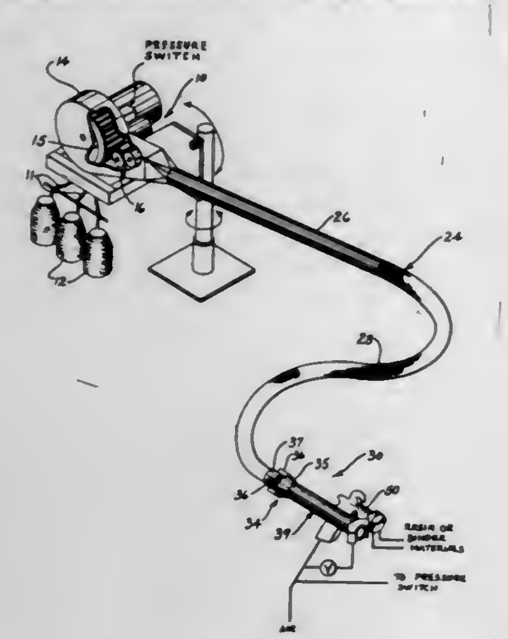
(b) and an actuator disposed within said spike member and operatively connected thereto, so constructed to produce a force in excess of the difference between said first and second forces, to thereby move the spike member to a desired axial position.

3,504,861

MEANS FOR SPRAYING FIBERS AND RESINOUS MATERIAL

Donald J. Peeps, Rossford, and Joseph H. McNinch, Jr., Columbus, Ohio, assignors to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio
Continuation of application Ser. No. 714,918, Mar. 21, 1968, which is a continuation of application Ser. No. 508,807, Nov. 19, 1965, which is a division of application Ser. No. 437,629, Feb. 19, 1965, which, in turn, is a continuation-in-part of application Ser. No. 230,916, Oct. 16, 1962. This application Apr. 1, 1969, Ser. No. 812,459
Int. Cl. B05b *7/08*
U.S. Cl. 239—300 **2 Claims**

A spray of fibers is directed through a nozzle toward a surface with streams of air applied to each side of the fibrous spray to shape the spray into an elongate configuration in transverse cross section. The air streams directed against the sides of the spray are positioned so that the air on one side contacts the fibrous spray pattern entirely above the center thereof while the spray on the other side contacts the fibrous spray pattern entirely below the center thereof. The sprays also are preferably directed in paths at acute angles to a vertical line through the fiber spray nozzle when the spray device is held vertically.

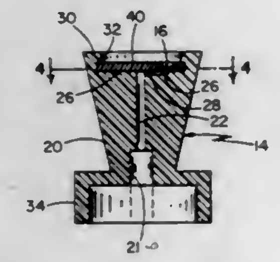


ERRATUM

For Class 239—488 see:
Patent No. 3,504,893

3,504,862
DISPENSING DEVICE

Alan B. Lowry, Canton, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Jan. 5, 1968, Ser. No. 695,992
Int. Cl. B05b *1/14*
U.S. Cl. 239—565 **7 Claims**

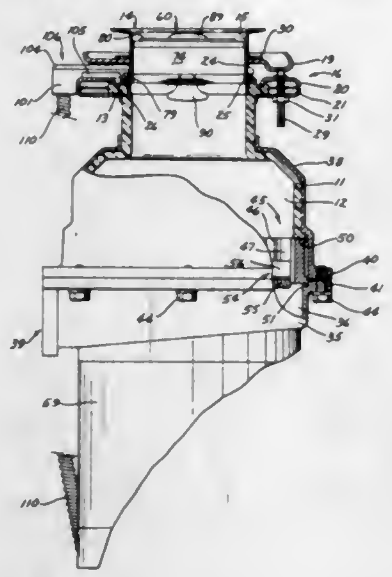


A dispensing nozzle for an aerosol dispensing package is adapted to be mounted on the valve stem of the package. The nozzle has a body member that is received on the stem with a central passage 0.060 inch in diameter that extends to a top surface in which is formed a 0.340 inch diameter distributor groove and three radial channels. A disc, secured on the top surface of the body member, has three discharge orifices formed in it, each 0.009 inch in diameter. Cylindrical passages, each 0.010 inch in length, connect the distributor groove to the discharge orifices and the disc surface beyond each orifice is conical.

3,504,863
DISPOSER APPARATUS CONTROL

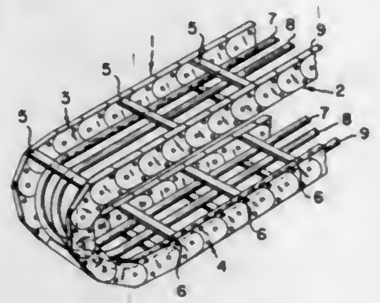
Charles W. Burkland and Frank E. Ross, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware
Continuation of application Ser. No. 593,568, Nov. 10, 1966. This application May 7, 1969, Ser. No. 824,745
Int. Cl. B02c *18/42*
U.S. Cl. 241—32.5 **18 Claims**

A batch-type waste disposer apparatus includes magnetic actuation means carried by the lid member for energizing the apparatus upon positioning of the lid within the disposer inlet. A preferred embodiment includes a ring magnet carried by the lid and operable for actuating a reed switch mounted adjacent to the outer periphery of the disposer inlet for completing an energizing circuit to the disposer apparatus drive means.



3,504,864
CHAIN FOR SUPPORTING FLEXIBLE CONDUIT

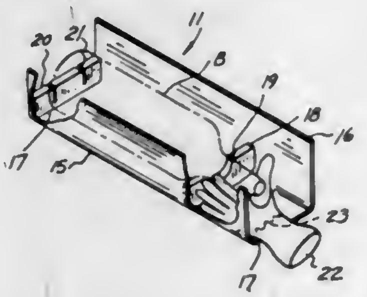
Sam Kurlandsky, Kalamazoo, Mich., assignor to Aero-Motive Mfg. Co., Kalamazoo, Mich., a corporation of Michigan
Filed Aug. 30, 1967, Ser. No. 664,508
Int. Cl. F16l *3/14, 3/16*
U.S. Cl. 248—51 **17 Claims**



A chain for supporting flexible conduit formed of links, pivotally interconnected at their ends, and having two limit pins and two complementary arcuate slots providing limiting positions of pivotal movement between the links of the chain, and providing double support at each limiting position to limit or prevent the imposition of shear force at the pivotal point.

3,504,865
BOTTLE CRUSHER

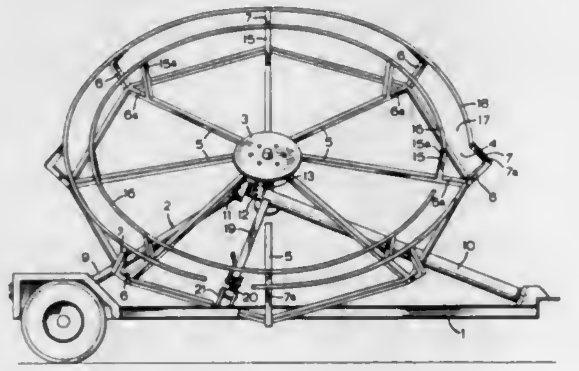
Homer H. Smith, 87 E. Canfield Ave., Detroit, Mich. 48201
Filed Apr. 12, 1968, Ser. No. 720,993
Int. Cl. B02c *19/14*
U.S. Cl. 241—99 **5 Claims**



A bottle crusher which includes a plastic shield body of U-shape with protecting partition intermediate its ends and a work glove secured at one end of the body opening longitudinally outward and adapted to grip a bottle nested within said body; and an open ended chute mountable upon or within a storage receptacle and at its upper open end adapted to protectively enclose said shield body when manually projected into the open end thereof together with the metallic bottle striker bar within and across the chute.

3,504,866
TRANSPORT REEL

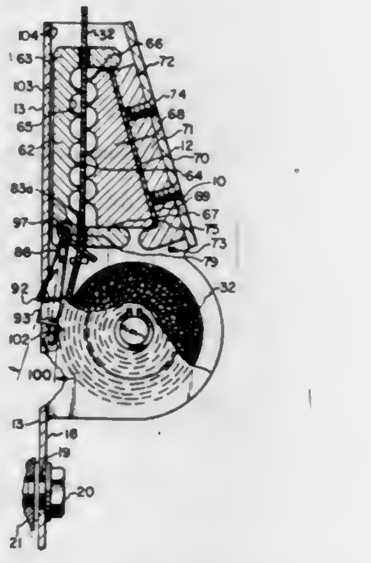
Alexander Palynchuk and Walter Paplinski, Edmonton, Alberta, Canada, assignors to Corod Manufacturing Ltd., Edmonton, Alberta, Canada, a corporation of Canada
Filed May 6, 1968, Ser. No. 726,771
Int. Cl. B65h *75/40*
U.S. Cl. 242—86.5 **5 Claims**



An apparatus for the transportation of a coil such as a coiled, continuous sucker rod string. A ring-like, open-topped storage channel is rotatably mounted on a carrier, such as a truck bed, in a tilted position. Rod string may be fed into the moving channel and its outer upstanding side wall will form the string into an elastically deformed, coiled condition for transportation.

3,504,867
SAFETY BELT LOCK

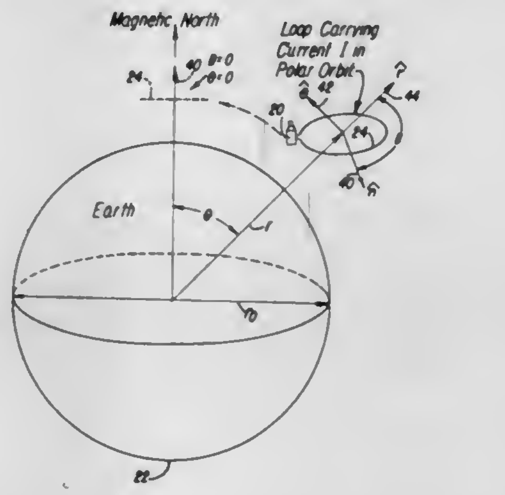
Wendell G. Stevenson, New Baltimore, Mich. (27832 Grant St., St. Clair Shores, Mich. 48080)
Filed Sept. 29, 1967, Ser. No. 671,729
Int. Cl. B65h *75/26*
U.S. Cl. 242—107.2 **6 Claims**



This invention is a safety seat belt device providing a programming arrangement which automatically regulates the amount of strap or belt that is to be used under a given set of circumstances, and utilizes a unique centrifugally controlled jaw arrangement for automatically clamping or holding the strap or belt in place at the desired extension of the strap by the user.

3,504,868
SPACE PROPULSION SYSTEM

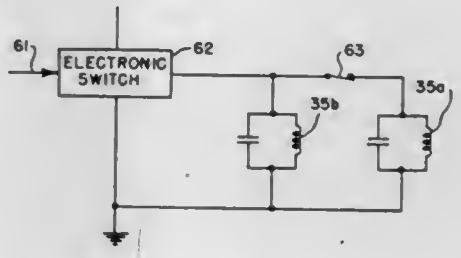
Joseph F. Engelberger, Newtown, Conn., assignor to Consolidated Controls Corporation, Bethel, Conn., a corporation of New Mexico
Continuation of application Ser. No. 324,928, Nov. 20, 1963. This application May 15, 1967, Ser. No. 638,666
Int. Cl. B64c
U.S. Cl. 244—1 **14 Claims**



A propulsion system for a body moving in a nonuniform magnetic field, for example, along a polar orbit in the earth's magnetic field, which comprises a coil or loop or wire attached to the body and carrying a current to produce an auxiliary magnetic field as the body travels from the equator to one of the earth's magnetic poles. The auxiliary field is terminated as the body moves through the next quadrant so that a net accelerating force is exerted on the body as it moves in said nonuniform field. The coil or loop may be formed of superconductive material and means provided for maintaining this material in its superconductive state.

3,504,869
ELECTRIC MISSILE CONTROL SYSTEM

Lloyd K. Evans, West Covina, and Elmer A. Le Donne, Pomona, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed May 17, 1960, Ser. No. 30,034
Int. Cl. G06f *15/50*
U.S. Cl. 244—3.16 **1 Claim**

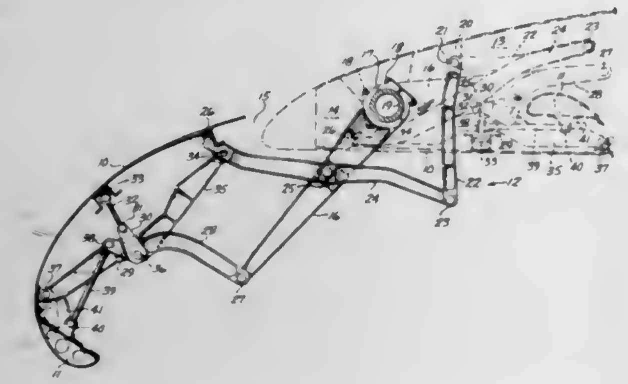


1. A rolling missile flight path control system comprising a target seeker head including means for generating electrical signals in accordance with the relative positions of the missile and target and means for orienting said seeker head with said target, circuit means connected to said seeker head responsive to said electrical signals for generating wing actuator control signals, fixed incidence lifting control wings, and actuator means for selectively extending said control wings in response to said wing actuator control signals, said actuator means including a solenoid having an accelerating coil and a holding coil responsive to said wing actuator control signals, an armature including a shaft coaxial with said solenoid and translated in response to a wing actuator control signal in said accelerating coil and holding coil, spring means compressed by said armature, linkage means connected to said armature for extending said wings upon actuation of said

accelerating coil and holding coil by said wing actuator control signal, said linkage means including a crosshead on said shaft, a pair of sector gears having drive pins in said cross head, and a gear secured to each of said wings meshing with a sector gear, whereby attraction of said armature by said solenoid rotates said wings to an extended position, a normally closed switch actuated to disconnect said accelerating coil upon extension of said wings, said compressed spring means retracting said wings upon cutoff of said wing actuator control signal, whereby said wings are selectively extended to provide lift only during the portion of the roll cycle of said missile required to keep the missile on a target intercept course.

3,504,870
AIRCRAFT WING VARIABLE CAMBER LEADING EDGE FLAP

James B. Cole, Mercer Island, and Richard H. Weiland, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,102
Int. Cl. B64c *3/50, 3/48*
U.S. Cl. 244—42 **19 Claims**

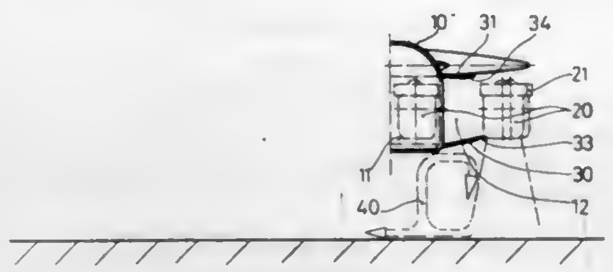


An airfoil, such as but not limited to, a wing, a flexible panel flap, a nose pivotally connected to one end of the flap, and mechanical linkage for connecting the flap to the wing, the mechanical linkage comprising means being connected to the flap at three spaced apart points for flexing the flap to a flat shape when retracted to form a flat bottom surface of the wing, and the linkage simultaneously retracting and swinging or folding the flap nose more than 90° back over the flap to a position internally of the wing and parallel with the flap to form a sharp nose low drag, high speed cruise wing. Likewise, of greatest importance the mechanical linkage extends and bends the flexible flap to the desired aerodynamically curved shape due to the three points of connection on the flap and the tapering of the flap and spaces it forwardly of the wing to form an aerodynamic slot and simultaneously extends and swings the flap nose outwardly and forwardly more than 90° relative to the flap to form a blunt nose, high lift, low speed wing having increased area, camber, and chord for landings and take-offs.

3,504,871
AIRCRAFT ENGINE ENCLOSURE

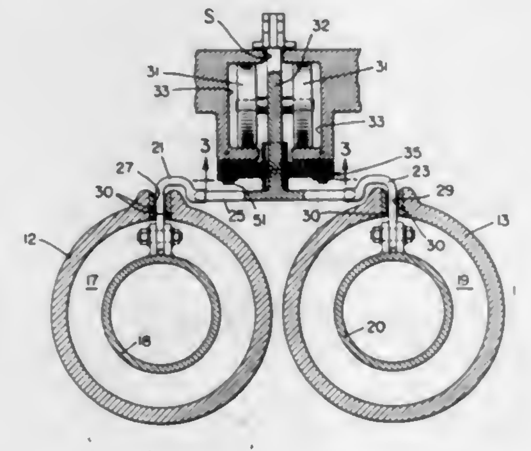
Erich W. Weigmann, Munich, Germany, assignor to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed June 7, 1968, Ser. No. 735,290
Claims priority, application Germany, June 13, 1967, E 34,174
Int. Cl. B64d *29/04;* **B64c** *1/16*
U.S. Cl. 244—53 **5 Claims**

Illustrated is a vertical or short takeoff and landing aircraft which includes selectively positionable lift engines. The lift engines are shifted between a storage position within a compartment in the fuselage and an extended position for use in the creation of vertical thrust. In the extended position, a space is defined between the engines and the side of the fuselage of the aircraft. The illustrated embodiment includes a door member which, when the engines are in their stored position, is used to close the storage compartment so as to provide a satisfactory airfoil. When the engines are in their extended position, the door is positioned to a location within the space defined between the fuselage and the engines so as to obstruct the circulation of hot gases therebetween.



3,504,872
SEALING APPARATUS FOR AIRCRAFT CATAPULTS

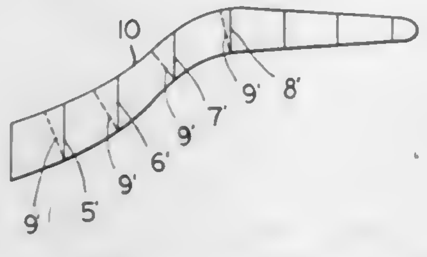
Harry M. Russell-French, Philadelphia, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 9, 1967, Ser. No. 614,841
Int. Cl. B64f *1/06*
U.S. Cl. 244—63 **8 Claims**



A sealing apparatus for closing the slot in a track cover in which the shuttle of aircraft steam launching engines operate. Overlapping layers of material in the form of spaced fingers are fastened to the underside of opposite margins of the shuttle slot to seal off passage of steam through the slot.

3,504,873
CURVED WING STRUCTURE FOR AIRCRAFT

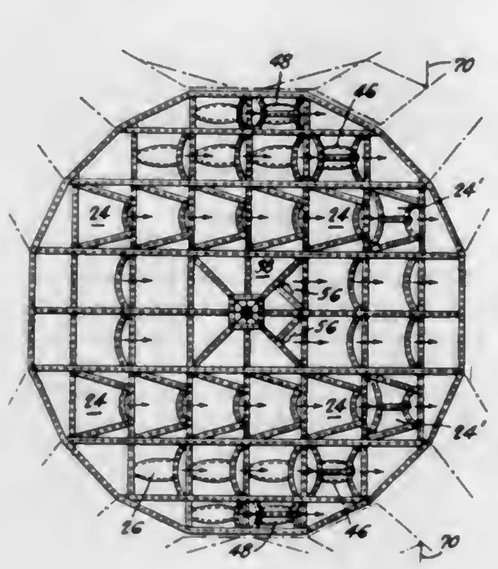
William G. Spence, 2372 Wilson Ave., Notre Dame de Grace, Montreal, Quebec, Canada
Filed Aug. 28, 1967, Ser. No. 663,738
Claims priority, application Canada, Sept. 2, 1966, 969,490
Int. Cl. B64c *3/10*
U.S. Cl. 244—123 **1 Claim**



This invention relates to aircraft channel wing structure in which the channel air foil cross-section has a maximum thickness in the horizontal portion and a progressively decreasing thickness in the zones of the channel portion having increasing angles with respect to the horizontal, so as to considerably diminish drag without materially reducing the lifting forces normally produced by the channel wing aircraft.

3,504,874
PARACHUTE

Pierre Marcel Lemoigne, 103 Ave. Derdier 92, Montrouge, France
Filed Feb. 26, 1968, Ser. No. 708,228
Claims priority, application France, Mar. 3, 1967 97,289
Int. Cl. B64d *17/18*
U.S. Cl. 244—142 **6 Claims**

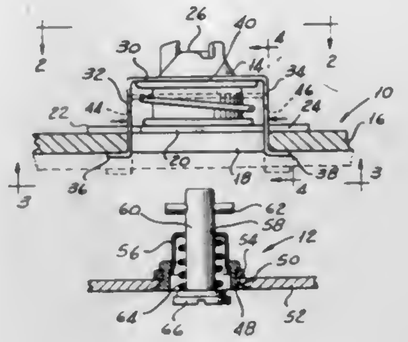


A parachute having a canopy comprised of a circumferential strip which defines the outer periphery of the canopy. The periphery of the canopy being divided into a front and rear portion, and a plurality of first ribbons parallel to one another attached between the front and rear portions of the canopy periphery. A plurality of second ribbons substantially parallel one to the other attached to the canopy periphery, the second ribbons being perpendicular to the first ribbons. The two groups of ribbons forming substantially square shaped frames in the center portion of the canopy, and forming with the periphery of the canopy some triangular shaped frames adjacent the periphery. Tissue panels disposed within each square and triangular frame so as to close the opening defined thereby, some of the panels having slot openings providing air flow from the lower to the upper canopy surface in a rearward direction. The canopy also has a truncated pyramid at its center portion, means for regulating the slot, stabilizer panels, and varying porosity panel material.

3,504,875
CLIP-IN FASTENER RECEPTACLE

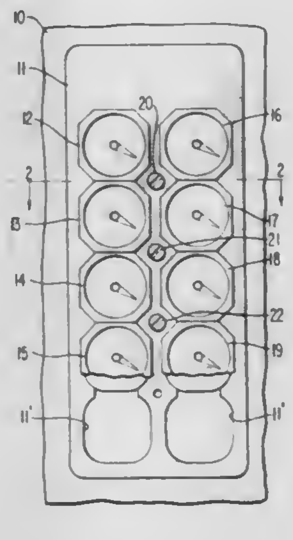
Norman S. Johnson, New Milford, Paul R. Gley, Hillsdale, and Warren C. Bross, Westwood, N.J., assignors to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 21, 1967, Ser. No. 691,088
Int. Cl. F16b *21/04*
U.S. Cl. 248—27 **18 Claims**

An assembly for rapidly and expeditiously mounting a fastener or receptacle in a panel opening in which a spring bears between a clip having resilient legs carrying flanges for engaging the one surface of the panel adjacent the opening and an element carrying a portion for engaging the other surface of the panel adjacent the opening. The fastener or receptacle may be carried either by the clip or by the element. The assembly is applied to the panel by squeezing the clip legs together, moving them through the opening to position the flanges behind the panel, and then releasing the legs.



3,504,876
MEANS FOR MOUNTING A PLURALITY OF INSTRUMENTS TO A PANEL

Harry G. Swanson, Tewksbury, Mass., assignor to General Electric Company, a corporation of New York
Filed Apr. 1, 1968, Ser. No. 717,607
Int. Cl. G12b *9/10;* **H02b** *1/02*
U.S. Cl. 248—27 **10 Claims**



An instrument panel assembly with means for mounting instruments including an expandable member adapted to engage the instruments housings pressing them against the inside surface of a surrounding supporting frame, said expandable member includes a bolt means which extends to the outside surface of the panel thereby permitting the actuation of the expandable member by an operator standing in front of the panel.

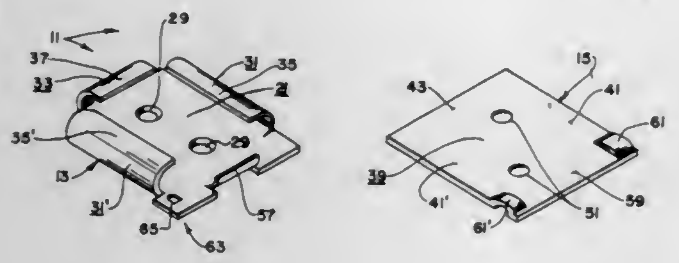
ERRATUM

For Class 248—51 see:
Patent No. 3,504,864

3,504,877
FURNITURE LEG BRACKET MEANS

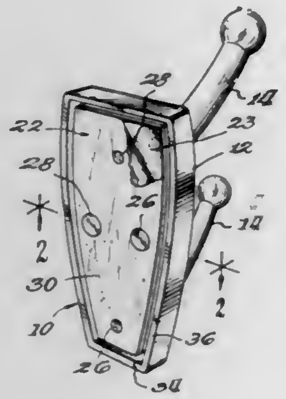
Joseph C. Lyon, Sr., 4227 Arrow, Memphis, Tenn. 38109
Filed May 22, 1968, Ser. No. 731,069
Int. Cl. F16m *11/16*
U.S. Cl. 248—188 **3 Claims**

Two-element self-locking bracket means for mounting each leg of a table, chair, couch or the like. Each leg securing bracket means includes a generally flat base element fixed horizontally to the undersurface of the base or tabletop portions of the table, chair or the like and includes a generally flat leg element fixed horizontally on the upper end surface of the leg, the elements respectively including structure whereby the leg element may be displaced laterally along the base element in corresponding confronting slideways in the base element, and substantially snaplocked in place with the base and leg elements being in confronting flatwise engagement.



3,504,878
SUPPORT DEVICE

Max Dressler, 481 Woodlawn, Glencoe, Ill. 60022
Continuation of application Ser. No. 631,798, May 18, 1967. This application Apr. 14, 1969, Ser. No. 824,721
Int. Cl. A47g *25/06;* **A47k** *10/10;* **F16b** *45/00*
U.S. Cl. 248—205 **13 Claims**

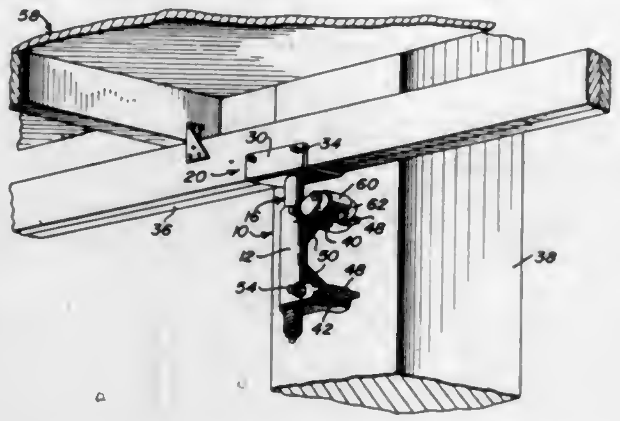


A support device formed from a hard synthetic material such as plastic having a load carrying member extending from its front face and formed with a backing member having adhesive on its rear surface for attachment of the device to a surface. A marginal shroud spaced outwardly from the edge of the backing member extends rearwardly from the periphery of the device to define a trough between the shroud and the backing member which collects the flow of any excess adhesive from the backing member so it remains within the confines of the device. The shroud, which further operates to shield the backing member from view, thereby adding to the presentability of the device when attached to a surface, is constructed to be spaced from the surface on which the device is mounted to eliminate interference of the plastic with the surface to which the device is attached.

3,504,879
COLUMN SHORE BRACKET

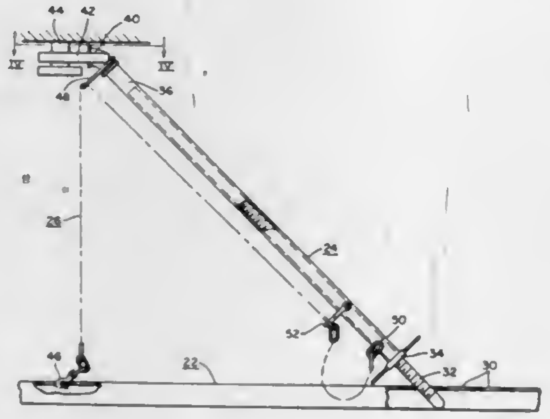
James K. Strickland, 1834 Raley Road, Jacksonville, Fla. 32225
Filed Feb. 29, 1968, Ser. No. 709,321
Int. Cl. A47f *5/10;* **A47h** *33/00;* **E04g** *17/16*
U.S. Cl. 248—296 **10 Claims**

A shoring bracket for overhead formwork including a support head engageable with a formwork beam and vertically adjustable by means of a screw jack so as to effect a selective elevation and lowering of the formwork. The bracket also includes a roller associated therewith and positioned so as to receive the formwork beam upon a lowering of the support head whereby a longitudinal rolling of the beam along the bracket can be effected for a removal of the formwork.



3,504,880
TRUCK TRAILER BRACING ARRANGEMENT FOR LOAD TRANSFERRING

Ray E. Toms, Upper Arlington, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 19, 1968, Ser. No. 746,150
Int. Cl. B60t *3/00;* **B65j** *1/12, 1/20, 1/22*
U.S. Cl. 248—361 **7 Claims**

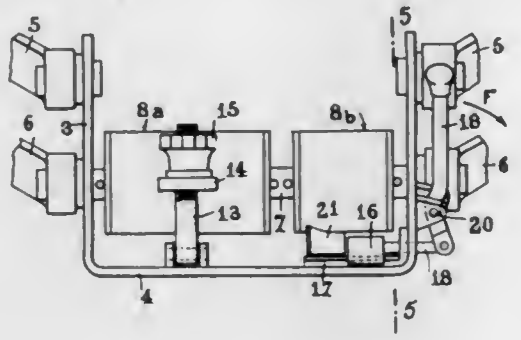


A bracing arrangement to be used during loading or unloading of a truck trailer to prevent forward movement of the trailer, and its tilting up or down, as fork lift trucks and such vehicles drive into and out of the trailer, the bracing arrangement including a rigid diagonally-disposed brace having an upper end engaging the kingpin of the trailer and a lower end detachably received in a ground-anchored member which the trailer front end straddles, and a selectively usable tie-down chain which hooks into the ground-anchored member below the kingpin to hold the upper end of the brace against upward movement.

3,504,881
VEHICLE SEAT SUSPENSION SYSTEMS

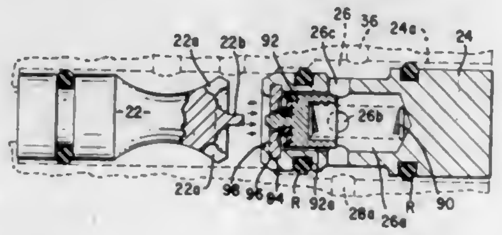
Georges Pillons, 21 Boulevard de Montmorency, and Denise Aspa, 52 Rue de Prony, both of Paris, France
Filed Jan. 10, 1968, Ser. No. 696,947
Claims priority, application France, Oct. 12, 1967, 124,167
Int. Cl. B60n *1/00*
U.S. Cl. 248—399 **4 Claims**

An elastic suspension system for a seat of automotive vehicles, which comprises in combination a fixed bracket, a shaft rotatably mounted on the fixed bracket and at least one link supporting the seat with one end and having its other end rigid with the rotary shaft. A first resilient element of tubular configuration is disposed on the rotary shaft, the element comprising a relatively thick-walled elastic tubular member adhering on the one hand to an inner socket rigid with the rotary shaft and on the other hand to an outer socket, connecting means disposed between the outer socket of the first resilient element and the fixed bracket, and another resilient element also of tubular configuration and disposed on the rotary shaft. The other resilient element comprises a relatively thick-walled elastic tubular member adhering on the one hand to a second inner socket and on the other hand to a second outer socket, a first series of connecting means between the inner socket of the other resilient element and the rotary shaft, and another series of connecting means between the outer socket of the other resilient element and the fixed bracket, at least one of the two series of connecting means comprising at least one coupling member adapted to ensure the selective releasable corresponding operative connection of the other resilient element between the fixed bracket and the rotary shaft, each of the resilient elements being complete, integral uniting members independently operative of the other.



3,504,882
HIGH-PRESSURE HYDRAULIC SYSTEM

William S. Vargo, Bay City, Mich., assignor to Eltra Corporation, Toledo, Ohio
Filed Nov. 13, 1967, Ser. No. 682,247
Int. Cl. F16k *25/00*
U.S. Cl. 251—63.4 **5 Claims**

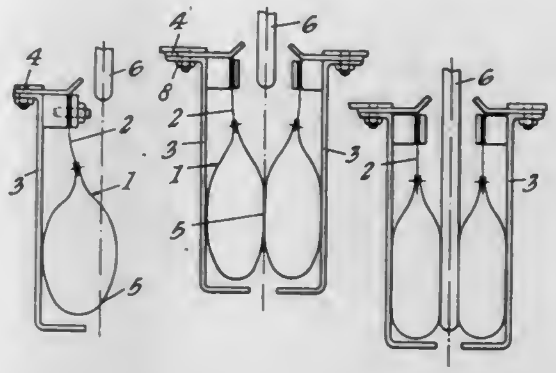


A high-pressure hydraulic system with a reversible pump to move a load in both directions by a double-acting hydraulic cylinder including a valving system which is mechanically actuable and pressure actuable to protect the system against excessive pressure, yet is capable of maintaining a load in a predetermined position for prolonged periods of time by stabilizing the pressure conditions.

3,504,883
SEALING MEANS FOR DAMPERS AND THE LIKE

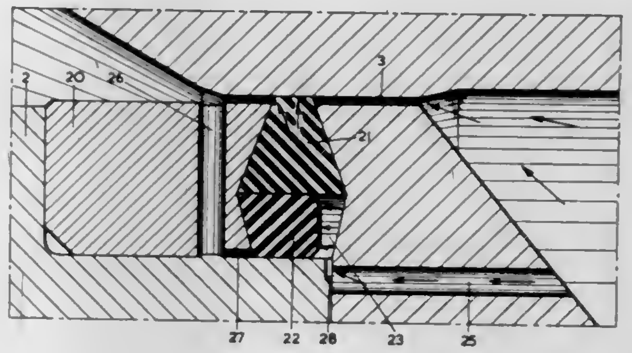
Kurt Beck, Glarus, Switzerland, assignor, by mesne assignments, to Grossventiltechnik A.G., Glarus, Switzerland
Filed June 19, 1967, Ser. No. 647,093
Int. Cl. F16k *3/10*
U.S. Cl. 251—172 **12 Claims**

Sealing means for dampers and the like in which the seal is effected by at least one loop formed of flexible spring-tempered sheet material secured at both ends. The loop is adapted to be elastically deformed in its cross-sectional shape by being pressed against a seating face to effect a seal between a moving member and a fixed frame with which the moving member co-operates.



3,504,884
PRESSURE RELIEVED VALVE

Nicolaas Jacobus Mokveld, Gouda, Netherlands, assignor to N.V. Machinefabriek Mokveld, Gouda, Netherlands, a corporation of the Netherlands
Filed Sept. 25, 1967, Ser. No. 670,089
Int. Cl. F16k *25/00, 1/00*
U.S. Cl. 251—172 **5 Claims**

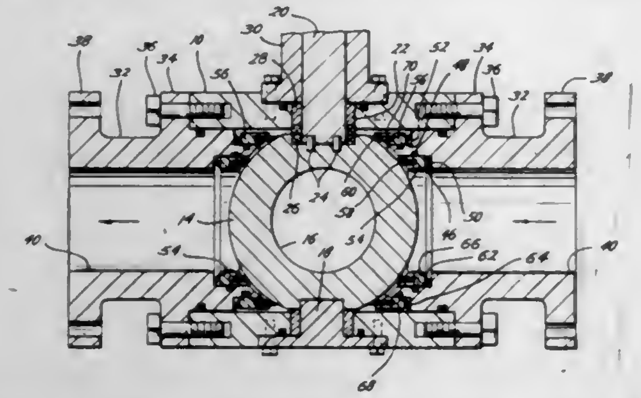


The present invention relates to a pressure relieved valve for use with very high pressures. To obtain low operating forces and a real tight sealing use is made of a sealing ring circumferentially protruding from an annular recess in the sealing part and adapted to engage the cylindrical surface of the flow passage. The annular recess is connected with the spaces in front and behind the sealing ring, when in its closing position, by channels opening into said recess at a location radially inwardly of the annular sealing ring. The space of the recess under said ring contains means, such as a ring of soft resilient material, to close the channel towards the low pressure side and press the annular sealing ring against the cylindrical surface of the flow passage.

3,504,885
SEAT AND SEAL ASSEMBLY FOR VALVES

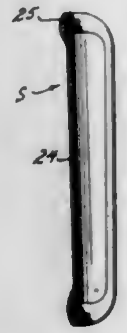
Eldon E. Hulsey, 5747 Warm Springs, Houston, Tex. 77035
Filed Aug. 12, 1968, Ser. No. 751,837
Int. Cl. F16k *5/20, 3/20*
U.S. Cl. 251—172 **8 Claims**

A seat and seal assembly for sealing one or both sides of gate- and ball-type valves. The assembly includes a pair of concentric seal rings slidably mounted in a seat face for independent axial movement relative to the opposed sealing surface of a valve closure member. Slidable sealing is provided between the rings and separate resilient means normally biases the rings toward the closure member. Passage means are provided in the seat for separately directing line pressure and valve body pressure against the respective rings to urge them toward the closure member, in accordance with the pressure differentials existing in each area.



3,504,886
VALVE SEAL CONSTRUCTION

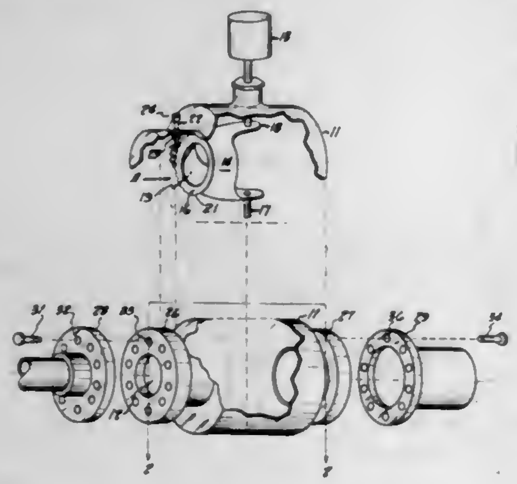
William L. Hulslander, Bradford, Pa., and Russell M. Houghton, Olean, N.Y., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Continuation-in-part of applications Ser. No. 407,242, Oct. 28, 1964, and Ser. No. 440,101, Mar. 16, 1965. This application July 3, 1967, Ser. No. 650,953
Int. Cl. F16k *3/02, 5/04*
U.S. Cl. 251—184 **14 Claims**



A closure element for use in a fluid shutoff valve to seal the valve against leakage when in shutoff position. The closure element comprises a substrate either rigid or slightly flexible supporting a sealing composition of polyurethane and molybdenum disulfide.

3,504,887
FLOW CONTROL VALVES

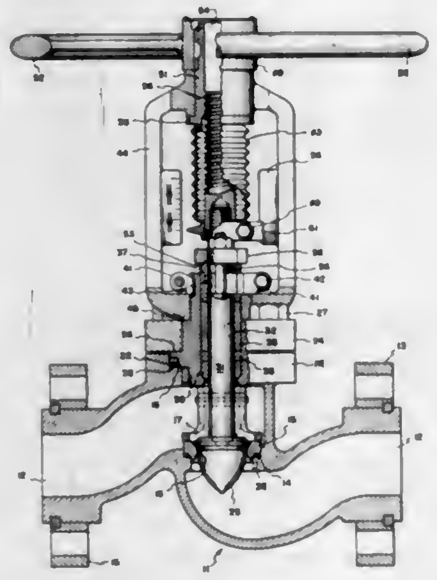
Charles L. Okerblom, Warwick, R.I., assignor to International Telephone and Telegraph Corporation
Filed May 4, 1967, Ser. No. 636,037
Int. Cl. F16k *5/10, 29/00*
U.S. Cl. 251—208 **6 Claims**



A flow control valve comprising a rotatable plug supported by trunnions journalled along an axis transverse to the line carrying the fluid to be controlled. The surface of the plug moves across the face of a characterized orifice plate to controllably uncover an aperture therebetween through which the fluid then flows at a controlled rate.

3,504,888
PLUG VALVE CONSTRUCTION

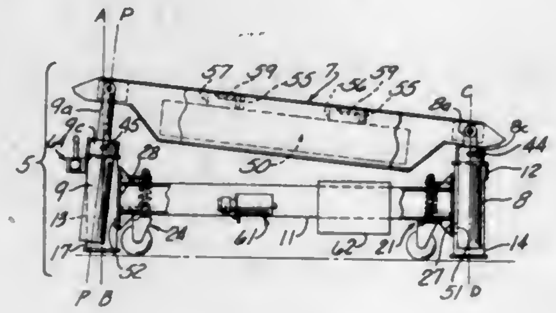
Charles L. Bates, Jr., and Lawrence A. Haines, Provo, Utah, assignors to Valtek Incorporated, a corporation of Utah
Filed Oct. 18, 1967, Ser. No. 676,205
Int. Cl. F16k *3/16*
U.S. Cl. 251—214 **4 Claims**



A plug type flow control valve having a removable bonnet, a plug guided solely by guides in the bonnet acting on the major diameter of the plug stem as it passes through the bonnet, the plug seat ring being retained in the valve body by an open cage that loosely encircles the plug and together with the seat ring is clamped between the bonnet and the body bridge.

3,504,889
PORTABLE VEHICLE LIFT

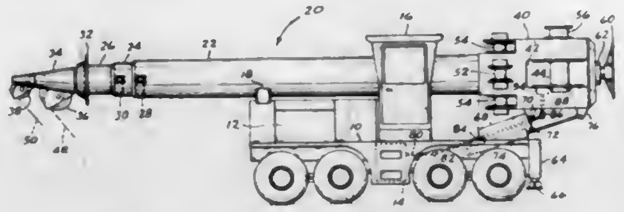
David J. Wyrough, Roxboro, N.C., assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 18, 1968, Ser. No. 713,682
Int. Cl. B60p *1/00;* **B66f** *3/24*
U.S. Cl. 254—2 **9 Claims**



A portable lift readily movable on casters or the like which provides a lifting beam adapted to be positioned, e.g., under a trailer or a truck body in transverse relation to its length, usually near the end of the body. To enable adjustment of the floor of a vehicle body into congruent relation with a dock or other platform, either end of the beam is adjustable independently of the other by a mechanical arrangement involving beam-lifting units which are tiltable with respect to a base or trestle of the lift.

3,504,890
SPAR TREE ASSEMBLY WITH BASE-MOUNTED YARDING DRUMS

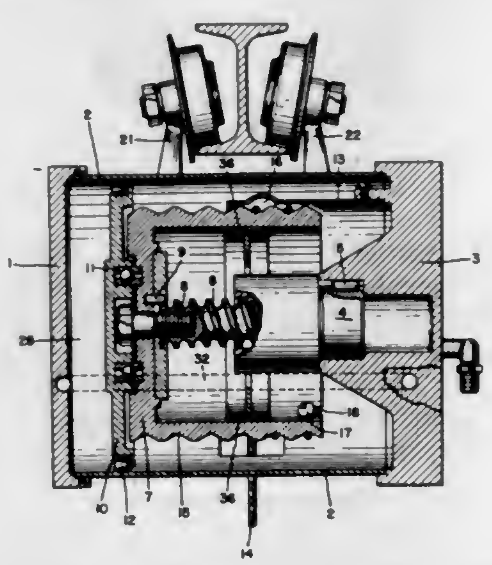
Charles J. Baker, Portland, Oreg., assignor to The Skookum Company, Inc., Portland, Oreg., a corporation of Oregon
Filed Feb. 13, 1968, Ser. No. 705,227
Int. Cl. B66c *23/62;* **B66d** *1/26*
U.S. Cl. 254—139.1 **4 Claims**



A spar tree assembly useful in yarding logs and like applications comprises a spar pole support, a spar pole, mounting means for mounting the spar pole on the support, yarding drums, and yarding drum mounting means mounting the yarding drums on the base of the spar pole.

3,504,891
HOIST BRAKE

Otmar M. Ulbing, Berkshire, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Continuation-in-part of application Ser. No. 676,877, Oct. 20, 1967. This application Feb. 7, 1969, Ser. No. 797,637
Int. Cl. B66d *1/28;* **B66c** *1/48*
U.S. Cl. 254—168 **11 Claims**

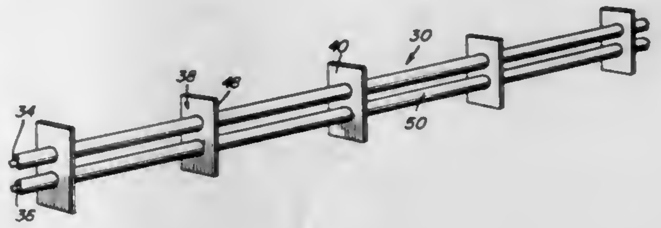


A balancing hoist using a pneumatically displaced piston and having the safety feature of a drum brake automatically actuated by pneumatic pressure if a work load is not attached to the cable when the hoist is operated. The brake is released by the application of a load to the hoist which overcomes the effect of a pneumatic force acting to apply the brake.

3,504,892
SELF-CONTAINED ELECTRIC FENCE CONTROL CABLE

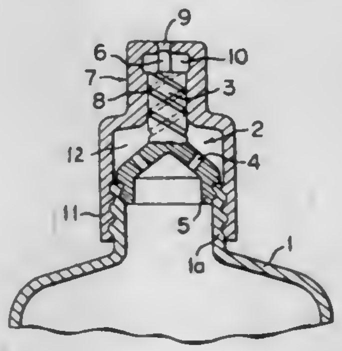
Vernon W. Crist, Wessington Springs, S. Dak., assignor to Sta Tite Corporation, a corporation of Minnesota
Filed Nov. 19, 1968, Ser. No. 776,957
Int. Cl. A01k *3/00*
U.S. Cl. 256—10 **4 Claims**

A flexible cable assembly for electrically charged fences in which an electrical potential difference is established between adjacent spaced contact surfaces at longitudinally spaced locations. A pair of wire conductors are mounted in spaced, insulated relation to each other by the cable assembly but are electrically exposed through contact plates for example, at the longitudinally spaced locations. Adjacent contact plates are adapted to be bridged by an animal engaging the fence completing a circuit through the conductors to impart a repelling shock to the animal for controlled feeding purposes or the like.



3,504,893
SPRAY NOZZLE ASSEMBLY

Rinnosuke Susuki, Tokyo, and Hiroshi Hoshi, Chiba-ken, Japan, assignors to Raion Yushi Kabushiki Kaisha, Tokyo, Japan
Filed Aug. 21, 1967, Ser. No. 662,039
Claims priority, application Japan, Aug. 20, 1966, 41/54,689
Int. Cl. B05b *1/02;* **B65b; A46b** *11/00*
U.S. Cl. 239—488 **7 Claims**

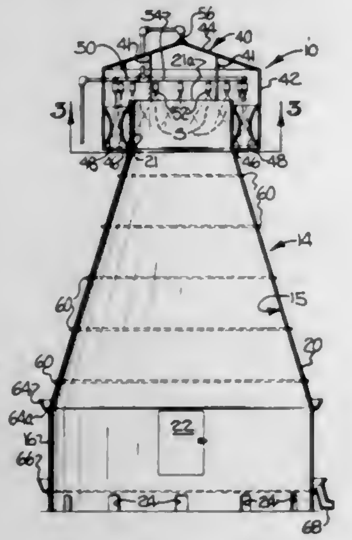


A spray nozzle assembly having a liquid-atomizing mechanism so designed that a plurality of liquid streams are fed while being rotated spiralwise at high speed so as to collide against each other in a cavity provided adjacent the terminals of the passageways of the streams and that, while taking-in the air located thereabound, the collided streams of liquid are atomized. This nozzle assembly features that the sealing-off of the liquid from the liquid container, the control of the diverging angle of spray as well as the size of the atomized liquid particles can be effected all in one procedure, namely, by turning the cap member.

3,504,894
APPARATUS FOR PURIFYING AND ACCELERATING THE FLOW OF EFFLUENT GASES IN A GASEOUS FLOW STREAM

Randall H. Samples and Roddy K. Street, Mount Airy, N.C., assignors to Commercial Fabrication and Machine Company, Inc., Mount Airy, N.C., a corporation of North Carolina
Filed Feb. 21, 1968, Ser. No. 707,276
Int. Cl. F23g *5/00;* **B01d** *47/10*
U.S. Cl. 261—116 **10 Claims**

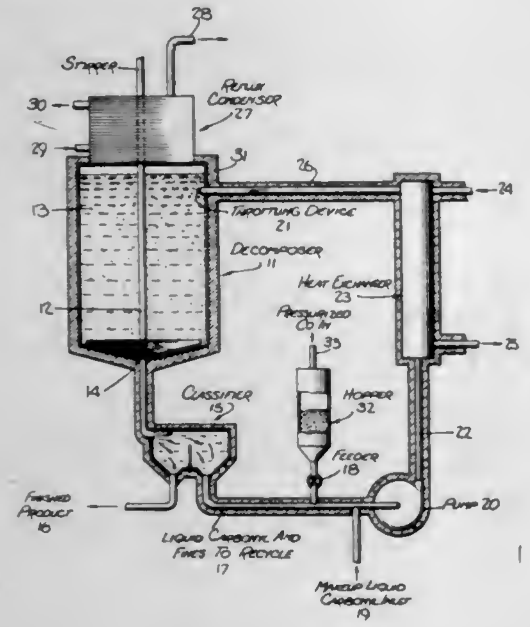
Apparatus such as an incinerator having means for removing contaminants from effluent gases released by processes such as burning of materials within the incinerator while accelerating their flow in the stream, comprising conduit means having first and second portions defining a gaseous flow path, the second portion being located downstream of the first portion and having a reduced cross-sectional area with respect thereto defining a restriction in the gaseous flow path, and means for dispensing a pressurized liquid spray into the flow path along and through the second portion of the conduit means in intimate contact with the flow of gases therein to remove contaminants from the gases and accelerate their flow through the conduit means.



The apparatus includes housing means having a generally frusto-conical outer wall converging upwardly, with the upwardly converging outer wall cooperating with the conduit means and the liquid spray dispensing means for passage of liquid from the second portion of the conduit means downwardly over the exterior of the upwardly converging outer wall of the housing means for cooling the same.

3,504,895
APPARATUS FOR THE PRODUCTION OF METAL POWDERS AND METAL-COATED POWDERS

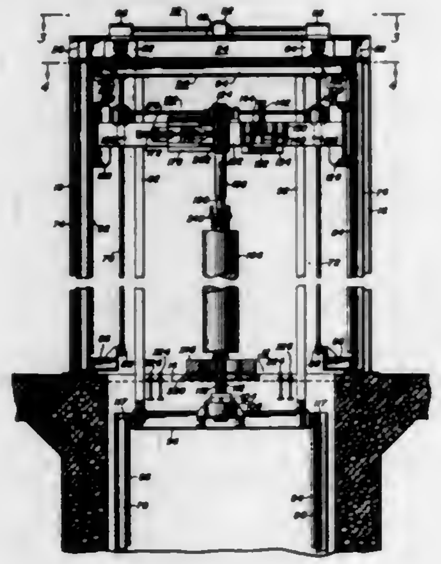
Charles Bruce Goodrich, Charles Ernest Manilla, and Ted Kirk, Huntington, W. Va., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Original application May 25, 1964, Ser. No. 369,743, now Patent No. 3,342,587. Divided and this application Jan. 23, 1967, Ser. No. 611,078
Int. Cl. C21b *15/04;* **C22b** *23/00;* **F27b** *21/00*
U.S. Cl. 266—1 **3 Claims**



Directed to a recirculating apparatus for decomposing a liquid metal carbonyl to metal powder comprising a heating chamber and a decomposing chamber with a pump between the decomposing chamber and the heating chamber to maintain the pressure in the heating chamber higher than that in the decomposing chamber and with a throttling device at the inlet to the decomposing chamber to maintain a reduced pressure and to promote carbonyl decomposition therein. Auxiliary equipment is provided to handle product gas from the decomposer and to classify the product metal powder.

3,504,896
ROLL HEAT-TREATING APPARATUS

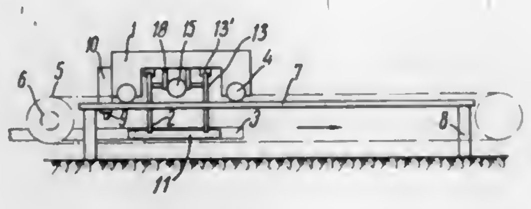
Joseph H. Soneki, Bethlehem, and Robert L. Myers, Coopersburg, Pa., and Reuel E. Jennings, Warren, and Raymond D. Orlando, Youngstown, Ohio, assignors to Bethlehem Steel Corporation, a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,736
Int. Cl. C21d *1/66*
U.S. Cl. 266—4 **11 Claims**



A carriage, vertically movable with respect to fixed heating and quenching rings, vertically supports a roll having a bore therein. A coolant is forced upwardly through the bore while the roll is progressively heated and quenched by driving the roll downwardly through the rings. After quenching, the roll is submerged in a coolant and laterally repositioned therein.

3,504,897
MACHINE FOR GAS CUTTING METAL CONTINUOUSLY MOVING IN THE HORIZONTAL POSITION

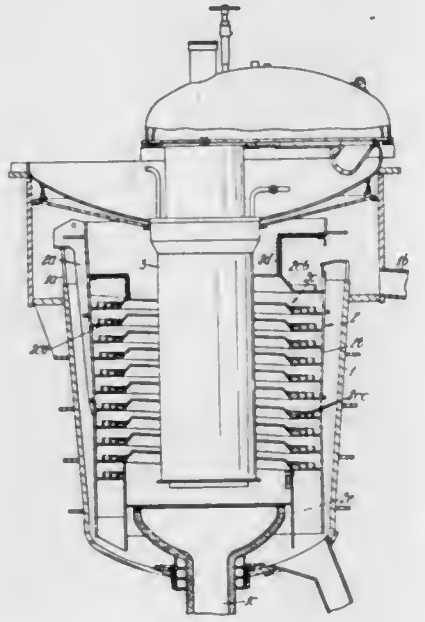
Vitaly Maximovich Niskovskikh, Ul. Testivalnaya 21, kv. 60, and Evgeny Jukhimovich Gelfenbein, Ul. 40 let Oktyabrya 28, kv. 51, both of Sverdlovsk, U.S.S.R.
Filed Mar. 6, 1967, Ser. No. 620,949
Int. Cl. B23k *7/02*
U.S. Cl. 266—23 **1 Claim**



A machine for the gas cutting of metal in a horizontal position in which a frame provided with a cutting mechanism is movable along a track with the frame being provided with a self-centering pneumatically operated engagement mechanism. The engagement mechanism includes grips for engaging and retaining the billet during cutting and supporting the cutoff length during movement of the frame following the cutting, and a drive for displacing the frame along the track. The engaging means is provided with a pneumatic cylinder and piston assembly so that movement of the piston rod in one direction causes the gripping means to engage and retain the billet and movement in the opposite direction releases the cutoff length.

3,504,898
VACUUM PURIFICATION OF METALS

Leon Stocks, Avonmouth, England, assignor to Broken Hill Associated Smelters Proprietary Limited, Melbourne, Victoria, Australia, a company of Australia
Filed Aug. 17, 1967, Ser. No. 661,396
Claims priority, application Great Britain, Aug. 30, 1966, 38,669/66
Int. Cl. C22b *19/16*
U.S. Cl. 266—34 **6 Claims**

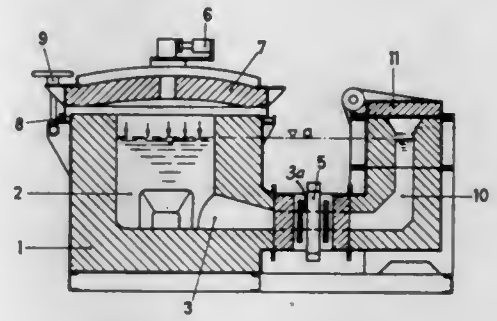


A vacuum vessel is used for the purification of metals. Within the vessel there is a free standing spiral launder down which the metal circulates.

3,504,899
MELTING OR HOLDING FURNACE STRUCTURE UTILIZING PRESSURIZED GAS FOR DISCHARGE OF MOLTEN MATERIAL

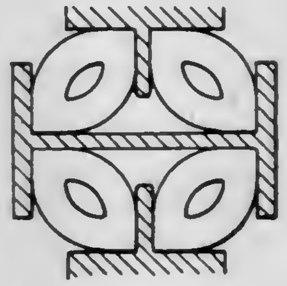
Erich Breuer, Holzen, and Otto Smuda, Holzwickede, Germany, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 20, 1967, Ser. No. 684,101
Claims priority, application Germany, Nov. 21, 1966, B 89,920
Int. Cl. F27d *3/14*
U.S. Cl. 266—38 **6 Claims**

A stationary melting or holding furnace is provided with a pouring pipe starting at the bottom of the furnace chamber containing the molten material and which extends above the maximum height of the charge in the chamber. A discharge pipe is branched off from the pouring pipe at a level below the maximum height of charge in the chamber from which the molten material is withdrawn in a predetermined quantity by application of a pressurized gas to the surface of the molten material in the chamber, and the pressure of this gas is regulated after each withdrawal operation by measuring the height of the molten material in the pouring pipe. This latter height measurement can be made by means of a manometer located at the closed-off top of the pouring pipe, or the latter can be left open at the top and a filling level indicator in the form of an isotope switch, for example, used to measure the height.



3,504,900
RUBBER SPRINGS

Ralph Percival Torr, New Malden, England, assignor to Andre Rubber Company Limited, Kingston-By-Pass, Surbiton, Surrey, England, a British company
Filed Oct. 11, 1967, Ser. No. 674,561
Claims priority, application Great Britain, Oct. 18, 1966, 46,552/66
Int. Cl. F16f *1/40*
U.S. Cl. 267—1 **10 Claims**

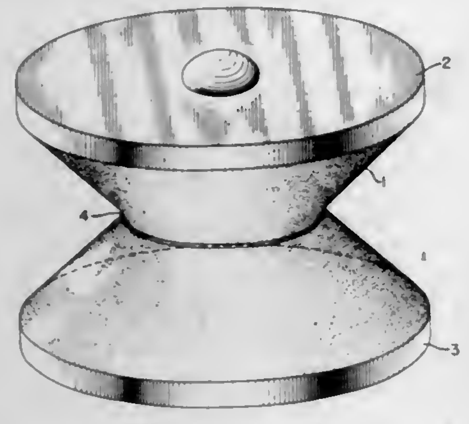


A rubber spring unit for use in association with other spring units as a dock fender, said unit comprising a rubber body having two oppositely arcuate arms defining a pointed elliptical hole. The arms are attached at their end portions which provide an outer surface having two or more perpendicular planar faces secured in area contact with load bearing plates. Compressive loading applied through said plates causes the arms to bend outwardly while the end portions remain relatively unstressed and undeflected, thereby minimising the likelihood of tearing at the angled corners of the ellipse and facilitating reliable attachment of the end portions to the plates.

3,504,901
SHOCK ABSORBER

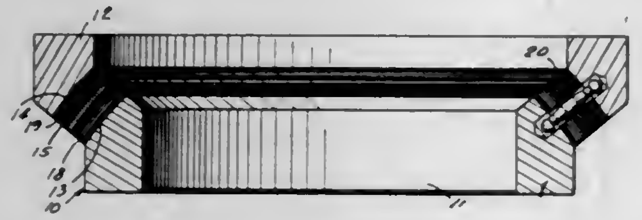
James E. Ditty, North Canton, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Continuation of application Ser. No. 562,681, July 5, 1966. This application Feb. 10, 1969, Ser. No. 800,821
Int. Cl. F16f *1/36;* **C08g** *17/10*
U.S. Cl. 267—1 **8 Claims**

A shock absorbing unit comprising a shock absorbing element, the said element comprising a resilient cured polyureaurethane member, the said cured polyureaurethane characterized by deflecting from about 0.4 to about 0.5 inch upon the application of a pressure of about 1800 pounds per square inch uniformly to the surface areas of the end surfaces of the said polyureaurethane when the said polyureaurethane has the shape prescribed by the specification.



3,504,902
PIN STABILIZED LAMINATED BEARING FLEXIBLE JOINT

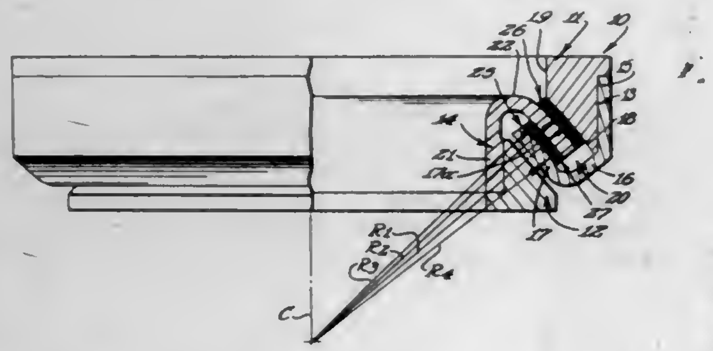
Arthur S. Irwin, Jamestown, N.Y., assignor to TRW, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 22, 1967, Ser. No. 662,323
Int. Cl. F16f *1/14;* **B21h** *1/12, 1/14*
U.S. Cl. 267—1 **4 Claims**



A pin stabilized laminated bearing consisting of alternate layers of bonded together bearing material and elastomer for use between two members having opposed bearing faces. The laminated bearing is stabilized against buckling by the provision of a relatively thick stabilizing ring bonded in the bearing stack intermediate the ends of the stack and by pins extending freely through holes in the stack and stabilizing ring and received freely in recesses in the opposed bearing faces.

3,504,903
DOUBLE ACTING LAMINATED BEARING FLEXIBLE JOINT

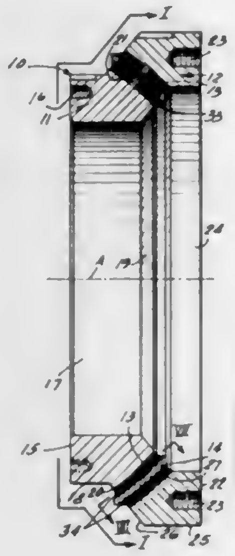
Arthur S. Irwin, Jamestown, N.Y., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 22, 1967, Ser. No. 662,383
Int. Cl. F16f *1/14;* **B21k** *1/12, 1/14*
U.S. Cl. 267—1 **7 Claims**



A tilting bearing or swivel joint especially adapted for mounting nozzles on rocket engines to accommodate tilting of the nozzle about a fixed axis and having mounting rings joined by laminated bearings composed of a stack of bonded together alternate thin layers of elastomer and nonelastomeric bearing material such as metal. The bearing stacks are relatively incompressible but yield to shear forces to permit relative tilting of the mounting rings. Since the bearing stacks lose some of their advantageous structural characteristics which they possess in compression when placed under tension, the stacks are protected from destructive tension creating forces by supplemental stacks arranged so that any tension force tending to pull the mounting rings apart will create a compression force in the supplementary stack.

3,504,904
RETAINER RING BUTTON LAMINATED BEARING FLEXIBLE JOINT

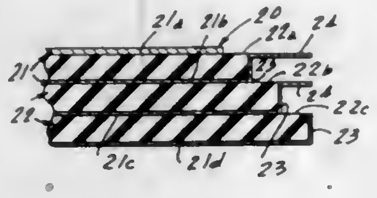
Arthur S. Irwin and Anthony T. Galbato, Jamestown, N.Y., assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 25, 1967, Ser. No. 663,434
Int. Cl. F16c *17/12, 23/04;* **F16f** *7/00*
U.S. Cl. 267—1 **6 Claims**



A substantially incompressible laminated bearing swivel ring joint especially adapted for rocket nozzles and having stacks of bonded together alternating thin elastomer and nonelastomer layers arranged to reduce the chordal length of the bearing to accommodate conforming the stacks into the contours of the bearing rings.

3,504,905
HIGH LOAD CAPACITY LAMINATED BEARING

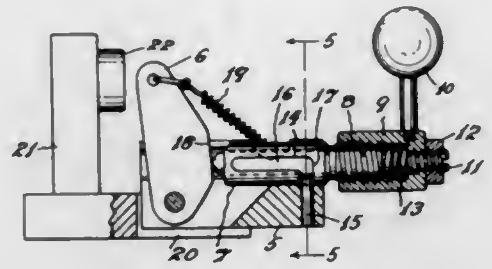
Arthur S. Irwin, Jamestown, N.Y., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Sept. 7, 1967, Ser. No. 666,102
Int. Cl. F16f *1/50, 1/54*
U.S. Cl. 267—1 **11 Claims**



Laminated bearings composed of a stack of bonded together alternate layers of non-elastomeric bearing material, such as metal, and elastomeric material, such as rubber, capable of supporting axial loads while yielding to shear forces so that the non-elastomer layers may shift relative to each other where the tendency of the elastomer layers to flow laterally or extrude when the stack is axially loaded is deterred or controlled by baffling. This baffling can be provided by shoulders or flanges on the non-elastomer layers which change the direction of flow of the extruding elastomer to add resistance to flow, by a rigid open-ended sleeve or collar surrounding the stack and bonded thereto through an elastomer layer sufficiently thick and pliable to flow axially to the open ends of the sleeve as the elastomer layers flow laterally thereby impeding the lateral flow, by a ring of axially extending circumferentially spaced rods, such as the warp windings of a wire screen cloth sleeve, surrounding the stack, or by any means which accommodate but yet impede extrusion of the elastomer layers to preserve the capacity of these layers to yield under shear forces even when the stack is heavily loaded.

3,504,906
RAPID CLAMP

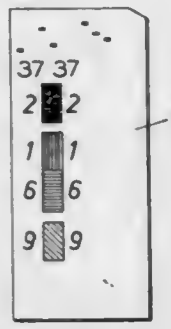
Le Roy Hart, 50 Woodland St., Plainville, Conn. 06062
Filed Oct. 20, 1967, Ser. No. 682,706
Int. Cl. B25b *1/04, 5/04*
U.S. Cl. 269—188 **10 Claims**



A rapid clamp, particularly of the type used for quickly clamping workpieces in position in a machine or fixture. Said clamp comprising generally a clamping unit which may be mounted in a desired location and comprises a rapid clamping mechanism which can be quickly brought into clamping position to accurately clamp a workpiece in a predetermined position and be quickly withdrawn from said clamping position to permit removal of the workpiece.

3,504,907
FILING SYSTEM INDEX INDICATORS AND METHOD OF PRODUCING SAME

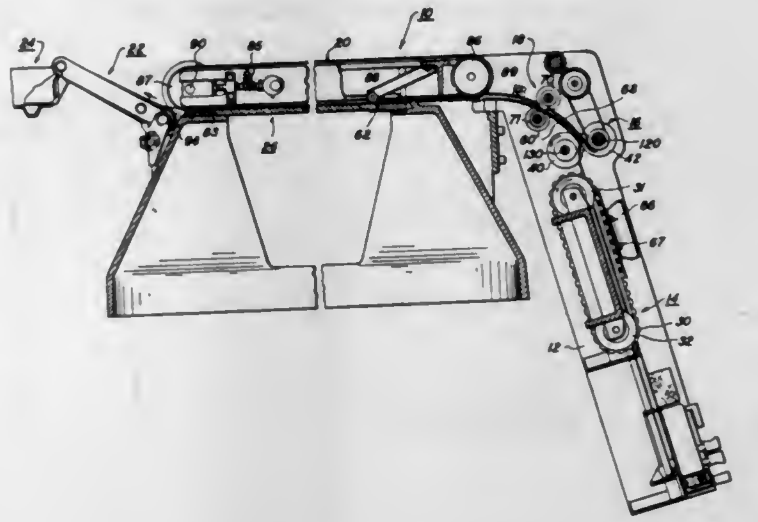
Donald Treadgold Barber, 38 Servington Crescent, Toronto, Ontario, Canada, and Thomas Charles Scrymgeour, 58 Holford Crescent, Agincourt, Ontario, Canada
Filed June 6, 1966, Ser. No. 555,310
Int. Cl. B41f *13/54;* **B65h** *39/02*
U.S. Cl. 270—1 **9 Claims**



A method of preparing filing system index indicators where each indicator has printed thereon any one of several indicia in a plurality of fields. The sheets on which the indicators are printed are pre-marked with marks representative of the indicia to be printed in each one of the fields, and are sorted with respect to the pre-marked marks with all sorting for all indicia in any one field being done before any sorting is done for any indicia in another field. The method is particularly adaptible for printing discontinuous series of numbers.

3,504,908
DOCUMENT FEEDING APPARATUS CONTROL

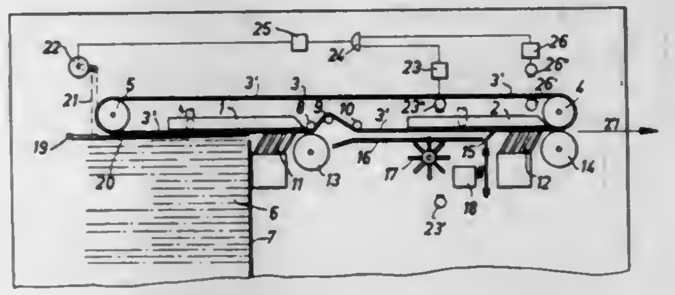
John R. Krueger, St. Georges, Del., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 17, 1968, Ser. No. 698,557
Int. Cl. B65h *5/02*
U.S. Cl. 271—10 **6 Claims**



A control for a document feeding apparatus having a reversible document feeding mechanism including a pair of bistable switching circuits controlling operation and direction of the document feeding mechanism with AND function gate controls to disable a part of the document feeding mechanism prior to reversal thereof, to operate the feeding mechanism for a predetermined period to clear the last document, and to stop the document feeding mechanism on failure of a document to feed.

3,504,909
APPARATUS FOR SEPARATING AND INDIVIDUALLY DISCHARGING FLAT ARTICLES

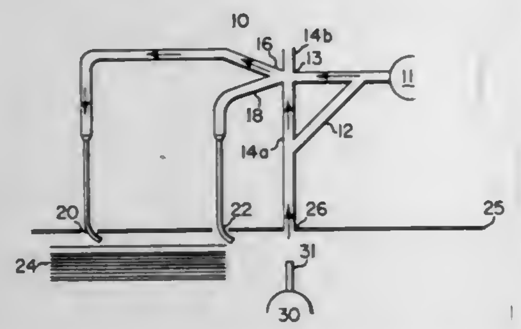
Gisbert Burkhardt, Constance, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed May 20, 1968, Ser. No. 730,283
Claims priority, application Germany, May 26, 1967, T 33,944
Int. Cl. B65h *3/12, 3/46*
U.S. Cl. 271—11 **19 Claims**



Apparatus for separating and discharging flat articles from a stack. A first separating means is arranged near a second separating means. Conveying means having holding and driving means conveys the articles from the first to the second separating means. Interrogating means having first and second sensing and signalling means is provided at the second separating means for controlling the operation of the first separating means. Interrupting means at the first separating means responds to signals received from the interrogating means by preventing the top article in such stack from being conveyed. Such interrogating means sending such signal to the interrupting means only during a predetermined period of time and in response to predetermined conditions concurrently existing at the first and second sensing and signalling means which indicate the article accumulation at the second separating means.

3,504,910
FLUIDIC SINGULATOR

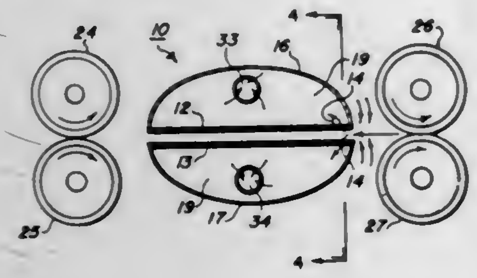
Chris E. Spyropoulos, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army
Filed June 6, 1968, Ser. No. 734,962
Int. Cl. B65h *3/08*
U.S. Cl. 271—18 **8 Claims**



A means utilizing fluidic techniques for singulating cards, letters or the like from a stack and directing the singulated item along a conveying surface. One output channel of a self-biased fluid amplifier is used to direct a fluid stream against the top card in a stack of cards and propel it laterally. A sensing means detects the moved card and causes the amplifier to switch to a second output channel which causes the card to move further along the conveying surface. After the moved card proceeds beyond the sensing means a fluid output will again be produced on the first output channel. A delay means may be used to regulate the rate at which the amplifier switches, and, thus the rate at which the cards are singulated from the stack and moved along the conveying surface. To minimize friction between the card benig conveyed and a next card in the stack a jet of air may be directed against the motion of the card being conveyed on a side of this card opposite the side exposed to the outputs from the fluid amplifier.

3,504,911
VACUUM POWERED MULTIPLE DOCUMENT DETECTOR

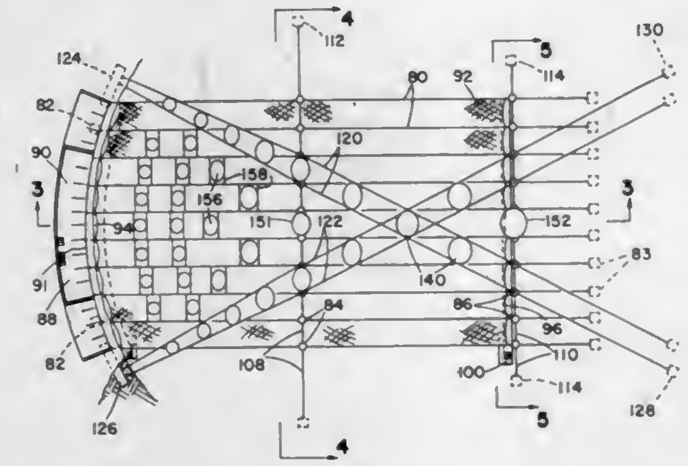
Morton Silverberg, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 25, 1967, Ser. No. 678,059
Int. Cl. B65h *3/46*
U.S. Cl. 271—56 **9 Claims**



Apparatus for detecting sheets advanced in a superposed relationship along a path of travel in which a pair of opposed plate members form a passageway through which sheets are advanced. Port means laterally positioned in the plate members distribute an applied vacuum within the passageway, the port means being longitudinally positioned in the plate members to provide an area of high pneumatic resistance within the passageway between the entrance thereof and the port means, and an area of low pneumatic resistance within the passageway between the exit thereof and the port means. Vacuum is applied to the passageway through the port means via a manifold connected to a supply source. Ambient air enters the passageway to fill the vacuum from the sheet exit end due to the low pneumatic resistance thereat which serves to separate superposed sheets. Superposed sheets thus separated are drawn against the port means causing a decrease in pressure in the respective manifold lines. Pressure responsive switch means operative in response to this change in pressure, condition an electrical circuit to control the advancement of sheets along the path of travel.

3,504,912
RECREATION AREA

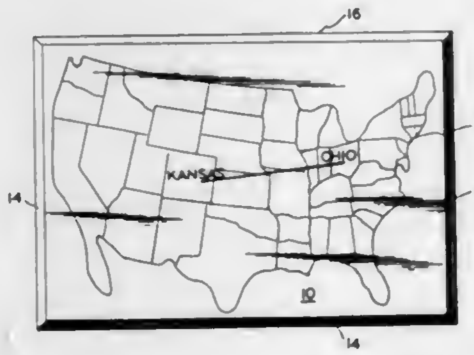
Robert M. Jenney, Brookline, Mass., assignor to Jenney Manufacturing Company, Newton, Mass., a corporation of Massachusetts
Filed May 16, 1967, Ser. No. 638,956
Int. Cl. A63b *69/36, 63/02*
U.S. Cl. 273—35 **3 Claims**



A recreation area including a range having a web mounted in spaced relation above the terrain, at least a portion of the web being sufficiently sloped to cause balls landing on the web to roll across it to a collection station, and having playing positions located adjacent a margin of the range. The space beneath the web may be used for other purposes, particularly recreational purposes or car parking. An array of targets may be mounted on or above the web, which may be in the form of sections of flexible net supported on cables.

3,504,913
EDUCATIONAL DART GAME

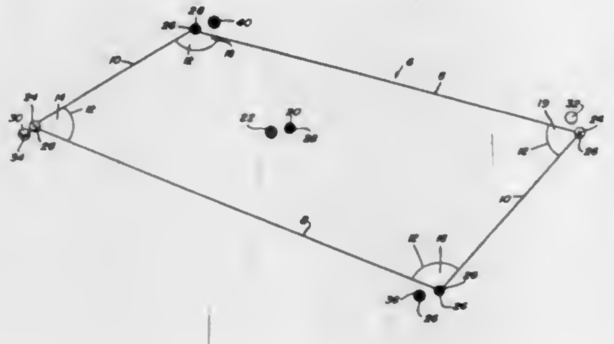
Anthony George Bilotti, 221—10 113th Drive, Queens Village, N.Y. 11429
Continuation-in-part of application Ser. No. 383,999, July 20, 1964. This application June 26, 1967, Ser. No. 652,393
Int. Cl. A63b *67/00*
U.S. Cl. 273—95 **3 Claims**



An educational dart game is disclosed for geography, spelling and vocabulary which includes a target of either a geography map or scrambled letters, a series of darts, and a plurality of cards bearing directions for target areas and designating points to be awarded upon the successful striking of the prescribed target areas. Additionally, a pivoted spinner may be included with numerations for chance selection of the number of attempts at throwing darts for striking a designated target area. A first dart board has a frame integral therewith for holding at least one other dart board in superimposed relationship to the first board.

3,504,914
COMBINED TARGET, DISK MARKERS, AND BALL GAME

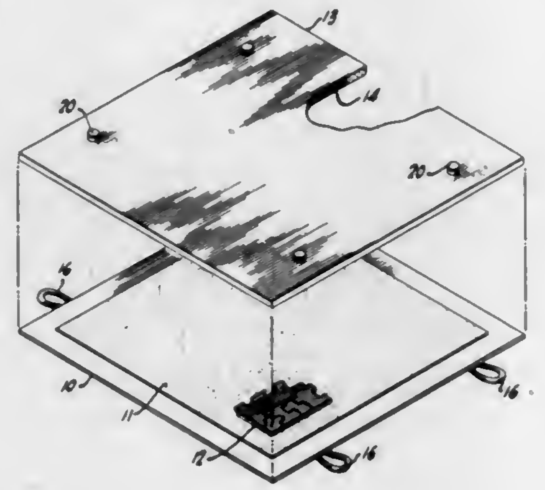
Mervin A. Bradbury, 712 N. 25th St., Mattoon, Ill. 61938
Filed Jan. 25, 1968, Ser. No. 700,524
Int. Cl. A63d *3/00;* **A63b** *37/00*
U.S. Cl. 273—118 **4 Claims**



An outdoor game for two, three, or four players. Five-inch, twenty-four-ounce balls are controllably rolled or "bowled," never lofted, from sector-shaped corners of a rectangular court with a view toward touching or lightly striking a distinctive colored target ball which is movably perched or spotted on a marker disk centered within the confines of the court. Five balls, five companion markers and other facilities are provided and used in keeping with the prescribed rules of play. Five thin flat sheet marker disks are removably employed to designate the four corner boundary markers and the court center marker disk.

3,504,915
PUZZLE HOLDER

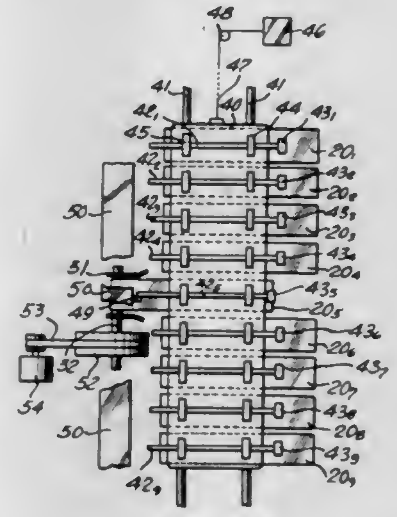
Robert J. Walker, 2942 Linden Ave., Berkeley, Calif. 94705
Filed Aug. 25, 1967, Ser. No. 663,326
Int. Cl. A63f *9/00;* **B65d** *85/46*
U.S. Cl. 273—157 **1 Claim**



A holder or caddy for relatively small articles such as the pieces of a jigsaw puzzle, and which holder provides a work platform having a surface upon which such pieces can be assembled, a cover adapted to removably overlie such work platform and any pieces supported thereon, a resilient compressible blanket or pad for interposition between such work platform and cover in overlying relation with any pieces on the latter, and fastener structure for releasably securing the platform and cover to each other with sufficient force to clamp and maintain the pieces in position for storage thereof. The work platform and cover are formed of paperboard or other similar relatively stiff material, and the blanket is a relatively thin layer of sheet polyurethane or comparable material compressed between the platform and cover when secured to each other to the extent necessary to prevent shifting of the pieces relative to the work platform.

3,504,916
AUTOMATIC PLAYING APPARATUS

Itsuki Ban, 829 Higashi-Oizumimachi, Nerima-ku, Tokyo, Japan
Filed Dec. 22, 1967, Ser. No. 692,811
Int. Cl. G11b *5/78*
U.S. Cl. 274—4 **3 Claims**

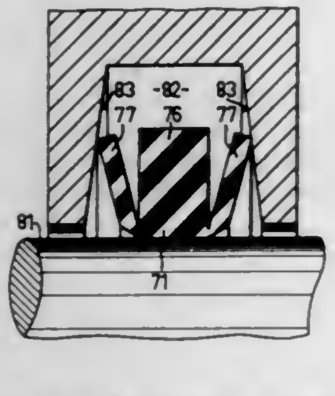


An apparatus for playing automatically in succession a plurality of endless tape cartridges according to a specific sequential program, wherein said cartridges are arranged in a stack within a casing for taking them up or down, a plurality of push button links are provided to correspond to each cartridge and adapted to be engaged with a raised portion to thereby limit the casing in its movement, a reciprocating lever is provided so that each cartridge is reciprocable between stand-by and play positions, a cam is actuated to terminate movement of the reciprocating lever when the cartridge is in the play position and to initiate movement thereof when the cartridge is in the stand-by position, and such movement of the reciprocating lever releases the push button link from its engagement with the raised portion to allow the casing to be moved.

3,504,917
SEAL FOR RELATIVELY ROTATABLE PARTS

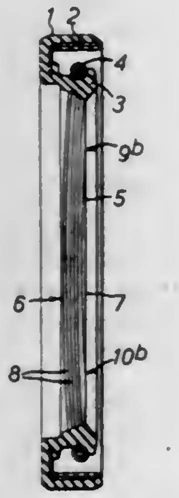
Sven-Erik Malmstrom, Reftele, Sweden, assignor to Forsheda Gummifabrik AB, Forsheda, Sweden, a corporation of Sweden
Continuation of application Ser. No. 485,686, Sept. 8, 1965. This application May 24, 1968, Ser. No. 748,579
Claims priority, application Sweden, Sept. 11, 1964, 10,881/64
Int. Cl. F16j *15/32, 15/54, 15/34*
U.S. Cl. 277—25 **4 Claims**

A sealing ring of resilient elastomeric material to provide a seal between two relatively rotatable parts of the class wherein a rotary shaft extends through a bearing housing wall disposed transversely of the shaft, comprising an annular body portion having a cylindrical inner circumferential surface and at least one radially extending end surface, and an annular flexible lip portion adjacent said one radial end surface integrally connected with said body portion at and adjacent the inner cylindrical surface thereof, said lip portion having inner and outer radial end faces and in the quiescent state extending substantially perpendicular to the cylindrical inner surface of the body portion confronting and parallel to said one radial end surface of the body portion, the inner circumferential surface of said lip portion being recessed inwardly from the outer end face thereof to a location on the inner circumferential surface of said body portion substantially in radial alignment with said radial end face of the body portion and provide a circumferential hinge of narrow cross section, the inner cylindrical surface of said body portion in the quiescent state thereof having a predetermined diameter less than the diameter of the rotary shaft and operable upon being radially stressed and expanded outwardly when mounted on the rotary shaft adjacent the bearing housing wall to cause said flexible lip portion to be deflected angularly outward into sealing engagement with the wall, said recess affording clearance for the outward deflection of said lip portion and providing a lip supporting surface for engagement with the shaft in the deflected position of said lip portion, to thereby determine the angular position of the lip portion relative to the body portion.



3,504,918
SHAFT SEALS

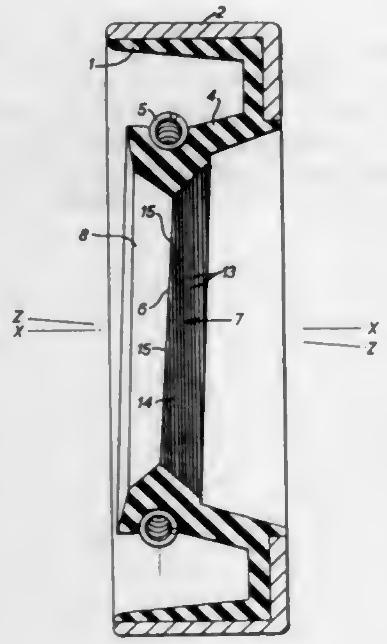
Geoffrey Walton Halliday, Whitley Bay, Northumberland, England, assignor to George Angus & Company Limited, Newcastle-upon-Tyne, England
Filed June 30, 1967, Ser. No. 650,333
Claims priority, application Great Britain, July 7, 1966, 30,627/66
Int. Cl. F16j *15/32, 15/48*
U.S. Cl. 277—134 **7 Claims**



A lip-type shaft seal with a sealing band formed between opposite frustoconical surfaces has fluid feed-back vane surfaces meeting the sealing band in opposite peripheral directions at a small angle so as to give a feed-back effect in either direction of relative rotation.

3,504,919
SHAFT SEALS

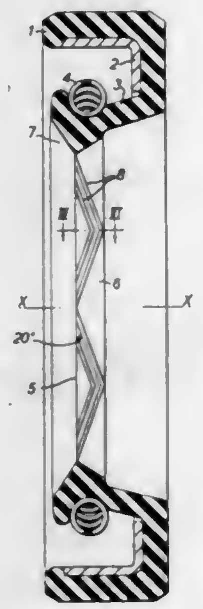
Geoffrey W. Halliday, Whitley Bay, and Keith Broadbelt, Tynemouth, England, assignors to George Angus & Company Limited, Newcastle upon Tyne, England
Filed June 30, 1967, Ser. No. 650,503
Claims priority, application Great Britain, Oct. 25, 1966, 47,808/66
Int. Cl. F16j *15/32, 15/48*
U.S. Cl. 277—134 **7 Claims**



A shaft seal which provides a feed-back of sealing fluid in either direction of relative rotation has a sealing contact band with a zone which is not completely circumferential and a groove or ridge extends around such zone from end to end to form a feed-back vane surface member.

3,504,920
SHAFT SEALS

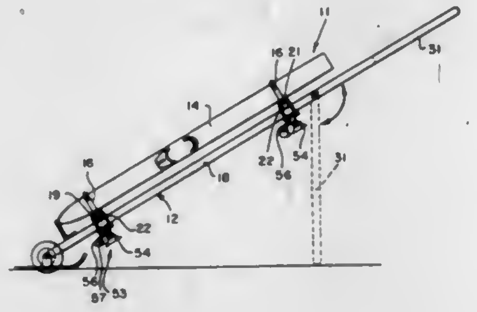
Geoffrey W. Halliday, Whitley Bay, England, assignor to George Angus & Company Limited, Newcastle upon Tyne, England
Filed July 3, 1967, Ser. No. 650,699
Claims priority, application Great Britain, July 7, 1966, 30,628/66
Int. Cl. F16j *15/32, 15/48*
U.S. Cl. 277—134 **7 Claims**



A shaft seal of the lip type has its outer frusto-conical surface provided with helical ridges or grooves meeting the sealing band in opposite peripheral directions respectively at a small angle, not more than 20° and preferably 10° or 5°, to provide a fluid feed-back effect in either direction of shaft rotation.

3,504,921
SKI CARRYING MEANS

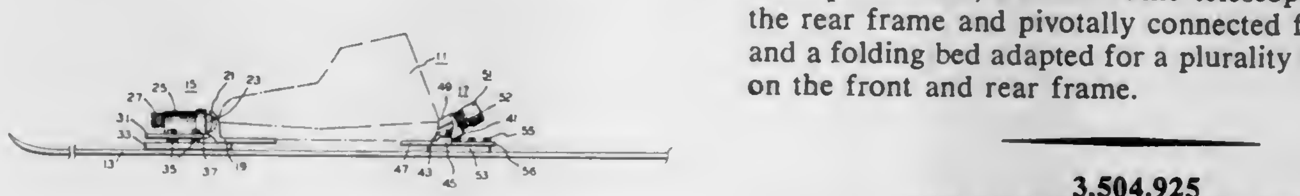
Lawrence R. Osmond, 518 E. Gilbert, Wichita, Kans. 67211
Filed Apr. 8, 1968, Ser. No. 719,525
Int. Cl. B62d *13/18, 19/00*
U.S. Cl. 280—8 **5 Claims**



A ski carrying apparatus is provided with a body member having a handle means connected at one end of the body member and skid means pivotally connected to the other end of the body member. A plurality of fastening means are mounted on the upper surface of the body member for securing skis, ski poles, or the like to the body member for transportation and storage of the same. The skid means is provided with an opening therein and a wheel means is rotatably connected to the body member so that the wheel means communicates with the opening in the skid means and extends below the lower surface of the skid means thus allowing the ski carrying apparatus to be moved over a relatively soft surface and/or a relatively hard surface. The apparatus is further provided with means to secure the apparatus to a car top. Further, means are provided which allow the apparatus to be maintained in standing position so that when the apparatus is in use, but the skis are not being used, the skis are supported in a standing position thus maintaining the skis off the surface of the ground.

3,504,922
TENSION ADJUSTABLE RELEASABLE SKI BINDINGS

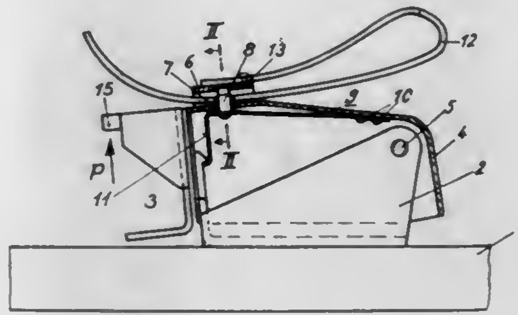
Philip K. Wiley, 326 W. 7th St., Traverse City, Mich. 49684
Filed Apr. 9, 1968, Ser. No. 719,983
Int. Cl. A63c *9/086, 9/00*
U.S. Cl. 280—11.35 **26 Claims**



The present invention relates to releasable ski bindings for retaining boots to skis during normal skiing and releasing the boots from the skis under abnormal conditions. In a first embodiment, toe and heel plates are adapted to be attached to the boot and to extend forwardly and rearwardly thereof with each of the extensions including engageable, preferably concave structures. Forward and rear mounts are adapted to be affixed to the ski in spaced apart relation to accommodate the boot and its extensions. Each of the forward and rear mounts preferably include convex structures to mate with the concave boot structures to maintain the boot in place under tension or pressure.

3,504,923
DEVICE FOR USE WITH SKIS

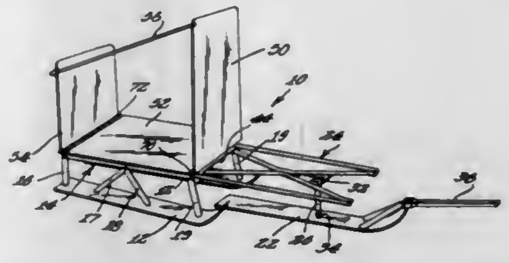
Ludwig Berchtold, Krailling, Bavaria, Germany, assignor to Hannes Marker, Germisch-Partenkirchen, Germany
Filed Apr. 9, 1968, Ser. No. 719,973
Claims priority, application Germany, Apr. 20, 1967, B 92,147
Int. Cl. A63c *9/084, 9/083*
U.S. Cl. 280—11.35 **12 Claims**



A safety binding, e.g., in the form of an automatic heel-releasing device, is provided with a retaining belt, which is secured to the ski. A holding device is mounted on the ski and serves to tension a portion of that part of the retaining belt which extends between the boot and the fixing means. The belt-holding element of said holding means releases the retaining belt and permits said retaining belt portion to relax in response to an opening of the safety binding.

3,504,924
COLLAPSIBLE SLEIGH

Donald J. Nesbit, 1443 Lynn St., Marquette, Mich. 49855
Filed Feb. 16, 1968, Ser. No. 706,050
Int. Cl. B62b *13/16*
U.S. Cl. 280—20 **6 Claims**

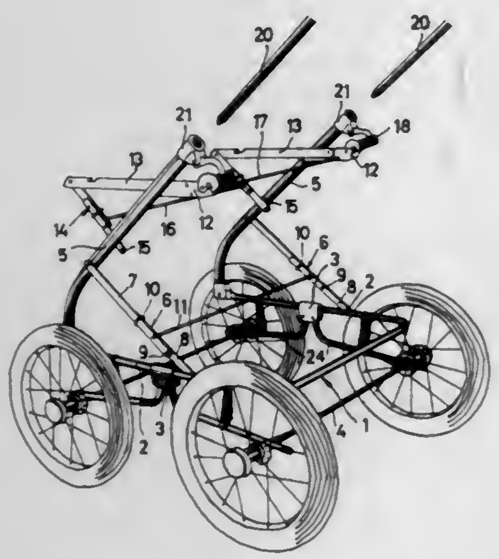


A telescoping collapsible sleigh having a pair of rear parallel skis, a rear frame mounted on the rear skis, a front pivoted ski, a front frame telescopically secured to the rear frame and pivotally connected for the front ski, and a folding bed adapted for a plurality of load positions on the front and rear frame.

3,504,925
COLLAPSIBLE FRAME FOR A BABY CARRIAGE

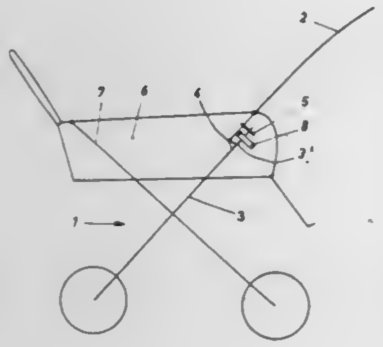
Dieter Glaser, Garching, near Munich, Germany, assignor to Peggy Munchener Kinderwagenfabrik G.m.b.H. & Co., KG, Munich, Germany
Filed Oct. 6, 1967, Ser. No. 673,453
Claims priority, application Germany, Oct. 13, 1966, P 40,571
Int. Cl. B62b *7/08*
U.S. Cl. 280—36 **7 Claims**

A collapsible frame for a baby carriage having a U-shaped base frame with the carriage wheels being rotatably supported thereon. A single side support member is connected to and slopes upwardly from each leg of the base frame. Lock means, such as toggle joints, interconnect the side support members to the base frame to hold same in the uncollapsed position. A pair of support arms are pivotally connected to the respective side support members and are movable from a substantially horizontal uncollapsed position wherein they are adapted for supporting a baby bed thereon to a collapsed position adjacent the side support members. Suitable lock means, such as toggle joints, permit the support arms to be horizontally locked in the uncollapsed position.



3,504,926
BABY CARRIAGE

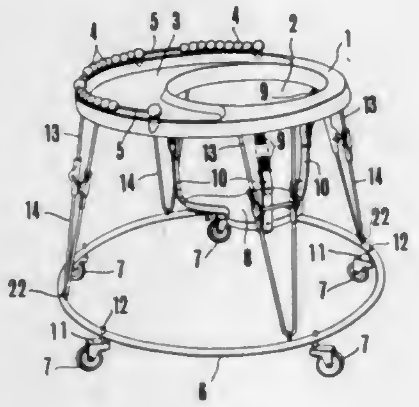
Dieter Glaser, Garching, near Munich, Germany, assignor to Peggy Munchener Kinderwagenfabrik G.m.b.H. & Co., KG, Munich, Germany
Filed Oct. 15, 1968, Ser. No. 767,785
Claims priority, application Germany, Oct. 19, 1967, 1,605,483
Int. Cl. B62b *7/08*
U.S. Cl. 280—41 **6 Claims**



A baby carriage having a collapsible frame, a U-shaped handle having its two lower ends pivotably connected on both sides of the baby carriage to the upper end of the frame bars. A manually operable connecting and securing mechanism is provided adjacent the lower ends of the handle for releasably securing the handle relative to the frame in the upright position of use. An extension member is secured to one of the respective frame bars and the lower end of the handle and is releasably connectible to one of the handle and the frame bar. The extension projects past the pivotal connection of the handle to the frame bar. A bed or a seat insert is pivotably connected at one end to further frame bars and at the other end adjacent the two lower ends of the handle to the handle.

3,504,927
BABY WALKER

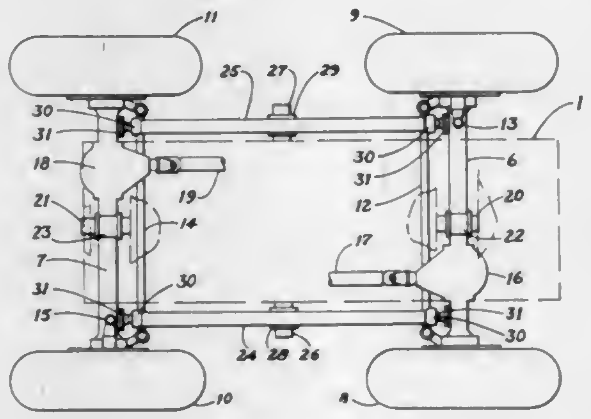
Zenjiro Seki, Tokyo, Japan, assignor to Showa Motsuku Kaisha, Motoichi Tsukui, and Hoshimago Industry, Co., Ltd., Tokyo, Japan, and Stuart L. Whitehouse, Vancouver, British Columbia, Canada
Filed June 18, 1968, Ser. No. 737,931
Claims priority, application Japan, Apr. 10, 1968, 43/29,208
Int. Cl. B62b *7/10*
U.S. Cl. 280—87.05 **5 Claims**



A collapsible baby walker comprising a supporting plate, a seat plate, a base frame with castered wheels, and a plurality of legs that can be folded. The baby walker has additional provisions for facilitating feeding the baby and instructing him in calculation.

3,504,928
SUSPENSION SYSTEM FOR VEHICLES

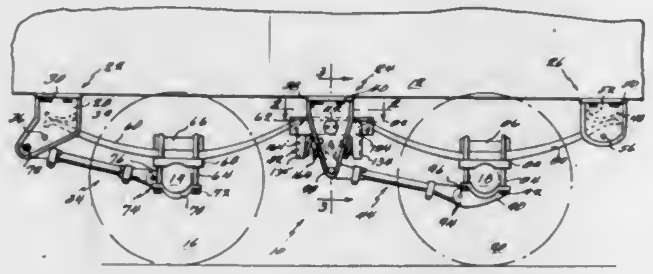
Walter E. Reimer, 16201 Ridgecrest Drive, Monte Sereno, Calif. 95030
Filed Aug. 26, 1968, Ser. No. 755,227
Int. Cl. B60g *9/02*
U.S. Cl. 280—104 **5 Claims**



A suspension system, for a four-wheel vehicle having a frame and transversely extending front and rear wheel-supporting axles, comprising longitudinal trunnions mounted on the frame adjacent the ends and centrally of its sides, each axle being mounted at its mid-point on the corresponding longitudinal trunnion for rocking in a substantially vertical transverse plane and simultaneous sliding in a direction axially of said corresponding longitudinal trunnion, transverse trunnions projecting from the sides of the frame centrally of its ends, a longitudinal rocking beam extending along each side of the frame, each beam being mounted at its mid-point on the corresponding transverse trunnion for rocking in a substantially vertical longitudinal plane and simultaneous sliding in a direction axially of said corresponding transverse trunnion, and individual ball and socket units connected between the ends of the rocking beams and the related axles.

3,504,929
TWO-PIECE EQUALIZER BRACKET

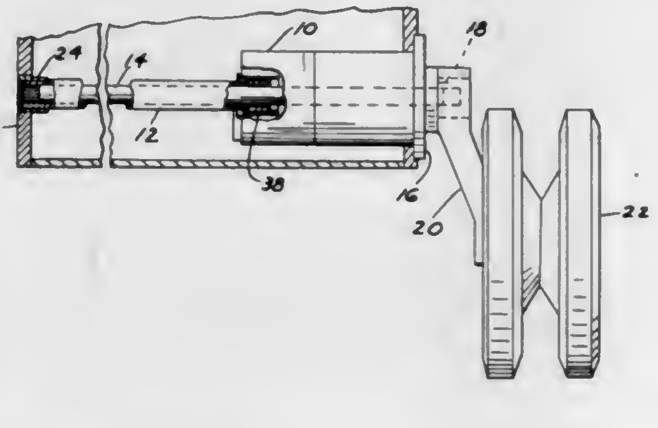
John B. King, Springfield, Mo., assignor to Hutchens and Son Metal Products, Inc., Springfield, Mo., a corporation of Missouri
Filed Mar. 4, 1968, Ser. No. 710,024
Int. Cl. B60g *19/02*
U.S. Cl. 280—104.5 **8 Claims**



The equalizer bracket comprises first and second elements pivotally mounted on a bearing member and having portions adapted to engage the adjacent ends of suspension assemblies associated with tandem axles. Each element has a depending portion there being a dampening means such as a spring interposed between the depending portions to transfer forces from one element to the other element and to dampen relative movement of the elements.

3,504,930
TORSION BAR ACTUATING SYSTEM

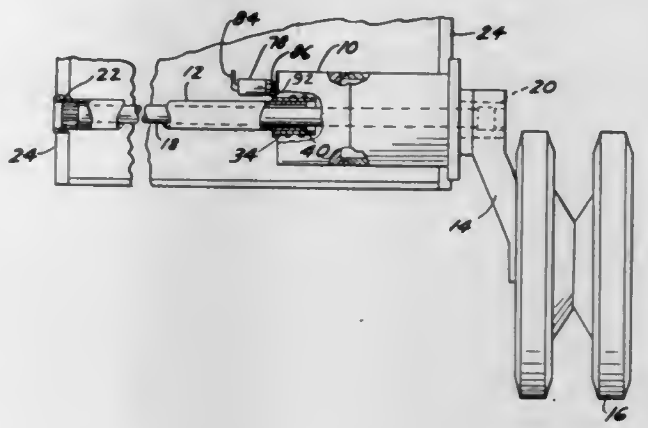
Ted Kozowyk, Detroit, and Aaron Maniker, Southfield, Mich., and Donald E. Senecal, Cincinnati, Ohio, assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1967, Ser. No. 672,938
Int. Cl. B60g *7/00, 17/00*
U.S. Cl. 280—124 **1 Claim**



An apparatus for actuating and controlling the variable vehicle ground clearance of tracked or wheeled vehicles having torsion bar and tube springing media.

3,504,931
VEHICLE VARIABLE HEIGHT ACTUATOR

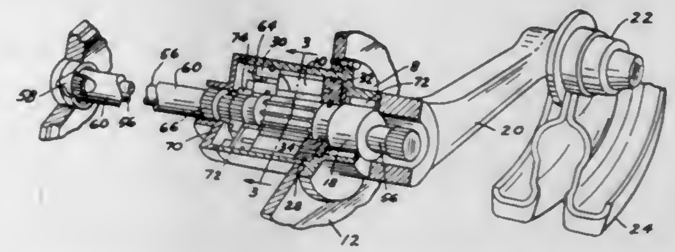
Ted Kozowyk, Detroit, and Alex H. Sinclair, Southfield, Mich., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1967, Ser. No. 672,936
Int. Cl. B60g *7/00, 17/00*
U.S. Cl. 280—124 **4 Claims**



An apparatus for actuating and controlling the variable vehicle ground clearance of tracked or wheeled vehicles.

3,504,932
DUAL RATE DAMPENING DEVICE

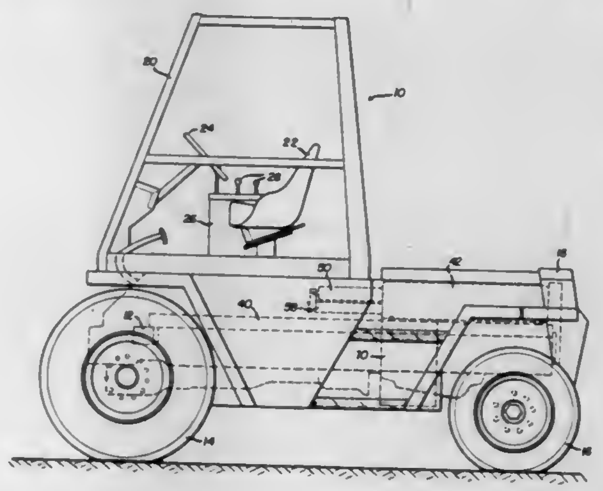
Ted Kozowyk, Detroit, and Alex H. Sinclair, Southfield, Mich., assignors to the United States of America as represented by the Secretary of the Army
Filed Oct. 4, 1967, Ser. No. 672,937
Int. Cl. B60g *11/64; 7/04*
U.S. Cl. 280—124 **6 Claims**



An apparatus for providing dual rate dampening of a vehicle suspension system in a tracked or wheeled vehicle.

3,504,933
VEHICLE COUNTERWEIGHT

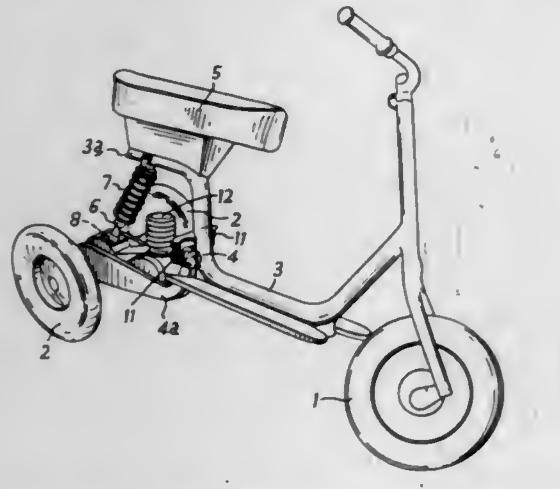
John M. Avis, Terre Haute, Ind., and Hugh H. Dorman, Huntington, N.Y., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 1, 1968, Ser. No. 702,268
Int. Cl. B60r *27/00*
U.S. Cl. 280—150 **5 Claims**



A load supporting powered vehicle which includes a counterweight mechanism carried within the confines of the vehicle frame and is shiftable laterally longitudinally of the frame to effectively shift the center of gravity of the vehicle along the longitudinal axis of the frame.

3,504,934
TRICYCLE WHEEL AND FRAME ARRANGEMENT

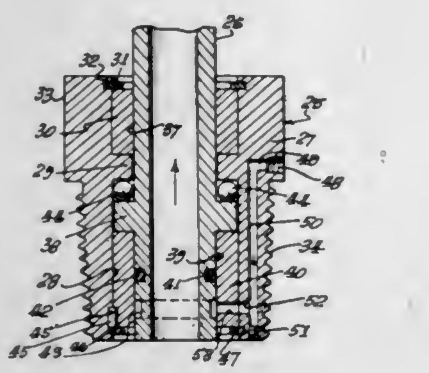
George L. Wallis, 74 Lenelby Road, Tolworth,
Surbiton, England
Filed June 30, 1966, Ser. No. 561,810
Int. Cl. B62k *11/02, 19/06*
U.S. Cl. 280—282 **6 Claims**



A tricycle vehicle with a single front wheel and two co-axial rear wheels, in which the steerable front wheel and rider's seat are mounted on a main frame and the rear wheels are mounted on a rear sub-frame assembly, this assembly being connected by a pivot joint to the main frame the axis of which joint is positioned on a line such that when the main frame is tilted laterally, the sub-frame assembly and with it the rear wheels are turned on a vertical axis to effect steering of the rear wheels in accordance with the degree and direction of tilt.

3,504,935
SWIVEL COUPLING FOR FLUID CONDUIT

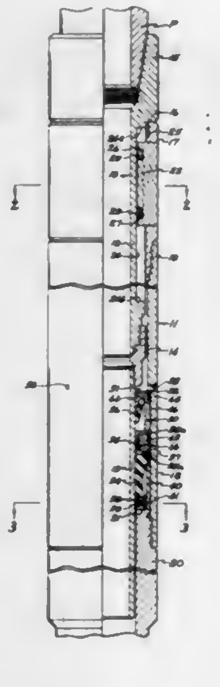
Carl W. Gullihur, P.O. Box 1166,
Big Bear Lake, Calif. 92315
Filed Feb. 3, 1969, Ser. No. 795,975
Int. Cl. F16l *27/00, 19/02, 15/00*
U.S. Cl. 285—14 **6 Claims**



A connecting means between the adjacent ends of a pair of fluid conduits, particularly those subjected to considerable line pressure, characterized by capacity for free relative rotation between the connected conduits, either or both of which may be rigid or flexible is disclosed. A hollow cylindrical body member is rotatably connected inside an external body member by a plurality of bearing balls constituting axial thrust-resisting means. Bushings are positioned between the cylindrical body member and the external body member. A gasket is carried by the cylindrical body member and sealingly engages one of the bushings.

3,504,936
EXTENSIBLE COUPLING FOR WELL PIPES

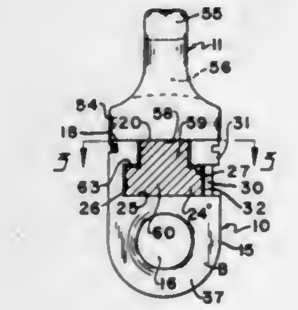
Cicero C. Brown and James D. Mott, Houston, Tex.; said Mott assignor to Brown Equipment & Service Tools, Inc., Houston, Tex., a corporation of Texas
Continuation-in-part of application Ser. No. 618,464, Feb. 24, 1967. This application Oct. 12, 1967, Ser. No. 674,983
Int. Cl. F16l *17/02, 27/12, 33/18, 15/00, 27/12*
U.S. Cl. 285—106 **4 Claims**



An extensible coupling for use in well pipe strings, particularly rotary drill strings, to permit relative longitudinal movement between sections of the pipe string to accommodate longitudinal movements of the upper end of the pipe string while maintaining the lower end relatively stationary longitudinally. Telescoping male and female tubular members having elongated spline elements are connected for longitudinal, relative nonrotative movement. Anti-friction bearings are arranged between the members to provide relatively friction-free movement. A plurality of sealing elements are disposed between the members to assure maximum sealing efficiency.

3,504,937
SNAP LOCK SWIVEL CONNECTOR

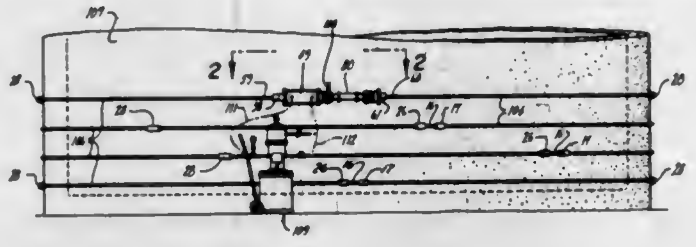
Vlatko Panovic, Burnaby, British Columbia, Canada, assignor to Dynamic Tools Ltd., Vancouver, British Columbia, Canada, a corporation of Canada
Filed Feb. 23, 1968, Ser. No. 707,502
Claims priority, application Canada, Apr. 29, 1967, 989,210
Int. Cl. F16b *7/00;* **F16c** *11/06;* **B25g** *3/38*
U.S. Cl. 287—91 **4 Claims**



A device having self-clamping parts capable of being snap-coupled together to provide a swivel connection for two cable ends.

3,504,938
CONCRETE PRESTRESSING APPARATUS
(SPLIT NUT)

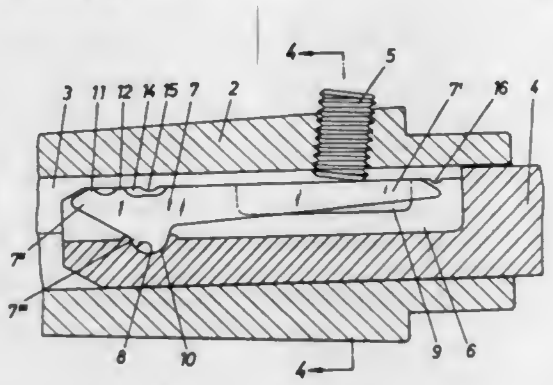
James W. Howlett, Richmond Annex, Calif., assignor to Howlett Machine Works, a corporation of California
Original application Aug. 16, 1963, Ser. No. 302,628, now Patent No. 3,343,808, dated Sept. 26, 1967. Divided and this application Sept. 20, 1967, Ser. No. 669,120
Int. Cl. F16b *7/00;* **F16d** *1/00;* **F16l** *21/00*
U.S. Cl. 287—114 **1 Claim**



Described herein is a unique one-way removable bar or rod gripping nut particularly adapted for use in tensioning concrete, prestressing or reinforcing tendons wherein the gripping nut generally comprises a split housing, a split wedging sleeve and means for securing the housing with this sleeve therein about a rod or bar. The wedging feature of the invention provides an increasing gripping force applied to the rod when pulled in one direction with respect to the nut.

3,504,939
DOOR HANDLE CONNECTION

Paul Junghanns, Dusseldorf, Germany, assignor to Wilhelm Engstfeld, Dusseldorf, Germany, a corporation of Germany
Filed Apr. 24, 1968, Ser. No. 723,838
Claims priority, application Germany, Apr. 25, 1967, E 33,862
Int. Cl. E05b *3/04*
U.S. Cl. 292—354 **7 Claims**

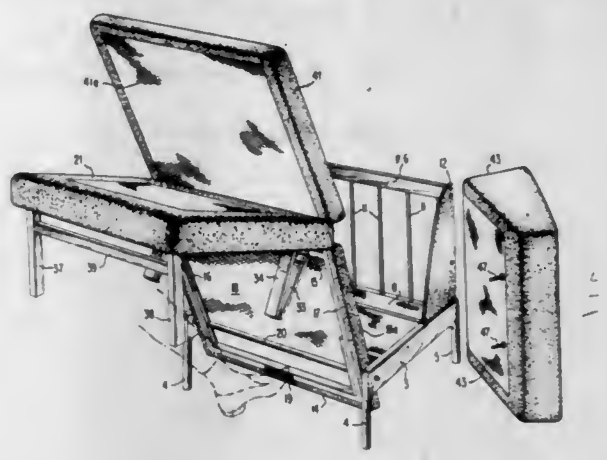


A door-handle connection with a pressure screw disposed in a handle shaft, the pressure screw abutting a coupling element disposed in the other handle and digging-in into the wall of the entrance opening of the pin, which comprises a double lever having two lever arms extending in longitudinal direction of the handle pin and constituting the coupling element. The longer of the lever arms extends opposite a support being abutted by the pressure screw, and the shorter of the lever arms forms upwardly directed digging-in teeth.

3,504,940
CONVERTIBLE SEAT

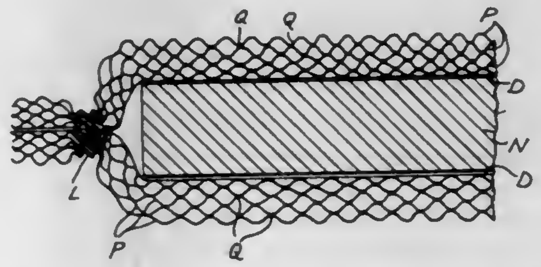
Carl Ludwig Friese, 200 Fort Meade Road,
Laurel, Md. 20810
Continuation of application Ser. No. 643,672, June 5, 1967. This application Mar. 21, 1969, Ser. No. 810,916
Int. Cl. A47c *13/00*
U.S. Cl. 297—105 **16 Claims**

A convertible seat made of three frame sections and a cushion that are pivotally secured to each other. The surfaces that are used as a seat are different from those surfaces used as a bed thereby avoiding double duty on a single surface. Further, one surface can be upholstered to resemble a seat and the other surface can be upholstered to resemble a bed. A bolster is shaped to serve as a back rest for the seat when used in that position, and doubles as a comfortable head rest when used in the bed position.



3,504,941
LAMINATED CHAIR PROTECTOR

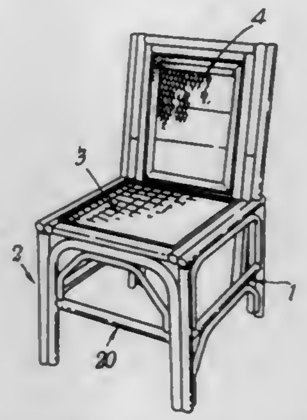
George Gerard, Point Pleasant, N.J., assignor to Jiffy Manufacturing Co., Hillside, N.J., a corporation of Delaware
Filed Jan. 26, 1968, Ser. No. 700,972
Int. Cl. A47c *27/00;* **B68g** *7/05*
U.S. Cl. 297—219 **3 Claims**



The disclosure of the present application describes a laminated paper material having a plurality of offset embossed sections which are pinned together and which form a partial envelope for fitting over the back of a chair and having an extension portion which fits over the seat of a chair.

3,504,942
ARTICLES OF RATTAN FURNITURE

Kam Wah Wong, 7A Rattan House, 4 Hankow Road, Kowloon, Hong Kong
Filed Apr. 12, 1968, Ser. No. 721,006
Int. Cl. A47c *7/00, 4/02*
U.S. Cl. 297—440 **2 Claims**

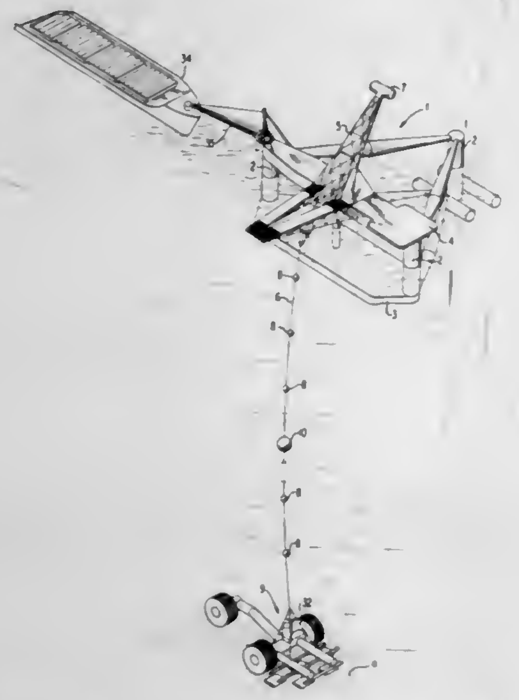


Rattan furniture such as chairs, tables and the like built up of preformed units each of which is a rigid, non-distortable and self-sustaining structure so that when the units are fixed together solely by screws to form the article no additional bracing means is required.

3,504,943

DEEP SEA NODULE MINING

James E. Steele, Quakertown, and George W. Sheary, Bethlehem, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 714,838, Mar. 21, 1968. This application Oct. 8, 1968, Ser. No. 772,448
Int. Cl. E02f *7/06;* **E21c** *45/00*
U.S. Cl. 299—8 1 Claim

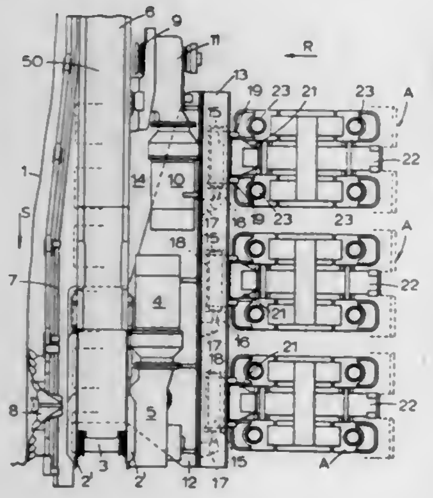


Bottom crawler traverses marine floor under control of floating vessel. Suction pump on crawler picks up water and solid material through collector sleds and delivers same to separator on crawler. Large solids fall to bottom of separator, while smaller solids and water flow out top of separator. Another pump in riser pipe communicating between crawler and floating vessel creates fast upwardly moving stream of water entraining large solids from bottom of separator and transporting said solids to floating vessel.

3,504,944

DEVICES FOR TENSIONING A CONVEYOR IN A MINERAL MINING INSTALLATION

Joachim Holz, Dortmund, and Horst Linke, Lunen, Germany, assignors to Gewerkschaft Eisenhutte Westfalia, Wethmar, near Lune, Westphalia, Germany, a body corporate of Germany
Filed Oct. 25, 1968, Ser. No. 770,685
Claims priority, application Germany, Apr. 26, 1968, 1,758,229
Int. Cl. E21c *29/02, 31/08*
U.S. Cl. 299—32 11 Claims

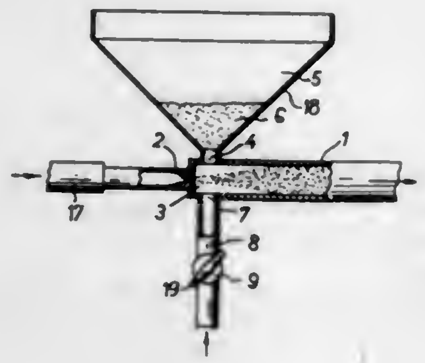


A device in the form of a series of co-axially arranged piston and cylinder units for tensioning a conveyor in a mineral mining installation. The conveyor is of the conventional type having a plurality of channels with circulating scrapers driven by chains and its working position can be adjusted. The tensioning units are arranged parallel to the conveyor so as to be capable of tensioning the conveyor longitudinally. The units are effectively connected between the conveyor and a number of roof supporting chocks which are disposed alongside the conveyor over a zone extending near an end of the conveyor at which drive units are arranged, the chocks and conveyor are movable relatively to one another in a direction transversely of the latter by means of shifting rams.

3,504,945

PNEUMATIC CONVEYOR SYSTEM

Alfred Leibundgut, Emmen, Lucerne, and Imre Szasz, St. Gall, Switzerland, assignors to Gema AG Apparatebau, St. Gall, Switzerland, a Swiss company
Filed June 28, 1967, Ser. No. 649,523
Claims priority, application Switzerland, June 28, 1966, 9,338/66
Int. Cl. B65g *53/40*
U.S. Cl. 302—40 5 Claims



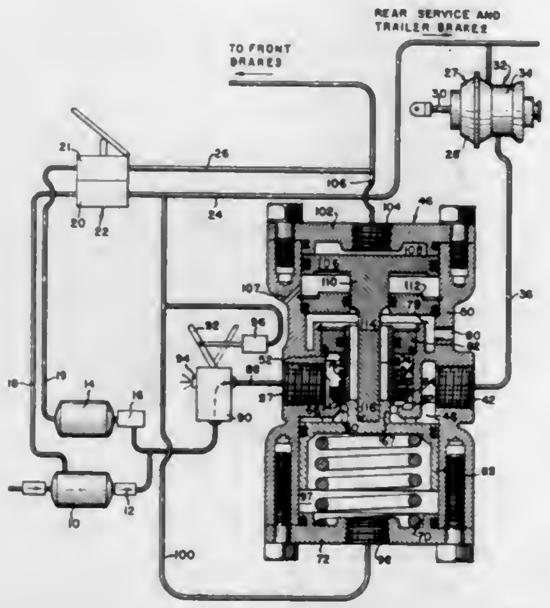
A pneumatic conveyer system which is particularly intended for feeding pulverulent and granular coating material to electrostatic spraying devices comprises a conveyer line into which a propellant gas is supplied by means of a diffusor to create a region of reduced pressure within the conveyor line. The pulverulent or granular material to be conveyed is discharged from a loading hopper into said region of reduced pressure, partly by gravity and partly by the suction action due to the presence of reduced pressure in said region. A variable control gas stream is supplied into said region of reduced pressure to counteract the effect of the reduced pressure on the rate of supply of material from said hopper into the conveyor and to regulate the conveyor output from a maximum value to almost zero value.

3,504,946

SPRING BRAKE CONTROL VALVE

Harry M. Valentine and Frank R. Schubert, Elyria, Ohio, assignors to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Oct. 3, 1968, Ser. No. 764,754
Int. Cl. B60t *13/38*
U.S. Cl. 303—9 10 Claims

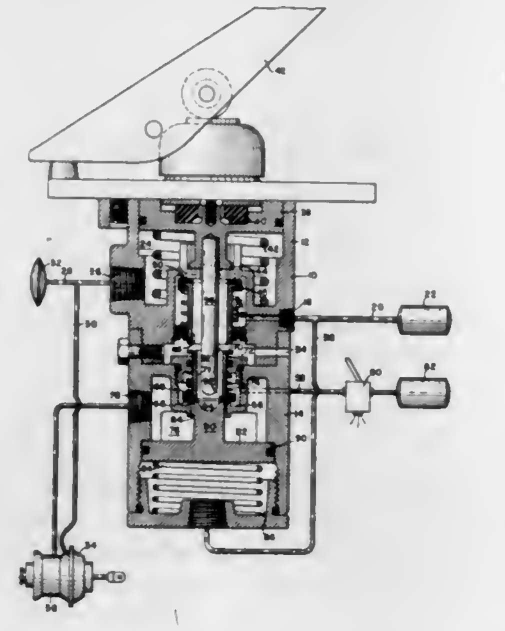
For use in a dual circuit braking system in which one circuit serves brakes also carrying spring brakes, valve means including a pressure responsive element normally balanced by pressure in the two circuits but moved to effect release of pressure from the spring brakes under the control of the usual pedal operated brake valve upon failure of that circuit serving the brakes carrying the spring brakes, the valve means being arranged to lap to effect partial or graduated application of the spring brakes in accordance with control pressure from the brake valve. A feature of the valve is a pressure regulating ability to prevent the build up and consequent delayed release of excess pressure in the release cavity of the spring brakes over that required to release the brakes.



3,504,947

SERVICE AND EMERGENCY BRAKE CONTROL VALVE

Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Oct. 3, 1968, Ser. No. 764,753
Int. Cl. B60t *15/16*
U.S. Cl. 303—13 4 Claims

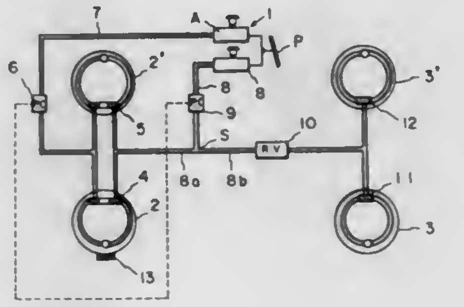


Tandem brake control valve means for operating a first, self lapping brake valve for controlling normal fluid pressure service brakes by movement of a brake pedal through a first range of movement and a second valve for effecting controlled graduated release of pressure from a release cavity of a pressure released spring applied brake by movement of the pedal in a brake applying direction greater than the first range of movement. Means are provided for preventing accidental release of pressure from the spring brakes so long as the source of normal service pressure is above a predetermined safe value.

3,504,948

SAFETY BRAKE SYSTEM FOR A MOTOR VEHICLE

Masami Inada, Kariya, Japan, assignor to Aisin Seiki Kabushiki Kaisha, Kariya, Aichi Prefecture, Japan
Filed July 31, 1967, Ser. No. 657,200
Claims priority, application Japan, Aug. 6, 1966, 41/51,768
Int. Cl. B60t *8/12*
U.S. Cl. 303—21 5 Claims

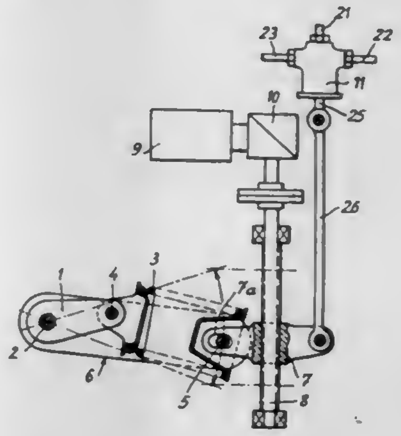


This invention relates to a safety brake system for a motor vehicle including two brake fluid circuits, in which there is provided a reducing valve in the brake fluid conduit in front of the rear wheel brake cylinders, and so designed that normally the locking of the front wheels precedently occurs, thereby it is made possible to obtain safety braking by preventing objectionable spin and unstable steering of the vehicle which would have occurred when the rear wheels are precedently locked.

3,504,949

COMBINED SUSPENSION AND BRAKE CORRECTOR SYSTEM FOR ROAD VEHICLES

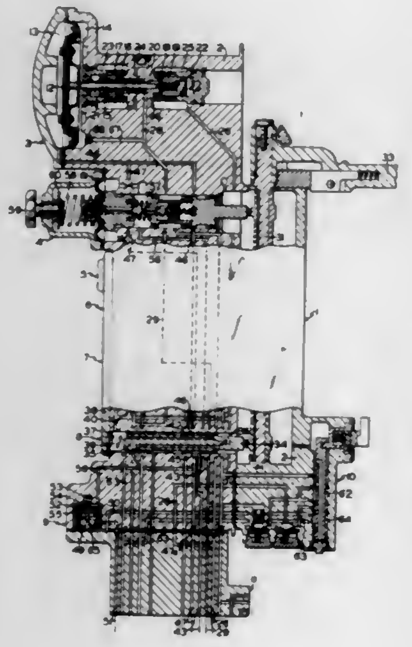
Jean-Pierre Serpette, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, and Automobiles Peugeot, Paris, France
Filed Oct. 14, 1968, Ser. No. 767,253
Claims priority, application France, Nov. 14, 1967, 128,083
Int. Cl. B60t *8/18*
U.S. Cl. 303—22 1 Claim



In a road vehicle, in combination, a suspension flexibility corrector and a brake corrector, characterised in that the flexibility corrector comprises a resilient member mounted between two members movable as a function of the load and beats of the suspension. One of the members is responsive to a position-adjusting servomechanism adapted to keep the resilient member in a state of unstable equilibrium in the position of static equilibrium of the suspension. The one element responsive to said position-adjusting servomechanism is also connected to a member for adjusting the brake corrector which is of a type known per se, whereby said brake corrector will also operate according to the load supported by the suspension in the static condition.

3,504,950
BRAKE VALVE APPARATUS

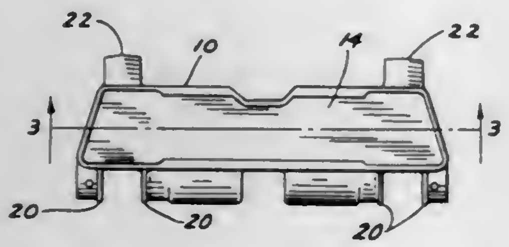
Glenn T. McClure, McKeesport, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Apr. 19, 1968, Ser. No. 722,748
Int. Cl. B60t *15/22, 17/06*
U.S. Cl. 303—35 **11 Claims**



A relay type brake valve device, for controlling pressure variations in the brake pipe of a railway fluid pressure brake control system, having a multiposition suppression valve which, while in a brake release position, effects a momentary supply of fluid under pressure from a charged high pressure volume reservoir to the brake valve relay valve device thereby causing its operation to rapidly charge that portion of the train brake pipe extending from the locomotive through the first several cars in the train. This momentary rapid charging of the portion of the brake pipe on the first several cars in the train insures operation of the accelerated service release valve of the brake control valve device on these cars notwithstanding a prior limited degree of brake pipe pressure reduction which effected a light brake application on the train. In all other positions of the suppression valve, the volume reservoir is connected to the locomotive main reservoir to cause the charging thereof to the normal main reservoir pressure.

3,504,951
ENDLESS TRACK

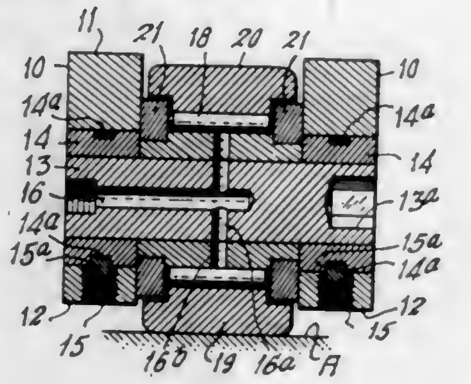
Edward Hirych, Rochester, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 28, 1968, Ser. No. 755,873
Int. Cl. B62d *55/28*
U.S. Cl. 305—11 **5 Claims**



An endless track including pairs of track shoes articulately connected with each adjacent shoe by pairs of hinges each of which includes a spherical bearing.

3,504,952
ROLLER BLOCK ASSEMBLY WITH OVERALL HEIGHT ADJUSTMENT

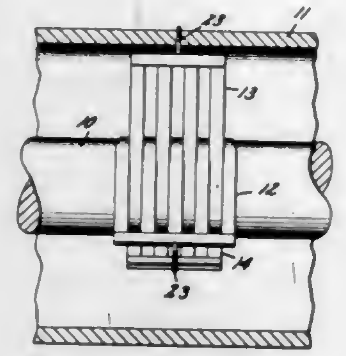
Robert W. Farmer, Livingston, N.J., assignor, by mesne assignments, to Raritan Bearing Corporation, a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,867
Int. Cl. F16c *19/00, 23/00*
U.S. Cl. 308—6 **1 Claim**



A roller assembly includes two side wall blocks each of which has opposite planar edges, and at least two rollers are journalled on parallel shafts each end of each of which has rigidly attached thereto an eccentric bushing that is mounted in the corresponding wall block for rotation to adjust the blocks relative to the rollers and is clamped in adjusted position by a set screw threaded in the wall block and having a reduced end portion disposed in a circumferential groove in the eccentric bushing.

3,504,953
FOIL BEARING

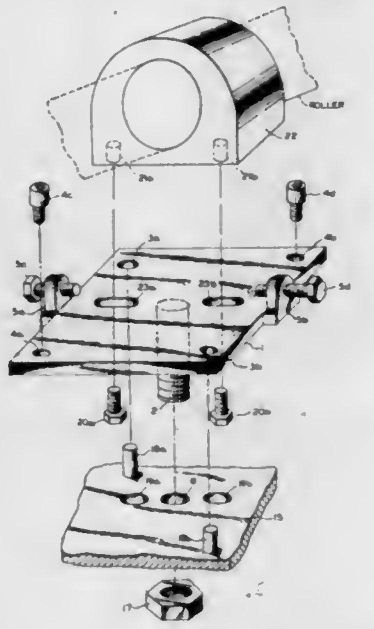
William J. Love, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 29, 1968, Ser. No. 756,195
Int. Cl. F16c *13/04, 17/16*
U.S. Cl. 308—15 **10 Claims**



In a foil bearing assembly a plurality of foil members is provided, each having a central bearing portion and a pair of end portions, the end portions being in the form of a plurality of strips. The end portions of the foil members are secured at circumferentially spaced points on a support structure so that the central portion of each foil member provides a support surface for a respective portion of the journal. The end portions of the foil are formed and foil members are axially disposed so that the strips of an end portion of a member are interleaved with the strips of an end portion of a circumferentially adjacent member.

3,504,954
BEARING SUPPORT PLATE

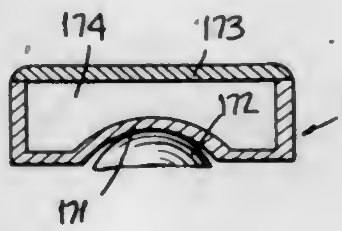
James T. Robson, Cleveland Heights, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 29, 1968, Ser. No. 709,256
Int. Cl. F16c *23/00*
U.S. Cl. 308—58 **3 Claims**



The present invention relates to a novel journal support plate for use in conjunction with rollers such as those used in roller mills, enclosures and other similar apparatus, and particularly in conjunction with rollers used in enclosures, such as dryers, ovens, kilns, furnaces and the like wherein the rollers are capable of being adjusted both horizontally and vertically, whereby the position of the rollers may be more readily adjusted, both horizontally and vertically, while the enclosure is shut down, or while it is operating, even at full heat.

3,504,955
BEARING WITH HOLLOW RINGS

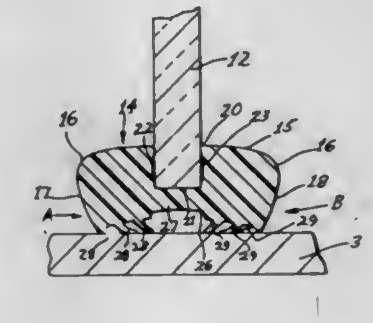
Joseph K. Bailey, Lakewood, N.Y., assignor to TRW Inc., Euclid, Ohio, a corporation of Ohio
Original application May 12, 1966, Ser. No. 549,700, now Patent No. 3,404,925, dated Oct. 8, 1968. Divided and this application July 2, 1968, Ser. No. 742,003
Int. Cl. F16c *27/00, 19/00, 33/30*
U.S. Cl. 308—184 **6 Claims**



The bearing has rings circumferentially hollow with the walls forming the bearing races being of substantially greater width than thickness in the direction of load. Coolant may be circulated through the rings and the race walls may have passages for circulating lubricant to the antifriction elements.

3,504,956
RESILIENT MOUNTING MEANS FOR TRAY DIVIDERS

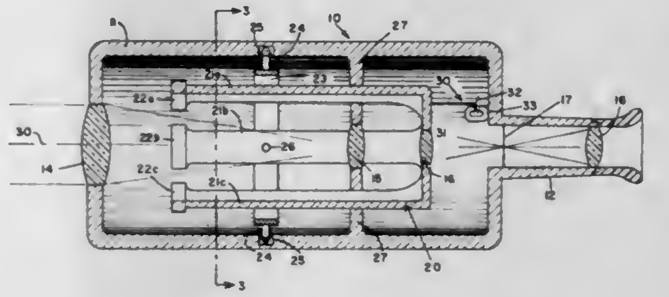
Robert A. Schottland, Ashland, Ky., assignor to Castle Showcase Company, Ashland, Ky., a partnership
Filed Mar. 4, 1968, Ser. No. 710,174
Int. Cl. A47b *96/04, 57/28;* **A47f** *9/00*
U.S. Cl. 312—140.3 **4 Claims**



Resilient mounting means for securing the opposite ends of dividers in a tray or similar structure having opposing walls between which the divider extends, the mounting means comprising an extruded strip-like member formed from a resilient material such as rubber or flexible plastic, the member being of generally elongated rectangular configuration having a divider receiving slot extending lengthwise along one of its sides and a plurality of spaced apart gripping elements extending lengthwise along its opposite side, the insertion of a divider into the slot serving to flex or arch the gripping elements into clamping engagement with the wall surface engaged by the mounting member.

3,504,957
OPTICAL STABILIZED TELESCOPE ARRANGEMENT

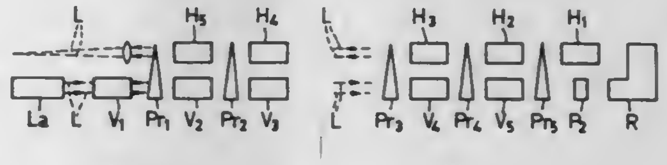
Lee O. Heflinger, Torrance, and Robert E. Brooks, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Aug. 8, 1967, Ser. No. 659,107
Int. Cl. G02b *23/00*
U.S. Cl. 350—16 **9 Claims**



An apparatus for stabilizing the image of an optical system. The optical system is an in-line telescope having an objective lens, reticle and an eyepiece. Interposed between the objective lens and the reticle is an erector lens which is pivoted with at least one degree of freedom about a pivot point that lies between the erector lens and the objective lens. The erector lens is stabilized about the pivot point so as to effectively stabilize the image at the reticle.

3,504,958
TWO-DIMENSIONAL DIGITAL LIGHT-RAY DEFLECTION SYSTEMS

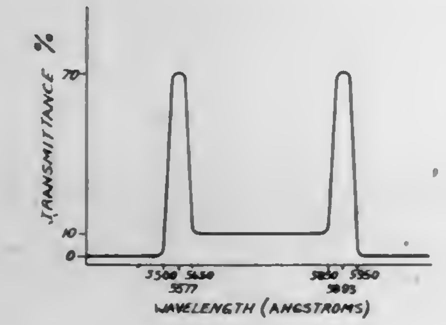
Simon Duinker, Hamburg-Bahrenfeld, and Uwe Schmidt, Hamburg-Wandsbek, Germany, assignors, by mesne assignments, to U.S. Philips Corporation, a corporation of Delaware
Filed Aug. 2, 1966, Ser. No. 569,649
Claims priority, application Germany, Aug. 10, 1965, P 37,428
Int. Cl. G02f *1/26;* **G02b** *5/04, 5/16*
U.S. Cl. 350—150 **4 Claims**



A digital deflection system in which a plane-polarized light-ray, for example, a laser beam, is deflected by one or more double refracting deflecting prisms in connection with associated electrically controlled polarization switching devices, the deflecting prisms being traversed by the deflected light ray several times and at different places after the direction of deflection of the ray has rotated through 90° about the optical axis of the deflection system prior to each passage through the prisms.

3,504,959
MULTI-SPIKE OPTICAL FILTER

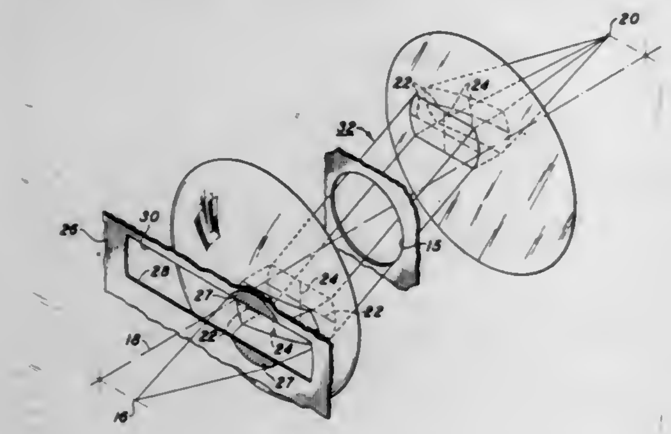
Graeme L. Hennessey, Acre Lane,
Ridgefield, Conn.
Filed May 9, 1966, Ser. No. 548,581
Int. Cl. G02b *5/28, 5/20, 5/22*
U.S. Cl. 350—166 11 Claims



An optical filter for transmitting radiation at a pair of closely spaced wavelengths while rejecting radiation between the two wavelengths as well as on either side of the two wavelengths. The filter is made up of a narrow band reflector and two bandpass filters, all placed in series. The narrow band reflector rejects radiation between the two wavelengths, one of the bandpass filters rejects radiation before the shorter wavelength and the other band-pass filter rejects radiation after the longer wavelength.

3,504,960
SAGITTAL RAY APERTURE STOP

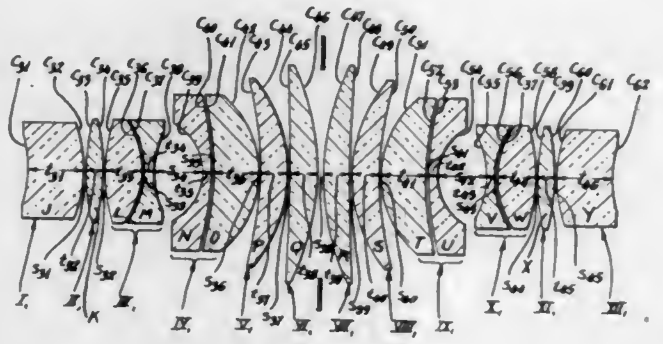
David C. Harper, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 11, 1966, Ser. No. 585,936
Int. Cl. G02b *9/00, 21/06;* **G02f** *1/30*
U.S. Cl. 350—205 7 Claims



An optical system for imaging a narrow format comprising lens means optically positioned to receive and project illumination rays from said narrow format onto an imaging plane, aperture stop means positioned in close proximity to said lens means to control illumination at said imaging plane, and masking means defining a narrow slit extending in a direction parallel to said narrow format and interposed in the optical path to reduce substantially sagittal rays at the image plane without affecting tangential rays thereat.

3,504,961
MODIFIED DOUBLE GAUSS OBJECTIVE

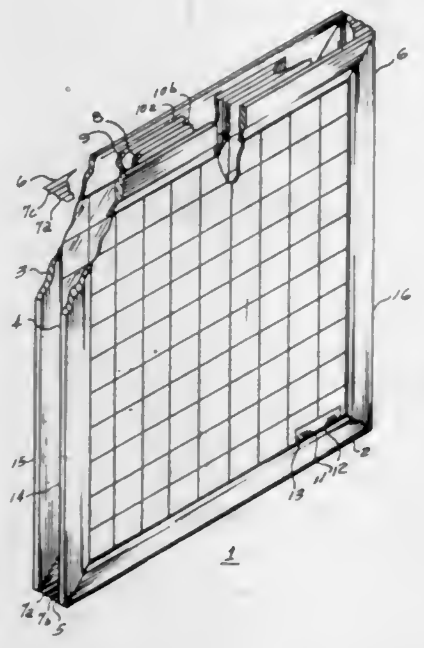
Jan Hoogland, Wilton, and Ellis I. Betensky, Ridgefield, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Apr. 1, 1968, Ser. No. 717,763
Int. Cl. G02b *9/62, 9/64, 11/34*
U.S. Cl. 350—214 4 Claims



A modified double Gauss type objective having five components is further modified by adding a sixth component. This sixth component is a relatively thick meniscus element having radii that are about equal, is convex to the front and is positioned behind the fifth component.

3,504,962
WINDOW BLIND APPARATUS

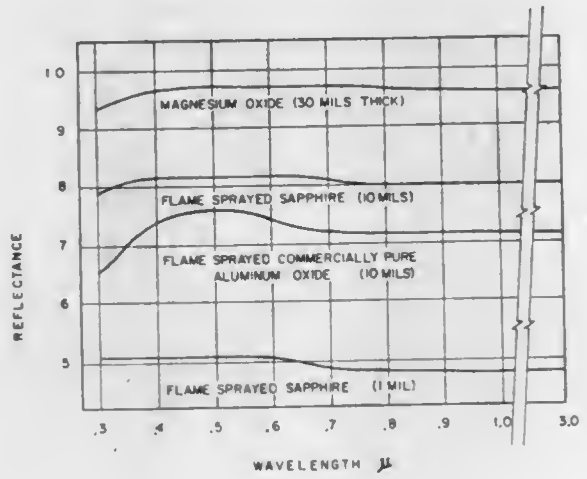
Thomas E. Shanley, 137 Beethoven St.,
Binghamton, N.Y. 13905
Filed June 30, 1967, Ser. No. 650,344
Int. Cl. G02b *27/00;* **G02t** *1/30*
U.S. Cl. 350—260 1 Claim



The invention of the present application relates to an apparatus for use as a combination storm window and window blind, and the like, comprised of a fixed frame including a light transmitting element having vertical columns and horizontal rows of alternately transparent and opaque areas and a relatively movable light transmitting element having vertical columns and horizontal rows of alternately successive opaque and transparent areas whereby the relative movement of said movable transmitting element is operative to vary the light transmitting characteristics of said apparatus.

3,504,963
FLAME-SPRAYED ALUMINUM OXIDE REFLECTIVE COATING

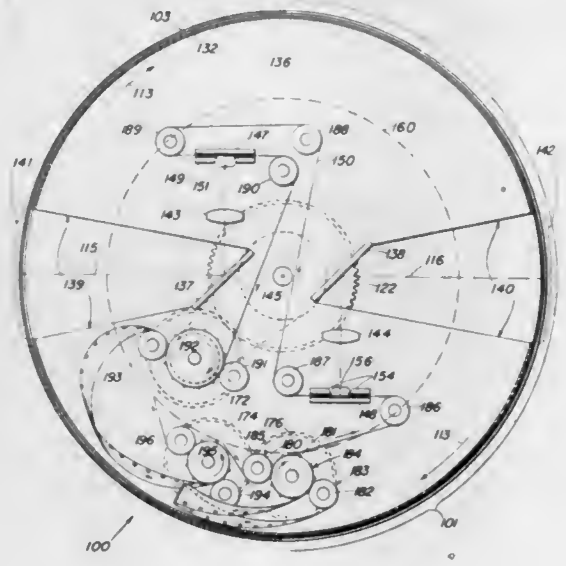
John M. Davies, Cochituate, and Walter Zagieboylo, Norfolk, Mass., assignors to the United States of America as represented by the Secretary of the Army
Continuation of application Ser. No. 406,626, Oct. 26, 1964. This application June 19, 1969, Ser. No. 842,768
Int. Cl. G02b *1/00*
U.S. Cl. 350—321 6 Claims



A hard, durable, diffuse reflecting surface or coating produced by flame spraying a synthetic sapphire (a pure mono-crystal of aluminum oxide) on a surface, said coating having a reflectance that deviates less than 4% over the wavelength range of from 0.3 to 3.0 microns. This is a continuation of Ser. No. 406,626, filed Oct. 26, 1964, now abandoned.

3,504,964
DEVICE FOR TAKING AND PROJECTING MOTION PICTURES

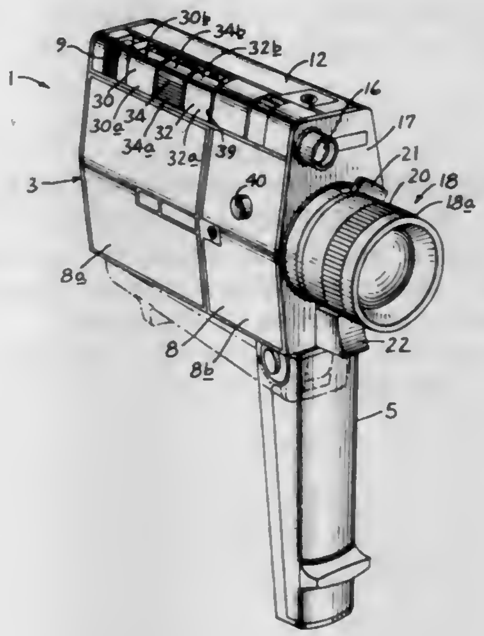
Maxim D. Persidsky, 554 9th Ave.,
San Francisco, Calif. 94118
Continuation-in-part of application Ser. No. 608,227, Jan. 9, 1967. This application Aug. 21, 1967, Ser. No. 663,928
Int. Cl. G03b *41/02, 37/00, 41/00*
U.S. Cl. 352—105 27 Claims



A panoramic motion picture device is provided which may be either a camera or a projector. The camera and projector are respectively provided to photograph and project through angles as great as 360°. The device comprises a plurality of substantially optically identical optical systems. Each of these systems comprises a film gate, a lens and one or more mirrors or other reflective surfaces optically on the object side of the lens in a camera. In a projector they are on the image side of the lens. All elements of the systems are substantially fixedly located in spaced relationship to each other and to an axis of rotation about which they are rotated. Each system is arranged to cause the effective second nodal point of the lens to fall on the axis although the lenses, film gates and reflecting elements themselves are spaced from the axis. A single web of film is moved continuously and non-intermittently past the film gates.

3,504,965
PORTABLE MOTION PICTURE CAMERA

Frank C. Lustig, Highland Park, Ill., assignor to Argus Incorporated, Chicago, Ill., a corporation of Delaware
Filed Apr. 28, 1966, Ser. No. 545,925
Int. Cl. G03b *3/06*
U.S. Cl. 352—140 6 Claims



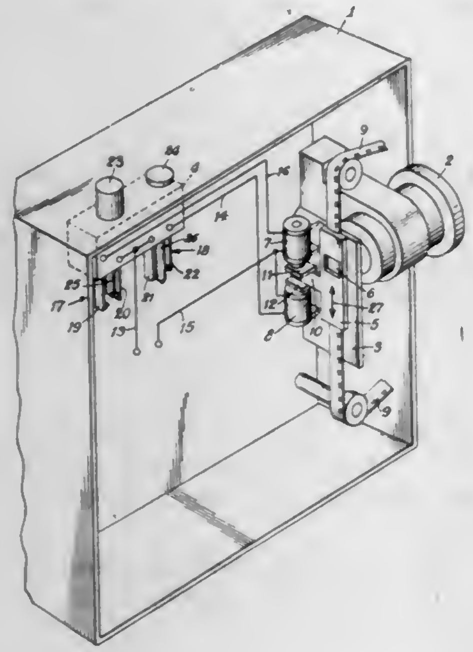
A hand held motion picture camera having a plurality of manual controls for various respective motor actuated elements all controls being positioned on a camera housing so that the operator can actuate one, or a plurality of said elements without shifting the position of his hands on the camera housing.

3,504,966
FILM PROJECTOR WITH AUTOMATIC CORRECTION OF THE FRAMING OF THE PICTURE

Dietrich Becker, Stuttgart-Mohringen, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany
Filed Nov. 6, 1967, Ser. No. 680,799
Claims priority, application Germany, Nov. 16, 1966, Z 10,918
Int. Cl. G03b *21/46*
U.S. Cl. 352—160 4 Claims

A film projector with automatic picture framing means and an operating device for driving the projector forwardly and reversely. A picture framing member is adapted to be electromagnetically adjusted by the same push-buttons which are used to operate the operating device.

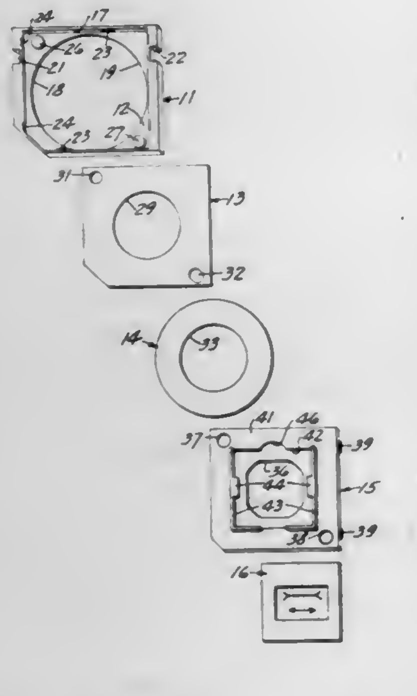
In a second embodiment of the invention, the cam-controlled film gripper device is electromagnetically adjusted whenever the operating device is operated to adjust or to frame the film relative to the picture window of the projector.



3,504,967

TRANSPARENCY AND SOUND TRACK SUPPORTING ASSEMBLY

Richard D. Hipp, Jr., Circle Pines, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 4, 1968, Ser. No. 718,855
Int. Cl. G03b *21/00, 31/06*
U.S. Cl. 353—120 **8 Claims**

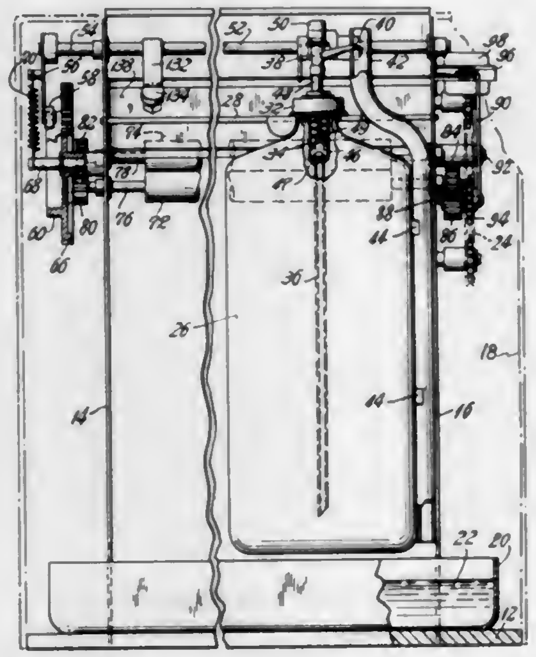


A transparency and sound track supporting assembly affording facile production of the assembly, and interchangeability and replacement of the transparency and of the sound track supporting medium of the assembly. The assembly comprises an outer frame, a sound track supporting member, a resilient pad, and a plate which snaps into a recess in said outer frame to retain the member and pad and which plate has a pocket to support a transparency.

3,504,968

TONER DISPENSING APPARATUS FOR ELECTROSTATIC COPYING MACHINES

George Matkovich, Stamford, and Walter J. Hanson, Old Greenwich, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed May 31, 1966, Ser. No. 553,822
Int. Cl. G03g *9/04, 15/00, 13/00*
U.S. Cl. 355—10 **4 Claims**

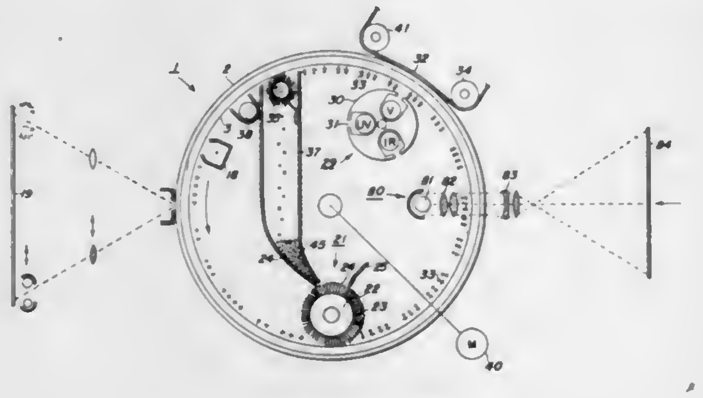


In combination with an electrostatic photocopy machine having a copy paper feeding means and a liquid toner developing means through which copy paper passes, a device for replenishing toner at a rate correlated with the rate at which toner is withdrawn from the developing solution. A cyclically operable means actuates a dispensing mechanism periodically while copy paper is being fed to dispense a metered quantity of toner into the developing means.

3,504,969

IMAGING APPARATUS

Robert W. Martel, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 2, 1966, Ser. No. 546,725
Int. Cl. G03g *15/00*
U.S. Cl. 355—16 **4 Claims**

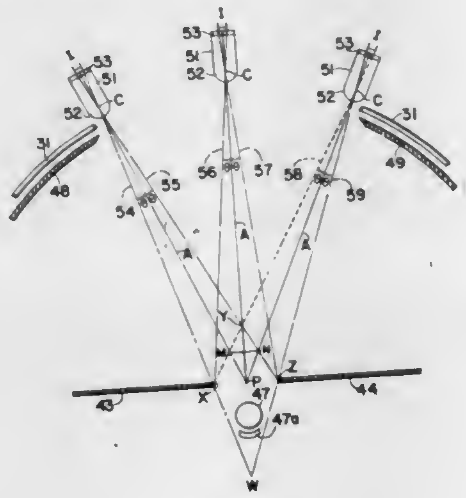


An image conversion system is disclosed which is capable of converting information in the form of uncontrolled originals into an image which may be reproduced utilizing conventional printout systems. A means for developing an electrostatic latent image using conventional techniques and means for exposing said resulting image to a radiation sensitive image support member are provided. The means for exposing said member comprises an infrared, an ultraviolet and visible radiation source.

3,504,970

PRINTING OF LENTICULAR FILMS

Gregory E. Lindin, Wellesley Hills, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed May 3, 1966, Ser. No. 547,251
Int. Cl. G03b *27/32, 27/46, 27/52*
U.S. Cl. 355—33 **13 Claims**

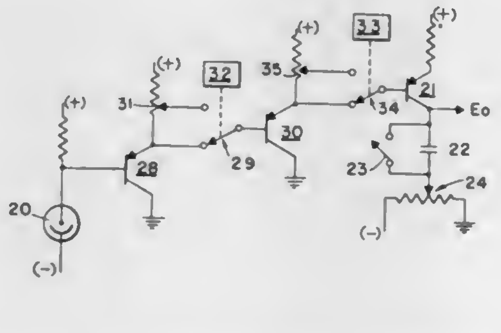


A selected portion of a photoresponsive element comprising a lenticular surface may be exposed by forming said element into an arc while said element is moving through an exposure area and exposing said photoresponsive element to a source of radiation actinic thereto, said source being so placed as to be incident only upon a preselected portion of said photoresponsive material.

3,504,971

EXPOSURE CONTROL FOR COLOR PRINTERS

Ellsworth Jacob McCune, Webster, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 22, 1968, Ser. No. 699,523
Int. Cl. G03b *27/76*
U.S. Cl. 355—38 **3 Claims**

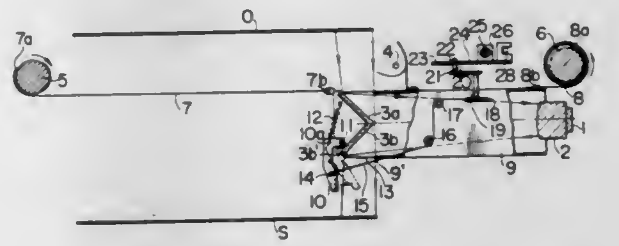


In a subtractive printer wherein actuators introduce a plurality of filters into the printing beam to terminate exposure to corresponding primary colors, an exposure control is provided which increases the exposure of a primary color in accordance with the amount of unwanted absorption of a particular filter which has been inserted. Summing amplifier means integrate the time during which each color is exposed, and the amplification of the summing amplifier means is varied in accordance with the amount of unwanted absorption of the light passing through the filter which is in the printing beam at the time.

3,504,972

EXPOSURE ADJUSTING APPARATUS FOR A DUPLICATOR

Shigeru Suzuki, Yokohama-shi, and Yutaka Koizumi, Tokyo, Japan, assignors to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed Sept. 28, 1967, Ser. No. 671,282
Claims priority, application Japan, Oct. 4, 1966, 41/65,272
Int. Cl. G03b *27/50*
U.S. Cl. 355—51 **4 Claims**

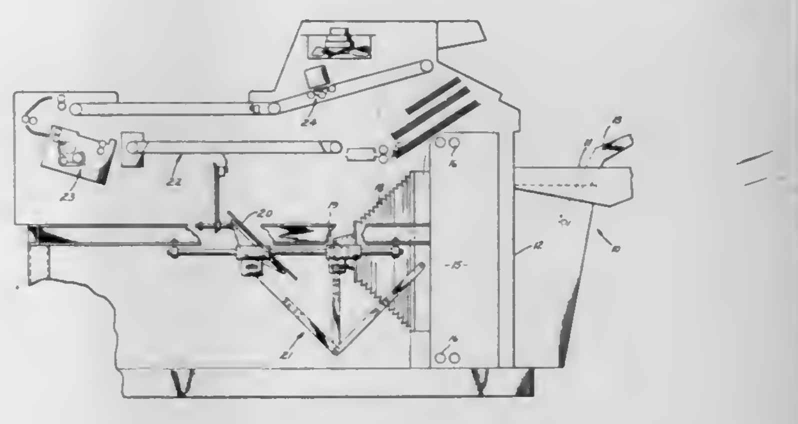


A duplicator and in particular an apparatus to adjust the exposure of a duplicator having a movable exposure apparatus which performs slit exposure on printing paper by moving between a stationary original and the printing paper. The movable exposure apparatus comprises a pivotal slit width adjusting plate which is connected by a string to an oscillatible member carrying a pin which is engaged in a displaceable engaging member when the exposure apparatus is in an initial position, the engaging member being preset from outside the duplicator to a position in which the oscillatible member causes the adjusting plate to occupy a position corresponding to a particular slot width.

3,504,973

COPYBOARD

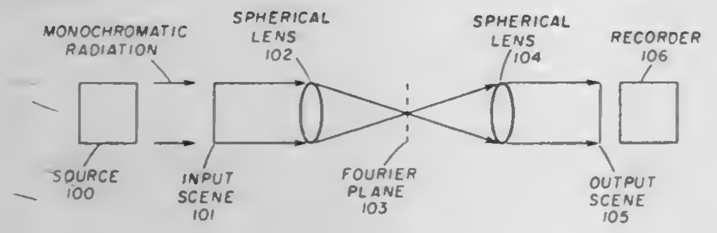
James A. Kolibas, Brookpark, and Darwin S. Crouser, North Canton, Ohio, assignor to Addressograph Multigraph Corporation, Cleveland, Ohio
Filed July 7, 1967, Ser. No. 651,733
Int. Cl. G03b *27/62, 27/64*
U.S. Cl. 355—75 **4 Claims**



In an environment of a process camera having a vertical reference plane beginning substantially at floor level, a copyboard is shown and described in two preferred embodiments. The first embodiment uses a track system though part of the copboard movement and supplies a compound linkage through the other part, for confinement of copyboard movement within allowable space limitations. The second embodiment provides a simplified overcenter linkage system and enables copyboard tilting to a sitdown composition position similar to a draftsman's drawing board.

3,504,974
GEOPHYSICAL DATA PROCESSING TECHNIQUE

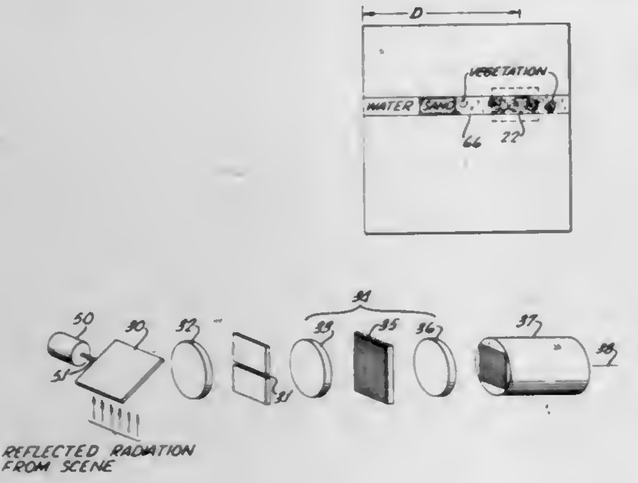
Carroll D. McClure, Frank J. McDonal, and William H. Ruehle, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed June 22, 1966, Ser. No. 559,462
Int. Cl. G06k *9/08;* **G01v** *1/00*
U.S. Cl. 356—71 **4 Claims**



The specification discloses a technique of optically processing sampled geophysical data obtained from measurements carried out spatially in two dimensions at spaced-apart positions. An input is produced comprising a mask having a plurality of variable density light transparency areas, each corresponding to one of the measuring positions. This input as well as a filter is inserted into an optical device for processing the data represented by the input. In another embodiment, the input comprises a mask having a plurality of variable density light transparency contour intervals produced from the sampled data.

3,504,975
IMAGE SPECTROPHOTOMETER FOR ANALYZING VEGETATION

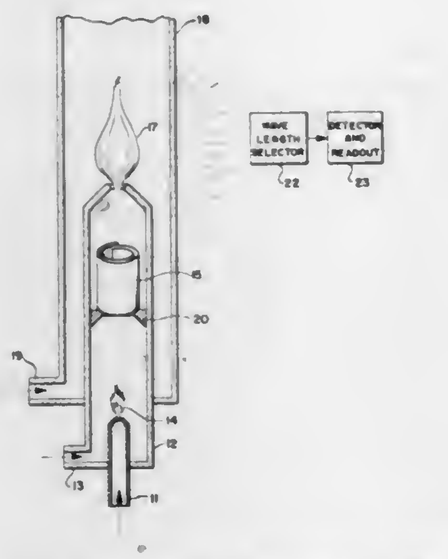
Peter G. White, Palos Verdes Peninsula, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Nov. 18, 1966, Ser. No. 595,428
Int. Cl. G01j *3/42;* **H04n** *3/08*
U.S. Cl. 356—83 **30 Claims**



Method and apparatus wherein an elemental image of a scene is optically formed. The elemental image is then dispensed into its spectrum which is focused onto the photosensitive surface of a scanning image tube. Scanning then takes place along selected linear paths corresponding to regions of substantially constant wavelengths of the spectrum formed in the photosensitive surface to produce an electrical waveform which varies in accordance with the intensity of the impinging radiation upon the photosensitive surface within the linear paths.

3,504,976
PROCESS AND APPARATUS FOR THE DETECTION OF HALOGENS

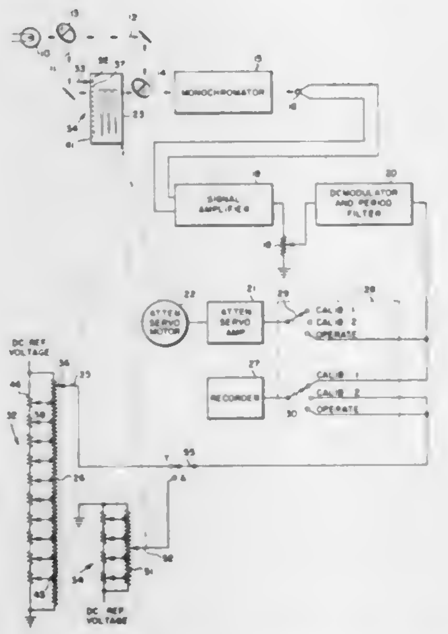
Paul T. Gilbert, Jr., Los Altos, Calif., assignor to Beckman Instruments Inc., a corporation of California
Filed May 4, 1966, Ser. No. 547,656
Int. Cl. G01j *3/30*
U.S. Cl. 356—87 **5 Claims**



A process and apparatus is disclosed affording an inexpensive and reliable means for the continuous monitoring of a test sample for the presence of a halogen or halogen compound. The sample, in vapor or gas form, is passed over a heated indium surface where the sample reacts with the indium to form a volatile indium halide. These indium halides are burned in a flame which imparts such energy to the indium halide as to cause them to photometrically radiate. Such radiation is spectrally unique to indium halides offering a distinctive means of detection both quantitatively and qualitatively with ability to discriminate against interfering compounds heretofore not possible.

3,504,977
METHOD FOR CALIBRATING AND COMPENSATED OPTICAL NULL SPECTROPHOTOMETER

Kenneth V. Matthews, Garden Grove, Calif., assignor to Beckman Instruments, Inc. a corporation of California
Filed June 30, 1967, Ser. No. 650,412
Int. Cl. G01j *3/42*
U.S. Cl. 356—89 **6 Claims**

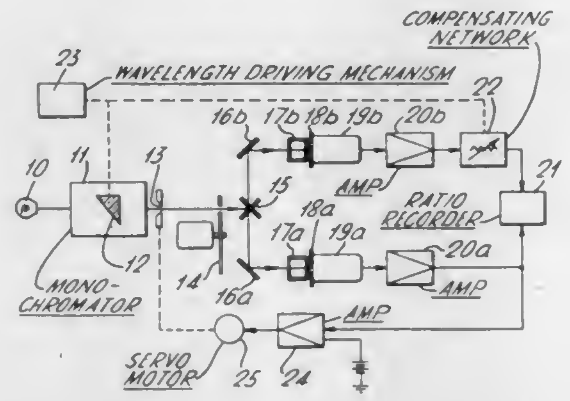


Method and apparatus for calibrating the attenuator transmitting potentiometer such that attenuation is accurately indicated are disclosed. A standard double beam optical null spectrophotometer is modified by tapping the attenuator transmitting potentiometer at regular intervals. The taps are connected to associated low resistance trimmer potentiometers such that the potential at the tap may be adjusted to any desired value. A pair of mechanically coupled three-position mode switches are interposed such that in the first two positions the attenuator servo amplifier is disconnected and inoperative and in the third position is connected in the feedback loop in the normal double beam operating mode. In the first position the recorder is connected to the output of the detector and in the second two positions, to the transmitting potentiometer.

To calibrate the instrument, standard 100% calibration of the instrument in the single beam mode is made. The attenuator is then progressively moved into the beam in regular steps coresponding to the tapped positions on the transmitting potentiometer the single beam transmittance measured in the single beam with the mode switch in the first position, the mode switch moved to the second position and the trimmers adjusted to give the same recorder reading.

3,504,978
PLURAL BEAM SPECTROPHOTOMETER WITH A DIFFUSION PLATE BETWEEN EACH CELL AND DETECTOR

Kazuo Shibata, Tokyo, and Yoshio Fukuda, Osaka, Japan, assignors to Shimadzu Seisakusho Ltd., Kyoto, Japan, a corporation of Japan
Filed Feb. 3, 1966, Ser. No. 524,693
Claims priority, application Japan, Feb. 4, 1965, 40/5,863
Int. Cl. G01j *3/42*
U.S. Cl. 356—95 **6 Claims**

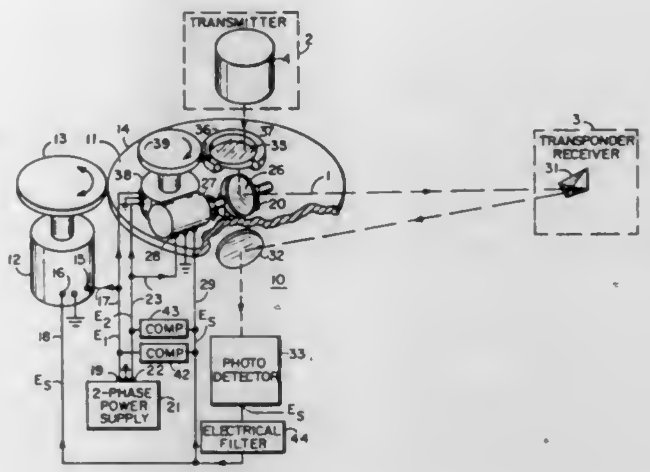


A spectrophotometer having a source of monochromatic light, a prism to disperse the light into different wavelengths, a beam splitter and two reflectors to channel the light beams into two photomultiplier tubes and cells containing a reference material and a sample material, respectively. Mounted between and in planar contact with each cell and tube combination is a diffusion plate. The signals of the tubes pass through amplifiers and into a ratio recorder which is connected with a wavelength driving mechanism for adjusting the prism.

3,504,979
OPTICAL COMMUNICATION SYSTEM

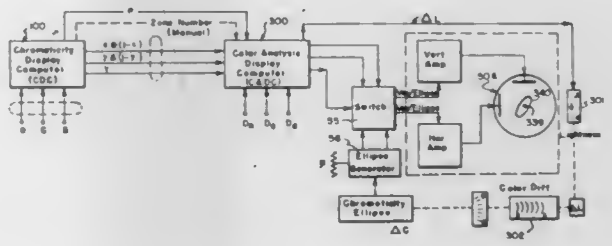
Joseph F. Stephany, Rochester, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,516
Int. Cl. G01b *11/27*
U.S. Cl. 356—172 **1 Claim**

A tracking system for locking a laser beam on a reflecting target is described. An optical wedge which is driven by a motor deflects the beam in a circular path. An error signal is derived from the reflected beam and is applied to a servo system for deflecting the beam such that it is locked on the target.



3,504,980
COLOR ANALYZER AND SHADE SORTING APPARATUS

George P. Bentley, Amherst, Charles A. Logan, Sharon, and Kenneth D. Chickering, Sunderland, Mass., assignors to Kollmorgen Corporation, Garden City, N.Y., a corporation of New York
Filed Jan. 26, 1966, Ser. No. 523,075
Int. Cl. G01j *3/46;* **G06g** *7/48, 7/26*
U.S. Cl. 356—176 **6 Claims**

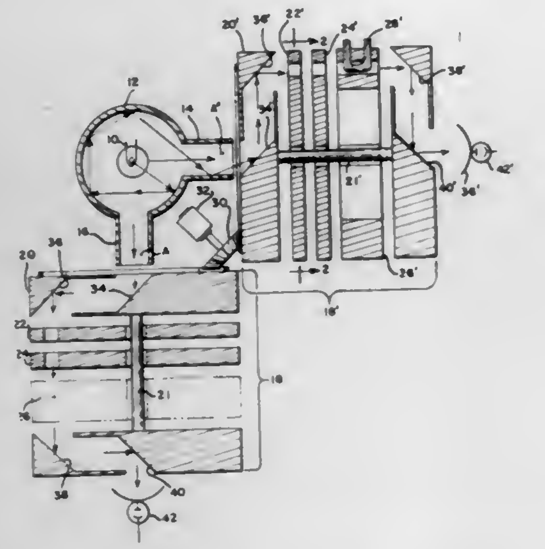


Color computer apparatus is provided to identify the x y coordinate values and the visual tolerance zone for a given set of tristimuli values. Additional computer and display apparatus is provided for receiving the differential tristimulus signals from an operating colorimeter and for computing and displaying the differential chroma error (ΔC) differential lightness error (ΔL) and total differential error (ΔE) in relation to units of visibility for the particular color reference of interest.

3,504,981
DUAL COLORIMETER SYSTEM FOR SEQUENTIAL ANALYSIS OF A PLURALITY OF SAMPLES

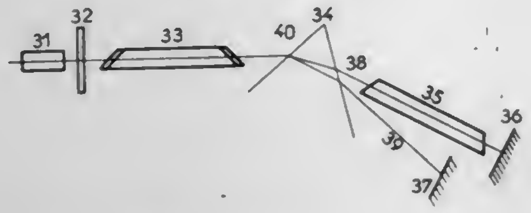
Harry H. Malvin, 104 Mendoza St., San Antonio, Tex. 78235
Filed Aug. 9, 1965, Ser. No. 478,495
Int. Cl. G01j *3/48, 3/46, 3/34*
U.S. Cl. 356—185 **2 Claims**

A pair of colorimeter systems, each comprising a circular cuvette holder a prism system and a photoelectric cell, mounted on 90° axes. A common mechanism rotates the two systems synchronously, and a common light source provides light for both. Beams are directed from the light source to be intercepted individually by the individual cuvettes placed at the periphery of the cuvette holders. The two systems accommodate respectively, a standard beam, a control cell, and a beam of the same intensity beamed successively through specimens under examination.



3,504,982
LASER DEVICE FOR MEASURING VARIATIONS OF A SECOND WAVELENGTH BY MONITORING A FIRST WAVELENGTH

Jean Robieux, Leroux Chatenay-Malabry, France, assignor to Compagnie Generale d'Electricite, Paris, France
Filed Jan. 22, 1965, Ser. No. 427,318
Int. Cl. G01n *21/06, 21/22;* **H01s** *3/00*
U.S. Cl. 356—201 **5 Claims**

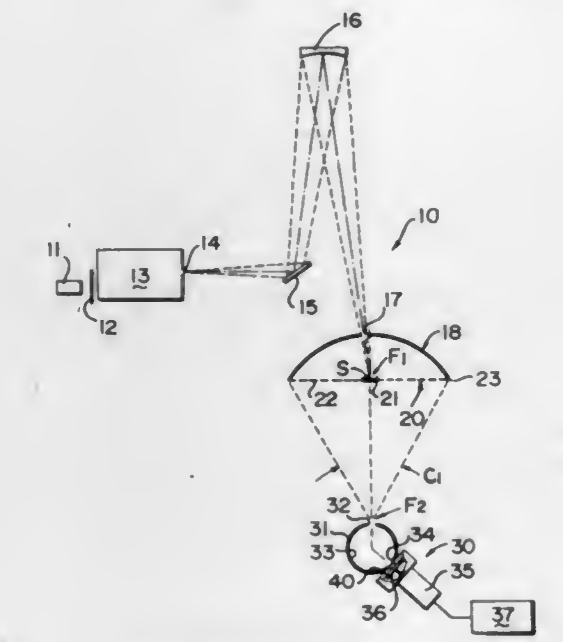


Arrangement for and method of measuring variations in intensity of a first radiation for which there is no sensitive and precise measuring device, by transposition on a second radiation in tight correlation with the first radiation, the second radiation enabling measurement by means of sensitive and precise apparatus, the first and second radiations being generated by a single laser tube forming with a plurality of mirrors respective first and second optical resonators and including a dispersion device for separating the radiations from the laser tube into said first and second radiations for application to said first and second optical resonators, said first optical resonator including a means for absorption of said first radiation.

3,504,983
ELLIPSOIDAL MIRROR REFLECTOMETER INCLUDING MEANS FOR AVERAGING THE RADIATION REFLECTED FROM THE SAMPLE

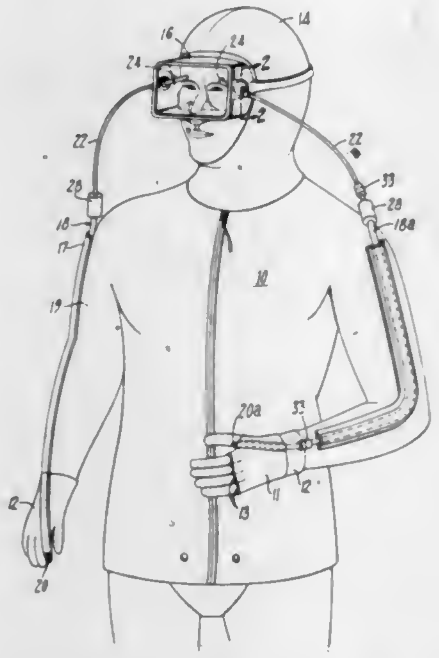
Joseph C. Richmond, Chevy Chase, and Stuart Thomas Dunn, Silver Spring, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 31, 1966, Ser. No. 553,891
Int. Cl. G01n *21/45*
U.S. Cl. 356—209 **10 Claims**

An ellipsoidal mirror reflectometer for measuring the reflectance of materials includes a source of monochromatic light, an ellipsoidal mirror reflector with an aperture therein, a specimen support position at the first focal point of said reflector, means for directing the monochromatic light through the aperture onto the support, and an averaging sphere detector positioned adjacent a second focal point of the reflector, the first and second focal points being on a common axis normal to the first focal plane of the reflector. A variety of shields are utilized with the reflectometer to provide a more accurate system and also to permit the determination of flux losses in the system.



3,504,984
GARMENT

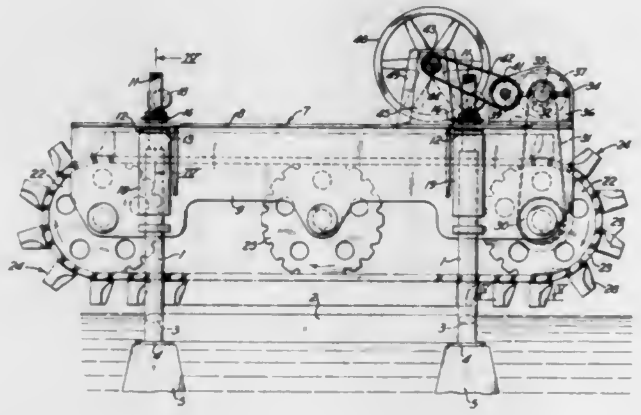
Walter R. Bush, West Simsbury, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Mar. 13, 1967, Ser. No. 622,484
Int. Cl. G02b *27/32, 5/14;* **B63c** *11/00*
U.S. Cl. 356—256 **7 Claims**



A wet suit having associated pairs of fiber optics bundles secured to is sleeves and gloves with the object ends thereof terminating adjacent the ends of the finger stalls of the gloves or the web between the thumb and forefinger to automatically point the object ends of the bundles toward an object to be viewed by the natural movement of the user. A light is provided at the other end of one of the bundles to illuminate the object and the second end of the other bundle is mounted by the head piece to selectively support the viewing end thereof in and out of the field of view of the user. The fiber optics bundles may be segmented and indexed to facilitate removal and assembly of the head piece and gloves of the wet suit.

3,504,985
WAVE MOTOR

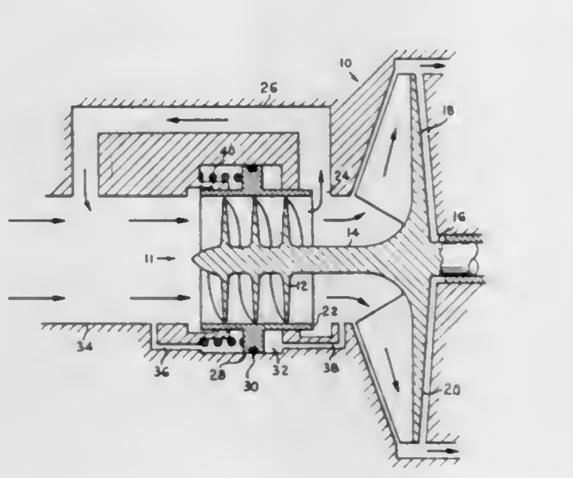
Samuel Charles Fisher, Apt. 302A1, 1810 National Road Wheeling, W. Va. 26003
Filed Mar. 18, 1968, Ser. No. 713,856
Int. Cl. F03b *13/12;* **F04b** *17/00, 35/00*
U.S. Cl. 415—5 **10 Claims**



An elongated frame, supported by a standard adapted to be rigidly mounted in a body of water with the frame extending away from the shore, supports sprockets at its opposite ends. Extending around the sprockets is an endless chain on which buckets are mounted. The frame can be raised and lowered to locate the buckets carried by the lower length of the chain at a level where waves will move them toward the shore intermittently. A speed-increasing unit on the frame is driven from one of the sprockets and in turn drives a flywheel through an overrunning clutch.

3,504,986
WIDE RANGE INDUCER

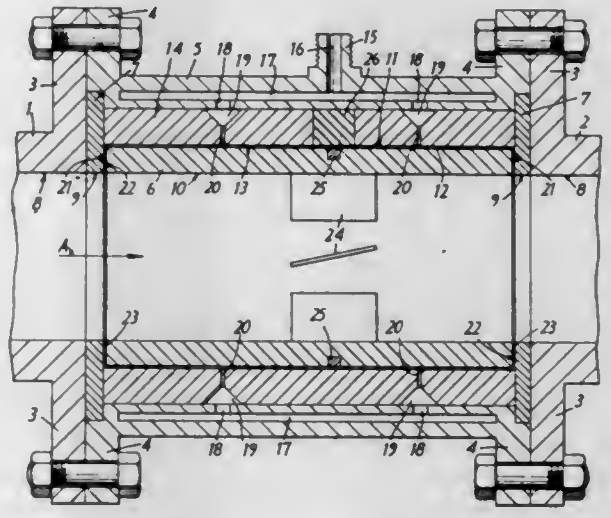
Clive Jackson, Clayville, N.Y., assignor to The Bendix Corporation, a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,427
Int. Cl. F04d *15/00*
U.S. Cl. 415—11 **10 Claims**



An inducer for use in conjunction with high speed fluid pumps required to operate over a wide flow range at high suction specific speeds. By placing pressure sensing passages upstream and downstream of the inducer, a pressure gradient can be determined and when pressure downstream becomes high, indicating reduced flow from the pump, this high pressure can operate to open a fluid return passage so that fluid may be recirculated from the downstream side of the inducer to the upstream side of the inducer.

3,504,987
GAS BEARING ROTORS

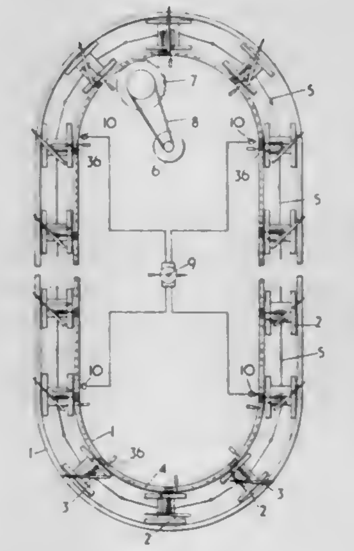
Colin W. Dee, Bournemouth, England, assignor to Gilbert Colin Davis, Johannesburg, Transvaal, Republic of South Africa
Continuation-in-part of application Ser. No. 680,405, Nov. 3, 1967. This application Nov. 20, 1967, Ser. No. 684,317
Claims priority, application Great Britain, Nov. 23, 1966, 52,455/66
Int. Cl. F01d *15/06;* **G01f** *1/00*
U.S. Cl. 415—91 **4 Claims**



This invention relates to devices of the kind in which a hollow first member is carried by fluid bearing means within a second member, its object being to provide improvements resulting in particularly low frictional losses.

3,504,988
MEANS FOR HARNESSING NATURAL ENERGY

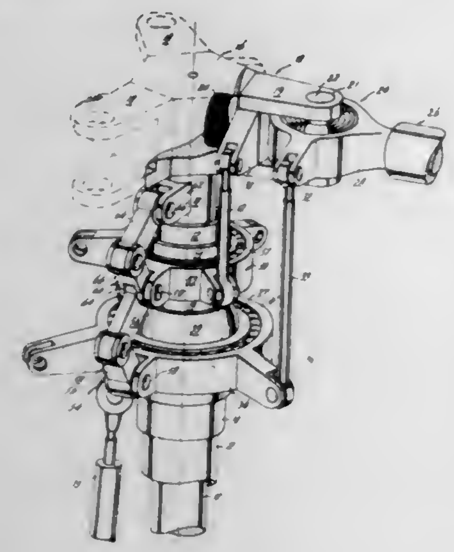
Herbert Alfred Stenner, 8 Lloyd Square, Finsbury, London, E.C.1, England
Filed May 7, 1968, Ser. No. 727,255
Claims priority, application Great Britain, May 8, 1967, 21,232
Int. Cl. F03d *5/04*
U.S. Cl. 416—9 **7 Claims**



A device for harnessing wind energy in which an endless flexible band adapted to run around a closed circuit has a series of wind resistant devices attached thereto in such a way that impingement of air currents on the devices causes the band to travel around the closed circuit, thus driving transmission means, adapted to transmit the movement of the band to an electrical generator.

3,504,989
ROTOR SYSTEM

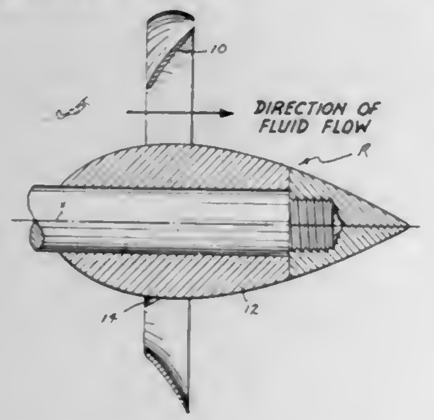
Adrian V. Kisovec, Morton, Pa., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,175
Int. Cl. B64c *11/06*
U.S. Cl. 416—114 **22 Claims**



Collective pitch effected by concurrent movement of first and second swashplate assemblies whereby a blade and its mounting assembly are rotated through equal pitch angles while cyclic pitch is achieved by movement of one swashplate and the blade alone.

3,504,990
UNDULATING FLOW PROMOTING ROTOR AND ASSEMBLIES EMBODYING SAME

David B. Sugden, 33 Kingston Heights, Kingston Beach, Tasmania, Australia
Continuation of application Ser. No. 637,185, May 9, 1967. This application May 26, 1969, Ser. No. 828,809
Int. Cl. B63h *7/02, 1/04*
U.S. Cl. 416—176 **13 Claims**

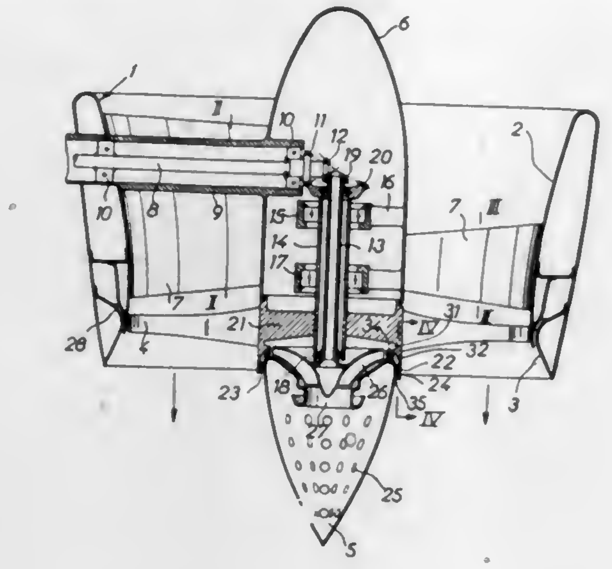


A propeller, impeller, pump or turbine rotor of varying axial section shape from each axial section station to the next about the rotational axis, collectively forming a continuous smoothly undulating sinuous working surface. Vehicles, pumps, motors, and a ground effect machine incorporating such a rotor.

3,504,991
PROPELLER HUB BLOWING DEVICE

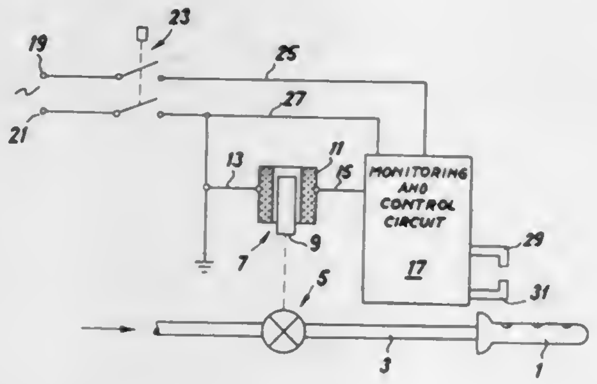
Jean Soulez-Lariviere, La Celle-Saint-Cloud, and Bernard Biot, Vernouillet, France, assignors to Bertin & Cie, a French company
Filed Dec. 22, 1967, Ser. No. 692,958
Claims priority, application France, Dec. 26, 1966, 88,790
Int. Cl. B64c *11/02*
U.S. Cl. 416—90 **4 Claims**

The invention comprehends a propeller hub blowing device comprising a propeller, a hub, therefor, means defining a blowing slot disposed tangentially relative to a downstream section of said hub, a pressure fluid generator disposed in said hub, means for rotating said propeller, means for conveying power from said propeller rotating means to said generator to operate said generator, said generator being operable to feed pressurized fluid to said blowing slot.



3,504,992
PULSED SPARK GAS IGNITION AND FLAME MONITORING SYSTEM

Lyman H. Walbridge, Ashland, Mass., assignor to Fenwal Incorporated, Ashland, Mass., a corporation of Massachusetts
Original application Apr. 5 1966, Ser. No. 540,333, now Patent No. 3,384,439. Divided and this application Feb. 14, 1968, Ser. No. 705,474
Int. Cl. F23n *5/02*
U.S. Cl. 431—26 **5 Claims**

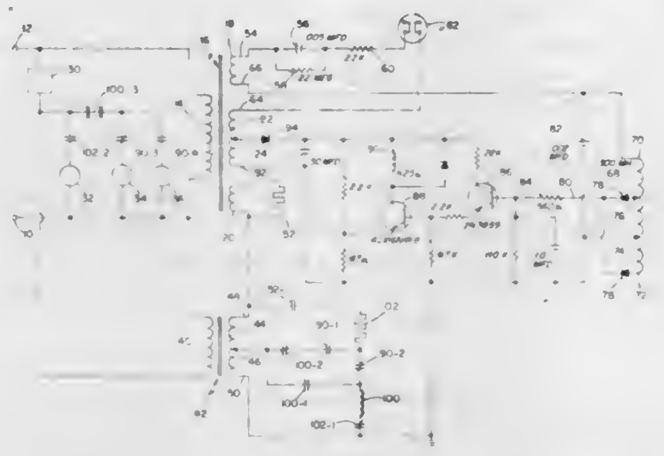


An ignition and fuel control system for gas burners including ignition electrodes, pulse generating means for applying spaced unipolar voltage pulses to said electrodes, a fuel supply valve, and means controlled by operation of the pulse generating means and by a flame detector for controlling the valve. The full specification should be consulted for an understanding of the invention.

3,504,993
COMBUSTION CONTROL CIRCUIT

Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts
Filed Mar. 18, 1968, Ser. No. 713,755
Int. Cl. F23n *5/24*
U.S. Cl. 431—26 **2 Claims**

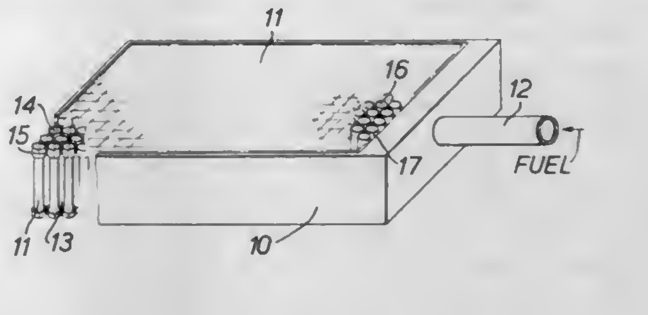
A combustion control system includes a main control relay; an ultraviolet radiation sensor tube and electronic circuitry connected to the sensor for operating a flame relay; fuel and ignition control elements; and an operating control. Two transformers are connected to the energizing terminals of the system, a first transformer that has its primary winding connected directly to those terminals and a second transformer that has its primary winding connected to those terminals through the operating control. The first transformer has two 280 volt secondary windings across which are connected the ultraviolet radiation sensor tube and a readout inductor that couples an avalanche breakdown signal from that tube to the flame relay circuitry. The second transformer has an 18 volt secondary winding across which is connected the main control relay.



3,504,994
BURNER FOR USE WITH FLUID FUELS

Denis Henry Desty, Sunbury-on-Thames, and David Montagu Whitehead, Camberley, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England
Filed Dec. 28, 1967, Ser. No. 694,319
Claims priority, application Great Britain, Jan. 10, 1967, 1,247/67; Sept. 29, 1967, 44,376/67
Int. Cl. F23c *5/00*
U.S. Cl. 431—174 **23 Claims**

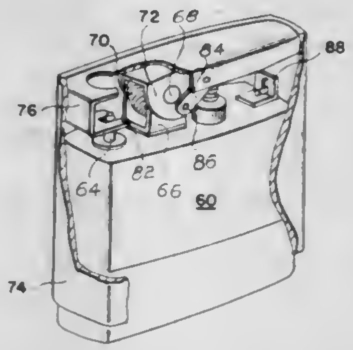
A burner for fluid fluels which comprises a plurality of combustion air tubes which pass through a fuel chamber having fuel outlet passages. The combustion air tubes convey air and the fuel outlet passages convey fuel to a combustion zone.



Preferably the cross sectional area of the bore of each combustion air tube is 0.01–1.0 cm.^{2} where it opens into the combustion zone and the bores of the combustion air tubes account for at least 25% of the surface area of the burner adjacent to the combustion zone.

3,504,995
LIGHTER WITH ENERGY BUILDUP MECHANISM

Yoshio Kanamaru, Tokyo, Japan, assignor to Kanamaru Shoten, Ltd., Tokyo, Japan
Filed Aug. 24, 1967, Ser. No. 663,084
Int. Cl. F23q *2/16*
U.S. Cl. 431—254 **6 Claims**



Automatic lighter featuring depressible action and energy storing mechanism.

CHEMICAL

3,504,996
DYEING OF POLYESTER AND CELLULOSE FIBER BLENDS WITH A SILICONE-CONTAINING SOLUTION OF A REACTIVE DYE AND A DISPERSE DYE AND AN AMINOPLAST PRECURSOR TREATMENT THEREOF

Ian Geoffrey McMullen, Ian Estwick Haden, and Ralph Broadhurst, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Continuation-in-part of application Ser. No. 362,173, Apr. 23, 1964. This application Apr. 15, 1969, Ser. No. 816,422
Claims priority, application Great Britain, Apr. 23, 1963, 15,977/63
Int. Cl. D06p *5/08*
U.S. Cl. 8—17 **4 Claims**

A process for the simultaneous dyeing, water-proofing and resin treatment of fabrics containing mixtures of polyester and/or cellulose tri-acetate fibers, cellulosic fibers, which react with cellulose-reactive dyestuffs and the aforesaid resin-forming composition, said process comprising treating said fabrics in an aqueous medium comprising at least a silicone water-proofing composition, an alkaline catalyst, a dyestuff which dyes each of the fibers in the fabric, and stiffening resin, followed by drying the treated fabric and then heat treating the fabric at a temperature of at least 100° C.

3,504,997
PROCESS FOR DYEING AND PRINTING ANIONIC POLYMERIC FIBERS

Harry Foster Clapham, New Castle County, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 331,104, Ser. No. 331,107, and Ser. No. 331,125, Dec. 17, 1963. This application Mar. 29, 1967, Ser. No. 626,685
Int. Cl. D06p *3/82*
U.S. Cl. 8—21 **9 Claims**

Dyeing and printing anionic polymeric fibers with an aqueous dispersion of a heteropoly acid complex of a basic dye at a pH of 2 to 7 and a temperature up to 170° F., followed by development at 190° to 230° F., whereby the reaction which forms said basic dye complex is reversed and the parent basic dye is formed quantitatively on the anionic polymeric fibers. Novel heteropoly acid complexes of pendant basic azo and anthraquinone dyes.

3,504,998

DYEING TEXTILE COATED WITH AN AMINO-ETHYLAMINOPROPYL TRIALKOXY SILANE

John L. Speier, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of applications Ser. No. 753,115, and Ser. No. 753,153, Aug. 4, 1958. This application May 13, 1960, Ser. No. 28,852

Int. Cl. D06p *1/36, 3/20, 3/64*

U.S. Cl. 8—31 **7 Claims**

Textile such as cotton, linen, wool, silk, acrylic fibers, polyester fibers, acetate fibers, nylon and polyolefin fibers, plastic coated metal fibers and metal coated plastic fibers are coated with a compound having the following formula wherein R is a short chain alkyl group:

$$(RO)_3{\equiv}Si{-}(CH_2)_3{-}NH(CH_2)_2{-}NH_2$$

and then colored with dyes, pigments and lakes of all types. Specifically, C.I. 14905, C.I. 16105, C.I. 13361, C.I. 14880, C.I. 61105, and C.I. 11005 of the acid, metallizable azo and disperse types are used.

3,504,999

PROCESS FOR DYEING TEXTILE FIBER MATERIALS

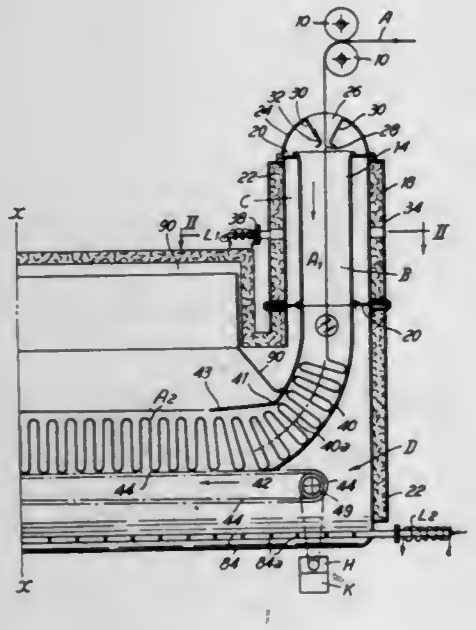
Leo Drago, Schio, Italy, assignor to Ilma Industria Lavorazioni Metalli Antiacidi S.A.S., Schio, Italy, and J. R. Geigy A.G., Basel, Switzerland

Application Oct. 4, 1965, Ser. No. 492,725, now Patent No. 3,326,022, dated June 20, 1967, which is a continuation-in-part of application Ser. No. 338,381, Jan. 17, 1964. Divided and this application Feb. 15, 1967, Ser. No. 624,113

Claims priority, application Italy, July 1, 1963, 36,702/63

Int. Cl. D06p *3/14*

U.S. Cl. 8—54 **6 Claims**



A process for pad-dyeing of slubbing or tow is provided wherein the slubbing in saturated with a padding liquor which is then prefixed on the fibers by thermal treatment thereof with saturated steam while the slubbing is squeezed in a downward moving path and in a loose state. The prefixed material is deflected from its downward path into a generally horizontal path while it is simultaneously formed into uniform vertical folds. Thereafter the prefixed and folded material is subjected to a second thermal treatment with steam.

3,505,000

PROCESS FOR IMPRESSING EMBOSSED SEERSUCKER ON CREPE DESIGN OR PATTERN ON KNITTED FABRICS OF POLYVINYL ALCOHOL FIBERS

Koji Shinmura, Yao-shi, and Shigeyuki Kawai, Kyoto, Japan, assignors to Nagase & Co., Ltd., Osaka, Japan, a corporation of Japan, and Nihon Vinylon Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,561

Int. Cl. D06q *1/00*

U.S. Cl. 8—114.5 **2 Claims**

Woven or knitted piece goods of polyvinyl alcohol fibers having formalized degree of 0–40% (mol) are printed with a printing paste admixed with a benzamide or alkylbenzamide before steaming to impress embossed seersucker or crepe design or pattern thereon.

3,505,001

PROCESS FOR TREATING CELLULOSIC MATERIALS

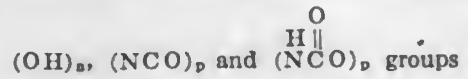
George M. Wagner, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 26, 1965, Ser. No. 510,062

Int. Cl. D06m *13/34*

U.S. Cl. 8—116.2 **6 Claims**

A process for making cellulosic materials water repellent by treating them with a solution of a polyhydroxy-modified isocyanate composition containing



$$(OH)_n,\ (NCO)_p \text{ and } (\overset{H}{N}\overset{O}{\overset{\|}{C}}O)_p \text{ groups}$$

wherein *n* is a number from 0 to 4.5, *p* is a number from 1.5 to 6 and $n+p$ is a number from 3 to 6, the polyhydroxy-modified isocyanate being the reaction product of a polyhydroxy compound containing *m* hydroxy groups and a diisocyanate, which reactants are in a ratio of one mole of polyhydroxy compound to $m-n$ moles of diisocyanate, wherein *m* is a number from 3 to 6, *n* is a number from 0 to 4.5 and $m-n$ is at least 1.5, and, thereafter, curing the thus-treated material with water.

3,505,002

METHOD FOR IMPROVING WET CREASE RECOVERY

Everett H. Hinton, Jr., Vernon C. Smith, and Robert L. Jones, Greensboro, N.C., assignors to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

No Drawing. Filed Dec. 21, 1965, Ser. No. 515,480

Int. Cl. D06m *13/14, 13/34*

U.S. Cl. 8—116.3 **1 Claim**

A process for increasing the wet crease recovery of a cellulosic textile which comprises treating the same with a nitrogenous product which has a reactive nitrogen and film-forming properties, thereafter wetting and swelling the textile, and then treating the wet, swollen textile in an acidified dehydrating formaldehyde solution.

3,505,003

METHOD OF TREATING TEXTILE MATERIALS

William J. Vullo, Tonawanda, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,082

Int. Cl. D06m *13/00, 13/26*

U.S. Cl. 8—120 **10 Claims**

A method for improving wrinkle and flame resistance in textile materials by reacting the textile materials with alkyl vinyl phosphonium salts in the presence of a basic catalyst.

3,505,004

WASHING AND LIKE TREATMENTS OF TEXTILE FIBRES AND MATERIALS

Allan Frederick Pfeil, Deptford, London, England, assignor to J. Stone & Company (Deptford) Limited, Deptford, London, England

Filed Apr. 4, 1966, Ser. No. 539,830

Claims priority, application Great Britain, Apr. 22, 1965, 17,020/65

Int. Cl. D06l *1/02*

U.S. Cl. 8—137 **11 Claims**

A two-step cleaning process for textile materials in which a surfactant is applied with a high concentration and low energy initially and thereafter a surfactant is applied with a low concentration and high energy.

3,505,005

DRY CLEANING METHOD

Herman Spencer Gilbert, Angleton, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 8, 1965, Ser. No. 431,206

Int. Cl. D06l *1/04;* **C11d** *7/50*

U.S. Cl. 8—142 **5 Claims**

The present invention concerns the method of contacting a dry cleaning solvent formulation after use to the action of a cation exchange resin or a chelating agent to remove or chemically bind the metal ions in said solvent formulation in a form such that they are removed from the solvent formulation before the formulation is reused.

3,505,006

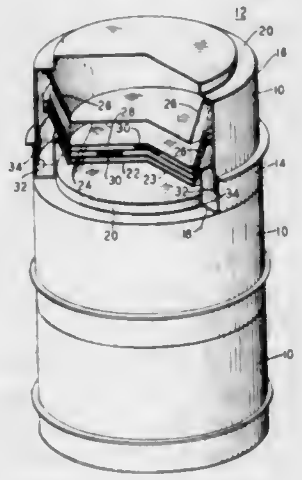
STORAGE ASSEMBLIES

Malcolm L. White, Bethlehem, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill., N.J., a corporation of New York

Filed Dec. 29, 1966, Ser. No. 605,873

Int. Cl. B65d *21/02*

U.S. Cl. 21—61 **13 Claims**



Inside a closed and degreased aluminum can, stacked nickel pans having degreased and air-fired surfaces meet each other along their respective side walls and form between their bottoms shallow spaces for holding polished semiconductor wafers.

3,505,007

NIPPLE STERILIZER

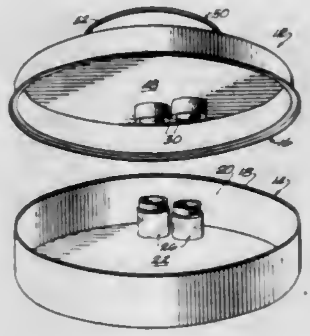
Marcia Ross Green 801 Fairway Drive, Miami Beach, Fla. 33141

Filed Apr. 13, 1967, Ser. No. 630,717

Int. Cl. A61l *3/00*

U.S. Cl. 21—78 **7 Claims**

A nipple sterilizer including a pan with a companionate lid and a plurality of nipple containers in the pan, each container being sized to receive a nipple and ring assembly for baby bottles, and means on the lid to hold a cap for each container so that when the pan and lid are in closing relation, heated water in the pan will cause vapors to sterilize the assemblies so that when the lid is removed a cap may be secured over each of the containers to maintain the assembly in a sterilized state for subsequent use by a mother.



3,505,008

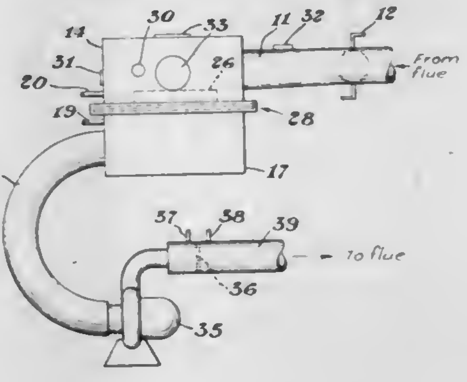
SEPARATION OF FLY ASH AND SULFUR DIOXIDE FROM FLUE GASES

Ludo K. Frevel, Midland, and Leonard J. Kressley, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 678,922

Int. Cl. B01d *53/34, 53/04*

U.S. Cl. 23—2 **15 Claims**



Method of removing fly ash and acidic gases such as sulfur dioxide from the gases which comprises passing the flue gases through a thin porous bed of alkali metal bicarbonate crystals of a mesh size predominantly in the range of 20 to about 120 mesh at a temperature between about 0° C. and 125° C.

3,505,009

METHOD OF MANUFACTURING SODIUM CARBONATE

Marina Adriana van Damme-van Weele, Hengelo, and Bernardus G. Wienk, Oldenzaal, Netherlands, assignors to N.V. Koninklijke Nederlandsche Zoutindustrie, Hengelo, Netherlands

No Drawing. Filed Oct. 16, 1967, Ser. No. 675,333

Claims priority, application Netherlands, Oct. 17, 1966, 6614553

Int. Cl. C01d *7/18, 7/12*

U.S. Cl. 23—65 **3 Claims**

A method of manufacturing sodium carbonate by the ammonia-soda process in which sodium hydroxide is used in addition to sodium chloride as a starting material, and in which the sodium hydroxide is entirely or partially precarbonated to Na_2CO_3 with carbon dioxide gas, and in which that part of the mother liquor of the sodium bicarbonate produced in a production tower is recycled and is incorporated into the feed mixture for the production tower.

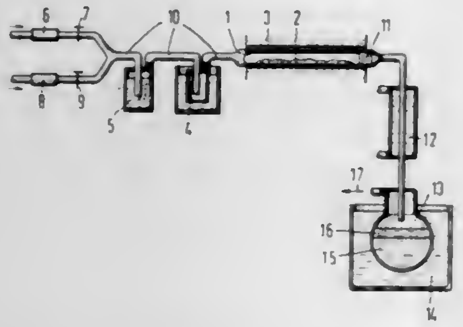
3,505,010
MANUFACTURE OF AMMONIUM BROMIDE AND CARBON MONOXIDE FROM POLYBROMOMETHANES

Henry W. Schiessl, Northford, Conn., assignor to Olin Mathieson Chemical Corporation
No Drawing. Filed Dec. 7, 1967, Ser. No. 688,669
Int. Cl. C01b *9/04, 31/20;* **C01c** *1/16*
U.S. Cl. 23—85 9 Claims

Polybromomethanes and mixtures containing them are reacted with aqueous ammonia at elevated temperatures and pressures to convert them substantially quantitatively to ammonium bromide and carbon monoxide.

3,505,011
METHOD OF PRODUCING HIGHLY PURE ARSENIC TRICHLORIDE

Erhard Sirtl, Munich, Germany, assignor to Siemens Aktiengesellschaft, Munich, Germany
Filed Feb. 19, 1968, Ser. No. 706,258
Claims priority, application Germany, Feb. 28, 1967, S 108,554
Int. Cl. C01b *27/00*
U.S. Cl. 23—98 8 Claims



Described is a process for producing highly purified arsenic trichloride, with less than 0.1 p.p.m. of electrically active impurities, through chlorination of elemental arsenic by gaseous hydrogen chloride in the presence of air or oxygen, in a temporarily heated reaction chamber, in accordance with reaction:

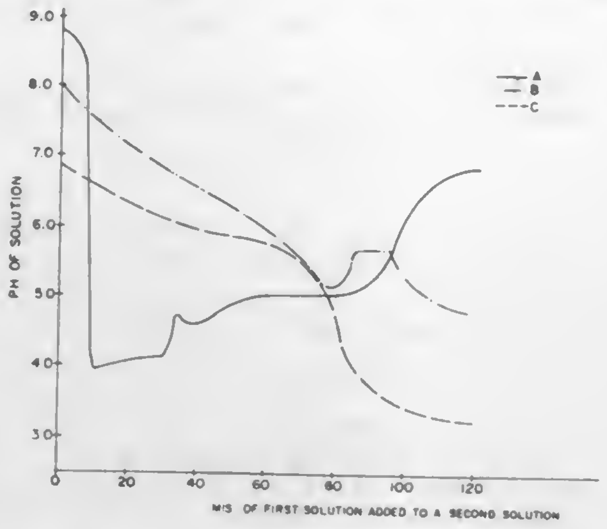
$$As_{(s)}+3HCl_{(g)}+3/4O_2=AsCl_{3(g)}+3/2H_2O_{(g)}+Q$$

The formation of arsenic trichloride occurs without additional outside heat by utilizing the heat released during reaction. The arsenic trichloride and the aqueous hydrochloric acid resulting from the reaction, the latter containing the impurities distill over into a vessel, cooled to below room temperature forming a two-phase condensate comprised of arsenic trichloride and aqueous hydrochloric acid solution in the receiving vessel.

3,505,012
PROCESS FOR MAKING BRUSHITE FORM OF CALCIUM HYDROGEN PHOSPHATE

Ernest A. Dale, Hamilton, Keith H. Butler, Marblehead, and Martha J. B. Thomas, Winchester, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Continuation-in-part of application Ser. No. 517,261, Dec. 29, 1965. This application Apr. 11, 1968, Ser. No. 730,970
Int. Cl. C01b *25/32;* **C01c** *1/16*
U.S. Cl. 23—109 8 Claims

A strong mineral acid is mixed with separate solutions of either diammonium phosphate or a soluble calcium salt or both solutions. The solutions are then admixed and the pH is maintained below about 3.8 and



substantially only the brushite form of calcium hydrogen phosphate is precipitated.

3,505,013
WET PROCESS FOR THE MANUFACTURE OF PHOSPHORIC ACID

Kazuo Araki, Yokohama, Yasuo Iijima, Kamakura, Koichi Sano, Kazuo Shindo, and Yoo Saito, Yokohama, Iwakichi Kawaguchi, Hiratsuka, Minoru Hosoda, Kawasaki, and Keiichi Murakami, Sendai, Japan, assignors to Nippon Kokan Kabushiki Kaisha, and Toyo Engineering Corporation, both of Tokyo, Japan
Continuation of application Ser. No. 234,493, Oct. 31, 1962. This application Sept. 20, 1966, Ser. No. 580,833
Claims priority, application Japan, June 23, 1962. 37/26,241
Int. Cl. C01f *1/46;* **C01b** *25/18*
U.S. Cl. 23—122 10 Claims

Phosphoric acid and gypsum are obtained in a continuous process by the hemihydrate-dihydrate calcium sulfate method. Phosphate rock is first decomposed by sulfuric acid and phosphoric acid and a calcium sulfate hemihydrate slurry is obtained. The decomposition is effected above the temperature of the transition from the hemihydrate to the dihydrate. The sulfuric acid concentration in the resulting hemihydrate slurry is maintained above 2% and the total concentration of sulfuric acid and phosphoric acid in the slurry is below about 35%. The calcium sulfate hemihydrate is then hydrated to the calcium sulfate dihydrate at 45–70° C. by adding separately formed calcium sulfate dihydrate seed crystals of the twin crystal type of a size between 5 and 50 microns which are directly obtained by decomposing a lime containing substance with sulfuric acid or sulfuric acid containing phosphoric acid at a temperature below the transition temperature. From the precipitating calcium sulfate dihydrate slurry phosphoric acid and gypsum is then recovered while part of the dihydrate slurry is recirculated back to the hemihydrate slurry to provide for a ratio between 2:1 and 4:1 between dihydrate slurry and hemihydrate slurry.

3,505,014
PROCESS FOR PRODUCING α-ALUMINA WHISKERS

Arno Gatti, Norristown, Pa., and Robert Franklin Cree, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 579,259, Sept. 14, 1966. This application May 2, 1969, Ser. No. 825,113
Int. Cl. C01f *7/42*
U.S. Cl. 23—142 6 Claims

Aluminum alloyed with a non-reactive metal having a vapor pressure at 1300–1500° C. comparable to that of aluminum is used as the aluminum source in an otherwise conventional α-alumina whisker growing process. The preferred alloy is aluminum-tin with 30 to 50 atomic percent aluminum. By Raoult's law, the tin suppresses vaporization of the aluminum when the alloy is heated to 1300–1500° C. in a closed silicon-containing chamber with a hydrogen or inert gas atmosphere. As a result, the time required to produce α-alumina whiskers is significantly reduced.

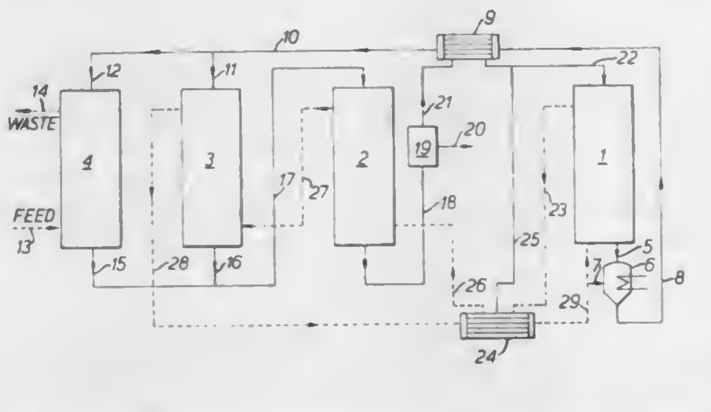
3,505,015
PROCESS FOR THE PREPARATION OF TRIFLUORAMINE OXIDE

Emil A. Lawton, Woodland Hills, and Donald Pilipovich, Chatsworth, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Sept. 29, 1961, Ser. No. 142,459
Int. Cl. C01b *11/24, 21/52*
U.S. Cl. 23—203 2 Claims

Trifluoramine oxide having the formula ONF_3 and the preparation thereof by reacting in the gas phase difluoramine, chlorine, trifluoride, and a compound of halogen and oxygen.

3,505,016
ISOTOPIC EXCHANGE PROCESSES

Peter Thomas Walker, Reading, England, and Keith Roderick Poole, Johannesburg, Transvaal, Republic of South Africa, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Jan. 4, 1967, Ser. No. 607,306
Claims priority, application Great Britain, Jan. 7, 1966, 880/66
Int. Cl. C01h *4/00;* **B01h** *1/08;* **B01j** *9/00*
U.S. Cl. 23—210 5 Claims

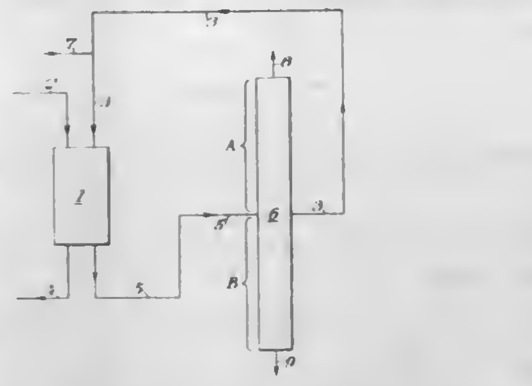


The invention discloses a process and apparatus for producing deuterium enrichment of the ammonia-hydrogen type, wherein the raw material, e.g. ammonia synthesis gas, contacts the ammonia in a cold transfer tower. A cold reflux tower is also provided in addition to the usual hot and cold main tower. The arrangement results in a very substantial reduction in the total volume of the plant with consequential cost savings.

3,505,017
PROCESS FOR REMOVING PROTIUM AND TRITIUM FROM HEAVY WATER

Etienne Roth, Sevres, France, assignor to Commissariat a l'Energie Atomique, Paris, France, a French organization
Filed July 26, 1967, Ser. No. 656,179
Claims priority, application France, Aug. 9, 1966, 72,612
Int. Cl. C01b *4/00*
U.S. Cl. 23—210 5 Claims

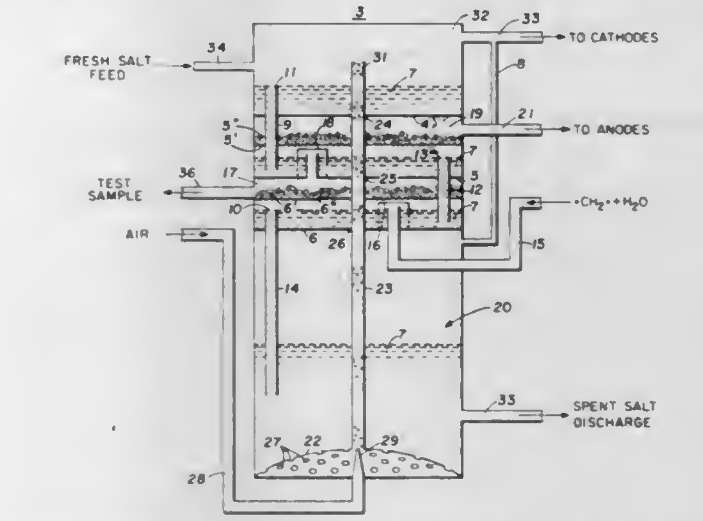
Process and apparatus for removing protium and tritium from heavy water in service in a nuclear reactor in which a tapped fraction of the heavy water is subjected to an isotope exchange reaction with gaseous deuterium to lower its protium and tritium content. The gaseous deuterium, thus enriched in protium and tritium, is subjected to fractional distillation to remove a first part enriched in tritium



and a second part enriched in protium. The gaseous deuterium, partially rid of protium and tritium, is recycled to the isotope exchange reaction.

3,505,018
REFORMING HYDROCARBON FUELS

Mohendra S. Bawa and James K. Truitt, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,813
Int. Cl. C01b *1/16*
U.S. Cl. 23—212 10 Claims



A process for reforming hydrocarbon fuels by admixing a hydrocarbon and water to form a feed stream, contacting the feed stream with an inorganic salt or mixture of inorganic salts in the molten state, and separating the gaseous effluent generated by this contact. More specifically, the process provides a useful method for generating hydrogen by contacting a hydrocarbon or mixture of hydrocarbons with an inorganic salt or mixture of salts at temperatures ranging from about 350° C. to about 850° C. After the hydrogen-containing effluent is removed from the molten salt, the latter may be mixed with oxygen at a temperature and pressure sufficient to permit combustion between the oxygen and any residual carbon which may be retained in the salt, after which the gaseous reaction products of this combustion are removed.

3,505,019
METHOD FOR DETERMINING VITAMIN B_{12} AND REAGENT THEREFOR

Rolf E. A. V. Axen, Upplands Balinge, and Jerker O. Porath and Leif E. Wide, Uppsala, Sweden, assignors to Pharmacia AB, Uppsala, Sweden, a company of Sweden
No Drawing. Filed Oct. 16, 1967, Ser. No. 675,323
Claims priority, application Sweden, Oct. 21, 1966, 14,397/66
Int. Cl. G01n *23/00*
U.S. Cl. 23—230 15 Claims

Method for determining vitamin B_{12} in aqueous samples by contacting said sample with radioactivity labelled vitamin B_{12} and with particles of water insoluble polymers to which substances capable of binding vitamin B_{12} have been bound, thereafter separating said particles and determining the radioactivity.

3,505,020
METHOD AND COMPOSITION FOR DETECTING FREE WATER

Donald A. Caldwell, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 641,167, May 25, 1967. This application Mar. 5, 1968, Ser. No. 710,642

Int. Cl. C09k *3/00;* **G01n** *31/22, 33/18*

U.S. Cl. 23—230 **10 Claims**

The presence and extent of dispersed water in aviation turbo-jet fuels and other hydrocarbons is quickly and easily determined by contacting a sample of the hydrocarbon with a small amount of a mixture containing a minor porportion of methylene violet (Color Index 50205) and a major proportion of a finely-divided solid selected from the group consisting of calcium carbonate, barium carbonate, barium sulfate, magnesium carbonate and combinations thereof. The presence of dispersed or free water in the hydrocarbon sample treated in this manner causes the mixed solids in the sample to undergo a change in color according to the amount of free water present.

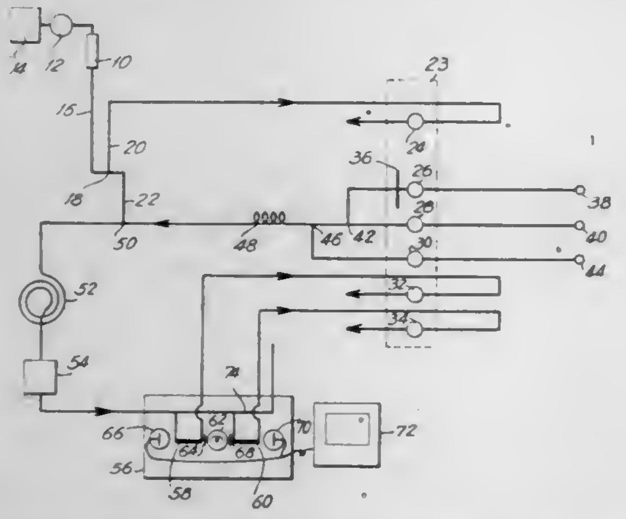
3,505,021
METHOD OF AMINO ACID CHROMATOGRAPHY ANALYSIS

John W. Eveleigh, Purdy Station, N.Y., assignor to Technicon Corporation, Ardsley, N.Y., a corporation of New York

Filed Nov. 13, 1967, Ser. No. 682,425

Int. Cl. G01n *31/06*

U.S. Cl. 23—230 **5 Claims**



A method of increasing the sensitivity with linear optical density of a ninhydrin color reaction with amino acids in a chromatography eluent stream includes the addition of hydrazine as a stable stock solution to the ninhydrin at the time of use.

3,505,022
METHOD AND APPARATUS FOR DETERMINING INTOXICATION

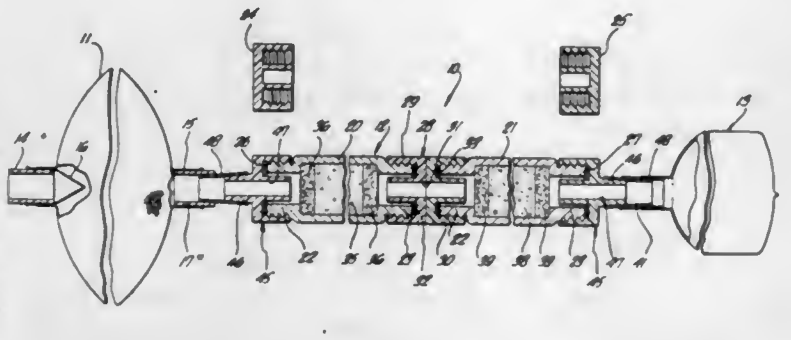
Manley J. Luckey, 1738 N. Waterman Ave.,
San Bernardino, Calif. 92404

Continuation-in-part of application Ser. No. 416,540, Dec. 7, 1964. This application May 5, 1969, Ser. No. 821,865

Int. Cl. G01n *31/06, 31/22, 33/16*

U.S. Cl. 23—232 **11 Claims**

In a breath-type blood alcohol test in which the weight of alcohol in a given quantity of expired breath is determined, the amount of alveolar breath in the given quantity is also determined to assure that the test results are not erroneously affected by acidosis or alkalosis in a test subject.



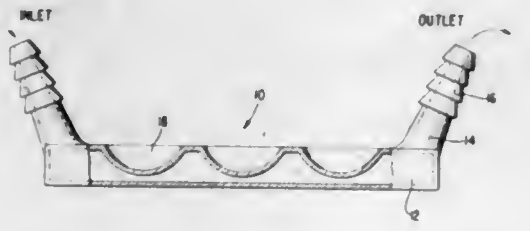
3,505,023
THERMALLY CONDITIONED SPOT PLATE

Frans M. M. Van Damme, Blacksburg, Va., assignor to Research Corporation, New York, N.Y., a nonprofit corporation

Filed Nov. 13, 1967, Ser. No. 682,113

Int. Cl. B01l *3/00*

U.S. Cl. 23—253 **2 Claims**



A spot plate formed of an elongated member having a central cavity is provided with a plurality of depressions on its top surface. Fluid inlet and outlet connections are carried by the member at its ends thereof to facilitate the passage of a temperature conditioning fluid.

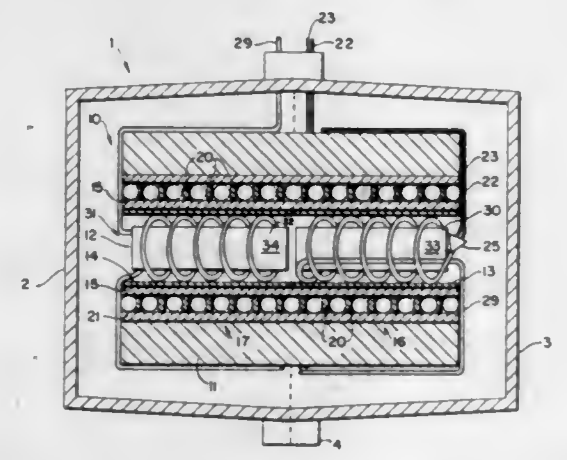
3,505,024
MICROCALORIMETER FLOW CELL

Kenzo Ishimaru, San Jose, and Jack I. Ohms, Palo Alto, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Dec. 11, 1967, Ser. No. 689,361

Int. Cl. G01k *17/04*

U.S. Cl. 23—253 **21 Claims**



A continuous flow reaction vessel for use in a microcalorimeter having a heat sink assembly comprising a heat sink body with an axial bore extending in the longitudinal direction, an area thermopile bonded to the inner surface of the axial bore for sensing the heat associated with a chemical reaction. The reaction vessel is shaped in the form of a continuous tubular conduit for carrying the chemical reactants whose heat of reaction is to be monitored and includes a first portion which is wound around the outside surface of the heat sink body a sufficient number of times to provide thermal equilibrium throughout the system and a second portion which is inserted inside the axial bore in such a fashion that at least a portion of its outer surface is disposed in intimate contact with the area thermopile so that the heat produced by the reaction may be continuously and accurately monitored.

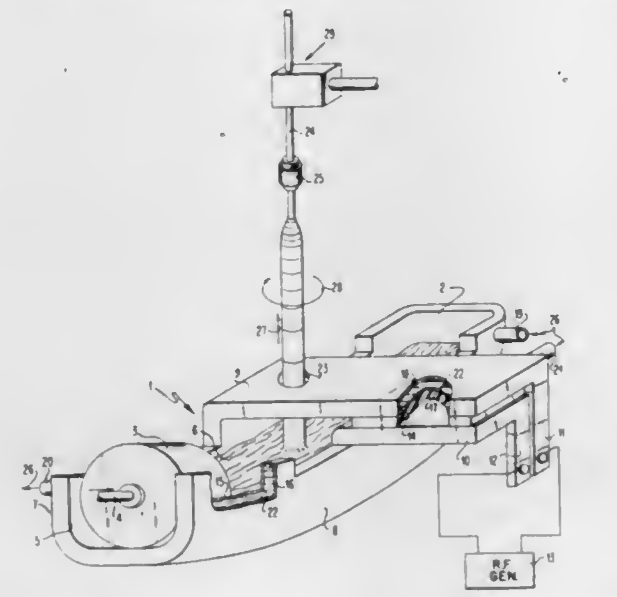
3,505,025
JACKETED, COOLED CRUCIBLE FOR CRYSTALLIZING MATERIAL

Ralph G. Dessauer, Beacon, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 10, 1967, Ser. No. 622,239

Int. Cl. B01j *17/18*

U.S. Cl. 23—273 **1 Claim**



An apparatus in which a direct heating crucible is employed for the Czochralski method of growing single crystals from reactive materials such as silicon and germanium. The crucible takes the form of a shaped, single-turn high-frequency induction coil which is water cooled for thermal control.

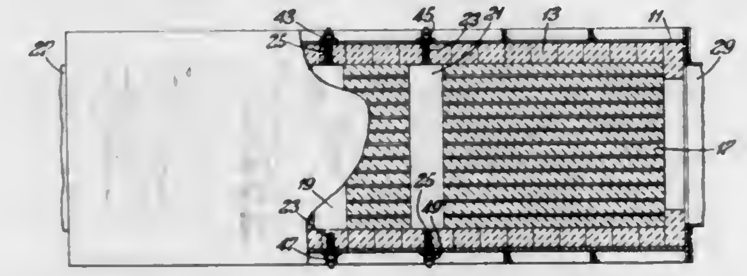
3,505,026
NOZZLE SYSTEM FOR FLUID DISPERSION

Warren G. Hudson, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Sept. 6, 1966, Ser. No. 577,479

Int. Cl. C07c *11/24;* **F23c** *5/28*

U.S. Cl. 23—277 **7 Claims**



A nozzle system for spraying fluids into dispersion zones such as reactor vessels and the combustion chambers of fluid fuel-burning furnace apparatus. Nozzles of two different tip styles are used; one style being a drilled-through circular orifice and the other slotted. Arranged alternately in oppositely facing rows of disposed alternately peripherally around a dispersion zone, this nozzle arrangement effects even and uniform fluid dispersion in the zone.

3,505,027
APPARATUS FOR DECOMPOSING AMMONIA

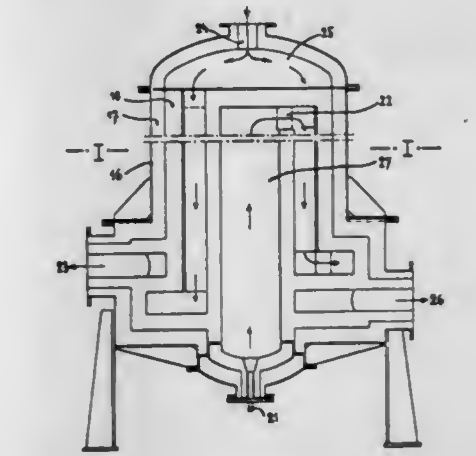
Fritz Breitbach and Gustav Choulat, Recklinghausen, Germany, assignors to Carl Still, Recklinghausen, Westphalia, Germany, a firm of Germany

Original application May 21, 1964, Ser. No. 369,187. Divided and this application June 12, 1967, Ser. No. 679,945

Claims priority, application Germany, May 25, 1963, St 20,652

Int. Cl. F27b *5/00;* **B01j** *6/00, 9/04*

U.S. Cl. 23—277 **3 Claims**



Apparatus for decomposing ammonia comprising a furnace housing having an interior refractory lining surrounding a centrally located combustion chamber and a plurality of first and second passages defined and encompassed by the lining with the passages being circumferentially spaced in alternating sequence on a circular plane coaxial with the furnace housing axis. Means are provided to feed combustion gases generated in said combustion chamber and ammonia-laden gas to the first and second passages respectively so as to provide for thermal decomposition of the ammonia without direct contact with the combustible heating medium.

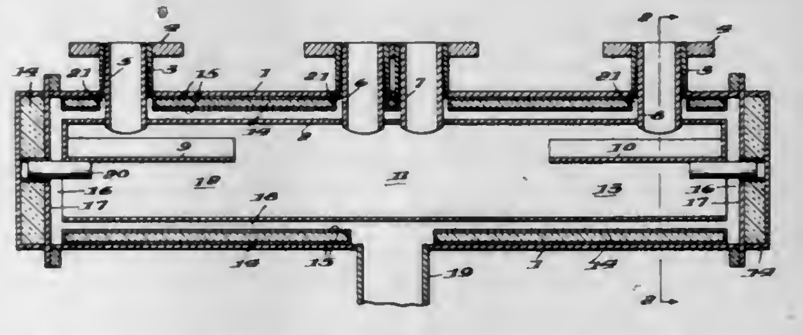
3,505,028
MATERIAL OF CONSTRUCTION FOR EXHAUST MANIFOLD REACTOR INNER CHAMBER

Walter Harold Douthit, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 638,957, May 16, 1967. This application Mar. 8, 1968, Ser. No. 716,260

Int. Cl. B01v *1/20;* **F01n** *7/16*

U.S. Cl. 23—277 **10 Claims**

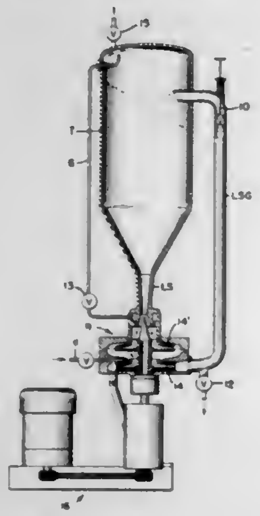


Automotive exhaust manifold reactors having inner chambers composed of a non-magnetic, austenitic, iron-nickel-chromium alloy as substrate, which, by weight, has an iron content of about 22–55%, a carbon content of less than about 0.5%, a chromium content of at least about 10%, a nickel content of at least about 11% +.07

percent Cr but not greater than about 50%, a total iron, nickel and chromium content of at least about 90%, and which has on substantially all surfaces an aluminum-containing diffusion coating about 1–10 mils thick containing a layer about 0.5–7 mils thick which contains a major amount of nickel aluminide of the crystalline structure of NiAl.

3,505,029
APPARATUS FOR REACTING A PLURALITY OF FLUIDS

Andre Polgar, Boulogne-sur-Seine, Hauts-de-Seine, and Jean-Claude Vierne, Paris, France; said Vierne assignor to Sepca Chimie, Paris, France
Continuation-in-part of application Ser. No. 852,556, Nov. 12, 1959. This application June 9, 1966, Ser. No. 556,488
Claims priority, application France, Nov. 18, 1958, 779,383
Int. Cl. B01j *3/02*
U.S. Cl. 23—285 **11 Claims**

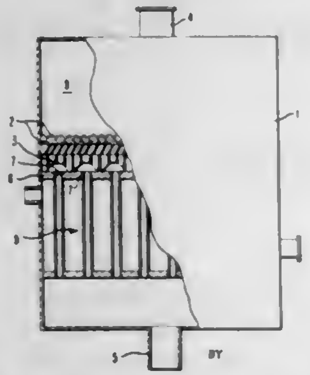


Apparatus for interreacting two or more fluids comprises a reaction chamber and an impeller rotating in the reaction chamber to produce marked changes in the velocity, pressure and direction of fluid passing through the chamber. A passageway supplies a metered flow of one fluid from a container to the reaction chamber while a second fluid is drawn into the reaction chamber at a rate dependent on the speed of rotation of the impeller. Fluid is discharged from the reaction chamber back to the fluid container or other receptacle.

3,505,030
COMPOSITE ARTICLES OF MANUFACTURE AND APPARATUS FOR THEIR USE

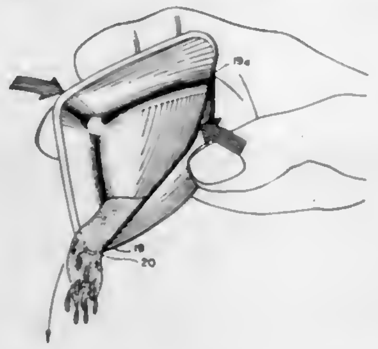
Donald Maurice Sowards, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 16, 1965, Ser. No. 508,074
Int. Cl. B01j *7/00, 9/04*
U.S. Cl. 23—288 **6 Claims**

Special configuration of honeycomb materials are useful as supports for catalyst gauzes. One configuration involves providing grooves in one of the surfaces open to the honeycomb cells. In another configuration, a composite support is made by combining a straight cell honeycomb with a slant cell honeycomb.



3,505,031
WEIGHING AND POURING VESSEL

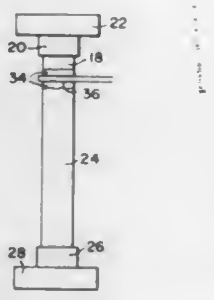
Francis C. Moore and Leon R. Perkinson, Indianapolis, Ind., assignors to Moore-Perk Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Oct. 26, 1966, Ser. No. 589,581
Int. Cl. B01l *3/00;* **B65d** *1/34*
U.S. Cl. 23—292 **6 Claims**



Article suitable for use as a weighing or pouring vessel for laboratory use. The article is an integral vessel formed entirely of resilient, smooth, flexible plastic sheet material including a base, side walls, and an upper peripheral lip or flange. The vessel may be carried with one hand; and it may easily be formed into a pouring vessel by urging diagonally opposite corners together to thereby urge the lip at the two other corners away from the base of the vessel and into general alignment with the corners to form a pouring spout.

3,505,032
HEATER IMMERSED ZONE REFINED MELT

Allan I. Bennett, Export, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 9, 1965, Ser. No. 506,948
Int. Cl. B01j *17/20*
U.S. Cl. 23—301 **7 Claims**



This disclosure relates to a process for zone refining a body of material supported vertically by employing a heating means which is in direct physical and thermal contact with a molten zone within the body. The heating means is connected by an electrical conductor directly to an electrical power source.

3,505,033
CLARIFICATION OF ACID DIGESTION LIQUORS CONTAINING TITANIUM SULFATE USING METHYL PECTATE

Alfons Brzeski, Opladen-Grossendriesch, and Ruediger Paul and Werner Schmedding, Leverkusen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,714
Claims priority, application Germany, Dec. 15, 1965, T 30,030
Int. Cl. B01d *21/01*
U.S. Cl. 23—312 **5 Claims**

The following disclosure describes and illustrates the addition of pectin to iron sulfate-titanium sulfate solutions obtained by digesting titanium ores and slags in concentrated sulfuric acid, for clarifying said solutions.

3,505,034
PROCESS OF PRODUCING DIHYDRIDOTETRACARBONYLOSMIUM AND CARBONYL AND HYDROGEN REPLACEMENT REACTIONS

François L'Eplattenier, Geneva, Switzerland, and Fausto Calderazzo, Fairfield County, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed June 27, 1967, Ser. No. 649,116
Int. Cl. C01g *55/00;* **C07d** *105/02*
U.S. Cl. 23—360 **16 Claims**

Osmium pentacarbonyl or its cyclic trimer $Os_3(CO)_{12}$ is reacted with hydrogen to produce $OsH_2(CO)_4$ and this compound is reacted with trialkyl or triaryl phosphines or phosphites to replace carbonyl groups producing compounds or mixtures having the formula

$$OsH_2(CO)_{4-n}[P(C_6H_5)_3]_n$$

in which n is a positive integer less than 3. There is also described processes in which the hydrogens are replaced with chlorine or bromine by reaction with carbon tetrachloride or tetrabromide. The phosphorus containing products are new chemical compounds.

3,505,035
PROCESS FOR THE PRODUCTION OF ALKALI METAL BOROHYDRIDES

Elmar-Manfred Horn, Aachen, Karl John, Leichlingen, Konrad Lang, Cologne-Stammheim, and Fredrich Schubert, Neuried, near Munich, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Nov. 20, 1964, Ser. No. 412,847
Claims priority, application Germany, Nov. 26, 1963, F 41,365
Int. Cl. C01b *6/14*
U.S. Cl. 23—361 **10 Claims**

In the process for the production of sodium borohydride in which sodium borate or a mixture of sodium oxide and boron oxide is reacted with hydrogen and a reducing metal, the improvement which comprises effecting said reaction at a temperature between about 200 and 650° C. at a pressure of about 1 to 10 atmospheres in the presence of sodium and a member selected from the group consisting of aluminum metal and alloys thereof containing more than 50% aluminum as the reducing metal.

3,505,036
PREPARATION OF ALKALI METAL HYDRIDES

Kenneth L. Lindsay, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Feb. 28, 1967, Ser. No. 619,166
Int. Cl. C01b *6/24, 6/26;* **C07b** *1/00*
U.S. Cl. 23—365 **10 Claims**

A method of preparing alkali metal aluminum hydrides from the respective elements, using drastically reduced reaction times by reacting an alkali metal, or the hydride thereof, with aluminum powder and a catalytic quantity of (1) an aluminum alkyl and (2) a compound selected from $Ti(OR)_4$, $Zr(OR)_4$, $TiCl(OR)_3$, $Zr(OR)_3$, $TiCl_4$, and $ZrCl_4$, wherein R is an alkyl radical having 1–8 carbon atoms, in the presence of an inert liquid carrier, under an H_2 pressure of from 500 to 10,000 p.s.i. and at a temperature from about 50° C. to 200° C. Preferably, the H_2 pressure is maintained at about 2500–3500 p.s.i. while the reaction mixture is agitated constantly during the reaction. Reaction times are at least one-third normal.

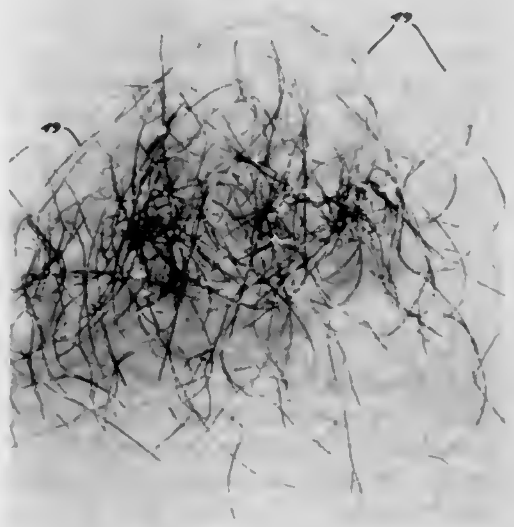
3,505,037
HYPEREUTECTIC SILICON ALLOYS

Allan John Wood and William John Holland, Stafford, England, assignors to The English Electric Company Limited, London, England, a British company
Filed Apr. 12, 1968, Ser. No. 720,906
Claims priority, application Great Britain, Apr. 24, 1967, 18,665/67
Int. Cl. B22f *3/16*
U.S. Cl. 29—182.5 **6 Claims**

A process for producing an alloy of silver, copper, aluminium or gold with silicon, particularly such alloys in which the proportion of silicon exceeds the eutectic proportion, wherein the constituents of the alloy are mixed together in powder form, the mixed powder is pressed into a preform and the preform is sintered at a temperature which is less than the eutectic temperature. Preferably the sintering temperature is between 5° C. and 70° C. less than the eutectic temperature. An alloy made by this process is suitable for use as a vacuum switch contact material.

3,505,038
METAL FIBRIL COMPACTS

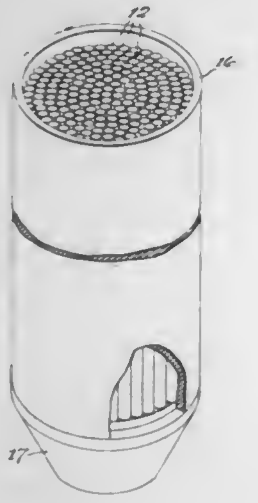
Andreas Luksch, Excelsior, and Bertil J. Sundberg, Minneapolis, Minn., assignors, by mesne assignments, to Brunswick Corporation, Chicago, Ill.
Filed Aug. 24, 1964, Ser. No. 391,708
Int. Cl. B23p *17/06;* **B32b** *15/00*
U.S. Cl. 29—183.5 **15 Claims**



Method and product: Compacts composed of fibrils of tough, recalcitrant metals such as stainless steel; the density of the compacts being about 30% to 85% of the density of the metal of which the "fibrils" are composed. The fibrils range in transverse dimension from about .0005 to .005 inch, have an area less than that of a .002 inch circle, are of uniform length, and are made by shearing off narrow width pieces from the end of a rolled strip of parent metal. Individual fibrils have the two flat rolled faces of the parent strip and two sheared faces, the width of one of the sheared faces being wider than the other as a result of shearing, so that the cross section of the fibril ranges from roughly triangular to squashed four-sided configuration with the two rolled faces converging toward the narrower of the sheared faces. Compacts are made by separating the fibrils and air lifting them against a traveling screen through which loose extraneous burrs, chips and slivers are substantially removed, thereby leaving a mat of fibrils substantially free from degraded particles which might otherwise contaminate the mat and migrate through it. The mat has excellent green strength and is compressed through several stages preferably with intermediate annealing until the densities are obtained. Compacts of varying densities throughout the thickness of the compact may be prepared. The compacts composed of the compressed mat (or layers of mat) may be supported on exterior surfaces by woven or reticulated metal support members. Extremely recalcitrant metals such as hard-to-work Type 347 stainless steel alloy and similar difficultly machinable metals may be utilized for making the original fibrils. The finished compacts are useful for sophisticated filtering and the like applications and for transpiration cooled surfaces.

3,505,039
FIBROUS METAL FILAMENTS

John A. Roberts, Chelmsford, and Peter R. Roberts, Groton, Mass., assignors to Brunswick Corporation
Original application Mar. 2, 1964, Ser. No. 348,326, now Patent No. 3,394,213, dated July 23, 1968. Divided and this application July 2, 1968, Ser. No. 742,010
Int. Cl. B21c *37/04;* **B23p** *3/10*
U.S. Cl. 29—191.6 **14 Claims**



A product defined as fine metal filaments, such as filaments of under approximately 15 microns diameter, in long lengths wherein a plurality of sheathed elements are first constricted to form a reduced diameter billet by means of hot forming. After the hot forming constriction, the billet is then drawn to the final size wherein the filaments have the desired final small diameter. The material surrounding the filaments is then removed by suitable means leaving the filaments in the form of a tow.

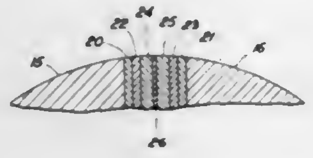
3,505,040
SCRATCH-RESISTANT WHITE-SILVER CHROMIUM PLATED STEEL PLATE

Hiromu Uchida and Osamu Yanabu, Himeji-shi, and Keiichi Kido, Tokyo, Japan, assignors to Fuji Iron & Steel Co., Ltd., Tokyo, Japan
No Drawing. Filed Jan. 18, 1967, Ser. No. 610,025
Claims priority, application Japan, Jan. 26, 1966, 41/4,489
Int. Cl. B23p *3/00*
U.S. Cl. 29—195 **3 Claims**

An improved chromium coating of steel plate is obtained by applying a chromium coating of 0.005 micron–0.1 micron thickness on the plate which has been matte finished, said steel plate having a surface roughness of 0.8 micron to 3 micron in term of Hr.m.s. The treated steel plate is characterized by good scratch resistance in the non-lacquered state and excellent surface appearance in the lacquered state.

3,505,041
CERAMIC-TO-METAL SEAL

Robert L. Bronnes, Irvington, Ray C. Hughes, Ossining, and Richard C. Sweet, North Tarrytown, N.Y., assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Original application Aug. 13, 1963, Ser. No. 301,866, now Patent No. 3,412,455, dated Nov. 26, 1968. Divided and this application Oct. 26, 1967, Ser. No. 678,263
Int. Cl. B23p *3/14;* **G11b** *5/24, 5/42*
U.S. Cl. 29—195 **1 Claim**



A hermetic ceramic-to-metal seal formed by depositing by cathodic sputtering a layer of a metal having an affinity for the ceramic metalloid followed by cathodically sputtering a layer of an easily joinable metal which is joined to a metal member by a fusion joint.

3,505,042
METHOD OF HOT DIP COATING WITH A ZINC BASE ALLOY CONTAINING MAGNESIUM AND THE RESULTING PRODUCT

William C. Sievert, Chesterton, Ind., Lewis J. Geiger, Edison, N.J., and Harvie H. Lee, Park Forest, Ill., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 396,707, Sept. 15, 1964. This application Jan. 16, 1969, Ser. No. 791,763
Int. Cl. B32b *15/18;* **C23c** *1/02*
U.S. Cl. 29—196.2 **19 Claims**

A method of hot dip coating a ferrous metal surface with a magnesium-containing zinc base alloy to impart thereto improved surface properties in which a ferrous metal surface in a reduced oxide state is coated in a hot dip zinc base alloy coating bath containing between about 1.5 and 5 percent by weight magnesium and which preferably contains at least 0.05 percent by weight aluminum with the balance comprised essentially of zinc.

A ferrous metal sheet hot dip coated with a zinc base alloy containing between about 3 and 5 percent by weight magnesium exhibits very good corrosion resistance against aqueous sodium chloride solutions and good adherence and formability properties.

3,505,043
Al-Mg-Zn ALLOY COATED FERROUS METAL SHEET

Harvie H. Lee, Park Forest, Ill., and James W. Halley, Chesterton, Ind., assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 623,241, Mar. 15, 1967. This application Jan. 8, 1969, Ser. No. 789,943
Int. Cl. B23p *3/10*
U.S. Cl. 29—196.5 **7 Claims**

A corrosion resistant zinc base alloy coating for a metal surface normally subject to attack by corrosion and containing as the essential alloying elements for improving corrosion resistance between about 1 and 5 percent by weight magnesium and between about 3 and 17 percent by weight aluminum, with the remainder of the alloy coating being essentially zinc. The hot dip bath immersion and vapor deposition techniques are suitable methods of applying the improved alloy coating.

3,505,044
CHEMICAL COMPOSITION

Philip Lee Bartlett, Wilmington, Del., and Charles Bedford Biswell, Salem County, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Application Jan. 13, 1965, Ser. No. 425,329, now Patent No. 3,428,713, dated Feb. 18, 1969, which is a continuation-in-part of application Ser. No. 375,357, June 15, 1964. Divided and this application Oct. 19, 1967, Ser. No. 676,619
Int. Cl. C10l *1/26, 1/22*
U.S. Cl. 44—72 **6 Claims**

Alkanol amine salts of alkyl acid orthophosphates are used as anti-stalling agents for gasoline.

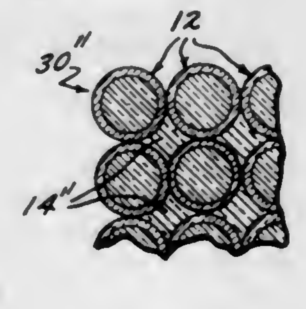
3,505,045
ABRASIVE BACKINGS SATURATED WITH COPOLYMERS OF ACRYLIC ESTER AND NITRILE MONOMERS

William A. Klein, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Continuation-in part of application Ser. No. 296,482, July 22, 1963. This application Mar. 19, 1968, Ser. No. 714,324
Int. Cl. B24d *11/02, 3/00;* **C09k** *3/14*
U.S. Cl. 51—295 **15 Claims**

Superior heat stability, solvent- and water-resistance, and abrading performance are imparted to coated abrasive material having a fibrous backing by saturating the backing with a copolymer formed by reacting certain acrylic ester, nitrile, and optionally acrylic acid, monomers in specified ratios.

3,505,046
UNITING FIBER ENERGY-CONDUCTING STRUCTURES

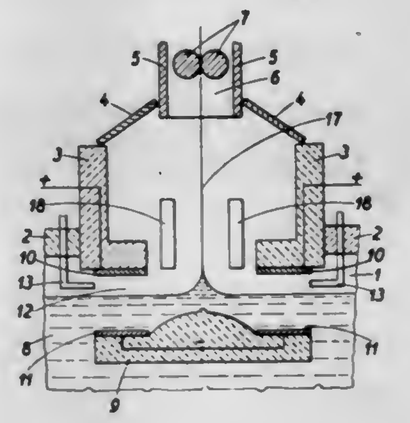
Roland A. Phaneuf, Sturbridge, Mass., assignor, by mesne assignments, to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed July 1, 1966, Ser. No. 565,642
Int. Cl. C03c *25/02, 23/20*
U.S. Cl. 65—3 **4 Claims**



Fused rectangular fiber optical image transmitting devices formed of a multiplicity of round optical fibers of large cross-sectional size and a number of other fibers of smaller cross-sectional size. The large fibers are arranged in a rectangular array with smaller fibers filling interstices therebetween as keys for maintaining alignment of the large fibers and preventing appreciable distortion thereof during fusion of all components of the complex.

3,505,047
PROCESS AND APPARATUS FOR ELECTROCHEMICALLY MODIFICATION OF GLASS

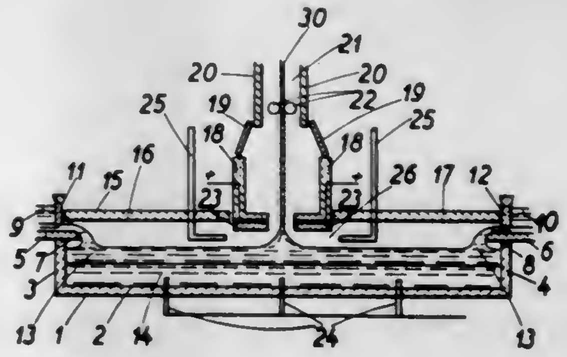
Emile Plumat, Gilly, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Continuation-in-part of application Ser. No. 286,302, June 7, 1963. This application May 4, 1966, Ser. No. 547,457
Claims priority, application Luxembourg, May 6, 1965, 48,533
The portion of the term of the patent subsequent to July 23, 1985, has been disclaimed
Int. Cl. C03c *21/00;* **C03b** *18/00;* **B01k** *3/00*
U.S. Cl. 65—30 **13 Claims**



A process and associated apparatus for electrochemical modification of glass which includes feeding molten glass from a bath to a sheet glass forming unit while maintaining an atmospheric ion source in contact with the bath surface and applying an electric field of variable polarity between a subsurface layer of the bath and the atmosphere to effect controlled diffusion of ions into or out of the molten glass surface, with apparatus including a sheet glass forming unit, a vessel for containing the molten glass, gaseous atmosphere discharge element, and electrodes.

3,505,048
PROCESS AND APPARATUS FOR ELECTROCHEMICAL MODIFICATION OF GLASS

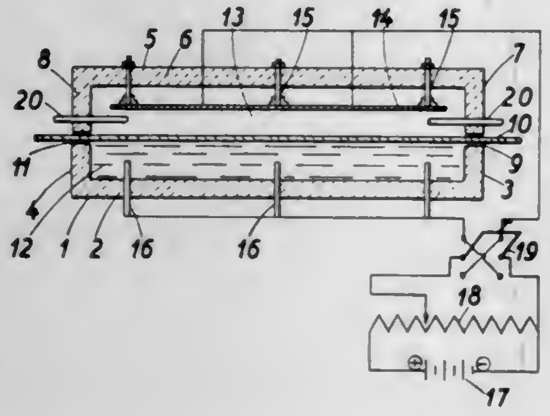
Emile Plumat, Gilly, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Continuation-in-part of application Ser. No. 286,302, June 7, 1963. This application May 4, 1966, Ser. No. 547,518
Claims priority, application Luxembourg, May 6, 1965, 48,531
The portion of the term of the patent subsequent to July 23, 1985, has been disclaimed
Int. Cl. C03c *21/00;* **C03b** *18/00*
U.S. Cl. 65—30 **12 Claims**



A process and associated apparatus for electrochemical modification of glass which includes floating one side of a liquid layer of glass on a higher density, molten ion source with a gaseous atmosphere ion source contacting the opposite surface of the glass, and providing an electric field with variable polarity between the molten and gaseous materials so as to effect controlled diffusion of ions in, into, out of or away from the glass, with apparatus including a sheet glass drawing unit, a molten material vessel, gaseous atmosphere discharge element and electrodes.

3,505,049
PROCESS AND APPARATUS FOR ELECTROCHEMICAL MODIFICATION OF GLASS

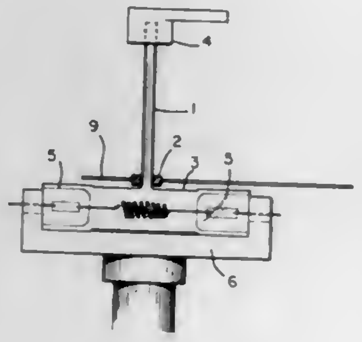
Emile Plumat, Gilly, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Continuation-in-part of application Ser. No. 286,302, June 7, 1963. This application May 4, 1966, Ser. No. 547,519
Claims priority, application Luxembourg, May 6, 1965, 48,532
The portion of the term of the patent subsequent to July 23, 1985, has been disclaimed
Int. Cl. C03c *21/00;* **C03b** *18/00*
U.S. Cl. 65—30 14 Claims



A process and associated apparatus for electrochemical modification of glass which includes floating a sheet of glass with one side in contact with a higher density, molten ion source with a gaseous atmosphere ion source contacting the opposite surface of the glass, and providing an electric field with variable polarity between the molten and gaseous materials so as to effect controlled diffusion of ions in, into, out of or away from the glass, with apparatus including a molten material vessel, gaseous atmosphere discharge element and electrodes.

3,505,050
METHOD OF MAKING A GLASS TO GLASS SEAL

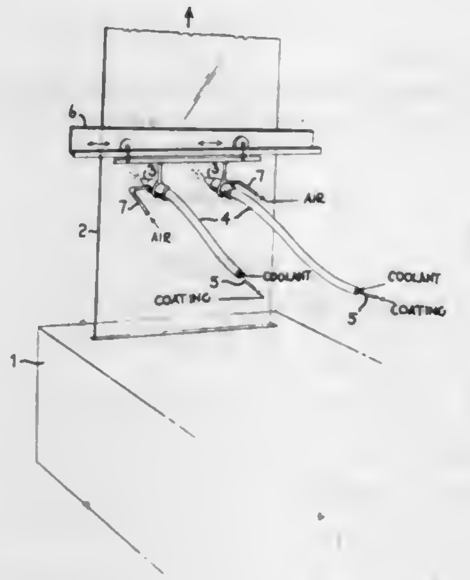
Leroy S. Huston, Jr., Marblehead, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 20, 1967, Ser. No. 624,569
Int. Cl. C03b *5/16, 29/00*
U.S. Cl. 65—34 10 Claims



In the fabrication of a lamp, a carbon ring is disposed around the exhaust tube of a pressurized lamp envelope and inductively heated. The encircled portion of the exhaust tube becomes softened thereby and is then sealed within the carbon ring by the application of a compressive force to form a lamp.

3,505,051
LOW-GLOSS ALKALI-SILICATE COATING PROCESS FOR GLASS

Michael J. Buckley, Brackenridge, and Robert L. Tilton, Wexford, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 16, 1968, Ser. No. 698,216
Int. Cl. C03c *17/22, 25/02*
U.S. Cl. 65—60 5 Claims

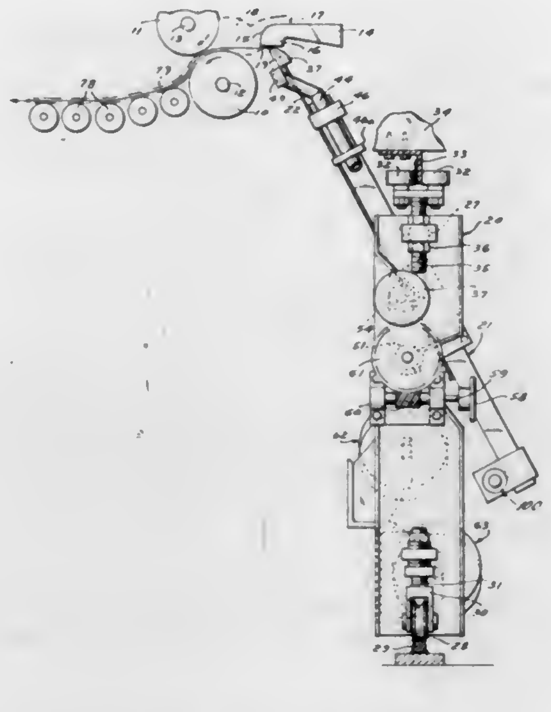


This invention pertains to an improved method of producing low-reflectance alkali silicate coatings on glass. The invention especially relates to a continuous coating process for forming non-reflective alkali-silicate coatings on a glass ribbon as it is being drawn from a molten mass of glass. More particularly, the invention pertains to contacting a glass ribbon during drawing at the place where the temperature of the ribbon is below about 500° F. and, preferably, where the ribbon temperature is between 300° F. and 400° F., although useful coatings are formed at temperatures as low as 200° F., with a sprayable aqueous sodium-silicate or potassium-silicate solution.

3,505,052
MACHINE FOR MAKING WIRED GLASS

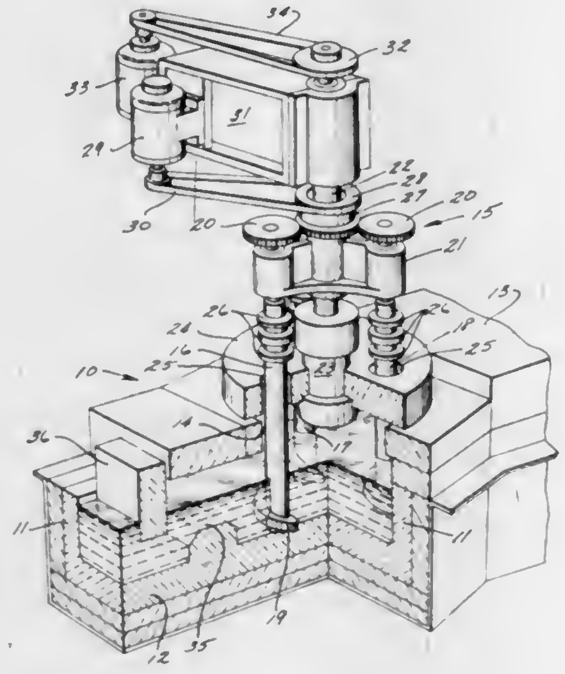
Herman E. Goddard, Greeneville, Tenn., assignor to American Saint Gobain Corporation, Kingsport, Tenn., a corporation of Delaware
Continuation-in-part of application Ser. No. 508,716, Nov. 19, 1965. This application July 19, 1968, Ser. No. 751,669
Int. Cl. C03b *13/12*
U.S. Cl. 65—148 6 Claims

Closely spaced parallel unjoined wire strands are embedded in the molten glass as it advances from a forehearth to the forming rolls. The forehearth is disposed at about the level of the axis of the upper roll and the end of the forehearth is spaced laterally a greater distance from the axis of the upper roll than from the axis of the lower roll. The end of the forehearth is spaced laterally from the surface of the upper roll by approximately one half the diameter of the lower roll so that the thickness of the molten glass resting on the lower roll, and cooled somewhat thereby, and through which the unjoined wires are fed is approximately one half the diameter of the lower roll. Thus the wires enter the molten glass mass above the side of the lower roll where the heat is not intense, the wires being fed through the guide tubes from the supply reels below. A supply reel is provided for each of the wires, and the wire from this reel is fed into the lower end of its tube by a feed roll containing a series of grooves, one groove for each wire, and the wire is wound at least one turn around the feed roll.



3,505,053
GLASS STIRRING APPARATUS

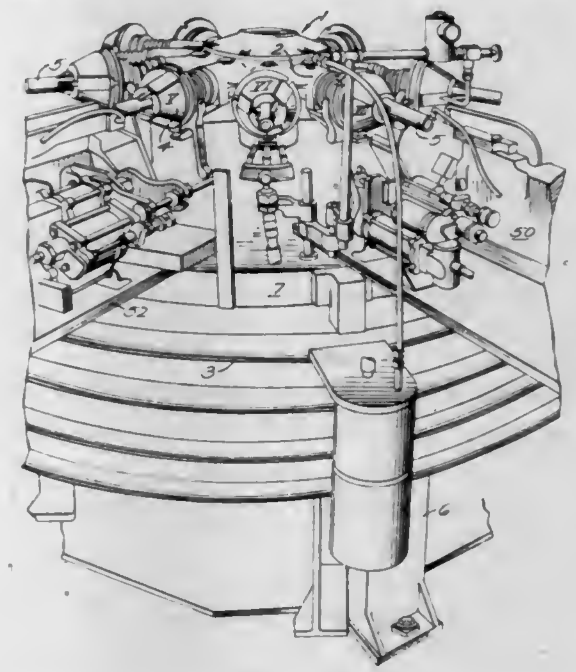
George E. Noe, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed June 20, 1966, Ser. No. 558,647
Int. Cl. C03b *5/18*
U.S. Cl. 65—178 1 Claim



In the blending of glass in a forehearth, a planetary stirrer apparatus using three stirrer elements, rotating individually about their axes at a selected speed, and also moving, as a whole, in a circular path at a different selected speed in a locally widened forehearth channel, to effectively break up stratification and promote thorough mixing of the glass. The particular apparatus effectively moves the colder glass away from the walls of the channel and mixes it with the hotter glass by reason of the rotation of the stirrers and also by the physical movement of the stirrers across the forehearth.

3,505,054
GLASS JOINT FORMING APPARATUS

William T. Engel, Union, N.J., assignor to Kahle Engineering Company, Union City, N.J., a corporation of New Jersey
Filed Apr. 10, 1967, Ser. No. 629,685
Int. Cl. C03b *23/08*
U.S. Cl. 65—277 15 Claims



An automatic machine for forming tapered joints on the ends of glass tubing including cooperating bell or spigot portions such as are used to couple sections of glass pipe together. The apparatus includes a series of chucks mounted on an intermittently advanced turret. Each chuck receives a section of glass tubing and presents this tubing successively to a series of forming stations where specially shaped tools in cooperating moving tool mountings combine to shape the end of the glass tubing into a bell or spigot shape or similar shape.

3,505,055
METHOD OF CONTROLLING PLANT GROWTH WITH CARBOXAMIDOTHIAZOLES

Bogislav von Schmeling, Hamden, Conn., and William A. Harrison and Marshall Kulka, Guelph, Ontario, Canada, assignors to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 7, 1966, Ser. No. 611,197
Int. Cl. A01n *9/12*
U.S. Cl. 71—90 11 Claims

This invention relates to the use of carboxamidothiazoles as fungicides and plant growth regulants.

3,505,056
USE OF ISOCHLORTETRACYCLINE IN RIPENING SUGARCANE AND COMPOSITIONS USEFUL THEREIN

Louis G. Nickell and Tyrus Tanimoto, Honolulu, Hawaii, assignors to Hawaiian Sugar Planters' Association, Honolulu, Hawaii, a voluntary, nonprofit agricultural organization
No Drawing. Filed Dec. 18, 1967, Ser. No. 691,227
Int. Cl. A01n *5/00*
U.S. Cl. 71—88 5 Claims

Sucrose yield of sugarcane is increased, and more particularly the relative proportion of non-sucrose components in the cane is reduced, by treating the younger, growing parts of the cane stalk with isochlortetracycline (isoaureomycin).

3,505,057

METHOD FOR THE CONTROL OF PLANTS

Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 22, 1962, Ser. No. 181,792

Int. Cl. A01n *9/22*

U.S. Cl. 71—93 **3 Claims**

This invention concerns certain tetrahydro-s-triazinones and thiones and herbicidal compositions and methods employing the same.

3,505,058

DITHIOGLUTARIMIDE HERBICIDAL COMPOSITION AND METHOD OF USE

Robert M. Dryden, Media, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Filed Mar. 12, 1968, Ser. No. 712,341

Int. Cl. A01n *9/22*

U.S. Cl. 71—94 **3 Claims**

A herbicidally active composition and method of use comprising 2,6-dithioglutarimide in association with an agricultural carrier.

3,505,059

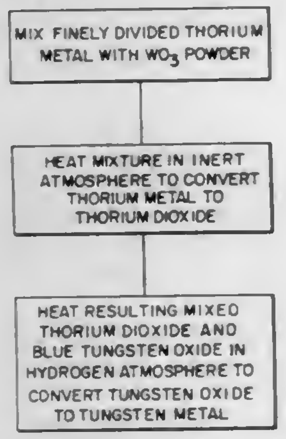
METHOD FOR FORMING FINE AND UNIFORM DISPERSION OF THORIUM DIOXIDE IN TUNGSTEN POWDER

Nicholas F. Cerulli, North Caldwell, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 30, 1966, Ser. No. 583,336

Int. Cl. H01b *1/02;* **H01k** *1/08;* **B22f** *1/00*

U.S. Cl. 75—.5 **5 Claims**


MIX FINELY DIVIDED THORIUM METAL WITH WO_3 POWDER
HEAT MIXTURE IN INERT ATMOSPHERE TO CONVERT THORIUM METAL TO THORIUM DIOXIDE
HEAT RESULTING MIXED THORIUM DIOXIDE AND BLUE TUNGSTEN OXIDE IN HYDROGEN ATMOSPHERE TO CONVERT TUNGSTEN OXIDE TO TUNGSTEN METAL

1. The method of forming a very fine and uniform dispersion of thorium dioxide doping in tungsten metal powder, said method comprising:

(a) distributing throughout the tungsten to be doped, when in the form of finely divided yellow tungsten oxide (WO_3), a predetermined amount of finely divided thorium metal, with the total amount of distributed thorium metal not exceeding about five percent by weight of said yellow tungsten oxide;

(b) heating said mixed yellow oxide and thorium metal in an inert atmosphere, at a temperature of from about 950° C. up to the temperature at which blue tungsten oxide ($W_{20}O_{58}$) will begin to volatilize, for a sufficient time to convert said thorium metal to thorium dioxide; and

(c) thereafter heating the resulting mixture of blue tungsten oxide and thorium dioxide in a hydrogen atmosphere at a sufficient temperature and for a sufficient time to reduce the tungsten oxide to metal.

3,505,060

REDUCTION OF OXIDIC FERROUS ORES

Günter Heitmann, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany, and The Steel Company of Canada Limited, Hamilton, Ontario, Canada, a corporation of Canada

No Drawing. Filed Apr. 28, 1967, Ser. No. 634,473

Claims priority, application Germany, May 5, 1966, M 69,397

Int. Cl. C21b *1/06*

U.S. Cl. 75—1 **9 Claims**

A process for the reduction of oxidic ferrous ores wherein the ore is treated in a kiln and then in a furnace, preferably an electric furnace. The entire quantity of reducing agent necessary for both steps of the reducing process is fed to the kiln from the solid product discharge end thereof in such manner that the reducing agent is substantially evenly distributed throughout the width of the surface of the charge in a kiln portion having a length of at least about 4 meters.

3,505,061

PROCESS OF DESULPHURIZING PIG IRON IN THE REDUCTION OF ORE IN A ROTARY FURNACE

Erik Anders Ake Josefsson, Erik Axel Bengtsson, and Kurt Karl Axel Almqvist, Borlange, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a company of Sweden

No Drawing. Filed July 8, 1965, Ser. No. 470,566

Claims priority, application Sweden, July 13, 1964, 8,541/64

Int. Cl. C21b *11/06*

U.S. Cl. 75—40 **10 Claims**

A process for producing pig iron low in phosphorus and sulfur comprising a dephosphorization step wherein solid carbonaceous matter is floated on a molten basic slag layer over which an oxidizing gas is provided and onto which iron oxide to be refined is fed, the slag layer being maintained so as to contain at least about 3% by weight of iron in the form of iron oxide and at a temperature at less than about 1450° C., removing the slag layer when the phosphorus content of the pig iron therebelow is reduced to a predetermined value, and a desulfurization step wherein a basic slag former is added to reestablish the molten basic slag layer onto which additional carbonaceous matter is floated, said reestablished slag layer being maintained with not more than about 3% by weight of iron in the form of iron oxide and at a temperautre above about 1400° C. until the sulfur content in the pig iron below the slag layer is reduced to less than a predetermined value.

3,505,062

METHOD FOR POSITIONING AN OXYGEN LANCE

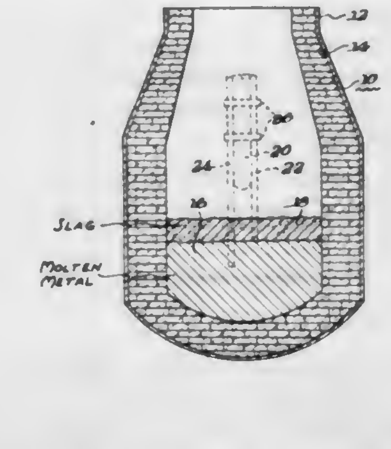
Ray Edwin Woodcock, Tarentum, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Original application Oct. 24, 1965, Ser. No. 504,772, now Patent No. 3,395,908, dated Aug. 6, 1968. Divided and this application Feb. 29, 1968, Ser. No. 709,467

Int. Cl. C21c *5/32*

U.S. Cl. 75—60 **1 Claim**

A method for positioning an oxygen lance in a basic oxygen converter utilizing conductive rods attached to and extending unequal distances below the lower end of the lance so that the level of the liquid metal can be detected through the slag. Based on this determination, which establishes a reference position for the lance tip above the liquid metal, the lance can be positioned as desired to give maximum effect to the oxygen blow.



3,505,063

CONDENSATION OF MAGNESIUM VAPORS

Walther Schmidt, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed July 5, 1967, Ser. No. 651,152

Int. Cl. C22b *45/00*

U.S. Cl. 75—67 **5 Claims**

A method is disclosed for condensing magnesium vapors by contacting the vapors with an aluminum base magnesium alloy at a temperature below about 600° C. The alloy preferably contains 75% aluminum and 25% magnesium before the condensation and 72–85% magnesium after condensation of the vapors therein.

3,505,064

HAFNIUM ALLOY

James W. Mock, Franklin Township, Export, and John F. Nigon, New Kensington, Pa., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 21, 1965, Ser. No. 500,259

Int. Cl. C22c *27/00, 15/00;* **G21c** *5/12*

U.S. Cl. 75—134 **10 Claims**

1. A hafnium base alloy consisting essentially of up to 4.5% by weight zirconium, from 100 to 600 p.p.m. of oxygen, from 200 to 500 p.p.m. of iron, from 20 to 200 p.p.m. titanium, from 20 to 250 p.p.m. of nickel, and the balance being hafnium and incidental impurities.

3,505,065

METHOD OF MAKING SINTERED AND INFILTRATED REFRACTORY METAL ELECTRICAL CONTACTS

Childress B. Gwyn, Jr., Wethersfield, Conn., assignor to Talon, Inc., Meadville, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 12, 1968, Ser. No. 751,752

Int. Cl. B22f *7/02*

U.S. Cl. 75—208 **8 Claims**

Method of making refractory metal electrical contacts by sintering and/or infiltration are disclosed wherein a small percentage of the refractory metal content or a small percentage of copper is provided in the form of an oxide or fluoride which is reduced to the virgin metal during the sintering and/or infiltrating process. Tungsten or molybdenum thus reduced in situ have improved wetting characteristics, thus facilitating improved infiltration by silver and permitting the production of refractory metal contacts having greater homogeneity than heretofore possible.

3,505,066

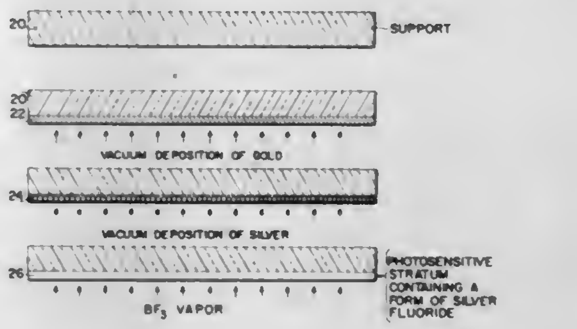
PHOTOGRAPHIC PRINT-OUT PROCESS UTILIZING BINDER-FREE SILVER FLUORIDE

Joel M. Peisach, Hudson, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Oct. 5, 1966, Ser. No. 584,447

Int. Cl. G03c *1/02*

U.S. Cl. 96—27 **5 Claims**


20
SUPPORT
20
22
VACUUM DEPOSITION OF GOLD
24
VACUUM DEPOSITION OF SILVER
26
PHOTOSENSITIVE STRATUM CONTAINING A FORM OF SILVER FLUORIDE
BF_3 VAPOR

Print-out images may be obtained by exposure of silver fluoride strata to ultraviolet radiation. The silver fluoride stratum is preferably prepared by BF_3 treatment of vacuum deposited silver. The print-out image density may be increased by heating after exposure.

3,505,067

ALKYLATED POLY-N-VINYL-LACTAM STABILIZED SILVER HALIDE EMULSIONS

Fritz Dersch, Binghamton, and Richard P. Armentrout, Marathon, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 16, 1967, Ser. No. 623,551

Int. Cl. G03c *5/30, 1/34, 1/72*

U.S. Cl. 96—66 **10 Claims**

Stabilizers for light-sensitive silver halide emulsions containing as a stabilizer agent a compound comprising an alkylated polymer of a heterocyclic N-vinyl monomer of the lactam series in which the alkyl radical of said polymer contains from 2 to 2000 carbon atoms.

3,505,068

PHOTOGRAPHIC ELEMENT

Clark Beckett and Henry D. Porter, Rochester, and Wilfred L. Wolf, Pittsford, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 23, 1967, Ser. No. 648,225

Int. Cl. G03c *1/76, 3/00*

U.S. Cl. 96—68 **17 Claims**

Photographic elements are provided which have overlying silver halide emulsion layers of different, overlapping speed sensitivities. The slower emulsion layer comprising grains having a shell composed of a silver halide substantially free from iodide, and a core which contains silver haloiodide; the faster emulsion layer comprises silver haloiodide grains. Lower contrast is obtained when such photographic elements are employed in photographic processes wherein a reversal dye image is formed. Preferably the slower emulsion layer is closest to the support.

3,505,069

PROCESS FOR MAKING SILVER HALIDE EMULSIONS

John Howard Bigelow, Rochester, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 18, 1966, Ser. No. 521,449

Int. Cl. G03c *1/10, 5/00*

U.S. Cl. 96—94 **7 Claims**

Preparation of light-developable, direct-writing silver halide emulsions by admixing a water-soluble silver salt with an aqueous acid solution of water-soluble chloride and a colloid binder and with a thiuram sulfide, e.g., monosulfide, disulfide, or tetrasulfide or a dithiocarbamate; ripening the precipitated silver chloride and adding 100–200 mole percent based on silver of a water-soluble bromide, digesting the silver chlorobromide emulsion and mixing it with a water-soluble copper or lead salt and a halogen acceptor. When in layers of oscillograph recording papers the emulsions yield images of high maximum density, greater stability against fading, high speeds and admit of rapid access.

3,505,070
DIRECT POSITIVE EMULSION CONTAINING DIMETHINE DYES CONTAINING A 2-AROMATICALLY SUBSTITUTED INDOLE NUCLEUS

Roberta A. Litzerman, Donald W. Hesteltine, and John D. Mee, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 533,459, Mar. 11, 1966. This application Jan. 17, 1967, Ser. No. 609,764

Int. Cl. G03c *1/08*

U.S. Cl. 96—102 **23 Claims**

Dimethine dyes are provided which contain a 2-aromatically substituted indole nucleus and a second desensitizing nucleus. Direct positive emulsions containing these dyes are also provided.

3,505,071
HARDENING AGENTS FOR GELATIN COATING COMPOSITIONS

Salvatore Emmi, Binghamton, N.Y., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 14, 1967, Ser. No. 622,921

Int. Cl. G03c *1/30*

U.S. Cl. 96—111 **6 Claims**

Hardening agents for gelatin coating compositions comprising butyne and propene derivatives.

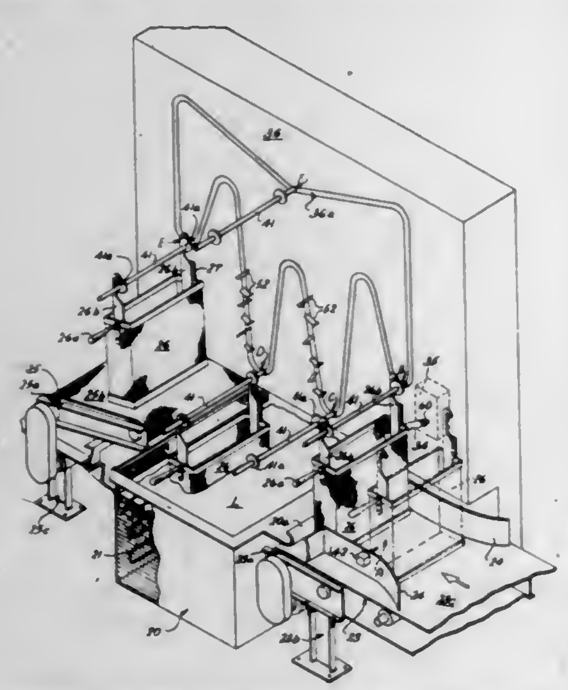
3,505,072
METHOD AND APPARATUS FOR OPERATING A SINGLE LINE CONVEYOR

George B. Rullman, 738 E. 7th St.,
Hastings, Nebr. 68901

Filed June 9, 1969, Ser. No. 831,487

Int. Cl. A47j *37/12*

U.S. Cl. 99—1 **22 Claims**



A method and apparatus having a single line travel may be utilized for cooking or material processing where accurate control of time at a particular location is very important. The conveying apparatus includes a timing mechanism which automatically regulates and controls the time that particular products, generally food, may be exposed to a processing environment.

The method for processing the material includes the following steps:

Locating preselected amounts of said material on carriers suitable for conveying in a single line conveyor;

Setting the time program for exposure to said processing environment on a device located on each carrier having said material therein; and

Conveying said carrier into said processing environment for a time period determined by the time program on said carrier.

3,505,073
FEED COMPOSITION AND METHOD OF PREPARING SAME

Harold Eli Bode, 14170 Onaway Road,
Cleveland, Ohio 44120

No Drawing. Continuation-in-part of application Ser. No. 215,498, Aug. 8, 1962. This application Mar. 1, 1965, Ser. No. 437,010

Int. Cl. A23k *1/02*

U.S. Cl. 99—9 **8 Claims**

A dry, non-hygroscopic molasses product is obtained by fermenting the hygroscopic sugars in molasses to lactic acid, lime neutralizing, and drying the resulting lime-neutralized lactated molasses. By blending a lime-neutralized lactated molasses with diammonium phosphate, an aqueous suspension of such a blend results in a mixture of an ammonium lactate solution and a dicalcium phosphate. Ammonium lactate has unusually high synthetic protein availability for ruminants, and dicalium phosphate is an excellent animal feed nutritional source for calcium and phosphorus.

3,505,074
PHOSPHATIDES AND THEIR METHOD FOR THEIR PREPARATION

Hermann Pardun, Kleve, Germany, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Apr. 16, 1968, Ser. No. 721,567

Claims priority, application Germany, Apr. 18, 1967, U 13,785

Int. Cl. A23j *7/01*

U.S. Cl. 99—15 **15 Claims**

A process for the preparation of plant phosphatides which can be used both in oil-in-water emulsions and in water-in-oil emulsions and which do not lose their emulsifying power in the presence of calcium and/or magnesium ions, in which an aqueous emulsion of an unhydrolysed plant phosphatide at a pH between 2 and 12 is hydrolysed between 50° and 100° C. and the phosphatide is separated from the aqueous medium when its hard water half-value time for emulsification of oil is at least 0.2 hour.

3,505,075
METHOD AND APPARATUS FOR PRODUCING FROZEN CARBONATED BEVERAGE

Stewart L. Black, Lees Summit, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri

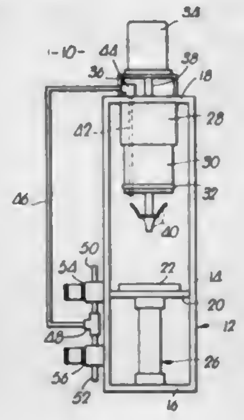
Filed May 1, 1968, Ser. No. 725,828

Int. Cl. A23l *1/26;* **F25c** *7/00*

U.S. Cl. 99—28 **13 Claims**

A method and apparatus for preparing a frozen slush beverage wherein ice in chunk form admixed with a flavoring agent therefor is reduced to a finely divided state in an atmosphere of a pressurized gas such as carbon dioxide

and under conditions causing a part of the gas to be absorbed by the mixture and thus produce the frozen beverage. The chunk ice and flavoring agent are maintained under the pressurized atmosphere of said gas in a closed receptacle and stirred with a cutter blade rotated at a sufficiently high speed to quickly reduce the ice to finely divided form. A portion of the gas is absorbed by the flavoring agent and water resulting from partial melting of the ice.



3,505,076
EDIBLE FOOD PRODUCT AND PROCESS

John F. Maloney, Eugene H. Sander, and Adolf Wilhelm, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Mar. 10, 1967, Ser. No. 622,095

Int. Cl. A23l *1/18*

U.S. Cl. 99—81 **23 Claims**

A new food product and process for making the same which comprises impregnating a puffed cereal matrix selected from the group consisting of puffed cereal doughs and grains with a slurry comprised of fat and starch.

3,505,077
PRODUCTION OF RECOMBINED CREAM

Arthur Bratland, Bergen, Norway, assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 479,294, Aug. 12, 1965. This application Dec. 29, 1965, Ser. No. 517,418

Claims priority, application Norway, Jan. 9, 1965, 156,279; Mar. 6, 1965, 157,083; Aug. 31, 1965, 159,543, 159,544

Int. Cl. A23c *9/00, 11/00, 13/12*

U.S. Cl. 99—63 **15 Claims**

A recombined milk or cream is obtained by mixing together a low fat milk fraction, a high fat milk fraction and water. The low fat fraction includes skim milk and buttermilk or the low fat fraction obtained by concentrating a cream of at least 20% fat up to about 70% fat.

3,505,078
PROCESS FOR PREPARING A HONEY-GRAHAM FLAVORED CEREAL

Bohdan O. Hreschak, Hawthorne, N.J., assignor to National Biscuit Company, a corporation of New Jersey

No Drawing. Filed Aug. 22, 1966, Ser. No. 573,826

Int. Cl. A23l *1/10*

U.S. Cl. 99—83 **13 Claims**

A non-baked, honey-graham flavored, quick-cooking cereal product is produced by mixing a syrup containing honey and sodium-bicarbonate with wheat flour, followed by cooking, drying and comminuting to the desired size.

3,505,079
DRY, FREE-FLOWING BAKING MIX AND PROCESS FOR PREPARING SAME

Reginald E. Meade, Stillwater, and Sheldon I. Greenberg, Minneapolis, Minn., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 372,961, June 5, 1964. This application Oct. 12, 1967, Ser. No. 676,671

The portion of the term of the patent subsequent to May 14, 1985, has been disclaimed

Int. Cl. A21d *2/00;* **A23l** *1/00*

U.S. Cl. 99—94 **28 Claims**

Improved baked products and recipes for preparing baked products are obtained from a free-flowing baking premix. The baking premix comprises a multiplicity of particles, each of said particles contains sugar and flour constituents. The particles have a plurality of gas voids therein. The flour constituents in the particles have been rearranged such that the flour constituents in combination with sugar and aerated particle structure provide rapid dispersion of the starch and gluten components in an aqueous medium. Shortening may be provided in the particles as emulsified gat globules in a carefully controlled amount in respect to the flour and sugar. Cake mixes are provided from the premix by blending the premix with sugar and other conventional cake mix ingredients.

3,505,080
METHOD AND MEANS FOR SEASONING AND CURING FOOD PRODUCTS

Lawrence J. Cullen, 1517 Bonnie Brae,
River Forest, Ill. 60305

No Drawing. Continuation-in-part of application Ser. No. 428,543, Jan. 27, 1965. This application Aug. 18, 1967, Ser. No. 661,557

Int. Cl. A23b *1/01;* **A23l** *1/26*

U.S. Cl. 99—108 **4 Claims**

Seasoning mixtures of liquid spice extractives are adsorbed on solid nonporous pyrogenic silica particles having no internal surface area and which serve as a carrier adapted for homogeneous distribution by mechanical means throughout the mass of a food product made of comminuted materials and from which the adsorbed extractives are stripped by the action of moisture within the food product to become uniformly dispersed therein as pure spice extractive, independent of the carrier, for seasoning the food product. Curing agents applied to the same carrier are dispersed in the food product in the same manner for effecting a curing operation.

3,505,081
PROCESSING OF SAUSAGE PRODUCTS

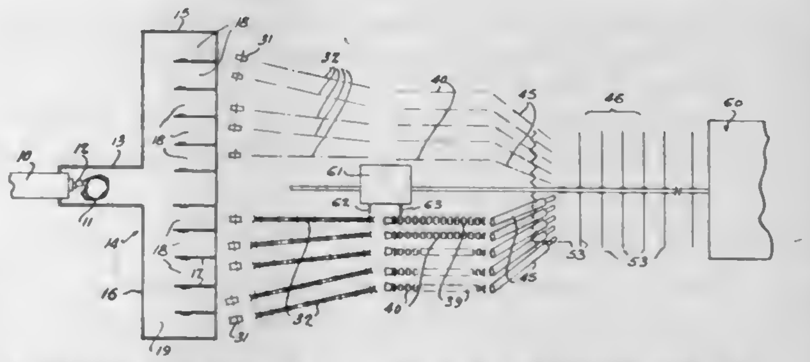
William R. J. Wallace, Montreal, Quebec, Canada, assignor to Hygrade Foods Inc., Montreal, Quebec, Canada

Filed May 4, 1966, Ser. No. 547,572

Claims priority, application Canada, Apr. 1, 1966, 957,169

Int. Cl. A22c *11/00*

U.S. Cl. 99—109 **3 Claims**



Apparatus and method for improving the transportation of a chain of cased sausage products interconnected by untied, twisted links of casing material. To reduce the tendency to untwist during susequent handling (e.g. cooking) the sausages are squeezed transversely to strain the casing material beyond its elastic limit in the vicinity of the links. In addition the chain is subjected to tension to ensure registration between the products and an indexing conveyor, regardless of any irregularities in the length of the links.

3,505,082
SALT SUBSTITUTE COMPOSITION

Howard C. Miller, Mount Prospect, Ill., assignor to Morton International, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 12, 1967, Ser. No. 645,509

Int. Cl. A23l *1/22*

U.S. Cl. 99—143 **9 Claims**

A sodium-free dietary substitute composition for table salt comprising a major proportion of potassium chloride and a minor proportion of fumaric acid being characterized by the relative freedom of bitter after-taste, corrosiveness, hygroscopicity and deliquescence.

3,505,083
PACKAGING AND A METHOD OF PACKAGING PERISHABLE COMESTIBLES FOR REFRIGERATION

Frederick B. Schelhorn, Savannah, Tenn., assignor to Owens-Illinois, Inc., a corporation of Ohio

Continuation of application Ser. No. 307,387, Sept. 9, 1963, now Patent No. 3,342,613, dated Sept. 19, 1967. This application Jan. 3, 1967, Ser. No. 607,019

The portion of the term of the patent subsequent to Sept. 19, 1984, has been disclaimed

Int. Cl. B65b *25/06, 23/00*

U.S. Cl. 99—171 **7 Claims**

The invention relates to an improvement in the packaging of and an improved method for packing perishable comestibles for shipment under refrigeration in a water soaked condition in which the comestibles are wrapped in a blanket having a moisture absorbent material in contact with the water soaked comestibles with a thin film of plastic secured to the back of the water absorbent material by spots of bonding at widely spaced intervals, the water absorbent material and the plastic film being unconnected between the bonded spots so that the plastic film and the moisture absorbent material can move relative to each other in the unconnected areas to permit the plastic film to stretch independently of the moisture absorbent material to accommodate protuberances of the comestible.

3,505,084
METHOD OF PREPARING A COLLAGEN SAUSAGE CASING

Allan James Kidney, Ealing, London, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed June 13, 1966, Ser. No. 556,849

Claims priority, application Great Britain, June 14, 1965, 25,123/65

Int. Cl. B29c; A23b *1/00*

U.S. Cl. 99—175 **4 Claims**

Process of manufacturing collagenous products in which collagenous dough is shaped to form the product, the dough is subjected to a solution of collagen-precipitating setting salt, and the product is dried to a moisture content of 15–40% by weight in the presence of the salt.

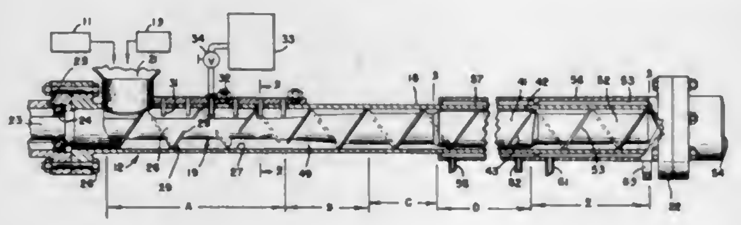
3,505,085
APPARATUS FOR PROCESSING FOOD PRODUCTS

Robert O. Straughn, Robert N. Bateson, and Robert W. Stephenson, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

Original application Nov. 27, 1964, Ser. No. 414,133. Divided and this application June 17, 1968, Ser. No. 737,794

Int. Cl. A47j *43/04*

U.S. Cl. 99—234 **4 Claims**



Apparatus for processing food products such as corn, soybean, cereal grain and other vegetable proteins to upgrade the proteins and simulate the physical and taste characteristics of other foods. The apparatus is a mixing apparatus utilizing a rotating core having helical agitators all mounted in a barrel through which food products are fed to produce intensive mixing of the various food ingredients to produce a generally homogeneous food mixture.

3,505,086
PAINTS CONTAINING ZINC DUST, ALKALI SILICATES AND ORGANIC NITRO COMPOUNDS

Helmut V. Freyhold, Dusseldorf-Oberkassel, Germany, assignor to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany

No Drawing. Filed Aug. 12, 1968, Ser. No. 751,736

Claims priority, application Germany, Aug. 18, 1967, H 63,639

Int. Cl. C09d *5/10*

U.S. Cl. 106—1 **5 Claims**

Corrosion resistant paints comprising metal dust together with an alkali silicate binding agent in which the agent includes an organic nitro compound soluble in aqueous solutions of the silicates together with boric acid or salts thereof.

3,505,087
FLAME-RETARDANT RAYON CONTAINING HALOGENATED PHOSPHONITRILATE POLYMER

Leonard E. A. Godfrey, Pennington, N.J., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 566,757, July 21, 1966. This application Apr. 25, 1969, Ser. No. 819,483

Int. Cl. C09k *3/28;* **D01f** *3/12*

U.S. Cl. 106—15 **9 Claims**

Flame-retardant regenerated cellulose filaments and filamentary articles containing dispersed therein a flame-retardant amount of a substantially water-insoluble, liquid, halogenated phosphonitrilate polymer, and a method of preparing the filamentary articles are disclosed herein.

3,505,088
PROCESS FOR THE MANUFACTURE OF A TITANIUM DIOXIDE PIGMENT FOR THE DELUSTERING OF POLYAMIDE FIBERS

Hans-Hermann Luginsland, Opladen, Gerhard Rieck, Leverkusen, and Helmut Weber, Odenthal-Osenau, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 2, 1966, Ser. No. 569,571

Claims priority, application Germany, Aug. 5, 1965, T 29,162

Int. Cl. C09c *1/36*

U.S. Cl. 106—308 **7 Claims**

Process for the manufacture of an improved titanium dioxide suitable for use as a delusterant in polyamide fibers is disclosed. The process is characterized by subjecting a titanium dioxide pigment, manufactured in any desired manner, to post-treatment with a water-soluble manganese (II) salt and orthophosphoric acid or a water-soluble orthophosphate and one or more other hydrated oxides that are non-colored and difficultly soluble or other non-colored and difficultly soluble compounds formed by water-soluble metal salts and/or a water soluble silicate.

3,505,089
METHOD OF MAKING PRESSED FOAM GLASSY PELLET BODIES

David Rostoker, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 9, 1966, Ser. No. 600,536

Int. Cl. C04b *35/16*

U.S. Cl. 106—40 **7 Claims**

A method of making a foamed refractory body from particulate natural felsic igneous and metamorphic rocks by intimately mixing the rocks with chemically reactable foaming agents that are essentially oxygen stable below 1050° C. and reactive at the foaming temperature of the rocks to form a substantially uniform particulate mixture, pelletizing the mixture with a sufficient amount of water to form pellets, firing the pellets at a foaming temperature of 1115° to 1200° C. in the presence of a bed of a fibrous, refractory, anhydrous mineral material to form expanded pellets, pressing the hot expanded pellets into a foamed sintered body, and cooling and annealing the foamed body.

3,505,090
PROCESS FOR THE PRODUCTION OF CARBON ARTICLES

Peter H. Pinchbeck, Chesterfield, England, assignor to United Coke & Chemicals Company Limited, Treeton, England, a British company

No Drawing. Filed Jan. 10, 1967, Ser. No. 608,273

Claims priority, application Great Britain, Jan. 11, 1966, 1,298/66

Int. Cl. C08h *13/00, 17/02, 17/66*

U.S. Cl. 106—284 **10 Claims**

In the production of a carbon electrode or other carbon article by baking a green compact of carbonaceous material with a binder of tar or pitch in order to carbonize the binder, polymerization of constituents during the baking is accelerated by a complex of zinc chloride and an organic base which remains stable during the production of the compact but is decomposed to yield zinc chloride during the baking. The complex may also be introduced into pitch used to impregnate a baked compact which is thereafter re-baked.

3,505,091
PRODUCTION OF TITANIUM DIOXIDE PIGMENTS

Pedro Carlos Santos, Antioch, Calif., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 456,522, May 17, 1965. This application July 29, 1968, Ser. No. 748,198

Int. Cl. C09c *1/36*

U.S. Cl. 106—300 **5 Claims**

Titanium dioxide pigment prepared by the oxidation of $TiCl_4$, vapor preferably containing a minor amount of $AlCl_3$ is improved with respect to resistance to chalking in coatings by carrying out the oxidation step at pressures of at least 20 p.s.i.g. and preferably between 30 and 175 p.s.i.g. Improvement with respect to hiding power is also obtained in this pressure range when an excess of oxygen is used and the reaction mixture is passed through a porous walled gas purged reaction zone, the length thereof being at least three times the diameter.

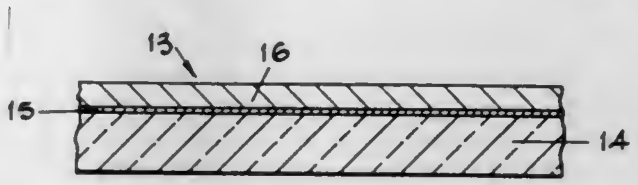
3,505,092
METHOD FOR PRODUCING FILMED ARTICLES

Joseph Dennis Ryan and Edward A. Small, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Company, a corporation of Ohio

Continuation of application Ser. No. 408,124, Nov. 2, 1964. This application June 14, 1968, Ser. No. 745,067

Int. Cl. C23c *13/02;* **C23b** *9/00;* **B44d** *5/06*

U.S. Cl. 117—33.3 **6 Claims**



Method of producing a filmed article including a transparent substrate, comprising first vacuum depositing at least one thin film on a surface of the substrate and then vacuum evaporating a transparent oxide protective coating onto the free surface of the thin film at a rate of at least 10 micro-inches per minute and continuing the evaporating until the protective coating has a thickness in the range of from 0.1 mil to 1 mil.

3,505,093
HEAT-SENSITIVE COPY-SHEET CONTAINING BIS(TRIPHENYLPHOSPHINE)BOROHYDRIDOCOPPER (I)

Donald R. Schultz, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Dec. 1, 1967, Ser. No. 687,126

Int. Cl. B41m *5/18, 5/26;* **C07h** *5/02*

U.S. Cl. 117—36.8 **5 Claims**

A heat-sensitive copy-sheet useful in thermographic copying contains bis(triphenylphosphine)borohydridocopper (I) as the visibly heat-sensitive component.

3,505,094
TITANIUM-IRON EUTECTIC METALIZING

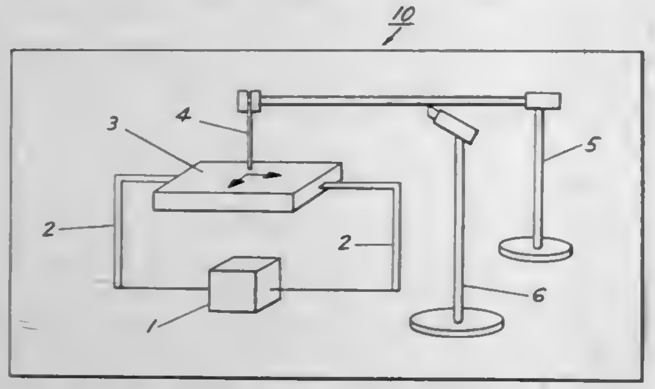
Gregory Arutunian, Detroit, Mich., assignor to the United States of America as represented by the Secretary of the Army

Filed May 5, 1966, Ser. No. 548,368

Int. Cl. C23c *17/00*

U.S. Cl. 117—50 **5 Claims**

A novel method for applying a layer of titanium to a ferrous metal substrate whereby the ferrous metal substrate is heated in a vacuum or inert atmosphere to a eutectic reaction temperature for said ferrous metal substrate and a titanium sample and manipulating said



titanium sample while in contact with the heated substrate to cause a titanium-ferrous eutectic coating to be formed on the surface of the ferrous metal substrate.

3,505,095

PREPLATING TREATMENT FOR MARAGING STEELS

George S. Petit and Ralph R. Wright, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Apr. 5, 1967, Ser. No. 628,790

Int. Cl. B44d *1/092*

U.S. Cl. 117—50 **4 Claims**

The coating of maraging steels, i.e., low carbon steels containing about 17 to 25 weight percent nickel, 3 to 5 weight percent molybdenum, and small percentages of cobalt, aluminum, and titanium, with a protective metal plate has been hampered by the formation of a layer of black smut on the steel surfaces during preplating pickling operations. This smut is believed to be due to the presence of a molybdenum compound on the steel surfaces that is removed by contacting the affected surfaces with an aqueous solution of lactic acid and hydrogen peroxide.

3,505,096

METHOD OF PRODUCING BLUSH COATED FABRICS OF SUPERIOR ADHESION

John L. Egitto, Belleville, N.J., Pasquale Bilello, Forest Hills, N.Y., and Frederick H. Schwacke, Jr., Clifton, N.J., assignors to Inmont Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed May 16, 1966, Ser. No. 550,136

Int. Cl. B44d *1/44;* **D21h** *5/00*

U.S. Cl. 117—56 **15 Claims**

The invention is a method for making a leather-like sheet wherein a cast film of a blushable polyurethane coating is applied onto a base sheet which has previously been wetted with a non-solvent for the polyurethane. Evaporation of the volatile components of the coating produces a microporous leather-like sheet with increased adhesion between the coating and the substrate.

3,505,097

LUSTROUS PILE FABRIC BASED ON POLYPROPYLENE

Charles B. Ratcliffe, Charlotte, N.C., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 20, 1967, Ser. No. 632,196

Int. Cl. B44d *1/14*

U.S. Cl. 117—64 **4 Claims**

Lustrous polypropylene pile fabrics, simulating natural fur, are prepared by treating the fabric with an aqueous emulsion of a silicone oil and a mineral oil and polishing. The treating emulsion can be applied to the fabric after appropriate treatments to remove process sizing or it can be applied during spinning in lieu of other types of process sizing.

3,505,098

ELECTROPLATING OF POLYMERIC MATERIALS HAVING A POLYMERIC PRIMER COATING

Vernon F. Miller, Jenkintown, and Robert P. Fellmann, Levittown, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 24, 1966, Ser. No. 588,737

Int. Cl. B44d *1/14, 1/36;* **B32b** *27/08*

U.S. Cl. 117—71 **1 Claim**

The invention relates to the electroplating of polymeric materials to which have been applied a primer composition comprising a butadiene-containing polymer, and to articles produced by the electroplating process.

3,505,099

METHOD FOR BONDING ROOM TEMPERATURE CURABLE SILICONE RUBBER TO VARIOUS SUBSTRATES

Charles George Neuroth, Blissfield, Mich., assignor, by mesne assignments, to Stauffer-Wacker Silicone Corporation, a corporation of Delaware

Filed Jan. 2, 1968, Ser. No. 695,234

Int. Cl. B32b *15/06, 25/02;* **B44d** *1/092*

U.S. Cl. 117—71 **20 Claims**

A method for bonding a room temperature curable silicone rubber to a substrate which comprises applying a zinc dust primer composition to the substrate, coating the dried primer composition with an acyloxysilane and thereafter applying a room temperature curable silicone rubber to the primed substrate.

3,505,100

ELASTOMER-COATED FIBROUS GLASS

Byron M. Vanderbilt, Scotch Plains, and Robert E. Clayton, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 639,628, May 19, 1967. This application May 10, 1968, Ser. No. 728,316

Int. Cl. B32b *17/04, 25/02;* **B44d** *1/092*

U.S. Cl. 117—76 **6 Claims**

Fibrous glass reinforced elastomers are prepared by treating the fibrous glass with an organosilicon compound in which the stable organic group attached to the silicon atom contains an amino group, and thereafter contacting the treated fibrous glass with an elastomer compound comprising a sulfur-curable elastomer containing suitable curatives and substantially no zinc oxide or free fatty acids; the composite is cured at elevated temperatures.

3,505,101

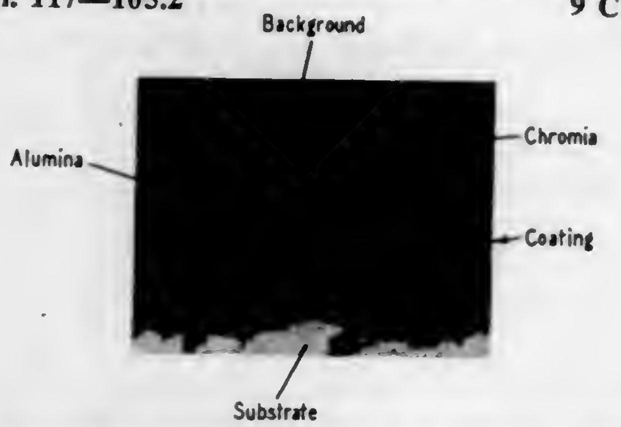
HIGH TEMPERATURE WEAR RESISTANT COATING AND ARTICLE HAVING SUCH COATING

John M. Koffskey, Jr., Indianapolis, Ind., and Larry E. Hayes, East Alton, Ill., assignors to Union Carbide Corporation, a corporation of New York

Continuation of applications Ser. No. 115,913 and Ser. No. 115,914, June 9, 1961. This application Oct. 27, 1964, Ser. No. 406,742

Int. Cl. B05b *7/20;* **B05c** *9/14*

U.S. Cl. 117—105.2 **9 Claims**



An abrasion resistant coating for a metallic substrate consisting essentially of from about 50 to 85 volume percent chromia with the remainder being alumina is provided.

3,505,102

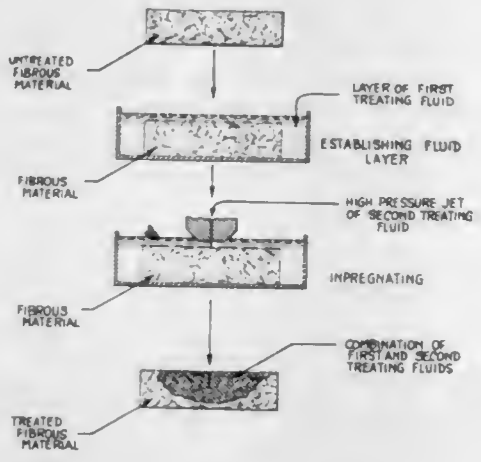
JET-THROUGH LIQUID IMPREGNATION METHOD

William T. Nearn, 1725 128th Ave. SE., Bellevue, Wash. 98004, and Robert W. Ramstad, 844 Iris Ave., Sunnyvale, Calif. 94086

Filed Aug. 15, 1967, Ser. No. 660,624

Int. Cl. B05c *8/06;* **B27k** *3/08;* **B44d** *1/12*

U.S. Cl. 117—113 **4 Claims**


UNTREATED FIBROUS MATERIAL
LAYER OF FIRST TREATING FLUID
ESTABLISHING FLUID LAYER
FIBROUS MATERIAL
HIGH PRESSURE JET OF SECOND TREATING FLUID
IMPREGNATING
FIBROUS MATERIAL
COMBINATION OF FIRST AND SECOND TREATING FLUIDS
TREATED FIBROUS MATERIAL

A method of treating porous materials with treating fluids wherein the material is submerged in one fluid through which a high-pressure jet of another fluid is directed toward the material. The jet drills a hole into the material and impregnates the material in the area around the hole with a solution including both fluids.

3,505,103

METHOD FOR METAL WETTING LINERS

James B. Walker, Almont, and Raymond S. Amala, Oak Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 22, 1965, Ser. No. 450,043

Int. Cl. C23c *1/08*

U.S. Cl. 117—114 **13 Claims**

A method of wetting a ferrous metal article with a nonferrous metal by immersing the article into a bath of molten non-ferrous metal followed by the production of high frequency resonant vibrations in a surface located in the bath adjacent the peripheral surface of the article so that sonic wave energy emanating from the surface is concentrated in the area of the peripheral surface.

3,505,104

METHOD OF FORMING AN ALUMINUM BRONZE ARTICLE

Quentin F. Ingerson, Milwaukee, Wis., assignor to Ampco Metal, Inc., Milwaukee, Wis., a corporation of Wisconsin

No Drawing. Filed Oct. 27, 1966, Ser. No. 589,802

Int. Cl. C23c *1/00*

U.S. Cl. 117—131 **5 Claims**

An aluminum bronze article having improved wear resistance and surface hardness. The article comprises an aluminum bronze core having an aluminum content in the range of 5 to 13% and aluminum is diffused into the outer surface of the core and alloys with the existing metallographic phases of the core to provide a hard wear resistant outer layer having an increased aluminum content generally in the range of 13 to 16%.

3,505,105

PROCESS FOR COATING ARTICLES WITH POLYVINYL CHLORIDE COMPOSITIONS CONTAINING AS BONDING AGENT A MIXTURE OF A POLYISOCYANATE FREE FROM ISOCYANURATE RINGS AND AN ISOCYANURATE POLYMER

James Stewart Macfarlane, Thomas James Meyrick, and Vijay Ratna Sharma, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 14, 1966, Ser. No. 601,530

Claims priority, application Great Britain, Dec. 20, 1965, 53,827/65

Int. Cl. B44d *1/44, 1/14;* **C08f** *29/18*

U.S. Cl. 117—138.8 **4 Claims**

A process for coating materials with polyvinyl chloride which comprises applying to the said materials a polyvinyl chloride composition containing as bonding agent an organic polyisocyanate free from isocyanurate rings and an isocyanurate polymer of an organic polyisocyanate, and thereafter heating the coated material.

3,505,106

METHOD OF FORMING A GLASS FILM ON AN OBJECT AND THE PRODUCT PRODUCED THEREBY

William A. Pliskin and Ernest E. Conrad, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application Sept. 29, 1961, Ser. No. 141,668. Divided and this application Sept. 22, 1965, Ser. No. 507,977

Int. Cl. H01b *3/08*

U.S. Cl. 117—201 **4 Claims**

A semiconductor structure having a thin glass coating, from a fraction of a micron to several microns in thickness, with a softening point of from 440° to 950° C. covering the surface of a semiconductor substrate.

3,505,107

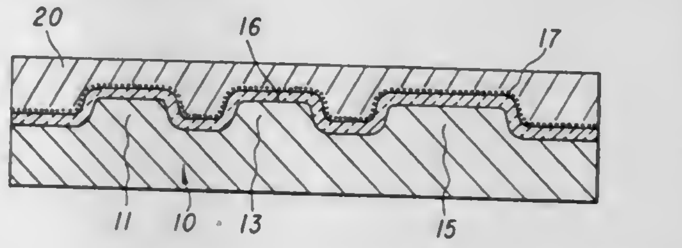
VAPOR DEPOSITION OF GERMANIUM SEMICONDUCTOR MATERIAL

Paul S. Gleim, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,412

Int. Cl. B44d *1/18;* **H01l** *15/00*

U.S. Cl. 117—212 **6 Claims**



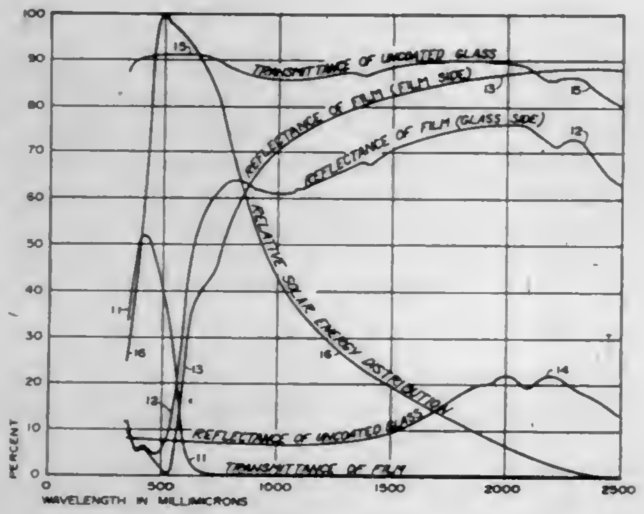
A method of depositing germanium semiconductor material upon a dissimilar material is disclosed. More specifically, a slurry containing germanium particles is applied to a substrate such as glass and evaporated to leave a coating of randomly distributed germanium particles on the substrate. Polycrystalline germanium semiconductor material is then formed over the germanium particles and the substrate by vapor deposition techniques, the particles acting as nucleating sites for the deposition.

3,505,108
TUNGSTEN BRONZE FILMS

John M. Mochel, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Continuation-in-part of application Ser. No. 378,324, June 26, 1964. This application Oct. 19, 1966, Ser. No. 598,567

Int. Cl. C03c *17/00;* **C23c** *3/00*
U.S. Cl. 117—223 **10 Claims**



This invention relates to the preparation of thin films of alkali metal tungsten-bronzes and to articles comprising a substrate material having a thin film of an alkali metal tungsten bronze deposited thereon.

3,505,109
PRODUCTION OF MAGNETIC RECORDING MEDIA

Georg Schnell, Job-Werner Hartmann, Manfred Steuerwald, and Wolfram Kittler, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Sept. 27, 1966, Ser. No. 582,241

Claims priority, application Germany, Sept. 29, 1965, 1,285,003

Int. Cl. G03g *19/00;* **H01f** *1/34*
U.S. Cl. 117—237 **8 Claims**

This invention relates to a method of producing a magnetic recording media by applying to a backing a layer of a dispersion of a ferromagnetic powder, a polyamide binder having an amorphous fraction, a solvent, and a soluble condensation product of an aliphatic fatty acid having 4–22 carbon atoms and an aliphatic hydroxyamine having at least one primary or secondary amino group, at least one hydroxyl group and a molecular weight at less than 500. The coated article is then heated to a temperature higher than the softening temperature of the polyamide amorphous fraction.

3,505,110
SUGAR PRODUCTS PREPARED FROM HYDROXYPROPYLATED STARCH

Carl C. Kesler, Cedar Rapids, Iowa, Paul L. Carey, Winston-Salem, N.C., and Oliver G. Wilson, Blountsville, Ala., assignors to Penick & Ford, Limited, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 18, 1967, Ser. No. 610,041

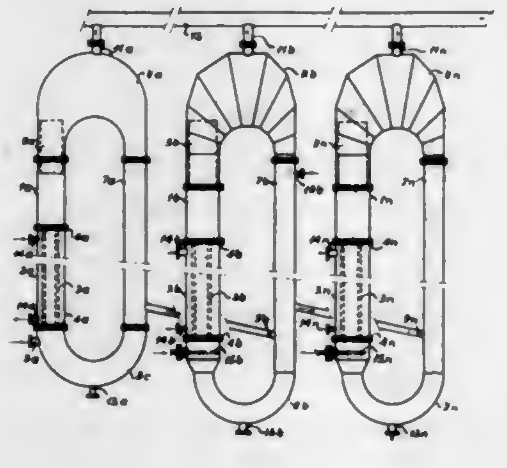
Int. Cl. C08b *25/02;* **C13k** *1/06;* **C13l** *1/08*
U.S. Cl. 127—29 **9 Claims**

Sugar products resistant to the action of salivary amylases and other animal amylases are prepared from hydroxypropylated starch by hydrolysis to a controlled dextrose equivalent (D.E.) and fermentables (F.E.). The products consisting of the hydrolyzate of the hydroxypropylated starch can be used either as a syrup or in dry form as an ingredient of confections and foods. The limited degradation of the product by salivary enzymes indicates that there will be substantially no digestion of the product in the mouth, and the product is generally resistant to amylases of animal origin. The product therefore has utility as a substitute for ordinary sugars where it is desired to limit digestion in the mouth, or in the digestive tract generally.

3,505,111
PROCESS AND DEVICE FOR THE CONTINUOUS CONCENTRATION-CRYSTALLIZATION OF SUGAR SYRUPS

Jan Michal Malek, Paris, France
(411 N. Sierra Vista, Monterey Park, Calif. 91754)
Filed Feb. 4, 1965, Ser. No. 430,435
Claims priority, application France, Feb. 14, 1964, 963,824

Int. Cl. C13f *1/00, 1/02*
U.S. Cl. 127—16 **16 Claims**



A process for the continuous concentration-crystallization of sugar syrups and massecuite by evaporation. The process comprises continuously subjecting syrups supplied in a continuous manner to a series of successive crystallizing steps under the action of heating and boiling in several successive crystallizing mass (i.e. massecuite) recirculation circuits, introducing directly into the crystallizing mass, during each of the crystallizing steps, except the first one, a damp air gaseous phase to ensure intense agitation and circulation of the said crystallizing mass in said successive recirculation circuits, separating the gaseous phase released by the massecuite at the top of each recirculation circuit, recycling by gravity the massecuite separated from the gaseous phase at the head of each recirculation circuit, so that each recirculation circuit has two liquid columns connected to their heads and bottoms, the massecuite in one of said liquid columns having an upward movement caused by the thermic currents resulting from heating and from gaseous phase bubbles rising in said column, while the massecuite in the associated recycling column has a downward movement, interconnecting two successive circuits, and discharging at the end of said successive crystallizing steps the product composed of nearly uniform crystalline grains in suspension in the resulting molasses.

3,505,112
METHOD OF CLEANING MASONRY

Roddy E. Kettler, Waco, Tex.
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,246

Int. Cl. C03c *23/00*
U.S. Cl. 134—2 **8 Claims**

A method of cleaning masonry comprising a non-pressure application of a water solution of about 6% sodium hypochlorite with traces of Prussian blue, sodium oxide, and potassium sulphate; resting the treated surface for from four to six minutes, thereafter applying a soft water spray at 300 p.s.i., followed, optionally, by non-pressure spray with 5% water solution of monopotassium persulphate.

3,505,113
RECHARGEABLE ENERGY CONVERSION PROCESS

Ulrich Merten and John T. Porter II, Del Mar, Calif., assignors to Gulf General Atomic Incorporated, San Diego, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 525,815, Jan. 14, 1966. This application Nov. 22, 1967, Ser. No. 685,136
The portion of the term of the patent subsequent to Dec. 19, 1984, has ben disclaimed

Int. Cl. H01m *43/04, 43/02, 47/00*
U.S. Cl. 136—28 **3 Claims**

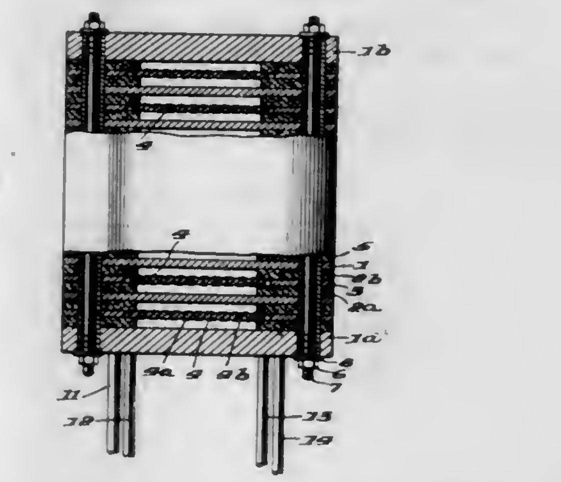
A rechargeable energy conversion system utilizing zinc anodes and oxygen-providing cathodes, such as nickel hydroxide cathodes. An aqueous alkali metal hydroxide electrolyte is circulated through the electrochemical cells and then exterior thereof where it is cooled. The circulating electrolyte removes the zinc oxide reaction products from the cells during discharge and these reaction products are separated from the electrolyte stream and stored exterior of the cells until the system is recharged.

3,505,114
ELECTRIC BATTERY COMPRISING A PLURALITY OF SERIES CONNECTED FUEL CELLS WITH SOLID ELECTROLYTE

Franz Josef Rohr, Ober Abtsteinach, Germany, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Feb. 26, 1968, Ser. No. 708,369
Claims priority, application Germany, Mar. 18, 1967, B 91,680

Int. Cl. H01m *27/10, 27/02*
U.S. Cl. 136—86 **6 Claims**

A battery comprises a stack of fuel cells connected electrically in series. Each cell in the stack which is separated from an adjacent cell by a metallic disc is comprised of a disc of solid electrolyte to the opposite faces of which metallic electrodes are applied and which is located within the opening in an annular ring of asbestos felt, and annular current take-off rings made from silver impregnated asbestos felt applied to the opposite faces of the ring of asbestos felt, the inner diameter of these current take-off rings being less than the diameter of the solid electrolyte disc and contacting the latter in order to establish a support for the solid electrolyte disc. A system of communicating bores is established through the stack of cells for the necessary circulation of the reaction gases e.g. oxygen and hydrogen through the gas-tight spaces formed on opposite sides of the solid electrolyte disc by the central spaces within the annular current take-off rings.



3,505,115
ALKALINE BATTERY

James McBreen, Bronx, N.Y., assignor to Yardney International Corp., New York, N.Y., a corporation of New York
Filed May 11, 1967, Ser. No. 637,722

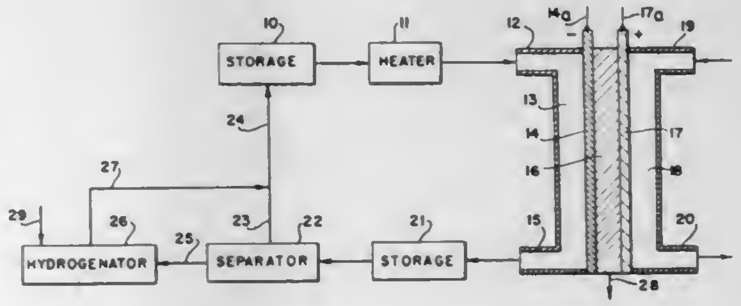
Int. Cl. H01m *43/02, 43/06, 35/02*
U.S. Cl. 136—30 **6 Claims**

An alkaline battery cell of the silver-zinc type has a negative electrode whose active material, in a charged state, is essentially zinc over an area confronting the active material of a juxtaposed positive (silver) electrode, a marginal zone of the negative electrode not confronting any positive active material consisting of zinc oxide even in the charged state; ancillary negative electrodes of zinc oxide may flank the two confronting electrodes in abutting relationship with the projecting side edges of the main negative electrode.

3,505,116
FUEL CELL AND METHOD OF OPERATION

Paul B. Weisz, Media, Pa., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 13, 1963, Ser. No. 279,827

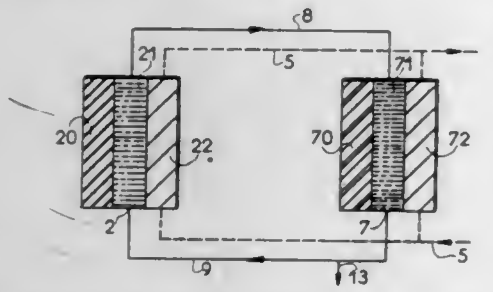
Int. Cl. H01m *27/14, 27/00, 27/26*
U.S. Cl. 136—86 **7 Claims**



A cyclic method of operating a fuel cell comprising catalytically dehydrogenating a heated saturated cyclic hydrogen donor to produce hydrogen and a less saturated compound, consuming the hydrogen in the fuel cell and removing the less saturated compound from the fuel cell and at least partially hydrogenating it to produce said hydrogen donor and repeating the cycle.

3,505,117
FUEL CELL HAVING ELECTROLYTE CONCENTRATION INCREASING AND DECREASING ELEMENTS

Michel Christen, Villemoisson-sur-Orge, France, assignor to Compagnie Generale d'Electricite, Paris, France
Filed Oct. 22, 1965, Ser. No. 501,511
Claims priority, application France, Dec. 2, 1964, 997,119
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 **23 Claims**



A current producing battery comprising at least two cells having a common electrolyte one of said cells increases the concentration of the electrolyte and the other decreases the concentration of the electrolyte during operation.

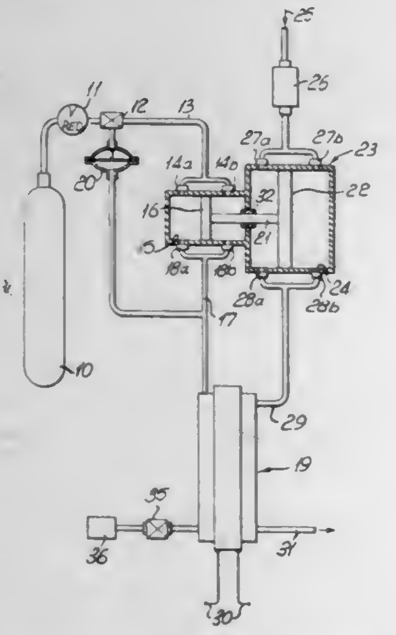
3,505,118
FUEL CELL AND PROCESS FOR PRODUCING ELECTRIC CURRENT USING TITANIUM DIOXIDE CATALYST

Vinodkumar Mehra and William R. Wolfe, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 5, 1966, Ser. No. 598,884
Int. Cl. H01m *27/04;* **B01j** *11/06*
U.S. Cl. 136—86 **9 Claims**

A relatively inexpensive catalyst for a fuel cell electrode, particularly useful with acid electrolytes, is a solid solution of at least one oxide of niobium, nickel, cobalt, molybdenum and titanium (other than titanium dioxide) in titanium dioxide.

3,505,119
FLUID SUPPLY SYSTEMS

Peter James Gillespie, Walton-on-Thames, England, assignor to Energy Conversion Limited, London, England, a British company
Filed Nov. 10, 1966, Ser. No. 593,459
Claims priority, application Great Britain, Nov. 17, 1965, 48,952/65
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 **3 Claims**



Fuel cells are constructed to include a pump for the oxidant supply to the cell which is operated by energy derived from pressurized fuel used in the cell operation enabling the oxidant supply to be automatically controlled in proportion to the fuel supply. The oxidant supply is advantageously in stoichiometric excess and a bypass circuit uses excess oxidant to remove moisture and control the electrolyte concentration.

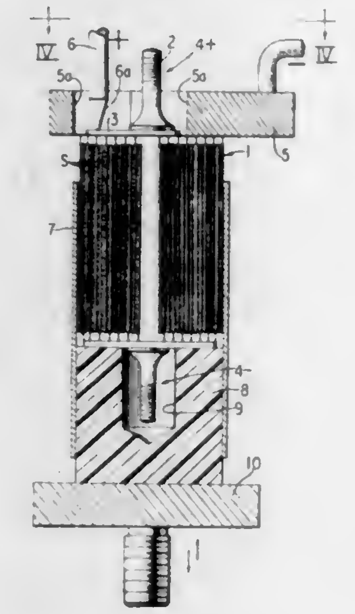
3,505,120
FUEL CELL COMPRISING FORAMINOUS SILVER ELECTRODE HAVING A POROUS LAYER OF MAGNESIUM OXIDE

David F. Cole, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,580
Int. Cl. H01m *13/00, 27/00*
U.S. Cl. 136—86 **3 Claims**

A porous metal oxide coating on the electrode of a high temperature molten carbonate fuel cell, formed by flame spraying a metal such as aluminum or magnesium on the electrode and allowing the metal to oxidize during the heat up phase of fuel cell operation. Alternatively, aluminum oxide may itself be flame sprayed onto the electrode.

3,505,121
PROCESS FOR WELDING AN ELECTRODE CURRENT COLLECTOR

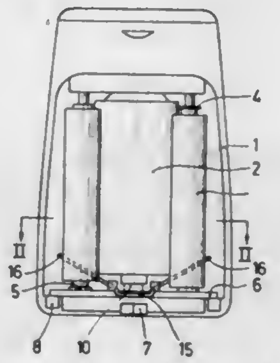
Marcel Bougaran, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Jan. 16, 1967, Ser. No. 609,631
Claims priority, application France, Apr. 1, 1966, 56,030
Int. Cl. H01m *13/10, 35/14*
U.S. Cl. 136—120 **9 Claims**



The disclosure herein relates to novel procedure for substantially uniformly welding current collectors to protruding edges of respective opposite polarity electrodes assembled as a winding or block of such electrodes wherein the edges of opposite polarity electrodes protrude from opposite ends of the winding or block. The procedure comprises applying plate-like members of a collector unit to cover portions of such protruding edges and also applying a counter welding electrode to portions of edges of such protruding electrodes not covered by and adjacent the portions covered by said members and applying a welding electrode to such members and passing welding current between the welding and counter welding electrodes so as to weld the members to the edge portions of the electrodes in the winding or block covered thereby said current which is uniformly distributed by the disposition of said welding and counter-welding electrodes relative to each other. The collector plate members may have maltese cross-like shape and the counter electrodes complementary shape to fit into spaces between rays of the cross. Other shapes may be given to said plate-like members and to said counter electrodes.

3,505,122
BATTERY EJECTOR IN BATTERY-POWERED APPARATUS

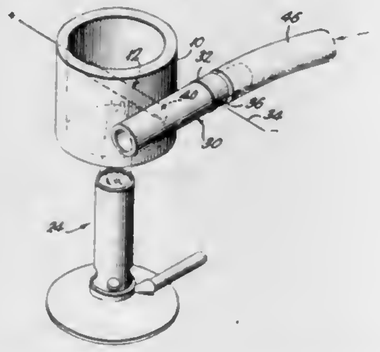
Haye Sibbele Witteveen, Gorredijk, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 22, 1967, Ser. No. 669,930
Claims priority, application Netherlands, Sept. 23, 1966, 6613435
Int. Cl. H01m *1/04*
U.S. Cl. 136—173 **4 Claims**



An ejector for removing batteries in a battery-powered apparatus, the ejector being slidable in a guide and having arm parts for engaging and moving the batteries toward an opening in the apparatus casing.

3,505,123
THERMOJUNCTION APPARATUS

Robert Edward Phillips, P.O. Box 108A, King George Road, Bound Brook, N.J. 08805
Filed Sept. 29, 1965, Ser. No. 491,173
Int. Cl. H01v *1/30*
U.S. Cl. 136—205 **1 Claim**

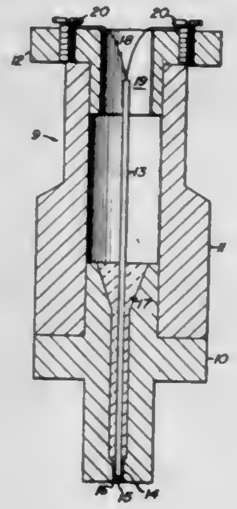


The thermojunction apparatus comprises a first portion formed of electrically conductive material and a second portion formed of like electrically conductive material with means for causing the first and second portions to be maintained at different temperatures. An electrical lead means is connected with each of said first and second portions. A semiconductor comprising a body of cupric oxide connects the first portion to the second portion.

3,505,124
SUPER-PRESSURE THERMOCOUPLE

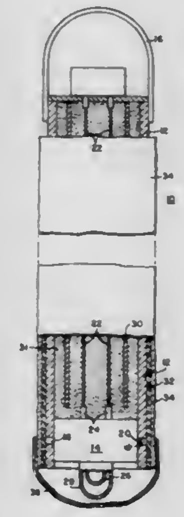
John J. Scanlon, Jr., Monroe, Conn., and Joseph B. Quinlan, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Aug. 31, 1967, Ser. No. 665,678
Int. Cl. H01v *1/04*
U.S. Cl. 136—232 **4 Claims**

A thermocouple is provided in combination with a thin walled pressure vessel to sense the temperature directly at the inner surface wall thereof while being subjected to operating pressures on the order of 70,000 p.s.i.a. The area of that portion of the thermocouple which is directly exposed to the incident pressure is substantially minimized, thereby greatly reducing the force thereon and thus allowing the utilization thereof in the aforementioned environment.



3,505,125
REUSABLE MOLTEN METAL TEMPERATURE MEASURING APPARATUS

Thomas R. Acre, Lower Burrell, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Feb. 10, 1965, Ser. No. 431,681
Int. Cl. H01v *1/04*
U.S. Cl. 136—234 **1 Claim**



An apparatus, having a disposable thermocouple, for continuously measuring the temperature of molten metal in a basic oxygen furnace without interrupting the flow of oxygen to the furnace.

3,505,126
HOMOGENEOUS ALLOY AND METHOD OF MAKING SAME

Harry W. Antes, Huntingdon Valley, Pa., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed May 12, 1967, Ser. No. 638,710
Int. Cl. C21d *1/00;* **C22f** *1/00*
U.S. Cl. 148—1 **7 Claims**

A process of homogenizing alloy material wherein a preselected surface portion of an alloy specimen is melted while the remaining surface is maintained at a substantially constant temperature below the alloy melting point.

3,505,127

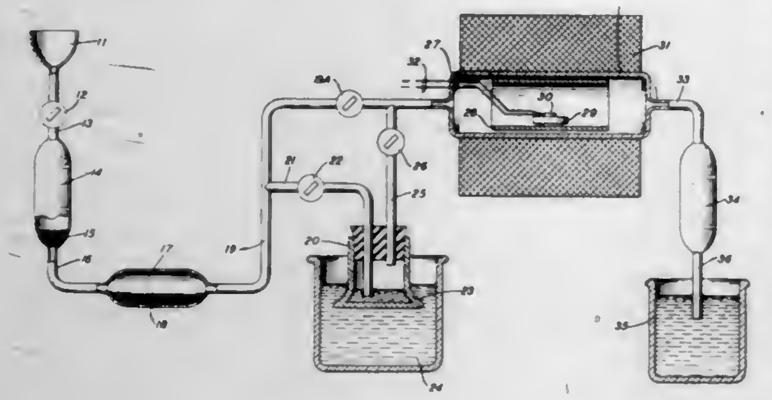
VAPOR-LIQUID-SOLID CRYSTAL GROWTH TECHNIQUE FOR THE PRODUCTION OF NEEDLE-LIKE SINGLE CRYSTALS

John R. Arthur, Jr., Murray Hill, and Richard S. Wagner, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 21, 1967, Ser. No. 669,535

Int. Cl. B01j *17/20;* **C01b** *33/00*

U.S. Cl. 148—1.6 3 Claims



Single crystal material of needle-like form may be obtained by means of the vapor-liquid-solid crystal growth technique, growth parameters of the growing crystalline material being controlled so as to result in the removal of the impurity agent and the concomitant decrease in the volume of the liquid solution and growth of crystalline materials evidencing sharp terminations.

3,505,128

AQUEOUS METAL-COATING COMPOSITION

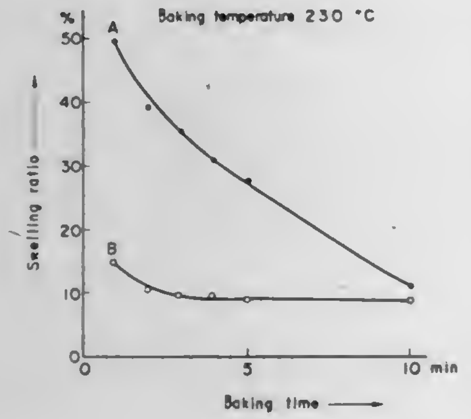
Masahiro Fujii, Tokyo, Naoe Hirai, Kawasaki, and Katsuya Inouye, Tokyo, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan

Filed Oct. 4, 1965, Ser. No. 492,650

Claims priority, application Japan, Oct. 7, 1964, 39/57,167

Int. Cl. B44d *1/34;* **C09d** *3/48*

U.S. Cl. 148—6.2 24 Claims



A single-liquid type aqueous metal-coating paint composition having corrosion-resistance and workability far superior to any conventional paint of the same kind is formed by baking in a short time at high temperature. The composition is mainly composed of a polymer or a polymer-cross-linking agent mixture containing a combination of functional groups (A) and (B) capable of liberating low molecular reducing materials by a condensation reaction in combination with water-soluble chromium compounds, wherein said functional group (A) is at least one selected from carboxyl, hydroxyl and methylol groups and the functional group (B) is an alkoxymethyl group.

3,505,129

CHEMICAL COATING PROCESS FOR METAL

Harold Burstein, Oak Park, and William S. Russell, Warren, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,294

Int. Cl. C23f *7/26*

U.S. Cl. 148—6.2 6 Claims

A process for imparting a protective and/or paint base coating of the chromate type to ferrous metal surfaces. The ferrous metal surface is first given an acidic pretreatment and is then contacted with an aqueous coating solution containing hexavalent chromium, HF and a soluble cyanide, the solution having a pH of from 1.0 to 2.5. Fluoboric acid is added to the treating solution to maintain the pH within this range. Preferably, the treating solution contains at least 0.05% CrO_3, 0.01 to 0.5% HF and 0.001 to 0.5% potassium ferricyanide and has a total fluoride content of from 0.01–6%.

3,505,130

METHOD FOR IMPROVING FATIGUE STRENGTH IN TURBINE BLADES

William Douglas Paul, Caledon, Ontario, Canada, assignor, by mesne assignments, to Orenda Limited, Toronto, Ontario, Canada, a company

No Drawing. Filed May 29, 1967, Ser. No. 642,135

Claims priority, application Great Britain, June 13, 1966, 26,308/66

Int. Cl. C21d *7/00;* **C21f** *1/00;* **B24c** *1/10*

U.S. Cl. 148—11.5 9 Claims

A method for treating turbine blades fabricated from high temperature alloys involving two cold working operations on the surfaces of the blades and a heat treatment between the cold working operations whereby a substantial increase in the strength of the blades is achieved.

3,505,131

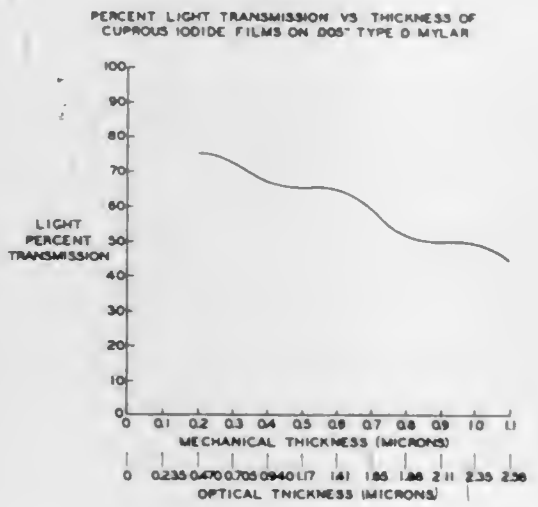
PROCESS FOR THE PREPARATION OF A CUPROUS IODIDE CONDUCTIVE FILM

John B. Wells, Brighton, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Oct. 2, 1967, Ser. No. 672,356

Int. Cl. C23b *5/50;* **C23c** *1/10;* **C23f** *5/02*

U.S. Cl. 148—6.14 18 Claims



A process for the preparation of clear, transparent cuprous iodide conductive film comprising:

(a) Evaporating copper onto a substrate in the absence of substantially all oxygen and water to form a copper film;

(b) Removing any oxide which may be formed on the surface of said film; and

(c) Exposing said film to an iodine-hydrophobic solvent solution.

3,505,132

METHOD OF ETCHING SEMICONDUCTIVE DEVICES HAVING LEAD-CONTAINING ELEMENTS

Charles Jackson, Elizabeth, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Nov. 16, 1967, Ser. No. 683,568

Int. Cl. C23f *7/24;* **H01l** *7/50*

U.S. Cl. 148—6.24 6 Claims

In the fabrication of a semiconductive device, a crystalline semiconductive body such as silicon is etched in the presence of metallic lead by treating the body with an alkaline etchant such as sodium hydroxide solution which contains a water-soluble sulfide such as ammonium sulfide, an alkali metal sulfide, or the like. The sulfide forms an inert coating of lead sulfide on the metallic lead present, and thus reduces the amount of lead which is attacked and dissolved by the etchant. The inert coating may be left in situ in the completed device.

3,505,133

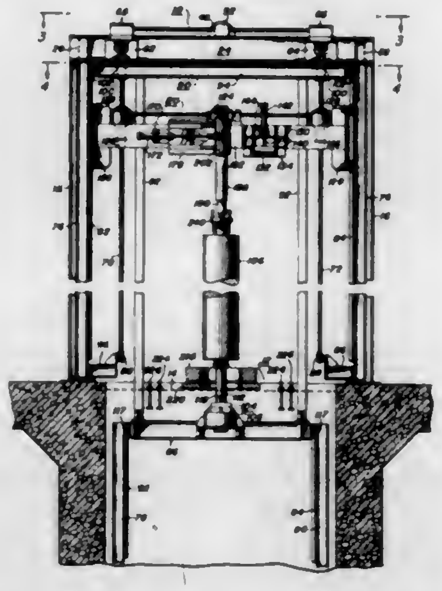
ROLL HEAT TREATING METHOD

Joseph H. Soneki, Bethlehem, and Robert L. Myers, Coopersburg, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware

Application Aug. 4, 1967, Ser. No. 658,403, which is a continuation-in-part of application Ser. No. 658,097, Aug. 3, 1967, which in turn is a division of application Ser. No. 575,736, Aug. 29, 1966. Divided and this application Apr. 9, 1969, Ser. No. 814,688

Int. Cl. C21d *1/06*

U.S. Cl. 148—143 4 Claims



A carriage, vertically movable with respect to fixed heating and quenching rings, vertically supports a roll having a bore therein. A coolant is forced upwardly through the bore while the roll is progressively heated and quenched by driving the roll downwardly through the rings. After quenching, the roll is submerged in a coolant and laterally repositioned therein.

3,505,134

METALIZING COMPOSITIONS WHOSE FIRED-ON COATINGS CAN BE SUBJECTED TO ACID BATH TREATMENT AND THE METHOD OF USING SUCH METALIZING COMPOSITIONS

Oliver A. Short, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 542,191, Apr. 13, 1966. This application Mar. 13, 1968, Ser. No. 712,607

Int. Cl. B44c *1/22;* **C23b** *3/00;* **C23g** *1/02*

U.S. Cl. 156—2 6 Claims

The disclosed invention consists of a novel composition comprising a noble metal powder of gold or gold and platinum and an inorganic binder of PbO, SiO_2 and Al_2O_3. Amounts up to 10% of TiO_2 may be added to increase the acid resistance of the composition. The Al_2O_3 is added to insure satisfactory melting. The composition is used to form solder pads on ceramic substrates. A thin film resistor is deposited over the deposited composition and is etched to remove the resistor material and the binder of the surface portion of the composition and thus expose a solderable quantity of noble metal.

3,505,135

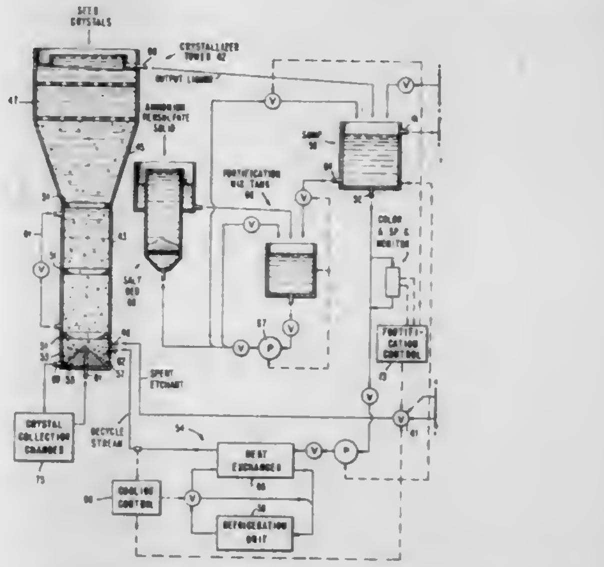
STEADY STATE COPPER ETCHING SYSTEM WITH AMMONIUM PERSULFATE

Robert T. Lindstrom, Orlando, Fla., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 27, 1966, Ser. No. 604,940

Int. Cl. C23f *1/00, 17/00;* **C23g** *1/36*

U.S. Cl. 156—19 6 Claims



A steady state system for the etching of printed circuit boards is provdied. A metal is removed from an etchant at the rate in which it is dissolved into the etchant and etching reagent consumed during the etching process is replaced at an equivalent rate. Also provided is an improved crystallization tower which is used to continuously remove the dissolved metal. The tower is provided with a series of adjustable baffles to vary the inner diameter of the tower to control crystal size throughout the column. Additionally, there is included a crystal ejection chamber from which precipitated crystals are ejected by a centrifugal force.

3,505,136

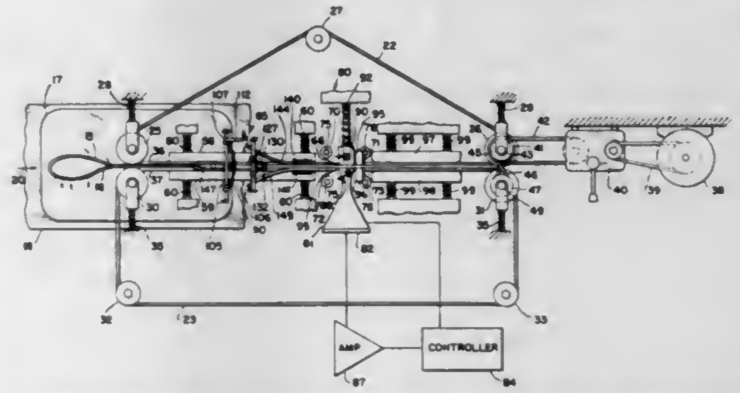
METHOD AND APPARATUS FOR BONDING THERMOPLASTIC SHEET MATERIALS

John G. Attwood, Oak Park, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Filed Sept. 19, 1966, Ser. No. 580,529

Int. Cl. B32b *31/16, 31/22;* **B29c** *27/08*

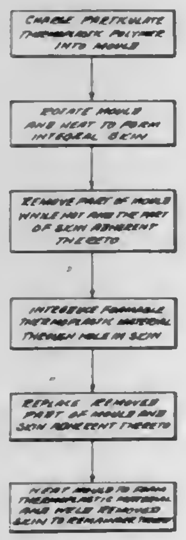
U.S. Cl. 156—73 20 Claims



A method and apparatus for ultrasonically bonding thermoplastic material in which a pair of dielectric or heat-insulating members are movably positioned on opposite sides of the material and are advanced through the bonding apparatus at a rate of movement which is less than that of the material. In some embodiments the material is cleaned either during or immediately prior to the bonding operation.

3,505,137
PROCESS FOR PRODUCING HOLLOW BODIES REINFORCED WITH A FOAMED STRUCTURE

Ronald Ian Kliene, Welwyn Garden City, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Sept. 2, 1966, Ser. No. 576,859
Claims priority, application Great Britain, Sept. 13, 1965, 38,989/65
Int. Cl. B29d *9/00, 27/00*
U.S. Cl. 156—78 **12 Claims**


CHARGE PARTICULATE THERMOPLASTIC POLYMER INTO MOULD
ROTATE MOULD AND HEAT TO FORM INTEGRAL SKIN
REMOVE PART OF MOULD WHILE HOT AND THE PART OF SKIN ADHERENT THERETO
INTRODUCE FOAMABLE THERMOPLASTIC MATERIAL THROUGH HOLE IN SKIN
REPLACE REMOVED PART OF MOULD AND SKIN ADHERENT THERETO
HEAT MOULD TO FOAM THERMOPLASTIC MATERIAL AND WELD REMOVED SKIN TO REMAINDER THEREOF

Hollow bodies having a reinforced foam structure within the hollow body are formed by introducing a thermoplastic composition into a mould which is rotated to distribute the thermoplastic composition throughout the mould and then heated to form an integral skin of the thermoplastic composition and while still hot a part of the mould's surface and the part of the thermoplastic composition adherent to that part of the mould are removed to form a hole and thermoplastic material containing a thermally decomposable blowing agent introduced through the said hole in the skin of the thermoplastic composition, and that part of the mould and skin replaced and the mould heated to decompose the blowing agent and cause the thermoplastic material to foam and simultaneously to weld that part of the skin, which was removed, to the body of the thermoplastic composition.

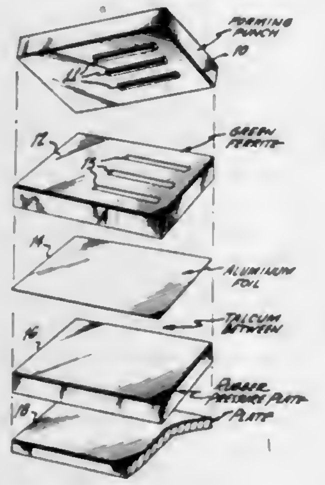
3,505,138
METHOD OF JOINING BERYLLIA TO ANOTHER CERAMIC BODY

James M. Nuding, Canoga Park, Calif., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Mar. 7, 1960, Ser. No. 12,947
Int. Cl. C03b *29/00;* **C03c** *27/00*
U.S. Cl. 156—89 **6 Claims**

1. A method of joining a preformed, structural BeO member to a second preformed, structural ceramic member selected from the group consisting of BeO and Al_2O_3, which comprises contacting said members, covering the contact points between said members with an aqueous alumina powder paste, and while maintaining said contacting relationship, heating said members in a neutral environment at a temperature of about 1650–1900° C. until a bond is formed, and then slowly cooling the resulting joined members to the ambient atmospheric temperature.

3,505,139
METHOD OF MAKING A LAMINATED FERRITE MEMORY

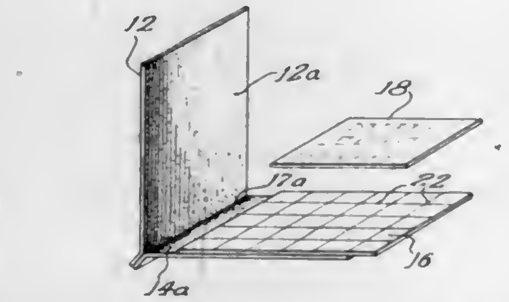
Chandler Wentworth, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,732
Int. Cl. C03b *29/00;* **C04b** *33/34, 37/00*
U.S. Cl. 156—89 **6 Claims**



A method of making a laminated ferrite memory is disclosed in which a forming punch having a raised pattern, corresponding with a desired conductor pattern, is pressed against a plain green ferrite sheet to form a corresponding depression pattern therein. A slurry of conductive particles and a vehicle is spread over the depression pattern, and excess conductive material is removed. The conductive material in the depression pattern has accurate dimensions determined by the forming punch. The ferrite sheet is then laminated with other green ferrite sheets and fired to form a homogeneous sintered ferrite body with imbedded conductors.

3,505,140
APPARATUS AND METHOD FOR LAMINATING CARD-LIKE ARTICLES

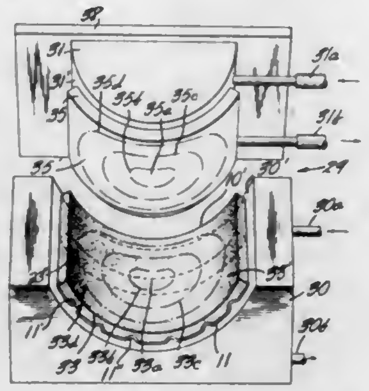
Lyman D. Dunn, % Marlan Company, 325 W. 25th Place, Chicago, Ill. 60616
Filed Apr. 20, 1966, Ser. No. 543,843
Int. Cl. B32b *29/06, 31/16*
U.S. Cl. 156—249 **4 Claims**



A lamination unit and method of use thereof for laminating card-like articles, the unit comprising a pair of translucent or transparent sheets on either side of a release sheet with the translucent sheets having adhesively coated faces in opposed engagement with the release sheet. The unit is intended to be used by separating one of the transparent sheets from the release sheet and adhering a card-like article to one transparent sheet, following which the release sheet is separated from the other transparent sheet and the other transparent sheet is adhered to the card-like article and any areas of the one transparent sheet beyond the card-like article to laminate the card-like article between the two sheets.

3,505,141
MOLDING AND LAMINATING METHOD

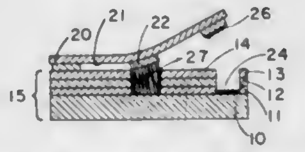
Robert L. Sorensen and Earl E. Brodhag, Westport, Conn., and John V. Casanova, Racine, Wis., assignors to Time, Incorporated, New York, N.Y., a corporation of New York
Original application Jan. 21, 1964, Ser. No. 339,257. Divided and this application May 31, 1967, Ser. No. 642,567
Int. Cl. B29c *17/04*
U.S. Cl. 156—214 **7 Claims**



A molded product is formed by heating a mold substance to mold it to a desired shape and applying pressure thereto during a subsequent cooling cycle to prevent vaporization of volatile components in the mold substance during the cooling cycle. A surface of the molded product is laminated to the surface of another article, the lamination extending progressively to the limits of a prescribed area without surrounding any portion of one of the two laminated surfaces which is out of contact with the other surface.

3,505,142
MEANS AND METHOD FOR COPYING PRINTED MATERIAL

John E. Hammonds, Bedford, Mass.
(5254 E. 20th St., Tucson, Ariz. 85711)
Filed May 25, 1966, Ser. No. 552,913
Int. Cl. B32b *31/12;* **B44c** *1/24*
U.S. Cl. 156—234 **13 Claims**

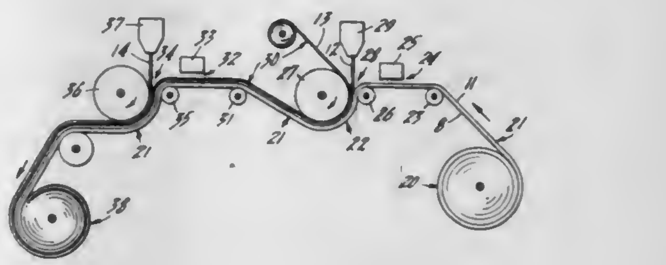


Copies of printed original papers are made by means of a transparent impression sheet coated with two layers of elastomeric film-forming material, a first layer bonded directly to the transparent sheet and a second layer containing a pigment bonded to the first layer. The adhesive bond strength between the inked and uninked areas of the printed paper to be copied is adjusted such that the film-forming material exhibits a differential adhesion between the inked and uninked areas. When the elastomeric material is contacted with the printed sheet and then peeled away, the pigment and a substantial amount of the elastomeric material is removed from the impression sheet in the areas exhibiting the greater adhesive bond strength.

3,505,143
METHOD OF LAMINATING SHEET MATERIAL BY COATING METAL FOIL WITH A COPOLYMER OF ETHYLENE AND AN ETHYLENICALLY UNSATURATED CARBOXYLIC ACID

David J. Haas, Neenah, Wis., and Kurt F. Roesch, Des Plaines, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 10, 1966, Ser. No. 533,340
Int. Cl. B29b *3/00*
U.S. Cl. 156—243 **2 Claims**

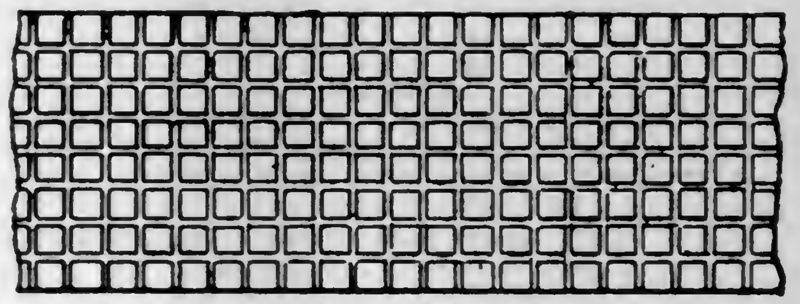
A method for manufacturing laminated sheets having a layer of metal foil. In the method a base layer or substrate is coated in succession with an adhesion layer, a metal foil layer and another coating of the adhesion layer.



The method provides a laminated structure including a metal foil layer which resists delamination.

3,505,144
METHOD OF MAKING ELECTRICALLY CONDUCTIVE PRESSURE SENSITIVE ADHESIVE TAPES

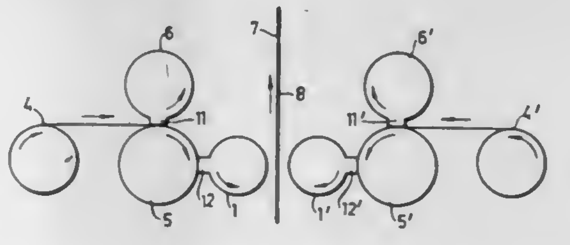
Timothy J. Kilduff, 2703 Queens Chapel Road, Mount Rainier, Md. 20822, and Allan M. Biggar, 3121 N. Oakland St., Arlington, Va. 22310
Original application Oct. 8, 1964, Ser. No. 402,668, now Patent No. 3,355,545, dated Nov. 28, 1967. Divided and this application Aug. 25, 1967, Ser. No. 672,948
Int. Cl. B32b *31/08, 31/12, 15/02*
U.S. Cl. 156—259 **4 Claims**



A method for making an electrically conductive pressure sensitive tape essentially comprising a thin flexible strip of backing material with a layer of pressure sensitive adhesive coating one side of the backing material and a metal mesh embedded in the adhesive.

3,505,145
DEVICE AND A METHOD FOR SEPARATING OFF PIECES OF STRIP-SHAPED THERMOPLASTIC MATERIAL, SAID PIECES BEING APPLIED TO A WEB OF MATERIAL IN THE FORM OF COVERING WAFERS, LABELS OR THE LIKE

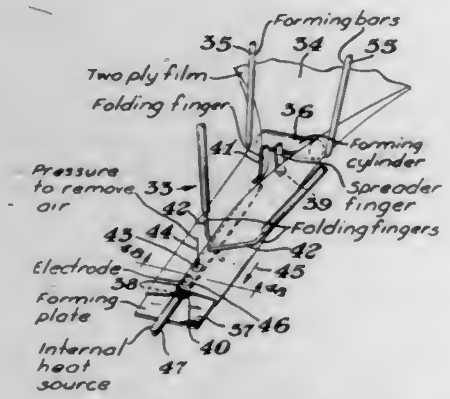
Kjell Halvard Martensson, Malmo, and Hans Georg Melle, Lund, Sweden, assignors to AB Tetra Pak, Lund, Sweden, a Swedish company
Filed Oct. 22, 1965, Ser. No. 501,695
Claims priority, application Switzerland, Dec. 4, 1964, 15,695/64
Int. Cl. B32b *31/04*
U.S. Cl. 156—265 **4 Claims**



Method to apply and heat seal a strip of material to a moving web of material by automatically supplying and severing the strip of material from a roll of such material.

3,505,146
PROCESS FOR SEALING OF MULTILAYER THERMOPLASTIC FILM

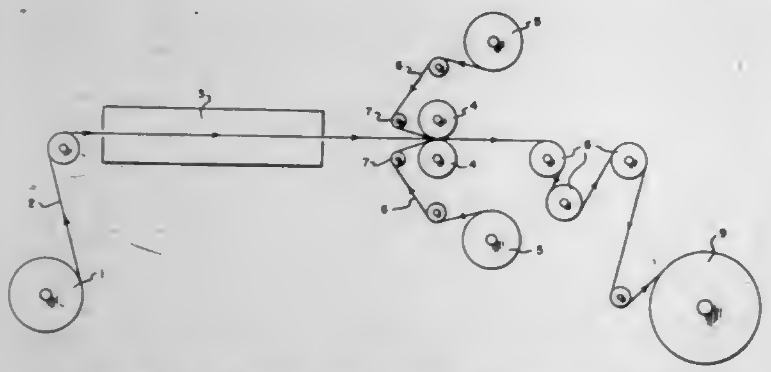
William H. Borough, Downey, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 17, 1965, Ser. No. 488,007
Int. Cl. B29c *17/00, 23/00*
U.S. Cl. 156—273 **6 Claims**



A novel process is described whereby multi-layer thermoplastic film having two or more plies of a thermoplastic material which is heat sealable and two or more plies of a thermoplastic material which is dielectrically heat sealable is simultaneously sealed along an edge so that heat sealable plies are sealed to corresponding heat sealable plies and dielectrically heat sealable plies are sealed to corresponding dielectrically heat sealable plies.

3,505,147
PROCESS OF COATING A PREHEATED METAL WEB WITH A GRAFT COPOLYMER OF POLYETHYLENE AND A MONOMER HAVING A REACTIVE CARBOXYL GROUP

Frank R. Eulie, South Farmingdale, N.Y., assignor to Revere Copper and Brass Incorporated, New York, N.Y., a corporation of Maryland
Filed June 3, 1966, Ser. No. 555,075
Int. Cl. C09j *5/02;* **B32b** *31/20*
U.S. Cl. 156—321 **1 Claim**

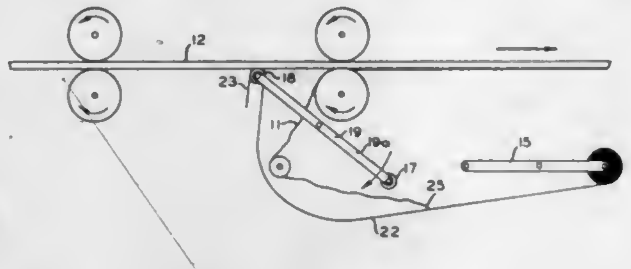


A film of a graft copolymer of polyethylene and a monomer having a reactive carboxyl group is roll-bonded to the surface of a metal web by preheating the metal web, applying the film under sufficient tension to control its stretching so that, after the film has been bonded to the metal web by controlled compression at the preheat temperature, the film and the web will contract equally upon cooling.

3,505,148
WEB SPLICING APPARATUS

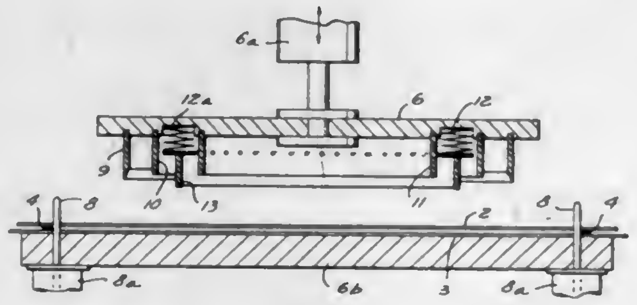
Louis L. Komer, Kansas City, Kans., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,832
Int. Cl. B65h *25/04,* **B32b** *35/00*
U.S. Cl. 156—361 **2 Claims**

1. Apparatus for bonding web material to a substrate comprising, in combination, a pair of heated rollers adapted to receive a moving substrate; a pivoted carriage adapted to receive a roll of web material at each end thereof; means for guiding web material from the end of said carriage adjacent said rollers onto one of said rollers, whereby the web is bonded to the substrate; means for guiding web material from the end of said carriage remote from said rollers to a position adjacent said substrate ahead of said rollers; and means for bonding the last-mentioned web to said substrate when the first roll of web material is exhausted, whereby the tension of said last-mentioned web pivots said carriage and moves said remote end to said position adjacent said rollers.



3,505,149
APPARATUS FOR MANUFACTURING SHOWER CAPS

Rafael Sanchez, 41—57 71st St. W., Woodside, N.Y. 11377
Original application Sept. 30, 1966, Ser. No. 583,307. Divided and this application Mar. 10, 1969, Ser. No. 827,080
Int. Cl. B29d *3/02*
U.S. Cl. 156—383 **7 Claims**

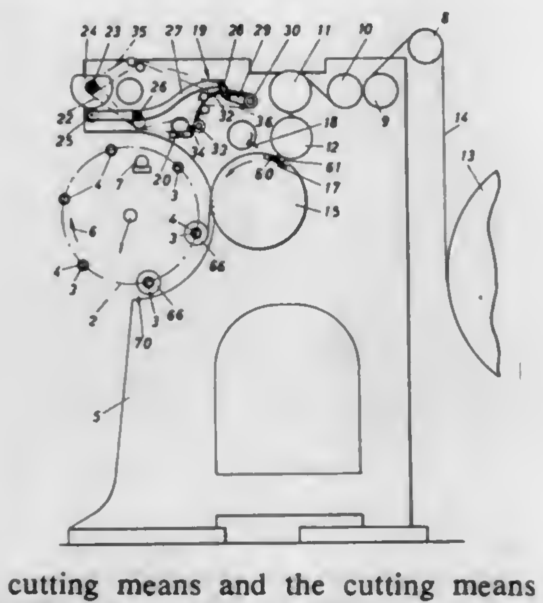


Apparatus for making shower caps comprises a press having an upper punch provided with annular means for heat sealing plastic sheets about an elastic band placed between the sheets. The lower punch has pins for holding the elastic band in an expanded position. The upper punch has annular means for holding the band in a second position when the pins release the band.

3,505,150
DEVICE FOR FIXING THE TERMINATING END OF PAPER ROLLS

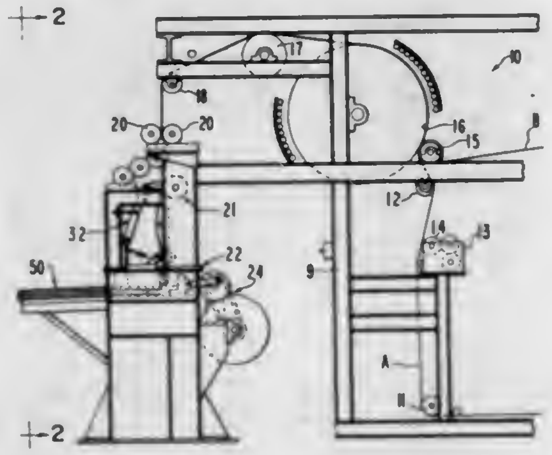
Erik Arne Alvar Andersson, Jonkoping, Sweden, assignor to Munksjo Aktiebolag, Jonkoping, Sweden, a corporation of Sweden
Filed May 9, 1966, Ser. No. 548,638
Claims priority, application Sweden, Apr. 12, 1966, 4,928/66
Int. Cl. B65h *35/04*
U.S. Cl. 156—446 **2 Claims**

A device for attaching an end of a paper web wound into rolls on winding machines. Means are provided for dewinding a paper web from a storage roll. A rotating roller has means thereon for cutting the paper web transversely. There is a glue applying device having glue delivering means adapted to be brought into contact with the paper web closely adjacent the place where said web is cut in the feeding direction of the web. An element is provided upon the roller extending longitudinally thereof to lift the paper web away from the periphery of the roller so as to abut against the glue delivering means for applying glue on the paper web in combination with the cutting of the paper web. The lifting means is a rail connected to the cutting means and the cutting means has a U-shaped rail cooperating therewith.



3,505,151
MACHINE FOR MAKING HONEYCOMB

John L. Sheridan, Longview, Wash., assignor to Hexcel Products Inc., a corporation of California
Filed May 9, 1966, Ser. No. 548,605
Int. Cl. B32b *31/00;* **F26b** *11/02*
U.S. Cl. 156—512 **4 Claims**

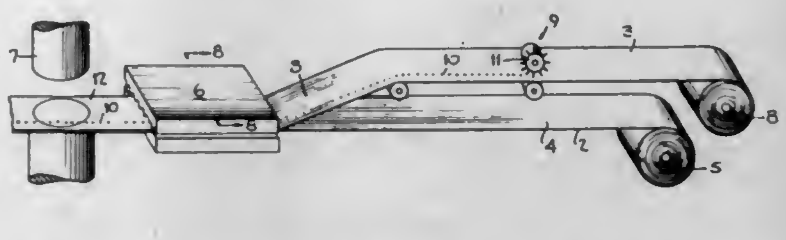


A machine for the manufacture of honeycomb which includes means for applying lines of adhesive to at least one of the confronting surfaces of a pair of webs, means for curing the adhesive to bond the webs together while heating and driving the webs over a drum having a cylindrical surface, together with means for slowly rotating the drum when the web drive means is stopped including means for actuating the drum rotating means in response to stoppage of the web drive means. The machine also includes a slack accumulator having a perforated back-up member between the drive means and a cyclically operating cutter, the accumulator being arranged to take up slack in the web when its feed movement is interrupted and to feed the slack toward the cutter when the movement is not interrupted.

3,505,152
CLOSURE CAP LINER AND METHOD OF MAKING

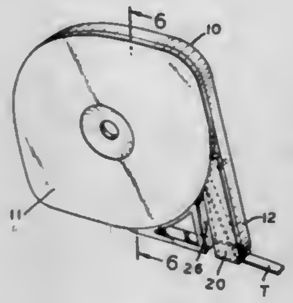
William E. Risch and Daniel D. Acton, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed July 15, 1966, Ser. No. 565,622
Int. Cl. B32b *31/18, 31/20*
U.S. Cl. 156—514 **3 Claims**

A method and means for forming a perforated, laminated closure liner. Backing material and innerseal material which has had a number of aperatures formed therein are fed to bonding means which heat seals the backing and perforated innerseal to one another except in a zone at the apertures so as to form the liminated liner.



3,505,153
TAPE DISPENSER

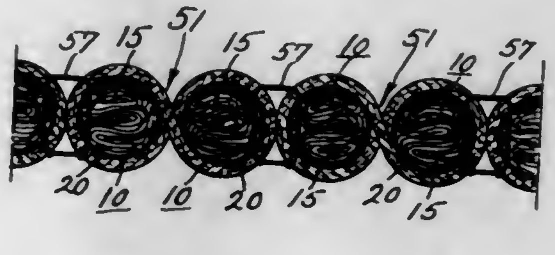
Edwin C. Addis, Florence, Mass., assignor to Avery Products Corporation, San Marino, Calif., a corporation of California
Filed Oct. 3, 1966, Ser. No. 589,167
Int. Cl. B44c *7/00*
U.S. Cl. 156—577 **10 Claims**



A dispenser for narrow width adhesive tape comprises a main body portion with upstanding side walls along its perimeter and a removable cover plate. The side walls of the body portion are provided with a slot through which tape from the dispenser is discharged, and an adapter plate is constructed to fit over the slot and guide the tape being discharged along its edges. By virtue of different adapter plates the width of the slot can be varied to accommodate tapes of different width.

3,505,154
BRAIDED RUG

James Logrippo, Norristown, Pa., assignor to Norristown Rug Manufacturing Company, Norristown, Pa., a partnership
Filed Sept. 22, 1965, Ser. No. 489,338
Int. Cl. D04h *3/02*
U.S. Cl. 161—35 **5 Claims**



This patent discloses a sheathed core element in which a resilient core is composed of an axially extending piece of thin flexible material which extends substantially the entire length of the core element, the flexible material being folded a plurality of times upon itself so as to form a substantially cylindrical and flexible core element. Circumscribing the core is a sheet of substantially waterproof material such as a plastic, the material having overlapping portions which preferably contain a heat seal to connect the overlapping portions together thereby forming a substantially waterproof element. The element preferably has a braided decorative outer cover so that when the covered element is juxtapositioned it forms adjacent lays which are connected together to form a braided rug. This patent also discloses the method of forming the sheathed core element and making a rug of the element either with or without a braided covering.

3,505,155
NONWOVEN CONTINUOUS FILAMENT PRODUCT AND METHOD OF PREPARATION

Ralph H. Balch, Charlotte, George A. Watson, Davidson, and Herbert W. Coates, Charlotte, N.C., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
Continuation-in-part of applications Ser. No. 325,254, Nov. 21, 1963, and Ser. No. 501,105, Oct. 22, 1965. This application Aug. 7, 1967, Ser. No. 658,781
Int. Cl. B32b *5/12, 7/08, 31/08*
U.S. Cl. 161—57 **29 Claims**

A nonwoven continuous filament product and a method for producing said product which comprises deregistering a crimped tow of continuous filaments utilizing the differential gripping action of at least one pair of opposed surfaces one of which is profiled and the other of which is smooth, spreading the deregistered tow to produce a web and subsequently dimensionally stabilizing the web. Dimensional stability is achieved by any of numerous methods including laminating, bonding, stitching and the like, depending primarily on the contemplated end use, as is more fully described hereinafter.

3,505,156
PROCESS OF APPLYING POLYMERIC LATICES TO A TEXTILE ARTICLE AND THE RESULTING ARTICLE

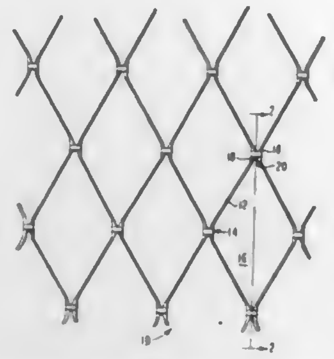
John Alfred Handscomb, Knebworth, and Barry Charles Hibbin, Welwyn Garden City, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 28, 1966, Ser. No. 590,183
Claims priority, application Great Britain, Nov. 15, 1965, 48,324/66
Int. Cl. D03d *27/12;* **C09d** *3/74, 3/76*
U.S. Cl. 161—67 **10 Claims**

A method of backing or impregnating a textile article which comprises applying to the article a copolymer containing from 30 to 50% by weight of butadiene-1,3 units and at least half of the remainder styrene and/or methyl methacrylate units, any other constituent of the copolymer being derived from another monoethylenically unsaturated compound, in the form of a stable dispersion containing from 0.5 to 10% by weight based on the weight of said butadiene-1,3 copolymer of a copolymer of styrene and any of maleic anhydride, the alkyl half esters of maleic acid containing up to eight carbon atoms in the alkyl group and the half amides of maleic acid in the form of a solution in an inorganic or organic base, and thereafter drying the treated article.

3,505,157
INTEGRALLY MOLDED NET

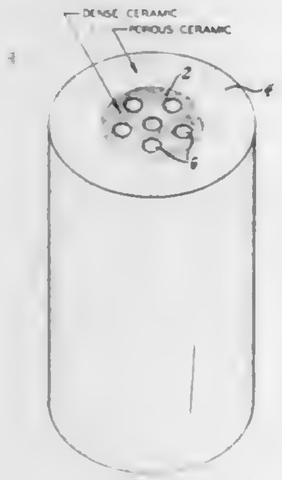
Reuben T. Fields and Martval J. Hartig, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 23, 1966, Ser. No. 552,192
Int. Cl. B32b *3/10*
U.S. Cl. 161—109 **2 Claims**

Net is disclosed which although being drawn in only one direction, is bi-axially strong, the net comprising thermoplastic resin formed into oriented strands integrally molded with intersections which are substantially non-oriented, the intersections being at least 50% as strong as the strand.



3,505,158
COMPOSITE POROUS-DENSE CERAMIC ARTICLE

Ronald C. Murray, Golden, Colo., assignor to Coors Porcelain Company, Golden, Colo., a corporation of Colorado
Filed Dec. 22, 1967, Ser. No. 692,919
Int. Cl. C04b *39/00;* **B32b** *17/06;* **C03b** *23/20*
U.S. Cl. 161—110 **7 Claims**



The ceramic article of this invention is a monolithic ceramic body having a dense sintered ceramic portion surrounded by a porous ceramic portion. Either or both portions can have bores or inserts extending therethrough if desired. Such articles are useful particularly in those applications where there is to be cycling between high and low temperatures or where the outside of the article is to be exposed to a temperature considerably different than that at the inner portion of the article.

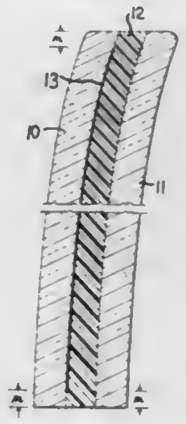
3,505,159
PROCESS FOR OBTAINING METAL-PLASTIC COMPOSITE ARTICLES AND ARTICLES OBTAINED THEREBY

Joseph Winter, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation
No Drawing. Continuation of application Ser. No. 696,703, Jan. 10, 1968. This application June 27, 1969, Ser. No. 841,679
Int. Cl. B32b *3/30, 15/08*
U.S. Cl. 161—119 **10 Claims**

The instant disclosure teaches a process for forming composite metal-plastic articles and the improved article obtained thereby. In particular, the process described in the instant specification relates to the formation of composite metal-polymeric film articles formed by rolling together at a temperature between room temperature and 450° F. at a speed of at least 10 feet per minute in one pass at a reduction of the metal core between 10 and 75% to form a wave-like interface with a plurality of peaks.

3,505,160
LAMINATED SAFETY GLASS

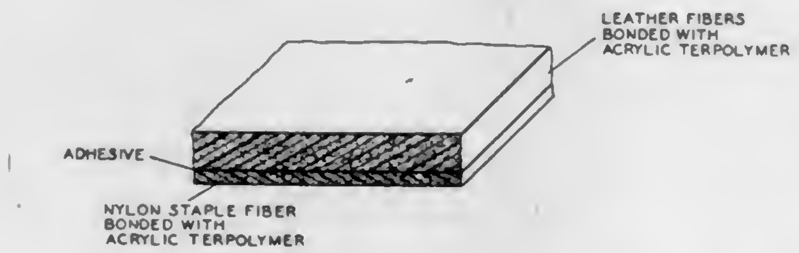
George E. Michaels, Wilkinsburg, and Raymond G. Rieser, Lower Burrell, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Filed Oct. 18, 1965, Ser. No. 497,042
Int. Cl. B32b *7/14*
U.S. Cl. 161—147 **15 Claims**



A safety laminated windshield comprising at least two glass sheets and a flexible interlayer with a marginal portion tightly bonded together and at least part of the interior surrounded by the marginal portion having less adhesion between adjacent sheets of said windshield.

3,505,161
SHOE UPPER LAMINATE

Frank J. Koller, Jr., Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1965, Ser. No. 505,357
Int. Cl. B32b *5/06*
U.S. Cl. 161—151 **3 Claims**

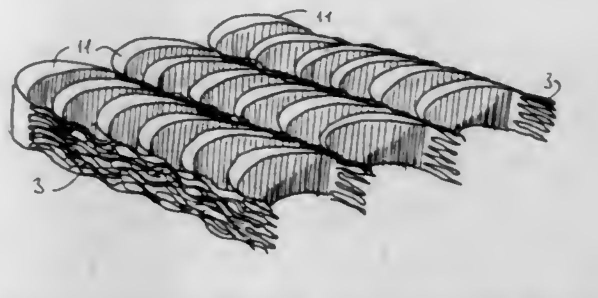

LEATHER FIBERS BONDED WITH ACRYLIC TERPOLYMER
ADHESIVE
NYLON STAPLE FIBER BONDED WITH ACRYLIC TERPOLYMER

A laminated product particularly useful for shoe uppers. The product is a two-part laminate in which the facing sheet is of beater saturated leather fibers bonded with 50%–150% by weight based on the weight of the fibers of an acrylic terpolymer containing acrylic acid or methacrylic acid together with alkyl acrylates in which the alkyl group contains 2–4 carbon atoms. This acrylic bonded beater saturated leather facing sheet is backed with a flexible, air-laid backing sheet which is a nonwoven web of fibers having a length in the range of ¾-inch to 3 inches bonded together with the same acrylic terpolymer used in the facing sheet.

3,505,162
FILAMENTARY OR SHEET-LIKE MATERIAL OF POLYMERIC SUBSTANCES

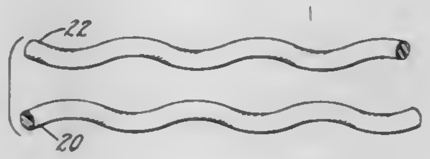
Ole-Bendt Rasmussen, 28 Rugmarken, Farum, Denmark
Filed June 7, 1966, Ser. No. 555,835
Claims priority, application Great Britain, June 8, 1965, 24,068/65
Int. Cl. B29f *3/01;* **D04h** *1/58*
U.S. Cl. 161—168 **15 Claims**

An extruded generally fibrous appearing structure in the shape of a filament or sheet which is formed of a coherent assembly of a large number of shreds of at least one synthetic polymer, each shred being characterized by a spine having a length substantially greater than either or both of its width or thickness and a width extending through a substantial part of the structure thickness, and a plurality of tentacles integral with the spine, the tentacles extending outwardly from at least one corresponding side of the spine and being collected together into at least one layer on a surface of the structure in which layer the tentacles of adjacent spines are generally interlaced together.



3,505,163
HELICALLY CRIMPED VINYL FILAMENT

Jacques J. Meers and Frederic C. Merriam, Danvers, Mass., assignors to USM Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 22, 1967, Ser. No. 648,150
Int. Cl. D02g *3/44, 1/02;* **A46b** *15/00*
U.S. Cl. 161—173 **2 Claims**



A helically crimped filament composed of essentially rigid vinyl is disclosed, said filament having a diameter ranging from 0.15 mm. to about 6.50 mm. and a crimp period of one complete crimp in about 3 to 20 filament diameters of length. The filament is useful in producing load-bearing bristles.

3,505,164
SELF-BULKING CONJUGATE FILAMENTS

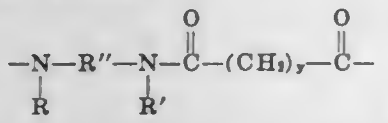
George C. Oppenlander, Embreeville, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 23, 1967, Ser. No. 648,207
Int. Cl. D02g *1/00*
U.S. Cl. 161—173 **3 Claims**

Conjugate filaments exhibiting a high degree of spontaneous crimp can be prepared from polypropylene and a crystalline copolymer of propylene and up to about 25% of a second α-olefin. Two component filaments are preferred, although more can be used if desired. Components are in side-by-side relationship.

3,505,165
BIFILAR POLYAMIDE YARNS AND FILAMENTS

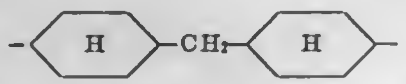
Harry Kubitzek, Dormagen, Ferdinand Bodesheim, Dormagen-Horrem, Gunther Nawrath and Alfred Reichle, Dormagen, and Gunther Nischk, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 455,579, May 13, 1965. This application Oct. 28, 1968, Ser. No. 771,699
Claims priority, application Germany, May 15, 1964, F 42,893; Jan. 7, 1965, F 44,901
Int. Cl. D02g *3/04*
U.S. Cl. 161—173 **8 Claims**

Bifilar yarns and filaments having a wool like crimp comprising a polyamide filament composed of (a) an unmodified polyamide component and (b) a polyamide component containing 0.5 to 20% of a sulfonic acid segment having the formula:



$$-\underset{R}{\underset{|}{N}}-R''-\underset{R'}{\underset{|}{N}}-\overset{O}{\overset{\|}{C}}-(CH_2)_y-\overset{O}{\overset{\|}{C}}-$$

wherein R″ is a —$(CH_2)_x$ group, a cyclohexylene group or the group



x and y are each integers of from 2 to 12, R is hydrogen or the group —$(CH_2)_z$—SO_3Me, wherein z has a value of from 4 to 6 and Me is an alkali metal or hydrogen and R′ is —$(CH_2)_z$—SO_3Me wherein z and Me are as just defined.

The described filaments are formed by melt spinning a polyamide having the component as set out above in (b) together with an unmodified polyamide component (a) at a temperature of from 250 to 300° C., stretching the filaments thus obtained and treating the stretched filaments at elevated temperatures with water.

3,505,166
TRIS(MERCAPTOALKYL)CYCLOHEXANES AS EPOXIDE RESIN CURING AGENTS

Faber B. Jones and Jack E. Reece, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 13, 1967, Ser. No. 675,054
Int. Cl. B32b *27/38*
U.S. Cl. 161—186 **4 Claims**

As new tris(mercaptoalkyl)cyclohexane compositions, 1,2,4-tris(2 - mercaptoethyl)cyclohexane and 1,3,5-tris(2-mercaptoethyl)cyclohexane, having utility as cross-linking agents for polythiols and polyepoxides which in turn are useful as adhesives and coatings upon curing.

3,505,167
FLUORINATED POLYOLEFIN LAMINATES

Walter H. Smarook, Somerville, N.J., assignor to Union Carbide Corpporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 504,241, Oct. 23, 1965. This application July 5, 1968, Ser. No. 742,489
Int. Cl. B32b *27/30*
U.S. Cl. 161—189 **13 Claims**

Fluorinated polyolefins laminated to a wide variety of substrates can be fabricated by using carboxyl-containing α-olefin polymers as the bonding agent. This bonding agent can be electrodeposited from the corresponding monovalent salts onto conductive substrates or deposited onto tbe fluorinated polyolefin lamina from the ammonium salt of the bonding agent.

3,505,168
HEAT-SEALABLE LAMINAR STRUCTURES OF POLYIMIDES AND METHODS OF LAMINATING

James F. Dunphy, Eggertsville, and Darrell J. Parish, Tonawanda, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 4, 1964, Ser. No. 394,614
Int. Cl. B32b *27/28, 27/34*
U.S. Cl. 161—227 **4 Claims**

A heat-sealable laminar structure is provided having at least two layers of polyimide polymeric material wherein the polyimide of one of said layers is different from the polyimide of the other layer. Each different polyimide being the reaction product of different pairings of certain primary diamines and certain aromatic tetracarboxylic acids or anhydrides to provide at least one layer that is heat sealable. The heat sealable layer may also be applied as the corresponding precursor amide-acid or polyiminolactone.

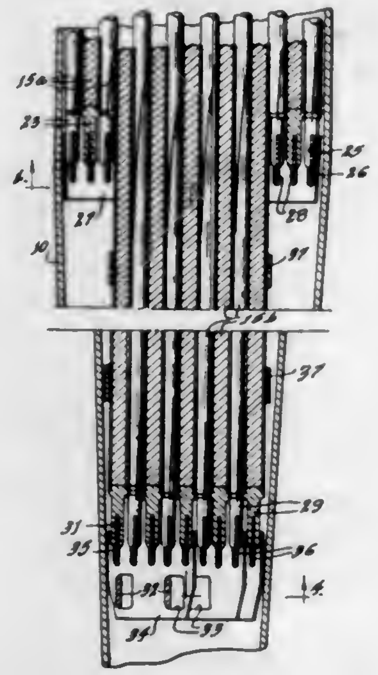
3,505,169
RECONSTITUTED LEATHER AND METHOD FOR PRODUCING IT

Edward T. Parker, Wayne, Mich., assignor to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Dec. 5, 1966, Ser. No. 598,910
Int. Cl. D21f *11/00;* **D21h** *5/12*
U.S. Cl. 162—151 **11 Claims**

Shredded scrap leather fibers, with or without unbleached kraft pulp, are bound together by polyurethane polymeric solids deposited from an aqueous solution. The polymeric solids are formed by chain extending an isocyanate-terminated prepolymer in water to form a latex. The reconstituted leather sheets are made by mixing shredded scrap leather fibers (with or without unbleached kraft pulp), a polymeric latex, and water to obtain a slurry; feeding the slurry onto a porous membrane; drying; and curing, whereby novel reconstituted leather is produced.

3,505,170
FUEL SUBASSEMBLY FOR A LIQUID-METAL-COOLED FAST REACTOR

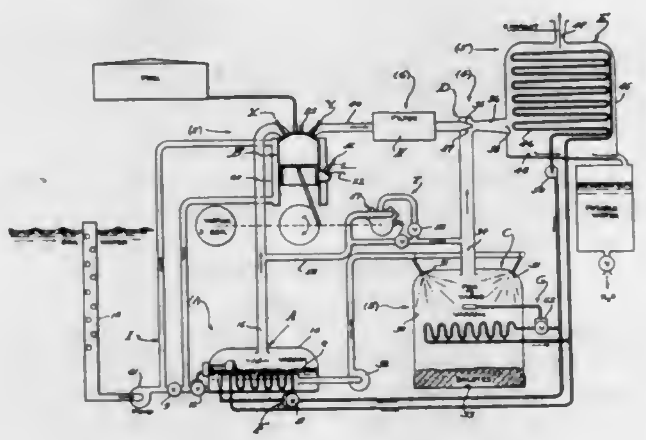
Clifford D. Flowers and Marlyn T. Jakub, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 10, 1968, Ser. No. 720,198
Int. Cl. G21c *3/30, 3/32*
U.S. Cl. 176—78 **3 Claims**



A fuel subassembly for a liquid-metal-cooled nuclear reactor operating predominantly on fast neutrons includes a plurality of fuel pins disposed within a shroud. Each of the fuel pins includes an active zone and a fission-gas plenum with the active zones of all fuel pins being disposed side by side while some of the fission-gas plenums are disposed upstream of the active zones, and the remainder are disposed downstream of the active zones.

3,505,171
SEA WATER DISTILLATION-CONDENSATION UTILIZING PRIMARY AND SECONDARY EVAPORATORS AND JET EJECTOR

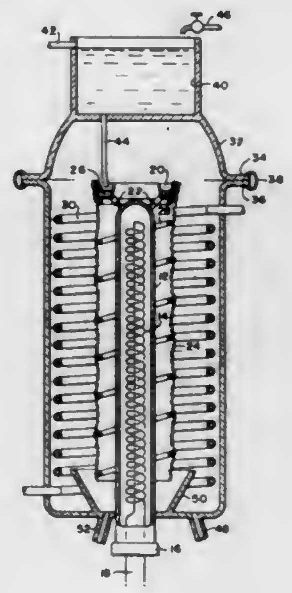
Harlow B. Grow, 16530 Chattanooga Place, Pacific Palisades, Calif. 90272
Filed Nov. 2, 1967, Ser. No. 680,115
Int. Cl. B01d *3/42, 3/10;* **C02b** *1/06*
U.S. Cl. 202—160 **17 Claims**



This invention has to do with the purification of sea water and involves a primary evaporation of impure water in a closed vessel exposing a water surface to a subatmospheric pressure and enriching said water, and a secondary evaporation of the said enriched water, and the delivery of said primary evaporation under pressure is utilized to expose the said secondary evaporation to a subatmospheric pressure, characterized by use of a jet ejector, and to effect vapor compression condensation for the production of potable water.

3,505,172
STILL WITH CONCENTRIC CONDENSER AND INFRARED SOURCE

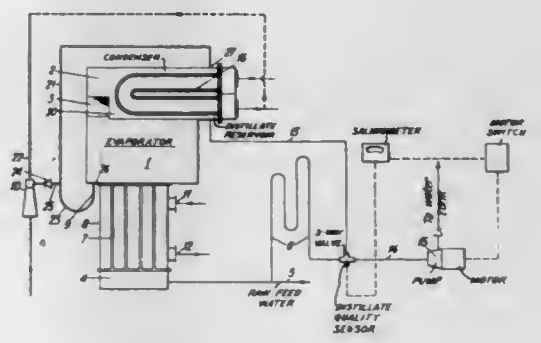
Claude Achener, Paris, France, assignor to Quartz & Silice, S.A., Paris, France, a corporation of France
Filed July 27, 1967, Ser. No. 656,469
Claims priority, application France, Aug. 1, 1966, 71,623; Dec. 1, 1966, 85,794
Int. Cl. B01d *3/00*
U.S. Cl. 202—187 **11 Claims**



There is provided distilling apparatus for the production of very highly purified distillate, in which a thin film of liquid is caused to flow uniformly along a thin walled porous sleeve against which is directed infrared radiation causing evaporation of the liquid film without boiling, and a cooled condensing surface is disposed on the side of the sleeve opposite from the infrared source.

3,505,173
WATER DISTILLATION PLANT

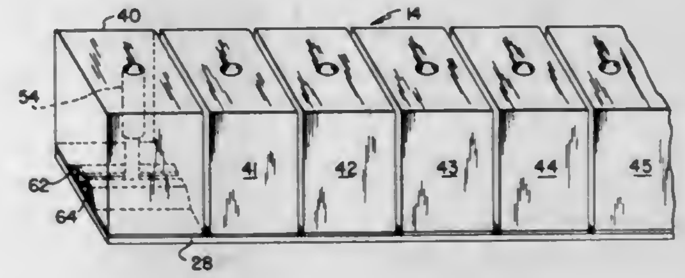
Forrest Thomson Randell, Glasgow, Scotland, assignor to G. & J. Weir Limited, Glasgow, Scotland, a British company
Filed Jan. 9, 1968, Ser. No. 696,579
Claims priority, application Great Britain, Jan. 20, 1967, 3,129/67
Int. Cl. C02b *1/06;* **B01d** *3/42, 3/10*
U.S. Cl. 202—189 **4 Claims**



A distillation plant has an evaporation section including conduit for throughflow of heating fluid for evaporation of the liquid to be distilled, a condensing section including conduit for cooling fluid to condense the vapour within the section, an air ejector for creating a vacuum within the sections, and an outlet from the evaporation section for the excess of liquid to be distilled. The air ejector is connected additionally to the excess liquid outlet for the removal of the excess liquid. A liquid seal is provided in the connection between the air ejector and the excess liquid outlet, the seal serving to ensure that during operation of the distillation plant the pressure within the condensing section is less than that within the evaporation section.

3,505,174
COKE OVEN DOOR

Ralph N. Peterson, Cleveland, Donald McCampbell, Parma, and Thaddeus J. Smith, Brecksville, Ohio, assignors to W. E. Plechaty Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 7, 1968, Ser. No. 703,727
Int. Cl. C10b *25/06*
U.S. Cl. 202—248 **18 Claims**

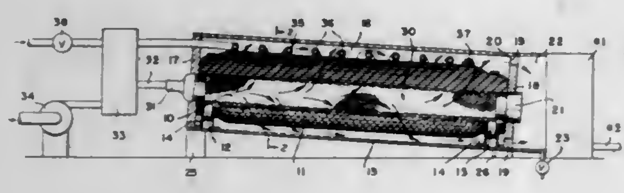


A coke oven door having a plug assembly detachably mounted on the door frame. The plug assembly including a plurality of monolithic sections of refractory material each detachably secured in end-to-end relationship on a support for independent removal and/or replacement thereof.

3,505,175

LIQUID PURIFYING APPARATUS AND METHOD

Robert I. Zalles, San Isidro, Peru, assignor to Latinvestment, Ltd., Nassau, Bahamas, a Bahamas corporation
Filed May 19, 1967, Ser. No. 639,896
Int. Cl. B01d *3/00*
U.S. Cl. 203—10 **18 Claims**

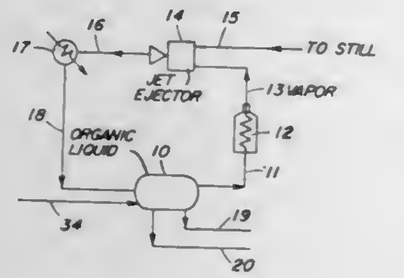


A liquid purifying apparatus and method in which the liquid to be purified is deposited on a multiplicity of absorbent fibers and forms a thin liquid film around each fiber. The fibers are arranged in a comparatively thick layer which is of annular or planar configuration. Air or other gaseous fluid is directed through the layer to vaporize the liquid films, and the resulting vapor is then condensed and collected.

3,505,176

VACUUM JET EJECTOR DISTILLATION FOR RECOVERY OF TOLUENE DIISOCYANATE

Norbert N. Buchsbaum, Clifton, and Utah Tsao, Jersey City, N.J., assignors to The Lummus Company, Bloomfield, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 628,210, Mar. 13, 1967. This application Feb. 26, 1968, Ser. No. 719,823
Int. Cl. B01d *3/10*
U.S. Cl. 203—73 **6 Claims**



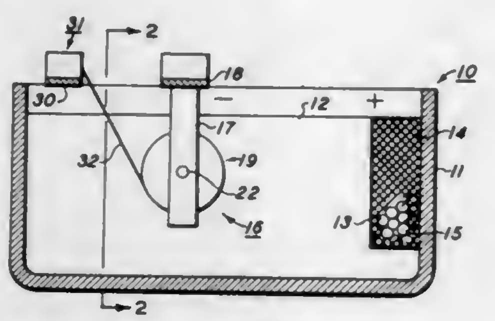
A vacuum distillation process and system wherein the vacuum is maintained by a jet ejector employing an organic fluid which is compatible with the components to be recovered in the system. The process and system is particularly applicable to the recovery of toluene diisocyanate wherein monochlorobenzene is employed as the motive fluid, with the monochlorobenzene withdrawn from the ejector being passed to the recovery system to reduce toluene diisocyanate losses.

3,505,177

ELECTROFORMING PROCESS

Bruce E. Chester, Claremont, and Donald E. Stewart, Arcadia, Calif., assignors, by mesne assignments, to Xerox Corporation, a corporation of New York
Filed May 31, 1966, Ser. No. 554,136
Int. Cl. C23b *7/02, 5/56*
U.S. Cl. 204—9 **5 Claims**

This application relates to a method for forming a strong, light, high-temperature resistant structure comprising positioning a layer of uniformly spaced, substantially parallel, continuous fibers on a conducting surface of a mandrel and electroplating a substantially uniform metal matrix about the fibers which completely encapsulates said fibers and is bonded thereto.



3,505,178

PROCESS OF ELECTROPLATING AN ARTICLE BY SEQUENTIALLY PASSING THE SAME AND A PLATINUM COATED TUNGSTEN ANODE THROUGH A SERIES OF DIFFERENT ELECTROPLATING BATHS

James E. May, Dorchester, Mass., and Alfred J. Haley, Jr., Westfield, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed May 12, 1967, Ser. No. 637,938
Int. Cl. C23b *5/06, 5/72, 5/62*
U.S. Cl. 204—32 **1 Claim**

A method is disclosed for the electroplating of metal objects in copper-nickel-chromium plating cycles, wherein the electroplating steps are preceded by an acidic etching solution containing fluoride ions, by means of a platinum coated tungsten anode.

3,505,179

METHOD OF PRODUCING PERMANENT COLORED ALUMINUM CASTINGS

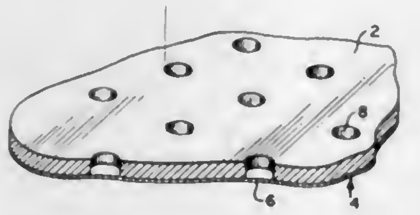
William A. Mader, De Witt, N.Y., assignor to Oberdorfer Foundries, Inc., Syracuse, N.Y., a corporation of New York
No Drawing. Filed May 25, 1966, Ser. No. 552,706
Int. Cl. C23b *3/02, 9/02*
U.S. Cl. 204—33 **4 Claims**

Aluminum castings containing 80 to 95.5% aluminum and 4½ to 20% silicon together with a coloring metal are etched by a solution containing hydrofluoric acid for removal of the silicon from the surface of the castings. The castings are then anodized. The oxidized coloring metal impart permanent color to the castings.

3,505,180

METHOD OF MAKING A THIN GAS DIFFUSION MEMBRANE

Donald Brogden, Ascot Vale, Victoria, Australia, assignor to Energy Conversion Limited, London, England, a British company
Filed Sept. 16, 1964, Ser. No. 396,927
Claims priority, application Great Britain, Sept. 20, 1963, 37,198/63
Int. Cl. B29c *17/08;* **C23b** *5/50;* **H01m** *27/00*
U.S. Cl. 204—35 **14 Claims**



Sheet-like gas permeable membrane units are formed with a metallic base sheet having a multiplicity of holes that are covered by gas permeable membrane material fixed to the base sheet closing the holes except for the specific diffusion that may take place through the membrane material, e.g., a base sheet of nickel having a pattern of small holes through it and a very thin electrodeposited layer of palladium covering the holes, the unit being permeable to hydrogen but impermeable to other gases.

3,505,181

TREATMENT OF TITANIUM SURFACES

William Arthur Marshall, Rochester, Kent, England, assignor to The Secretary of State for Defence in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London England
No Drawing. Filed May 27, 1964, Ser. No. 370,676
Claims priority, application Great Britain, May 29, 1963, 21,435/63; Jan. 31, 1964, 4,212/64
Int. Cl. C23b *5/52, 5/50, 3/02*
U.S. Cl. 204—37 **8 Claims**

A method of electroplating titanium with copper or nickel including cleaning the surface in an etchant, then rinsing the etched surface in rinse water containing a small amount of a titanium complexing agent and then electroplating while the surface is still wet. Anions of cyanide, tartrate, citrate and acetate are disclosed as suitable chelating or complexing ions for the titanium. Subsequent nickel and chromium layers can be applied and then heat treated at above 400° C. The etchant can be HCl containing a minimum amount of a noble metal salt such as platinic chloride.

3,505,182

METHOD AND SOLUTION FOR GOLD ELECTROPLATING

Donald S. Pokras, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
No Drawing. Filed Oct. 1, 1965, Ser. No. 492,336
Int. Cl. C23b *5/28, 5/46*
U.S. Cl. 204—46 **4 Claims**

Disclosed is a gold electroplating solution and method for its use. The solution consists essentially of a solution of alkali metal gold cyanide and an alkali metal pyrophosphate. The solution can be utilized within the pH range of 5.5 to 6.5 to produce a thin plating which meets semiconductor alloying and heat test requirements which require much thicker plating using prior art methods. The solution can also be used with benzyl alcohol within the pH range of 7.0 to 8.0 to produce a bright gold plate.

3,505,183

PROCESS AND COMPOSITIONS FOR ELECTROPLATING CHROMIUM

Edgar J. Seyb, Jr., 23061 Norwood, Oak Park, Mich. 48237; Hyman Chessin, 7146 Heather Heath Lane, Birmingham, Mich. 48010; and Fred Aoun, 1999 E. Saratoga, Ferndale, Mich. 48220
No Drawing. Continuation-in-part of application Ser. No. 421,600, Dec. 28, 1964. This application Mar. 4, 1968, Ser. No. 709,874
Int. Cl. C23b *5/06, 5/46*
U.S. Cl. 204—51 **28 Claims**

A bright decorative plating process for electroplating chromium on a basis metal, characterized by high coverage and throwing power, utilizes a chromic acid plating bath containing the anion of a halogenated organic carboxylic acid having at least three carbon atoms. The baths are of high CrO_3 to catalyst ratio, e.g. 125–550:1. They may be of the self-regulating type. The halogenated carboxylic acid anion may be added by introducing into the bath the acid itself, or a soluble salt of the acid, or the acid anhydride. The anions of the halogenated aliphatic dicarboxylic acids such as 3,4-dichloroadipic acid and 2,2-dichlorosuccinic acid are preferred. The concentration of the halogenated carboxylic acid anion is preferably from 25 to 100 grams per liter, but higher concentration up to saturation may be used.

3,505,184

ACID ZINC ELECTRODEPOSITING

Gilbert J. Schaedler, Berea, and John B. Winters, Bay Village, Ohio, assignors, by mesne assignments, to Enthone, Incorporated, West Haven, Conn., a corporation of Connecticut
No Drawing. Filed Feb. 7, 1966, Ser. No. 525,335
Int. Cl. C23b *5/12, 5/46*
U.S. Cl. 204—55 **10 Claims**

Acid zinc electrodepositing baths containing a minor amount, effective to impart brightness to electrodeposited zinc, of a bath-compatible hydrolyzed protein, a minor amount, effective to inhibit formation of rough edges on a metallic article whereon zinc is being electrodeposited due to the depositing zinc, of ions of a metal of Group VI–B of the Periodic Table, and preferably, as a ductilizer and booster-brightener for the zinc, a bath-compatible sulfur-containing compound of the formula: $HSCH_2COOR$ wherein R is hydrogen or a bath-compatible hydrophilic cation. The zinc electrodeposits obtained from electrodepositing baths of this invention exhibit a considerably improved resistance to corrosion by salt spray.

3,505,185

METHOD OF FORMING AN INTERELECTRODE SEPARATOR FOR AN ACCUMULATOR

Ernst A. Hausler, Duisburg-Rahm, Germany, assignor to Yardney International Corp., New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 19, 1968, Ser. No. 722,533
Claims priority, application Germany, Apr. 20, 1967, F 52,201
Int. Cl. C23b *9/00*
U.S. Cl. 204—56 **9 Claims**

Improvement in the formation of an interelectrode separator for an accumulator by precipitating an alkaline earth metal hydroxide on a cathode with the substantial absence of hydrogen evolution by electrolysis in an aqueous electrolyte containing the ions of the desired alkaline earth metal hydroxide and a reducible ion having a redox potential which is more positive than the redox potential of the alkaline earth metal ions and by adjusting the electrolyte pH value which is lower than the pH at which such an alkaline earth metal hydroxide is precipitated spontaneously.

3,505,186

PROCESS FOR OBTAINING POLYMERS BASED ON ACRYLONITRILE

Dominique Sarazin and Boris Trifilieff, Colmar, Haut-Rhin, France, assignors to Crylor, Paris, France, a French body corporate
Filed Apr. 28, 1967, Ser. No. 634,570
Claims priority, application France, May 3, 1966, 60,101
Int. Cl. B01k *1/00*
U.S. Cl. 204—73 **8 Claims**

In polymerisation and copolymerisation of acrylonitrile in a reactor of a ferrous metal, the deposition of a crust of polymerised material on the reactor wall is reduced, localised or eliminated by providing one or more electrodes of an electropositive metal having one oxidation state only, especially aluminum, zinc or magnesium, which extend into the polymerisation medium, are kept at a potential positive with respect to the metal of the reactor in the polymerisation medium, optionally with the aid of an applied voltage, and are connected to the body of the reactor solely by a circuit outside the reaction medium.

3,505,187
ELECTROLYTIC PROCESS FOR PREPARING AMINOPENICILLINS

Kenneth William Bertram Austin, Betchworth, and Albert Eric Bird, Dorking, England, assignors to Beecham Group Limited, Brentford, Middlesex, England, a British company
No Drawing. Filed Sept. 20, 1967, Ser. No. 669,277
Claims priority, application Great Britain, Sept. 22, 1966, 42,291/66
Int. Cl. B01k *1/00*
U.S. Cl. 204—74 **13 Claims**

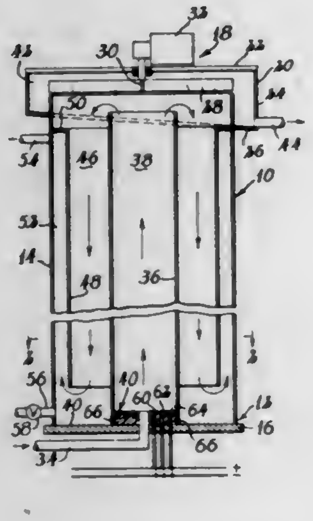
Known aminopenicillins of the general formula

$$R.CH(NH_2).CO.APA$$

wherein —APA represents the penicillin nucleus (i.e. the 6-aminopenicillanic acid residue) and R is a phenyl, substituted phenyl or thienyl group can be prepared by the electrolytic reduction in solution of N-protected aminopenicillins of the formula R.CH(Y).CO.APA wherein Y is an azido, arylsulphonamido, arylsulphenamido, or arylcarbonylamino group.

3,505,188
ELECTROLYTIC FLOTATION METHOD AND APPARATUS

Pei-Tai Pan, Beloit, Wis., assignor to Fairbanks Morse Inc., a corporation of Delaware
Filed June 18, 1965, Ser. No. 465,215
Int. Cl. C02b *1/82*
U.S. Cl. 204—149 **25 Claims**



Method and apparatus for electrolytic bubble-flotation separation of sewage wherein sewage is introduced above the vertically extended electrodes and the liquid flows unrestricted to top of the chamber for separation.

3,505,189
PROCESS FOR PRODUCTION OF A COMPOSITION FROM CARBON MONOXIDE AND NITROGEN

Roger I. Miller, Danville, Calif., assignor to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
No Drawing. Filed Nov. 25, 1966, Ser. No. 596,815
Int. Cl. C08f *1/16*
U.S. Cl. 204—157.1 **9 Claims**

A process for producing a water-soluble, nitrogen-containing compound comprising subjecting a gaseous mixture of carbon monoxide and nitrogen to high energy ionizing radiation with the ionizing radiation being absorbed in an amount in excess of 10^{20} electrons per gram of the gas mixture.

3,505,190
ETHYLENE:HIGHER-ALPHA-OLEFIN COPOLYMERS COMPATIBLE IN CURE WITH UNSATURATED POLYMERS

Richard T. Morrissey, Cuyahoga Falls, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 398,425, Sept. 22, 1964. This application Dec. 27, 1967, Ser. No. 693,724
Int. Cl. C01j *1/10;* **C08f** *27/02*
U.S. Cl. 204—159.18 **7 Claims**

Ethylene:higher-alpha-olefin copolymers compatible in cure with unsaturated polymers are prepared by dissolving and subjecting said copolymers to successive steps of halogenation, dehydrohalogenation, rehalogenation and rededehydrohalogenation, in the presence of ultraviolet light and dehydrohalogenation catalyst.

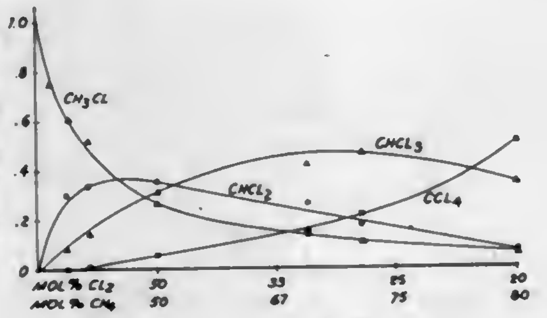
3,505,191
PRODUCTION OF CYCLOALIPHATIC KETOXIMES

Robert H. Williams, Pennington, and John P. Guarino, Trenton, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Apr. 15, 1966, Ser. No. 542,719
Int. Cl. C08f *1/16*
U.S. Cl. 204—162 **8 Claims**

Ketoximes of cycloaliphatic hydrocarbons are formed by subjecting to ionizing (gamma) radiation a mixture of a C_5–C_8 cycloaliphatic hydrocarbon and a lower alkyl nitrite to form a nitrosoaliphatic compound. This is arranged to form the ketoxime.

3,505,192
PROCESSES FOR THE CHLORINATION OF METHANE

John W. Hodgins, Ancaster, Ontario, and George N. Werezak, Sarnia, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed July 5, 1966, Ser. No. 562,819
Int. Cl. B01j *1/10*
U.S. Cl. 204—163 **11 Claims**

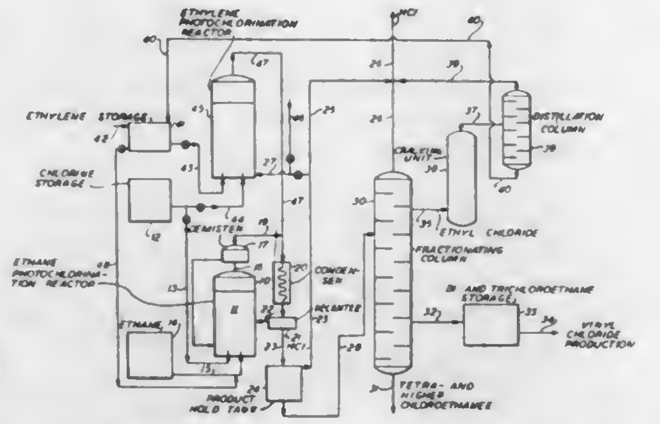


A process for the chlorination of methane by irradiating with ionizing radiation a gaseous mixture of from about 90 to 5 mole percent of methane and from about 10 to 95 mole percent of chlorine, at a temperature of from about 25° C. to about 120° C. and at a pressure of from about 750 mm. to 22,500 mm. mercury.

3,505,193
PROCESS OF PREPARING CHLORINATED ETHANES

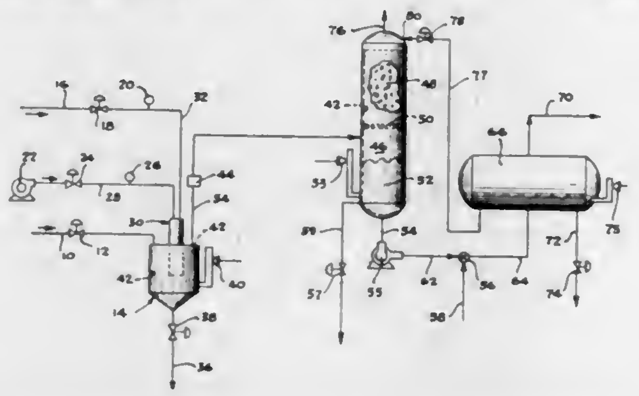
Henry O. Mottern, Far Hills, and James P. Russell, Berkeley Heights, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 31, 1967, Ser. No. 627,452
Int. Cl. B01j *1/10;* **C07c** *17/00*
U.S. Cl. 204—163 **4 Claims**

Dichloroethane is produced by the photochlorination of ethylene by means of chlorine dispersed in a reaction liquid maintained at a temperature of about 20° to 80° C., the ethylene suitably being obtained by the dehydrochlorination of ethyl chloride produced by the photochlorination of ethane with chlorine.


ETHYLENE PHOTOCHLORINATION REACTOR
ETHYLENE STORAGE
CHLORINE STORAGE
ETHANE PHOTOCHLORINATION REACTOR
ETHANE
DEMISTER
CONDENSER
DECANTER
PRODUCT HOLD TANK
HCl
CRACKING UNIT
DISTILLATION COLUMN
ETHYL CHLORIDE
FRACTIONATING COLUMN
DI AND TRICHLOROETHANE STORAGE
VINYL CHLORIDE PRODUCTION
TETRA- AND HIGHER CHLOROETHANES

3,505,194
DESALINIZATION OF CRUDE OIL

Ralph E. Martin, Tyler, Tex., assignor, by mesne assignments, to Howe-Baker Engineers, Inc., Tyler, Tex., a corporation of Texas
Filed Aug. 4, 1967, Ser. No. 658,394
Int. Cl. B03c *5/00*
U.S. Cl. 204—190 **4 Claims**



This invention concerns a process for desalting crude oil. The invention finds welcomed applicability in areas where the water supply which is necessary for desalting operations already contains quantities of inorganic dissolved salt.

The crude oil desalinization is accomplished by first removing dissolved salt from water to be used in the crude oil desalinization. This is accomplished by passing such waters through a series of treatment zones.

Basically, this series of zones comprises a vaporization zone and a condensation zone.

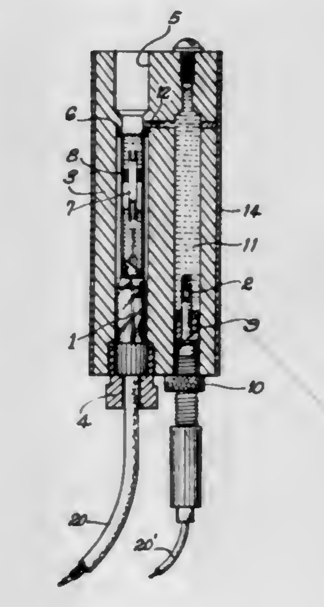
The water being collected in the condensation zone must be held at a temperature of at least 165°F.

The water from the condensation zone is joined with salty crude oil. The salty crude oil is at a lower temperature. As a consequence by way of direct heat transfer, the temperature of the water is lowered and the temperature of the oil is increased. Also, salt being carried by the oil is extracted by the water. The water-crude oil mixture is then separated. Some of the water is returned to the condensing zone to cause condensation of water vapors. The remaining is discarded.

3,505,195
ELECTRODE SYSTEM FOR ELECTRO-CHEMICAL MEASUREMENTS IN SOLUTIONS

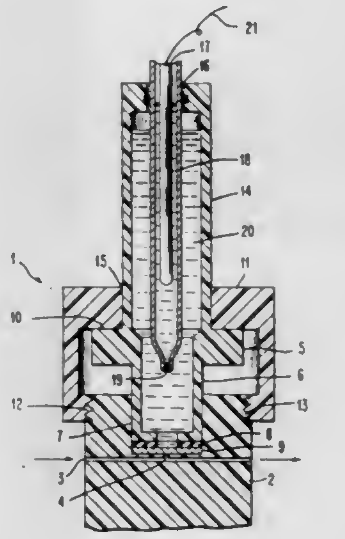
Borge Aagaard Nielsen, Hellerup, and Ole Jorgen Jensen, Gentofte, Denmark, assignors to Radiometer A/S, Copenhagen, Denmark
Filed Dec. 29, 1965, Ser. No. 517,369
Int. Cl. G01n *27/54, 27/46*
U.S. Cl. 204—195 **16 Claims**

An electrode system for electro-chemical measurements of a liquid sample of the type employing at least two electrodes comprising an indicator electrode and a reference electrode. The indicator electrode is vertically disposed in the system and the top surface of the indicator electrode comprises a membrane which defines the bottom wall of the measuring chamber in which the sample is freely accessible from above.



3,505,196
REFERENCE ELECTRODE

Harald Dahms, Ossining, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 15, 1966, Ser. No. 565,659
Int. Cl. G01n *27/30*
U.S. Cl. 204—195 **1 Claim**

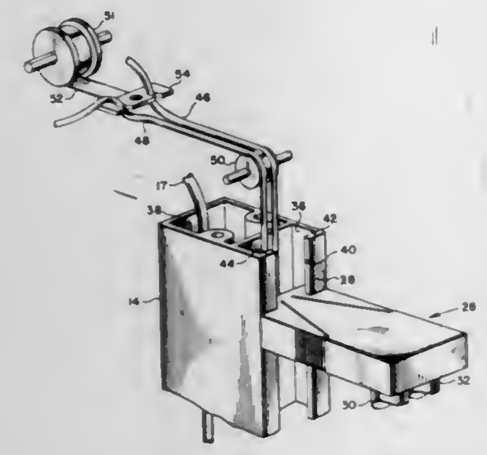


A reference standard electrode for use in potentiometric measurements is disclosed which includes a flow channel containing a test solution and a container having electrolyte therein disposed adjacent a flow channel and communicating with it via an aperture. A membrane disposed in the aperture which provides a sharp boundary between the electrolyte and the test solution is also disclosed. A calomel or silver chloride electrode immersed within a container of electrolyte is disposed within the first mentioned container of electrolyte and a wick or the like is utilized to provide an electrically conductive path between the electrolytes.

3,505,197
APPARATUS FOR ELECTROCHEMICAL ANALYSIS

David J. Malk and Roy W. Aday, Jr., La Habra, Nico Jan Van Slooten, Chino, Robert L. Greene, Diamond Bar, Arne J. Petersen, Balboa, and George Matsuyama, Fullerton, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Feb. 20, 1967, Ser. No. 617,414
Int. Cl. G01n *27/26, 27/30, 27/56*
U.S. Cl. 204—195 4 Claims

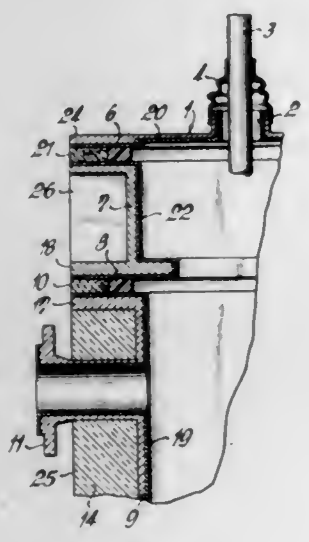


An apparatus for electrochemical analysis such as a pH meter in which the readout portion of the apparatus is mounted on top of an upright stand. The electrodes for the apparatus are positioned in a holder which is vertically adjustable on the stand so that the electrodes may be readily immersed and withdrawn from test solution below the readout portion of the apparatus.

3,505,198
ELECTROLYTIC CELL

Heinz Harnisch, Lovenich, near Cologne, Ludwig Bender, Bruhl, near Cologne, Friedrich-Karl Frorath, Kierdorf, near Cologne, Herbert Diskowski, Knapsack, near Cologne, and Helmut Seifert, Hermulheim, near Cologne, Germany, assignors to Knapsack Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Apr. 4, 1967, Ser. No. 628,394
Claims priority, application Germany, Apr. 5, 1966, K 58,932
Int. Cl. B01k *3/00*
U.S. Cl. 204—275 5 Claims

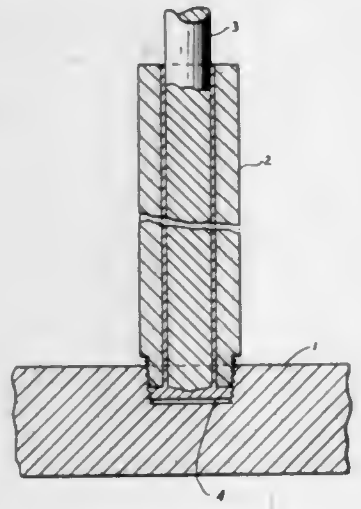


An electrolytic cell sealed in gas-tight and liquid-tight fashion and formed of a cell tank, a supporting means and a cell cover, comprising a box-shaped cell tank, open at its top and having associated to its upper rim portion a flange directed outwardly, a supporting frame secured to the top of the cell tank and receiving an electrode system and a cover mounted in gas-tight and liquid-tight fashion on the supporting frame and including a duct receiving current supply bolts and a second duct receiving a bursting disk.

3,505,199
CONICALLY THREADED GRAPHITE ANODE STEM WITH CONDUCTIBLE PLUG

Jan van 't Veen, Enschede, Netherlands, assignor to N.V. Koninklijke Nederlandsche Zoutindustrie, Hengelo, Netherlands

Filed Oct. 12, 1966, Ser. No. 586,201
Int. Cl. B01k *3/08*
U.S. Cl. 204—288 2 Claims



A graphite anode is provided comprising an anode plate having a threaded conical bore therein into which an anode stem comprising a graphite rod having a threaded conical end is in threadable engagement therewith. The stem has an axial bore in which is tightly confined a metal conductor, the stem having a conductible plug at its threaded end for making electrical contact with said conductor and said anode plate.

3,505,200
ANTHOPHYLLITE ASBESTOS DIAPHRAGM FOR CHLOR-ALKALI ELECTROLYTIC CELLS

Morris P. Grotheer, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 1, 1966, Ser. No. 598,165
Int. Cl. B01k *3/10*
U.S. Cl. 204—295 4 Claims

Anthophyllite asbestos for chlor-alkali high density electrolytic cells.

3,505,201
SEPARATION OF COAL-OIL SUSPENSIONS

Gordon W. Hodgson, George F. Round, and Jan Kruyer, Edmonton, Alberta, Canada, assignors to Research Council of Alberta, Edmonton, Alberta, Canada

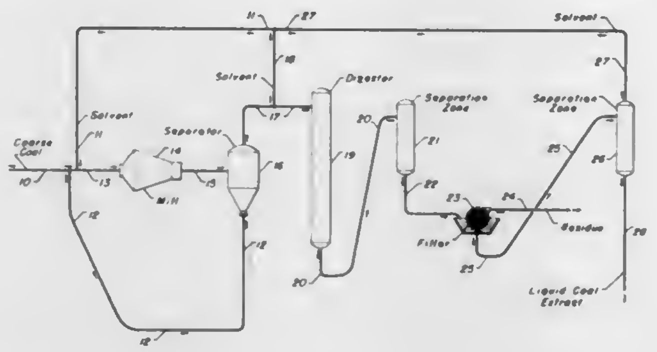
Filed Jan. 27, 1967, Ser. No. 612,188
Int. Cl. C10g *1/02;* **C10b** *49/10*
U.S. Cl. 208—8 8 Claims

The thermal separation of coal-oil slurries by flash distillation wherein the slurry is injected into a heated reactor, the oil is flash distilled leaving oil-free coal char particles. The reactor has a fluidized bed of coal char particles and is maintained at a temperature of 600° F. to 1000° F. The fluidized bed is maintained by drawing off char and injecting fluid gas. The vapors are separated from solids by a cyclone and then fractionated and condensed to form only phases and an overhead gas.

3,505,202
SOLVENT EXTRACTION METHOD

Edwin F. Nelson, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,871
Int. Cl. C10g *1/00*
U.S. Cl. 208—8 10 Claims



Method for the liquefaction of coal via solvent extraction using a hydrogen-donor selective solvent. The method contacts pulverized coal with a solvent, such as Tetralin, to produce a liquefied coal extract. Hydrocarbons useful as fuel and/or chemicals may be obtained from the liquid coal extract.

3,505,203
SOLVENT EXTRACTION METHOD

Edwin F. Nelson, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,872
Int. Cl. C10g *1/00*
U.S. Cl. 208—8 7 Claims

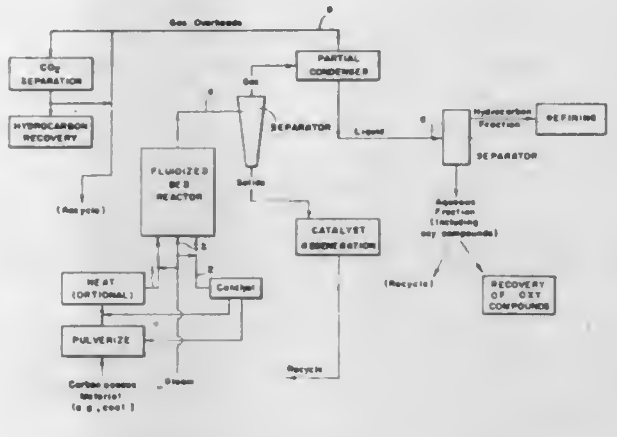
Method for the liquefaction of coal via solvent extraction using a hydrogen-donor selective solvent. The method contacts pulverized coal with a solvent, such as Tetralin, to produce a liquefied coal extract dissolved in the solvent which now has a lower hydrogen content. Following separation of the liquid coal extract from the hydrogen deficient solvent, the solvent is regenerated via selective catalytic hydrogenation. Hydrocarbons useful as fuel and/or chemicals may be obtained from the liquid coal extract.

3,505,204
DIRECT CONVERSION OF CARBONACEOUS MATERIAL TO HYDROCARBONS

Edward J. Hoffman, Laramie, Wyo., assignor to The University of Wyoming, a body corporate of Wyoming

Filed Apr. 10, 1967, Ser. No. 629,498
Int. Cl. C10g *1/08*
U.S. Cl. 208—10 16 Claims

Coal or other naturally occurring bituminous carbonaceous materials, or carbon, coke, or carbonaceous petroleum materials are converted directly to hydrocarbons and oxygen-containing organic compounds by reacting the carbonaceous material with steam in the presence of a two-component catalyst system. The first catalyst component is a compound of an alkali or alkaline earth metal and the second component is a compound of a group 8 transition metal. By utilizing these catalysts, good yields

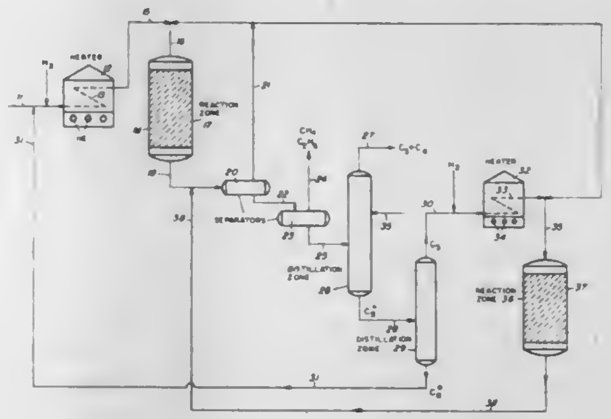


of hydrocarbons are obtained in a single stage reaction at temperatures of from 800 to 1000 or 1200° F.

3,505,205
PRODUCTION OF LPG BY LOW TEMPERATURE HYDROCRACKING

Joseph P. Giannetti, Allison Park, Howard G. McIlvried, Pittsburgh, and Raynor T. Sebulsky, Verona, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed Apr. 23, 1968, Ser. No. 723,445
Int. Cl. C10g *13/00*
U.S. Cl. 208—59 21 Claims



Hydrocarbons are hydrocracked under unusually mild conditions employing a catalyst which comprises a major proportion of alumina and a minor portion of metalliferous material having hydrogenating activity, that has been activated with a sulfur chloride, a mixture of sulfur dioxide and chlorine, boron trichloride, a phosphorous chloride or a carbon chloride following a hydrogen chloride pretreatment of the catalyst. The bromine analogs of the chlorine activating agents can also be employed.

3,505,206
PROCESS FOR THE HYDROCONVERSION OF HYDROCARBONS AND THE REGENERATION OF THE FOULED CATALYST

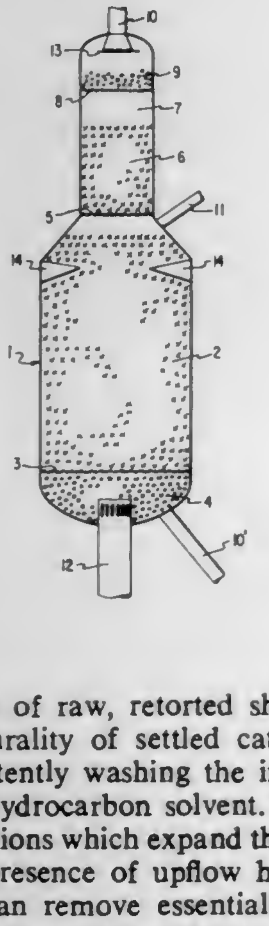
William H. Decker, Darien, Conn., assignor, by mesne assignments, to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania

No Drawing. Filed Nov. 14, 1967, Ser. No. 683,007
Int. Cl. C10g *13/02*
U.S. Cl. 208—108 15 Claims

Operation of a catalytic process for hydro-converting heavy, high-boiling hydrocarbons containing asphaltenes, nitrogen, sulfur, and/or metallic contaminants, is improved by a solvent wash of the catalyst bed. A reactor containing a settled bed of macrosize catalyst is taken off-stream when the catalyst bed is fouled by deposits and the catalyst is subjected to an upward flow of solvent, preferably benzene, at a rate sufficient to expand the bed. The expansion causes a scrubbing of the particles and aids in dissolution and/or flushing of extraneous material from the reactor. After the treatment the reactor is placed back on-stream.

3,505,207
PROCESS FOR THE HYDROCRACKING OF SHALE OILS

Stanley C. Haney, Homewood, Ill., and William H. Decker, Darien, Conn., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 4, 1968, Ser. No. 718,759
Int. Cl. C10g *13/02*
U.S. Cl. 208—108 **24 Claims**

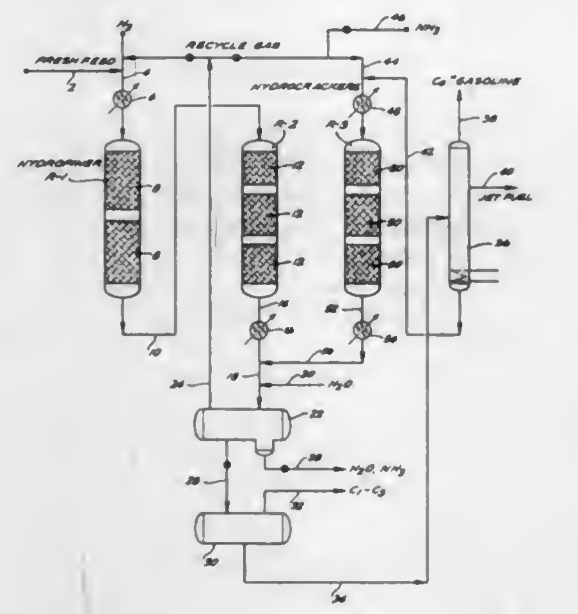


Hydroconversion of raw, retorted shale oils by serial flow through a plurality of settled catalyst beds is improved by intermittently washing the initial catalyst bed with an aromatic hydrocarbon solvent. The wash is conducted under conditions which expand the catalyst bed and preferably in the presence of upflow hydrogen gas. The aromatic solvent can remove essentially completely the gummy, black, condensation products which form in the initial part of the first catalyst bed, causing excessive pressure drop and plugging the catalyst bed. The aromatic wash prolongs overall high catalyst activity by precluding or reducing the formation of coke by such deposits. Catalyst positioned subsequent to the initial bed can be washed as the need arises.

3,505,208
HYDROCRACKING PROCESS

Raoul P. Vaell, Los Angeles, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Dec. 26, 1967, Ser. No. 693,417
Int. Cl. C10g *13/10*
U.S. Cl. 208—111 **10 Claims**

Mineral oil feedstocks which are substantially free of organic nitrogen, but which contain dissolved benzcoronenes, are subjected to catalytic hydrocracking over crystalline zeolite type catalysts while maintaining a sufficient recycle of unconverted oil to bring about, under normal conditions, a substantial buildup and eventual precipitation of benzcoronenes in the cooler parts of the system such as heat-exchange surfaces. According to the invention, this build-up and precipitation is prevented by maintaining sufficient added ammonia in the hydrocracking zone to bring about an increased rate of conversion of the benzcoronenes to other more soluble compounds which do not precipitate out in the system.



3,505,209
CATALYTIC HYDROCRACKING AND DESULFURIZATION PROCESS

Charles C. Brewer and Charles R. Killian, Baton Rouge, La., assignors to Foster Grant Co. Inc., Leominster, Mass., a corporation of Delaware
No Drawing. Filed Feb. 20, 1968, Ser. No. 706,806
Int. Cl. C10g *13/10*
U.S. Cl. 208—112 **12 Claims**

A feed stock of vinyl aromatic distillation residues which may be mixed with aromatic alkylation residues is subjected to hydrocracking and hydrodesulfurization by the use of a catalyst which may be a mixture of oxides of molybdenum and cobalt, molybdenum and nickel, or molybdenum, cobalt and nickel, and a carrier such as alumina.

ERRATUM

For Class 208—188 see:
Patent No. 3,505,307

3,505,210
DESULFURIZATION OF PETROLEUM RESIDUA

Thomas J. Wallace, Whippany, and Barry N. Heimlich, Union, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 434,643, Feb. 23, 1965. This application June 4, 1968, Ser. No. 734,228
Int. Cl. C10g *31/14, 27/06, 19/02*
U.S. Cl. 208—228 **15 Claims**

Heavy petroleum hydrocarbon fractions and particularly residua containing bivalent sulfur are desulfurized in a two-step process in which the heavy hydrocarbon is first contacted with hydrogen peroxide or other suitable peroxy compound in an acidic medium, oxidizing bivalent sulfur to the sulfone state, and then treating the hydrocarbon fraction with a molten alkali metal hydroxide to cleave the sulfone ring and form a hydrocarbon fraction of reduced sulfur content.

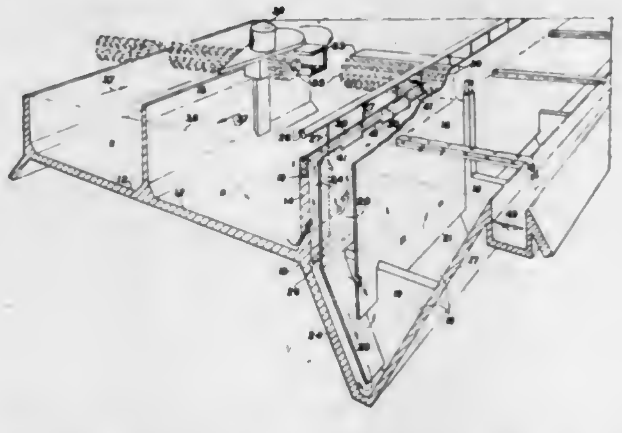
3,505,211
SEPARATION OF HYDROCARBONS BY TYPE II HYDRATE FORMATION

Herbert J. Gebhart, Jr., Ferguson, and Earle C. Makin, Jr., St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 606,532, Jan. 3, 1967. This application May 29, 1968, Ser. No. 732,904
Int. Cl. C10g *29/20*
U.S. Cl. 208—308 **10 Claims**

Hydrocarbon components that do not normally form hydrates with water can be separated from mixtures of said hydrocarbon components by contacting said mixtures with water and a halogen-containing hydrate-forming agent capable of causing the formation of a Type II hydrate. By carrying out the contacting at a temperature below the hydrate formation temperature and at a pressure at least equal to the saturation pressure of the system, the hydrocarbon component having the smallest molecular bulk is preferentially encapsulated in the hydrate.

3,505,212
METHOD AND EQUIPMENT FOR ACTIVATED SLUDGE PROCESSING OF SEWAGE

Josef Huber, Kilchberg, Switzerland, assignor to Passavant-Werke, Michelbacher Hutte, near Michelbach, Nassau, Germany, a corporation of Germany
Filed Aug. 6, 1968, Ser. No. 750,607
Claims priority, application Germany, Aug. 11, 1967, 1,658,112
Int. Cl. C02c *1/06*
U.S. Cl. 210—5 **15 Claims**

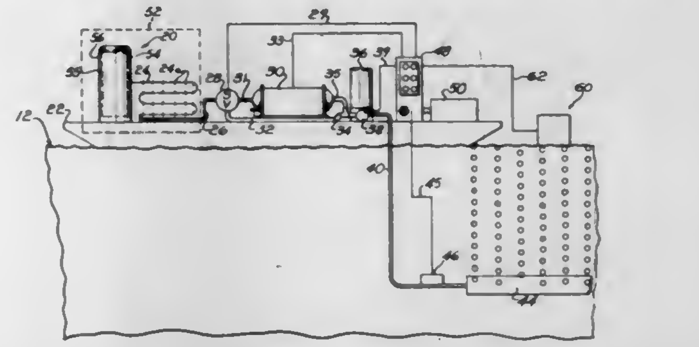


A sewage treatment process of the activated sludge type embodies two successive phases of aeration and circulation of the liquid sewage being treated. Sludge derived from the second phase is reintroduced in predetermined quantities into the sewage undergoing both phases of treatment to provide a heavily loaded but lightly concentrated first phase mixture and a lightly loaded but heavily concentrated second phase mixture Continuous circulation is maintained in both treatment phases but at different velocities and flow patterns, thereby providing high biological efficiency while at the same time reducing the amount of power required for aeration and circulation purposes.

3,505,213
METHOD AND APPARATUS FOR PURIFYING A NATURAL BODY OF WATER

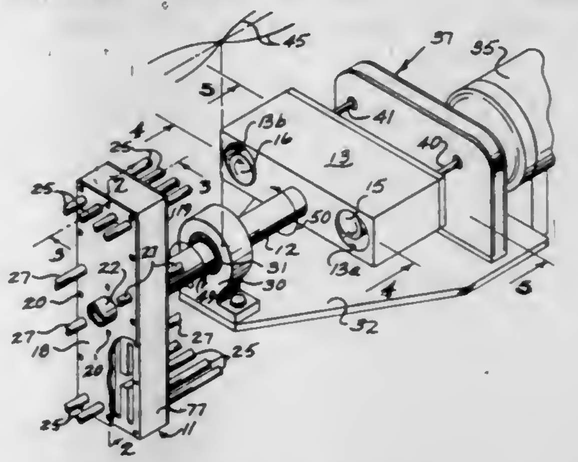
Harold V. Anthony and George P. Fulton, Littleton, Colo., assignors to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Feb. 24, 1969, Ser. No. 801,381
Int. Cl. C02b *1/34*
U.S. Cl. 210—15 **25 Claims**

A method and apparatus for supplementing or accelerating the natural process of water purification in a natural body of water in situ includes the addition of oxygen to the natural body of water in situ. Liquor oxygen is converted to its gaseous state by the use of an atmospheric heat exchanger and is then diffused into the water to increase the natural oxidation of pollutants. During the occurrence of certain water conditions, gaseous oxidation catalysts and gaseous oxidizing agents are utilized to increase the speed and efficiency of the oxidation of pollutants. The oxygen and the catalysts and agents, when water conditions warrant, are simultaneously dissolved into the body of water. Sensor means are utilized to sense water conditions and vary the rate of flow of the gaseous oxygen, agents and catalysts to the water, as the water conditions vary so as to prevent oxygen from being lost from the surface of the water to the atmosphere.



3,505,214
SONIC SEPARATOR

Albert G. Bodine, 7877 Woodley Ave., Van Nuys, Calif. 91406
Filed Dec. 6, 1966, Ser. No. 599,549
Int. Cl. B01d *35/20*
U.S. Cl. 210—19 **11 Claims**

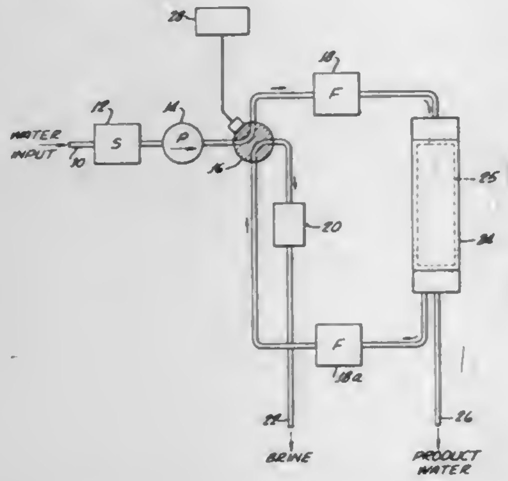


The fluid to be separated is fed into a separation chamber which is torsionally vibrated at a sonic frequency, the fluid material being incorporated as mass reactance in the vibration system. The heavier and lighter elements of the mixture each react differently to the vibrational sonic energy such that they tend to form into separate masses, the centrifugal force produced by the torsional sonic energy driving the heavier material to outlets near the periphery of the chamber and the lighter material to outlets closer to the center of the chamber.

3,505,215
METHOD OF TREATMENT OF LIQUIDS BY REVERSE OSMOSIS

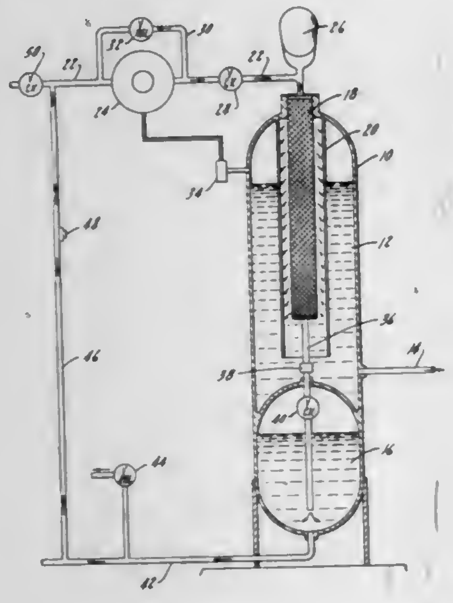
Donald T. Bray, Escondido, Calif., assignor to Desalination Systems, Inc., Escondido, Calif., a corporation of California
Filed Oct. 10, 1968, Ser. No. 766,463
Int. Cl. B01d *11/04*
U.S. Cl. 210—22 **7 Claims**

A spiral wound semipermeable membrane module in a reverse osmosis system is prevented from telescoping, due to pressure exerted by solution being treated against a particulate matter build-up at the end of the module, by passing the solution to be treated through a first filter, then through the semipermeable membrane module, then the concentrate or brine is passed through a second filter and out to waste through a back pressure regulator valve. The effective openings in the filters are of diameter less than the hydraulic diameter of the channels in the membrane module and preferably from 5% to 75% of such channel diameter. Periodically the flow of liquid is reversed through the filters and module so that the back flushing action during each reversed flow period cleans the filter that has previously collected debris during the previous opposite direction flow period.



3,505,216
REVERSE OSMOSIS WATER SOFTENING METHOD AND APPARATUS

Benjamin H. Kryzer, St. Paul, Minn., assignor, by mesne assignments, to Union Tank Car Company, a corporation of Delaware
Filed Oct. 30, 1967, Ser. No. 678,978
Int. Cl. B01d *31/00, 13/00*
U.S. Cl. 210—23 **5 Claims**



An economical method and apparatus are provided for producing soft water by reverse osmosis. In the method, water under pressure is conducted into an inlet zone and a portion is passed through a semi-permeable membrane into a soft water zone. The remainder is conducted into a hard water zone, where at least a portion of it is stored. This hard water is utilized, by conducting it to a suitable water distribution system, by reintroducing it into the inlet zone, or both. The apparatus includes a liquid container having hard and soft water zones separated by a semi-permeable membrane, together with hard and soft water outlet means, hard water storage means, and pressure relief means for removing excess hard water from the hard water storage means.

3,505,217
PROCESS FOR THE DESTRUCTION OF CYANIDE IN WASTE SOLUTIONS

John L. Morico, North Haven, Conn., assignor to Enthone, Incorporated, West Haven, Conn., a corporation of Connecticut
No Drawing. Filed May 3, 1968, Ser. No. 726,569
Int. Cl. C02c *5/02*
U.S. Cl. 210—59 **17 Claims**

This invention concerns a process for the destruction of free and/or chemically combined cyanide present in waste solutions so as to render the solution suitable for safe disposal. The process involves mixing together the cyanide-containing waste solution and an aldehyde and/or a water-soluble bisulfite addition reaction product thereof, with the aldehyde or addition reaction product thereof supplied in the stoichiometric amount and preferably in excess over the stoichiometric amount required for reaction with all the cyanide present. The selected material and free and/or chemically combined cyanide of the waste solution are then reacted together at room temperature or elevated temperature until the cyanide has been converted into nontoxic materials to that degree required for safe disposal of the solution.

3,505,218
MULTIPHASE NON-METALLIC COMPOSITIONS OF MATTER

William R. Lasko, 79 Granite Road, Glastonbury, Conn. 06033, and Monte C. Nichols, 1733 E. Silver, Tucson, Ariz. 87716
Continuation-in-part of application Ser. No. 637,004, May 8, 1967. This application June 28, 1968, Ser. No. 747,416
Int. Cl. C09k *3/00;* **G02b** *1/00;* **B01i** *17/00*
U.S. Cl. 252—1 **16 Claims**

A solid, polyphase composition of matter comprising a eutectic mixture of inorganic compounds is provided, the composition of the mixture being such that the components thereof are reciprocally soluble in the liquid state, but freeze simultaneously at a constant temperature into at least two different solid phases upon cooling from the liquid state, the composition having a microstructure of eutectic composition containing at least two solid phases, at least one of said phases being in the form of an aligned, three-dimensional crystallites which are substantially parallel to a common direction. Additional compositions of eutectic mixtures comprising an inorganic compound and a member selected from the group consisting of water, an element and mixtures thereof are also provided. Such compositions, depending on the orientation relationships between the phases, are useful as components in either optical or electromagnetic devices.

Furthermore, an improved method of forming a solid, polyphase composition of matter comprising a eutectic mixture of the above-identified components is provided in which the improvement resides in employing said components.

3,505,219
DRILLING FLUID

Jack H. Kolaian, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 25, 1967, Ser. No. 633,381
Int. Cl. C10m *3/18, 3/04*
U.S. Cl. 252—8.5 **10 Claims**

An aqueous drilling fluid dispersant and a method of drilling wells using said drilling fluid which contains a substituted cycloalkane drilling fluid dispersant, namely

1,2,3,4,5,6 - hexahydroxycyclohexane, 1,3,4,5 - tetrahydroxycyclohexanecarboxylic acid or 1,2,3,4-cyclopentanetetracarboxylic acid.

3,505,220
TEXTILE-FINISHING COMPOSITION AND TEXTILE TREATED THEREWITH

Lawrence R. Blake, Cumberland, Joseph P. Penick, Jr., Bel Air, Cumberland, and Harold W. Connor, Frostburg, Md., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 13, 1966, Ser. No. 556,918
Int. Cl. D06m *1/14*
U.S. Cl. 252—8.6 **11 Claims**

A textile-finishing composition, articles coated with said composition and a method of cohesively bonding textile fibers by applying said textile finishing composition to the fibers, wherein the textile finishing composition comprises: mineral oil having a Saybolt Universal viscosity at 100 degrees Fahrenheit of less than about 100 seconds, polybutene having a number average molecular weight of from about 150 to about 750, an alkyl or alkenyl acid phosphate containing from about 13 through about 19 carbon atoms in the alkyl or alkenyl group and an oxidized vegetable oil.

3,505,221
FABRIC SOFTENER

Milton M. Waldman, Northbrook, and Andrea E. Mariahazy, Westchester, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 566,471, July 20, 1966. This application June 9, 1967, Ser. No. 644,819
Int. Cl. D06m *13/46;* **C07c** *87/30;* **C11d** *3/30*
U.S. Cl. 252—8.75 **3 Claims**

A fabric softener comprising certain arylalkyl quaternary compounds useful in either the wash or the rinse waters during the laundering of fabric.

3,505,222
LUBRICANT COMPOSITIONS

Leonard M. Niebylski, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Mar. 29, 1967, Ser. No. 626,701
Int. Cl. C10m *5/14, 3/18, 7/36*
U.S. Cl. 252—17 **2 Claims**

The extreme pressure wear properties of base lubricants including water, hydrocarbons, polyesters, silicones, polyethers and halocarbons is enhanced by the addition of a synergistic mixture of a thiosulfate compound and a lead compound.

3,505,223
LUBRICANT COMPOSITIONS

Leonard M. Niebylski, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Mar. 30, 1967, Ser. No. 626,963
Int. Cl. C10m *1/10, 1/38, 7/02*
U.S. Cl. 252—25 **11 Claims**

The extreme pressure wear properties of base lubricants including water, hydrocarbons, polyesters, silicones, polyethers and halocarbons is enhanced by the addition of a metal thiosulfate, especially lead thiosulfate, to the base lubricant.

3,505,224
GREASE COMPOSITION

Paul R. McCarthy, Allison Park, and Thomas R. Orem, Blawnox, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 26, 1967, Ser. No. 678,197
Int. Cl. C10m *7/48, 7/30, 7/02*
U.S. Cl. 252—28 **9 Claims**

A grease composition for lubricating bearings operating at temperatures up to about 600° F. and speeds up to about 20,000 revolutions per minute comprises:

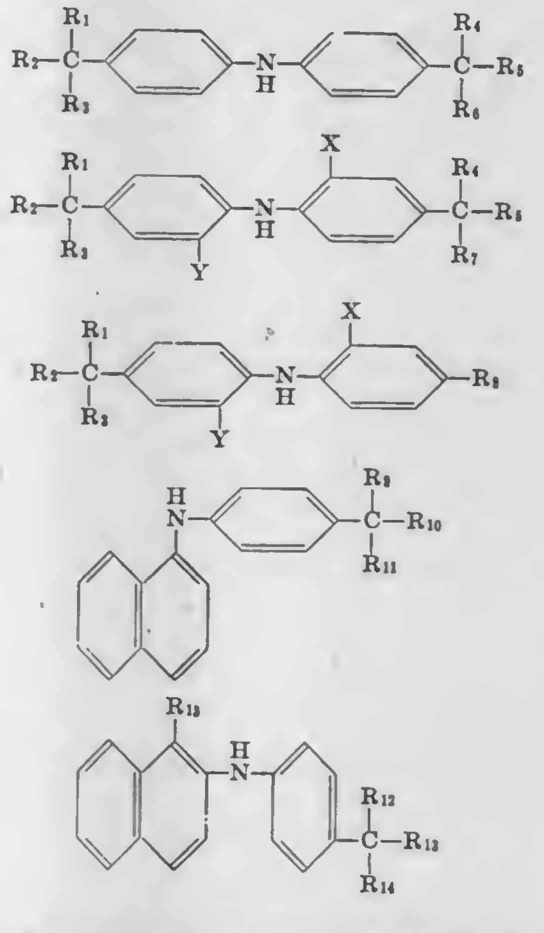
(a) 80 to 95 percent by weight of a liquid polyorganosiloxane, e.g., silicone oil;
(b) 2 to 10 percent by weight of a 1,3,5-triazine compound melting above about 600° F., e.g., ammeline;
(c) 2 to 10 percent by weight of a finely-divided silica, e.g., Cab-O-Sil; and
(d) 0.5 to 4 percent by weight of an alkaline earth metal hydroxide, e.g., calcium hydroxide.

The weight ratio of (b) or (c) is between about 1:5 and 5:1.

3,505,225
DERIVATIVES OF DIPHENYLAMINE AND THE PHENYLNAPHTHYLAMINES AS ANTIOXIDANTS AND AS SYNERGISTS WITH DIALKYL 3,3'-THIODIPROPIONATES

Edward L. Wheeler, Woodbury, Conn., assignor to Uniroyal Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Apr. 7, 1966, Ser. No. 540,817
Int. Cl. C10m *1/38, 1/32*
U.S. Cl. 252—33.6 **2 Claims**

Derivatives of diphenylamine or phenylnaphthylamine of the types



where R_1, R_9 and R_{12} are phenyl or p-tolyl groups and the remaining R's, X and Y may be alkyl or various other substituents, are useful antioxidants for lubricating oils or for various polymeric substrates(e.g., polypropylene) especially in combination with a dialkyl thiodipropionate. Typical antioxidants are: 4,4'-bis(alpha,alpha-dimethylbenzyl)diphenylamine made by reacting alpha-methylstyrene with diphenylamine; 4,4'-bis(alpha-methylbenzhydryl)diphenylamine made by reacting 1,1-diphenylethylene with diphenylamine; and N-(4-alpha,alphadimethylbenzylphenyl) - 1-(alpha,alpha-dimethylbenzyl)-2-naphthylamine made by reacting alpha-methylstyrene with N-phenyl-2-naphthylamine.

3,505,226
STABILIZATION OF ORGANIC SUBSTRATES

Henryk A. Cyba, Evanston, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 370,079, May 25, 1964. This application Feb. 13, 1969, Ser. No. 799,121

Int. Cl. C10l *1/22;* **C10m** *1/22*

U.S. Cl. 252—49.6 20 Claims

Stabilization of organic substrates by incorporating therein a stabilizing concentration of a boron ester of a hydroxyalkyl-heterocyclic compound. One example is the stabilization of plastics and another example is the stabilization of hydrocarbon distillates.

3,505,227
LUBRICATING OIL COMPOSITIONS CONTAINING BIS-ALKENYL SUCCINIMIDES OF XYLYLENE DIAMINES

Warren Lowe, El Cerrito, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Dec. 18, 1967, Ser. No. 691,225

Int. Cl. C10m *1/30, 1/32*

U.S. Cl. 252—51.5 4 Claims

Bis-alkenyl succinimidyl alkyl benzenes having from 0 to 4 halogens on the benzene ring find use as lubricating oil detergents. The alkenyl group has from 40 to 125 carbon atoms.

3,505,228
CORROSION INHIBITING LUBRICANT COMPOSITION

Hayward R. Baker, Silver Spring, Md., and Robert N. Bolster, Fairfax County, Va., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Apr. 24, 1968, Ser. No. 723,882

Int. Cl. C10m *1/32*

U.S. Cl. 252—51.5 7 Claims

Liquid compositions which are solutions in a volatile hydrocarbon solvent, such as n-hexane, of a lubricating oil, an antioxidant for the lubricating oil, a lower alkanol such as ethanol, and a reaction product which is prepared by heating a monoalkyl or monoalkenyl succinic anhydride with a primary or secondary long chain alkylamine in a ratio of from about 1.5 to 1.9 equivalents of the hydrocarbyl succinic anhydride per equivalent of the alkylamine and in the presence of an excess of the lower alkanol to form a solution having a temperature in the range of from about 50° C. to 5° C. below the boiling point of the alkanol. The liquid compositions are useful for providing a soft, non-tacky, solid coating of corrosion inhibitor and lubricant on metal surfaces. Additionally, they may be applied to displace water from wet metal surfaces.

3,505,229
GREASE COMPOSITION

John Tevlin Skehan, Claymont, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 440,917, Mar. 18, 1965. This application Dec. 5, 1967, Ser. No. 688,028

Int. Cl. C10m *7/28, 7/16, 7/30*

U.S. Cl. 252—54 8 Claims

Greases containing a perfluorinated polyether oil derived from hexafluoropropylene oxide and about 5 to 50% by weight of a polymer of tetrafluoroethylene as thickener. The grease may be applied as a fluid dispersion in a suitable volatile solvent such as 1,2-dibromo-1,1,2,2-tetrafluoroethane or 1,1,2-trichloro-1,2,2-trifluoroethane.

3,505,230
FUNCTIONAL ESTER BASE FLUIDS CONTAINING CORROSION INHIBITORS

Quentin E. Thompson, Belleville, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Mar. 29, 1967, Ser. No. 626,703

Int. Cl. C10m *1/26, 1/32, 1/38*

U.S. Cl. 252—57 8 Claims

Compositions of the class which exhibit inhibition and control of corrosion of metal surfaces and in particular metal surfaces containing lead obtained by the incorporation of certain o- and/or m-hydroxy or hydroxy ester-substituted aromatic compounds into a class of base stocks representative of which are pentaerythritol esters and dipentaerythritol esters and mixtures of these esters with monoesters, diesters, triesters and complex esters. The compositions have many uses, among which are jet engine lubricants and hydraulic fluids.

3,505,231
LIQUID DEVELOPER FOR XEROGRAPHY

Keith Meredith Oliphant, Westbourne Park, South Australia, Australia, assignor to Research Laboratories of Australia Limited, Adelaide, South Australia, Australia

Continuation of application Ser. No. 174,990, Feb. 23, 1962. This application Sept. 27, 1966, Ser. No. 582,459

Claims priority, application Australia, Mar. 13, 1961, 2,372/61

Int. Cl. G03g *9/04;* **C09d** *5/00*

U.S. Cl. 252—62.1 2 Claims

Electrostatic images are developed by a liquid toner consisting essentially of two liquids, one being a toner phase liquid dissolved and the other which is a carrier phase liquid.

3,505,232
AZEOTROPIC MIXTURE

Kevin Paul Murphy, Bernardsville, and Sabatino R. Orfeo, Morris Plains, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Jan. 9, 1967, Ser. No. 607,922

Int. Cl. C09k *3/02*

U.S. Cl. 252—67 6 Claims

A low boiling azeotropic composition consisting essentially of a mixture of monochloromonofluoromethane and dichlorotetrafluoroethane, useful as a refrigerant, heat transfer medium, gaseous dielectric and as working fluid in a power cycle.

3,505,233
CHLOROPENTAFLUOROETHANE-PENTAFLUOROETHANE AZEOTROPIC COMPOSITIONS

Jared W. Clark and Charles E. Rectenwald, Charleston, W. Va., assignors to Union Carbide Corporation, New York, N.Y., a corporation of New York

No Drawing. Continuation-in-part of abandoned application Ser. No. 590,203, Oct. 28, 1966. This application Nov. 12, 1968, Ser. No. 775,206

Int. Cl. C09k *3/02*

U.S. Cl. 252—67 3 Claims

Chloropentafluoroethane in combination with pentafluoroethane form azeotropes useful as refrigerant compositions.

3,505,234
SODIUM CHLORIDE DE-ICING COMPOSITION WITH ALKALI METAL IRON CYANIDE AND CALCIUM OR MAGNESIUM CHLORIDE

Werner Pinckernelle, Hannover-Kirchrode, and Leonore Gentsch, Hannover, Germany, assignors to Salzdetfurth Aktiengesellschaft, Hannover, Germany

No Drawing. Filed Mar. 29, 1965, Ser. No. 443,686

Int. Cl. C09k *3/18*

U.S. Cl. 252—70 1 Claim

A non-caking de-icing composition contains for each 1000 kg. of NaCl 5 to 75 g. of a water soluble alkali metal salt of an iron cyanide, and 5 to 40 kg. of calcium or magnesium chloride.

3,505,235
CORROSION INHIBITORS BASED ON VINYLPYRIDINE POLYMERS

Thaddeus M. Muzyczko, Melrose Park, Samuel Shore, Roselle, and Jerome A. Martin, Chicago, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed June 13, 1967, Ser. No. 645,589

Int. Cl. C02b *5/06;* **C08f** *33/00*

U.S. Cl. 252—82 12 Claims

This invention is directed to corrosion inhibitors of vinylpyridine polymers including their salts and combinations with acetylenic alcohols. Illustrative of the corrosion inhibitors are the polyvinylpyridine, its methyl iodide quaternary salt and the mixtures of polyvinylpyridine and propargyl alcohol.

3,505,236
WATER-BASED AEROSOL COMPOSITION

Raymond Michael Anstett, Hazlet, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 7, 1966, Ser. No. 555,662

Int. Cl. C11d *17/08;* **C09k** *3/30*

U.S. Cl. 252—90 5 Claims

1. In the method of manufacturing a pressurized package consisting essentially of a hermetically sealed, valved container, a propellant gas phase and an oil-in-water emulsion which consists essentially of a continuous aqueous phase, an oil-in-water emulsifier, and a disperse, nonflammable, liquid propellant phase comprising at least 78% by weight of a liquefied, normally-gaseous, halogenated, hydrocarbon propellant, said disperse phase having a density greater than 1.0 and the proportion thereof being sufficient to propel the emulsion from said container, the step of adding at least one water-soluble, inorganic, ammonium salt "selected from the group consisting of nitrate, carbamate, carbonate, and bicarbonate" to said aqueous phase in an amount sufficient to raise the density of said aqueous phase to a density greater than that of said disperse propellant phase whereby said aqueous phase forms the lower phase when the emulsion breaks.

3,505,237
STEAM IRON ADDITIVE COMPOSITION

Roger C. Steinhauer, Park Forest, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Mar. 6, 1967, Ser. No. 620,655

Int. Cl. C23f *14/02;* **D06f** *75/14*

U.S. Cl. 252—180 9 Claims

A steam promoting composition comprising as essential active ingredients a polyethylene glycol having a molecular weight of from 120 to 1000 and a siloxane-polyoxyalkylene block copolymer having molecular weight of from 400 to 600.

3,505,238
METHODS AND COMPOSITIONS FOR INHIBITING SCALE IN SALINE WATER EVAPORATORS

Robert W. Liddell, Pittsburgh, Pa., assignor to Calgon Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 443,627, Mar. 29, 1965. This application Nov. 4, 1968, Ser. No. 773,276

Int. Cl. C02b *5/06;* **C23f** *14/02*

U.S. Cl. 252—180 25 Claims

Salts of amino methylene phosphonates are added to saline water alone or in combination with one or more anti-foam agents, water soluble polymers, tannins, lignins and deaerating materials to inhibit the deposition of scale on saline water evaporators.

3,505,239
CRYSTAL LASER MATERIAL

Robert Mazelsky, Monroeville, and Robert C. Ohlmann, Churchill, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 26, 1966, Ser. No. 567,918

Int. Cl. C09k *1/04*

U.S. Cl. 252—301.4 14 Claims

A crystal laser material composed of calcium fluorapatite and doped with neodymium as a partial substitute for calcium therein. Other elements such as selected rare earths, manganese, and charge compensators may also be substituted.

3,505,240
PHOSPHORS AND THEIR PREPARATION

Thomas L. Barry, Beverly, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed Dec. 30, 1966, Ser. No. 606,002

Int. Cl. C09k *1/54;* **H01j** *61/44, 61/20*

U.S. Cl. 252—301.4 5 Claims

A fluorescent phosphor excitable by both 2537 and 3650 A. radiation is prepared which has a composition characterized as $(Ba_{2-x}Sr_x)SiO_4$: $Eu^{+2}{}_{0.0005}$ to $_{0.05}$ where x is no more than two. The phosphor is prepared by mixing barium and strontium carbonates with a source of SiO_2 and europium. An ammonium chloride flux is blended into the mix and the batch is fired to produce the phosphor.

3,505,241
PROCESS FOR PREPARING RARE EARTH VANADATE PHOSPHORS

James E. Mathers, Ulster, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware

No Drawing. Filed June 14, 1967, Ser. No. 645,892

Int. Cl. C09k *1/44*

U.S. Cl. 252—301.4 7 Claims

The luminous efficiency of ultraviolet responsive, rare earth metal (yttrium, gadolinium and/or lutetium) orthovanadate phosphors, generally activated by europium, can be increased by washing the material, after firing, in an acid media. After washing in the acid media, the phosphor is washed to a neutral pH and digested in an alkaline solution, filtered, washed again in water until a neutral pH is reached. The phosphor is then dried.

3,505,242
NOVEL FLUORESCENT COMPOSITIONS

Charles F. Chenot and Mahlon Dennis, Towanda, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Oct. 15, 1968, Ser. No. 767,677

Int. Cl. C09k *1/66*

U.S. Cl. 252—301.6 3 Claims

Fluorescent phosphors having a host matrix of

$$ZnO \cdot 2CdO \cdot 2B_2O_3$$

activated by terbium and excitable with radiation at 2537 A. The matrix can be modified by the inclusion of

Ga_2O_3. The phosphors of the present invention are useful in fluorescent lamps.

3,505,243
DISPERSANTS FROM SPENT SULFITE LIQUOR

John Charles Steinberg and Kenneth Russell Gray, Shelton, Wash., assignors to ITT Rayonier Incorporated, Shelton, Wash., a corporation of Delaware

Continuation of application Ser. No. 432,761, Feb. 15, 1965, which is a continuation-in-part of applications Ser. No. 95,190, Mar. 13, 1961, and Ser. No. 174,595, Feb. 20, 1962. This application Dec. 5, 1967, Ser. No. 688,264

Int. Cl. B01f *17/50;* **C09c** *3/02;* **C07g** *1/00*

U.S. Cl. 252—353 **3 Claims**

Dispersing agents produced by adding a sodium, potassium or ammonium salt of sulfurous acid to a soluble base spent sulfite liquor containing reducing sugars, heating the mixture so obtained to temperatures of from about 80° C. to about 200° C. whereby the sulfurous acid salt reacts with the solids of the spent sulfite liquor and terminating the reaction at a point where the viscosity of the reaction does not exceed that of the reaction mixture prior to heating. The products are effective dispersing agents for cement, ceramic clays, clays in oil well drilling muds, pigments and many other water insoluble materials.

3,505,244
ENCAPSULATED CORROSION INHIBITOR

John C. Cessna, Berea, Ohio, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of applications Ser. No. 452,363, and Ser. No. 452,387, both Apr. 30, 1965. This application Nov. 7, 1967, Ser. No. 681,089

Int. Cl. C09k *3/02, 3/12;* **B01j** *13/02*

U.S. Cl. 252—391 **13 Claims**

An encapsulated corrosion inhibitor in the form of a free-flowing dry powder of rupturable capsules having a particle size in the range from about 0.1 to about 2000 microns in diameter and having an inner core of a corrosion inhibitor for a heat exchange liquid encapsulated within a rupturable outer sheath of a film former; said corrosion inhibitor being present in the capsules in an amount not exceeding about 99 percent by weight.

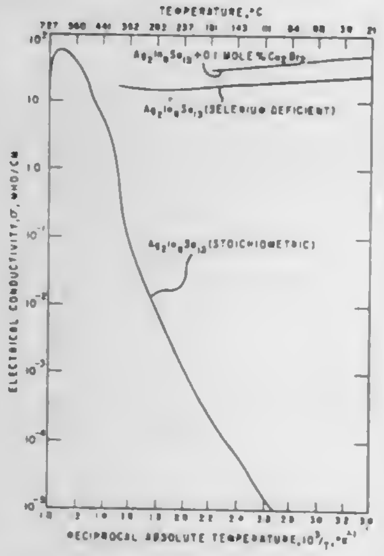
3,505,245
ELECTRICALLY CONDUCTIVE COMPOSITIONS

Daniel F. O'Kane, Dobbs Ferry, N.Y., assignor, by mesne assignments, to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Original application Nov. 20, 1962, Ser. No. 238,913, now Patent No. 3,347,639, dated Oct. 17, 1967. Divided and this application Aug. 24, 1967, Ser. No. 688,631

Int. Cl. H01b *1/02*

U.S. Cl. 252—512 **3 Claims**



The present invention relates to semiconductor alloys or compositions whose major constituents comprise silver, indium and selenium, and in particular to electrical conductors comprised of said compositions.

3,505,246
NITROGEN ALUMINUM HYDRIDE POLYMERS AND METHOD OF MAKING THE SAME

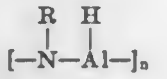
Robert Ehrlich and Donald D. Perry, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed May 28, 1962, Ser. No. 197,890

Int. Cl. C08f *13/00*

U.S. Cl. 260—2 **11 Claims**

1. A nitrogen-aluminum polymer essentially composed of recurring units of the structure:



$$[-\overset{R}{\overset{|}{N}}-\overset{H}{\overset{|}{Al}}-]_n$$

wherein R is a hydrocarbon group of 1 to 3 carbon atoms and *n* has a value of at least 10.

5. The method of making a poly(N-alkylalazene) which comprises reacting triethylamine alane with a reagent selected from the group consisting of acetonitrile, ethylamine, methylamine and ethylenimine to form a poly (N-alkylalazene) having a molecular weight of at least 500.

3,505,247
SELECTIVE STRATIFICATION SYSTEMS OF REGENERATING ANION EXCHANGE RESINS

Richard Hetherington, Glenside, and William Fries, Philadelphia, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 20, 1967, Ser. No. 669,255

Int. Cl. B01j *1/08*

U.S. Cl. 260—2.1 **3 Claims**

Processes for regenerating exhausted mixtures of strong and weak base anion exchange resins. The weak base resin is preferentially regenerated prior to regeneration of the strong base resin, re-establishing a density differential which enables the two resins to be separated into two separate strata.

3,505,248
PROCESS FOR PRODUCING EXPANDABLE STYRENE POLYMER PARTICLES

James L. Banks, Bay City, and Charles R. Despain, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 16, 1964, Ser. No. 411,566

Int. Cl. C08f *47/00*

U.S. Cl. 260—2.5 **4 Claims**

Partially collapsed cellular styrene polymer particles are provided with expand to a density of about one pound per cubic foot when unrestrained at room temperature in air.

3,505,249
FABRICATING EXPANDABLE THERMOPLASTIC RESINOUS MATERIAL

Richard E. Skochdopole and Louis C. Rubens, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 16, 1964, Ser. No. 411,609

Int. Cl. C08f *47/10*

U.S. Cl. 260—2.5 **7 Claims**

Room temperature expanding plastic particles or beads are prepared by foaming to a low density under vacuum, subsequently partially collapsing under atmospheric pressure at a temperature below the softening point of the bead or particle. Such particles can be stored for long periods of time and re-expand in air when without mechanical restraint.

3,505,250
POLYURETHANE PLASTICS

James H. Saunders, Bridgeville, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Sept. 8, 1966, Ser. No. 577,841

Int. Cl. C08g *22/08*

U.S. Cl. 260—2.5 **9 Claims**

A polyurethane plastic prepared from a reaction mixture containing an organic polyisocyanate, an organic compound containing at least two hydrogen atoms reactive with isocyanate groups and a mixture of polymerized fatty acids obtained by the dimerization of unsaturated fatty acids.

3,505,251
SPONGE RUBBER FROM DIMERCAPTAN BLENDS

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 12, 1966, Ser. No. 578,507

Int. Cl. C08d *13/08*

U.S. Cl. 260—2.5 **6 Claims**

Foam rubber is prepared by blending a dimercaptan with a rubbery polymer and curing the dimercaptan in the presence of lead peroxide.

3,505,252
POLYMERIC PRODUCTS OF UNSATURATED DIISOCYANATES (V)

Thomas K. Brotherton and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Application Nov. 9, 1964, Ser. No. 409,921, now Patent No. 3,427,346, which is a continuation-in-part of application Ser. No. 212,480, July 25, 1962. Divided and this application Apr. 2, 1968, Ser. No. 718,090

Int. Cl. C08g *22/44, 22/50*

U.S. Cl. 260—2.5 **28 Claims**

Process involving the manufacture of high useful copoly(vinyl urethanes) via the reaction of unsaturated diester diisocyanates as exemplified by bis(2-isocyanatoethyl) fumarate, polyfunctional active hydrogen compounds, e.g., polyols, and ethylenically unsaturated compounds, e.g., vinyl acetate, styrene.

3,505,253
EXPANDABLE ALKENYL AROMATIC POLYMERS CONTAINING INCORPORATED EXPANDABLE ALKENYL AROMATIC POLYMERS AND POLYSILOXANE

Arnold B. Finestone, 20 Grove Ave.; Michal Niechwiadowicz, 80 Cloverleaf Road; and Hugh C. Crall, 75 Harvard St., all of Leominster, Mass. 01453

No Drawing. Continuation-in-part of application Ser. No. 667,658, Sept. 14, 1967. This application Mar. 12, 1969, Ser. No. 806,703

Int. Cl. C08f *47/10;* **C08j** *1/26*

U.S. Cl. 260—2.5 **11 Claims**

Expandable alkenyl aromatic polymers having a fine, uniform pore size and which can be molded over a wider range without a significant change in product characteristics are prepared by polymerizing one or more alkenyl aromatic monomers in the presence of an expandable alkenyl aromatic polymer and an organically di-substituted polysiloxane.

3,505,254
STABLE POLYSULFIDE COMPOSITION CONTAINING ENCAPSULATED CURING AGENT

Alfred S. Kidwell, Mountain Lakes, and Norman R. Migdol, Carteret, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed July 23, 1965, Ser. No. 474,487

Int. Cl. C08g *23/20, 43/00*

U.S. Cl. 260—3 **14 Claims**

A one-package curable polysulfide sealing composition comprising a liquid polyalkylene polysulfide having dispersed therein friable capsules of a polymeric film former encapsulating particles of a curing agent for the polysulfide. Curing of the sealing composition is accomplished by applying pressure to break the friable capsule thus liberating the curing agent.

3,505,255
POLYURETHANE PREPARED BY REACTION OF POLYISOCYANATE AND POLYETHER-POLYOL FORMED OF GLYCOL, GLUCOSIDE AND DISACCHARIDE

Camille Granger, Roland Gras, and Michel Buisson, Lavera, France, assignors to Naphtachimie, Paris, France

No Drawing. Filed July 5, 1966, Ser. No. 562,488

Claims priority, application France, July 9, 1965, 24,086

Int. Cl. C08g *22/08*

U.S. Cl. 260—9 **9 Claims**

The preparation of polyurethane by reaction of an organic polyisocyanate with a polyether-polyhydric alcohol formed by condensation of an alkylene oxide with a mixture of glycol, glucoside, and a non-reducing disaccharide in which the glycol is present in the mixture in an amount within the range of 3–25% and the glucoside to disaccharide ratio is within the range of 0.5 to 20.

3,505,256
COATING COMPOSITION WITH IMPROVED PROPERTIES CONTAINING A LINEAR AMORPHOUS FILM-FORMING POLYMER AND AN ADJUVANT

Walter M. Duffy, Wallingford, Pa., and Donald A. Pascale, Cherry Hill, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 23, 1965, Ser. No. 516,124

Int. Cl. C08f *29/50;* **C09d** *3/80*

U.S. Cl. 260—22 **6 Claims**

A process for improving the application properties of a solution coating composition by adding to the composition a particular kind of graft copolymer, and coating compositions prepared by this process.

3,505,257
GRAFT POLYMERIZATION OF CERTAIN S-ESTERS OF O-CELLULOSIC AND O-AMYLACEOUS THIOCARBONATES WITH ETHYLENICALLY UNSATURATED MONOMERS

John S. Conte, Media, and Robert W. Faessinger, Ridley Park, Pa., assignors to Scott Paper Company, Delaware County, Pa., a corporation of Pennsylvania

Filed Dec. 18, 1967, Ser. No. 691,224

Int. Cl. C08f *25/00*

U.S. Cl. 260—17.4 **19 Claims**

A process for preparing graft copolymers of ethylenically unsaturated compounds and cellulosic or amylaceous materials by reacting said ethylenically unsaturated compounds, via peroxidic free-radical initiation, with an S-ester of an O-thiocarbonate derivative of cellulose or starch, said S-ester being formed by reacting said thiocarbonate derivative with an aldehyde or dialdehyde; and the grafted polymers obtained by this process.

3,505,258
CUPRIC ABIETATE-CUMENE HYDROPEROXIDE CURE SYSTEM FOR —SH TERMINATED POLYSULFIDE POLYMER

Julian R. Panek, Newtown, and Osvaldo Lamboy, Morrisville, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Sept. 30, 1968, Ser. No. 766,017

Int. Cl. C09j *3/26;* **C08g** *43/00*

U.S. Cl. 260—24 **17 Claims**

Cupric abietate is added to a cumene hydroperoxide cure system —SH terminated liquid polysulfide polymer in trace amounts and in advantageous ratios relative to the amount of cumene hydroperoxide used per 100 parts of polymer thereby obtaining an extended, predictable and controllable range of working lives for precured mixtures of the polymer and the cure system ingredients, while also providing rapid cure times.

3,505,259
COMPOSITION AND PROCESS FOR RECLAIMING BLENDS OF WAX AND ETHYLENE VINYL ACETATE COPOLYMERS

Thomas Hallis, Jr., Brea, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Aug. 8, 1967, Ser. No. 658,997
Int. Cl. C08f *45/52*
U.S. Cl. 260—28.5 12 Claims

Heat sealing characteristics of blends of wax and ethylene-vinyl acetate copolymers are restored or improved by heating the blend to about the decomposition temperature of the ethylene-vinyl acetate copolymers. The composition produced by this process has a lower viscosity than the untreated material.

3,505,260
ASPHALT-POLYOLEFIN FIBER BLENDS

Gene N. Woodruff, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 317,136, Oct. 18, 1963. This application Sept. 11, 1967, Ser. No. 666,994
Int. Cl. C08h *17/10;* **C08f** *45/52;* **C08c** *11/70*
U.S. Cl. 260—28.5 9 Claims

A blend or fabric of asphalt and polyolefin fiber, particularly useful for lining canals, ponds, and the like, is made by mixing or impregnating the fiber in finely divided form or woven or matted with an asphalt emulsion.

3,505,261
HOT MELT ADHESIVE COMPOSITIONS

William R. Battersby, Lexington, Mass., assignor to USM Corporation, Flemington, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 562,255, July 1, 1966, which is a continuation-in-part of application Ser. No. 433,002, Feb. 16, 1965. This application Jan. 24, 1969, Ser. No. 793,700
Int. Cl. C08f *45/04*
U.S. Cl. 260—28.5 6 Claims

A hot melt adhesive composition in which a copolymer of ethylene and vinyl acetate is combined with a phenoxy resin, e.g. a polyether condensation product, a dihydric phenol and an epoxide containing one to two epoxide groups, certain low melting resins such as polystyrene, polybetapinene, polyalphapinene, hydrogenated rosin, ester gum or coumarene indene resin and a chlorinated polyphenyl in special ranges of relative proportions. In the proportions used, the resins cooperate with each other to provide ability to wet and adhere to a wide variety of surfaces and to provide a useful open time and quick setting to a strong, firm adhesive bond.

3,505,262
BONDING AGENTS BASED ON ALKALI METAL SILICATES

Helmut V. Freyhold, Dusseldorf-Oberkassel, and Volker Wehle, Hilden, Rhineland, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Nov. 16, 1967, Ser. No. 683,441
Claims priority, application Germany, Dec. 7, 1966, H 61,210
Int. Cl. C08g *45/00*
U.S. Cl. 260—29.2 5 Claims

This invention relates to bonding agents based on alkali metal silicates comprising an aqueous alkali metal silicate solution admixed with from 2% to 26% by weight, based on the SiO_2 content of the alkali metal silicate solution, of crystalline triglycidyl isocyanurate having an epoxide oxygen content of at least 14% and from 0.33% to 26% by weight, based on the SiO_2 content of the alkali metal silicate solution, of a water-soluble amine epoxide resin hardener having at least two active hydrogen atoms bonded to nitrogen atoms.

3,505,263
RESIN BONDED SEMICONDUCTING COMPOSITIONS OF CALCINED PETROLEUM COKE

Harold H. Roth, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Apr. 8, 1965, Ser. No. 446,699
Int. Cl. C08f *45/08;* **C08d** *7/02;* **H01b** *1/04*
U.S. Cl. 260—29.6 19 Claims

This application discloses and claims a composition for forming electrically conductive coatings on non-conducting surfaces, said composition comprising finely divided calcined petroleum coke and a polymer latex binder. The application also discloses and claims a method for coating such surfaces and the coated articles resulting therefrom.

3,505,264
PROCESS FOR THE MANUFACTURE OF HYDROPHILIC POLYVINYL ALCOHOL LAYERS

Klaus Thoese, Wiesbaden-Schierstein, and Markus Seibel, Mainz, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
Filed Feb. 14, 1966, Ser. No. 527,229
Claims priority, application Germany, Feb. 15, 1965, K 55,279
Int. Cl. C08f *29/30, 29/50*
U.S. Cl. 260—29.6 6 Claims

This invention relates to a process for preparing hydrophilic polyvinyl alcohol layers which comprises applying to a support a coating comprising a dispersion of polymeric vinyl acetate in admixture with an aqueous polyvinyl alcohol solution containing at least one cross-linking agent but no softening agent, the polyvinyl alcohol having not more than 12 percent of unsaponified ester groups, and drying the coating.

3,505,265
PROCESS FOR THE PREPARATION OF ESSENTIALLY WATER-INSOLUBLE ADDITION POLYMERS IN AQUEOUS DISPERSION

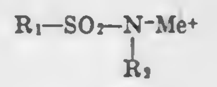
Arthur S. Teot and Charles E. McCoy, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 414,836, Nov. 30, 1964. This application Aug. 2, 1967, Ser. No. 657,786
Int. Cl. C08f *1/13;* **C09d** *5/02*
U.S. Cl. 260—29.6 4 Claims

The present invention is directed to an improved process for preparing essentially water-insoluble addition polymers in aqueous dispersion wherein certain divalent salts of specified alkylated diphenyl ether sulphonates are used as dispersing agents during such polymerization. Utilization of this process provides for the formation of essentially coagula-free polymeric latexes which may be cast as continuous films which are highly insensitive to moisture.

3,505,266
PROCESS FOR THE PRODUCTION OF SPINNABLE ACRYLONITRILE POLYMER SOLUTIONS

Carlhans Suling, Dieter Kramer, and Manfred Unbehend, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 8, 1967, Ser. No. 636,637
Claims priority, application Germany, May 14, 1966, F 49,212
Int. Cl. C08f *1/76, 3/76*
U.S. Cl. 260—30.8 6 Claims

Spinnable acrylonitrile polymer solutions are produced by polymerizing acrylonitrile in an organic solvent at low temperatures in the presence of a catalytic alkali metal salt having the formula



$$R_1{-}SO_2{-}\underset{\substack{|\\ R_2}}{N^{-}}Me^{+}$$

wherein Me represents lithium, sodium, potassium, rubidium or ceasium, R_1 represents an alkyl radical, and R_2 represents an alkyl radical.

3,505,267
BLOOMING COT COMPOSITION

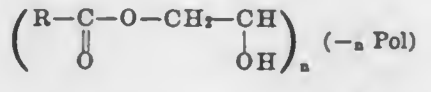
David J. Burkey, 177 N. Duke St., Millersville, Pa. 17551
Filed July 28, 1967, Ser. No. 656,785
Int. Cl. C08c *11/54;* **B01h** *5/80*
U.S. Cl. 260—30.8 3 Claims

A composition having a non-adhesive drafting surface for such extensible and smooth-surfaced fibers as polyamides and polyesters. The composition comprises a sulfur-cured butadiene-acrylonitrile copolymer, filler, and 5–35 parts by weight toluene sulfonamide per 100 parts by weight of the copolymer. The toluene sulfonamide blooms to the surface of the cot and imparts the desirable properties to the surface.

3,505,268
POLYMERIC DISPERSANT

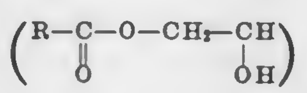
Margaret Peddie Backhouse, Ascot, Ferenc Karoly Farkas, Maidenhead, and George Reginald Cornish, Slough, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed July 28, 1966, Ser. No. 568,378
Claims priority, application Great Britain, Aug. 4, 1965, 33,353/65
Int. Cl. C08f *47/19, 47/20*
U.S. Cl. 260—31.2 5 Claims

A dispersant for use in dispersions in organic media, the dispersant being soluble in the organic media and having the formula:



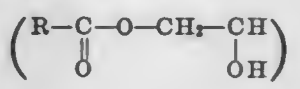
$$\left(R{-}\underset{\substack{\|\\ O}}{C}{-}O{-}CH_2{-}\underset{\substack{|\\ OH}}{CH}\right)_n(-_n\,Pol)$$

where R is an aliphatic radical which contains at least one hydroxyl group, Pol is an addition polymer chain which is solvated by the organic media and *n* is the number of groups having the formula



$$\left(R{-}\underset{\substack{\|\\ O}}{C}{-}O{-}CH_2{-}\underset{\substack{|\\ OH}}{CH}\right)$$

attached to the group $(-_n\,Pol)$ and is at least one. The dispersant is used in organic continuous phase, the polymer chain component of the dispersant being solvated by the organic continuous phase and being attached to disperse pigment particles by the group



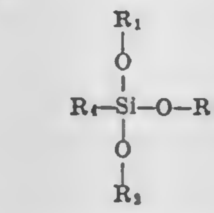
$$\left(R{-}\underset{\substack{\|\\ O}}{C}{-}O{-}CH_2{-}\underset{\substack{|\\ OH}}{CH}\right)$$

3,505,269
EPOXY ACRYLIC COATING COMPOSITION MODIFIED WITH A TRIALKOXYSILANE

Jeffery J. Jeffery, Davison, and Frank Rohrbacher, Jr., Flint, Mich., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 30, 1967, Ser. No. 650,194
Int. Cl. C08g *45/04, 45/16*
U.S. Cl. 260—32.8 23 Claims

Sealer compositions comprising binders dissolved in organic solvents wherein the binder comprises:

(a) 50–99 parts of a high molecular weight epoxy resin;
(b) 0–50 parts of an acrylic polymer; and
(c) 1–25 parts of a trialkoxy-silane having the structural formula,



$$R_4{-}\underset{\substack{|\\ O\\ |\\ R_3}}{\overset{\substack{R_1\\ |\\ O\\ |}}{Si}}{-}O{-}R_2$$

wherein R_1, R_2 and R_3 are individually selected from the group of methyl, ethyl and propyl and wherein R_4 is a monovalent radical which promotes adhesion.

The sum of the binder components is 100 parts. A preferred silane is N-beta(aminoethyl)gamma-aminopropyl trimethoxy silane.

3,505,270
MANUFACTURE OF PAPER PRODUCTS

Max H. Laden, Chicago, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed June 3, 1966, Ser. No. 554,990
Int. Cl. C08f *31/00;* **D21h** *01/28;* **C09j** *03/14*
U.S. Cl. 260—33.2 7 Claims

Novel water-soluble, hot-melt adhesive compositions possessing outstanding characteristics when used in the manufacture of rolled paper products, such as paper towels, toilet paper rolls, etc., are disclosed. These adhesive compositions comprise a viscous solution of a hydantoin-formaldehyde resin in a polyoxyalkylated alkyl phenol containing sufficient alkylene oxide groups to render the phenol water-soluble.

3,505,271
CASTING RESIN LUBRICATION

Rene Paul Brown, Paul Derald Meek, and Robert Harris Dyer, Big Spring, Tex., assignors to Cosden Oil & Chemical Company, Big Spring, Tex., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 407,531, Oct. 29, 1964. This application Dec. 13, 1968, Ser. No. 783,758
Int. Cl. C08f *45/28*
U.S. Cl. 260—33.6 6 Claims

Solid polyvinyl aromatics such as polystyrene are homogeneously mixed with a small quantity of light, water-white hydrogenated polybutene as a lubricant to impart low melt viscosity for casting or extrusion.

3,505,272
COPOLYMER ADHESIVE SYSTEM

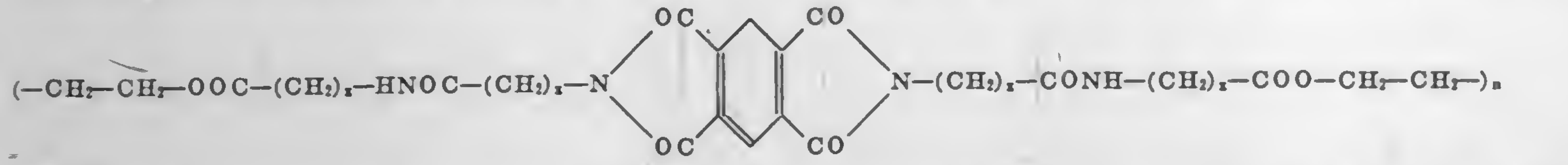
John Gagliani, Northfield, Minn., assignor to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota

No Drawing. Filed Nov. 18, 1966, Ser. No. 595,330

Int. Cl. C08f *45/30, 45/44;* **C08g** *20/38*

U.S. Cl. 260—33.8 **12 Claims**

An imide-amide-polyester copolymer particularly useful as an adhesive substance, the composition having the repeating structure identified as follows:



wherein x is a number having a value of from 5 up to about 8, and wherein n represents a number to provide a molecular weight for the product ranging from about 5000 up to about 15,000. Compositions of the present invention are prepared by the formation of N-substituted cyclic bis-imides with a terminal carboxylic group. The terminal carboxylic group is esterified with a bi-functional alcohol to give bis-beta hydroxy ethyl esters, which can be polymerized to form the polymeric compositions of the present invention.

3,505,273
METHOD FOR REDUCING THE SOLVENT CONTENT OF A POLYCARBONATE

Thomas H. Cleveland, New Martinsville, W. Va., and Emanuel W. Wirfel, McKees Rocks, Pa., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 329,897, Dec. 11, 1963. This application May 4, 1967, Ser. No. 636,002

Int. Cl. C08g *17/13, 53/00*

U.S. Cl. 260—33.8 **7 Claims**

Reducing the solvent content of a polycarbonate solution by mixing a polycarbonate dissolved in a solvent having a boiling point of less than about 100° C., the major portion of which is immiscible with water, with water heated to a temperature above the boiling point of the solvent, at a rate whereby the solvent is slowly volatilized from the polycarbonate solution and a friable dough is obtained which contains from about 25 to about 70 percent solvent.

3,505,274
METHOD OF BLENDING POLYVINYL CHLORIDE

Theodor Kolberg, 19 Ernsbergerstrasse, 8 Munich 60, Germany

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,527

Claims priority, application Germany, Nov. 2, 1965, K 57,544

Int. Cl. C08f *47/20;* **C08d** *9/08*

U.S. Cl. 260—34.2 **3 Claims**

Forming vulcanizable or thermoplastic blends of polyvinylchloride with an elastomer or a thermoplastic material by forming a plastisol of a vinylchloride polymer; ripening the plastisol; and then mixing the ripend plastisol with the elastomer or thermoplastic.

3,505,275
PROCESS FOR PRODUCING NON-FOAMING URETHANE-TYPE POLYMERS

Hisayuki Sato, Matsudo-shi, Mitsuo Koga, Tokyo, Takeo Aoki and Kazunari Hayashida, Yokohama, and Ikuhiro Kohno, Chiba-ken, Japan, assignors to Hodogaya Chemical Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 8, 1965, Ser. No. 512,526

Claims priority, application Japan, Dec. 10, 1964, 39/69,109; Feb. 10, 1965, 40/7,002

Int. Cl. C08g *22/04*

U.S. Cl. 260—37 **3 Claims**

Non-foaming polyurethane substances useful in coating materials and as a binder or a sealant, are prepared by reacting an organic compound having at least two terminal isocyanate groups with a polyol having at least two active hydrogen atoms, so as to produce a polyurethane prepolymer and subsequently curing the prepolymer in admixture with (a) water, (b) an inorganic basic metal compound and (c) $CaCl_2 \cdot 2H_2O$. Preferred isocyanate compounds include 4,4'-diphenyl methane diisocyanate and tolylene diisocyanate and preferred polyols include castor oil and polyalkylene.

3,505,276
ORGANOPOLYSILOXANE ELASTOMERS COMPOUNDED WITH ALKOXY SILANES

William Earl Hutchinson, Adrian, Mich., assignor, by mesne assignments, to Stauffer-Wacker Silicone Corporation, a corporation of Delaware

No Drawing. Filed Feb. 8, 1967, Ser. No. 614,572

Int. Cl. C08g *51/04, 47/06*

U.S. Cl. 260—37 **5 Claims**

An alkoxy siloxane is incorporated in a silicone gum to prevent hardening on aging of the gum. On vulcanization, the resulting elastomer is found to possess improved properties, particularly as regards tensile strength and resistance to tear.

3,505,277
HIGH TEMPERATURE RESISTANT POLYMER COMPOSITES

John W. Soehngen, Berkeley Heights, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 7, 1967, Ser. No. 681,119

Int. Cl. C08g *41/02, 51/16*

U.S. Cl. 260—37 **9 Claims**

Reinforced high temperature composites are made by embedding highly drawn, temperature resistant fibers of polybisbenzimidazobenzophenanthroline (BBB polymer) in a matrix formed from a BBB polymer solution. More particularly, the matrix can be cast on the reinforcing fiber elements from a sulphuric acid dope or solution and then precipitated in place by an appropriate medium such as sulphuric acid/water bath or a glycol bath, whereby the BBB polymer is hardened about the BBB fibers. The structure is then washed acid-free, dried, and converted into a solvent and high temperature resistant form by a short heat treatment.

3,505,278
CERAMIC MOLDING COMPOSITION

Vito D. Elarde, 6429 Lance Court, San Diego, Calif. 92120; Edward A. Potocki, 2620 Kensington St., Westchester, Ill. 60153; and Henry M. Gajewski, 7417 Lyons St., Morton Grove, Ill. 60053

No Drawing. Continuation-in-part of application Ser. No. 404,507, Oct. 16, 1964. This application Dec. 11, 1967, Ser. No. 689,252

Int. Cl. C04b *25/06*

U.S. Cl. 260—37 **4 Claims**

A ceramic molding composition for the production of a fired water resistant dense ceramic article comprising a mixture of a silicone resin with a major amount of a refractory ceramic material and a minor amount of a ceramic material having a lower fusion temperature. The refractory ceramic may be viz., alumina, and the low fusion ceramic may be viz., a mineral silicate or a mixture of wollastonite and a lead borosilicate glass frit. The mixture is molded under pressure and heat sufficient to thermoset the silicone resin, and then may be fired.

3,505,279
POLYOLEFIN-ORGANOSILANE GRAFT POLYMERS

Jerome A. Preston and Carlton J. Davis, Sr., Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Filed Oct. 27, 1966, Ser. No. 589,791

Int. Cl. C08f *45/04;* **C08g** *47/10;* **C03c** *25/02*

U.S. Cl. 260—41 **10 Claims**

A polyolefin-organosilane graft polymer wherein an organosiloxane is attached to both ends of an intermediate molecular weight polyolefin and this material is incorporated in other polyolefin to achieve a bond between siliceous fibers. The resulting composite has increased strength over similar polyolefin composite which do not include the graft polymer.

3,505,280
POLYOXYMETHYLENE STABILIZED WITH MIXTURES OF A UREIDE ACID SALT AND PHENOL

Hans-Dieter Hermann, Edgar Fischer, and Ernst Wolters, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 27, 1967, Ser. No. 685,970

Claims priority, application Germany, Dec. 2, 1966, F 50,819

Int. Cl. C08g *51/58, 51/60*

U.S. Cl. 260—45.8 **9 Claims**

Stabilization of high molecular weight polyoxymethylenes which may contain in the main valence chain oxyalkylene units with 2 to 6 contiguous carbon atoms by mixtures of alkaline earth metal salts of acids having a ureide structure and phenols.

3,505,281
LINEAR POLYESTERS FROM 2,2-BIS(4-HYDROXYPHENYL)-PROPANE AND BIS(4-CARBOXYCYCLOHEXYL)ACIDS

James Dwight Hodge, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 16, 1966, Ser. No. 572,692

Int. Cl. C07c *61/12;* **C08g** *17/08*

U.S. Cl. 260—47 **5 Claims**

Poly(isopropylidene-4,4'-diphenylene dodecahydro-4,4'-bibenzoate) and related polymers, from bis(4-carboxycyclohexyl)methane, bis(4-carboxycyclohexyl)ethane and bis(4-carboxycyclohexyl)propane, are shown to be stable, high-melting polyesters suitable for preparing molded articles having excellent light stability. Preparation of the alicyclic acids and the polyesters are illustrated.

3,505,282
POLYESTERS OF 1,2,3,4-TETRAHYDRONAPHTHALENES AND PROCESSES FOR THEIR MANUFACTURE

Phillip W. Storms, Denver, and Grover L. Farrar, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 2, 1967, Ser. No. 619,949

Int. Cl. C08g *17/08*

U.S. Cl. 260—47 **6 Claims**

A process for the production of polyesters of tetrahydronaphthalenes from dicarboxynaphthalenes by:

(a) contacting naphthalenedicarboxylic acid, or the ester thereof, with hydrogen in the presence of a reduced nickel catalyst comprising in excess of 50% by weight nickel to form 1,2,3,4-tetrahydronaphthalenedicarboxylic acid, or its ester,

(b) polymerizing said acid or ester with polyols in the presence of a polymerization catalyst to form a polymer.

The polyesters are useful in the manufacture of molded products, cast products, films, fibers, when the polyesters are dissolved in vehicles or coatings. The diacids of these polyesters may be copolymerized with tere-, iso- and -phthalic acid. In addition, the polymers of the present invention may be utilized in non-chemical admixture or alloy with other polymeric materials.

3,505,283
ISOCYANATES AS THICKENING AGENTS FOR EPOXY RESINS

Albert J. Dalhuisen, San Jose, Calif., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 15, 1967, Ser. No. 638,602

Int. Cl. C08g *30/04*

U.S. Cl. 260—47 **8 Claims**

An hydroxyl containing epoxy resin which contains carboxylic acid anhydride hardening agents and di- and polyisocyanates as chemical thickeners.

3,505,284
CATALYSTS FOR EPOXY RESINS THICKENED WITH ISOCYANATES

Albert J. Dalhuisen, San Jose, Calif., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 638,602, May 15, 1967. This application June 13, 1967, Ser. No. 645,631

Int. Cl. C08g *30/04*

U.S. Cl. 260—47 **12 Claims**

MgO; $Mg(OH)_2$; magnesium basic carbonate and the above magnesium compounds pretreated with isocyanates as catalysts for the chemical thickening reaction involving hydroxyl containing epoxy resins which contain carboxylic acid anhydride hardening agents and di- and polyisocyanates.

3,505,285
STABILISED POLYAMIDES CONTAINING A COPPER SALT AND A PHOSPHINE

Karl-Heinz Hermann, Hans Rudolph, and Werner Daum, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 2, 1966, Ser. No. 576,831

Claims priority, application Germany, Sept. 11, 1965, F 47,169; Jan. 21, 1966, F 48,224

Int. Cl. C08g *51/56*

U.S. Cl. 260—45.75 **4 Claims**

A thermally stabilised polyamide comprising a high molecular weight polyamide and as a stabilising agent a combination of copper salt and a phosphine and optionally an inorganic or organic salt of hydriodic acid.

3,505,286
STABILIZATION OF RIGID POLY(VINYL CHLORIDE)

Matthew Peter Digiaimo, Old Bridge, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 647,351, June 20, 1967. This application Feb. 17, 1969, Ser. No. 799,926

Int. Cl. C08f *45/60*

U.S. Cl. 260—45.75 **8 Claims**

The stabilization of rigid poly(vinyl chloride) by incorporation therein of a stabilizer comprising (a) a heteropolycarbamylalkane and (b) an ultraviolet light absorber, the mixture of (a) and (b) being present in a concentration of 0.2 to 6.0% based on the weight of the rigid poly(vinyl chloride). In the preferred embodiments, a heat stabilizer is also used.

3,505,287
ASYMMETRICAL PHENOLIC NONDISCOLORING ANTIDEGRADANTS FOR POLYMERS

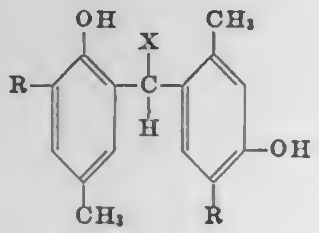
Evan Johnson Young, St. Albans, and Charles Gene Summers, Scott Depot, W. Va., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 16, 1967, Ser. No. 609,335

Int. Cl. C08c *11/30*

U.S. Cl. 260—45.95 **12 Claims**

Compounds of the formula



where R is secondary or tertiary alkyl and X is straight or branched chain primary, secondary, or tertiary alkyl, are excellent non-discoloring antidegradants for rubber polymers. Mixtures containing isomers of these compounds are also excellent non-discoloring antidegradants.

3,505,288
HIGH MELTING POLYAMIDES CONTAINING ETHER GROUPS

Ferdinand Bodesheim and Eduard Radlmann, Dormagen, Gunter Blankenstein, Stommeln, Friedrich-Karl Rosendahl, Leverkusen, and Gunter Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Continuation-in-part of application Ser. No. 667,353, Sept. 13, 1967. This application Feb. 17, 1969, Ser. No. 799,946

Claims priority, application Germany, Sept. 19, 1966, F 50,231

Int. Cl. C08g *20/20*

U.S. Cl. 260—47 **13 Claims**

This invention relates to aromatic polyamides having a high melting point prepared from aromatic dicarboxylic acid halides and aromatic diamines containing ether groups, said polyamides being useful in the formation of films, fibers and molded articles.

3,505,289
LINEAR AROMATIC POLYESTERS

André Jan Conix, Antwerp, and Urbain Leopold Laridon, Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Continuation of application Ser. No. 62,076, Oct. 12, 1960, which is a continuation-in-part of application Ser. No. 797,587, Mar. 6, 1959. This application Feb. 24, 1965, Ser. No. 435,079

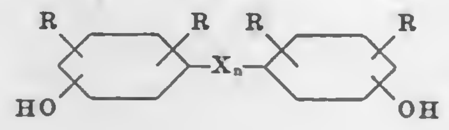
Claims priority, application Belgium, Mar. 7, 1958, 565,478; Dec. 22, 1959, 585,882

Int. Cl. C08g *17/08, 17/13*

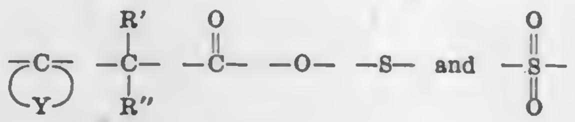
U.S. Cl. 260—49 **4 Claims**

1. A high molecular weight linear polyester of polybasic acid and polyhydric alcohol, said polybasic acid consisting essentially of at least one acid selected from the group consisting of aromatic disulfonic acids and aromatic monocarboxysulfonic acids, and said polyhydric alcohol consisting essentially of at least one bisphenolic compound selected from the group consisting of the following formulae:

(1)



where *n* is an integer from 0 to 1, each R is selected from the group consisting of hydrogen, alkyl and halogen and X is selected from the group consisting of



$$\underset{\smile Y \smile}{=C=}\quad -\underset{R''}{\overset{R'}{C}}-\quad -\overset{\overset{O}{\|}}{C}-\quad -O-\quad -S-\quad \text{and}\quad -\underset{\underset{O}{\|}}{\overset{\overset{O}{\|}}{S}}-$$

Y representing the atoms necessary to close a cycloaliphatic ring and R′ and R″ each representing a member of the group consisting of hydrogen, alkyl haloalkyl, a phenyl radical, and a cycloalkyl radical, alkyl in all instances being lower alkyl and halo- and halogen in all instances being a halogen atom of atomic weight less than 100; and

(2) HO—Ar—OH

where Ar is a member of the group consisting of a phenyl radical and a naphthalene radical; said polyester having an intrinsic viscosity of at least about 0.5 dl./g. when measured in a solution in tetrachloroethane at 25° C. and capable of forming a self-supporting film.

3,505,290
REDOX POLYMERIZATION OF ACRYLONITRILE WITH COMONOMERS IN THE PRESENCE OF ALKALI METAL SULFATES

Corrado Mazzolini, Via Poerio 19, and Sergio Lo Monaco, Via Piave 108, both of Mestre, Venice, Italy

No Drawing. Continuation of application Ser. No. 374,273, June 11, 1964. This application Mar. 19, 1968, Ser. No. 714,356

Claims priority, application Italy, June 18, 1963, 12,646/63

Int. Cl. C08f *15/36, 15/38*

U.S. Cl. 260—63 **6 Claims**

Improvements have been observed where redox polymerization of acrylonitrile is conducted in the presence of alkali metal sulfates.

3,505,291
PROCESS FOR PREPARING HIGH MOLECULAR WEIGHT POLYMERS OF FORMALDEHYDE

Guido Galiazzo, Padova, Gerolamo Gaggia, Verolanuova, and Luigi Mortillaro, Padova, Italy, and Silvio Bezzi, deceased, late of Padova, Italy, by Ladislava Viller Bezzi, legal representative, Padova, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation-in-part of application Ser. No. 168,220, Jan. 23, 1962. This application July 26, 1966, Ser. No. 629,034

Claims priority, application Italy, Jan. 27, 1961, 1,456/61; Sept. 8, 1961, 16,113

(Filed under Rule 47(a) and 35 U.S.C. 116)

Int. Cl. C08g *1/20, 1/02*

U.S. Cl. 260—67 **7 Claims**

Preparing high molecular weight polyoxymethylenes from concentrated formaldehyde solutions by topochemical reaction in presence of alkali metal salt of lower aliphatic carboxylic acid in concentration of from greater than 20% to saturation, at pH in excess of 8 and temperature less than about 50° C. High molecular weight crystalline polyoxymethylene in orthorhombics form produced by foregoing process.

3,505,292
STABILIZATION OF OXYMETHYLENE POLYMERS BY HYDROLYSIS

Eldred T. Smith, Corpus Christi, Tex., and Walter E. Heinz, Frankfurt am Main, Germany, assignors to Celanese Corporation, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 400,586, Sept. 30, 1964. This application May 8, 1968, Ser. No. 727,746

Int. Cl. C08g *1/22, 1/28*

U.S. Cl. 260—67 **3 Claims**

Disclosed herein is a process for stabilizing oxymethylene copolymers. The basic process comprises hydrolyzing the unstable portions of the copolymers. In accordance with the instant invention the hydrolysis occurs in solution. The system is then cooled to a temperature sufficiently low to form two liquid phases but not so low as to precipitate out a solid material. The instant process facilitates separation and minimizes the need for filtration. This application is a continuation of Ser. No. 400,586 filed Sept. 30, 1964, now abandoned.

3,505,293
POLYESTER ADHESIVE

George Everett Bond, Jr., Charles J. Kibler, and Gerald R. Lappin, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 4, 1966, Ser. No. 539,636

Int. Cl. B32b *9/04;* **C08g** *17/04*

U.S. Cl. 260—75 **5 Claims**

Polyesters useful as adhesives are prepared from (A) 1,4-butanediol and (B) a mixture of terephthalic acid, isophthalic acid, and hexahydroisophthalic acid, or derivatives of such acids.

3,505,294
METHOD FOR PRODUCING COPOLYESTER AND RESULTING PRODUCT

Masao Ishii, Makoto Yamada, and Takeshi Imaida, Ohtake-shi, Japan, and Hiroshi Terada, deceased, late of Ohtake-shi, Japan, by Kimiko Terada, administratrix, Ohtake-shi, Japan, assignors to Mitsubishi Rayon Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 434,129, Feb. 19, 1965. This application June 18, 1968, Ser. No. 738,736

Claims priority, application Japan, Feb. 22, 1964, 39/9,724

Int. Cl. C08g *17/08*

U.S. Cl. 260—75 **5 Claims**

A method of producing a novel copolyester capable of being formed into fibers or films having improved dyeability, which comprises reacting terephthalic acid or dimethyl terephthalate with ethylene glycol and, as a third component, a branched glycol having an ether linkage in the main chain and at least one side chain containing an ether linkage; the produced copolyester has substantially the same mechanical properties as those of polyethylene terephthalate.

3,505,295
POLYIMIDE MOLDING POWDERS

Walter Edmund Grunsteidl and Petrus Johannes Janssen, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 13, 1967, Ser. No. 615,454

Claims priority, application Netherlands, Feb. 15, 1966, 6601893

Int. Cl. C08g *20/32*

U.S. Cl. 260—77.5 **5 Claims**

A precondensate of a tetracarboxylic acid and a polyamine containing imide bonds and functional groups (amine group or carboxylic groups) is reacted with a substance capable of reacting with the polycondensate while forming additional imide bonds. Each molecule of the reactive substance being capable of binding two molecules of the precondensate, one amine group being available for each two free carboxylic groups, the esters thereof or the anhydride thereof. The products obtained thereby have improved molding characteristics.

An example is the polyimide precondensate of pyromellitic acid anhydride (2 mols) and 4,4′ diaminodiphenylether (1 mol) reacted with melamine.

3,505,296
FIBRE-FORMING POLYAMIDES OF IMPROVED AFFINITY FOR ACID DYES

Harold George Burrows and Stephen John Hepworth, Blackley, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 16, 1967, Ser. No. 616,459

Claims priority, application Great Britain, Feb. 22, 1966, 3,074/66; Mar. 24, 1966, 7,719/66

Int. Cl. C08g *41/02*

U.S. Cl. 260—78 **2 Claims**

Polyamides of improved affinity for acid dyestuffs which are obtained by polymerising a lactam or a mixture of a diamine and a dicarboxylic acid in the presence of a salt of an aliphatic diamine with an inorganic oxy-acid of phosphorus.

3,505,297
ALKENYL HETEROCYCLES AND THEIR POLYMERS

David P. Sheetz and Edwin C. Steiner, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 21, 1963, Ser. No. 252,616

Int. Cl. C07d *85/00, 87/00;* **C08f** *19/00*

U.S. Cl. 260—78.4 **11 Claims**

2-alkenyloxazines and 2-alkenyloxazolines are prepared in good yield by reacting one mole of an imidoester, preferably in the hydrochloride or hydrobromide form, with two to four molar equivalents of a strong base to effect both a double dehydrohalogenation and a ring closure of the imidoester. The resulting products are polymerizable with free radical catalysts to form homopolymers or copolymers with monomers free of acidic substituents. The polymers may be crosslinked by reaction with a polycarboxylic acid or a Lewis acid; the Lewis acid may be added in the form of a salt of a volatile nitrogenous base which is unreactive until heated, thus providing stable curable compositions.

3,505,298
SYNTHETIC COPOLYAMIDES CONTAINING PENDANT FLUORENE GROUPS

Anthony Charles Davis, Newport, and Ronald Austin Thompson, Caerleon, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed July 13, 1967, Ser. No. 653,048

Claims priority, application Great Britain, Aug. 1, 1966, 34,389/66

Int. Cl. C08g *20/00*

U.S. Cl. 260—78 **2 Claims**

Polyamides with pendant ring sidechains, e.g., 9,9-fluorene suitable for melt spinning into filaments.

3,505,299
RECOVERY OF FINELY DIVIDED ORGANIC PARTICLES FROM A COLLOIDAL SOLUTION THEREOF

Chester L. Baker, Narberth, and John Frankle Austin, Philadelphia, Pa., assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Continuation-in-part of application Ser. No. 768,823, Oct. 20, 1958. This application June 25, 1965, Ser. No. 467,114

Int. Cl. C08c *1/16;* **C08f** *47/03;* **C08l** *1/07*

U.S. Cl. 260—89.5 **2 Claims**

Finely divided colloidal organic compounds are separated from the original solution by first adding a clustering agent to form a protocoacervate of the colloidal particles and then adding an isolubilizing agent to cause the clustered colloidal organic material to separate from the solution in finely divided submicron form.

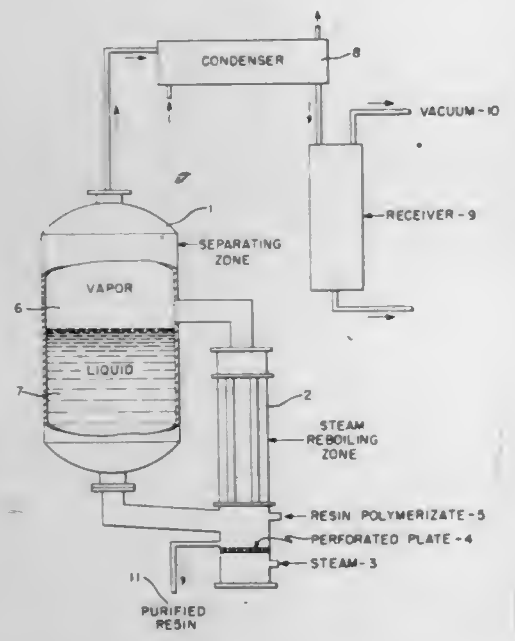
3,505,300
METHOD OF REFINING RESINS

Ben F. Galloway, Beaumont, Tex., assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 18, 1968, Ser. No. 784,682

Int. Cl. C08d *13/14;* **C08f** *47/24*

U.S. Cl. 260—80.7 **10 Claims**



A method of refining a resin composition comprising a resin containing lower molecular weight polymers which comprises obtaining the resin composition in a liquid phase in a resin refining system comprising a thermosyphon reboiler driven by steam distillation, where the steam is introduced at a sufficient rate to entrain at least a part of the resin and where at least a part of the lower molecular weight polymer is withdrawn with the steam from the refining system.

3,505,301
COPOLYMERS OF ETHYLENE, HIGHER ALPHA-OLEFINS, AND MONOCYCLOMONOOLEFINS OR ALKYL DERIVATIVES THEREOF

Giulio Natta, Gino Dall'Asta, Giorgio Mazzanti, Italo Pasquon, Alberto Valvassori, and Adolfo Zambelli, Milan, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

No Drawing. Continuation of application Ser. No. 282,166, May 21, 1963. This application Jan. 18, 1967, Ser. No. 610,037

The portion of the term of the patent subsequent to Sept. 24, 1985, has been disclaimed

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.78 **17 Claims**

There are provided amorphous copolymers of ethylene, at least one higher alpha-olefin, and monocyclomonoolefines or alkyl-substituted monocyclomonoolefins containing 4 to 8 carbon atoms in the ring, and of the type of cyclobutene and 4-methyl-cyclopentene-1.

3,505,302
SULFUR-VULCANIZABLE COPOLYMERS AND PROCESS FOR PRODUCING SAME

Giulio Natta, Giorgio Mazzanti, and Alberto Valvassori, Milan, Italy, and Guido Sartori, Roselle, N.J., assignors to Montecatini Edison S.p.A., Milan, Italy, a corporation of Italy

No Drawing. Continuation-in-part of application Ser. No. 261,523, Feb. 27, 1963. This application Apr. 24, 1967, Ser. No. 632,913

Claims priority, application Italy, Mar. 2, 1962, 4,189, Patent 665,050

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.78 **21 Claims**

There are disclosed sulfur-vulcanizable, substantially linear, substantially amorphous copolymers of ethylene, a higher alpha-olefin such as propylene or butene-1, and at least one monoalkenyl cyclohexene or alkyl-monoalkenyl cyclohexene in which the total number of carbon atoms in the substituents of the cyclohexene ring is at least 3, preferably from 3 to 10, which copolymers, on sulfur-vulcanization, have mechanical properties adopting the vulcanizates to use as general-purpose elastomers. The copolymers are obtained by copolymerizing a mixture of the monomers in contact with halogen-containing catalysts prepared from vanadium compounds and organometallic compounds of aluminum or beryllium.

3,505,303
WATER SOLUBLE MODIFIED POLYVINYL ALCOHOL FILMS

Martin K. Lindemann, Somerville, N.J., assignor, by mesne assignments, to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 30, 1966, Ser. No. 605,980

Int. Cl. C08f *3/34*

U.S. Cl. 260—91.3 **3 Claims**

A cold-water-soluble film is provided which comprises an acrylamide-modified polyvinyl alcohol, most suitably containing 0.4 to 6 mole percent acrylamide.

3,505,304
PRODUCTION OF POLYMER FROM LOW-PURITY CONJUGATED DIENE MONOMER FEED

Joseph W. Davison, James N. Short, James Q. Wood, and John M. Miles, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 4, 1964, Ser. No. 394,526

Int. Cl. C08d *3/04, 3/06;* **C08f** *3/16*

U.S. Cl. 260—94.2 **3 Claims**

Conjugated alkadiene polymers are made from hydrocarbon fractions containing at least one conjugated alkadiene, at least one alkene, at least one alkane, and minor amounts of alkynes, propadiene, and 1,2-butadiene, by removing at least a portion of the alkynes, propadiene, and 1,2-butadiene to produce a polymerization feed stream and thereafter polymerizing the polymerization feed stream.

3,505,305
HEAT-STABLE HYDROXYMETHYLATED ROSIN DERIVATIVES AND PROCESS

Bernard A. Parkin, Jr., and Glen W. Hedrick, Lake City, Fla., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 14, 1967, Ser. No. 630,841

Int. Cl. C08g *22/04;* **C09f** *1/04*

U.S. Cl. 260—97.5 **6 Claims**

The normal thermal addition of formaldehyde to rosin produces an unstable product which will liberate formaldehyde if the formaldehyde-modified rosin is heated in vacuo. Catalytic hydrogenation stabilizes this addition. Conversion of the carboxyl group to a methylol group by reduction using lithium-aluminum-hydride ($LiAlH_4$) gives a product which contains an average of about two hydroxyl groups per rosin molecule. The resultant hydroxymethylated derivatives of rosin are useful for modifying polyurethanes prepared from polyethers.

3,505,306
FIBER REACTIVE PHOTOCHROMIC DYES

John Kazan, Jr., Somerville, and Walter Henry Foster, Jr., Freehold, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Jan. 26, 1967, Ser. No. 611,840

Int. Cl. C09b *45/12;* **D06p** *1/10*

U.S. Cl. 260—146 **5 Claims**

A defined class of fiber-reactive dye compounds comprising photochromic mercury dithizonates containing fiber-reactive groups, such as the dichloro-s-triazinyl group, when applied as disperse dyes, react with fabrics containing reactive hydrogens, such as nylon, and are firmly bound thereto. The extent to which the dyes are fixed on the fabrics is substantially increased by an aftertreatment with aqueous alkali. The dyed materials exhibit photochromic properties.

3,505,307
RICINOLEATE AS OIL-WATER DEMULSIFIER

Edward G. Foehr, San Rafael, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 4, 1968, Ser. No. 709,933

Int. Cl. C10m *11/00*

U.S. Cl. 208—188 **3 Claims**

Monoricinoleate esters of di- and trihydroxy alkyl compounds are used as demulsifiers for lubricant oils contaminated with water.

3,505,308
PRODUCTION OF AZODICARBONAMIDES UTILIZING BROMINE

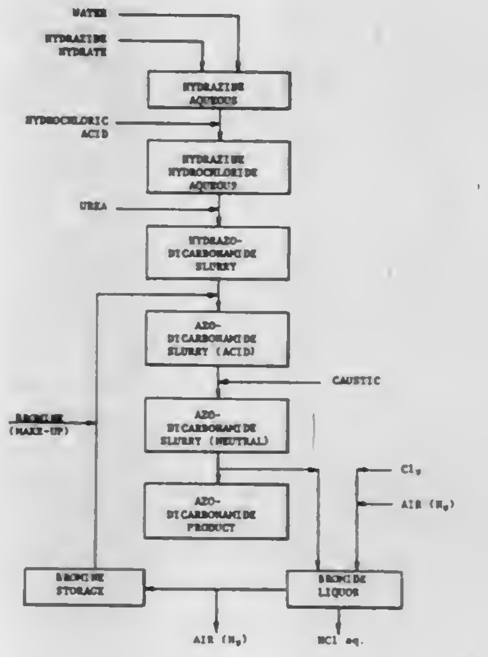
Eric Smith, Madison, John E. Pregler, Wallingford, and Gerhard F. Ottmann, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation

Filed Oct. 27, 1966, Ser. No. 589,911

Int. Cl. C07c *107/02*

U.S. Cl. 260—192 **10 Claims**

Azodicarbonamide having particle size especially suitable as a blowing agent in plastics and rubber compositions without the necessity of any grinding or sizing is prepared in two steps by synthesizing hydrazodicarbonamide in an aqueous suspension by reacting hydrazine with excess urea, adding bromine in excess to oxidize hydrazodicarbonamide to azodicarbonamide and separating the product. The mother liquor is suitably chlorinated to recover bromine which is recycled.


WATER
HYDRAZINE HYDRATE
HYDRAZINE AQUEOUS
HYDROCHLORIC ACID
HYDRAZINE HYDROCHLORIDE AQUEOUS
UREA
HYDRAZO-DICARBONAMIDE SLURRY
AZO-DICARBONAMIDE SLURRY (ACID)
CAUSTIC
BROMINE (MAKE-UP)
AZO-DICARBONAMIDE SLURRY (NEUTRAL)
Cl_2
AIR (N_2)
AZO-DICARBONAMIDE PRODUCT
BROMINE STORAGE
BROMIDE LIQUOR
AIR (N_2)
HCl aq.

3,505,309
PROCESS FOR LACTULOSE

Raul Carubelli, Oklahoma City, Okla., assignor to Research Corporation, New York, N.Y., a nonprofit corporation of New York

No Drawing. Filed Sept. 25, 1967, Ser. No. 670,457

Int. Cl. C07c *47/18;* **C13k** *9/00*

U.S. Cl. 260—209 **4 Claims**

Lactose is isomerized into lactulose by solution in dilute aqueous alkali metal tetraborate solution and adsorption from the solution onto a body of a strong-base anion exchange resin in the borate form at a temperature of about 20–50° C.

3,505,310
CATIONIC XANTHOMONAS MICROBIAL GUM

Robert Nordgren and Harold A. Wittcoff, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Apr. 15, 1968, Ser. No. 721,143

Int. Cl. C07c *47/18*

U.S. Cl. 260—209 **5 Claims**

A cationic Xanthomonas microbial gum produced by the reaction of a quaternary ammonium compound and a Xanthomonas microbial gum derived from the aerobic fermentation of the bacterium Xanthomonas. The cationic Xanthomonas microbial gum can be suitably used as a flocculant.

3,505,311
CORRINOID COMPOUNDS CONTAINING NO METAL

John I. Toohey, Box 519, Leonard Hall, Queen's University, Kingston, Ontario, Canada

No Drawing. Continuation-in-part of application Ser. No. 538,893, Mar. 21, 1966. This application Nov. 21, 1967, Ser. No. 684,640

Int. Cl. C07c *95/04*

U.S. Cl. 260—211.5 **1 Claim**

Metal free corrinoid compounds and their isolation from photosynthetic bacteria are described. The new corrinoid compounds prevent the growth of vitamin B_{12}-requiring organisms, and are converted to compounds having vitamin B_{12} activity by reaction with cobalt ions under mildly alkaline conditions.

3,505,312
METHOD OF MANUFACTURE OF HIGH PHTHALYL CONTENT CELLULOSE ACETATE PHTHALATE

Carl J. Malm and Carlton L. Crane, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 548,883, May 10, 1966, which is a continuation-in-part of application Ser. No. 196,580, May 22, 1962. This application Mar. 27, 1969, Ser. No. 812,961
Int. Cl. C08b *3/16*
U.S. Cl. 260—225 **5 Claims**

In the prior art, great difficulty has been encountered in reacting easily prepared dried, hard and having low acetyl cellulose acetates due to their relative impenetrability to most conventional reagents. A method has now been discovered by which such difficultly penetrable cellulose acetates can be prepared for reaction. This method surprisingly involves dissolving the dried low acetyl cellulose acetate in aqueous acetic acid, and subsequently destroying the water in the resulting solution with acetic anhydride to yield a solution of a low acetyl cellulose acetate, which can then be immediately reacted with a dicarboxylic acid or acid anhydride so as to form a cellulose acetate dicarboxylate.

3,505,313
PROCESS FOR PRODUCING BLEACHED AND PURIFIED CELLULOSE ACETATE

Ichiro Kato, Matsuyama-shi, Japan, assignor to Teijin Limited, Osaka, Japan, a corporation of Japan
No Drawing. Filed Apr. 17, 1967, Ser. No. 631,136
Int. Cl. C08b *3/22*
U.S. Cl. 260—230 **12 Claims**

Process for producing bleached and purified cellulose acetate, which comprises effecting in the course of the production of cellulose acetate, an oxidative treatment followed by a reducing treatment during the state in which the cellulose acetate is in a solution state prior to its precipitation.

3,505,314
N-HETEROCYCLIC COMPOUNDS

Charles Gansser, Essonne, France, and Walter Schindler, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 235,177, Oct. 30, 1962. This application June 19, 1967, Ser. No. 647,228
Claims priority, application Switzerland, Aug. 28, 1959, 77,491/59; Jan. 13, 1960, 299/60; Feb. 25, 1960, 2,108/60
Int. Cl. C07d *41/08*
U.S. Cl. 260—239 **6 Claims**

5-(n-butyl)-iminodibenzyls which are substituted in γ-position at the n-butyl substituent by a dimethylamino, diethylamino or pyrrolidino radical, and 5-(γ-pyrrolidino-n-butyl)-iminostilbene, as well as pharmaceutically acceptable salts thereof with inorganic and organic acids. which compounds have strong spasmolytic and especially musculotropic action rendering them useful in the treatment of psychosomatic disturbances, especially spastic conditions of smooth muscle structures of the gastro-intestinal, urogenital and biliary tracts and/or the bronchial system while being practically free from antidepressant action on the central nervous system whereby these compounds are distinguished from well-known antidepressant iminodibenzyl derivatives; spasmolytic compositions containing the aforesaid compounds; and a method for the treatment of spastic conditions of smooth muscle structures in mammals with the aid of the aforesaid compounds.

3,505,315
5,7-DIHYDRO-6-OXO-6H-INDAZOLO[2,3-D][1,4] BENZODIAZEPINES-12-SULFONAMIDES

Stanley C. Bell, Narberth, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 614,819, Feb. 9, 1967. This application Apr. 12, 1968, Ser. No. 721,097
Int. Cl. C07d *53/06*
U.S. Cl. 260—239.3 **11 Claims**

This invention is concerned with 5,7-dihydro-6-oxo-6H-indazolo[2,3-d][1,4]benzodiazepine - 12 - sulfonamides which are pharmacologically efficacious as anti-inflammatory agents.

3,505,316
RECOVERY OF DIOSGENIN FROM DIOSCOREA ROOT MATERIAL

Paul Belter and Chong Y. Yoon, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Feb. 26, 1968, Ser. No. 707,981
Int. Cl. C07c *173/06*
U.S. Cl. 260—239.55 **4 Claims**

Diosgenin is recovered in high yield and improved quality from dioscorea root material by a process comprising consecutive steps of (1) acid treatment of the root material followed by (2) separation of the residual solid material from the acid fluid, and followed by (3) removal of water solubles from the residual solids thus to obtain a "brown powder." Diosgenin is then recovered from the brown powder. The improvement includes use of substantially higher concentrations of acid during (1) and a reuse recycle of a substantial portion of the acid filtrate produced at (2).

3,505,317
16-METHYLENE-21-FLUORO-STEROIDS OF THE PREGNANE SERIES

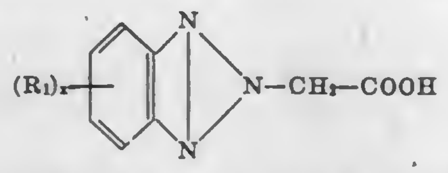
David Taub, Metuchen, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,586
Int. Cl. C07c *173/00*
U.S. Cl. 260—239.55 **5 Claims**

The invention disclosed herein is concerned with a novel process for making 21-fluoro-steroids. More particularly, it relates to a synthetic method for making 21-fluoro-6-methyl-16-methylene-17α-acetoxy-pregna - 4,6-diene-3,20-dione which possesses progestational activity, and is valuable as an estrus regulating agent. In the new method, 3-acetoxy - 6,16 - dimethyl-pregna-5,16-diene-20-one is reacted with isopropenyl acetate in the presence of p-toluene sulfonic acid to produce the corresponding 20-enol acetate, 3,20-diacetoxy-6,16-dimethyl-pregna-5,16,20-triene which is then reacted with N-iodosuccinimide to form the corresponding 21-iodo-20-keto-steroid; the latter, upon reaction with silver fluoride, is converted to the corresponding 21-fluoro derivative, 21-fluoro-3-acetoxy-6,16-dimethyl-pregna-5,16-diene-20-one, which is reacted with alkaline hydrogen peroxide thereby forming 3-hydroxy-21-fluoro-16α,17α-oxido-6,16β-dimethyl-pregn-5-ene-20 - one which, upon oxidation of the 3-hydroxy group, is converted to 21-fluoro-16α,17α-oxido-6α,16β-dimethyl-pregn-4-ene-3,20-dione; upon treatment of this 16α,17α-oxido compound with trifluoroacetic acid, there is obtained 21 fluoro-16-methylene-17α-hydroxy-6α-methyl-pregn-4 - ene-3,20-dione which is reacted with acetic anhydride in the presence of perchloric acid to form 21-fluoro-3,17α-diacetoxy-16-methylene-6-methyl-pregna-3,5-diene-20 - one; this last-named compound is then reacted with chloranil to form 21-fluoro-6-methyl-16-methylene-17α-acetoxy-pregna-4,6-diene-3,20-dione.

3,505,318
PROCESS FOR THE PRODUCTION OF BENZOTRIAZOLE DERIVATIVES

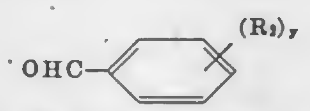
Carl-Wolfgang Schellhammer, Opladen, and Wolf-Dieter Wirth, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,397
Claims priority, application Germany, Apr. 1, 1967, F 51,999
Int. Cl. C07d *57/02, 55/04;* **C09b** *23/14*
U.S. Cl. 260—240 **2 Claims**

Process for the production of novel benzotriazole derivatives, characterized in that a benzotriazole-(2)-acetic acid of the general formula



in which x stands for 1, 2 or 3, and R_1 means hydrogen, alkyl, alkoxy, acetylamino, dialkylamino, whereby the alkyl groups, together with the nitrogen atom, may be components of a heterocyclic ring which may also contain as further hetero atom oxygen, sulphur or nitrogen, halogen, CN, COOH, SO_3H or SO_2-alkyl,

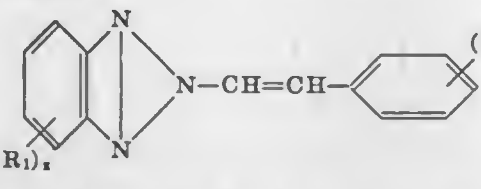
is reacted with at least the stoichiometrically required amount of an optionally substituted benzaldehyde of the formula



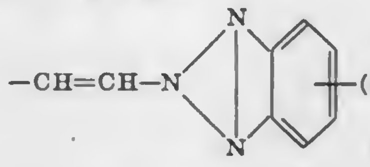
in which y stands for 1, 2, or 3, and R_2 may be identical with or different from R_1, and where one of the radicals R_1 may also denote an aldehyde group,

in the presence of piperidine, within a temperature range of about 120 to about 200° C., and the water formed in the reaction is continuously removed if desired.

The invention further comprises the novel benzotriazole derivatives formed by the noted process and having the general formula



in which x and y stand for 1, 2, or 3, and wherein R_1 has the same meaning as that above, R_2 may be identical with or different from R_1 and may also denote, if y is equal to 1, the radical



3,505,319
PYRROLO[1,2-a]INDOLIUM SALTS AND CARBOCYANINE DYES CONTAINING A PYRROLO [1,2-a]INDOLIUM NUCLEUS

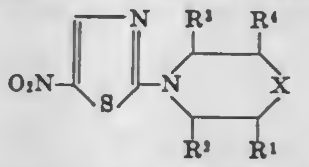
Gene L. Oliver, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Original application Dec. 28, 1964, Ser. No. 421,680. Divided and this application Jan. 8, 1968, Ser. No. 712,882
Int. Cl. C09b *23/06;* **G03c** *1/10*
U.S. Cl. 260—240.6 **13 Claims**

The invention relates to a new class of pyrrolo[1,2-a]-indolium salts and cyanine photographic sensitizing dyes derived therefrom and their use in silver halide emulsions, and to methods for preparation of such new dyes.

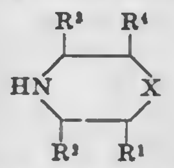
3,505,320
5-NITROTHIAZOLE DERIVATIVES AND THEIR PRODUCTION

Erich Dabritz and Heinz Herlinger, Leverkusen, and Marianne Bock, Wuppertal-Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany
No Drawing. Filed Jan. 15, 1968, Ser. No. 697,602
Claims priority, application Germany, Jan. 24, 1967, F 51,329
Int. Cl. C07d *91/34, 93/10*
U.S. Cl. 260—243 **11 Claims**

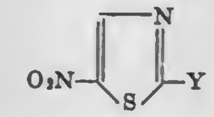
5-nitrothiazole derivatives of the formula:



wherein X is oxygen or SO_2 and R^1 to R^4 are hydrogen, substituted or unsubstituted aliphatic, aralkyl or aryl moieties, or R^1 together with R^2 and R^3 together with R^4 are constituents of a carbocyclic 6-membered ring system, are prepared by reacting compounds of the formula:



wherein X and R^1 to R^4 are as defined above, either with (a) 2-substituted 5-nitrothiazoles of the formula:

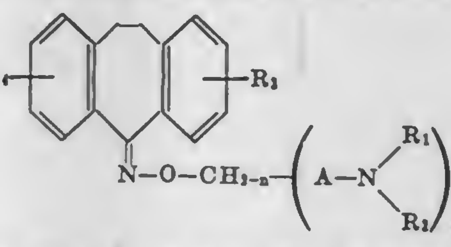


wherein Y is halogen, i.e., fluorine, chlorine, bromine or iodine, or the group $SO_2—CH_3$, or (b) in succession with cyanogen chloride, hydrogen sulphide, monochloro-acetaldehyde semihydrate, and finally with a nitrating agent. The 5-nitrothiazole derivatives are useful in the treatment of parasitic infections.

3,505,321
BASICALLY SUBSTITUTED OXIMES OF 5H-DIBENZO-[a,d]10,11-DIHYDRO-CYCLOHEPTENYLIDENE AND THEIR PREPARATION

Siegismund Schutz, Wuppertal-Elberhard, and Friedrich Hoffmeister, Wuppertal-Vohwinkel, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Original application Nov. 24, 1965, Ser. No. 509,608, now Patent No. 3,441,608, dated Apr. 29, 1969. Divided and this application Dec. 9, 1968, Ser. No. 801,891
Int. Cl. C07d *87/40*
U.S. Cl. 260—247.5 **4 Claims**

Basically substituted oximes of 5H-dibenzo-[a,d]-10,11-dihydro-cycloheptenylidene of the formula:



wherein A is a straight or branched chain alkylene of 0–6 carbon atoms, R_1 and R_2 are each hydrogen or alkyl of 1–8 carbon atoms, which may be linked with one another or with A, such as via an N, S or O hetero atom, R_3 and R_4 are each hydrogen, alkyl of 1–4 carbon atoms, halogen, hydroxyl, nitro or amino and n is 1 or 2 and pharmaceutically acceptable non-toxic salts possess antidepressive activity in humans, anti-cataleptic activity against pharmacogenically initiated extrapyramidal-motoric irritations and in vitro exhibit a strong spasmolytic effect. Processes for the preparation of these compounds are described.

3,505,322

O-SUBSTITUTED OXYAMINO-s-TRIAZINES

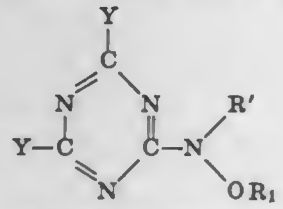
John Thomas Shaw, Middlesex, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 190,267, Apr. 26, 1962. This application Nov. 28, 1962, Ser. No. 240,745

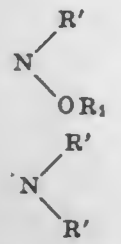
Int. Cl. C07d *87/40, 57/34, 55/22*

U.S. Cl. 260—247.5 **11 Claims**

New compounds represented by the following formula:



wherein each Y is individually selected from the group consisting of



lower alkoxyalkoxy, lower alkoxyalkyl, hydroxy, phenoxy, phenylthio, phenyl, piperidino, lower alkyl piperidino, pyrrolidino, lower alkyl pyrrolidino, morpholino, lower alkyl morpholino, piperazino, and lower alkyl piperazino; each R_1 is a radical selected from the group consisting of lower alkyl, cycloalkyl of 3 to 7 carbons, hydroxyloweralkyl, lower alkoxyalkyl, phenyl, phenyl(lower alkyl), lower alkenyl and propargyl; and each R′ is individually selected from the group consisting of hydrogen and R_1. These compounds possess desirable pharmacological properties and, in particular, are capable of producing a tranquilizing effect with minimum side effects.

3,505,323

TETRAHYDRO-s-TRIAZIN-2-(1H)-ONES AND THIONES

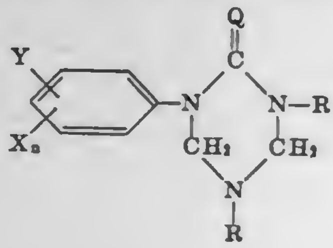
Raymond W. Luckenbaugh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Mar. 22, 1962, Ser. No. 181,792. Divided and this application Dec. 6, 1963, Ser. No. 328,469

Int. Cl. C07d *55/12;* **A01n** *9/22*

U.S. Cl. 260—248 **15 Claims**

Herbicidal compounds of the formula:



wherein

R is alkyl or cycloalkyl;
R is alkenyl, alkynyl, cycloalkyl, alkyl, hydroxyalkyl, chloroalkyl, methoxyalkyl and methylmercaptoalkyl;
Q is oxygen or sulfur;
X is hydrogen or halogen;
Y is hydrogen, halogen, alkyl, nitro, cyano, methoxy and trifluoromethyl; and
n equals 1 or 2.

3,505,324

1-(CHLORO SUBSTITUTED PHENYL)-4,6-DIISOPROPYL-3,5-DIMETHYL-HEXAHYDRO-1,3,5-TRIAZIN-2-ONE

John Paul Chupp, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Application Ser. No. 685,319, Nov. 24, 1967, which is a division of application Ser. No. 523,924, Feb. 1, 1966. This application Sept. 20, 1968, Ser. No. 761,300

Int. Cl. C07d *55/50;* **A01n** *9/22*

U.S. Cl. 260—248 **6 Claims**

1 - (chloro substituted phenyl)-4,6-diisopropyl-3,5-dimethyl-hexahydro-1,3,5-triazin-2-ones which are phytotoxic.

3,505,325

CYANOALKYLAMINO SUBSTITUTED TRIAZINES HAVING PLANT GROWTH REGULATING ACTION

Werner Schwarze, Frankfurt am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

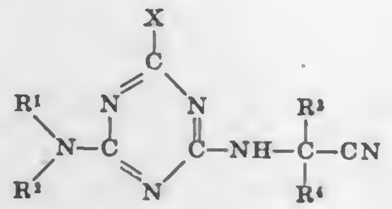
No Drawing. Continuation-in-part of application Ser. No. 652,036, July 10, 1967. This application Nov. 20, 1967, Ser. No. 684,514

Claims priority, application Germany, July 16, 1966, D 50,605; Nov. 22, 1966, D 51,608

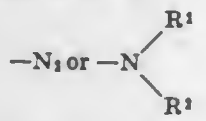
Int. Cl. C07d *55/20;* **A01n** *9/22*

U.S. Cl. 260—249.8 **11 Claims**

Compounds of the formula



wherein X is a halogen atom, preferably, chlorine, lower alkoxy, lower alkyl mercapto,



each of R^1 and R^2 taken individually is hydrogen or lower alkyl or alkenyl (straight or branched chained) or lower alkyl or alkenyl substituted with —OH, —OR, —SR or —CN, R being lower alkyl, each of R^3 and R^4 taken individually is alkyl or alkenyl or aralkyl groups of 1 to 8 carbon atoms and taken together form a 5 to 7 membered ring, in addition one of R^3 and R^4 can be hydrogen, having herbicidal and plant growth regulating properties, compositions containing the same and method of regulating growth of plants therewith.

3,505,326

HYDROXYAMINO-s-TRIAZINES

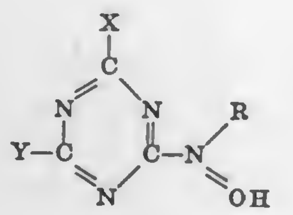
John Thomas Shaw, Springfield, Mass., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 190,236, Apr. 26, 1962. This application Sept. 28, 1964, Ser. No. 399,884

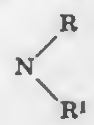
Int. Cl. C07d *55/46, 55/44, 55/22*

U.S. Cl. 260—249.6 **5 Claims**

Hydroxyamino-s-triazines are provided having the formula:



wherein X and Y are individually selected from the group consisting of hydrogen, halogen, hydroxy, lower alkoxy, monocarbocyclic aryloxy, monocarbocyclic arylthio, and



with the proviso that both X and Y cannot be hydroxy; each R is a member selected from the group consisting of hydrogen, alkyl of up to 18 carbon atoms, cycloalkyl of up to 18 carbon atoms, monocarbocyclic aryl, hyroxy lower alkyl, and cyanoethyl; and R^1 is a member selected from the group consisting of R and OH groups, said aryl moieties having up to two substituents selected from the group consisting of nitro, trifluoromethyl, hydroxy, cyano, lower alkoxy, and halo radicals.

3,505,327

TETRAHYDROQUINOXALINYL PHOSPHATES OR THIOPHOSPHATES

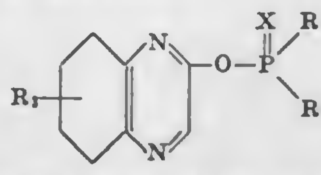
Bernard Miller, Princeton, and Tamara Helen Mladineo Gund, Elizabeth, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Aug. 7, 1967, Ser. No. 658,637

Int. Cl. C07d *51/00, 57/00*

U.S. Cl. 260—250 **7 Claims**

A compound of the formula:



wherein X is a sulfur or an oxygen atom, R_1 and R_2 are each lower alkyl, lower alkoxy, lower thioalkyl, aryl, aralkyl or $—NR_4R_5$, R_3 is hydrogen or lower alkyl, and R_4 and R_5 are each hydrogen and lower alkyl, useful in controlling insects and arachnids which damage agronomic crops.

3,505,328

O,O-DIMETHYL-O-(5,6-DIMETHYL-2-PYRAZINYL) PHOSPHOROTHIOATE

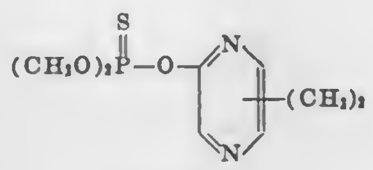
Richard Joseph Magee, Princeton, and James Byron Lovell, Pennington, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 16, 1968, Ser. No. 762,379

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 **1 Claim**

Insecticidal compounds are provided having the formula:



3,505,329

PROCESS FOR THE SYNTHESIS OF BIOPTERIN

Joseph Weinstock, Phoenixville, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 6, 1968, Ser. No. 703,251

Int. Cl. C07d *57/28*

U.S. Cl. 260—251.5 **5 Claims**

Biopterin is synthesized by reacting 2,4,5-triamino-6-hydroxypyrimidine with 5-deoxy-L-arabinosone in aqueous solution at pH of about 7.5 to 10, acidifying and then recrystallizing by dissolving in basic solution and precipitating with acid. 5-deoxy-L-arabinosone is prepared by oxidizing 5-deoxy-L-arabinose, which is prepared from L-rhamnose, using cupric acetate.

3,505,330

2,4-DIAMINOQUINAZOLINE COMPOUNDS

John Davoll, Shepperton, England, assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

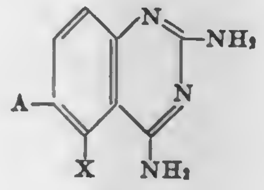
No Drawing. Continuation of application Ser. No. 557,353, June 14, 1966, which is a continuation-in-part of application Ser. No. 393,741, Sept. 1, 1964. This application May 26, 1967, Ser. No. 641,479

Claims priority, application Great Britain, Sept. 20, 1963, 37,193/63

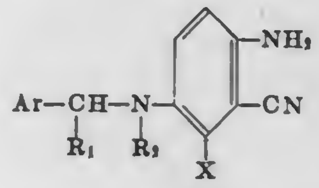
Int. Cl. C07d *51/42*

U.S. Cl. 260—256.4 **10 Claims**

2,4-diaminoquinazolines (I) and their acid salts



(I)

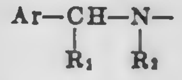


(IV)

are prepared: by reducing the 2,4-diamino-6-nitroquinazolines to the corresponding 2,4,6-triaminoquinazolines; by reacting an aldehyde Ar—CHO or ketal

$$\mathrm{Ar—C(alkyl)=(o\text{-}alkyl)_2}$$

with a 2,4,6-triaminoquinazoline to obtain the imine of Formula I where A is $Ar—C(R_1)=N—$ and reducing the imine; and by reacting 2-aminobenzonitriles (IV) with cyanamide or dicyandiamide; where A represents $NH_2—$, $Ar—C(R_1)=N—$ or



$$\mathrm{Ar—\underset{R_1}{CH}—\underset{R_2}{N}—}$$

X is hydrogen, chlorine or methyl; R_1 and R_2 can be hydrogen or alkyl; and Ar is phenyl, substituted phenyl, naphthyl, substituted naphthyl or a heterocyclic group. The compounds are pharmacological agents having one or more properties such as antiviral, anthelmintic, antiparasitic, antibacterial and diuretic properties.

3,505,331

PROCESS FOR PREPARING 2,4-DIAMINO-7-CHLOROPYRIDO(2,3-d)PYRIMIDINES

George H. Hitchings, Yonkers, and Bernard S. Hurlbert, Tarrytown, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

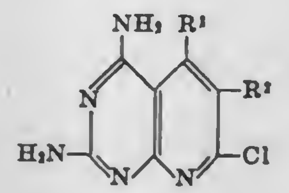
No Drawing. Continuation-in-part of application Ser. No. 424,177, Jan. 8, 1965. This application Nov. 22, 1967, Ser. No. 684,940

Claims priority, application Great Britain, Jan. 10, 1964, 1,317/64

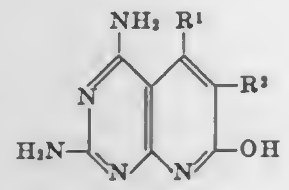
Int. Cl. C07d *57/20*

U.S. Cl. 260—256.4 **3 Claims**

A process for preparing compounds useful as intermediates for the preparation of compounds having antibacterial activity. In particular, this invention is directed to a process for the preparation of compounds of the formula



wherein R^1 is selected from the class consisting of hydrogen, phenyl and lower alkyl and R^2 is selected from the class consisting of hydrogen, lower alkyl and aralkyl having 7 to 8 carbon atoms, which comprises (a) mixing a compound of the formula



with an excess of N,N'-dimethyl formamide, (b) then adding an excess of thionyl chloride to the mixture, and (c) then hydrolyzing the product of step (b).

3,505,332

CERTAIN 5-PHENYL-2,4,7-TRIAMINO-PYRIDO[2,3-d]PYRIMIDINES

Bernard S. Hurlbert, Tarrytown, and George H. Hitchings, Yonkers, N.Y., assignors to Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, N.Y., a corporation of New York

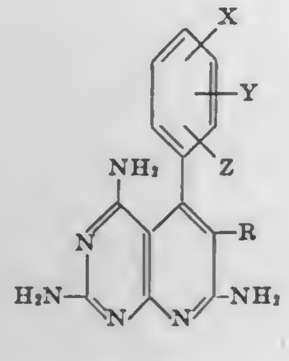
No Drawing. Continuation-in-part of application Ser. No. 424,177, Jan. 8, 1965. This application June 19, 1968, Ser. No. 738,135

Claims priority, application Great Britain, Feb. 18, 1965, 7,055/65, Patent 1,129,084

Int. Cl. C07d *57/70*

U.S. Cl. 260—256.4 6 Claims

This invention is directed to compounds which are useful as diuretics. The compounds are represented by the formula



in which X, Y and Z are selected from the class consisting of halogen, hydrogen, amino, lower alkyl substituted amino, lower alkoxyl, lower alkyl and nitro, and in which R is selected from the class consisting of lower alkyl and hydrogen.

3,505,333

INDAZO[2,3-c]QUINAZOLINE-11-SULFONAMIDES AND THEIR PREPARATION

Stanley C. Bell, Narberth, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 614,793, Feb. 9, 1967. This application Feb. 12, 1968, Ser. No. 704,575

Int. Cl. C07d *57/16, 49/18;* **A61k** *27/00*

U.S. Cl. 260—256.5 10 Claims

This invention is concerned with indazolo[2,3-c]quinazoline-11-sulfonamides which are pharmacologically efficacious as anti-inflammatory agents. Further, this invention is concerned with the preparation of some of these indazolo[2,3-c]quinazolines, in particular, the 6-unsubstituted compounds, by the interaction of a 3-(2-aminophenyl)sulfamoylindazole with formic acid. Still further, this invention is concerned with the preparation of other of these indazolo[2,3-c]quinazoline, in particular, the 6-substituted compounds by the cyclization of an appropriate 3-(2-acylaminophenyl)indazolesulfonamide.

3,505,334

PIPERAZINO-PHENYLETHANOL DERIVATIVES

Gilbert Regnier, Sceaux, Roger Canevari, La Haye-les-Roses, and Michael Laubie, Vaucresson, France, assignors to Science Union et Cie Societe Francaise de Recherche Medicale, Suresnes, France, a French society

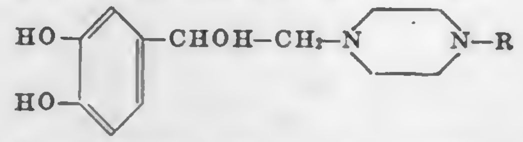
No Drawing. Filed June 2, 1966, Ser. No. 554,658

Claims priority, application Great Britain, June 16, 1965, 25,449/65

Int. Cl. C07d *51/70*

U.S. Cl. 260—268 17 Claims

Piperazino phenylethanols of the formula



in which R represents lower-alkyl, phenyl, substituted phenyl, an aryl alkane group which may be hydroxy or methylene dioxy substituted, and wherein the alkylene chain may carry a secondary alcohol function, and a diarylalkane group, and therapeutically acceptable acid addition salts thereof. The compounds possess hypotensive, vasodilator, broncholytic, and muscle relaxant properties.

3,505,335

POLYAMIDO BIS-N-ALKYL PIPERAZINES

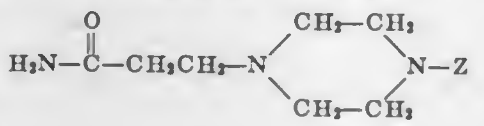
Dwight E. Peerman, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 460,460, June 1, 1965. This application Jan. 21, 1969, Ser. No. 792,808

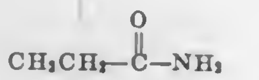
Int. Cl. C07d *51/70*

U.S. Cl. 260—268 6 Claims

New compounds having the formula:

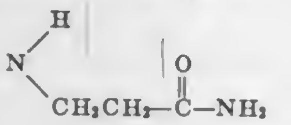


where Z is

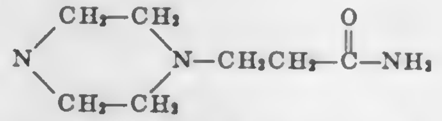


$$CH_3CH_2—\overset{O}{\overset{\|}{C}}—NH_2$$

or $(CH_2)_n—R$, *n* is 1, 2 or 3 and R is



or



The use of such compounds for curing epoxy resins.

3,505,336

3,4-DIHYDRO-2-(1H)-ISOQUINOLINECARBOXAMIDOXIMES AND LOWER-ALKANOATES

Denis M. Bailey, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 6, 1968, Ser. No. 727,065

Int. Cl. C07d *35/38, 35/34;* **A61k** *27/00*

U.S. Cl. 260—287 8 Claims

3,4 - dihydro - 2(1H) - isoquinolinecarboxamidoximes and lower-alkanoate derivatives, having hypotensive activity, are prepared by reacting the corresponding 3,4-dihydro - 2(1H)-isoquinolinecarbonitrile with hydroxylamine and by further reacting said carboxamidoxime with one or two molar equivalents of a lower-alkanoylating agent to form the O-mono-(lower-alkanoate) or N,O-di-(lower-alkanoate), respectively, of said carboxamidoxime.

3,505,337

N - HYDROCARBYL-SUBSTITUTED NORATROPINIUM, HALOALKYLATES AND O-ACYL DERIVATIVES THEREOF

Karl Zeile, Werner Schulz, Rolf Banholzer, and Helmut Wick, Ingelheim am Rhein, Germany, assignors to Boehringer Ingelheim G.m.b.H., Ingelheim am Rhein, Germany, a corporation of Germany

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,697

Int. Cl. C07d *43/10;* **A61k** *27/00*

U.S. Cl. 260—292 7 Claims

The compounds are N-hydrocarbyl-substituted noratropinium-halo-alkylates and O-acyl derivatives thereof, useful as inhibitors of stomach acid secretion in warm-blooded animals, with a low inhibiting effect on the stomach juice secretion and furthermore as spasmolytics.

3,505,338

THIOPHENECARBONYLALKYLENE-DIAMINES

William Blythe Wright, Jr., Woodcliff Lake, N.J., and Herbert Joseph Brabander, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 596,831, Nov. 25, 1966. This application Jan. 15, 1968, Ser. No. 697,611

Int. Cl. C07d *51/70*

U.S. Cl. 260—293.4 4 Claims

Preparation of substituted N - (tert. - aminoalkyl)thiophenecarboxamides by reacting a halogen, lower alkylsulfonyloxy or monocyclic arylsulfonyloxy substituted alkylenethiophenecarboxamide with a substituted arylheterocyclic compound, is described. Other methods of preparing substituted N-(tert.-aminoalkyl)thiophenecarboxamides are described. The substituted N-(tert.-aminoalkyl) thiophenecarboxamides are useful for their central nervous system (CNS) depressant properties.

3,505,339

PIPERIDINE INTERMEDIATES FOR 4-(4-PIPERIDINYL-METHYL OR -1-ETHYL)AMINO-7-CHLOROQUINOLINES

Denis M. Bailey, East Greenbush, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 596,401

Int. Cl. C07d *29/28, 33/52*

U.S. Cl. 260—293 4 Claims

4-(4-piperidinylmethyl or -1-ethyl)amino-7-chloroquinolines where 4-piperidinyl is substituted at its 1-position by ethyl or 2-hydroxyethyl, having chemotherapeutic and pharmacological properties, are prepared by reacting 4,7-dichloroquinoline with the corresponding 1-substituted-4-piperidinyl-methyl or -1-ethylamines, the latter novel amines being prepared by various generally known reduction procedures.

3,505,340

1-SUBSTITUTED-3-SUBSTITUTED IMINO-1,5,6,7,8,8a-HEXAHYDRO-3-H-THIAZOLO [3,4-a] PYRIDINES AND INTERMEDIATES THEREFOR

Albert J. Frey, Essex Fells, and Robert E. Manning Mountain Lakes, N.J., assignors to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Filed Oct. 5, 1967, Ser. No. 672,973

Int. Cl. C07d *29/36;* **A61k** *27/00*

U.S. Cl. 260—293.4 9 Claims

This disclosure pertains to 3-substituted imino thiazolo pyridines, e.g., 1 - p-chlorophenyl - 3 - phenylimino-1,5,6,7,8,8a-hexahydro - 3H - thiazolo [3,4 - a] pyridine. These compounds are useful as hypotensive agents.

3,505,341

2H[1]BENZOTHIOPYRANO[4,3,2-cd] INDAZOLE COMPOUNDS

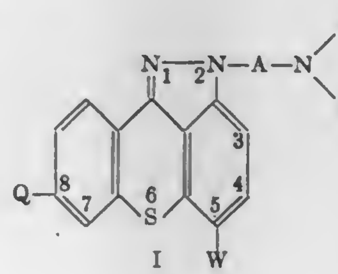
Edward Faith Elslager and Donald Francis Worth, Ann Arbor, and John David Howells, Grosse Pointe Woods, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,662

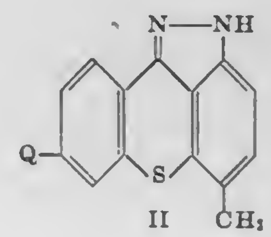
Int. Cl. C07d *99/06;* **A61k** *27/00*

U.S. Cl. 260—293.4 7 Claims

2-aminoalkyl - 2H - [1]benzothiopyrano[4,3,2-cd]indazoles (I)

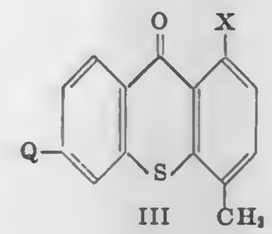


I

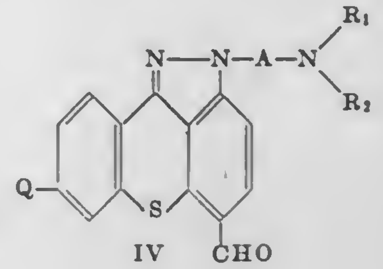


II

and salts are prepared by reacting: a haloalkylamine $X—A—N(R_1)R_2$ with an indazole (II) or a dialkylaminoalkyl hydrazine $H_2N—NH—A—N(R_1)R_2$ with a xanthene (III)



III



IV

where A is alkylene; $—N(R_1)R_2$ is dialkylamino or cyclic amino (e.g., piperidino); Q is H or halo; W is $—CH_3$, $—CH_2OH$ or —CHO; and X is halo. Products (I) where W is $—CH_2OH$ or —CHO are prepared by oxidative fermentation of the methyl isosteres; products where W is $—CH_2OH$ are also prepared by reduction of the aldehydes (IV). The products have antiparasitic and antibacterial properties and are pharmacological agents for topical, oral or parenteral use.

3,505,342

HEXAHYDRONICOTINAMIDES

Norman L. Wendler, Summit, David Taub, Metuchen, and Chan Hwa Kuo, South Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application June 3, 1966, Ser. No. 554,997. Divided and this application June 10, 1968, Ser. No. 753,309

Int. Cl. C07d *29/30*

U.S. Cl. 260—294 7 Claims

Nicotinamide is produced by acylating 3-cyano-4-amino-1,2,5,6-tetrahydropyridine to produce the 1-acyl or 1,4-diacyl derivatives, reacting these derivatives with concentrated mineral acid to produce 1-acyl-4-ketohexahydronicotinamide, reducing this compound to produce the cis- or trans- form of 1-acyl-4-hydroxyhexahydronicotinamide, acylating this compound to produce the corresponding 4-acyloxy compounds, and dehydrogenating these compounds by treatment with a noble metal. Alternatively, the 4-acyloxy compounds are partially dehydrogenated to 1-acyl-1,4,5,6-tetrahydronicotinamide, 1-acyl-1,2,5,6-tetrahydronicotinamide or 1-acyl-1,2-dihydronicotinamide, which are dehydrated by reaction with a noble metal to produce nicotinamide.

3,505,343

1-LOWER ALKYL-4-(2'-HYDROXYLOWER ALKYL)-4-PIPERIDINOLS AND LOWER ALKYL ACID ESTERS THEREOF

Hans Herbert Kühnis, Hugo Ryf, and Rolf Denss, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 520,093, Jan. 12, 1966, which is a continuation-in-part of application Ser. No. 382,955, July 15, 1964. This application Sept. 29, 1967, Ser. No. 671,571
Claims priority, application Switzerland, Jan. 15, 1965, 606/65
Int. Cl. C07d *29/24, 29/16;* **A61k** *27/00*
U.S. Cl. 260—294.3 5 Claims

The compounds are of the class of piperidine derivatives substituted in 4-position by a hydroxyalkyl and a hydroxy or ester group useful as analgesic and antitussive agents. Illustrative embodiments are 1-methyl-4-(2' - hydroxypropyl)-4-piperidinol and 1-methyl-4-(2'-hydroxybutyl)-4-piperidyl propionate.

3,505,344

CERTAIN SUBSTITUTED-2-OXO-1(2H)-PYRIDYL CARBOXAMIDES

Jacqueline S. Kelyman, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Original application Apr. 1, 1968, Ser. No. 717,909. Divided and this application May 12, 1969, Ser. No. 841,174
Int. Cl. C07d *31/48*
U.S. Cl. 260—294.8 7 Claims

Disclosed are, as new compounds, certain 2-pyridylcarbamates and 2-oxo-1-pyridylcarboxamides which contain at least one ring bearing thioether, sulfinyl or sulfonyl grouping and are otherwise optionally ring substituted with halogen or alkyl, compositions incorporating such compounds and methods utilizing such compounds and compositions as parasiticides.

3,505,345

METHOD OF PREPARING ISOCINCHOMERONIC ACID

Ronald Harmetz, Dover, and George G. Hazen, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 684,621, Nov. 21, 1967. This application June 10, 1969, Ser. No. 832,028
Int. Cl. C07d *31/38*
U.S. Cl. 260—295.5 1 Claim

An improved method for preparing isocinchomeronic acid by the nitric acid oxidation of 5-ethyl-2-methylpyridine in the presence of sufficient ferric nitrate to form a soluble complex of ferric isocinchomeronate which, upon cooling, yields the free acid.

3,505,346

NOVEL 2,5-DISUBSTITUTED THIAZOLE CARBOXALDEHYDE AND DERIVATIVES OF THE SAME

Gerald Berkelhammer, Goro Asato, and Edward Leslie Moon, Trenton, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 515,442, Dec. 21, 1961. This application Dec. 1, 1966, Ser. No. 598,209
Int. Cl. C07d *91/32*
U.S. Cl. 260—302 4 Claims

The present invention relates to novel 2,5-disubstituted mononitro thiazoles and to methods for their preparation. These compounds are used for controlling or inhibiting the growth of microorganisms, fungi and nematodes.

3,505,347

SUBSTITUTED BENZENESULPHONAMIDO-THIAZOLINES

Jacques Baetz, La Garenne-Colombes, France, assignor to Seperic, Morat, Switzerland, a Swiss body corporate
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,724
Claims priority, application Great Britain, Nov. 19, 1965, 49,171/65
Int. Cl. C07d *91/14, 91/26*
U.S. Cl. 260—306.7 6 Claims

Benzenesulphonyl-2-amino-Δ-2-thiazolines mono- di- or tri-substituted on the benzene ring by chlorine or fluorine atoms or lower alkyl groups. These compounds have antibacterial activity.

3,505,348

PROCESS FOR THE PREPARATION OF IMINO-THIAZOLIDINES

Alain Donche and Claude Thibault, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Courbevole, France
No Drawing. Filed Dec. 19, 1967, Ser. No. 691,697
Claims priority, application France, Dec. 20, 1966, 88,100
Int. Cl. C07d *91/18*
U.S. Cl. 260—306.7 3 Claims

This invention relates to a process for the preparation of imino-thiazolidines and, more particularly, to such a process for preparing imino-thiazolidines whose nitrogen atoms each carry a hydrocarbyl substituent, the process including the steps of heating a 1,3-thiazolidine-2-thione having a hydrocarbyl radical on its nitrogen atom with an isocyanic compound of the formula R'NCX, where X designates an oxygen or sulfur atom or a group N—R'', where R' is a hydrocarbyl radical, and where R'' is also a hydrocarbyl radical which may be different from R'.

3,505,349

2-NITRO-IMIDAZOLYL-1-ACETAMIDES

Alden Gamaliel Beaman, North Caldwell, Robert Duschinsky, Montclair, N.J., and William Paul Tautz, New York, N.Y., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Continuation-in-part of application Ser. No. 447,103, Apr. 9, 1965. This application Apr. 18, 1966, Ser. No. 543,066
Int. Cl. C07d *49/36*
U.S. Cl. 260—309 9 Claims

2-nitroimidazoles substituted in the 1-position with a mono- or di-lower alkyl acetic acid amide which are useful as germicides, antiprotozoal agents and as agents for treatment of pathogenic yeast infections.

3,505,350

CERTAIN SUBSTITUTED 2-MERCAPTO-IMIDAZOLE DERIVATIVES

Karl J. Doebel, Ossining, N.Y., and André R. Gagneux, Basel, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 500,245, Oct. 21, 1965. This application Apr. 17, 1968, Ser. No. 721,930
Int. Cl. C07d *49/34, 49/36*
U.S. Cl. 260—309 6 Claims

The compounds are of the class of substituted 2-mercaptoimidazole derivatives which have anti-inflammatory utility. Illustrative examples are 1 - (4-fluorophenyl)-5-methyl - 2 - mercaptoimidazole and 1 - methyl - 5 - phenyl-2-mercaptoimidazole.

3,505,351

DICHLOROMALEIMIDE-CONTAINING ANTHRAQUINONE DYESTUFFS

David I. Randall, Easton, Pa., and Wilhelm Schmidt-Nickels, Little York, N.J., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 7, 1966, Ser. No. 526,015
Int. Cl. C09b *62/36, 62/38, 62/40*
U.S. Cl. 260—326 3 Claims

Anthraquinone dyestuffs which contain up to 4 dichloromaleimide groups are useful in dyeing natural or synthetic textile fibers containing reactive hydrogen atoms such as cellulose with improved depth of shade and brightness and excellent fastness properties to wet treatments and to crocking.

3,505,352

HALOGEN-5 TRIMETHYL-1,3,3 INDOLINE 2-SPIRO-3' NITRO 8' NAPHTHO (1,2-b) PYRANNES

René Lucien Gautron, Sceaux, Hauts-de-Seine, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Feb. 17, 1965, Ser. No. 433,315
Claims priority, application France, Feb. 18, 1964, 964,157, Patent 1,394,163
Int. Cl. C07d *27/36*
U.S. Cl. 260—326.11 4 Claims

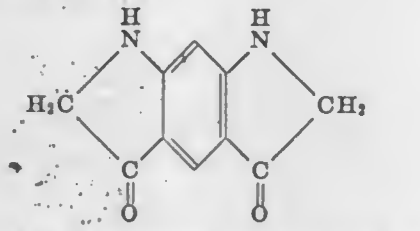
Halogen-5 trimethyl-1,3,3 indoline 2-spiro-3' nitro 8' naphtho (1,2-b) pyrannes useful in photochromic applications, such as light filters. The compounds can be embodied in useful solutions, films and solid objects.

3,505,353

DIKETO-BENZODIPYRROLES

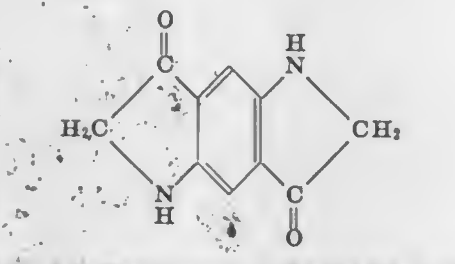
Charles L. Thomas, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,574
Int. Cl. C07d *27/36*
U.S. Cl. 260—326.11 4 Claims

The compounds are



2,6-dihydro-3,5-diketobenzo (1,2-b : 5,4-b') dipyrrole

and



2,6-dihydro-3,7-diketobenzo (1,2-b : 4,5-b') dipyrrole

and the polymers prepared therefrom by oxidative polymerization of the individual monomers or mixtures of the two monomers. The monomers are useful as insecticides and biocides, and the polymers are useful as dyes and semiconductors.

3,505,354

2-METHYL-3-p-HALOBENZOYLINDOLE-N-ALIPHATIC ACIDS

Karl J. Doebel and Jan W. F. Wasley, Ossining, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed May 18, 1967, Ser. No. 639,262
Int. Cl. C07d *27/56*
U.S. Cl. 260—326.13 5 Claims

The compounds are of the class of indole derivatives substituted in the 1-position by a fatty acid and in the 3-position by a halogeno(chloro)benzoyl group which are useful antiinflammatory agents. An illustrative embodiment is 5-methoxy-2-methyl-3-p-chlorobenzoylindole-N-α-methyl propionic acid.

3,505,355

CERTAIN DIHYDROBENZO-THIEPIN-5(2H)-ONES

Richard J. Mohrbacher, Fort Washington, and Vasken Paragamian, Dresher, Pa., assignors to McNeil Laboratories, Incorporated, a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 635,389, May 2, 1967. This application Aug. 12, 1968, Ser. No. 753,018
Int. Cl. C07d *67/00*
U.S. Cl. 260—327 2 Claims

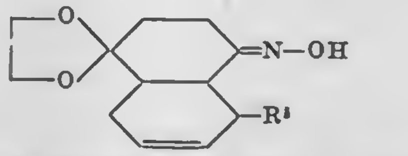
The compounds are of the class of dihydrobenzothiepin-5(2H)-ones, useful for their respective pharmacological properties, such as hypotensive, vasopressor or antiflammatory activity, depending upon the type of derivative considered.

3,505,356

SPIRO[1,3-DIOXOLANE-2,1'(2'H)-NAPHTHALENE] OXIMES

Stephan Sallay, Wynnewood, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Application Oct. 10, 1966, Ser. No. 585,317, which is a division of application Ser. No. 354,117, Mar. 23, 1964, now Patent No. 3,294,817, dated Dec. 27, 1966. Divided and this application Jan. 31, 1969, Ser. No. 821,441
Int. Cl. C07d *57/02;* **A61k** *27/00*
U.S. Cl. 260—340.9 5 Claims

This invention is concerned with a compound having the formula,



wherein R^5 is selected from the group consisting of hydrogen, lower alkyl and lower alkoxy and which may be used as central nervous system depressants.

3,505,357

TETRAHYDROPYRANYL PEROXIDES OF DDD AND ITS ANALOGUES

Douglas J. Hennessey, 47 Greyson Place, Teaneck, N.J. 07666
No Drawing. Filed May 16, 1967, Ser. No. 638,718
Int. Cl. C07d *7/04*
U.S. Cl. 260—345.9 7 Claims

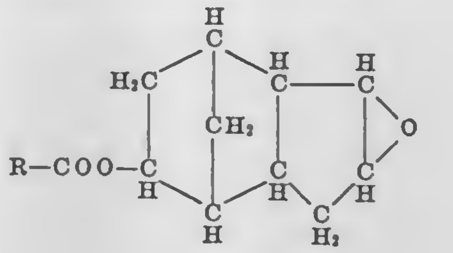
Insecticidal 2' -tetrahydropyranyl peroxide derivatives of 1,1 - bis-(p - chlorophenyl)-2,2-dichloroethane and its analogues.

3,505,358

EPOXY ESTER

Samuel W. Tinsley, South Charleston, Paul S. Starcher, Charleston, and Charles W. McGary, Jr., and Charles T. Patrick, Jr., South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 31, 1960, Ser. No. 32,511
Int. Cl. C07d *1/18, 1/22*
U.S. Cl. 260—348 6 Claims

1. An epoxy ester having the formula



wherein R is an alkyl oxirane group containing up to 17 carbon atoms.

4. A 3-oxatetracyclo$[4.4.0.1^{7,10}.0^{2,4}]$undec - 8 - yl vic-epoxycycloalkylalkanoate which has from 5 to 7 carbon atoms in the cycloalkyl ring.

3,505,359

OXIDATION OF PROPYLENE

Charanjit Rai, John B. Braunwarth, and Robert C. Kimble, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed July 30, 1964, Ser. No. 386,445

Int. Cl. C07d *1/08*

U.S. Cl. 260—348.5 **18 Claims**

The use of neodymium oxide as a catalyst for the liquid phase oxidation of olefins to oxygenated products including olefin oxides. The products are useful as monomers, solvents, intermediates for the preparation of surface active agents, etc.

3,505,360

DECOMPOSITION OF HYDROPEROXIDES

Kenneth Allison and Maurice Barrington Sparke, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a corporation of England

No Drawing. Continuation-in-part of application Ser. No. 324,838, Nov. 19, 1693. This application Oct. 6, 1966, Ser. No. 584,686

Claims priority, application Great Britain, Nov. 20, 1962, 43,829/62

Int. Cl. C07d *1/18, 1/12, 1/08*

U.S. Cl. 260—348.5 **10 Claims**

A process for the decomposition of alkenyl hydroperoxides resulting in the production of decomposition products containing epoxy alcohols by heating a preformed feedstock derived from the autoxidation of straight chain, branched chain or cyclic mono-olefins, with the feedstock containing, as the reactive component, a mono-alkenyl hydroperoxide in the presence of a catalyst based on a metal or compound of a metal of Group IV–A, V–A or VI–A, excepting chromium. The hydroperoxide is rearranged to give an epoxy alcohol having the same carbon number as the hydroperoxide and in which there is a vicinal epoxy group adjacent to a carbon atom carrying the hydroxyl group. The preformed feedstocks are generally heated at temperatures in the range 20–150° C. to effect the desired rearrangement. The rearrangement of the hydroperoxide to the epoxy alcohol facilitates recovery of the olefin for recycle to the oxidation zone in a process in which the crude oxidate is to be worked-up to desired oxy-compounds.

3,505,361

PREPARATION OF ANTHRAQUINONE FROM CRUDE COAL TAR

Nicholas P. Greco, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

Continuation-in-part of application Ser. No. 340,561, Jan. 27, 1964. This application Oct. 21, 1965, Ser. No. 499,752

Int. Cl. C07c *49/68*

U.S. Cl. 260—369 **10 Claims**

Anthraquinone of high purity is produced from a crude mixture containing anthracene and phenanthrene by preferentially hydrogenating the mixture to provide a 9,10-dihydroanthracene rich fraction and oxidizing this fraction in liquid phase with an oxygen containing gas, using alkali metal or alkaline earth catalysts, at a temperature of 105–150° C. and a pressure of up to 2000 p.s.i.g.

3,505,362

ANTHRAQUINONE DYESTUFFS

Volker Hederich, Cologne-Deutz, Günter Gehrke, Cologne-Flittard, and Hans-Samuel Bien, Burscheid, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 25, 1966, Ser. No. 544,807

Claims priority, application Germany, Apr. 30, 1965, F 45,938

Int. Cl. C09b *1/50*

U.S. Cl. 260—373 **7 Claims**

Anthraquinone dyestuffs useful in dyeing and printing synthetic fibers are formed by reacting an anthraquinone sulfonic acid with an aryl sulphochloride and splitting off the sulpho group from the anthraquinone nucleus.

3,505,363

TERTIARY ALKYL AND TERTIARY ARALKYL PEROXIDES

Nicholas A. Milas, Belmont, Mass., assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

No Drawing. Continuation-in-part of application Ser. No. 337,757, Jan. 15, 1964. This application Jan. 29, 1968, Ser. No. 701,137

Int. Cl. C07c *73/00, 73/02, 73/10*

U.S. Cl. 260—389 **4 Claims**

Tertiary alkyl and tertiary aralkyl peroxides useful as polymerizing catalysts and as oxidizing agents. The peroxides are produced by a solvolysis reaction between an excess of tertiary lower alkyl hydroperoxide and a tertiary alkyl-, a tertiary aralkyl-, or an organic acid-chloride, wherein improved yields are obtained by maintaining the reactants under a partial vacuum during the time that hydrogen chloride is formed. Removal of the hydrogen chloride prevents it from causing decomposition of the tertiary lower alkyl hydroperoxide.

3,505,364

17α-CYANOETHYNYL STEROIDS

Werner Mehrhof, Klaus Irmscher, Hans-Gunther Kraft, and Hartmut Kieser, Darmstadt, Germany, assignors to E. Merck A.G., Darmstadt, Germany

No Drawing. Filed Sept. 25, 1967, Ser. No. 670,410

Claims priority, application Germany, Sept. 26, 1966, M 71,056

Int. Cl. C07c *169/10;* **A61k** *17/00*

U.S. Cl. 260—397.4 **6 Claims**

17α-cyanoethynyl androstane derivatives possessing female sex hormone activities.

3,505,365

PROCESS FOR PRODUCING 11β-HYDROXY-ANDROST-4-ENE-3,17-DIONE

Bradford H. Walker, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 472,355, July 15, 1965. This application Feb. 12, 1968, Ser. No. 704,541

Int. Cl. C07c *167/18*

U.S. Cl. 260—397.45 **4 Claims**

This invention relates to the production of 11β-hydroxyandrost - 4 - ene - 3,17 - dione from $11\beta,17\alpha,20\alpha,21$-tetrahydroxy-4-pregnene-3-one 21-acylate by cleavage of the 17-side chain with lead tetracetate in the presence of an organic diluent.

3,505,366

PROCESS FOR PREPARING THIOLCARBOXYLIC ACIDS

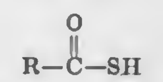
Carl C. Greco, Bronx, and Walter Stamm, Tarrytown, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 19, 1968, Ser. No. 699,037

Int. Cl. C07c *153/01*

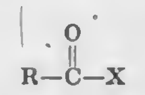
U.S. Cl. 260—399 **9 Claims**

A process for preparing aliphatic thiolcarboxylic acids of the formula:



$$R-\overset{\overset{O}{\|}}{C}-SH$$

wherein R is an aliphatic radical of from 4 to 23 carbon atoms. The process comprises reacting an acid halide of the formula:



$$R-\overset{\overset{O}{\|}}{C}-X$$

wherein R is as previously defined and X is a halogen having an atomic weight above 30, with hydrogen sulfide in the presence of an inert gas.

3,505,367

PROCESS FOR PURIFYING RAW SULFONATES

Henri Brunel, 9 Rue du General Niox,
Paris, France

No Drawing. Continuation-in-part of application Ser. No. 97,711, Feb. 28, 1961. This application Sept. 16, 1964, Ser. No. 397,012

Int. Cl. C07c *143/90*

U.S. Cl. 260—400 **4 Claims**

The invention relates to a process of purifying raw aqueous, alcohol, sulfonate mixtures by treating the mixtures with alkali metal nitrites or alkali metal chromates to produce a two phase system in which the major part of the alcohol is retained in the aqueous phase; the phases are separated and the further purification of the organic phase is simplified while, at the same time, a major portion of the salt remaining in the organic phase is the alkali metal nitrite or alkali metal chromate.

3,505,368

FLUOROALKOXIDE DERIVATIVES OF HAFNIUM

James S. Skelcey, James E. Rumminger, and Kenneth O. Groves, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 27, 1967, Ser. No. 685,963

Int. Cl. C07j *7/00*

U.S. Cl. 260—429.3 **2 Claims**

The invention is novel hafnium (IV) polyfluoroalkoxides and to a method for their preparation by reacting a hafnium (IV) halide with a polyfluoroalcohol. The compounds are high density fluids having utility as flotation liquids.

3,505,369

BIS(CYCLOPENTADIENYL) COMPOUNDS OF TITANIUM

John F. Deffner, Glenshaw, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 26, 1967, Ser. No. 693,146

Int. Cl. C07f *7/28*

U.S. Cl. 260—429.5 **11 Claims**

Acetylacetonatobis(cyclopentadienyl)titanium nitrate and perchlorate and acetylacetonatobis (C_1–C_4 alkylcyclopentadienyl)titanium nitrates and perchlorates are disclosed as new compounds useful in modifying the polymerization of an olefin such as styrene. Examples show that polymerization of styrene is inhibited by acetylacetonatobis(cyclopentadienyl)titanium nitrate and perchlorate.

3,505,370

BASIC BIS[(DIHYDROCARBYL)THIOBENZOATE TIN] OXIDE

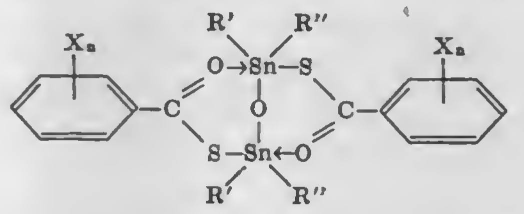
Samuel Hoch, Brooklyn, N.Y., assignor to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Oct. 25, 1967, Ser. No. 677,861

Int. Cl. C07f *7/22*

U.S. Cl. 260—429.7 **2 Claims**

Basic organotin compounds that have the structure



wherein each X represents a lower alkyl group; each *n* represents an integer in the range of zero to two; and each R' and R'' represents an alkyl group having 4 to 8 carbon atoms, an alkaryl group, an aralkyl group, a cycloalkyl group, or an aryl group, are prepared by reacting thiobenzoic acid or an alkyl-substituted thiobenzoic acid with a stoichiometric excess of an organotin oxide having the structure

$$R'R''SnO$$

in the presence of an inert, non-polar solvent. These basic organotin compounds are superior to the corresponding neutral compounds as heat and light stabilizers for vinyl halide resins.

3,505,371

PROCESS FOR PRODUCING PHOTOSENSITIVE CHEMICAL COMPOUNDS

Daniel J. Shanefield, 119 Jefferson Road,
Princeton, N.J. 08540

No Drawing. Continuation-in-part of application Ser. No. 544,810, Apr. 25, 1966. This application Jan. 14, 1969, Ser. No. 791,169

Int. Cl. C07f *1/10, 7/24*

U.S. Cl. 260—430 **3 Claims**

A stable, photosensitive compound is formed by reacting a metal which may be lead or a metal more noble than lead in the electromotive series, in a chemically combined form in which it is reducible to a lower valence, with a strong reducing agent having an E° value of about —0.5 to about —0.85, in the presence of a base and in the absence of visible light, followed by washing the photosensitive product in a solution of the acid form of the strong reducing agent.

3,505,372

ONIUM SALTS CONTAINING METAL COMPLEXES AS THE ANIONS

George Josh, deceased, late of Crown Point, Ind., by Frances J. Josh, executrix, Crown Point, Ind., and David Taber, Evanston, and Thomas A. Schenach, Chicago Ridge, Ill.; said Taber and said Schenach assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Nov. 23, 1966, Ser. No. 597,197

Int. Cl. C07f *3/10, 1/10;* **C07d** *105/00*

U.S. Cl. 260—431 **3 Claims**

Onium salts containing a metal complex as the anion in accordance with the invention conform to the general structural formula:

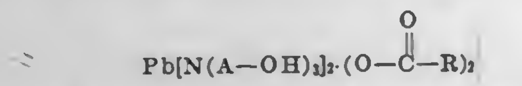
$$Z_x[M_p(L)_n]_y$$

are disclosed wherein Z is an onium ion selected from the group consisting of ammonium—$(NH_4)^+$, quaternary ammonium—$(NR_4)^+$, ternary sulfonium—$(SR_3)^+$, hydronium—$(H_3O)^+$, substituted hydronium—$(R_2HO)^+$, pyridinium—$(C_5H_5NH)^+$ and quaternary phosphonium—$(PR_4)^+$, wherein R is an alkyl radical containing from 1 to 18 carbon atoms; M is a metal cation; L is a ligand capable of forming coordination bonds with M; x, p and y are integers from 1 to 3; and n is an integer of from 1 to 6. The compounds have utility as fabric conditioners, for example sizes, finishes and in dyes, and in antisepsis, for example soap germicides, foot powders and dusting powders for rashes and burns.

3,505,373
COMPLEX LEAD COMPOUNDS

Ralph C. Olberg, Sacramento, and Manfred Stammler, Carmichael, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Aug. 13, 1963, Ser. No. 303,718
Int. Cl. C07f *7/24;* **C08g** *22/44;* **C06b** *15/00*
U.S. Cl. 260—435 7 Claims

1. The lead compounds of the general formula



$$\mathrm{Pb[N(A-OH)_3]_2\cdot(O-\overset{O}{\overset{\|}{C}}-R)_2}$$

wherein R is selected from the group consisting of hydrogen and alkyl; and A is an alkylene radical.

3,505,374
GELLING AGENTS FOR HYDROCARBONS

Roger F. Monroe, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 30, 1968, Ser. No. 701,560
Int. Cl. C07f *15/02*
U.S. Cl. 260—439 2 Claims

Novel ferroso-ferric (magnetite) salts of certain dialkyl orthophosphate mono acids have been discovered to be highly efficient gelling agents for hydrocarbons and halogenated hydrocarbon liquids. The gelation can be reversed by the addition of oil-soluble amines and amides.

3,505,375
PROCESS FOR PRODUCING ALKYL ALUMINUM COMPOUNDS

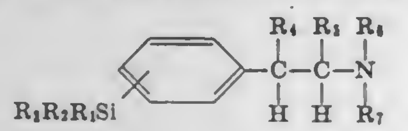
Marcelian F. Gautreaux and Andrew O. Wikman, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 1, 1966, Ser. No. 591,133
Int. Cl. C07f *5/06*
U.S. Cl. 260—448 10 Claims

The manufacture of alkyl aluminum compounds involving the reaction of aluminum and hydrogen is catalyzed with a complex, partially alkyl, species of titanium, zirconium, or niobium. A typical catalyst precursor is a titanium, zirconium or niobium alkoxide; particularly a lower alkoxide, such as titanium tetraisopropoxide.

3,505,376
SILICON-CONTAINING β-PHENYLETHYLAMINES AND INTERMEDIATES FOR THEIR PREPARATION

Max Frankel and David Gertner, Jerusalem, Mordechai Broze, Pardess Hanna, and Albert Zilkha, Jerusalem, Israel, assignors to Yissum Research Development Company of the Hebrew University of Jerusalem
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,442
Claims priority, application Israel, July 29, 1965, 24,062
Int. Cl. C07f *7/10*
U.S. Cl. 260—448.2 31 Claims

New silicon organic compounds are provided having the following beta-phenyl-ethylamine skeleton:

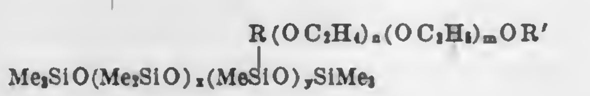


wherein R_1, R_2 and R_3 are the same or different alkyl groups; R_4 is hydrogen, hydroxyl or alkyl; R_5 is hydrogen, hydroxymethyl, carboxyl or alkyl; R_6 is hydrogen or alkyl; and R_7 is hydrogen or alkyl and, when R_6 is hydrogen, R_7 may also be acyl or haloacyl. These thin ethylamines have sympathomimetic activity which differ quantitatively from similar known compounds without the silicon group.

3,505,377
SILOXANE-OXYALKYLENE COPOLYMER FOAM STABILIZERS

Edward L. Morehouse, Snyder, N.Y., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Aug. 12, 1966, Ser. No. 573,133
Int. Cl. C07f *7/08*
U.S. Cl. 260—448.2 6 Claims

Compounds of the formula



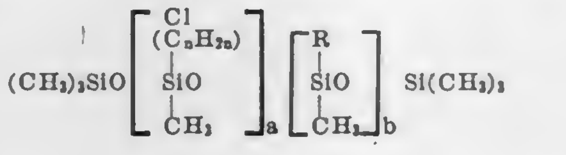
$$\mathrm{Me_3SiO(Me_2SiO)_x(\overset{R(OC_2H_4)_n(OC_3H_6)_mOR'}{\overset{|}{MeSi}}O)_ySiMe_3}$$

useful as foam stabilizers for flexible polyurethane foams are disclosed. In the above formula R^1 is monovalent hydrocarbon, R is alkylene of at least 2 carbon atoms, the sum of $m+n$ is such that the oxyalkylene block has a molecular weight of at least 1500, x is at least 40, and y is at least 3.

3,505,378
HALOALKYL-CONTAINING SILICONE FLUIDS

Edgar D. Brown, Jr., Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 12, 1966, Ser. No. 600,768
Int. Cl. C07f *7/08*
U.S. Cl. 260—448.2 5 Claims

An organopolysiloxane composition having the formula:



$$(CH_3)_3SiO\left[\begin{matrix}Cl\\ (C_nH_{2n})\\ |\\ SiO\\ |\\ CH_3\end{matrix}\right]_a\left[\begin{matrix}R\\ |\\ SiO\\ |\\ CH_3\end{matrix}\right]_b Si(CH_3)_3$$

where R is alkyl of at least 8 and not more than 18 carbon atoms, n has a value of from 2 to 6, inclusive, a is an integer equal to at least 1, b has an average value of at least 2.9, the sum of a plus b is from 4 to 40, inclusive, and the ratio of a over a plus b is from about 0.1 to 0.4, and the chlorine atom is attached to a carbon atom other than a silicon-bonded carbon atom. The novel compounds find utility as lubricants.

3,505,379
PRODUCTION OF ORGANOSILANES

Eckhard Bonitz, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 25, 1965, Ser. No. 482,623
Claims priority, application Germany, Aug. 28, 1964, 1,693,073
Int. Cl. C07f *7/04, 7/06, 7/18*
U.S. Cl. 260—448.8 10 Claims

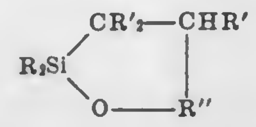
Production of organosilane by (1) liquid phase reaction of finely divided, dispersed silicon with alcohols or phenols at 20–300° C., in presence of a member from the group consisting of organic catalysts and liquid phase-soluble metals or metal compounds, and at atmospheric

or superatmospheric pressure, and, (2) reaction of resulting silanes with unsaturated organic compounds at 20–360° C. and 0–200 atmospheres gauge.

3,505,380
CYCLIC SILANE ESTERS AND METHODS FOR MAKING THEM

Abe Berger, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 22, 1966, Ser. No. 603,736
Int. Cl. C07f *7/04, 7/18;* **C07d** *103/04*
U.S. Cl. 260—448.8 2 Claims

Heterocyclic organosilicon compounds of the formula,

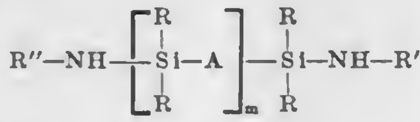


are made by adding an active hydrogen-containing silane to an olefinically unsaturated hydroxy-containing thioether or hydroxy-containing ether, where R is a monovalent radical free of aliphatic unsaturation, R′ is hydrogen or an R radical, and R″ is an alkyleneoxyalkylene or an alkylenethioalkylene radical. The compositions are useful in making silicone organic block copolymers of improved hydrolytic stability useful in the manufacture of polyurethane foams.

3,505,381
PROCESS FOR THE MANUFACTURE OF LINEAR SILICIC ESTER SILAZANES

Hans-Joachim Kotzsch, Rheinfelden, and Roshdy M. Ismail, Spich, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
No Drawing. Filed Aug. 7, 1967, Ser. No. 658,666
Claims priority, application Germany, Aug. 8, 1966, D 50,785
Int. Cl. C07f *7/04, 7/18*
U.S. Cl. 260—448.8 10 Claims

Reaction of dihalo silanes with dihydric phenols and reaction of this product with ammonia or amine to produce linear silicic ester silazane polymers and/or oligomers of the formula:



$$R''-NH-\left[\begin{matrix}R\\ |\\ Si-A\\ |\\ R\end{matrix}\right]_m-\begin{matrix}R\\ |\\ Si-NH-R''\\ |\\ R\end{matrix}$$

wherein R, R′ and R″ are hydrogen or hydrocarbon groups which are the same or different, m is 1 to 50, and A is a dihydric phenol residue.

3,505,382
METHOD FOR THE PREPARATION OF ARYLISOTHIOCYANATES

Antoine Theofiel Rasschaert and Gaston Jacob Benoy, Berchem, and Jan Frans van Besauw, Brasschaat, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,660
Int. Cl. C07c *161/04*
U.S. Cl. 260—454 4 Claims

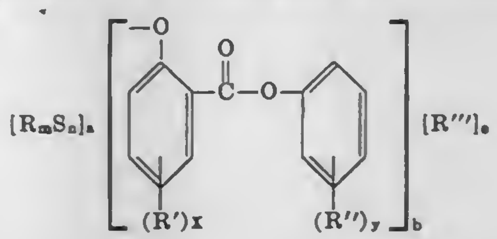
Aryl isothiocyanates are prepared directly from the corresponding arylamine by dissolving the arylamine in an inert solvent, saturating the solution of arylamine with hydrogen chloride, and adding ammonium thiocyanate to the saturated solution. An excess of hydrogen chloride is introduced throughout the reaction time while refluxing. The process is simple and provides good yields.

3,505,383
RESINS STABILIZED WITH ORGANOTIN COMPOUNDS CONTAINING A PHENYL SALICYLATE MOIETY

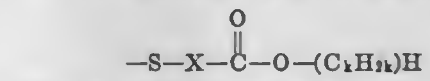
Toshio Seki, Osaka-shi, Kozaburo Suzuki, Kobe-shi, and Takashi Matsuzaki, Osaka-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Sept. 9, 1966, Ser. No. 578,140
Int. Cl. C08f *45/02;* **C08g** *51/02*
U.S. Cl. 260—45.75 6 Claims

A composition comprising a synthetic resin and a stabilizing amount of a compound of the formula:

(I)



wherein:
(1) R is selected from the group consisting of alkyl radicals of 1 to 18 carbon atoms, cycloalkyl radicals of from 3 to 12 carbon atoms and aryl radicals;
(2) each of R′ and R″ is independently selected from the group consisting of alkyl radicals of from 1 to 18 carbon atoms, alkoxy radicals of from 1 to 12 carbon atoms and phenyl radicals;
(3) R‴ is selected from the group consisting of hydroxyl; divalent oxygen atoms; carboxylic acid residues of from 1 to 18 carbon atoms; mercaptan groups of the formula $(SC_mH_{2m})H$ wherein m is an integer of from 1 to 18; mercapto acid residues of the formula



$$-S-X-\overset{O}{\overset{\|}{C}}-O-(C_kH_{2k})H$$

wherein X is selected from the group consisting of alkylene, alkenylene, and alkylidene groups of from 1 to 6 carbon atoms and k is an integer of from 1 to 12;
(4) c is an integer 0–12;
(5) a, b. and m are each an integer 1–3;
(6) x and y are each an integer 0–3.

3,505,384
ISOCYANATO CARBONIC ACID ESTERS

Heinrich Krimm, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany
No Drawing. Filed Mar. 25, 1966, Ser. No. 537,290
Claims priority, application Germany, Apr. 1, 1965, F 45,700
Int. Cl. C07c *69/00;* **C08g** *41/04*
U.S. Cl. 260—463 7 Claims

Isocyanato carbonic acid esters are prepared by treating a chloroformic acid ester isocyanate with an aqueous solution of an alkali metal hydroxide or an alkaline earth metal hydroxide in the presence of an inert organic solvent and a tertiary amine catalyst.

3,505,385
α-LOWER ALKANOYLAMINO - α - HYDROXY AND/OR METHOXY SUBSTITUTED BENZYL PROPIONITRILES

Donald F. Reinhold and Meyer Sletzinger, North Plainfield, and John M. Chemerda, Metuchen, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Application Sept. 19, 1963, Ser. No. 309,379, now Patent No. 3,366,679, dated Jan. 30, 1968, which is a continuation-in-part of application Ser. No. 229,961, Oct. 11, 1962. Divided and this application Apr. 10, 1967, Ser. No. 642,272
Int. Cl. C07c *121/50*
U.S. Cl. 260—465 4 Claims

DL-α-lower alkanoylamino-α-substituted-benzyl propionitriles in which the substituted benzyl is selected from the group consisting of vanillyl, veratryl and 3,4-dihydroxybenzyl are useful as intermediates for the preparation of optically active lower alkyl-3,4-dihydroxyphenylalanines.

3,505,386
COMPOUNDS RELATED TO PROSTAGLANDINS

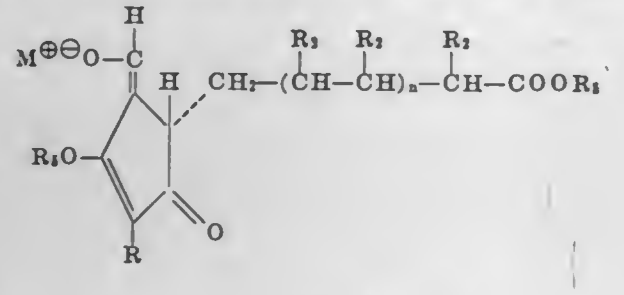
John C. Babcock and Philip F. Beal III, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Dec. 29, 1965, Ser. No. 517,442
Int. Cl. C07c *69/74*
U.S. Cl. 260—468 **32 Claims**

The disclosed invention is a process for producing prostaglandins and compounds related to prostaglandins. The initial reactant is 4-cyclopentene-1,3-dione. That is reacted with butadiene to form 3aα,4,7,7aα-tetrahydro-1,3-indanedione. Both keto groups of that are reduced to give two diols. The double bond in the 6-membered ring of each diol is oxygenated, and the resulting ketone is transformed to a tertiary alcohol by reaction with an alkyl metal compound. The tertiary alcohol is dehydrated, and the resulting double bond is cleaved to give a cyclopentanecarboxaldehyde. This aldehyde is reacted with a carboxyl-terminated Wittig Reagent. Reduction of double bonds and keto groups in the resulting product yields isoprostaglandins with side chains in cis configuration. Isomerization before double bond reduction leads to corresponding prostaglandins with side chains in trans configuration.

3,505,387
ESTERS AND PROCESS

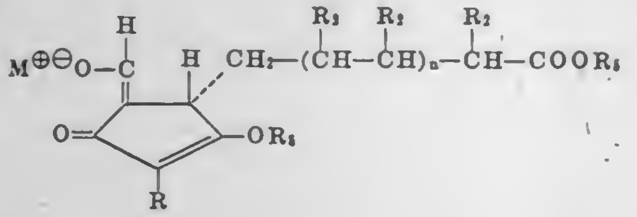
Philip F. Beal III, Kalamazoo, Frank H. Lincoln, Jr., Portage, and John C. Babcock, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 11, 1966, Ser. No. 541,477
Int. Cl. C07c *69/74*
U.S. Cl. 260—468 **11 Claims**

1. A compound selected from those of the formula



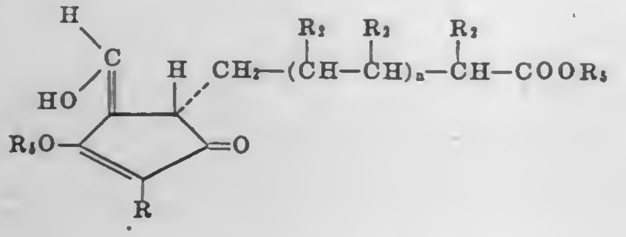
(7)

and



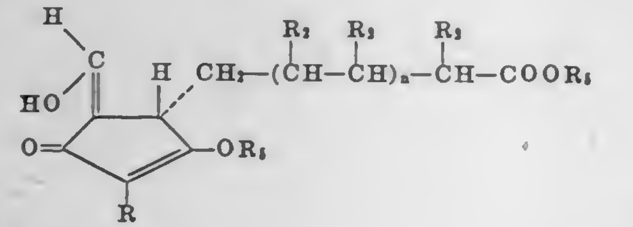
(7′)

and



(7a)

and



(7a′)

wherein

R is selected from the group consisting of hydrogen and methyl,

R_2 is selected from the group consisting of hydrogen and methyl, with the proviso that not more than one R_2 can be methyl in a given side chain,

R_5 is an alkyl radical containing 1 to 12 carbon atoms, inclusive,

n is an integer selected from the group consisting of 0, 1, and 2, and

M is an alkali metal,

and the enantiomers and racemic mixtures thereof.

3,505,388
10,11-DIHYDRO-5,10-METHANODIBENZO-CYCLOHEPTENES

Marcia E. Christy, Perkasie, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 21, 1967, Ser. No. 624,705
Int. Cl. C07c *63/44, 69/76, 69/78*
U.S. Cl. 260—469 **3 Claims**

The 1-(10,11-dihydro - 5,10 - methano - 5H - dibenzo [a,d]cyclohepten-5-yl) - 3 - dimethylamino - 1 - propanol as well as the corresponding dimethylamino-1-propene dehydration product and the dimethylaminopropane hydrogenation product (compounds active as antidepressants) are all produced from 9-alkanoyl-anthracene by first reacting the anthracene with an acrylic ester to produce the 9,10-ethano-11-carbalkoxy - 9,10 - dihydroanthracene, conversion to the corresponding carboxylic acid hydrazide, followed by degradation to the corresponding 11-amino compound and acidic rearrangement to produce 5-alkanoyl - 5,10 - methano-11-hydroxy-10,11-dihydrodibenzocycloheptene, followed by conversion of the 5-position side chain to a dialkylamino-1-propanol substituent.

This invention relates to 10,11-dihydro-5,10-methano derivatives of dibenzocycloheptenes having the 5-position substituted by an organic radical and, particularly, the invention relates to 10,11-dihydro-5,10-methanodibenzocycloheptenes having a saturated or unsaturated alkyl substituent or a saturated or unsaturated substituted-alkyl substituent attached to the 5-position.

3,505,389
4-AMINO-2,3,5,6-TETRACHLOROBENZOIC ACID AND DERIVATIVES THEREOF

Edward D. Weil, Yonkers, and Edwin Dorfman, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 231,296, Oct. 17, 1962. This application Aug. 18, 1966, Ser. No. 573,194
Int. Cl. C07c *101/72*
U.S. Cl. 260—471 **8 Claims**

2,3,5,6-tetrahalo-benzoic acid or esters, salts, or amides, either substituted or unsubstituted, having an amino or amide radical on the 4-position, are new compounds, useful in controlling weed growth.

3,505,390
PROCESS FOR IMPROVING THE THERMAL STABILITY OF DIMETHYL TEREPHTHALATE AND PRODUCT THEREOF

Gerhart Hoffmann, Witten-Rudinghausen, Germany, assignor to Chemische Werke Witten G.m.b.H., Witten (Ruhr), Germany
No Drawing. Filed Mar. 18, 1966, Ser. No. 535,335
Claims priority, application Germany, Mar. 27, 1965, C 35,440
Int. Cl. C07c *67/06, 69/82*
U.S. Cl. 260—475 **10 Claims**

This disclosure relates to thermally stabilizing dimethyl terephthalate by adding a monohydric, saturated aliphatic

alcohol of 1 to 4 carbon atoms thereto. The invention is particularly applicable to stabilizing molten DMT, preferably with methanol.

3,505,391
UNSATURATED SULFONIC ACID BETAINES

Heinrich Rinkler and Günther Nischk, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Dec. 6, 1966, Ser. No. 599,380
Claims priority, application Germany, Dec. 16, 1965, F 47,937
Int. Cl. C07c *93/18, 93/20, 69/54*
U.S. Cl. 260—477 **1 Claim**

Unsaturated sulfonic acid betaines are prepared by reacting N,N-disubstituted acid hydrazides with aliphatic sultones to produce the subject betaines useful as antistatic agents for synthetic polymeric materials.

3,505,392
CARBONYL BIS-URETHANE PRODUCTION

Vincent Kerrigan and Kenneth William Pearson, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 17, 1966, Ser. No. 558,264
Claims priority, application Great Britain, July 30, 1965, 32,706/65
Int. Cl. C07c *127/16*
U.S. Cl. 260—479 **3 Claims**

A process for the manufacture of carbonyl bisurethanes which comprises reacting a N-unsubstituted carbamic ester with phosgene in the absence of acid-binding agents, and in a polar organic liquid inert to phosgene and containing at least one oxygen atom in the molecule as solvent.

3,505,393
HOMOGONANE DERIVATIVES

Eugene E. Galantay, Morristown, N.J., assignor to Sandoz Inc., Hanover, N.J.
No Drawing. Continuation-in-part of applications Ser. No. 566,730, July 21, 1966, and Ser. No. 603,160, Dec. 20, 1966. This application Apr. 13, 1967, Ser. No. 630,496
Int. Cl. C07c *171/02*
U.S. Cl. 260—479 **17 Claims**

13β-(lower alkyl)-B-(6)-homogonenes have been found to possess properties useful for fertility control and in the therapy of menopausal problems. They are also useful for growth stimulation, post-operative recovery and healing of wounds and burns.

3,505,394
OXIDATIVE CARBONYLATION

Kenneth L. Olivier, Placentia, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Oct. 4, 1966, Ser. No. 584,106
Int. Cl. C07c *67/04, 51/14*
U.S. Cl. 260—497 **5 Claims**

Hydrocarbon olefins are oxidatively carbonylated by contracting the olefin, carbon monoxide and oxygen with a substantially anhydrous reaction medium containing a Group VIII noble metal and a redox agent for the Group VIII noble metal. This reaction can be performed without the necessity for a dehydrating agent by employing a high partial pressure of carbon monoxide in the reaction gas phase, e.g., from about 40 to 70 percent of the total reaction pressure.

3,505,395
NOVEL ALKYLARYLSULFONATES

Claude H. Trottier, Lincoln, R.I., and Louis Long, Jr., Concord, Mass., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Oct. 13, 1966, Ser. No. 587,383
Int. Cl. C07c *143/38;* **C11d** *3/065*
U.S. Cl. 260—505 **3 Claims**

Novel sulfonyl, sulfinyl, monothia and dithia substituted alkylarylsulfonates useful as water soluble surface active agents.

3,505,396
SULFOPROPYLATED AMPHOTERIC COMPOUNDS AND METHOD FOR MAKING SAME

Herbert L. Sanders, Skokie, Ill., and John B. Braunwarth, Janesville, Wis., assignors to Varney Chemical Division of Northern Petrochemical Company, Omaha, Nebr., a corporation of Delaware
No Drawing. Filed Oct. 2, 1967, Ser. No. 671,997
Int. Cl. C07c *143/14;* **A61k** *27/00*
U.S. Cl. 260—513 **9 Claims**

Sulfopropylated amphoteric surfactants soluble in concentrated electrolyte solutions and stable in alkaline systems, and having the ability to serve as thickeners for aqueous solutions, the preparations comprising reaction products of alkoxylated tertiary amines with sultone reagents. Methods of making these products.

3,505,397
PROCESSES FOR THE AUTOXIDATION OF SUBSTITUTED BENZENES

James W. Patton, Littleton, and Ned F. Seppi, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed May 1, 1967, Ser. No. 634,910
Int. Cl. C07c *63/02, 63/04, 63/14*
U.S. Cl. 260—524 **8 Claims**

The present invention comprises a process for the autoxidation of substituted benzenes substituted with from 1 to 3 substituent groups selected from the class consisting of alkyl groups, aldehydo groups, carbinol groups, and combinations thereof in which substituent groups the carbon atom alpha to the ring is connected from 0 to 2 other carbon atoms, said process comprising in combination the steps of reacting said substituted benzenes with oxygen in the conjoint presence of a catalytic amount of a transition metal or salt thereof and an effective amount of 2-methyl-butanoic acid at a temperature of from about 50 to about 250° C. The products of the invention comprise acids, e.g. terephthalic acid, isophthalic acid, trimesic acid, and benzoic acid. The polycarboxylic acids of the present invention are useful for the production of a wide variety of polymers, e.g. polyesters, polyamides, etc. Benzoic acid is a widely used starting material for the production of other organic compounds, as a mordant in dye printing processes, in the seasoning of tobacco, in flavors and perfumes.

3,505,398
TEREPHTHALIC ACID CRYSTALLIZATION

Richard H. Baldwin, Oak Lawn, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Sept. 22, 1966, Ser. No. 581,164
Int. Cl. C07c *51/42*
U.S. Cl. 260—525 **6 Claims**

This invention relates to a method of separating terephthalic acid and p-toluic acid mixtures which contain downward from 7 weight percent p-toluic acid. An aqueous solution of the above mixture, substantially saturated saturated with respect to terephthalic acid, is formed under liquid phase conditions at a temperature above 150° F.

in the presence of 1 to 20 moles of alkali metal hydroxide per mole of p-toluic acid. This solution is then cooled to crystallize and recover terephthalic acid.

3,505,399
PROCESS OF RECOVERING ACIDIC AMINO ACID

Hirotoshi Samejima and Akira Furuya, Tokyo-to, Yoshiatsu Aoki, Gumma-ken, and Hiroshi Teranishi, Tokyo-to, Japan, assignors to Kyowa Hakko Kogyo K.K., Tokyo-to, Japan, a corporation of Japan

Filed Mar. 24, 1966, Ser. No. 537,108

Claims priority, application Japan, Mar. 25, 1965, 40/16,957

Int. Cl. C07c *51/48*

U.S. Cl. 260—527 **8 Claims**

The present invention is concerned with recovering acidic amino acid from acidic amino acid-containing solutions by contacting said solutions at a pH of less than 3 with a sulfonic acid type cation exchange resin having an active salt group, and then recovering the acidic amino acid components therefrom by use of dilute alkaline solvent to elute amino acid components.

3,505,400
PROCESS FOR THE PRODUCTION OF ACETIC ACID

Walter Kronig and Wulf Schwerdtel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed May 24, 1967, Ser. No. 640,813

Claims priority, application Germany, June 1, 1966, F 49,363

Int. Cl. C07c *53/08, 51/24*

U.S. Cl. 260—541 **10 Claims**

Improvements in the production of acetic acid by the oxidation of sec.-butyl acetate with an oxygen-containing gas in the liquid phase at 150 to 250° C. and 50 to 150 atmospheres pressure with an oxygen to sec.-butyl acetate mol ratio of at least 2 to 1, which improvements include cooling the oxidation product to room temperature without releasing the pressure, separating the liquid and gas resulting from such cooling without releasing the pressure and then heating the cooled gas to about 150 to 600° C. before relieving the pressure on such gas.

3,505,401
N-CYANOSULFILIMINES AND THEIR PREPARATION FROM CYANOGEN AZIDE AND ORGANIC SULFIDES

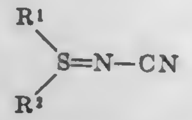
Frank Dennis Marsh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 2, 1967, Ser. No. 679,986

Int. Cl. C07c *145/00*

U.S. Cl. 260—551 **8 Claims**

Described and claimed are (1) N-cyanosulfilimines of the formula



$$(R^1)(R^2)S{=}N{-}CN$$

wherein R^1 and R^2, which may be the same or different, represent alkyl, cycloalkyl, aryl, alkaryl or aralkyl groups either unsubstituted or bearing as substituents one or more groups that are unreactive with cyanogen azide and (2) the process of preparing said N-cyanosulfilimines by reacting the corresponding organic sulfides with cyanogen azide. The compounds of this invention are useful as selective herbicides.

3,505,402
TETRAHYDROTRICYCLOPENTADIENYLENE DIAMINES

Paul Raff and Ludwig Schuster, Ludwigshafen (Rhine), Guenter Becht, Speyer (Rhine), and Helmut Doerfel, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

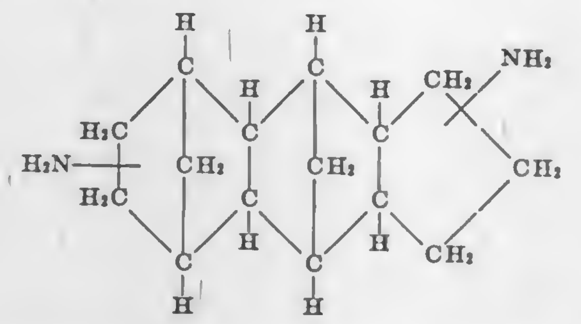
Filed Oct. 26, 1965, Ser. No. 505,291

Claims priority, application Germany, Oct. 29, 1964, B 79,115; Mar. 27, 1965, 1,570,246

Int. Cl. C07c *85/00, 87/64*

U.S. Cl. 260—563 **1 Claim**

Tetrahydrotricyclopentadienylene diamines suitable for the production of completely transparent polyamides and having the formula



and a process for the manufacture of the said diamine wherein tricyclopentadiene is reacted with an excess of hydrogen cyanide in the presence of 3 to 6 moles of concentrated sulfuric acid at a temperature of from −5 to +35° C. and the tetrahydrotricyclopentadienylene diformyl diamines thus obtained are hydrolyzed.

3,505,403
AMIDOXIMES AND AMIDHYDRAZONES AND METHOD OF PREPARATION

Heinz G. Viehe, Linkebeek, Belgium, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 414,852, Nov. 30, 1964. This application June 15, 1965, Ser. No. 464,231

Claims priority, application Germany, Dec. 27, 1963, E 26,131

Int. Cl. C07c *123/00, 129/00, 133/00*

U.S. Cl. 260—564 **10 Claims**

Amidoximes and amidhydrazones are produced by reacting aminoacetylene compounds with hydroxylamine and hydrazine, respectively. The amidoximes and amidhydrazones are hydrolyzed to give amides and hydroxylamine or hydrazine.

3,505,404
3,3-DIALKYL-1-PHENYL-1-INDANALKYLAMINES

Povl Viggo Petersen, Virum, Villy Halfdan Hansen, Copenhagen, and Jes Hjortkjer, Hvidovre, Denmark, assignors to Kefalas A/S, Copenhagen-Valby, Denmark

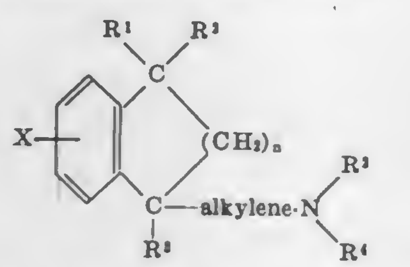
No Drawing. Filed Sept. 19, 1966, Ser. No. 580,206

Claims priority, application Great Britain, Oct. 1, 1965, 41,849/65

Int. Cl. C07c *87/28, 121/60;* **C07k** *27/00*

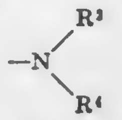
U.S. Cl. 260—570.8 **11 Claims**

Compounds represented by the formula:



wherein R^1 and R^2 each is a lower alkyl-group, *n* is selected from 1 and 2, "alkylene" is an alkylene chain containing from two to eight carbon atoms, at least two and

at the highest four carbon atoms being in the chain directly connecting the ring system with the nitrogen atom,



$$-N(R^3)(R^4)$$

is selected from the class consisting of mono-lower-alkylamino, and di-lower-alkylamino, R^5 is selected from the group consisting of phenyl, and phenyl substituted with a substituent selected from the group consisting of chlorine, fluorine, lower-alkyl, lower-alkyloxy and trifluoromethyl, and X is selected from the group consisting of hydrogen, chlorine, fluorine, lower-alkyl, lower-alkyloxy and trifluoromethyl, and (b) nontoxic acid addition salts thereof with pharmaceutically acceptable acids; useful as antidepressants.

3,505,405
METHOD OF PREPARING ACYL-DIHYDROXYBENZOPHENONES

Otto S. Kauder, Jamaica, N.Y., assignor to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 22, 1965, Ser. No. 502,392. Divided and this application Feb. 15, 1967, Ser. No. 635,276

Int. Cl. C07c *49/44, 49/76*

U.S. Cl. 260—591 **9 Claims**

A process for preparing acyl-dihydroxybenzophenones by reacting a 2,4-dihydroxyacylphenone with a carboxylic acid in the presence of a sulfonic acid catalyst. Acyl-dihydroxybenzophenones are useful as stabilizers for synthetic resins against photodegradation.

3,505,406
5-(OXAPROPYLIDENE)-5H-DIBENZO[a,d]10,11-DIHYDROCYCLOHEPTENES

Norman L. Wendler, Summit, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application May 3, 1965, Ser. No. 452,929, now Patent No. 3,452,009, dated June 24, 1969. Divided and this application Aug. 16, 1967, Ser. No. 668,277

Int. Cl. C07c *97/00*

U.S. Cl. 260—599 **2 Claims**

A 5 - allylidene - 5H - dibenzo[a,d]10,11 - dihydrocycloheptene derivative is epoxidized by treatment with a peracid to produce a 5-(2,3-epoxypropylidene)-5H-dibenzo[a,d]10,11-dihydrocycloheptene, subsequently contacting said epoxypropylidene compound with an acid catalyst such as boron trifluoride etherate at a temperature of 50° C. or lower to produce the corresponding 5-(oxapropylidene) derivative and then treating the oxapropylidene derivative with either dimethyl or methylamine to produce the corresponding 5-(3-dimethylaminopropylidene) or 5-(3-methylaminopropylidene) derivative of 5H-dibenzo [a,d]10,11-dihydrocycloheptene.

3,505,407
PURIFICATION OF METHOXYACETALDEHYDE

Stanley B. Cavitt, Austin, Tex., assignor to Jefferson Chemical Company, Inc., Houston, Tex., a corporation of Delaware

Filed Nov. 28, 1966, Ser. No. 597,296

Int. Cl. C07c *40/24, 17/02;* **B01d** *2/36*

U.S. Cl. 260—602 **2 Claims**

Methoxyacetaldehyde, contaminated with methanol or methanol and water, may be recovered through an azeotropic distillation, utilizing chloroform as the azeotroping agent.

3,505,408
HYDROFORMYLATION OF OLEFINS

Roy L. Pruett and James A. Smith, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 5, 1967, Ser. No. 645,561

Int. Cl. C07c *45/02*

U.S. Cl. 260—604 **5 Claims**

Novel process involving the hydroformylation of olefinic compounds using ionic cobalt-containing complex compounds as the catalysts therefor, e.g.,

$$[Na][(CO)_3CoP(n\text{-}C_4H_9)_3]$$

complex. Also claimed are certain novel ionic catalysts per se as well as the novel processes for producing the same.

3,505,409
METHOD FOR PREPARING CARBORANES

Jack Bobinski, Rockaway, Marvin M. Fein, Westfield, and Nathan Mayes, Dover, N.J., assignors, by mesne assignments, of one-half each to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware and Olin Mathieson Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed Sept. 29, 1960, Ser. No. 59,460

Int. Cl. C07d *107/02*

U.S. Cl. 260—606.5 **9 Claims**

This invention relates to a new class of organoboron compounds and to a method for their preparation. The organoboron compounds are prepared by the reaction of a bis(nitrile)decaborane or a bis(nitrile)alkyldecaborane with an acetylenic hydrocarbon containing from two or ten carbon atoms in the presence of an inert organic solvent. The reaction products prepared by the method of this invention can be either solid or liquid and are useful as fuels.

3,505,410
TRIFLUOROMETHYL ETHYL ETHER AND PROCESS FOR MAKING TRIFLUOROMETHYL ETHERS

Otto Scherer, Bad Soden, Taunus, and Hans Millauer, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 7, 1968, Ser. No. 727,354

Claims priority, application Germany, May 9, 1967, F 52,362

Int. Cl. C07c *43/00, 43/04*

U.S. Cl. 260—614 **5 Claims**

Process for preparing trifluoromethyl alkyl ethers by reacting a compound of the formula

$$R'{-}SO_2{-}O{-}R$$

or

$$R{-}O{-}SO_2{-}O{-}R$$

wherein R represents a methyl or ethyl group and R′ stands for an alkyl group having 1 to 4 carbon atoms or an aryl group, with an alkali metal fluoride and carbonyl difluoride.

3,505,411
PERFLUOROALKYLENE OXIDE POLYMERS

David E. Rice, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 11, 1966, Ser. No. 585,772

Int. Cl. C07c *43/00*

U.S. Cl. 260—615 **1 Claim**

Polyperfluorooxaalkylene polymers which show good thermal stability are provided having unbranched (CF_2)-chains separated by oxygen atoms at intervals of at least three such CF_2 groups and having symmetrical terminal groups. Suitable trifunctional cross-linking agents react with the symmetrical terminal groups to give useful cured polymers.

3,505,412
PREPARATION OF TERPINEN-1-OL-(4)

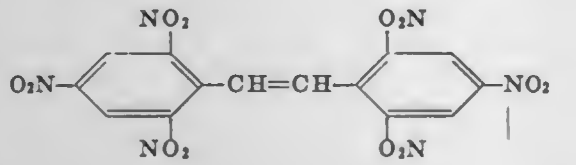
Erich Klein, Wiesenweg 50, Holzminden, Germany
No Drawing. Filed Jan. 12, 1966, Ser. No. 520,088
Claims priority, application Germany, Nov. 13, 1965, D 48,643, Patent 1,235,306
Int. Cl. C07c *35/00;* **C11b** *9/00*
U.S. Cl. 260—631.5 4 Claims

Process for preparing terpinen-1-ol-(4) which comprises oxidizing terpinolene to form 1-methyl-4-isopropenyl-cyclohexene-1-hydroperoxide-(4) and reducing said hydroperoxide to terpinen-1-ol-(4).

3,505,413
HEXANITROSTILBENE

Kathryn G. Shipp, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed May 5, 1964, Ser. No. 365,572
Int. Cl. C07c *79/10;* **C06b** *9/00*
U.S. Cl. 260—645 10 Claims

1. The compound 2,2′,4,4′,6,6′-hexanitrostilbene characterized by the following structural formula:



2. The method of preparing 2,2′,4,4′,6,6′-hexanitrostilbene which comprises adding a solution of 2,4,6-trinitrotoluene in a solvent therefor to an aqueous solution of an alkaline metal hypochlorite and recovering the resulting product.

6. The method of preparing 2,2′,4,4′,6,6′-hexanitrobibenzyl which comprises adding an aqueous solution of alkaline metal hypochlorite containing an alkaline metal hydroxide to a solution of 2,4,6-trinitrotoluene in a solvent therefor and recovering the resultant product.

3,505,414
HYDROGENATION PROCESS FOR ALCOHOLS

Lawrence Rogovin, Cincinnati, Ohio, and Andrew O. Wikman, Baton Rouge, La., assignors of one-half each to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio, and Ethyl Corporation, Richmond, Va., a corporation of Virginia
No Drawing. Filed June 29, 1966, Ser. No. 561,348
Int. Cl. C07c *29/24*
U.S. Cl. 260—643 3 Claims

A hydrogenation-purification process for alcohols—having about 6 to about 24 carbon atoms, particularly those alcohols having about 12 to about 16 carbon atoms, produced by the Ziegler process for alcohol synthesis—comprising two distinct steps of hydrogenation performed in either possible order wherein one of the hydrogenation steps is carried out using a copper chromite catalyst, while the other hydrogenation step uses a nickel catalyst. The hydrogenation process results in detergent derivatives, including alkali earth metal salts, ammonium salts and triethanolamine salts of alkyl sulfate, alkyl ether sulfate and alkyl glycerol ether sulfonate derivatives and formulations of the treated alcohols which exhibit a low and pleasant odor level substantially like that of derivatives and formulations produced from naturally derived C_6–C_{24} alcohols, for example coconut alcohols.

3,505,415
PROCESS FOR STABILIZING 1,1,1-TRICHLORETHANE

Hermann Richtzenhain and Rudolf Stephan, Chemiker, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 367,236, May 13, 1964. This application Aug. 18, 1967, Ser. No. 661,726
Claims priority, application Germany, May 18, 1963, D 41,591
Int. Cl. C07c *17/40;* **B01j** *1/16*
U.S. Cl. 260—652.5 4 Claims

This invention relates to a process for stabilizing 1,1,1-trichlorethane, and more particularly to a process for stabilizing 1,1,1-trichlorethane by addition thereto of a compound containing an alkoxy group with 1 to 3 carbon atoms in the beta position in relation to a $-C=O$ group, as stabilizing agent.

3,505,416
PREPARATION OF 1,1-DIFLUORO-2-BROMOETHYLENE

Ralph A. Davis, Midland, and Ronald G. Tigner, Coleman, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Sept. 5, 1968, Ser. No. 757,748
Int. Cl. C07c *19/08, 21/14, 21/18*
U.S. Cl. 260—653.3 4 Claims

1,1-difluoro-2-bromoethylene is prepared by contacting a solution of 1,1-difluoro-1,2,2,2-tetrabromoethane in a lower alkanol with excess granulated zinc or magnesium.

3,505,417
DEHALOGENATION OF FLUOROHALOCARBONS

Lloyd E. Gardner, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 5, 1966, Ser. No. 584,334
Int. Cl. C07c *21/18*
U.S. Cl. 260—653.5 8 Claims

Fluorohalocarbons are dehalogenated by contact in the presence of hydrogen with a catalyst composition containing aluminum fluoride and at least one metal selected from groups I through VIII of the periodic table, and metallic compounds thereof.

3,505,418
METHOD FOR MONOCHLORINATING PARAFFINS

John C. Jubin, Jr., Wallingford, Pa., assignor to Atlantic Richfield Company, New York, N.Y., a corporation of Pennsylvania
No Drawing. Filed Mar. 8, 1966, Ser. No. 532,576
Int. Cl. C07c *17/10*
U.S. Cl. 260—660 2 Claims

Chlorinating C_8 to C_{16} straight chain paraffins to produce a chlorinated product containing at least 90 weight percent monochloroparaffins by introducing the paraffins into a primary reaction zone together with sufficient gaseous chlorine such that the mixture passes through the primary reaction zone at a linear velocity in the range of from 32 feet per second to 80 feet per second and passing the effluent from the primary reaction zone through a secondary reaction zone at a linear velocity less than the linear velocity in the primary zone.

3,505,419
ALKALI METAL HYDROXIDE-ACETYLENE REACTION PRODUCTS

Robert J. Tedeschi, Whitehouse Station, and George L. Moore, South Plainfield, N.J., assignors to Air Reduction Company Incorporated, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 19, 1967, Ser. No. 691,723
Int. Cl. C07c *11/22;* **C07f** *1/00*
U.S. Cl. 260—665 1 Claim

Complexes of alkali metal hydroxides and acetylene useful as catalysts for the ethynylation reactions are prepared by reacting alkali metal hydroxides with liquefied acetylene.

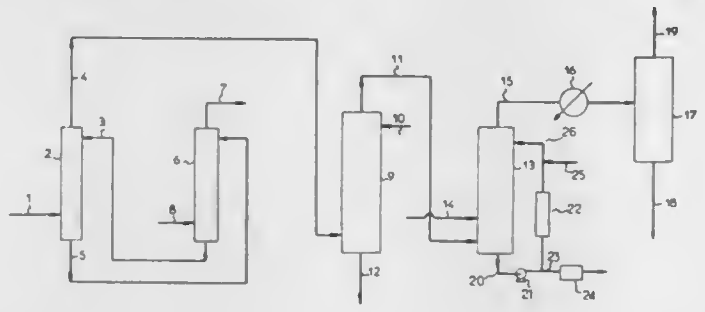
3,505,420
TRICYCLODECADIENES

Yves Amiard and Pierre Legendre, Pau, France, assignors to Societe Nationale des Petroles d'Aquitaine, Courbevoie, France
No Drawing. Filed June 4, 1968, Ser. No. 734,193
Claims priority, application France, June 6, 1967, 109,303
Int. Cl. C07c *1/00*
U.S. Cl. 260—666 21 Claims

This invention relates to a process for the preparation of tricyclodecadienes which are substituted in at least the 5-position, the process consists of causing the reaction, in the presence of a base as catalyst, of 2 molecules of cyclopentadienes, at least one of which carries in the 5-position a hydrocarbon substitution connected by a double bond to the 5-carbon atom, it being possible for the second cyclopentadiene molecule to be either substituted or unsubstituted.

3,505,421
PROCESS OF HYDROGENATING BENZENE

Daniel Lumbroso, Le Vesinet, Quang Dang Vu, Paris, and Robert Odello, Montesson, France, assignors to Institut Francais du Petrole des Carburant et Lubrifiants, Malmaison, Hauts-de-Seine, France
Filed Mar. 21, 1968, Ser. No. 714,935
Claims priority, application France, Mar. 24, 1967, 100,361; Apr. 25, 1967, 104,182
Int. Cl. C07c *5/10, 13/18, 1/00*
U.S. Cl. 260—667 20 Claims



This invention is drawn to benzene hydrogenation to form cyclohexane in the liquid phase using molecular hydrogen and a suspension of a solid catalyst which is injected incrementally based on the catalyst density in the liquid phase.

3,505,422
DEHYDROGENATION AND METHANATION CATALYST AND PROCESS

Charles C. Brewer, Baton Rouge, La., Richard C. Fritz, Middletown, Ky., Charles R. Killian, Baton Rouge, La., and James M. Moe, Manhattan Beach, Calif.; said Killian and said Brewer assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware, and said Fritz and said Moe assignors to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 672,454, Oct. 3, 1967. This application Jan. 23, 1969, Ser. No. 793,548
Int. Cl. C07b *3/00, 15/02, 15/10*
U.S. Cl. 260—669 10 Claims

The disclosure relates to a process for the production of olefinic compounds by the dehydrogenation of corresponding more saturated substances by a catalytic process in which carbon dioxide is added to a feed stream of steam and a more saturated substance which is to be dehydrogenated.

3,505,423
HOMOGENEOUS ALKYLATION OF AROMATICS WITH OLEFINS AND THE CATALYST THEREFOR

Maurice M. Mitchell, Jr., Wallingford, and Edward S. J. Tomezsko, Media, Pa., assignors to Atlantic Richfield Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 1, 1968, Ser. No. 764,342
Int. Cl. C07c *3/56*
U.S. Cl. 260—671 10 Claims

Alkylation of aromatics with olefins in a homogeneous catalysis system employing a tungsten hexafluoride-phosphorous trifluoride complex as the novel catalyst.

3,505,424
METHOD FOR THE CONTINUOUS PRODUCTION OF MONO-OLEFINS

Horst-Dieter Wulf, Marl, Germany, assignor to Chemische Werke Huls A.G., Marl, Germany
No Drawing. Filed Feb. 5, 1965, Ser. No. 430,727
Claims priority, application Germany, Feb. 8, 1964, 1,443,630
The portion of the term of the patent subsequent to Sept. 10, 1985, has been disclaimed
Int. Cl. C07c *11/00*
U.S. Cl. 260—677 6 Claims

In the production of mono-olefins from halogenated hydrocarbons, the technique of employing simultaneous fractional distillation and chemical reaction to form the olefins, and then separating the liberated HCl from the olefins at the boiling temperature of the olefins in order to obtain an olefin product having an exceedingly low chlorine concentration.

3,505,425
DIMERISATION CATALYST

John Robert Jones, Walton-on-Thames, England, and Leslie Priestley, Hamburg, Germany, assignors to The British Petroleum Company Limited, London, England, a corporation of Great Britain
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,101
Claims priority, application Great Britain, Jan. 10, 1967, 1,245/67
Int. Cl. C07c *3/10*
U.S. Cl. 260—683.15 4 Claims

A process for preparing a catalyst suitable for the dimerisation of alpha olefins is provided which comprises mixing nickel acetyl acetonate with an aluminum alkyl alkoxide or aluminum trialkyl in the presence of an olefin, under such conditions of temperature and pressure that the olefin is maintained in the liquid phase and dimerisation is not effected.

3,505,426
EPOXY RESINS CURED WITH ALPHA-HALO POLYCARBOXYLIC POLYANHYDRIDES
Satoshi Matsumoto, Tadashi Sudo, Etsuo Tanaka, Kenichi Abe, and Akihiro Sato, Yokohama-shi, Japan, assignors to Chisso Corporation, Osaka, Japan
No Drawing. Filed July 5, 1967, Ser. No. 651,153
Int. Cl. C08g *45/00, 45/06*
U.S. Cl. 260—830 **3 Claims**

Curable composition comprising an alicyclic epoxide and a curing agent which is selected from the group consisting of (a) a polymeric polyanhydride of a saturated dicarboxylic acid having 6 to 10 carbon atoms and at least one halogen substituent at the α-position (referred to hereinafter as α-halo-C_6–C_{10}-dicarboxylic acid); (b) a mixture of said polymeric polyanhydride of α-halo-C_6–C_{10}-dicarboxylic acid and a polyol; and (c) a reaction product of said polymeric polyanhydride of α-halo-C_6–C_{10}-dicarboxylic acid and a polyol, these curing agents being effective at ordinary temperatures for the curing of alicyclic epoxides.

3,505,427
PROCESS FOR THE PREPARATION OF INTERNALLY PLASTICIZED EPOXIDE RESINS
Zissis Aggias, Hilden, Rhineland, Germany, assignor to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed Nov. 16, 1967, Ser. No. 683,448
Claims priority, application Germany, Nov. 30, 1966, H 61,141
Int. Cl. C08g *30/12, 45/12*
U.S. Cl. 260—830 **11 Claims**

This invention relates to a process for the preparation of an internally plasticized hardened epoxide resin having increased flexibility without a substantial effect on its thermal properties which comprises the steps of reacting a mixture consisting essentially of (1) from about 95% to 55% by weight of said mixture of a crystalline triglycidyl isocyanurate having an epoxide oxygen content of at least 14% and (2) from about 5% to 45% by weight of said mixture of long-chain organic compounds having at least two terminal isocyanate groups per molecule and free of other reactive groups, said long-chain organic compounds having a molecular weight between about 800 and 3000, with an organic polycarboxylic acid anhydride epoxide hardener under epoxide resin hardening conditions, and recovering said internally plasticized hardened epoxide resin.

3,505,428
CURABLE NORMALLY STABLE COMPOSITIONS CONTAINING CROSS LINKING AGENT IN CAPSULE FORM
Alfred S. Kidwell, Mountain Lakes, and Norman R. Migdol, West Caldwell, N.J., assignors to Inmont Corporation, a corporation of Ohio
No Drawing. Filed Jan. 3, 1966, Ser. No. 517,919
Int. Cl. C08g *30/10;* **C08j** *1/14;* **C08d** *13/28*
U.S. Cl. 260—831 **3 Claims**

Normally stable cross-linkable composition containing a liquid-linkable polymer having dispersed therein capsules consisting of a collapsible core carrying a plurality of particles of a solid cross-linking agent for the polymer and an outside wall of a polymeric film former which is insoluble in the polymer. The composition can be cured by breaking the friable capsules.

3,505,429
PREFERENTIALLY MODIFIED STEREOREGULAR POLYHYDROCARBONS
Jack J. Press, Teaneck, N.J.
(5788 Eldergardens St., San Diego, Calif. 92120)
No Drawing. Continuation-in-part of application Ser. No. 427,518, Jan. 22, 1965, which is a continuation-in-part of application Ser. No. 113,972, Apr. 4, 1961. This application Oct. 22, 1965, Ser. No. 502,720
Int. Cl. C08f *29/12*
U.S. Cl. 260—857 **7 Claims**

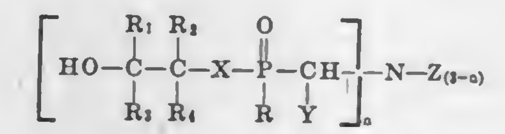
A stereoregular polyhydrocarbon composition in which a synergistic modifier combination for conferring dyeability is preferentially incorporated in the amorphous regions.

3,505,430
POLYOLEFIN COMPOSITIONS
Keith Jasper Clark and Annette La Touche Turner-Jones, Welwyn Garden City, and Rex Percival Palmer, Datchworth, Knebworth, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 29, 1965, Ser. No. 508,188
Claims priority, application Great Britain, Nov. 5, 1964, 45,119/64
Int. Cl. C08f *15/04, 15/40*
U.S. Cl. 260—878 **12 Claims**

Polymeric compositions which are predominantly poly-4-methyl-hexene-1, poly-5-methyl-hexene-1 or poly-5, 5 dimethyl hexene-1 contain dispersed throughout up to 5% by weight of polymerised monomers of a 1-olefine whose homopolymer melts above 275° C. so as to produce a composition which, when compression moulded, has a mean spherulite size of less than 5 microns. A process for making such compositions in which the predominant olefin is polymerised sequentially with the 1-olefin melting above 275° C. in the presence of a stereospecific catalyst.

3,505,431
HYDROXYALKYL PHOSPHORUS COMPOUNDS AND PROCESS FOR MAKING SAME
Gail H. Birum, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 1, 1965, Ser. No. 505,988
Int. Cl. C07f *9/28*
U.S. Cl. 260—932 **12 Claims**

Hydroxyalkyl-aminoalkyl-pentavalent phosphorus compounds of the formula



$$\left[\mathrm{HO}-\overset{R_1}{\underset{R_3}{\mathrm{C}}}-\overset{R_2}{\underset{R_4}{\mathrm{C}}}-X-\overset{\overset{\mathrm{O}}{\|}}{\underset{R}{\mathrm{P}}}-\underset{Y}{\mathrm{CH}}-\right]_n\!-\mathrm{N}-Z_{(3-n)}$$

wherein each of R_1, R_2, R_3 and R_4 is a member of the group consisting of hydrogen, alkyl and haloalkyl radicals having 1 to about 6 carbon atoms, phenyl with not more than one of the substituents being phenyl; R is selected from the group consisting of alkyl, alkyloxy and haloalkyloxy radicals having from 1 to 10 carbon atoms, monocyclic aryl hydrocarbon and hydrocarbonoxy radicals having from 6 to about 10 carbon atoms and said aryl hydrocarbon and hydrocarbonoxy radicals having halogen substituents therein; X is selected from the group consisting of —O—, —S—, —CH_2—, and $R_5CH<$ wherein R_5 denotes an alkyl radical having from 1 to 2 carbon atoms; Y is selected from the group consisting of hydrogen, alkyl having from 1 to 10 carbon atoms, cycloalkyl having from 3 to 6 carbon atoms, furyl and thienyl; and Z is selected from the group consisting of hydrogen, alkyl having from 1 to 10 carbon atoms, hydroxyalkyl having from 2 to 10 carbon atoms, phenyl, with only one Z being phenyl, the other being hydrogen, and with two Z radicals taken together with the nitrogen atom to which they are bonded containing from 2 to 5 methylene carbon atoms completing a ring therewith.

These compounds are prepared by reacting (a) ammonia, primary or secondary monoamine with (b) an aldehyde, and (c) a trivalent phospholane ester.

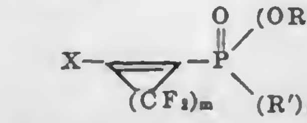
These compounds have flame retardant properties.

3,505,432
POLYOLEFINE SCENTING METHOD
Alfred A. Neuwald, 905 West End Ave., New York, N.Y. 10025
Filed Jan. 28, 1966, Ser. No. 523,697
Int. Cl. C08f *29/02*
U.S. Cl. 260—93.7 **1 Claim**

Method of scenting polyolefin. A first amount of liquefied polyolefin is mixed with a scent imparting material. Drops are formed from the mixture and the drops are solidified. The solidified drops are then melted with a second amount of unscented polyolefin, the second amount being larger than the first amount. The mixture thus obtained is again solidified.

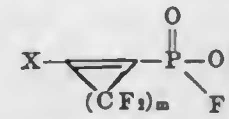
3,505,433
2-HALOPERFLUORO-1-CYCLOALKEN-1-YL PHOSPHORYL COMPOUNDS
Arlen W. Frank, Grand Island, N.Y., and Charles F. Baranauckas, Memphis, Tenn., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,106
Int. Cl. C07f *9/32, 9/34;* **C08f** *45/50*
U.S. Cl. 260—955 **11 Claims**

1. A 2-haloperfluoro-1-cycloalken-1-ylphosphoryl compound of the formula



wherein X is selected from the group consisting of chlorine and bromine, R and R′ are independently selected from the group consisting of alkyl of 1 to 12 carbon atoms, chloroalkyl of 1 to 12 carbon atoms, lower alkoxyalkyl wherein the alkyl group is of 1 to 12 carbon atoms, aryl of 6 to 15 carbon atoms, aralkyl of 7 to 20 carbon atoms, alkenyl of 2 to 12 carbon atoms, and cycloalkyl of 3 to 15 carbon atoms, *m* is from 2 to 4 and *n* is from 0 to 2.

10. A compound of the formula

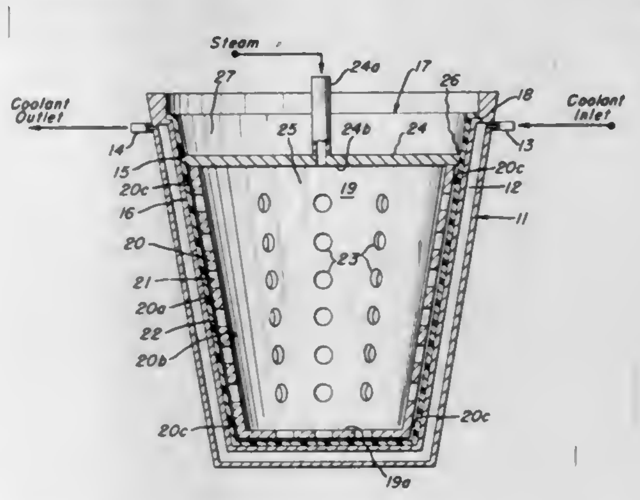


wherein X is selected from the group consisting of chlorine and bromine, R is selected from the group consisting of alkyl of 1 to 12 carbon atoms, chloroalkyl of 1 to 12 carbon atoms, lower alkoxyalkyl wherein the alkyl group is of 1 to 12 carbon atoms, aryl of 6 to 15 carbon atoms, aralkyl of 7 to 20 carbon atoms, alkenyl of 2 to 12 carbon atoms, and cycloalkyl of 3 to 15 carbon atoms, and *m* is from 2 to 4.

3,505,434
METHOD OF PRODUCING SPHERICAL POLYMER PARTICLES
Hendrik A. J. Battaerd, North Clayton, Victoria, Australia, assignor to Imperial Chemical Industries of Australia and New Zealand Limited, Melbourne, Victoria, Australia, a company of Australia
No Drawing. Filed Dec. 11, 1967, Ser. No. 689,323
Claims priority, application Australia, Dec. 29, 1966, 15,885/66
Int. Cl. B29b *3/02*
U.S. Cl. 264—15 **13 Claims**

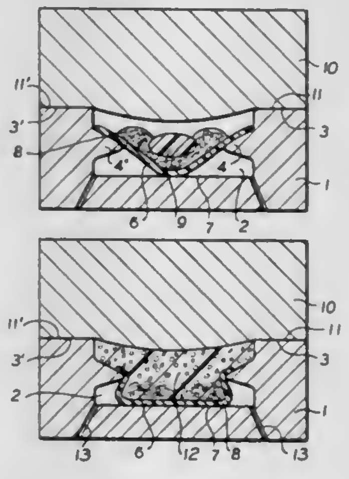
A process for making essentially spherical particles of thermoplastic polymer material in which non-spherical particles of the polymer are mixed and mildly stirred in a non-reactive, non-solvent liquid with a dispersing agent. The mixture is then heated to 20° C. above the polymer melting point and stirred, causing the polymer particles to attain a spherical or nearly spherical shape, but not to agglomerate. The particles are then cooled below their melting point.

3,505,435
METHOD OF MANUFACTURING A PARTIALLY FOAMED, FOAMABLE THERMOPLASTIC CONTAINER
Paul E. Schmidt, Olympia Fields, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Sept. 30, 1966, Ser. No. 583,488
Int. Cl. B29d *23/02, 27/00*
U.S. Cl. 264—41 **3 Claims**



A method and apparatus for producing a partially foamed, foamable thermoplastic article and particularly a container. The method involves injection molding of a foamable preform and heating selected portions of the preform to form a, partially foamed, foamable article. A cooling step to prevent further foaming follows the heating step. The apparatus includes a porous male portion adapted to heat the preform and a jacketed female portion adapted to cool the preform.

3,505,436
PRODUCTION OF FOAM ARTICLE
Hans-Dietrich Krug, Heidelberg, and Peter Rutsch, Unter Abtsteinach, Germany, assignors to Carl Freudenberg, Weinheim, an der Bergstrasse, Germany, a corporation of Germany
Filed May 17, 1966, Ser. No. 550,720
Claims priority, application Germany, July 1, 1965, F 46,487
Int. Cl. B29d *9/00*
U.S. Cl. 264—45 **3 Claims**



Process of producing a composite foam containing article by positioning in a mold of suitable shape which mold has freely accessible shoulders on both sides thereof, a film draped between and laying on said shoulders, a non-woven fabric and a foamable polyurethane mass, and permitting the polyurethane to become foam-form, whereby embedding such foam through said non-waven fabric and on to said film, adhering said foam to said film without the necessity of extraneous adhesives, and filling out the mold cavity with the foam whereby to extend the film to mate with the peripheral portions of the mold cavity.

3,505,437

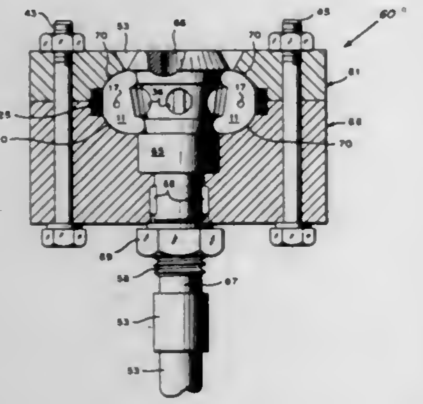
METHOD FOR ROTATIONAL MOLDING

Albert C. Eichmann, Bethayres, Carl A. Damm, Upper Black Eddy, John R. Hess, Oreland, and Ralph L. McGiboney, Prospectville, Pa., assignors to the United States of America as represented by the Secretary of the Navy

Original application Apr. 26, 1963, Ser. No. 276,112, now Patent No. 3,341,236, dated Sept. 12, 1967. Divided and this application July 17, 1967, Ser. No. 654,011

Int. Cl. B29h *9/10;* **B32b** *15/06;* **B29d** *27/04*

U.S. Cl. 264—45 **1 Claim**



A rotatable, annular assembly of spaced apart metallic sprags which are bonded together by a polyurethane elastomer and method and apparatus for making the assembly. The annularly arranged sprags, which are spaced apart by a notched spacer ring, are positioned in a centrifugal mold. The elastomer is introduced thereinto in a fluid state for one embodiment and in a foamed state for another. The mold is spun in a curing oven.

3,505,438

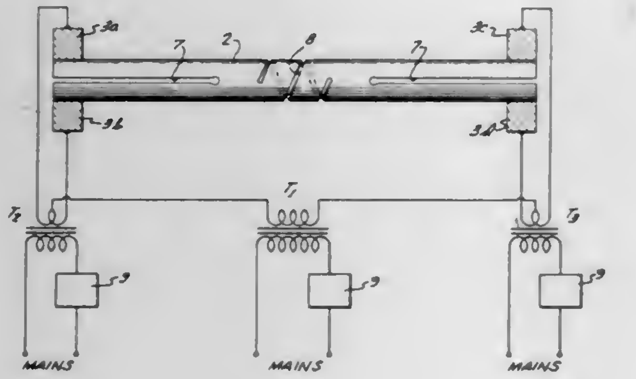
METHOD OF HOT PRESSING TITANIUM DIBORIDE UTILIZING A GROWING SINTERED ZONE

Richard Hampton Biddulph, Worcester Park, England, assignor to United States Borax & Chemical Corporation, Los Angeles, Calif.

Continuation-in-part of application Ser. No. 441,441, Mar. 22, 1965. This application June 30, 1967, Ser. No. 650,278

Int. Cl. C04b *33/32, 35/64*

U.S. Cl. 264—66 **3 Claims**



An improved method of hot pressing titanium diboride wherein the improvement comprises heating the entire body under pressure to a temperature below that required to bond and densify the paticulate material, then further heating only an intermediate zone of the body to a temperature about 500° C. higher than that of the end portions and sufficient to bond and densify the intermediate zone, and finally gradually expanding this intermediate zone to the ends by increasing the temperature of the end portions.

3,505,439

MANUFACTURE OF CALCIUM SILICATE HYDRATE PRODUCTS

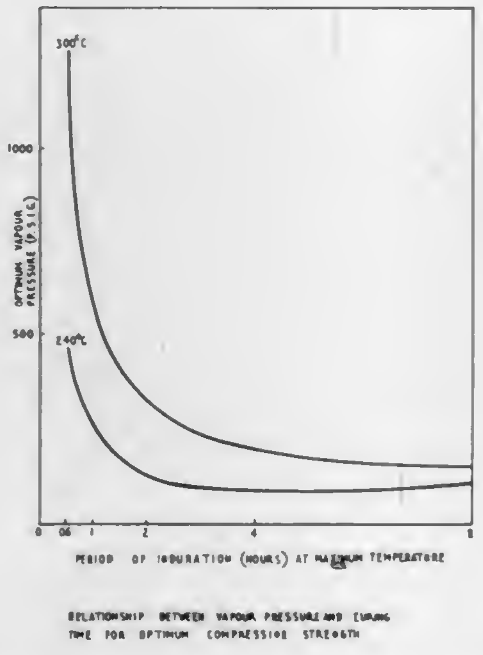
David R. Moorehead and James D. Smith, Roseville, New South Wales, Australia, assignors to The Colonial Sugar Refining Company Limited, Sydney, New South Wales, Australia, a company of Australia

Filed Nov. 8, 1966, Ser. No. 592,818

Claims priority, application Australia, Nov. 18, 1965, 66,715/65

Int. Cl. C04b *15/12*

U.S. Cl. 264—82 **6 Claims**



A method of manufacturing calcium silicate hydrate building, structural and paving products in which a mixture of calcareous material, siliceous material and water is cured at elevated temperature under exclusively unsaturated vapour pressure conditions.

3,505,440

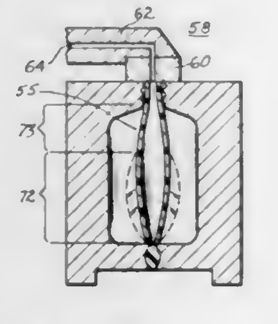
METHOD AND APPARATUS FOR BLOW MOLDING

Robert B. Mason, Mystic, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Oct. 3, 1966, Ser. No. 583,525

Int. Cl. B29c *17/07*

U.S. Cl. 264—89 **8 Claims**



In a blow molding process, a method and apparatus for introducing conditioned gas into an extruding thermoplastic parison to cool a portion of its inner surface in order to inhibit subsequent stretching and thinning thereof, thereby promoting uniformity of thickness of the thermoplastic in the article subsequently formed in a blow mold.

3,505,441

PROCESS FOR THE MANUFACTURE OF PLASTIC ARTICLES HAVING A CRACKLE FINISH

Rémi Goetgheluck, Steenvoorde, France, assignor to Societe N.G.T., County of Bagneaux, France, a company of France

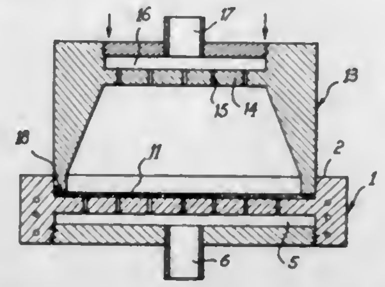
Continuation-in-part of application Ser. No. 476,002, July 30, 1965. This application Jan. 16, 1967, Ser. No. 609,331

Claims priority, application France, Jan. 17, 1966, 46,167

The portion of the term of the patent subsequent to Oct. 7, 1986, has been disclaimed

Int. Cl. B29c *17/04*

U.S. Cl. 264—89 **2 Claims**



A crackle finishing process in which a thermoplastic material is introduced into a cavity in a quantity equal to that constituting the finished article and selectively heated to soften the material on the side or sides which is to receive the crackle finish and heated to plasticize the material on the other sides. The material is then compressed by a punch while controlling the temperature of the punch and exhausting gases to form a homogeneous blank. A forming mold is positioned on the blank in a manner such that the marginal portion of the blank is fixed between the forming mold and the mold cavity. The blank is then applied to the inner wall of the forming mold by pressure differential.

3,505,442

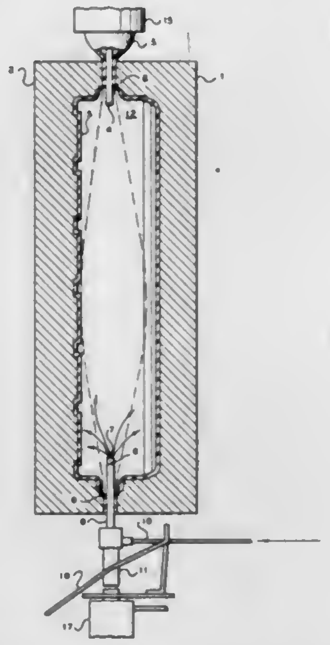
METHOD FOR COOLING BLOW MOLDED ARTICLES

Eugene Culpepper, Newman, Ga., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 22, 1967, Ser. No. 662,486

Int. Cl. B29c *17/07, 7/00;* **B29d** *23/03*

U.S. Cl. 264—89 **5 Claims**



A method is provided for cooling blow molded articles. Articles are blow molded by injecting fluid under pressure into a semi-fluid preform, enclosed within a mold cavity, through a first inlet. The flow of pressurized fluid is discontinued and cooling fluid is injected into the interior of the formed article through a second inlet to cool the article. The first inlet is subsequently vented to the atmosphere to allow for escape of the cooling fluid. A fluid nozzle communicating with the second inlet may be mounted on the lateral extremity of a reciprocally mounted stripper cylinder ram for removing the finished article from the mold.

3,505,443

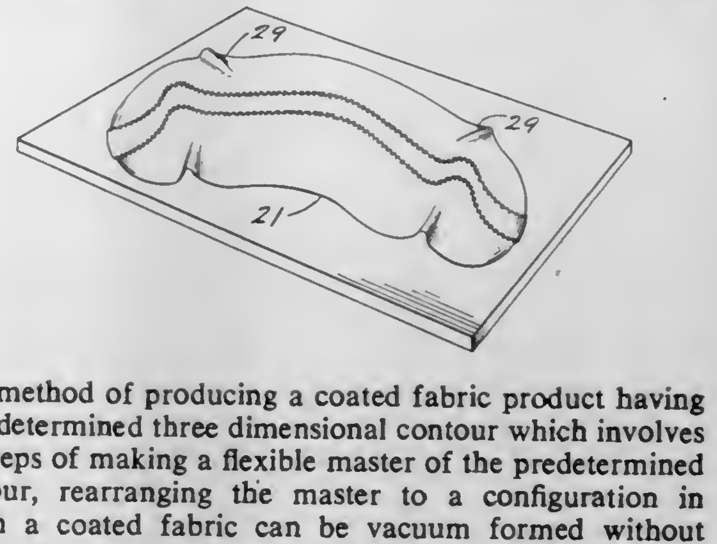
METHOD FOR PRODUCING COATED FABRIC SHEET MATERIAL HAVING A PREDETERMINED CONTOUR

Charles E. Friesner, Pemberville, Ohio, assignor to Inmont Corporation, New York, N.Y., a corporation of Ohio

Filed Oct. 17, 1966, Ser. No. 587,011

Int. Cl. B29c *1/02, 17/04;* **B29f** *5/00*

U.S. Cl. 264—92 **6 Claims**



A method of producing a coated fabric product having a predetermined three dimensional contour which involves the steps of making a flexible master of the predetermined contour, rearranging the master to a configuration in which a coated fabric can be vacuum formed without substantial drawing down of the fabric, vacuum forming a piece of coated fabric in a mold having the rearranged configuration, and mechanically reforming the vacuum formed coated fabric piece to the predetermined three dimensional contour.

3,505,444

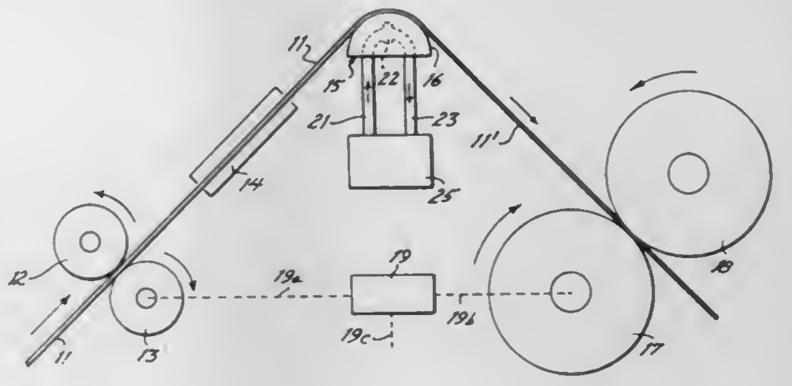
STRAND DRAW-CRIMPING TREATMENT

Robert K. Stanley, Media, Pa., assignor to Techniservice Corporation, North Kennett Square, Pa., a corporation of Pennsylvania

Filed Aug. 3, 1965, Ser. No. 476,933

Int. Cl. D01d *5/22*

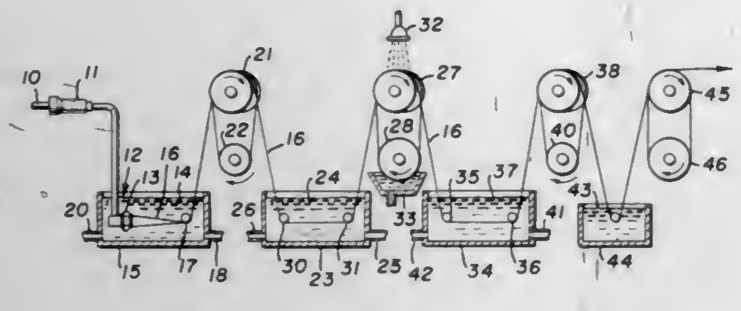
U.S. Cl. 264—168 **9 Claims**



A process of drawing and crimping textile strands is provided wherein a strand is drawn to increased length while being simultaneously snubbed and cooled at one side, whereupon the strand then or thereafter assumes a crimped configuration.

3,505,445
SOLVENT REMOVAL PROCESS FOR WET SPUN FIBERS

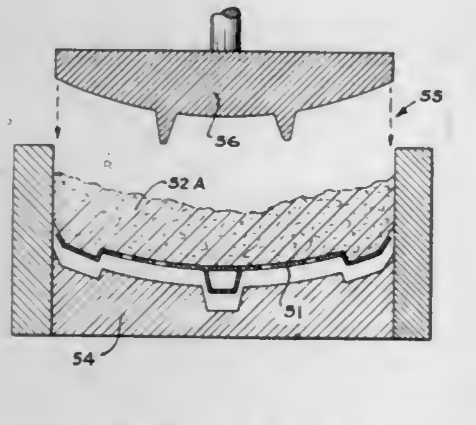
Richard L. Leonard, Raleigh, N.C., and Thomas B. Truscott and Thomas M. Veazey, Decatur, Ala., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 17, 1967, Ser. No. 683,966
Int. Cl. B29b *11/22*
U.S. Cl. 264—233 10 Claims



Substantially solvent free acrylic fibers are produced by washing with water and simultaneously stretching the newly formed fibers, in all instances at a maximum temperature of less than about 86° C. and, in some instances, at lower maximum temperatures depending upon the minimum orientation stretch ratio employed.

3,505,446
FRICTION ELEMENTS

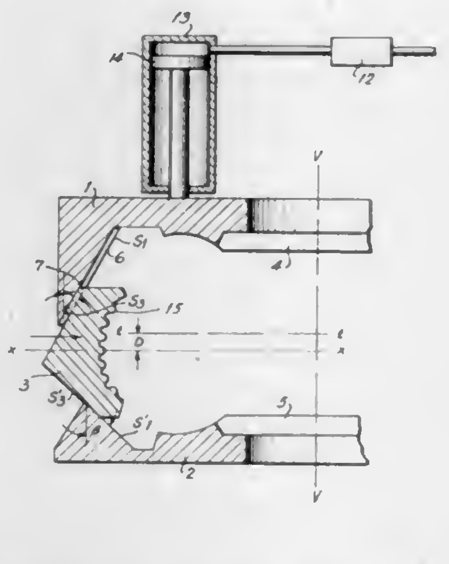
Arvon M. Griffith, Valley Cottage, N.Y., assignor to Abex Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 6, 1966, Ser. No. 599,636
Int. Cl. B29c *25/00;* **B29h** *9/00;* **F16d** *69/00*
U.S. Cl. 264—236 4 Claims



1. A method of producing a friction element having inorganic fillers dispersed in an elastomeric-resin binder, the binder being obtained from a mixture of a vulcanizable diene rubber and a thermosettable phenolic resin compatible therewith, said method comprising: mixing to a state of uniformity the fillers and the uncured binder in the presence of a solvent for the binder which renders the binder plastic, adhesive and mobile; transferring to a closed stamping die a predetermined amount of the uniform mixture thus obtained and compacting this mixture therein substantially to its final density without removing the solvent and without thermally advancing the binder to a cure stage where volatiles are evolved to any appreciable degree, the solvent content at the time of compaction being in the range of about 2 to 4% by weight of the mixture being compacted; relieving the densified mixture of compacting pressure and thereafter, without any intermediate heating at a lower temperature to remove solvent, subjecting the densified mixture in its relieved state to a temperature of at least about 350° F. to complete the thermal cure to harden the binder.

3,505,447
SEGMENTAL TIRE MOLD AND METHOD OF MOLDING AN ASYMMETRIC TIRE

Claude Billes, Clairoix, France, assignor to Societe Francaise du Pneu Englebert Margny-les-Compiegne, Oise, France, a corporation of France
Filed Feb. 14, 1967, Ser. No. 615,952
Claims priority, application France, June 1, 1966, 63,783, Patent 1,488,376
Int. Cl. B28b *11/08*
U.S. Cl. 264—293 15 Claims



In a method and an apparatus for forming asymmetric vehicular tires, a segmented tread-molding ring is radially contracted while it and a main molding assembly formed of a pair of side molding rings located at opposite axial ends of said tread molding ring, are relatively axially displaced with respect to one another.

3,505,448
PROCESS FOR THE PREPARATION OF POLYLACTAMS OF HIGH MOLECULAR WEIGHT

Jan W. H. Zijp, Geleen, and Egidius A. H. Ernes, Beek, Limburg, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
Filed Apr. 28, 1967, Ser. No. 634,624
Claims priority, application Netherlands, Apr. 29, 1966, 6605769
Int. Cl. C08g *20/12*
U.S. Cl. 264—328 4 Claims

A molding method and apparatus for making shaped polylactam articles, the apparatus having a lactam monomer mixing vessel which discharges the monomer into a mold feeding device which is cooled so that the temperature of the monomer therein is maintained between the temperature of the monomer in the mixing vessel and the melting temperature of the lactam monomer. The feeding device discharges into a heated mold.

3,505,449
PRODUCTION OF A CYCLOSERINE-O-CARBAMYL-D-SERINE COMPOSITION

Roger L. Harned, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed June 10, 1968, Ser. No. 735,515
Int. Cl. A61k *21/00*
U.S. Cl. 424—123 8 Claims

A process for the production of a cycloserine-O-carbamyl-D-serine composition from a fermented beer containing them by adding an edible gum to the beer, adjusting the pH to within 11.2 to 11.8, readjusting the pH to within the range of 8.2 to 8.8, and recovering the composition, which has known utility as a growth promoter when given orally.

3,505,450
METHOD OF TREATING COCCIDIOSIS IN POULTRY WITH 6-CHLOROPURINE AND A TETRACYCLINE ANTIBIOTIC

Max W. Miller, North Stonington, and Harold L. Howes, Jr., Groton, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 15, 1966, Ser. No. 542,741
Int. Cl. A61k *21/00, 27/00*
U.S. Cl. 424—227 5 Claims

Poultry feed compositions useful in combatting coccidiosis and based on 6-chloropurine or 6-chloropurine and a tetracycline antibiotic as the active coccidiostat and method of combatting coccidiosis by administering said compositions to poultry.

3,505,451
COMPOSITIONS AND METHODS FOR ALLEVIATING SCHIZOPHRENIA EMPLOYING ONE OF HALOPERIDOL, TRIFLUPERIDOL OR AN ACID ADDITION SALT THEREOF AND ONE OF DESIPRAMINE, IMIPRAMINE AND AN ACID ADDITION SALT THEREOF

Karl J. Brunings, Scarsdale, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 582,230, Sept. 27, 1966. This application Aug. 14, 1967, Ser. No. 660,197
Int. Cl. A61k *27/00*
U.S. Cl. 424—244 10 Claims

A pharmaceutical composition for alleviation of mental disease without precipitating Parkinson-like symptoms comprising as active ingredients a tranquilizing and an antidepressant agent. An illustrative embodiment is a composition comprising haloperidol and desipramine.

3,505,452
METHODS OF INHIBITING GASTRIC SECRETION WITH BENZO[c]PHENOTHIAZINES

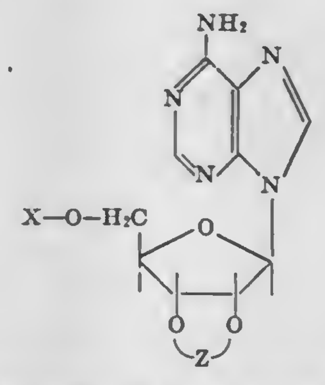
Paul N. Craig, Ambler, and William G. Groves, Norristown, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Continuation-in-part of application Ser. No. 593,297, Nov. 10, 1966. This application Jan. 16, 1968, Ser. No. 698,148
Int. Cl. A61k *27/00*
U.S. Cl. 424—247 5 Claims

Pharmaceutical compositions having gastric antisecretory activity containing benzo[c]phenothiazines having an aminoalkyl side chain at the 7 position and a method of inhibiting gastric secretion.

3,505,453
THERAPEUTIC COMPOSITIONS CONTAINING ADENOSINE DERIVATIVES

Max Thiel and Kurt Stach, Mannheim, and Wolfgang Schaumann and Karl Dietmann, Mannheim-Waldhof, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschrankter Haftung, a corporation of Germany
No Drawing. Original application Oct. 11, 1966, Ser. No. 585,726, now Patent No. 3,412,082. Divided and this application Oct. 26, 1967, Ser. No. 706,731
Claims priority, application Germany, Oct. 15, 1965, B 84,115
Int. Cl. A61k *27/00*
U.S. Cl. 424—253 7 Claims

Therapeutic compositions comprising as active ingredient (1) exobenzylidene, (2) an adenosine derivative having the formula:

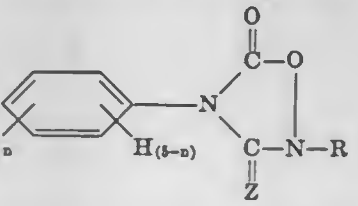


wherein X is hydrogen or acyl derived from a dibasic carboxylic acid such as succinic, glutaric and the like and Z is cycloalkylidene such as cyclohexylidene, cycloheptyl-idene, cyclooctylidene and the like where X is hydrogen or cycloalkylidene or benzylidene where X is acyl, or (3) a non-toxic alkali metal salt of (2).

3,505,454
INSECTICIDAL COMPOSITION AND METHOD CONTAINING 1,2,4-OXADIAZOLIDINE

John Krenzer, Oak Park, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Nov. 29, 1967, Ser. No. 686,774
Int. Cl. A01n *9/22, 9/28*
U.S. Cl. 424—272 8 Claims

A new insecticidal composition comprising an inert carrier and, as an essential active ingredient, in a quantity toxic to insects, a compound of the formula

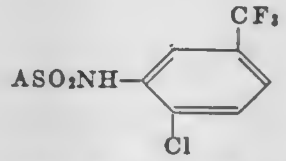


wherein R is selected from the group consisting of lower alkyl, lower alkenyl and substituted lower alkyl wherein the substituent is a radical selected from the group consisting of halogen, lower alkoxy, benzyl, lower alkanoyl, carboxyalkyl and cyclohexyl; Z is selected from the group consisting of oxygen and sulfur; X is selected from the group consisting of halogen, lower alkyl, lower alkenyl, nitro, lower alkoxy, lower haloalkyl, di-(lower alkyl) amino, acylamino, N-lower alkyl-N-lower acylamino, lower alkylsulfoxide, lower alkylsulfone, cyano, thiocyano; and *n* is an integer from 0 to 3. A method for destroying insects which comprises applying to said insects an insecticidal composition comprising an inert carrier and, as an essential active ingredient, in a quantity toxic to insects, a compound described above.

3,505,455
NEMATOCIDAL METHOD

Edward Gipstein, Saratoga, Calif., and Joseph V. Karabinos, Orange, Conn., assignors, by mesne assignments, to The Ansul Company, a corporation of Wisconsin
No Drawing. Filed Dec. 15, 1966, Ser. No. 601,841
Int. Cl. A01n *9/20*
U.S. Cl. 424—321 10 Claims

Soil nematodes are controlled by applying to the infected soil effective amounts of aryl sulfonanilides having the formula



where A is monovalent aryl having 6 to 10 carbons.

3,505,456
METHOD OF TREATING AN ANIMAL SUFFERING FROM ANAPLASMOSIS AND PIROPLASMOSIS

Paul Anthony Barrett, London, England, assignor to Burroughs Wellcome & Co. (U.S.A.) Inc., New York, N.Y., a corporation of New York

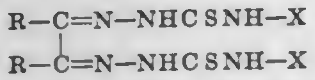
No Drawing. Filed Jan. 20, 1966, Ser. No. 521,790

Claims priority, application Great Britain, Jan. 21, 1965, 2,723/65

Int. Cl. A61k *27/00*

U.S. Cl. 424—323 **5 Claims**

A method of treatment of anaplasmosis and piroplasmosis in animals by administering a composition containing as the principal ingredient a compound of the formula



$$\begin{array}{l}\mathrm{R{-}C{=}N{-}NHCSNH{-}X}\\ \quad\;\, | \\ \mathrm{R{-}C{=}N{-}NHCSNH{-}X}\end{array}$$

wherein R is selected from the group consisting of hydrogen, benzyl, alkyl having 1–4 carbon atoms, and hydroxymethyl, and wherein X is selected from the group consisting of methyl, ethyl and methoxymethyl. The compound is administered at dosages of 10 mg./kg. of animal weight to 30 mg./kg. of animal weight.

3,505,457
METHODS OF COMBATTING FUNGAL ORGANISMS WITH 2,5-DISUBSTITUTED α-IODOACETANILIDES

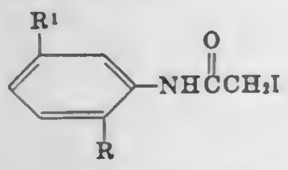
John S. Adams, Jr., Centerville, Ohio, and David L. Gerwitz, Kirkwood, Mo., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,070

Int. Cl. A01n *9/20*

U.S. Cl. 424—324 **9 Claims**

Compounds of the formula



wherein R and R¹ are selected from the group consisting of chlorine, NO_2, hydroxy, alkyl of not more than 4 carbon atoms and alkoxy of not more than 4 carbon atoms.

These compounds are utilized as fungicides.

3,505,458
ANTIARRHYTHMIC METHODS AND COMPOSITIONS UTILIZING N-2-PHENYL-2-(2-HYDROXY-1-NAPHTHYL) ETHYL N-SUBSTITUTED AMINES AND SALTS THEREOF

Ralph D. Tanz, North White Plains, N.Y., assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Application July 19, 1967, Ser. No. 654,392, now Patent No. 3,452,094, dated June 24, 1969, which is a continuation-in-part of application Ser. No. 398,790, Sept. 23, 1964. Divided and this application Nov. 29, 1968, Ser. No. 800,015

Int. Cl. A61k *27/00*

U.S. Cl. 424—330 **12 Claims**

Certain N - 2 - phenyl-2-(2-hydroxy-1-naphthyl)ethyl-N-substituted amines and their salts, which are prepared by any of several different synthetic routes, are antiarrhythmic agents. A typical embodiment is N-2-(4-hydroxyphenyl) - 2 - (2-hydroxy-1-naphtyl)ethyl-N-2-isopropylamine and its hydrochloride salt.

3,505,459
FUMIGATION WITH BIS(TRIFLUOROMETHYL) DISULFIDE

Robert E. A. Dear and Everett E. Gilbert, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 23, 1968, Ser. No. 723,586

Int. Cl. A01n *17/02*

U.S. Cl. 424—336 **2 Claims**

Use of bis(trifluoromethyl)disulfide as a fumigant.

ELECTRICAL

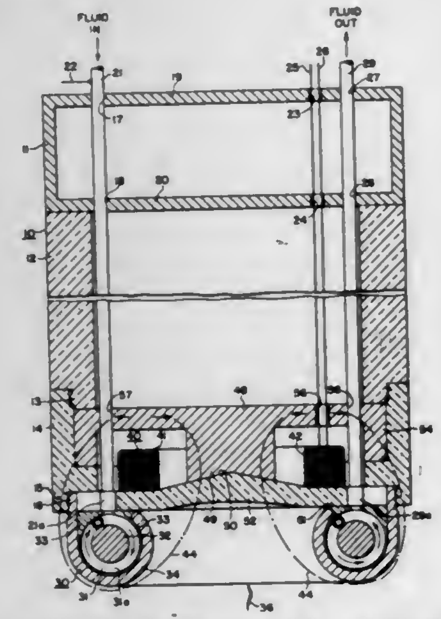
3,505,460
ELECTRIC ARC VACUUM FURNACE EMPLOYING NONCONSUMABLE ELECTRODE

Armin M. Bruning, Elm Grove, Wis., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Original application Oct. 29, 1964, Ser. No. 407,332. Divided and this application May 15, 1968, Ser. No. 729,146

Int. Cl. H05b *7/12, 7/18, 7/06, 7/08;* **C22d** *7/00*

U.S. Cl. 13—31 **12 Claims**



Vacuum furnace apparatus for melting a conductive material has an electrode with an arc therefrom to the melt, the electrode including a fluid cooled tip and a supporting column therefor including fluid channeling for the tip and a magnetic fluid coil mounted therein and setting up a magnetic field extending across the arcing surface of the tip and substantially perpendicular to the arc path whereby a force is exerted on the arc which causes it to move substantially continuously on the arcing surface.

3,505,461
ELECTRONIC MUSICAL INSTRUMENT FOR PRODUCING NOVEL ACOUSTIC EFFECTS FROM MULTITONE SIGNALS

Masuo Omura, Hirakata-shi, and Masahiko Tsunoo, Osaka-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

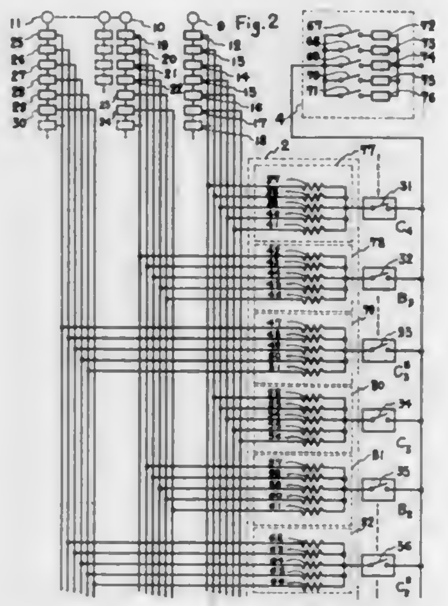
Filed Dec. 20, 1966, Ser. No. 603,333

Claims priority, application Japan, Dec. 20, 1965, 40/79,052; July 7, 1966, 41/44,674

Int. Cl. G10h *1/06*

U.S. Cl. 84—1.01 **22 Claims**

An electronic musical instrument of the keyboard type which has a tone generator system comprised of a plurality of oscillators each having a chain of frequency dividers attached thereto for producing a series of tone signals in octave relation to each other, a keyswitch system for switching tone signals to a tone forming circuit by depressing keys on a keyboard, the tone forming circuit delivering the tone signals to a sound system which converts them to acoustic tones, and a tone signal mixing system coupled between the tone generator system and the keyswitch system. The tone signal mixing system includes a plurality of mixing networks for mixing at least some of the tone signals generated by the tone generator system in such a manner that mixed tone signals are produced which have fundamental frequencies in a 2^n order, the frequencies extending over a range of at least three octaves and having various amplitudes relative to each other.



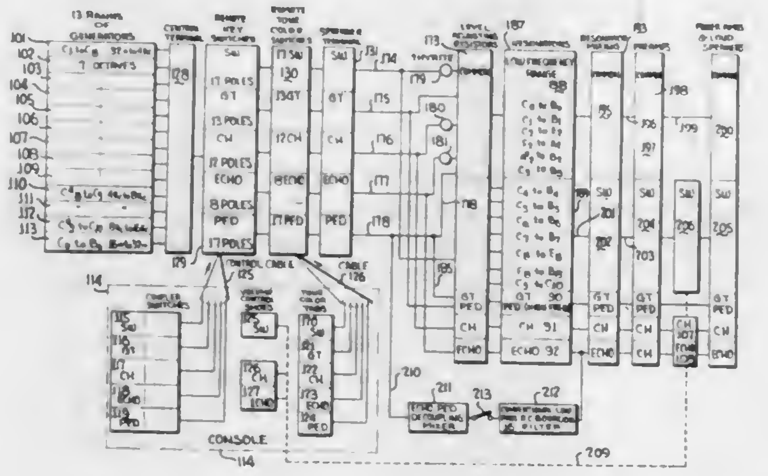
3,505,462
ELECTRICAL ORGAN

William C. Wayne, Jr., South Fort Mitchell, Ky., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio

Continuation-in-part of application Ser. No. 46,704, Aug. 1, 1960. This application Mar. 12, 1965, Ser. No. 439,140

Int. Cl. G10h *3/00*

U.S. Cl. 84—1.04 **55 Claims**



An electronic organ in which tone signal sources drive high Q resonators, to provide various transient effects in response to key closures, and in which at least one resonator is provided for each partial of a tone, the resonators being driven through relative amplitudes of the partials. The tone signals may be supplemented with chiff and/or noise, frequency modulation of a periodic or random character, transient changes of pitch or rise and/or fall of the tone, and the like.

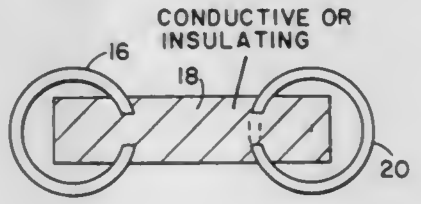
3,505,463
RADIO FREQUENCY ENERGY BARRIER MATERIAL

James H. McAdams, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Apr. 8, 1968, Ser. No. 719,590

Int. Cl. F16j *15/12;* **H05k** *9/00*

U.S. Cl. 174—35 **3 Claims**



A configuration of electrical conducting, flexible wires or members arranged to have a height, width, and length. The barrier material being inserted between two conducting surfaces forming portions of an R.F. energy barrier enclosure.

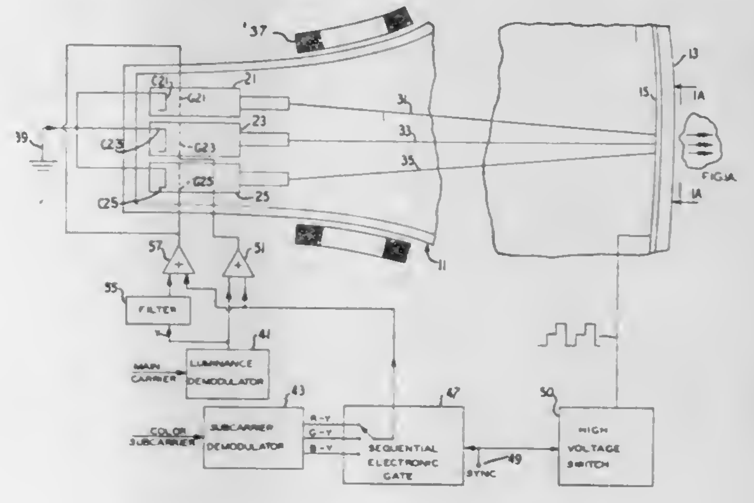
3,505,464
LINE SEQUENTIAL COLOR TELEVISION RECEIVER

William H. Clingman, Jr., Dallas, and George E. Goode, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Dec. 12, 1966, Ser. No. 600,999

Int. Cl. H04n *9/36*

U.S. Cl. 178—5.4 **8 Claims**

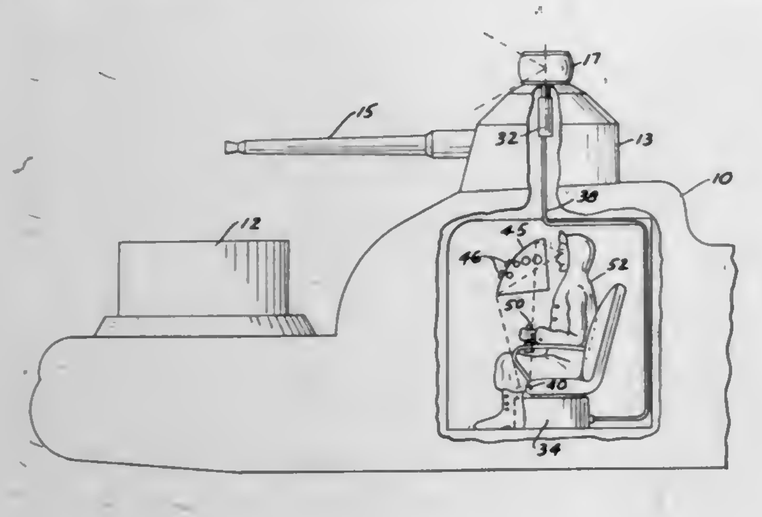


A line sequential color television receiver which includes a phosphor screen to selectively emit light of different colors when excited by electron beams and at least two electron guns for emitting beams of electrons aimed to impinge upon and excite the screen at points which are slightly displaced from one another. The beams are repetitively swept together across the screen and the light emitted by the screen is changed on succession line sweeps. The beam of electrons emitted from one of the guns is modulated in accordance with respective ones of the records on successive line sweeps, simultaneously, the beam of the other gun is modulated in accordance with related information.

3,505,465
PANORAMIC TELEVISION VIEWING SYSTEM

Donald W. Rees, Warren, Mich., assignor to the United States of America as represented by the Secretary of the Army

Filed Apr. 21, 1967, Ser. No. 634,052
Int. Cl. H04n *5/74, 7/18*
U.S. Cl. 178—6 7 Claims

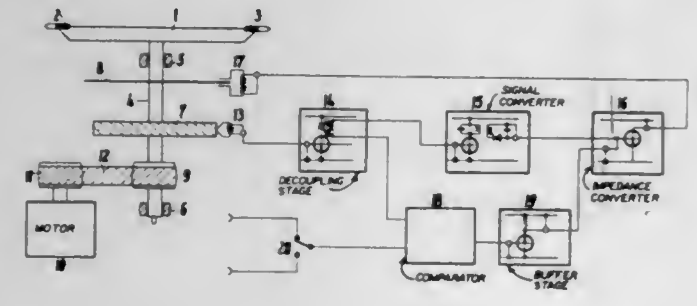


A panoramic viewing device for use in vehicles utilizing hyperboloidal ellipsoidal reflecting optics and providing the vehicle operator with a 360° real time display of the area surrounding the vehicle wherein the operator and display may be located within the vehicle or at some remote point.

3,505,466
MAGNETIC TAPE SIGNAL TRANSDUCING APPARATUS

Rudolf Prochnow and Norbert Tebel, Darmstadt-Eberstadt, Germany, assignors to Fernseh G.m.b.H., Darmstadt, Germany

Filed Mar. 23, 1966, Ser. No. 536,693
Claims priority, application Germany, Mar. 26, 1965, F 45,639
Int. Cl. H04n *5/78;* **G11b** *5/52*
U.S. Cl. 178—6.6 5 Claims

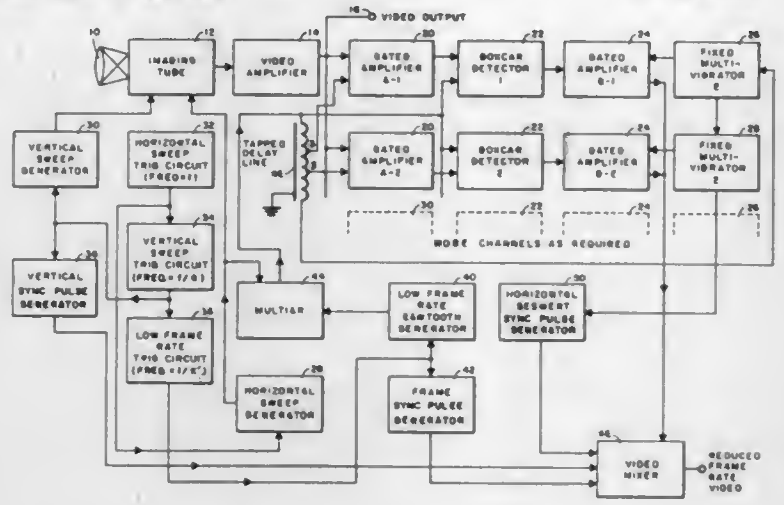


A magnetic tape signal transducing arrangement in which a transducer head assembly is rotated at a speed higher than a desired nominal value. A member rotating with the transducer head assembly, has recorded upon it an oscillatory signal having a frequency which is a multiple of the norminal frequency corresponding to the desired angular speed of the member and of the transducer head assembly. The signal frequency from the oscillatory recorded signal is compared to the desired nominal frequency, and an eddy brake mechanically coupled to the transducer head assembly brakes the speed of the assembly, so as to result in the desired nominal speed. The driving source of the transducer head assembly is a synchronous motor through an elastic transmission.

3,505,467
TELEVISION FRAME RATE REDUCTION SYSTEM

Frederick C. Alpers, Riverside, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 6, 1965, Ser. No. 469,953
Int. Cl. H04n *3/16*
U.S. Cl. 178—6.8 3 Claims

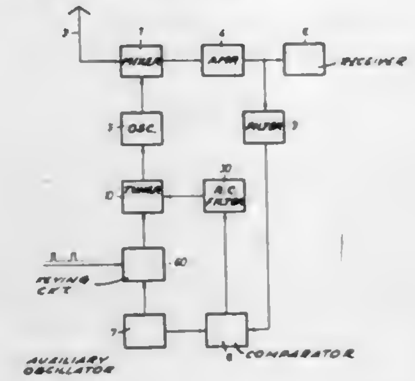

VIDEO OUTPUT
IMAGING TUBE
VIDEO AMPLIFIER
GATED AMPLIFIER A-1
BOXCAR DETECTOR 1
GATED AMPLIFIER B-1
FIXED MULTI-VIBRATOR 2
VERTICAL SWEEP GENERATOR
HORIZONTAL SWEEP TRIG CIRCUIT
TAPPED DELAY LINE
GATED AMPLIFIER A-2
BOXCAR DETECTOR 2
GATED AMPLIFIER B-2
MORE CHANNELS AS REQUIRED
VERTICAL SYNC PULSE GENERATOR
VERTICAL SWEEP TRIG CIRCUIT
MULTI-VIBRATOR
LOW FRAME RATE SAWTOOTH GENERATOR
HORIZONTAL SEGMENT SYNC PULSE GENERATOR
LOW FRAME RATE TRIG CIRCUIT
HORIZONTAL SWEEP GENERATOR
FRAME SYNC PULSE GENERATOR
VIDEO MIXER
REDUCED FRAME RATE VIDEO

A television frame rate reduction system employing a technique of dividing a normal television raster into a number of vertical sections and transmitting information for one of these sections during each full frame scan by the camera system.

3,505,468
TELEVISION DEMODULATION SYSTEM

Gerhard-Gunter Gassmann, Berkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 31, 1966, Ser. No. 590,594
Claims priority, application Germany, Nov. 9, 1965, St 24,615
Int. Cl. H04n *3/16*
U.S. Cl. 178—7.3 1 Claim



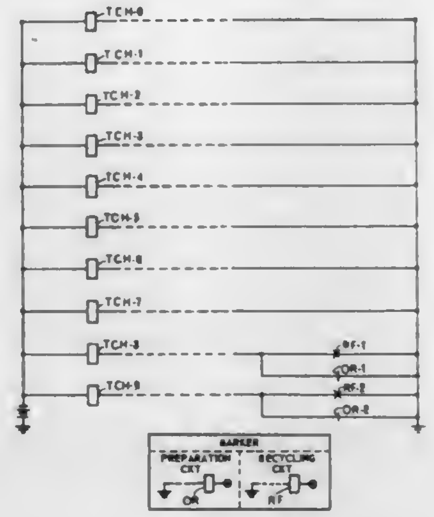
A method for reception of video signals wherein the incoming signal is demodulated during the period of line flyback, by a locally generated signal of the same frequency and phase as the carrier of the incoming signal, said locally generated signal in turn being modulated by a locally generated auxiliary oscillator. The output of the demodulator is filtered to recover the remnant auxiliary signal which is in turn compared with the original auxiliary signal to provide a controlled signal for controlling the aforesaid locally generated signal.

3,505,469
CIRCUIT FOR DECREASING THE INCOMING MATCHING LOSS OF A TELEPHONE OFFICE

John A. McCrudden, Clarkson, Ontario, Canada, assignor to The Bell Telephone Co. of Canada, Montreal, Quebec, Canada

Filed Jan. 20, 1967, Ser. No. 610,594
Int. Cl. H04q *3/66*
U.S. Cl. 179—18 9 Claims

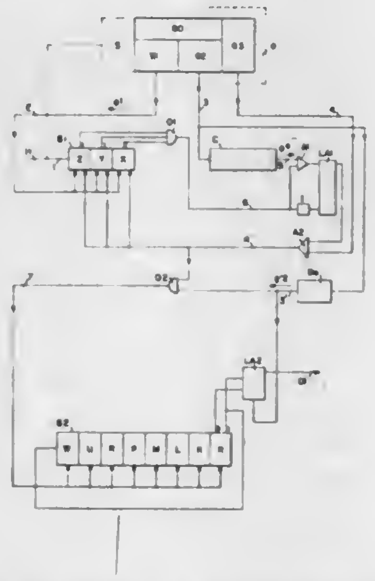
In a crossbar switching system, the circuit of the dial tone marker and the circuit of the completing marker, when handling originating calls, are arranged so that they are normally unable to use some of the channels through the linkage of the office so as to reserve such channels to complete incoming calls and so improve the Incoming Matching Loss. This is done by preventing the last two relays of the Channel Selection Circuit of the dial tone marker from being energized unless the marker has recycled. Similarly the last two channels of the Channel Selection Circuit of the completing marker cannot be energized, while handling an originating call, unless the marker has recycled.



3,505,470
PROCESS AND DEVICE FOR CODING AND DECODING DIGITAL SIGNALS VIA PHASE MODULATION

Etienne P. Gorog, Scarsdale, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 28, 1967, Ser. No. 626,591
Claims priority, application France, Apr. 1, 1966, 7,777
Int. Cl. H04l *27/18*
U.S. Cl. 178—66 11 Claims

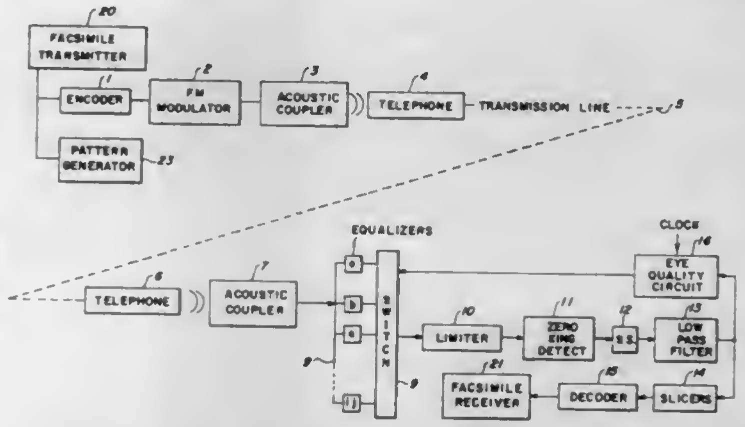


A multi-phase digital signal modulation device in which a multi-bit code defining a phase modulated wave is inserted into a shift-register/counter operating as a shift register. After entry is completed, the shift-register/counter, operating as a counter, is counted to a predetermined value by quick time pulses which are simultaneously applied to a second counter and cause it to recirculate during this time period. The second counter is completely recirculated at a slower rate and the contents serially applied to an output line while the next multi-bit code is inserted in the shift-register/counter acting as a shift register. This process is repeated for the successive multi-bit codes. A demodulator for the phase modulated wave includes a first register for receiving the modulated signal. A second register of the same length is circulated one bit position at a time until both registers are identical. A counter records the number of position shifts needed to make both registers equal. The contents of the counter are then shifted to a utilization device causing the counter to return to zero which prepares it for the next cycle operation.

3,505,471
EYE PATTERN QUALITY APPPARATUS

Roger B. Stone, Webster, and Charles L. Jacobson, Pittsford, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Jan. 2, 1968, Ser. No. 695,253
Int. Cl. H04l *25/02*
U.S. Cl. 178—69 9 Claims

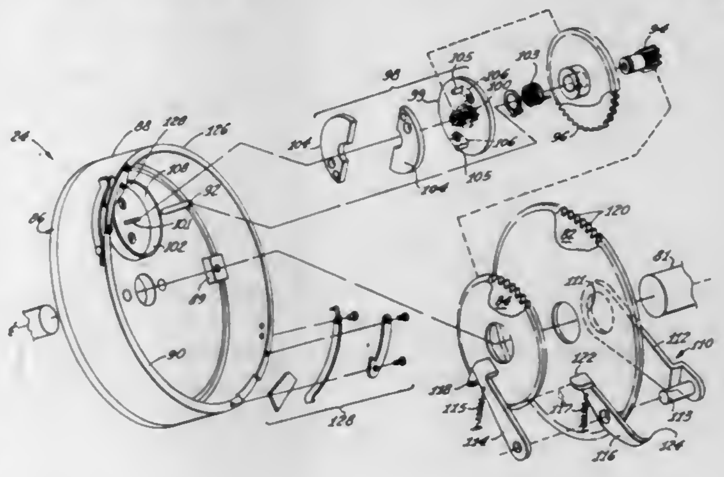


A synchronous facsimile digital data transmission system operated with telephone lines utilizing circuitry to evaluate automatically the quality of the communication link and to generate a signal to command the insertion of one of a plurality of equalizers into the facsimile system, wherein the evaluation circuitry employs rectifiers to reference the voltage levels of a multi-level synchronous signal to a common reference level and employs a capacitor to measure the maximum deviation of signal amplitude from the common reference level to provide an indication of the quality of eye patterns formed from the synchronous signals.

3,505,472
FACSIMILE SYNCHRONIZING SYSTEM

Glenn A. Reese, San Pedro, and Paul J. Crane, Torrance, Calif., assignors to The Magnavox Company, Torrance, Calif., a corporation of Delaware

Filed Jan. 12, 1966, Ser. No. 520,269
Int. Cl. H04n *1/36*
U.S. Cl. 178—69.5 30 Claims



This invention relates to a system for synchronizing the operation of a facsimile system at a receiver with a facsimile system at a transmitter. The system operates to provide this synchronization within a limited period of time such as approximately 20 seconds. At the end of this limited period of time, the facsimile transmitter and the facsimile receiver become automatically set so that the synchronizing operations become interrupted and facsimile information is transmitted.

The facsimile transmitter and the facsimile receiver have rotary transducers. During the time that synchronization is being attained between the operation of the facsimile transmitter and the facsimile receiver, the transducer at the receiver is rotated at a slightly slower speed than the transducer at the transmitter. When synchronization is attained, the transducer at the receiver becomes locked to a synchronous motor.

3,505,473

CIRCUIT ARRANGEMENT FOR COMPENSATING FOR SYNCH SIGNAL ERROR IN A TELEVISION SIGNAL

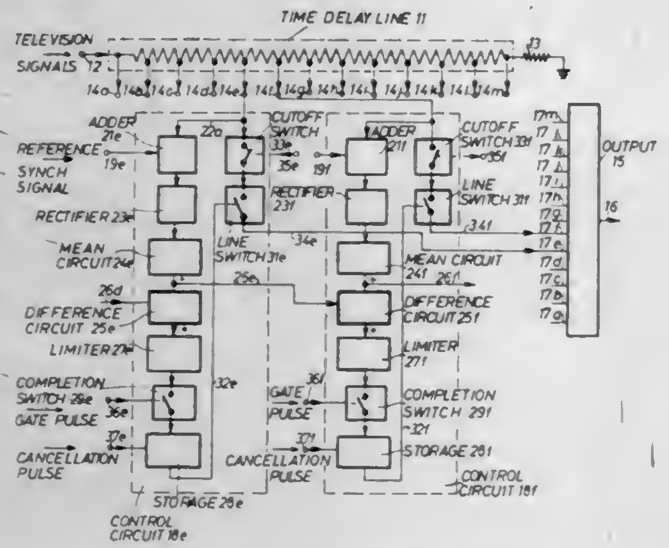
Wolfgang Dillenburger, Nieder Ramstadt, near Darmstadt, and Gerhard Krause, Darmstadt, Germany, assignors to Fernseh G.m.b.H., Darmstadt, Germany

Filed Sept. 14, 1966, Ser. No. 580,150

Claims priority, application Germany, Sept. 16, 1965, F 47,200

Int. Cl. H04n *7/00*

U.S. Cl. 178—69.5 **9 Claims**



A circuit in which the synch signal error in a television signal is compensated. The television signal is applied to a tapped delay line, and each tap emits the television signal delayed by a different time interval. In passing through the delay line, the applied television signal experiences an incrementally increasing time delay. Connected to each tap is a control arrangement in which the signal from the tap is combined, in opposite phase, with a reference synch signal. The control circuit arrangements are interconnected for identifying which one of the taps differs by a minimum amount, in time relationship, from the applied reference synch signal. The tap providing a signal with such minimum difference then solely connected to an output circuit.

3,505,474

PORTABLE COMPUTER TERMINAL USING DIGITAL CODE OVER CONVENTIONAL TELEPHONE CHANNEL

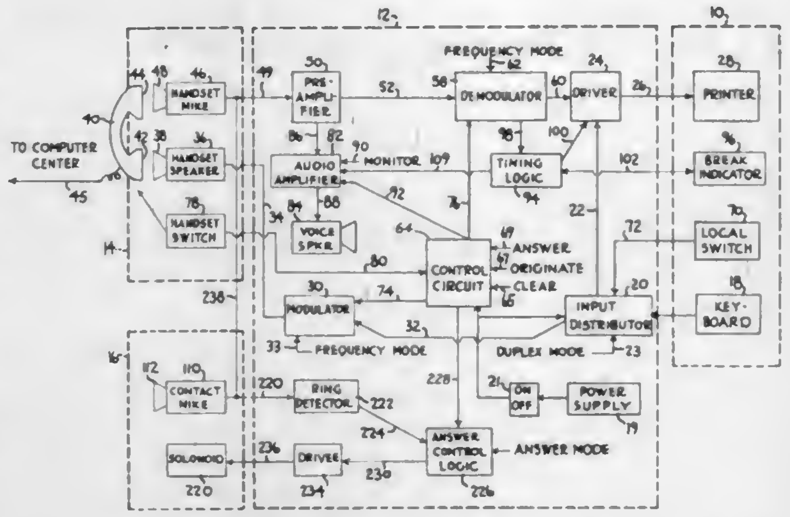
Jesse T. Quatse, Pittsburgh, Pa., assignor to VDP Corporation, Farmingdale, N.Y., a corporation of New York

Filed Mar. 6, 1967, Ser. No. 620,760

Int. Cl. H04m *11/00, 11/08*

U.S. Cl. 179—3 **6 Claims**

A portable computer terminal for communicating with a distant computer over conventional telephone channels via a standard telephone. This is accomplished in the terminal by the user requesting information by converting the question to be asked into teletypwriter code and transmitting this code via the telephone and telephone channel to the computer. The requested information is then transmitted from the computer in the code form and received by the terminal and demodulated to be visually displayed for the user.



3,505,475

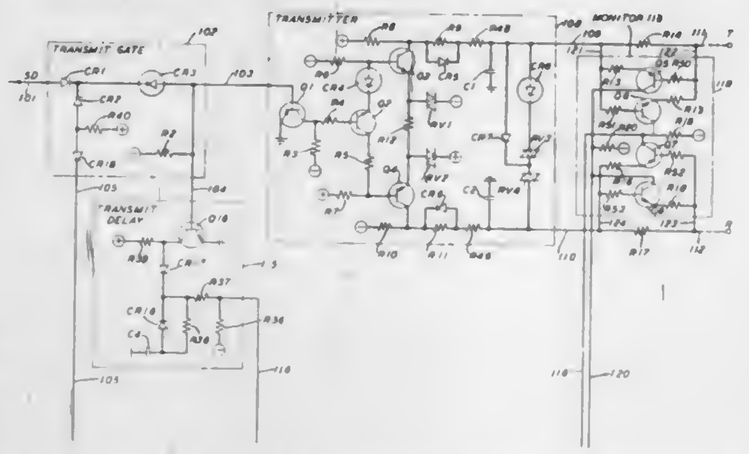
DATA SET FOR POLAR CURRENT LOOP SIGNALING

John T. Carbone, Astoria, and Otto F. Gerkensmeier and George Parker, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed July 20, 1966, Ser. No. 566,564

Int. Cl. H04m *11/06, 7/02*

U.S. Cl. 179—4 **9 Claims**



Interface conversion between station equipment and a two-wire line is provided by a half-duplex data set which converts DC data signals obtained from station terminals to polar loop current circulated around the two-wire line and converts incoming polar loop current to DC data signals. The loop current is detected by monitoring the magnitude and direction of current on each wire, summing the incoming current on one wire with the outgoing current on the other wire and inversely combining the currents thus summed, canceling out longitudinal earth currents. In addition to obtaining the DC data signal, the signal magnitude is also determined to indicate signal failure when the magnitude falls below a predetermined threshold.

3,505,476

AUTOMATIC TELEPHONE ALARM APPARATUS

Lawrence Randolph Kelly, Jr., and Clyde Edward Gurley, Washington, D.C., assignors to Pelass Systems, Inc., Washington, D.C., a corporation of the District of Columbia

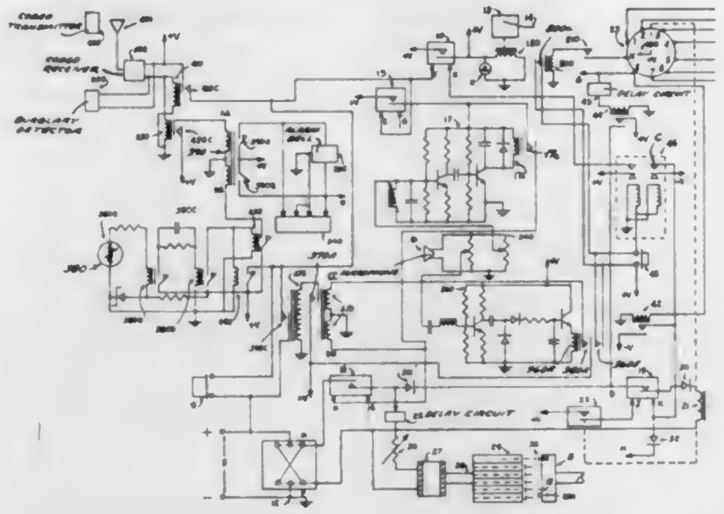
Filed Jan. 3, 1967, Ser. No. 606,734

Int. Cl. H04m *11/04*

U.S. Cl. 179—5 **26 Claims**

An apparatus, external to a telephone unit and line, for automatically detecting occurrence of fires and for

notifying proper authorities of occurrences of burglaries, robberies, and fires. The apparatus is capable of being activated by various types of detectors. Operations consist of lifting a telephone receiver beyond its switch-off position, selecting modes of operation (example: robbery/burglary and fire), detecting and/or sensing an operating or readying dial-tone signal, dialing or keying a preprogrammed telephone number such as that of the Police and/or Fire Department, proprietor of a business, etc., detecting or sensing a "busy" signal, automatically redialing a pre-programmed telephone number if the line is "busy," and playing back into the telephone a prerecorded message notifying action officials of "Real-Time" occurrences of crime and/or fire.



3,505,477

IMPEDANCE NETWORK FOR RESONANT TRANSFER MULTIPLEXING

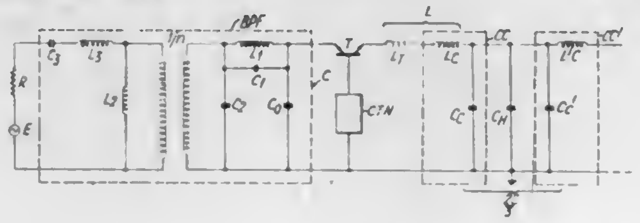
Alfred Leo Maria Fettweis, Mol, Joseph Antonius Broux, Antwerp, Charles Gerard Cornelius Cool, Comines, and Robert Pierre Emile Ferdinand Salade, Antwerp, Belgium, assignors to International Standard Electric Corporation

Filed Mar. 20, 1967, Ser. No. 624,530

Claims priority, application Netherlands, Mar. 21, 1966, 6603699

Int. Cl. H04j *3/08*

U.S. Cl. 179—15 **9 Claims**



Resonant transfer systems which incorporate the low inductance coupling transformer and the D.C. blocking capacitor into a bandpass filter to replace the low pass filter used to convert the pulse amplitude modulated energy into the voice frequency band.

3,505,478

CLOCK FREQUENCY CONVERTER FOR TIME DIVISION MULTIPLEXED PULSE COMMUNICATION SYSTEM

Hisashi Kaneko, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan

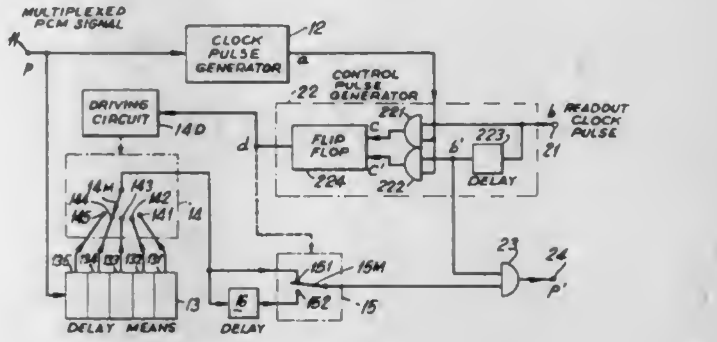
Filed Apr. 11, 1967, Ser. No. 635,292

Claims priority, application Japan, Apr. 13, 1966, 41/23,464

Int. Cl. H04j *3/06*

U.S. Cl. 179—15 **6 Claims**

A system for converting the clock frequencies between two time division communication systems having a delay means with a plurality of tappings serving as a buffer store for conversion of clock frequency of an input pulse signal. Switch means associated with the tappings for deriving an output pulse signal steps from one of the tappings to a next one every time the phase difference between the input clock pulse component and a desired output clock pulse reaches a predetermined value, so that the phase difference may be reduced. Another delay means providing delay time shorter than the input clock pulse repetition period and its associated switch are inserted in the output circuit of the switching means.



3,505,479

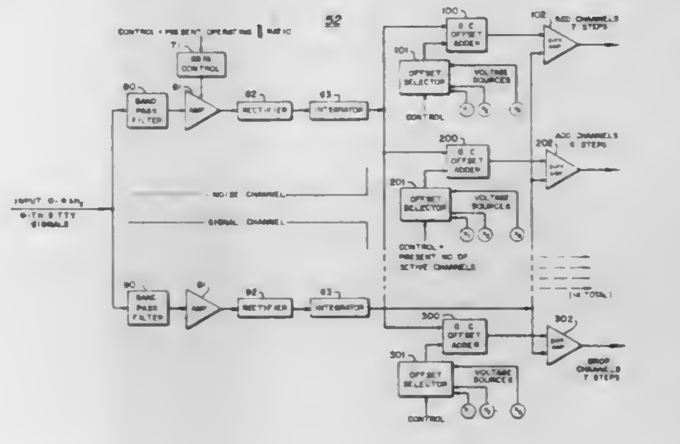
MULTIPLEX SYSTEM WITH NUMBER OF CHANNELS CONTROLLED ACCORDING TO SIGNAL-TO-NOISE RATIO

Gene D. Hodge, Rockville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Dec. 21, 1967, Ser. No. 692,348

Int. Cl. H04j *3/16*

U.S. Cl. 179—15 **3 Claims**



An adaptive control unit for a multiplexer which continuously monitors the channel signal-to-noise ratio and automatically adjusts the number of channels multiplexed to maintain a selected minimum quality signal.

3,505,480

INTERCONNECTOR FOR REGISTER-DIRECTOR SYSTEM

Egide Jacob Hendrik De Raedt, Hoboken-Antwerp, and Henri Albert Julia Verhille, Borgerhout-Antwerp, Belgium, assignors to International Standard Electric Corporation

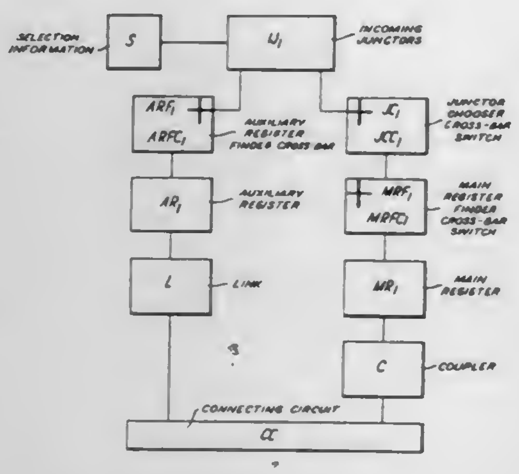
Filed Oct. 19, 1965, Ser. No. 497,755

Claims priority, application Netherlands, Dec. 21, 1964, 6414919

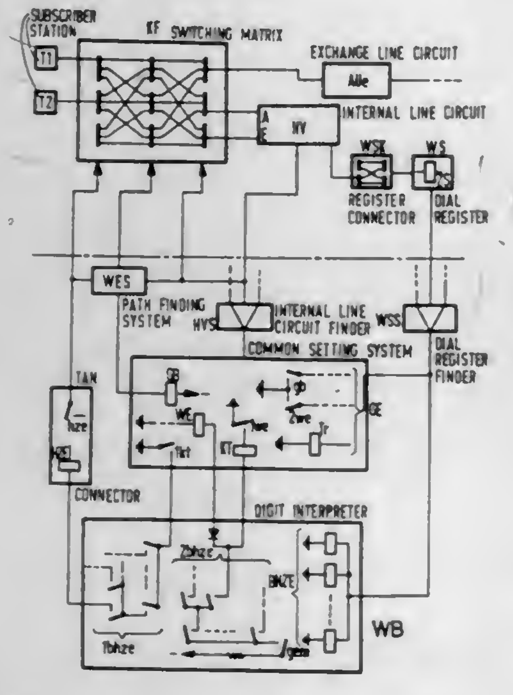
Int. Cl. H04m *7/12*

U.S. Cl. 179—18 **7 Claims**

A solution is presented for seizing an incoming register of an indirect system upon receiving a call originating from a direct system. When such a call arrives at an incoming junctor a connection is made to an auxiliary register via a quick crossbar switch and, at the same time, an incoming main register is seized. After the first, or at the most the second, digit has been received by the auxiliary register, the latter is released and this digit is transferred to the seized incoming register. Due to the fact that the auxiliary registers only have to receive one or two digits, they are very simple and the time during which they are seized is very short, so that their number is limited. On the other hand, the incoming registers are arranged in an ideal group so that their number is small.

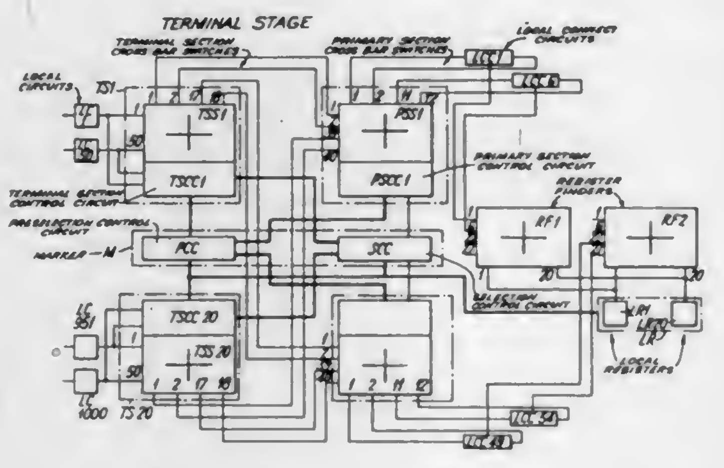


3,505,481
SUBSCRIBER-EFFECTED AUTOMATIC REDIALING FOR PATHS-BUSY CONDITIONS
Walter Strobelt, Munich, and André Friese, Gauting, near Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany
Filed Sept. 21, 1966, Ser. No. 580,955
Claims priority, application Germany, Sept. 30, 1965, S 99,816
Int. Cl. H04m *3/42*
U.S. Cl. 179—18 **4 Claims**



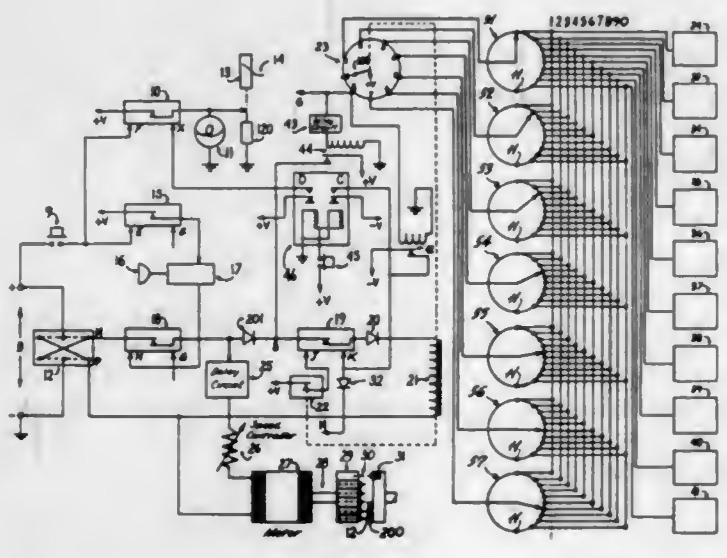
In a telephone exchange installation, a distinction is made between subscriber-busy conditions and path-busy conditions. In the former cases, a busy signal is transmitted to the calling station, while in the latter cases, the through connection attempt is repeated, since the path-busy condition is likely to clear within a relatively short time period. The calling subscriber operates a switch to effect the automatic redialing attempts.

3,505,482
AUTOMATIC TELECOMMUNICATION SWITCHING SYSTEM
Dikran Mourad Mouradian, Wilrijk-Antwerp, Belgium, and Bino Lorenzoni, Cinisello Bolsamo, Milano, Italy, assignors to International Standard Electric Corporation
Filed Oct. 7, 1966, Ser. No. 585,151
Claims priority, application Netherlands, Oct. 8, 1965, 6513112
Int. Cl. H04m *3/00;* **H04q** *3/48*
U.S. Cl. 179—18 **11 Claims**


TERMINAL STAGE
TERMINAL SECTION CROSS BAR SWITCHES
PRIMARY SECTION CROSS BAR SWITCHES
LOCAL CONNECT CIRCUITS
LOCAL CIRCUITS
TS1
TSS1
PSS1
TSCC1
PSCC1
PRIMARY SECTION CONTROL CIRCUIT
TERMINAL SECTION CONTROL CIRCUIT
REGISTER FINDERS
RF1
RF2
PRESELECTION CONTROL CIRCUIT
MARKER—M
PCC
SCC
SELECTION CONTROL CIRCUIT
TSCC 20
TSS 20
LOCAL REGISTERS
1000
TS 20

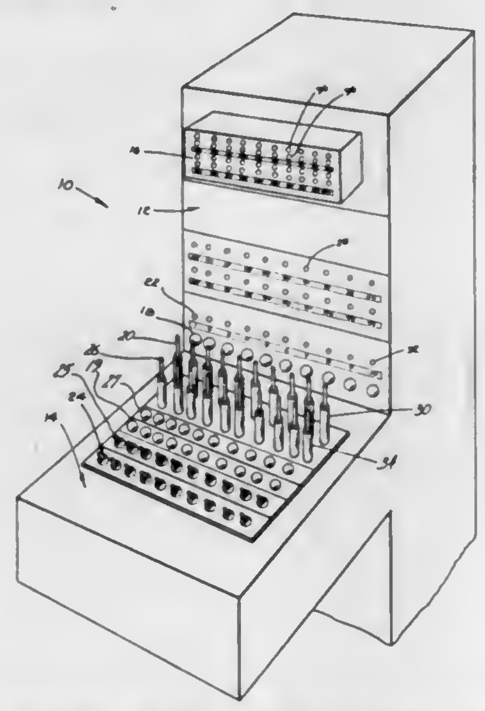
A telecommunication switching system comprising a plurality of switching stages. Each stage includes a number of crossbar switches and all of the plurality of stages are controlled by a common marker. The common marker is comprised of a preselection control circuit and a selection control circuit. The preselection control circuit and the selection control circuit are able to perform part of their operations simultaneously thus minimizing the marker utilization time. This minimization of time enables higher traffic to be serviced by the switching system, with a reduced quantity of equipment.

3,505,483
PROGRAMMABLE EXTERNAL DIAL OPERATING DEVICE
Lawrence Randolph Kelly, Jr., and Clyde Edward Gurley, Washington, D.C., assignors to Pelass Systems, Inc., Washington, D.C., a corporation of the District of Columbia
Filed Feb. 23, 1966, Ser. No. 529,542
Int. Cl. H04m *1/44*
U.S. Cl. 179—90 **17 Claims**



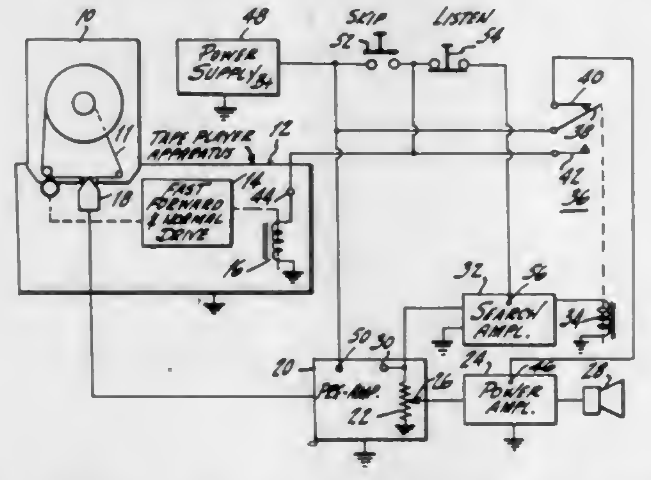
An automatic telephone dialling system which is responsive to the closure of a switch which automatically lifts the telephone instrument for operation, and upon the initiation of a dial tone makes possible the automatic dialling of a pre-set telephone number of any desired party consisting of seven or less digits, for example, the single digit setting identified with the dialling of "OPERATOR."

3,505,484
CALL HOLDING DEVICE FOR TELEPHONE OPERATOR'S SWITCHBOARD
Malvern R. Nettleton, 184 Stillwold Drive, Wethersfield, Conn. 06109
Filed Sept. 21, 1967, Ser. No. 669,571
Int. Cl. H04m *5/04*
U.S. Cl. 179—91 **2 Claims**



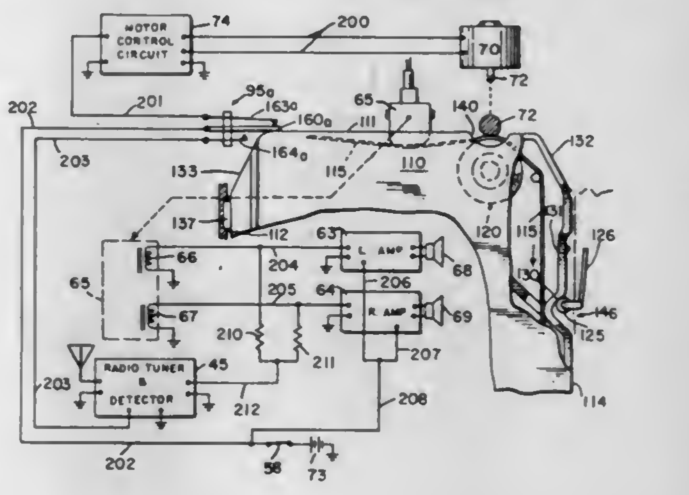
A rectangular enclosure is adapted for attachment to a conventional telephone operator's switchboard adjacent the upper edge of the vertical panel thereof. The enclosure has a plurality of indexed dummy extension sockets, in the example shown two such sockets are provided per extension number, to permit the operator to continuously identify an incoming call by inserting the appropriate extension plug in one of the dummy sockets until the extension line desired by the caller is no longer busy.

3,505,485
TAPE REELING SEARCH SYSTEM WITH TRANSISTOR SEARCH AMPLIFIER
Dallas R. Andrews, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,464
Int. Cl. G11b *5/78*
U.S. Cl. 179—100.2 **1 Claim**



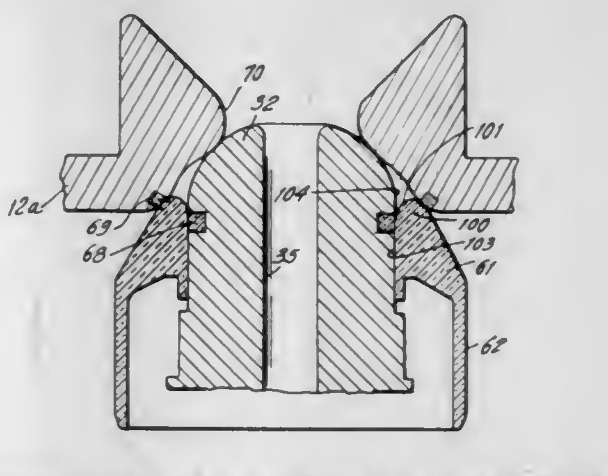
In a magnetic tape recorder including fast forward reeling, the fast forward operation after initiation is maintained in response to sound information transduced from the tape being reeled.

3,505,486
MAGNETIC TAPE CARTRIDGE PLAYER WITH RADIO HAVING A COMMON AMPLIFIER AND SWITCHLESS INDEPENDENT OPERATION THERETHROUGH
William P. Lear, Wichita, Kans., and Samuel H. Auld, Bloomfield Hills, Mich., assignors to Lear Jet Industries, Inc., Wichita, Kans., a corporation of Delaware
Original application Apr. 5, 1966, Ser. No. 540,289. Divided and this application Oct. 13, 1966, Ser. No. 586,420
Int. Cl. G11b *31/00, 23/18*
U.S. Cl. 179—100.11 **6 Claims**



A magnetic tape cartridge is transcribed in a player unit that contains a motor drive, a tape transport driven thereby, and a transducer. The player unit also contains a radio tuner-detector, and a common audio amplifier. The relatively low level signal output of the tape transducer is conductively connected to the amplifier, while the radio audio detector is coupled thereto through an impedance of higher magnitude than that of the transducer. Switching into the radio play or tape play modes is thereby effected without breaking the two audio circuits to the common output amplifier.

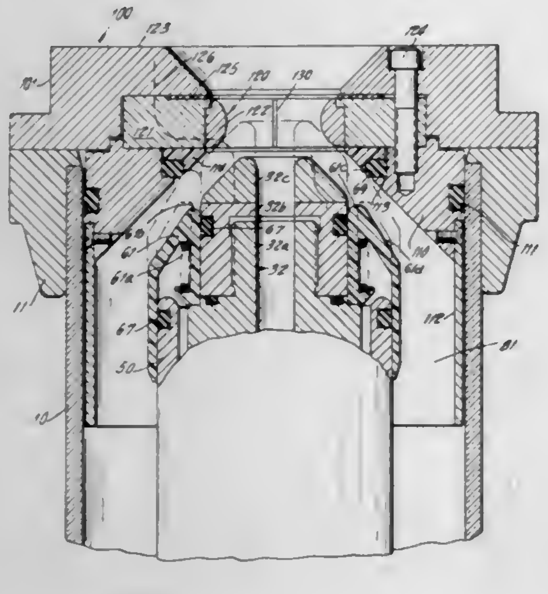
3,505,487
SHAPED NOSE SECTION ON MOVABLE RING VALVE
Daniel H. McKeough, Pasadena, Calif., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,600
Int. Cl. H01h *33/82*
U.S. Cl. 200—148 **2 Claims**



An annular blast valve is slidably mounted on the exterior surface of one end of a movable contact. The blast valve engages a seal contained in the interior diameter of a nozzle-shaped stationary contact and slides over a seal ring in the movable contact. The upper end of the blast valve is tapered outwardly so that it does not contact any portion of the movable contact which is above the annular seal ring when the blast valve engages the seal in the stationary contact and the movable contact is closed.

3,505,488
STATIONARY CONTACT STRUCTURE FORCING BLOW OUT SHAPED CURRENT PATH

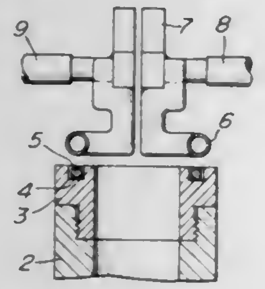
Lorne D. McConnell, Sierra Madre, Calif., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 27, 1967, Ser. No. 612,216
Int. Cl. H01h *33/86*
U.S. Cl. 200—148 **2 Claims**



A nozzle-shaped stationary contact having an insulati spacer ring extending to the interior opening thereof force current flow through the stationary contact to have a generally sharp bend therein so that the current path from the stationary contact to the movable contact will cause a "blow out" force on the arc. Radial slots are formed in the stationary contact to prevent circumferential current flow therein.

3,505,489
METHOD OF DEPOSITING CORROSION-RESISTING AND WEAR-RESISTING ALLOY ON CONTACT PARTS BETWEEN VALVE MEMBERS AND VALVE SEATS

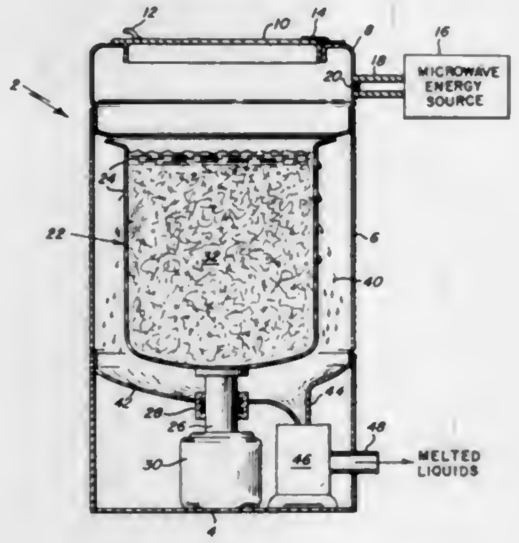
Yotaro Tsuge, Fujisawa-shi, Katsuki Shioya, Musashino-shi, and Tsukasa Tani, Yokohama, Japan, assignors to Hitachi Metals, Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 6, 1966, Ser. No. 599,616
Claims priority, application Japan, Dec. 10, 1965, 40/75,556
Int. Cl. B23k *13/02*
U.S. Cl. 219—9.5 **10 Claims**



The present disclosure is directed to a process and apparatus for depositing a corrosion-resisting and wear-resisting alloy on a fluid-tight seating surface of a valve element comprising the steps of providing an annular groove on the fluid-tight seating surface of the valve element, inserting a ring of corrosion-resisting and wear-resisting alloy in said annular groove, disposing said valve element beneath high frequency induction heating means so that said ring can be brought to a position facing the high frequency induction heating coil of said high frequency induction heating means, supplying a high frequency current to said high frequency induction heating coil in an atmosphere of inert gas to cause fusion of said ring in said atmosphere, and allowing said valve element to gradually cool.

3,505,490
APPARATUS FOR THAWING OF FROZEN MATERIALS

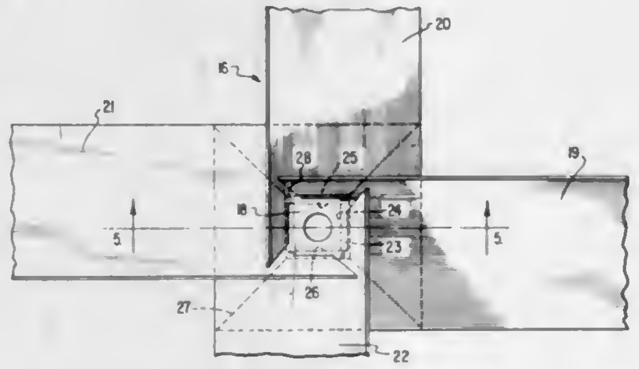
Elmer J. Gorn, Newton, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Oct. 7, 1966, Ser. No. 585,160
Int. Cl. H05b *9/00*
U.S. Cl. 219—10.55 **2 Claims**



An apparatus for thawing frozen material comprising a perforated container made of a low dielectric loss tangent material housed within a metallic enclosure. Means are provided to supply microwave energy within the enclosure while the container is rotated at high speeds.

3,505,491
STIRRER FOR MICROWAVE OVENS

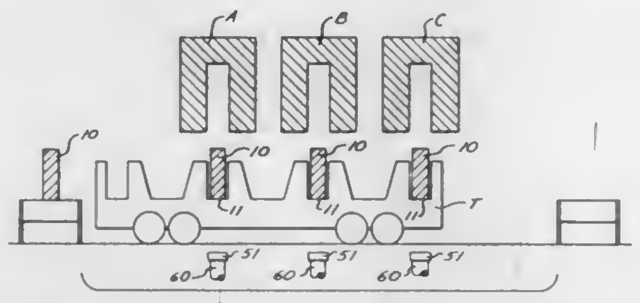
Royden R. Freeland, Morgan Road at Edmond Road, Oklahoma City, Okla. 73110
Filed Jan. 24, 1968, Ser. No. 700,059
Int. Cl. H05b *9/06*
U.S. Cl. 219—10.55 **6 Claims**



A stirrer for microwave ovens including a hub with a plurality of blades radiating therefrom. The blades are positioned on the hub with an air gap provided between the blades adjacent the hub. The air gap provides a discharge path when reflective voltages become too high.

3,505,492
METHOD AND APPARATUS FOR INDUCTION HEATING OF SLABS

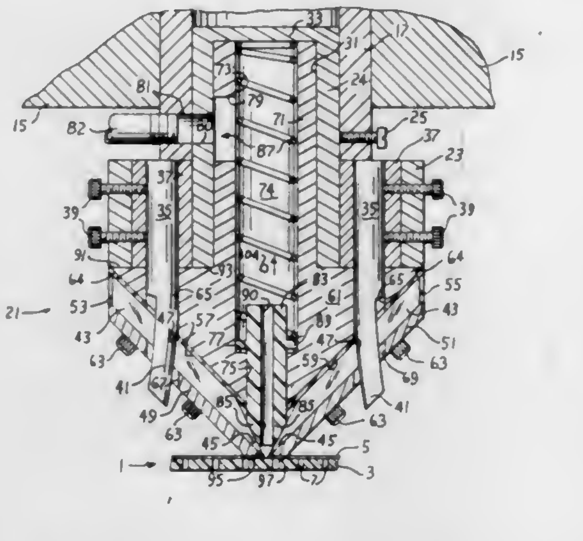
Nicholas V. Ross, Youngstown, Ohio, assignor to Ajax Magnethermic Corporation, Warren, Ohio, a corporation of Ohio
Original application Sept. 25, 1967, Ser. No. 670,027. Divided and this application June 20, 1968, Ser. No. 738,636
Int. Cl. H05b *5/00, 5/02*
U.S. Cl. 219—10.69 **9 Claims**



A method and apparatus for electrically heating a slab sequentially in a plurality of in-line heaters to a predetermined temperature value, the power applied to the slab which is statically heated in each sequential heater being relatively lower than that supplied in the previous heater, each inductor coil being wrapped around the longest dimension of the slab disposed in each heater and during energization of the heater coil the magnetic field is substantially disposed at right angles to the longitudinal axis of the slab.

3,505,493
APPARATUS FOR SEVERING CIRCUIT PATTERNS ON AND FORMING CONDUCTIVE CONNECTIONS THROUGH A CIRCUIT BOARD

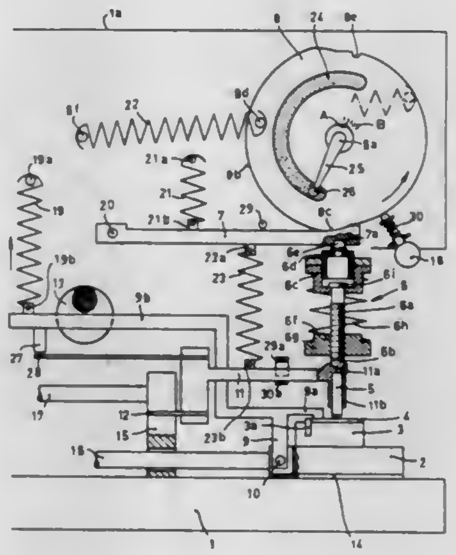
John D. Helms and Herbert L. Brown, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 621,552
Int. Cl. B23k *9/00, 11/00;* **H05k** *3/00*
U.S. Cl. 219—78 **9 Claims**



Portions of a circuit pattern on one face of a printed circuit board are removed by a lancing tool to segment the pattern. Another coordinated tool pulls an end part of a conductive ribbon from a supply, drives one end of this part through a hole in the circuit board, then disconnects said part from the ribbon supply, and thereafter welds the other end of the disconnected part to a segment of the circuit pattern. This process is useful for forming through connections between layers of circuitry of a multilayer circuit board.

3,505,494
APPARATUS FOR WELDING SMALL ELEMENTS

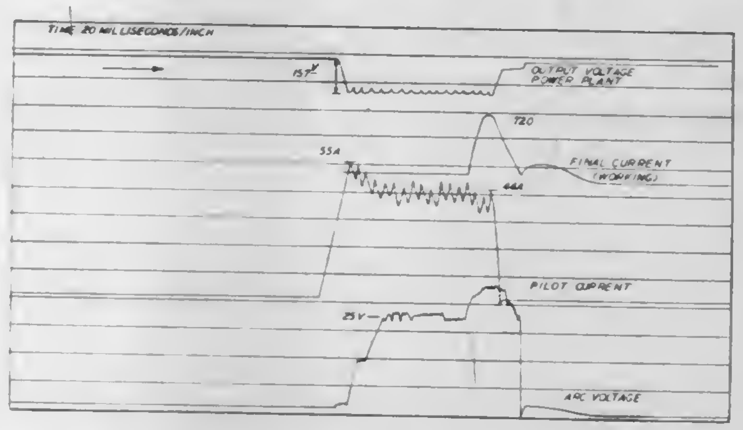
Charles Reutschi, Rue Jaquet-Droz 47, La Chaux-de-Fonds 2300, Switzerland
Filed Jan. 17, 1967, Ser. No. 609,922
Claims priority, application Germany, May 10, 1966, R 43,236
Int. Cl. B23k *9/20, 9/22*
U.S. Cl. 219—98 **6 Claims**



A welding apparatus is described for time sequence actuation of current application to small workpieces. A current source of predetermined energy content is utilized with impact actuation for drawing or extinguishing a welding arc of short duration.

3,505,495
STUD WELDING

James W. Mitchell, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 20, 1965, Ser. No. 481,356
Int. Cl. B23k *9/00*
U.S. Cl. 219—99 **12 Claims**

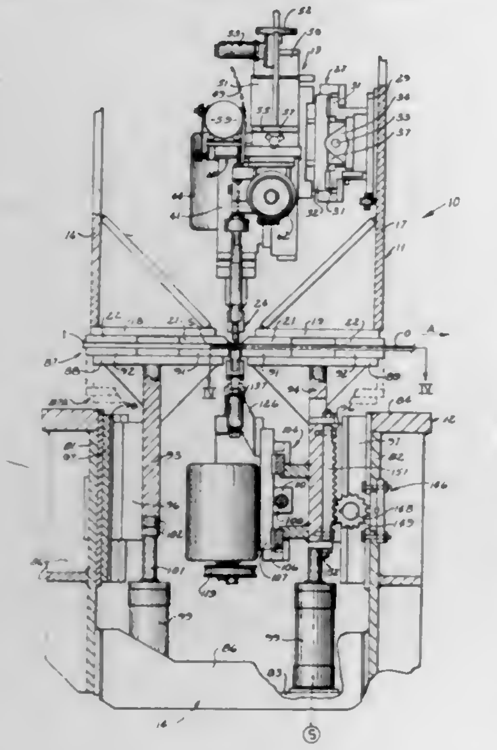


Contaminants on a thin metal workpiece are dissipated by the use of a pilot are of increased energy prior to initiation of a main welding arc for stud welding. The pilot arc is energized by a power source separate from the main welding arc power source.

3,505,496
SCARFING MEANS FOR ARC WELDER

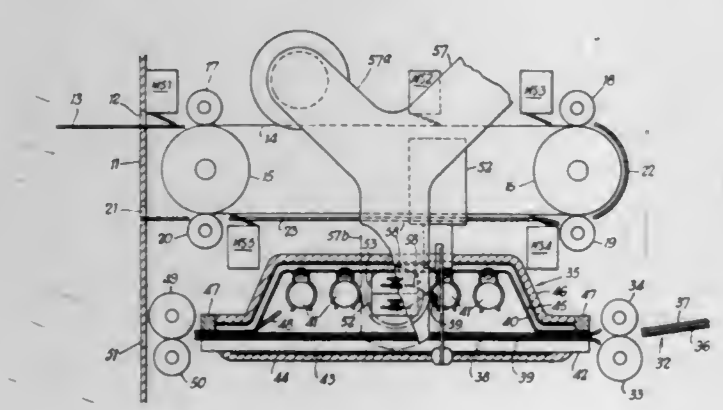
John D. Morley, Bay City, Mich., assignor, by mesne assignments, to Newcor Inc., Bay City, Mich., a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 600,993
Int. Cl. B23k *9/12*
U.S. Cl. 219—125 **5 Claims**

A welding machine having an intermediate body provided between a pair of supporting tables and in opposed relation to the welding torch for contacting the workpieces in the weld area sufficiently to form a heat sink. The intermediate body is mounted on a carriage movable in a direction parallel with the joint being welded. Metal removing means are mounted on the same carriage for traveling along the weld immediately behind the heat sink for removing excess weld metal from the weld seam to provide a planar surface across the seam.



3,505,497
REPROGRAPHIC APPARATUS HEATER UNIT CONTROL

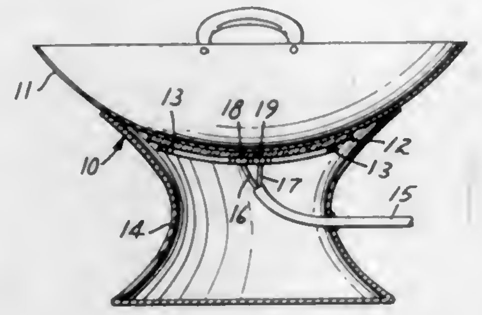
Louis Frederick William Lawes, Walton-on-Thames, Nicholas Gilbert Shreeve, Weybridge, and Nandor Mihalik, Walton-on-Thames, England, assignors to Arlside Limited, Maidenhead, Berkshire, England, a British company
Filed Apr. 27, 1967, Ser. No. 634,334
Claims priority, application Great Britain, Apr. 28, 1966, 18,684/66
Int. Cl. H05b *1/02*
U.S. Cl. 219—216 **3 Claims**



The invention provides reprographic apparatus including a heater unit, which includes an electrically energisable heater element, and means for advancing a sheet of material, bearing a heat-fixable image of a copied original, to and through the heater unit to fix said image, wherein the heater unit is provided with a temperature-sensitive switch arranged to sense the temperature within the heater unit and to provide regulation of said temperature by regulating the supply of electrical energy to said heater element.

3,505,498
COOKING UTENSIL WITH INTEGRAL DIELECTRIC LAYER AND ELECTRICAL HEATING ELEMENT

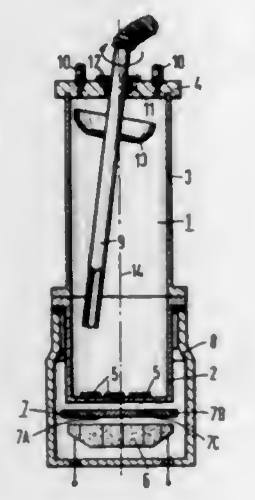
Thomas S. Shevlin, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 23, 1968, Ser. No. 746,987
Int. Cl. F27d *11/00;* **H05b** *3/16*
U.S. Cl. 219—385 **3 Claims**



Thin metallic cooking utensils having a low heat capacity and heated by an integral electrical heating element. The element is insulated from the metallic utensil by a vitreous porcelain dielectric layer of lead borosilicate and minute quartz crystals, the crystals added to increase the viscosity of the lead borosilicate when the latter is heated for conversion to fused glass.

3,505,499
DEVICE FOR THERMAL PROCESSING OF DISC SHAPED OBJECTS FOR SEMICONDUCTORS

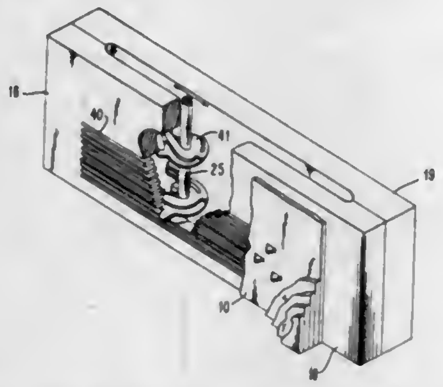
Albert Walther, Garentberg, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Apr. 4, 1968, Ser. No. 718,881
Int. Cl. F27d *11/00*
U.S. Cl. 219—439 **14 Claims**



An apparatus for thermal processing of semiconductor discs, whereby the discs being processed are arranged on the bottom of a treatment chamber and are heated to processing temperature by means of a heating device located beneath the bottom of the chamber, extending areally with its upper surface parallel to the discs being treated. The apparatus is characterized by a temperature adjusting or balancing plate, arranged between the heater and the bottom of the processing vessel and extending at least with its middle portion parallel to the bottom of the processing vessel and so constructed that the axial heat flow which traverses the center portion of the balancing device encounters a stronger impediment in the center of said parallel portion than at its periphery, while the radial heat flow proceeding from the interior to the outside encounters an impedance in at least some places.

3,505,500
DEPOSITED ACTUATOR PERFORATED MEDIA READER

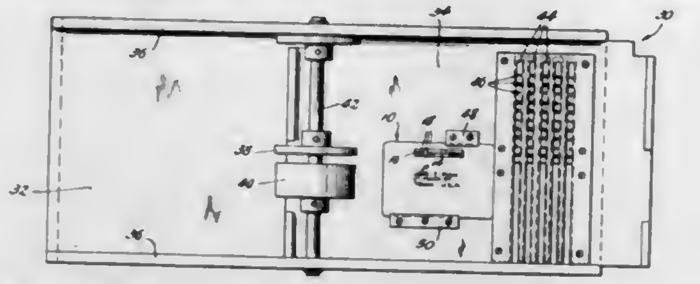
William D. Thorne, Raleigh, N.C., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 10, 1968, Ser. No. 696,865
Int. Cl. G06k *7/06;* **H01h** *43/08*
U.S. Cl. 235—61.11 **7 Claims**



A perforated media reader in which switch actuating elements are translated across the static media and deposited within the perforations in an actuating position for reading, and collected and returned to a home position when the media reading is successfully completed.

3,505,501
FORM SET AND METHOD OF MAKING SAME

William F. Ruddock, Springdale, and Ernest A. Di Pasquantonio, South Norwalk, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 521,760, Dec. 16, 1965, which is a division of application Ser. No. 389,955, Aug. 17, 1964, now Patent No. 3,390,060. This application Jan. 31, 1967, Ser. No. 613,034
Int. Cl. G06k *19/00*
U.S. Cl. 235—61.12 **4 Claims**

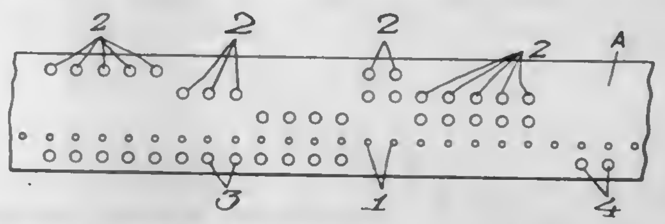


A method of making a form set for use in data processing systems. A form set is provided with a top translucent paper sheet followed by a double-sided transfer sheet, a paper sheet, and a one-sided transfer sheet having a magnetizable material on its upper face. The form set is placed over a credit card having raised type faces in normal-reading disposition and a printing platen is biased against the form set to effect a printing step.

3,505,502
PROCESS FOR CONVERTING TELEVISION VIEWING RECORDING TAPE ON MINUTE BASIS TO ELECTRONIC COMPUTER INPUT TAPE

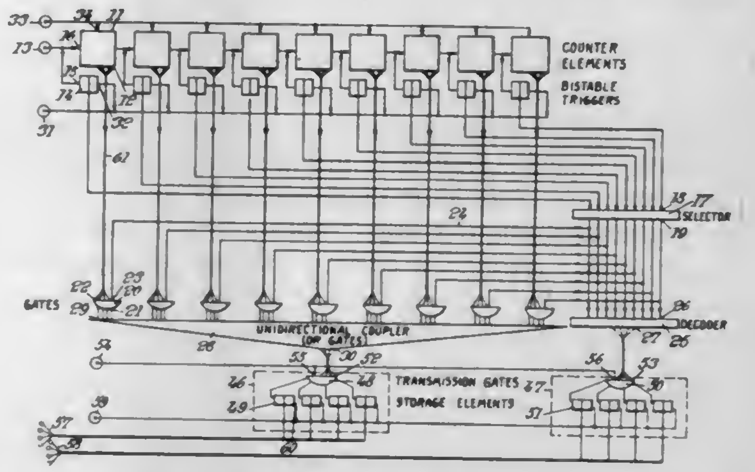
Akito Yanai, Tokyo, Japan, assignor to Kabushiki Kaisha Dentsu, Tokyo, Japan, a corporation of Japan
Filed Apr. 7, 1966, Ser. No. 541,018
Claims priority, application Japan, May 28, 1965, 40/31,117
Int. Cl. G06k *1/00*
U.S. Cl. 235—61.1 **5 Claims**

Method of converting data indicating at one-minute intervals audience use of a television set at each such interval for a full week, into data on an input tape for an electronic computer, according to which in a data converter the one-minute data on the recording tape are converted into punched data on the input tape indicating only the changes in television viewing, including channels turned to and turn-off of the set, and the times of day when these changes occurred, with the data for one full day on many recorder tapes being converted into punched data on a single input tape, and successive days' data for a full week on many recorder tapes being converted into daily data on seven input tapes one for each day of the week.



3,505,503
SCALER READING DEVICE

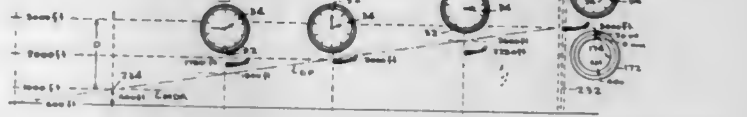
Pierre Quivy, Grenoble, France, assignor to Commissariat a l'Energie Atomique, Paris, France, an organization of France
Filed Aug. 29, 1966, Ser. No. 576,510
Claims priority, application France, Sept. 3, 1965, 30,342
Int. Cl. H03k *21/34, 21/10*
U.S. Cl. 235—92 **8 Claims**



A scaler having decades connected conventionally in cascade. To achieve economies and efficiencies in reading the output, individual trigger circuits are connected to respond to inputs to the decades. A selector circuit responds to the trigger circuits to indicate the high order decade which has been increased in value. Gates controlled by the selector circuit pass signals defining the content of that high order to a unidirectional coupler. A decoder connected to the selector generates signals defining the position of that high order.

3,505,504
ALTITUDE PACER SYSTEM

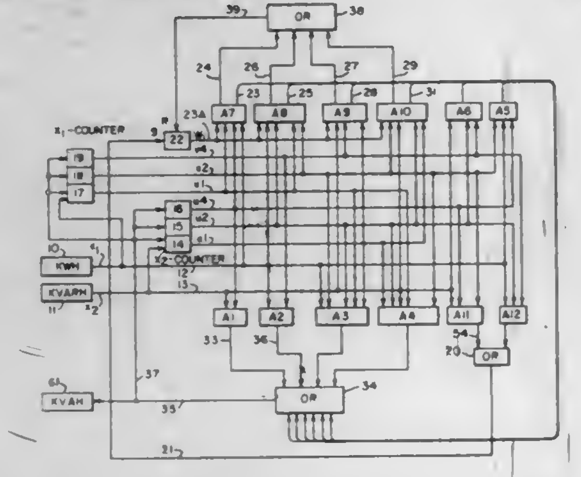
Frank J. Walker, 9800 NE. 5th Ave. Road, Miami Shores, Fla. 33153
Filed Dec. 21, 1967, Ser. No. 692,451
Int. Cl. G01c *5/06*
U.S. Cl. 235—150.22 **15 Claims**



A pacer system for association with an aircraft altimeter including driven pacer elements spaced adjacent the altimeter dial and driven at a desired speed by a selectively variable speed drive controlled by a manually settable speed control, and means into which the number of feet altitude change desired and the desired time required for the altitude change are manually entered to provide an output to actuate the drive at a required speed so as to provide the proper output speed for the pacer elements in accordance with the desired altitude change input information over the desired period of time.

3,505,505
VOLT-AMPERE DEVICE

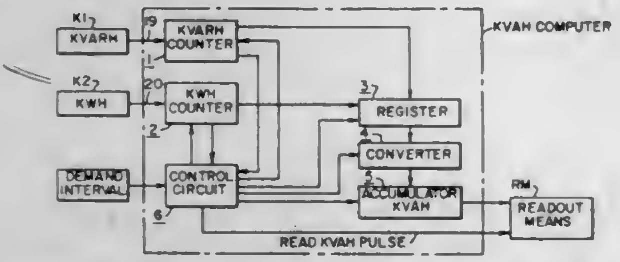
Richard T. Byerly and John Kostalos, Jr., Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 501,238
Int. Cl. G06f *15/20;* **G01r** *7/00*
U.S. Cl. 235—151.31 **10 Claims**



First pulses x_1 representing watthours and second pulses x_2 representing varhours are supplied as inputs to logic circuitry. The logic circuitry is designed to respond to any combination of input pulses which may be combined by the expression $\sqrt{x_1{}^2+x_2{}^2}$ to equal substantially a predetermined value for the purpose of delivering a third pulse representing volt-ampere hours. The third pulses are counted for a period of time.

3,505,506
KVAH COMPUTER FOR OBTAINING THE SQUARE ROOT OF THE SUM OF TWO QUANTITIES

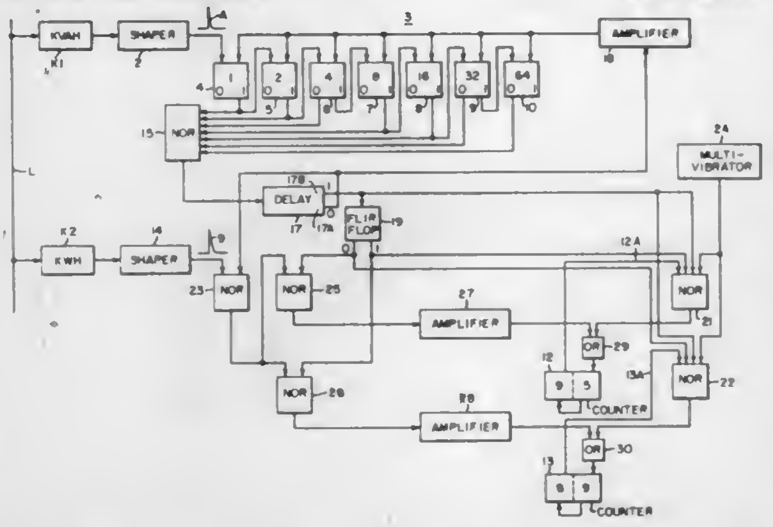
John Kostalos, Jr., Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1965, Ser. No. 502,219
Int. Cl. G06f *15/20, 7/38;* **G01r** *7/00*
U.S. Cl. 235—151.31 **18 Claims**



In order to measure voltampere hours, pulses W representing watthours, and pulses R representing varhours are generated and supplied to separate counters. Each time the count in one of the counters reaches a predetermined value (e.g. $W=8$), the contents N of the other counter is transferred to a register and both counters are reset. An amount 8 is added to an accumulator, and an amount $\sqrt{8^2+N^2}-8$ is added to the lower order bits of the accumulator as determined by a converter. The register is then reset preparatory to another measuring cycle during a demand interval. Thus if $N=3$, $\sqrt{8^2+N^2}=8.544$. The value 8 is added directly and the remainder .544 is obtained by adding the fractions $\frac{1}{2}+\frac{1}{32}+\frac{1}{128}+\frac{1}{256}$ through the converter.

3,505,507
POWER-FACTOR MEASURING DEVICE

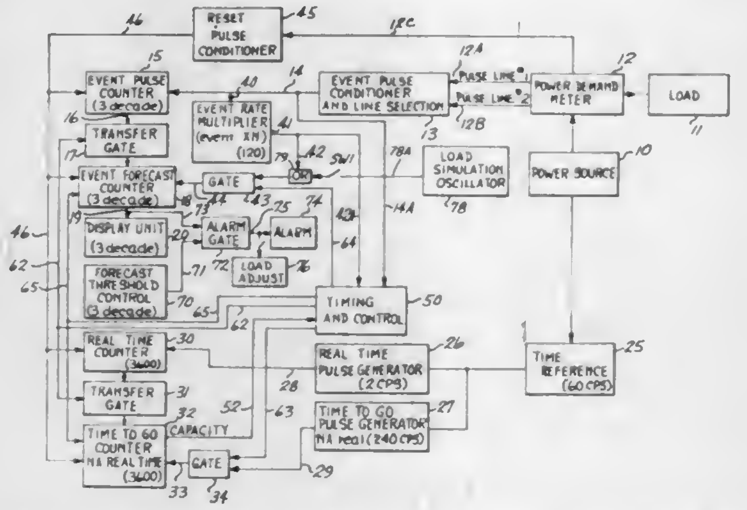
David F. Wright, Lake Park, Fla., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 17, 1965, Ser. No. 514,489
Int. Cl. G06f *15/34*
U.S. Cl. 235—151.31 **8 Claims**



Pulses representng watt-hours are supplied alternately to first and second counters. Pulses representing volt-ampere-hours are supplied to a counting device. At the end of each cycle containing 100 volt-ampere-hour pulses, the non-counting counter is reset and placed in counting conditions, the count of the counting counter is retained and the counting device is reset. The retained count represents the power factor for the sast complete cycle.

3,505,508
POWER DEMAND MONITOR AND LIMITER

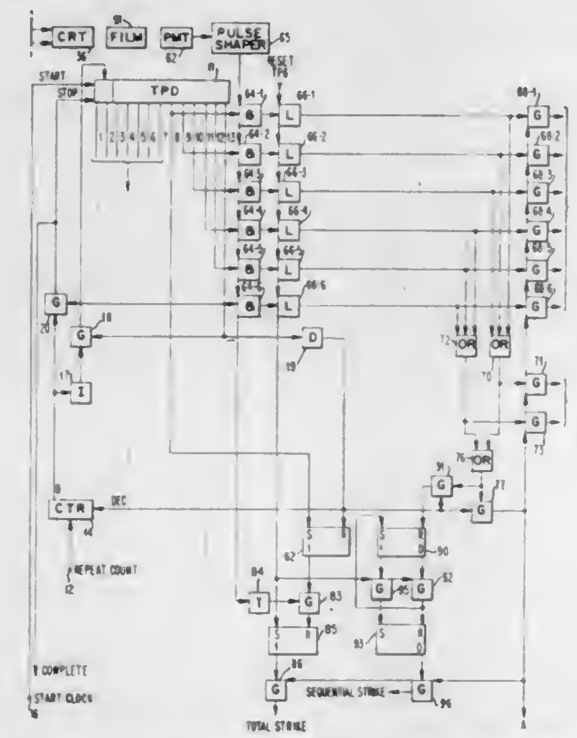
Warren L. Leyde, Seattle, Wash., assignor to Pacific Technology, Inc., Seattle, Wash., a corporation of Washington
Filed Mar. 6, 1967, Ser. No. 620,690
Int. Cl. G01r *21/00;* **G06f** *7/38, 15/56*
U.S. Cl. 235—151.31 **17 Claims**



A system is disclosed for counting and displaying the number of power units that have been used in a given time period and in addition forecasts the total usage at the end of the specified time period based on the current power units already consumed, the time to go until the end of the specified time period, and the rate at which the energy is then being used. The forecasting feature provides an operator with accurate advance warning of a power peak and also gives an immediate indication of the effect of corrective action. A warning is provided if the power forecast indicates that the total consumption at the end of the specified period will exceed a predetermined threshold value. Adjustment of the load is readily accomplished automatically to adjust the power consumption and avoid the predicted overusage. Simplified digital circuitry is utilized in the system and thus high precision analogue devices are eliminated. The system includes apparatus for computing and displaying the rate of energy consumption at any time selected by the operator.

3,505,509
GRAPHIC SCANNING SYSTEM

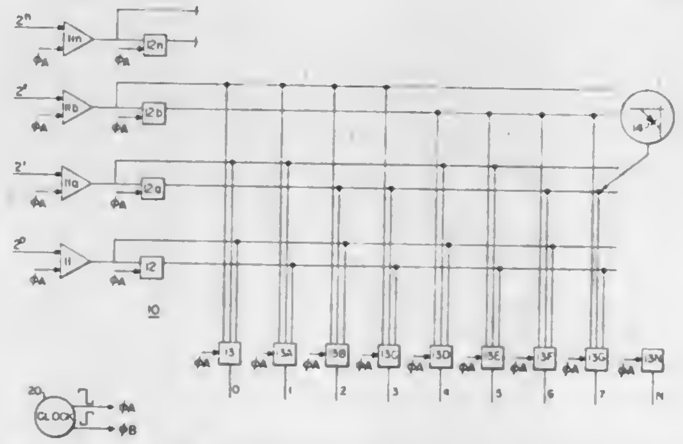
William H. Sass, Ulster Park, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 18, 1965, Ser. No. 497,153
Int. Cl. G06f *5/00*
U.S. Cl. 235—154 **7 Claims**



A graphic scanning system causes the spot of a flying spot scanner to trace a line from an attained position, in increments, in response to a single order specifying the length and direction of a single increment and the number of increments to be executed. A photodetector for examining an image scanned by the spot gates coordinate information defining an increment when the gamma of the image lies on a preselected side of a threshold value.

3,505,510
COUNTER, DELAY GENERATOR AND WORD GENERATOR

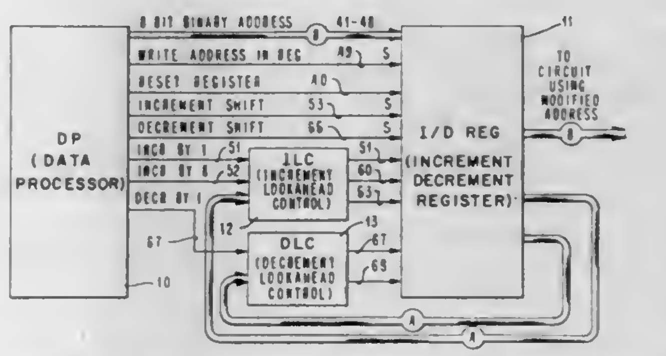
Ellis D. Harris, 2166 Gardi St.,
Bradbury, Calif. 91010
Filed May 4, 1965, Ser. No. 453,230
Int. Cl. H04l *3/00*
U.S. Cl. 235—155 **7 Claims**



A clock-controlled electric matrix circuit which changes the radix of a signal and which, in other embodiments and in combination with other circuitry, functions as a coding device, counter, delay generator or word generator.

3,505,511
INCREMENT-DECREMENT REGISTER FOR MODIFYING A BINARY NUMBER

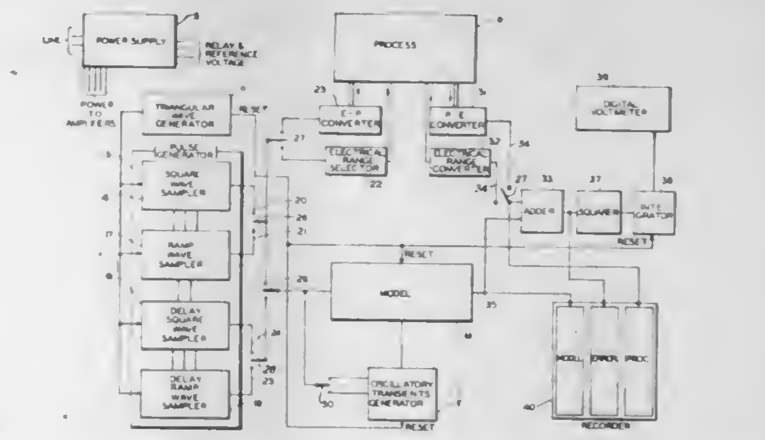
Frank J. Campano, Wappingers Falls, and William J. Spencer, La Grangeville, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 28, 1966, Ser. No. 582,693
Int. Cl. G06f *7/385*
U.S. Cl. 235—175 **11 Claims**


8 BIT BINARY ADDRESS
41-48
WRITE ADDRESS IN REG
RESET REGISTER
INCREMENT SHIFT
DECREMENT SHIFT
INCR BY 1
INCR BY 8
DECR BY 1
DP (DATA PROCESSOR)
ILC (INCREMENT LOOKAHEAD CONTROL)
DLC (DECREMENT LOOKAHEAD CONTROL)
I/D REG (INCREMENT DECREMENT REGISTER)
TO CIRCUIT USING MODIFIED ADDRESS

A digital data processing system has an increment-decrement register for modifying binary numbers by incrementing or decrementing the numbers by predetermined amounts. The register has a series of binary triggers arranged in groups for the purpose of carry handling whereby under carry conditions, a group or lookahead carry changes the state of the trigger of the lowest order of each group and the carry ripples through the remaining higher order triggers of the group to account for either an additive type of carry or a subtractive carry or borrow. Increment and decrement look ahead controls develop the group carry. Each binary trigger includes a flip-flop having set and reset input lines connected to a series of AND gates. Each gate includes at least one resistive input and a capacitive input connected through a diode to the associated input line of the flip-flop. By applying a negative voltage level to each resistive input and a negative going transition signal to the capacitive input, a negative spike triggering pulse is produced which might switch the flip-flop from one state to the other depending upon which state the flip-flop is in at the time the pulse is received. Each flip-flop also includes a DC reset input connected in common to like inputs of all other flip-flops whereby the register may be reset.

3,505,512
RAPID PROCESS SIMULATOR

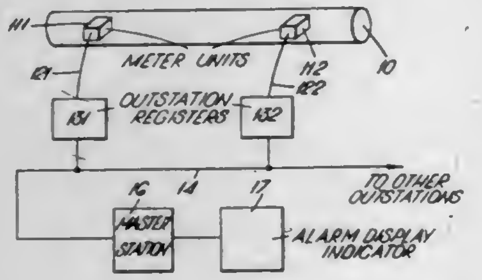
Louis H. Fricke, Jr., St. Louis, and Robert A. Walsh, Richmond Heights, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,565
Int. Cl. G06f *15/46;* **G06g** *7/48, 7/16*
U.S. Cl. 235—184 **28 Claims**



A rapid process simulator for determining both static and the dynamic characteristics which are unknown in a relatively stable process. The simulator includes a pulse generator for producing a perturbating pulse which is applied to the process. The perturbating pulse produces an output signal which can be expressed in the form of a polynomial. The process is compared in the simulator wth a model of orthogonal functions which are capable of being normalized to an orthonormal condition. The model is formulated with the idea of choosing a pulse input in such a way as to facilitate the construction of the system. An output signal is also produced in the model which is in turn compared with the output signal from the process in order to achieve an error signal. This signal is squared in the simulator and integrated to determine the characteristics of the system. The simulator includes a transport delay device for delaying the perturbating pulse to the model with respect to the process, so that the output of the process and the model will begin in coincident times. In addition, the simulator is provided with a generator to produce oscillatory transients on a model of the signal to match transient on the process signal.

3,505,513
PIPELINE LEAK DETECTION

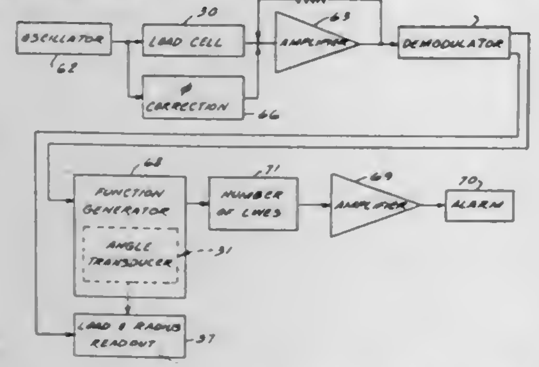
Michael Lawrence Fowler, Hertford, and William Vallance and Martin Myer Newman, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 31, 1968, Ser. No. 733,346
Claims priority, application Great Britain, June 23, 1967, 29,114/67
Int. Cl. G06f *15/20, 15/56;* **G06g** *7/50*
U.S. Cl. 235—151.34 **15 Claims**



Leakage in pipelines is detected by integrating measurements of flow at input and output ends and periodically comparing these at a data processing point which sets off an alarm when a predetermined discrepancy has occurred more than a given number of times. The flow measuring devices produce electrical pulses at a rate proportional to the rate of flow.

3,505,514
LOAD WARNING DEVICE

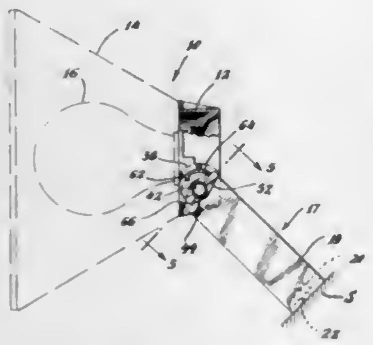
George H. Fathauer, Decatur, Ill., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed Nov. 13, 1967, Ser. No. 682,387
Int. Cl. G06g *7/22;* **G08b** *21/00*
U.S. Cl. 235—189 **2 Claims**



A load warning device for a crane having a load cell for sensing the weight of the load being lifted by the crane and an angle transducer mounted on the boom of the crane. A function generator is responsive to the outputs of the load cell and the angle transducer and computes the product of such outputs by utilizing a multipoint tapped potentiometer positioned by a pendulum in the angle transducer and set by operational amplifiers. An indicator converts the angle of the boom to the radius traversed by the boom.

3,505,515
FLOODLIGHT AIMING AND RELOCATING MECHANISM

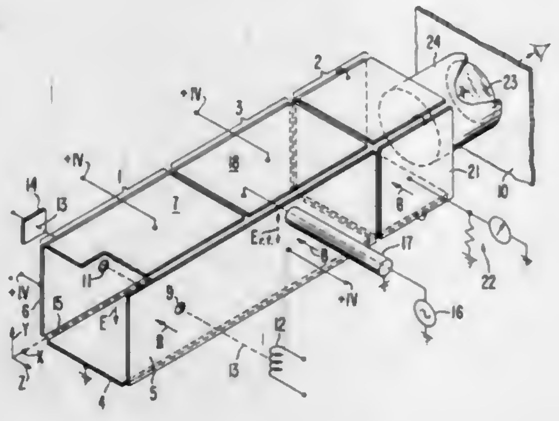
Tarek B. Adra, La Canada, Calif., assignor, by mesne assignments, to Harvey Hubbell, Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed Apr. 27, 1967, Ser. No. 634,192
Int. Cl. F21p *5/00*
U.S. Cl. 240—3 **6 Claims**



A floodlight aiming and relocating mechanism with a U-shaped support bracket holding the body housing of the floodlight. The body housing has oppositely disposed bosses mounted in pivot openings in the bracket legs. A bolt on one boss locks the housing in its aimed position. The opposite leg of the bracket has an indicator which cooperates with indicia on the housing for aiming the floodlight. The same leg has a relieved arcuate portion. A stop member is secured to the body housing and extends into the relieved portion of the leg for returning the floodlight to its aimed position after it has been released.

3,505,516
ION CYCLOTRON RESONANCE SPECTROMETER EMPLOYING AN OPTICALLY TRANSPARENT ION COLLECTING ELECTRODE

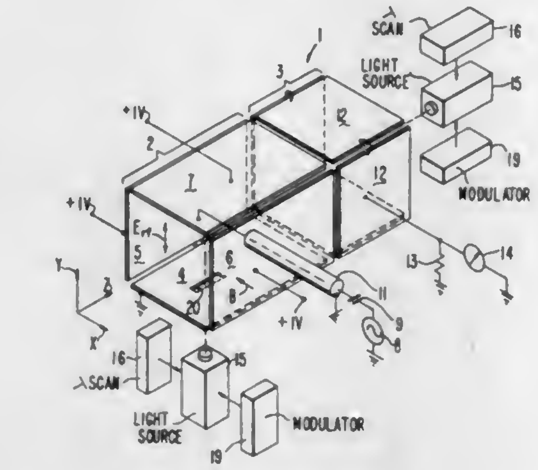
David E. Gielow, Los Altos, and Peter M. Llewellyn, Menlo Park, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 4, 1967, Ser. No. 658,367
Int. Cl. H01j *39/34*
U.S. Cl. 250—41.9 **8 Claims**



An ion cyclotron resonance MASS spectrometer which is provided with a transparent ion collecting electrode such that optical radiation may be passed through the ion collector to or from the ion analyzing region. The ion cyclotron resonance MASS spectrometer includes a vacuum envelope containing an ion source wherein gases to be analyzed are ionized by an electron beam. The ions generated in the source are beamed through a separate analyzing section to an ion collector electrode. The analyzing section comprises an open ended hollow rectangular electrode structure with the ions beamed axially thereof. A D.C. magnetic field is applied to the analyzing region perpendicularly to an applied radio frequency electric field. At the cyclotron resonance of the ions, the ions of the beam absorb energy from the applied R.F. field causing the resonant ions to follow an expanding spiral trajectory and to be collected on the electrodes forming the analyzing section. Non-resonant ions pass through the analyzer to a separate ion collector electrode structure. The ion collector structure comprises a hollow rectangular open ended structure coaxially aligned with the ion beam path. A gas tight window is provided in the vacuum envelope in alignment with the open ended ion collector and ion beam path to permit observation of any optical radiation emitted by the ions in the analyzing region and to permit application of optical radiation to the gas in the analyzer section. In a preferred embodiment, a light shield surrounds the optical path between the window and the ion collector to shield out stray light originating in the ion source region.

3,505,517
ION CYCLOTRON RESONANCE MASS SPECTROMETER WITH MEANS FOR IRRADIATING THE SAMPLE WITH OPTICAL RADIATION

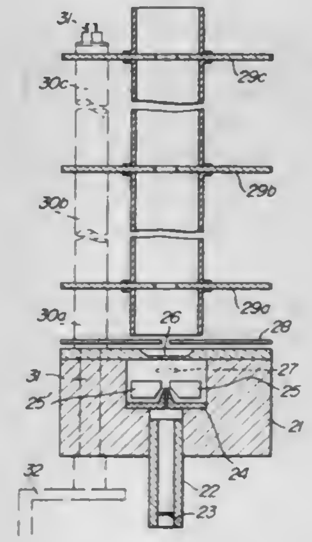
Peter M. Llewellyn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 4, 1967, Ser. No. 658,365
Int. Cl. H01j *39/36*
U.S. Cl. 250—41.9 **8 Claims**



An ion cyclotron resonance mass spectrometer method and apparatus is disclosed wherein the sample gases to be analyzed are irradiated with optical radiation and the effects observed by monitoring the absorption of radio frequency energy by the cyclotron resonant ions. Photoionization and photo-chemical reactions may be observed in the spectrometer. In photo-ionization measurements, the gas to be analyzed is irradiated by the optical radiation to produce ionization of the gas. The ion species are analyzed by exciting and detecting ion cyclotron resonance of the photo-ionization products. The optical radiation may be modulated at certain frequencies and changes in the absorption of radio frequency energy by the resonant cyclotron ions observed at frequencies related to the modulation frequency, whereby the photo-ionization effects are more precisely observed. In certain ionization potential measurements, the wavelength of the ionizing optical radiation is scanned while monitoring ion cyclotron resonance of certain ion products to obtain a precise measure of the ionization potential of the certain ion products. In another embodiment of the present invention, certain photo-chemical reactions are analyzed by irradiating the sample to be analyzed with optical radiation to produce certain reaction products, for example, dissociation products. The dissociation products are then irradiated by an ionizing electron beam to produce ion products. The ion products are analyzed by exciting and detecting ion cyclotron resonance of the ions.

3,505,518
ION SOURCES FOR MASS SPECTROMETERS

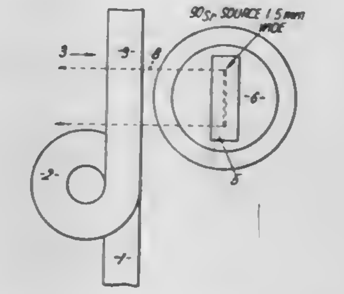
Eisuke Mitani, Katsuta-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Dec. 27, 1966, Ser. No. 604,702
Claims priority, application Japan, Dec. 27, 1965, 40/80,024
Int. Cl. H01j *39/34;* **B01d** *59/44*
U.S. Cl. 250—41.9 **4 Claims**



An ion source wherein a nozzle is provided and so sized as to regulate the directionality of flow of sample gas after having passed through a gas leak for thereby establishing a unidirectional sample flow of higher density in an ionization chamber, the high density sample flow portion being then ionized by electron bombardment, the ionized high density sample portion being regarded as an object so that a condenser lens system focuses a converged image of the object on an ion source exit slit.

3,505,519
PARTICLE SIZE ANALYSIS

Marston Greig Fleming, Kew, and Anthony Bertram Holland-Batt, Normandy, England, assignors to National Research Development Corporation, London, England
Filed Apr. 12, 1966, Ser. No. 542,146
Claims priority, application Great Britain, Apr. 15, 1965, 16,376/65
Int. Cl. G01n *23/12, 21/26;* **G21f** *5/02*
U.S. Cl. 250—43.5 **8 Claims**



This invention solves the problem of measuring particle size distribution in a continously flowing suspension. The technique employed is to pass the flowing stream through a region where a force field is applied transverse to the direction of flow to create temporarily a stratification or specific concentration profile in respect of the particles across the channel in which the stream flows. Measurements are then taken immediately downstream of this region, that is to say before the stratification effect so created has disappeared due to remixing in the flowing stream. A convenient way of applying the force field is to turn the stream through a helical bend in the flow channel. And measurements immediately downstream of this bend can be performed by passing radiation beams transversely through the suspension to impinge on photoelectric detector means. The foregoing abstract is not intended to define the scope of the invention and is only provided to permit a cursory review of the gist of the invention.

This invention is concerned with the determination of particle side distribution occurring in suspensions of solid particles in fluid media.

3,505,520

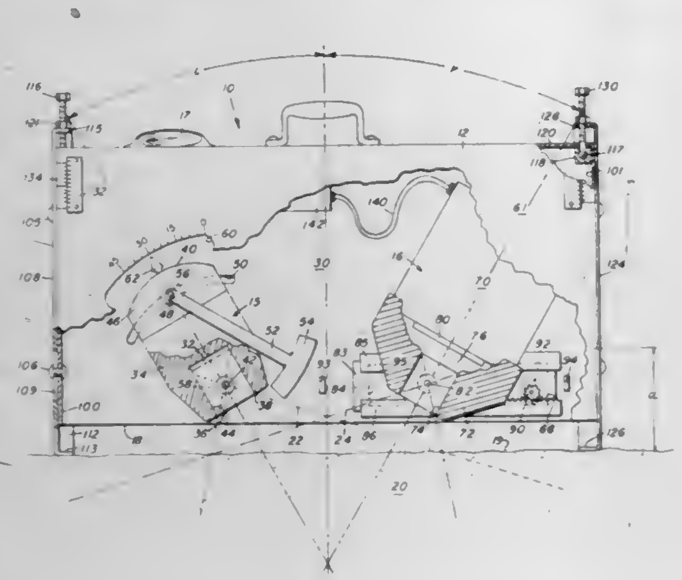
MEASURING THE INCOMBUSTIBLE CONTENT OF MINE DUST USING BACKSCATTER OF LOW ENERGY GAMMA RAYS

Robert F. Stewart, Morgantown, and Joseph W. Martin, Cassville, W. Va., assignors to the United States of America as represented by the Secretary of the Interior

Filed Oct. 10, 1967, Ser. No. 674,358

Int. Cl. G01n *21/26, 23/12;* **H01j** *37/00*

U.S. Cl. 250—43.5 **6 Claims**



Low energy gamma radiation directionally applied in a method, and by an adjustable apparatus to a layer of mine dust produces scattered gammas whose reflected radiation detected at a predetermined distance from the mine dust acts to cause the generation of an electrical control input for a meter indicating the incombustible content of the mine dust substantially independently of the effects on such indicating which are normally due to its bulk density and any moisture content thereof.

3,505,521

ELECTRON EMISSION MICROSCOPE OBJECT MANIPULATOR

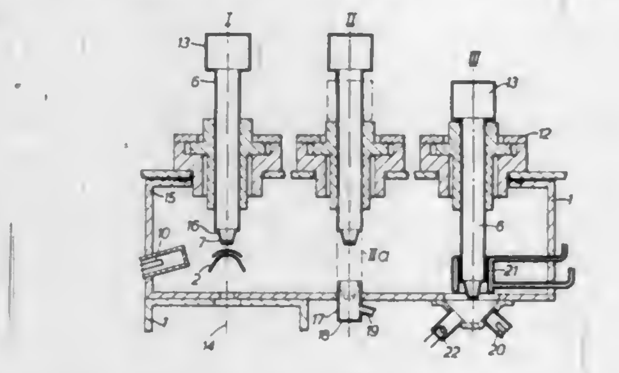
Lienhard Wegmann, Trubbach, and Rolf Graber, Buchs, Switzerland, assignors to Balzers Patent- und Lizenz-Anstalt Balzers, Liechtenstein, a body corporate of Liechtenstein

Filed Jan. 3, 1967, Ser. No. 606,775

Int. Cl. H01j *37/26*

U.S. Cl. 250—49.5 **30 Claims**

An electron emission microscope comprising an evacuable tubular body, objective- and projection-lenses, a luminescent screen and/or photographic device, an object holder for an object kept on high voltage and capable of being heated, a compound table for the translation and a device for the rotating of the object, independent sources of ions, electrons and ultra-violet rays each producing alternately or simultaneously a beam directed on the surface of the object, an electricity supply and an evacuation plant, and means for operating the electron emission microscope, wherein the said object holder is mounted pivotally and wherein at least one auxiliary device is provided for the treatment, observation and/or insertion and removal through an air lock of the object to be treated in a position swung out of the range of the said objective lens.



3,505,522

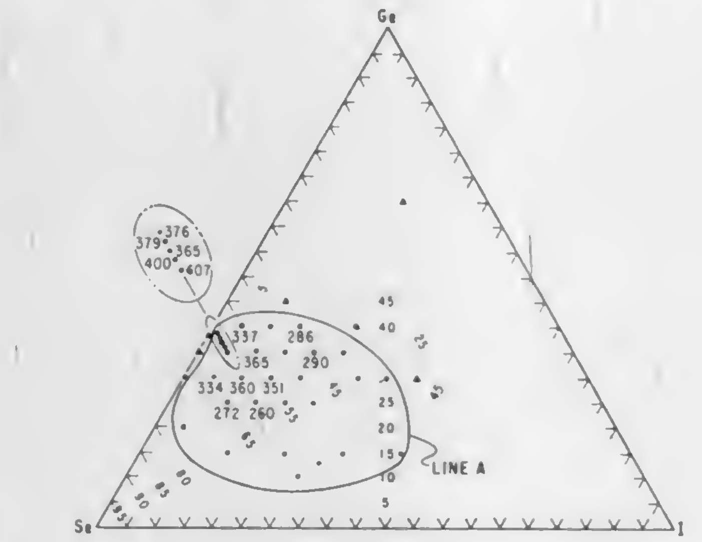
AMORPHOUS GLASS COMPOSITIONS

Rowland E. Johnson and Robert J. Patterson, Dallas, and Andre E. Tilton, Palno, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Apr. 13, 1967, Ser. No. 630,724

Int. Cl. G01t *1/16;* **C03c** *3/30*

U.S. Cl. 250—83 **8 Claims**



Disclosed are compositions of matter comprising germanium, selenium and iodine, many samples of which have been found to be amorphous glasses transmitting in the infrared region of the electromagnetic spectrum, and some samples of which have been found to be crystalline. Also disclosed are methods of compounding and casting these compositions, and of obtaining viscosity data for the glasses, and an illustration of the use of the glass compositions of this invention as transmitting elements within an infrared detection system.

3,505,523

PERSONNEL RADON DOSIMETER

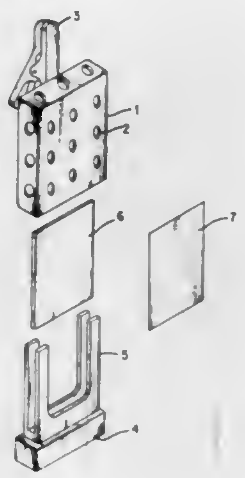
Klaus H. Becker, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Aug. 2, 1968, Ser. No. 749,725

Int. Cl. G01t *5/10*

U.S. Cl. 250—83 **4 Claims**

An organic polymer foil, such as cellulose triacetate, mounted within a holder and worn on a person has been found to be an efficient and accurate dosimeter for radon and its daughter products. This material is insensitive to light and sufficiently insensitive to temperature and humidity such that it may be used in uranium mines and other environments where these injurious agents may be present. Simple etching of alpha particle tracks which are registered in the foil makes them visible at low power magnification, and radiation dose may then be estimated by conventional or automatic track counting techniques.



3,505,524

METHOD AND AN ARRANGEMENT FOR MEASURING AND RECORDING THE ABSORPTION OF ELECTROMAGNETIC RADIATION

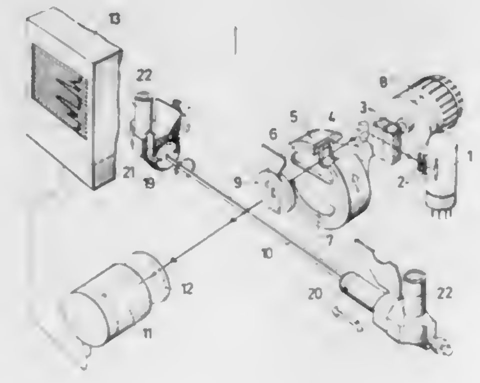
Vilhelm E. S. Hjerten, Uppsala, Sweden, assignor to Incentive Research & Development AB, Bromma, Sweden, a limited company of Sweden

Filed Dec. 15, 1966, Ser. No. 601,963

Claims priority, application Sweden, Dec. 22, 1965, 16,626/65

Int. Cl. G01t *1/16*

U.S. Cl. 250—83.3 **14 Claims**



A method and apparatus for analyzing a substance by detecting its absorption of electromagnetic radiation, particularly ultraviolet radiation in which the radiation is passed through a moveable filter which alternately transmits radiation pulses of at least two mutually exclusive, different frequencies, a first of which is at least partially absorbed by the sample substance and a second of which is substantially unabsorbed by the sample substance, either before or after passage of the electromagnetic radiation through the sample substance; the radiation is converted into corresponding electrical pulses after passage of the radiation through the filter and the sample substance; the electrical pulses are separated into groups of pulses including pulses of the first frequency and pulses of the second frequency; and a quotient of the amplitudes of the two groups of pulses is formed and the quotient is recorded. The sample may be rotated or reciprocated during passage of the radiation therethrough.

3,505,525

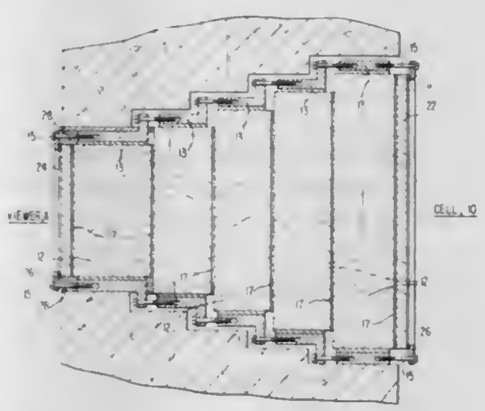
RADIATION-SHIELDING WINDOW CONTAINING SILICONE OILS BETWEEN FACING SHEETS

Henry P. Sandore, Jr., Elmira, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Jan. 25, 1966, Ser. No. 522,981

Int. Cl. G21f *1/00, 3/00*

U.S. Cl. 250—108 **10 Claims**



A radiation-shielding window structure comprising a number of plates of transparent radiation-resistant glass in face-to-face relationship having a thin film of a silicone oil filling the space between the surfaces of adjacent glass sheets is described. The silicone oil is preferably a phenylmethyl or a methyl silicone oil.

3,505,526

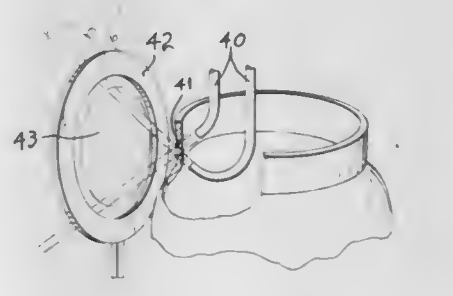
APPARATUS FOR THE DETECTION OF CHECKS IN GLASS CONTAINERS

Alfred Sendt, Oberachern, Baden, Germany, assignor to Owens-Illinois Inc., Toledo, Ohio, a corporation of Ohio

Filed Apr. 26, 1967, Ser. No. 633,764

Int. Cl. G02b *5/14;* **B07c** *5/342*

U.S. Cl. 250—227 **1 Claim**

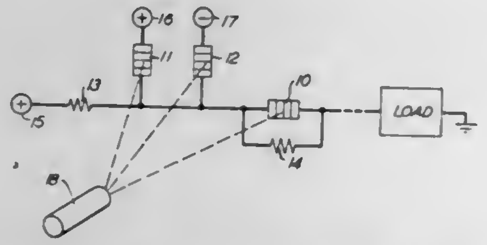


Apparatus for the detection of cracks in objects made of a transparent material, more especially for the inspection of glass containers for their freedom from finish checks. The apparatus is equipped with an illuminating device utilizing a plurality of fibre-optic bundles which illuminate that part of the article which is undergoing inspection from several directions while the article is preferably rotated on its central axis. A receiver, positioned on the opposite side of the wall of the container, will be struck by the reflected light if a crack is present. The receiver may be connected to an ejector which throws out the defective glass container, thus enabling a complete automatic inspection of the glass containers for their freedom from cracks.

3,505,527

ELECTRONIC DRIVE CIRCUIT EMPLOYING SUCCESSIVELY ENABLED MULTISTATE IMPEDANCE ELEMENTS

Matthew F. Slana, Naperville, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Apr. 6, 1967, Ser. No. 628,874
Int. Cl. H03k *19/14, 23/12*
U.S. Cl. 250—214 **7 Claims**

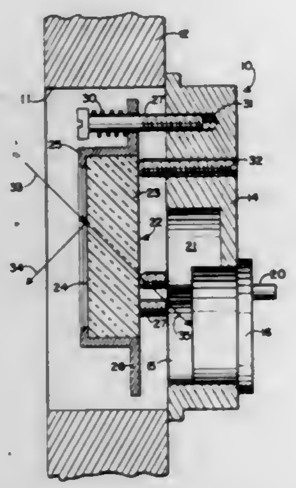


A drive circuit is disclosed which utilizes a combination of optically enabled, multistate impedance elements such as PNPN diodes to provide a sequence of distinct voltage levels necessary to drive a load comprising another multistate impedance element.

3,505,528

RANGE FINDER WITH RADIATION SENSITIVE MEANS BEHIND REFLECTOR

Gary W. Bickel, Boston, John J. Ferrara, Acton, and Marvin L. Lipshutz, Brookline, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,069
Int. Cl. H01j *5/16;* **H01l** *15/00*
U.S. Cl. 250—216 **2 Claims**



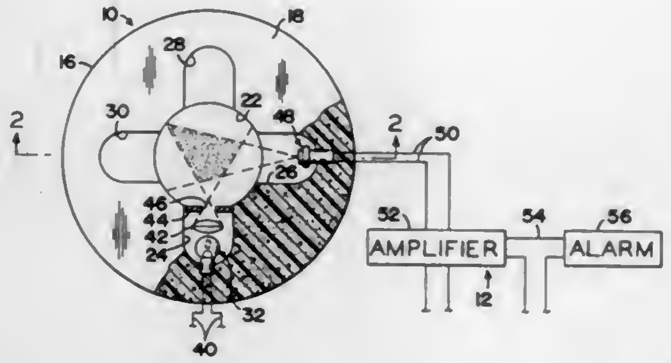
An integrated first-surface reflector and transducing sensor, in a kinematic mount, for use in optical systems such as laser range finders, the sensor being positioned behind the reflector to use the small amount of light unavoidably transmitted therethrough.

3,505,529

RADIATION SENSITIVE SMOKE DETECTING DEVICE

Wiley Moore, Folsom, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 8, 1968, Ser. No. 703,950
Int. Cl. G01n *21/26*
U.S. Cl. 250—218 **4 Claims**

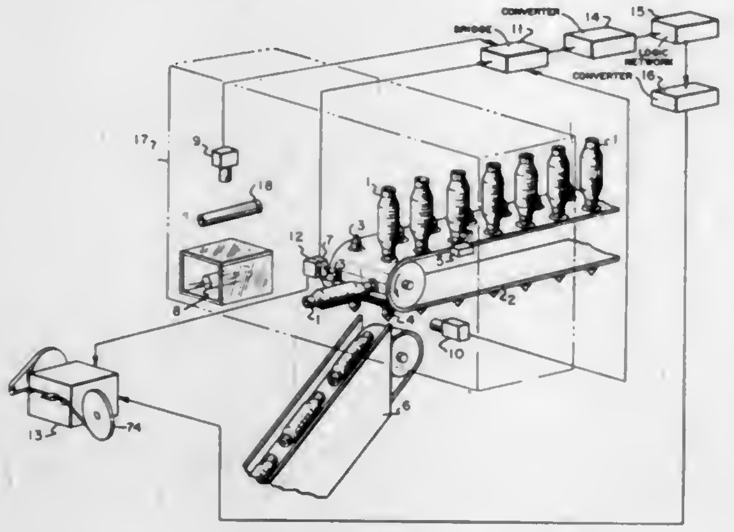
There is provided an improvement in smoke detecting devices of the type adapted to be mounted in a room and permitting air flow therethrough, such devices having smoke detecting and signalling means associated therewith and actuated by smoke particles carried into the device with the air flow. This improvement includes a device having a porous body portion with a cavity therein and a plurality of recesses extending outwardly from the cavity. A lamp is disposed in one of the recesses and means are provided for emitting light rays across the cavity. A normally non-illuminated photo-electric cell is mounted in another of the recesses and shielded from the light rays emitted by the lamp. The porous body portion permits air flow through the walls thereof, and when smoke is carried into the cavity, light rays are reflected from the smoke particles to actuate the photo-electric cell and subsequently activate an alarm of some suitable nature.



3,505,530

APPARATUS AND METHOD TO MEASURE THE AMOUNT OF YARN ON A BOBBIN

Leslie E. Reynolds, Greenville, and Weir E. Wharton, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of South Caolina
Continuation-in-part of application Ser. No. 414,252, Nov. 27, 1964. This application Apr. 23, 1968, Ser. No. 725,584
Int. Cl. G06m *7/00;* **H01j** *39/12;* **G01n** *21/30*
U.S. Cl. 250—223 **7 Claims**



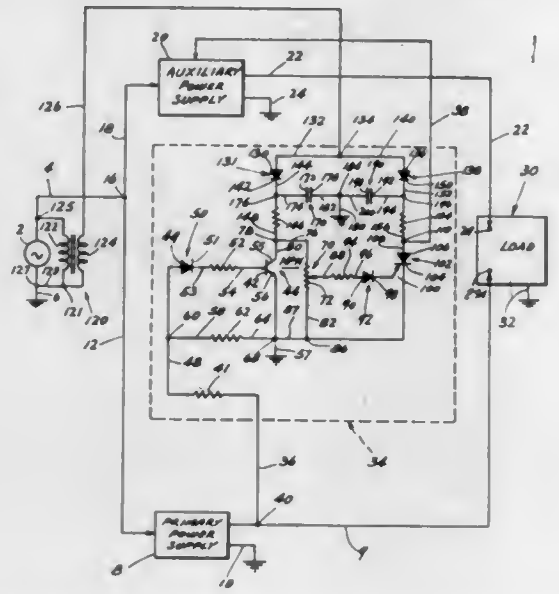
Apparatus and method to compare the amount of yarn on a bobbin to a standard, photoelectrically, and use the signal obtained to locate exactly spindles which are not functioning properly.

3,505,531

CONTROL CIRCUIT FOR ELECTRICAL SYSTEMS HAVING REDUNDANT POWER SUPPLIES

Harry B. Wattson, Rutherford, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 15, 1966, Ser. No. 594,594
Int. Cl. H02j *7/00*
U.S. Cl. 307—64 **10 Claims**

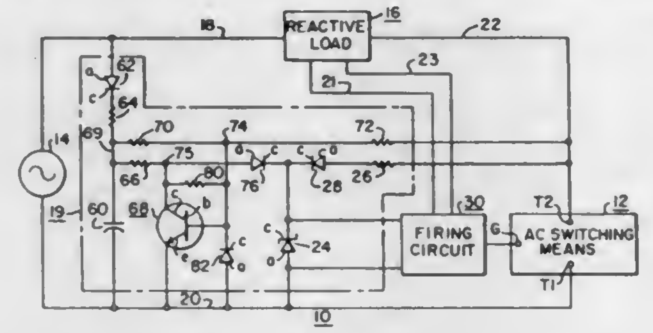
This invention relates to electrical systems having redundant power supplies and, more particularly, to a control circuit for maintaining an auxiliary power supply on standby while a primary power supply is driving the system, and for switching on the auxiliary power supply when the primary power supply fails. The present invention is useful in industrial control systems, control systems for flight vehicles and many other applications where continuous operation is necessary.



3,505,532

PULSE PRODUCING CIRCUIT

David J. Steele, Stafford, England, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Oct. 27, 1967, Ser. No. 678,597. Divided and this application Apr. 25, 1969, Ser. No. 819,141
Int. Cl. H03k *3/64*
U.S. Cl. 307—106 **5 Claims**



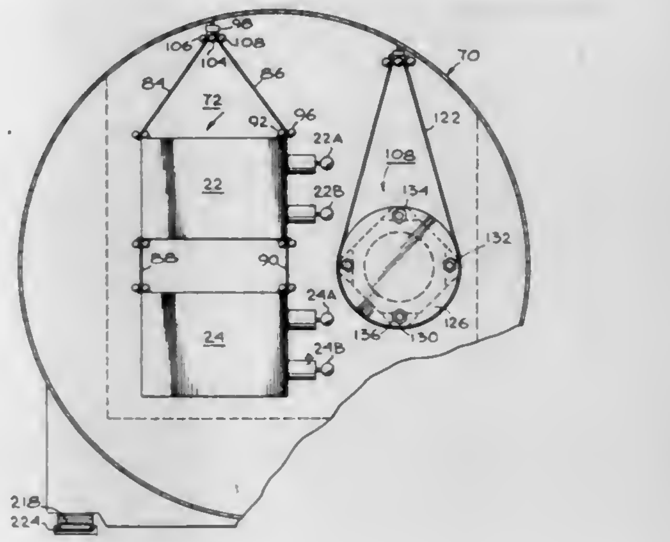
An electrical circuit which provides voltage pulses of like polarity during the positive and negative half cycles of an AC source potential, initiated by the turning off of an AC switch at current zero. The pulses during a predetermined polarity of the AC source potential are provided by a Zener diode in direct response to the AC source potential, with a capacitor also being charged during this polarity of the AC source potential. The pulses during the other polarity of the AC source potential are provided by the Zener diode, with the capacitor as the energy source.

3,505,533

SHIELDED HIGH VOLTAGE PULSE GENERATOR

Bernard H. Bernstein, Livermore, and Donald F. Martin, Alamo, Calif., assignors to Physics International Company, Berkeley, Calif., a corporation of California
Filed July 18, 1966, Ser. No. 565,959
Int. Cl. H02m *3/06;* **H03k** *3/00;* **H05k** *9/00*
U.S. Cl. 307—110 **12 Claims**

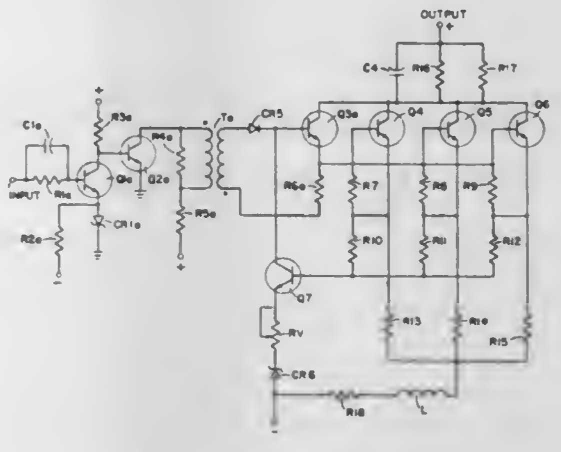
The output of a Marx surge generator is employed to "resonance charge" a Blumlein type coaxial transmission line pulser, the output of which may be directly applied to an electron accelerator tube. The Marx generator structure as well as the Blumlein structure is suspended within a dielectric medium within an electromagnetic wave disturbance shielding tank by insulating straps of a nylon material. Preferably, the straps have sharp corners in cross-section to provide high insulation resistance.



3,505,534

TRANSISTOR CIRCUIT HAVING D.C. ISOLATED OUTPUT TRANSISTOR

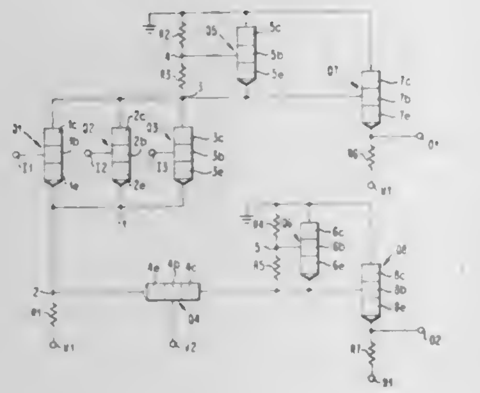
Raymond L. Bowar and Glenn E. Jenkins, St. Paul, Minn., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed June 15, 1966, Ser. No. 559,044
Int. Cl. H02h *7/20;* **H03k** *5/08*
U.S. Cl. 307—202 **2 Claims**



The invention, in its simplest form, includes a first normally conducting transistor which is made nonconducting in the presence of a signal voltage. The turning-off of this first transistor causes a second normally nonconducting transistor to begin conduction. The second transistor is transformer-coupled to a third normally nonconducting power transistor, which is turned on when the second transistor begins conduction. It can thus be seen, because of the transformer isolation between the second and third transistors, that a supply voltage different from that used for the first and second transistors could be used for the third transistor. Also, with the use of transformer coupling between the second and third transistors, an excessively long signal voltage will not damage the third transistor, because of a drooping of voltage through the transformer, which will allow the said third transistor to cut off and not exceed its power rating.

3,505,535
DIGITAL CIRCUIT WITH ANTISATURATION COLLECTOR LOAD NETWORK

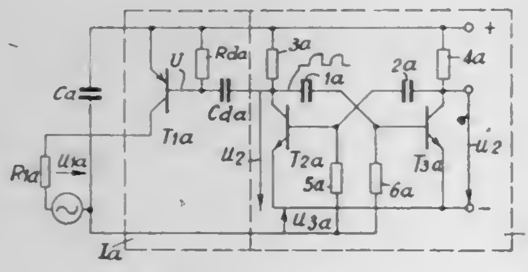
Joseph R. Cavaliere, Fishkill, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 3, 1967, Ser. No. 606,939
Int. Cl. H03k *19/12*
U.S. Cl. 307—203 10 Claims



A current switch is provided with a collector load network having a nonlinear impedance for reducing any tendency of the transistors to go into saturation. The load network comprises another transistor extending between the potential source and the collectors of the current switch transistors, together with a resistive bias network to turn the other transistor on when said collectors approach the desired limit of their potential swing toward the saturation region. In one embodiment the respective collectors of a plurality of current switches are dotted so as to eliminate an entire logic stage, while saturation due to simultaneous activation of the transistors is prevented by the nonlinear load impedance network provided for the dotted collectors.

3,505,536
FREQUENCY DIVIDING CIRCUIT, WITH SEMICONDUCTORS

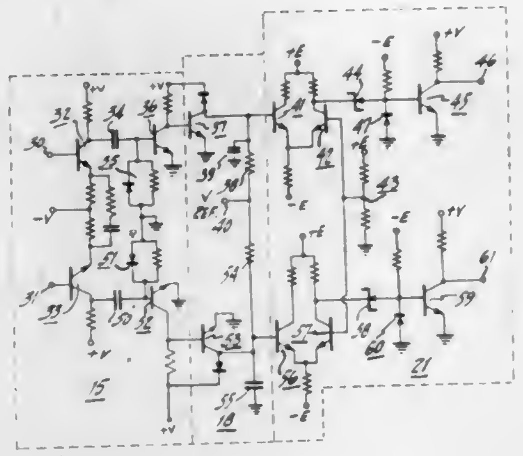
Eric-Andre Vittoz, Hauterive, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland
Filed Feb. 3, 1967, Ser. No. 613,937
Int. Cl. H03k *21/04*
U.S. Cl. 307—225 1 Claim



A frequency dividing circuit comprises a source of periodic input signals whose frequency is to be divided, a semiconductor switch means, a condenser, and an unstable multivibrator. The frequency of the output signal of the multivibrator is variable under the control of a voltage existing at the terminals of the condenser. The terminals of the condenser are periodically connected to the terminals of the source of the periodic input signals by the closing of the semiconductor switch means which is closed in synchronism with the output signal of the unstable multivibrator. Thus, the frequency of the output signal is brought under the control of a submultiple of the frequency to be divided.

3,505,537
SIGNAL ENVELOPE DISCRIMINATOR AND GATING CIRCUIT

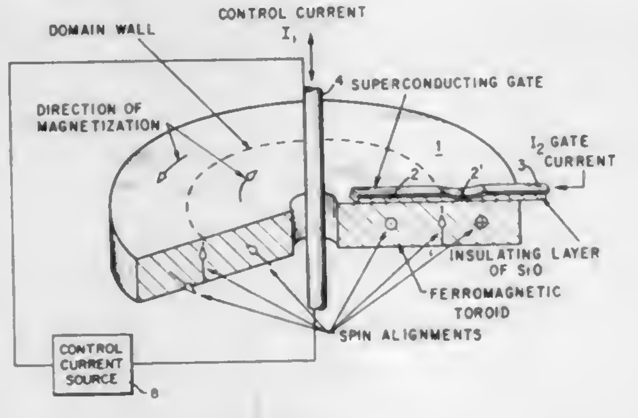
Raymond L. Giordano, Berlin, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 9, 1967, Ser. No. 621,843
Int. Cl. H03k *5/20*
U.S. Cl. 307—235 2 Claims



This invention relates to a signal amplitude and duration analyzing circuit having a first threshold detector circuit arranged to check the amplitude of a signal to be analyzed and to supply an input signal representative of an acceptable amplitude of the analyzed signal to an integrator. An integrated signal related to the duration of the integrator input signal is used to trigger a second threshold detector circuit. The second detector provides an output signal when the input signal to the analyzing circuit meets prescribed amplitude and duration requirements.

3,505,538
SUPERCONDUCTOR GATING OR SWITCHING DEVICES

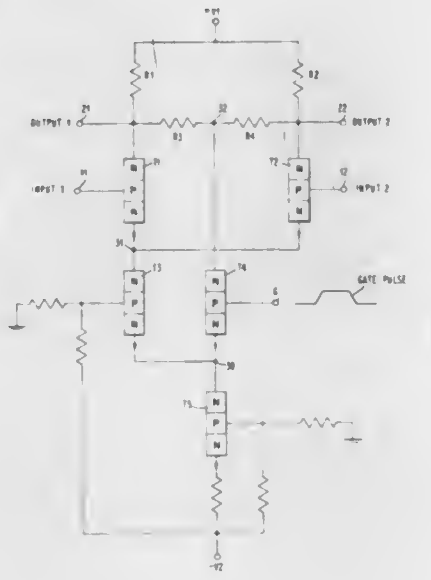
John L. Artley, Durham, N.C., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 25, 1967, Ser. No. 634,794
Int. Cl. H03k *3/38, 17/84*
U.S. Cl. 307—245 5 Claims



Coherent domain wall motion or the establishment of such a domain wall in a thin-film ferromagnetic material, as controlled by an applied magnetic field, is utilized to effect switching of the current in a superconducting thin-film gate circuit. The thin-film ferromagnetic material is placed adjacent to the superconducting thin film of the gate circuit with a thin film of insulating material therebetween. The switching that is effected is such that an effective open or closed circuit can be retained, as desired.

3,505,539
LOW NOISE GATED D.C. AMPLIFIER

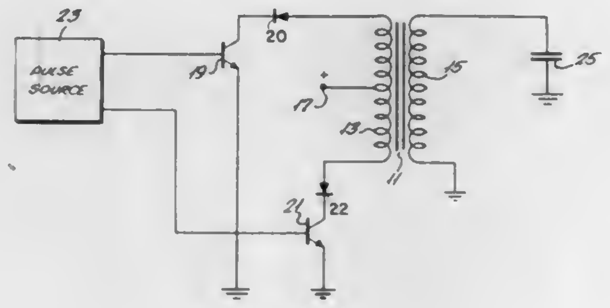
Peter Pleshko, Waldwick, N.J., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 1, 1966, Ser. No. 576,731
Int. Cl. H03k *17/60*
U.S. Cl. 307—254 6 Claims



My invention is a gated, D.C., differential amplifier which minimizes gating noise on the output lines. It is easily integrated because it is designed for direct connection to the next stage and is made of resistors and one type of transistor.

3,505,540
ELECTRICAL PULSE SOURCE

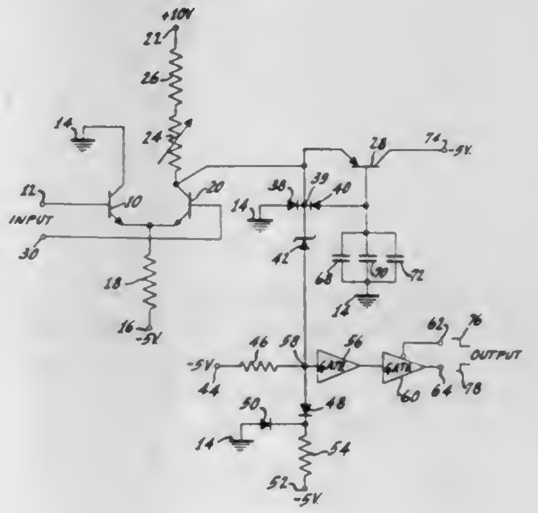
Leonard A. Ferrari, Woburn, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 7, 1966, Ser. No. 525,702
Int. Cl. H03k *5/00*
U.S. Cl. 307—260 26 Claims



This specification discloses a step wave generator for driving a highly capacitive load. The generator comprises a transformer the output winding of which is connected in resonant circuit with the capacitive load. Transistor switch means are provided to drive the primary winding to intermittently apply current pulses to the primary winding. While the current pulses are applied to the primary winding, the primary winding will be connected across a low impedance source which has the effect of reducing the inductance connected in the resonant circuit with the capacitive load. In between these pulses, the primary winding is open circuited which in effect makes the inductance connected in the resonant circuit with the capacitive load a high inductance during the periods between the pulses applied to the primary winding. As a result, the voltage across the capacitive load is driven rapidly between levels during the intervals of low inductance and is maintained at the levels to which it is driven during the intervals of high inductance.

3,505,541
ELECTRONIC TIMER

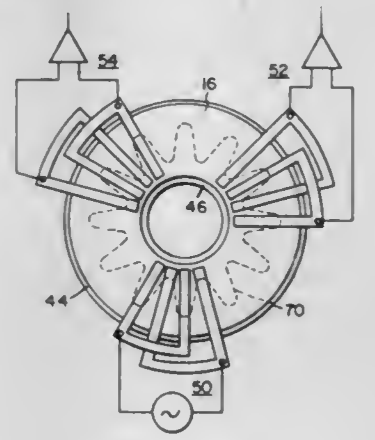
Alfredo S. Sheng, Cherry Hill, and Emile Hebert, Willingboro, N.J., assignors to RCA Corporation, a corporation of Delaware
Filed July 29, 1966, Ser. No. 569,539
Int. Cl. H03k *17/26*
U.S. Cl. 307—293 3 Claims



An elapsed time indicator is provided by charging a timing capacitor through a timing resistor and the emitter-to-base path of a transistor in series, the voltage of the collector of the transistor being kept constant. Since the flow of current into the capacitor is reduced by this connection by a factor of the beta +1 of the transistor, which may be 100, a time duration of 10 to 15 seconds may be indicated by a resistor and a non-electrolytic capacitor of practical size.

3,505,542
SURFACE WAVE PIEZOELECTRIC RESONATOR

Bruce R. McAvoy, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1968, Ser. No. 708,824
Int. Cl. H01v *7/00*
U.S. Cl. 310—9.6 9 Claims

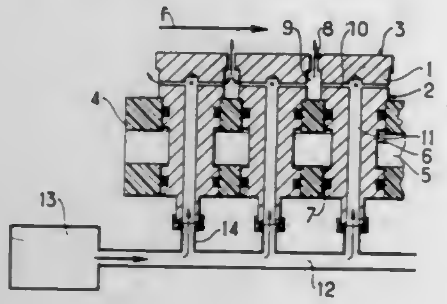


A piezoelectric resonator including an annular body of piezoelectric material and at least one transducer for propagating and receiving surface wave energy in the annular body.

3,505,543

NOZZLE PRINCIPALLY FOR MAGNETOHYDRODYNAMIC GENERATORS

Georges Klein and Jean L. Fabre, Paris, France, assignors to Compagnie Generale d'Electricite and Electricite de France, Paris, France, both French corporations
Filed Nov. 27, 1968, Ser. No. 779,413
Claims priority, application France, Nov. 30, 1967, 130,480
Int. Cl. G21d *7/02*
U.S. Cl. 310—11 **7 Claims**

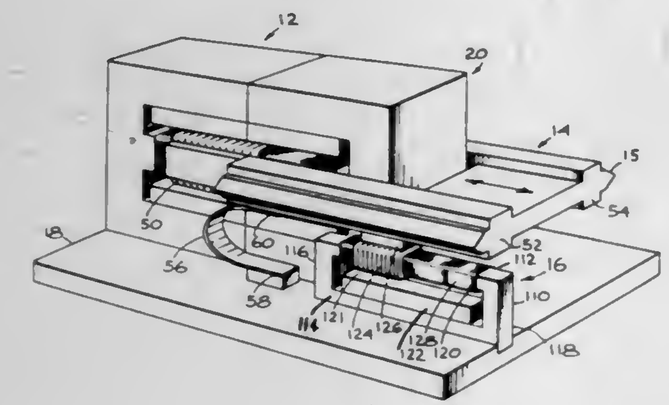


Nozzle principally for magnetohydrodynamic generators comprising a plurality of metal elements placed alongside one another and separated from one another by a space communicating with the duct of said nozzle, and means to cause a preferably inert gas to circulate from said space to said duct in such manner as to ensure electric insulation between said elements by preventing heating of the insulating gas.

3,505,544

LINEAR MOTOR

Clifford J. Helms, Woodland Hills, Calif., assignor to Data Products Corporation, Culver City, Calif., a corporation of Delaware
Filed Feb. 9, 1968, Ser. No. 704,291
Int. Cl. H02k *41/00*
U.S. Cl. 310—13 **14 Claims**

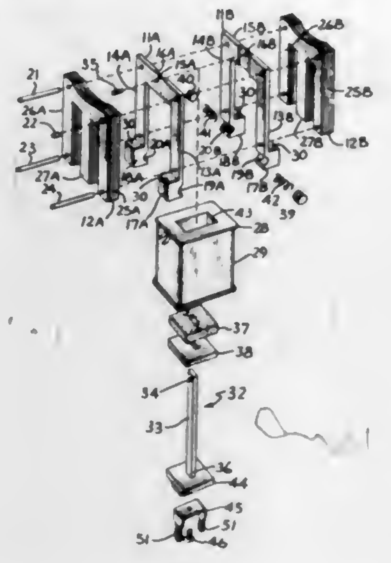


A linear motor capable of providing a reasonably long stroke and rapid acceleration. The motor is comprised of a core structure defining an air gap around a central leg. Means are provided for developing a substantially uniform magnetic field through the gap. A substantially rigid drive coil structure is concentrically disposed around the central leg with the turns thereof threading the gap. The coil is mounted for reciprocal movement along the central leg in response to a propelling force developed on the coil by driving a current therethrough. In order to minimize inductance, a bucking coil is also wound around the central leg and connected in series opposition to the movable drive coil.

3,505,545

POLARIZED VIBRATORY MOTOR

Ahmet K. Bey, Chicago, Ill., assignor of one-half to Frances Budreck
Continuation-in-part of applications Ser. No. 511,760, Dec. 6, 1965, and Ser. No. 516,007, Dec. 23, 1965. This application May 26, 1967, Ser. No. 641,509
Int. Cl. H02k *33/16*
U.S. Cl. 310—29 **11 Claims**

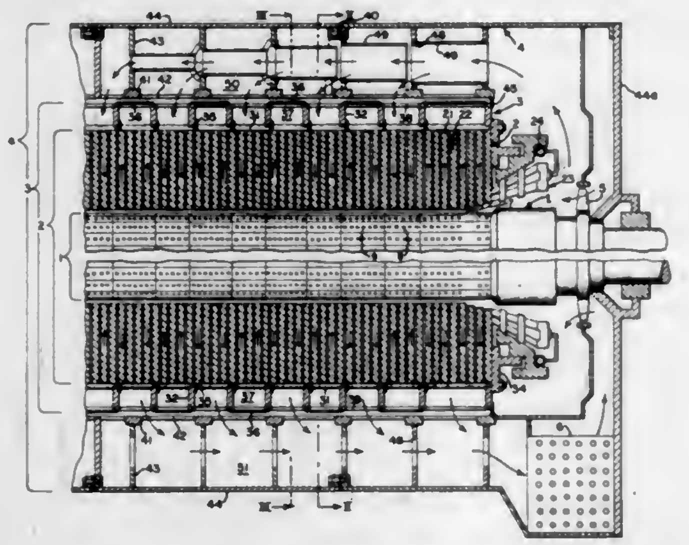


A stator winding coupled to a source of AC energy generates a magnetic flux field of continuously alternating magnetic polarity. A permanent magnet, fixed attached to a pivoted vibrator rotor, interacts with the alternating magnetic field to cause the rotor to oscillate or rock about the pivot.

3,505,546

GAS COOLED DYNAMOELECTRIC MACHINE WITH CAGE TYPE STATOR FRAME

Joseph A. Victor and David M. Willyoung, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 14, 1968, Ser. No. 767,434
Int. Cl. H02k *9/08*
U.S. Cl. 310—55 **7 Claims**

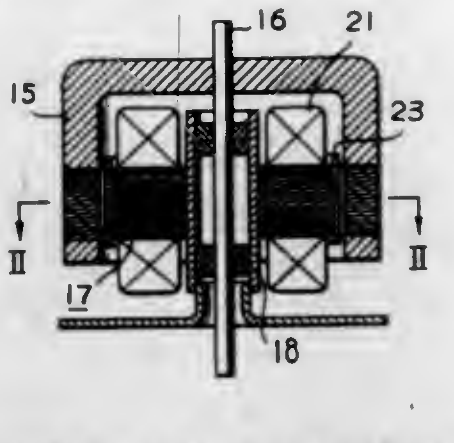


A cage type hydrogen cooled generator with radial flow of cooling gas to and from the air gap through alternating inlet and outlet zones in the core. The cage or inner frame, which supports the core, is supplied with cold gas from longitudinal cooling manifolds extending along the top and bottom of the machine in the outer frame. The hot gas flowing from the air gap is similarly discharged to longitudinal manifolds extending along the sides of the machine in the outer frame. The interface between outer and inner frames is accomplished with longitudinal gas seals.

3,505,547

STATOR OF INDUCTION MOTOR

Kansaku Kaneko, Toshimasa Fujiwara, Osamu Samuta, Takao Miyasaka, and Kenichi Kitamura, Yokohama, Japan, assignors to Victor Company of Japan, Limited, Yokohama, Japan
Filed Jan. 3, 1967, Ser. No. 606,705
Claims priority, application Japan, Jan. 11, 1966, 41/1,529
Int. Cl. H02k *7/00, 17/00*
U.S. Cl. 310—67 **4 Claims**

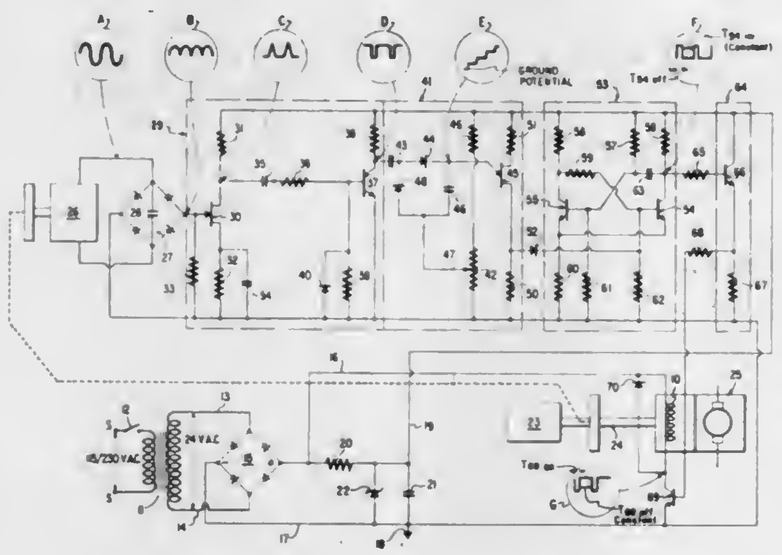


An improvement in a stator of an induction motor in which a magnetic cylindrical body having apertures is fitted with the peripheral surface of the iron core so that the magnetic cylindrical body is opposite to a rotor of the induction motor, and each groove for receiving the exciting coil and shading coil is made between each pole formed in a rod shape. By providing the magnetic cylindrical body, the distribution of the magnetic flux can be improved easily and by the construction of the grooves a stator of an induction motor suitable for easy assembly of the exciting coils and shading coils can be obtained.

3,505,548

CONTROL SYSTEM FOR ELECTRIC CLUTCH COUPLED DRIVE

Henry A. Seesselberg, South Plainfield, and Richard Beck, Morris Plains, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 4, 1968, Ser. No. 773,119
Int. Cl. F16d *27/02*
U.S. Cl. 310—95 **13 Claims**

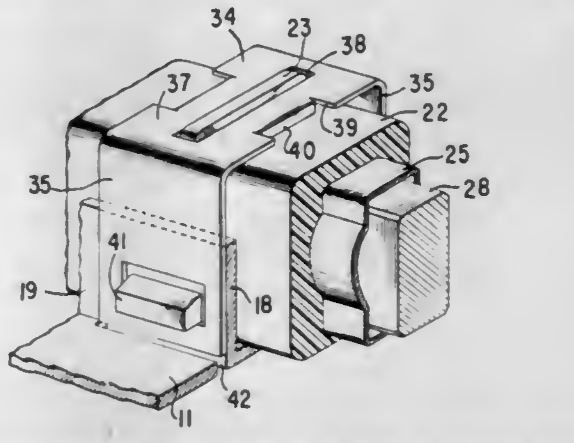


A system using pulse width modulated feedback for controlling with digital circuitry the speed of an electric clutch-coupled drive, preferably of the electric clutch motor type, said system comprising a speed sensor such as a tachometer generator for sensing the output speed of the clutch and producing a periodic waveform whose frequency is proportional to the speed, a pulse shaping amplifier circuit for taking the speed sensor output and applying a short constant amplitude pulse to a frequency divider circuit having an adjustable division ratio, which produces at its output a single pulse for every N pulse at its input. The output of the frequency divider circuit is derived from a triggering means such as a unijunction transistor whose output triggers a monostable multivibrator having its normally off side coupled through a power amplifier, if deemed necessary, to a clutch coil current-controlling transistor normally in a conductive state, thereby regulating the average current applied to the clutch coil. Thus, there is applied to the clutch coil a pulse train of varying duty cycle, with the duty cycle, that is on time vs. off time being inversely proportional to the output frequency of the speed sensor. Therefore, since the output speed of the clutch is proportional to the average clutch coil current the speed may be regulated automatically by varying the excitation of the clutch coil by the heretofore described circuit arrangement. The desired output speed initially may be set by means of the divider ratio N, which value is controlled by a variably adjustable circuit element such as a potentiometer or a variable capacitance operably connected in the frequency divider circuit.

3,505,549

BRUSH HOLDER MOUNTING ASSEMBLY FOR AN ELECTRIC MOTOR

Rudolph W. Wacek, North Plainfield, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 4, 1968, Ser. No. 773,104
Int. Cl. H01r *39/40*
U.S. Cl. 310—247 **7 Claims**



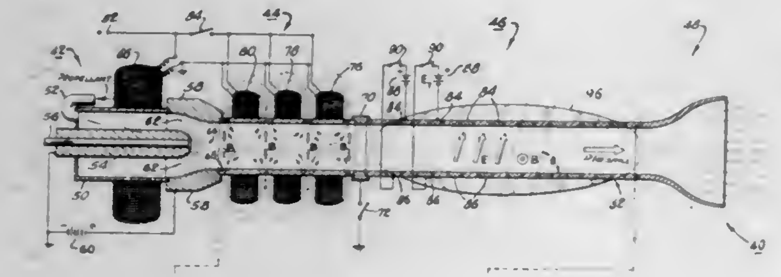
A mounting arrangement for a brush holder assembly for use in an electric motor wherein the assembly comprises an insulated brush holder provided on one of its walls with an integral upstanding fin or projection adapted to register with an opening formed in the leg-connecting or bridging portion of a substantially U-shaped spring clip to form a subassembly or brush holder unit for insertion into a radial channel provided on the upper bearing plate of the motor. Each leg of the spring clip is provided with an opening adapted to register with a projection integrally formed on the outer surface of the walls defining the radial channel for radially positioning the brush holder and releasably holding it on the upper bearing plate in its operable position relative to the commutator of the motor.

3,505,550

PLASMA ENERGY SYSTEM AND METHOD

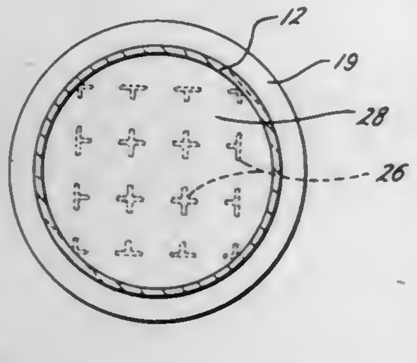
Myron M. Levoy, Rockaway, and Thomas H. Dimmock, Morristown, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa.
Filed July 19, 1966, Ser. No. 566,291
Int. Cl. H05h *1/05*
U.S. Cl. 313—63 **20 Claims**

A plasma is generated by heating a seeded propellent gas by means of an electric arc. The plasma then is accelerated by successively applying acceleration forces of the Hall and Faraday types. The plasma then is sent through an expansion nozzle to provide propulsion for a vehicle such as a spacecraft. The Hall and Faraday accelerators are positioned relative to one another so as to take advantage of the best operating parameters of each and give the operation of the overall device maximum efficiency. The Faraday accelerator is of greatly simplified construction because of the use of the Hall accelerator. When the device is used as a propulsion device for spacecraft, the arc, Hall and Faraday accelerators can be used singly or in various combinations to take maximum advantage of pressure changes in the propellent gas supply during an extended space mission.



3,505,551
PHOTOCONDUCTIVE LAYER HAVING REDUCED RESISTIVITY PORTIONS IN PATTERN FORM

Stanley A. Bynum, Dallas, Tex., assignor to General Electrodynamics Corporation, Garland, Tex., a corporation of Texas
Filed Oct. 24, 1966, Ser. No. 588,979
Int. Cl. H01j *31/26*
U.S. Cl. 313—65 **6 Claims**

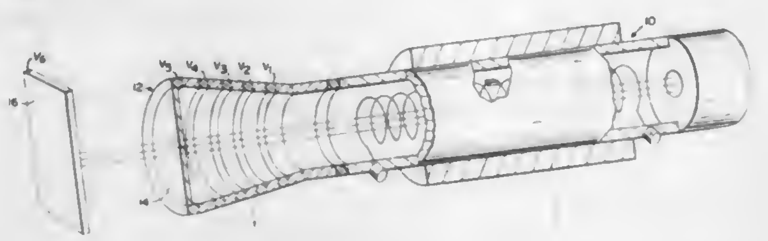


A photoconductive target for a vidicon tube or the like, said target having a white reticle pattern thereon created by reaction of a reactive material with the photoconductor.

3,505,552
HIGH POWER, LIGHT WEIGHT ELECTRON TUBE

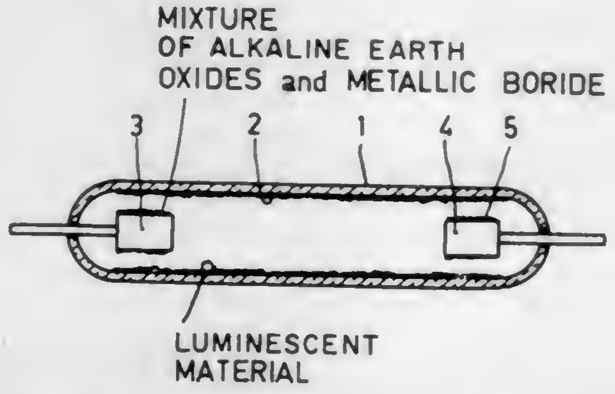
Jerry W. Hagood and Joe Shelton, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Sept. 15, 1967, Ser. No. 668,244
Int. Cl. H01j *29/02*
U.S. Cl. 313—89 **7 Claims**

An electron tube is used with a high temperature radiator to provide a system of reduced weight for operation in the exo-atmosphere. A collector is adapted to be released and ejected partially or completely when the desired minimum altitude has been attained. A ring similar to the accelerating anode and operating near the same potential may be located near the collector to accelerate an electron beam toward the radiator after the collector has been discarded.



3,505,553
RADIO-INTERFERENCE-FREE LOW-PRESSURE MERCURY-VAPOR LAMP

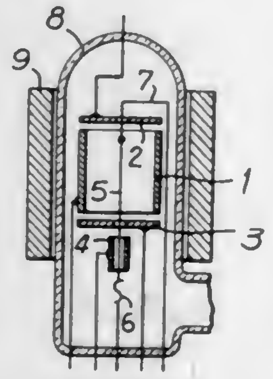
Pierre Theodoor Johan Piree, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 27, 1967, Ser. No. 634,222
Claims priority, application Netherlands, May 12, 1966, 6606479; Oct. 15, 1966, 6614550
Int. Cl. H01j *1/14, 17/04*
U.S. Cl. 313—107 **12 Claims**



A low-pressure mercury-vapor discharge lamp employing cathodes having an emissive material containing boron and/or certain borides to reduce radio interference, i.e., to suppress emission of electromagnetic radiations which would interfere with other telecommunication signals.

3,505,554
IONIZATION PRESSURE GAUGE

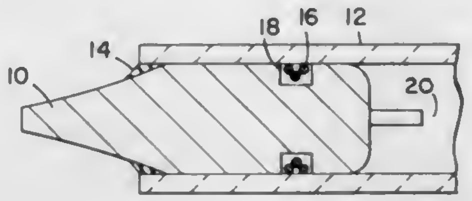
Sergei Arkadievich Vekshinsky, Frunzenskaya naberezhnaya 3, kv. 163, and German Anatolievich Nichiporovich, Potapovsky pereulak 12, kv. 10, both of Moscow, U.S.S.R.
Filed Jan. 5, 1968, Ser. No. 696,067
Int. Cl. H01j *41/00*
U.S. Cl. 313—157 **4 Claims**



An ionization pressure gage comprises an anode cylinder mounted inside a casing with a cathode extending along the axis of the anode cylinder. At one end of the anode cylinder is an ion collector electrode and at the other end of the anode cylinder is a shield, a magnetic field being created to cause electrons emitted by the cathode to undergo spiral rotation as a cloud of electrons within the cathode-anode space. A control anode is disposed outside of the cathode-anode space in close proximity to the cathode at a spacing which is chosen so that all electrons emitted in the area of the control anode fall thereon. The control anode may be of cylindrical shape and receive the cathode therewithin.

3,505,555
FLASH ARRESTER FOR PULSED ARC DISCHARGE TUBES

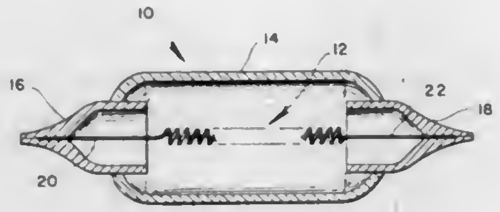
Charles H. Church, Pittsburgh, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Feb. 19, 1968, Ser. No. 706,497
Int. Cl. H01j *17/04*
U.S. Cl. 313—219 **6 Claims**



A flash arrester for a pulsed arc discharge tube having the electrodes thereof disposed coaxially with the tube. The tube may be of quartz or ceramic material and the electrodes are secured to the tube by adhesives such as epoxies or silicones. A conductive device is installed between the electrodes and the adhesive to prevent radiation from damaging the adhesive bond.

3,505,556
CYLINDRICAL MINIATURE INCANDESCENT LAMPS AND METHODS OF MAKING THE SAME

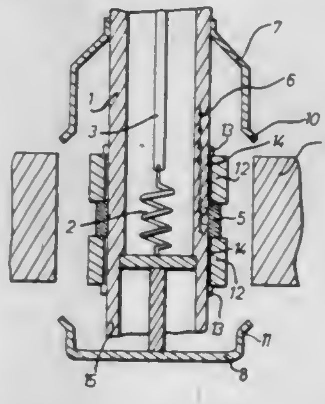
Donald J. Belknap, 302 Patterson Court, Takoma Park, Md. 20012
Filed July 8, 1966, Ser. No. 563,844
Int. Cl. H01j *5/50*
U.S. Cl. 313—318 **5 Claims**



Microminiature incandescent lamp of axial geometry having a tubular envelope with a glass intermediate section and opposite metal end sections sealed to the ends of the glass section prior to assembly of the envelope with the filament of the lamp. The filament is inserted into the lamp through one of the end sections, and the end sections are sealed vacuum-tight by mechanical pinch-offs which grip the extremities of the filament. Methods of making the lamp, including the steps of filament insertion, evacuation, filament positioning, and envelope sealing are disclosed.

3,505,557
INDIRECTLY HEATED CATHODE HAVING PORTIONS WITH DIFFERENT THERMAL RELATIONS WITH A HEATER

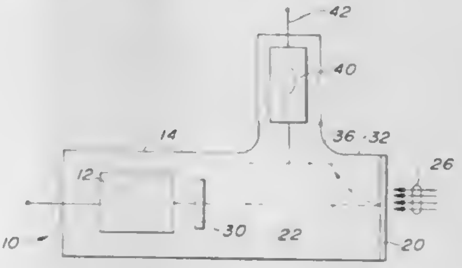
Wolfgang Schmidt, Hamburg-Othmarschen, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,946
Claims priority, application Germany, Dec. 14, 1966, P 40,995
Int. Cl. H01j *1/20, 19/14*
U.S. Cl. 313—337 **6 Claims**



An indirectly heated cathode for a magnetron having two portions, one of which has a better thermal contact with a support for the cathode than the other, both portions being heated by a common heater.

3,505,558
COMPOSITE TARGET STRUCTURE FOR TELEVISION, X-RAY AND ULTRASOUND CAMERA TUBE

John E. Jacobs, 631 Milburn, Evanston, Ill. 60201
Filed Sept. 22, 1966, Ser. No. 581,351
Int. Cl. H01j *31/48*
U.S. Cl. 315—11 **4 Claims**

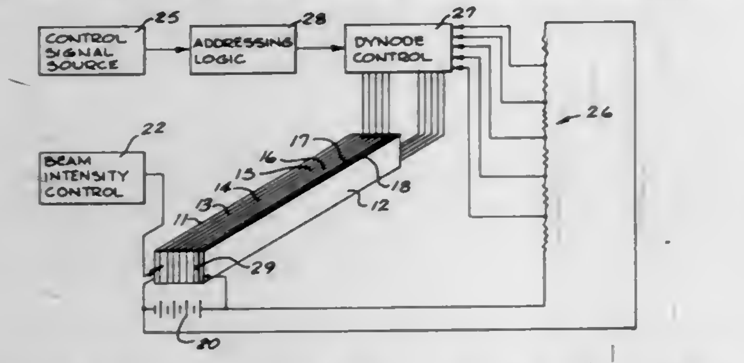


A highly sensitive electron tube apparatus for converting X-ray or ultrasound images to viewable television images. Said electron tube having a target in which the electrical charge storage function is separated from the energy conversion function. Said target having a first layer of high dielectric material scanned by an electron beam. The ultrasound sensitive embodiment of the target having a piezo-resistive layer overlying said first layer. The X-ray sensitive embodiment of the target having a layer of gas which is rendered conductive by photo-electrons, and a layer of metal which emits photo-electrons into said layer of gas when excited by X-ray energy. Also, methods for converting ultrasound and X-ray images to viewable television images by means of said apparatus.

3,505,559
ELECTRON BEAM LINE SCANNER DEVICE

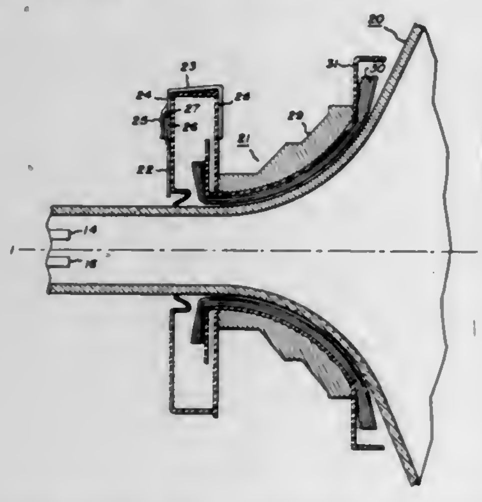
Lester A. Jeffries, Bobby L. Landrum, and Robert J. Quinn, Palos Verdes Peninsula, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Sept. 25, 1968, Ser. No. 762,557
Int. Cl. H01j *43/22*
U.S. Cl. 315—12 **2 Claims**

The path of an electron beam between a cathode and a target plate is controlled in response to a random addressing signal by means of a plurality of dynode members interposed between the cathode and the target. Random linear scan is achieved by means of the dynodes which provide a plurality of electron beam channels arranged in a line. Such channels are formed by apertures in the dynode members, each dynode aperture being alined with a corresponding aperture on each of the other dynode members. Each dynode member has conductive portions thereon forming fingers which are electrically insulated from each other and which are arranged in a predetermined coded configuration. Digital control means are connected to the conductive portions of each dynode and are appropriately excited to provide a control potential to selected finger portions to permit the electron beam to pass completely through only one of the electron beam channels at a time.



3,505,560
WIDE RASTER CORRECTION FOR A COLOR TELEVISION RECEIVER

Reinold M. Marvin, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 1, 1967, Ser. No. 687,268
Int. Cl. H01j *29/50*
U.S. Cl. 315—13 8 Claims

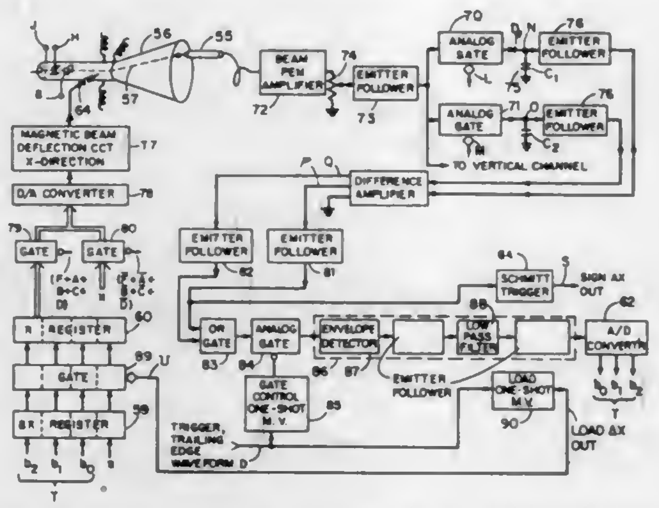


In a multibeam color television receiver, a wide raster size correction assembly includes a ferromagnetic strip which serves to concentrate lines of flux and a spring clip which is secured to the rear of a deflection yoke and receives the ferromagnetic strip in a slot therein. The slot is formed by substantially parallel fingers extending perpendicularly to the axis of the cathode ray tube retaining the ferromagnetic strip therebetween in sliding engagement so as to permit the variable positioning of the strip with respect to the beams of the cathode ray tube.

3,505,561
ANALOG PEN TRACKING ON A CATHODE RAY TUBE DISPLAY DEVICE

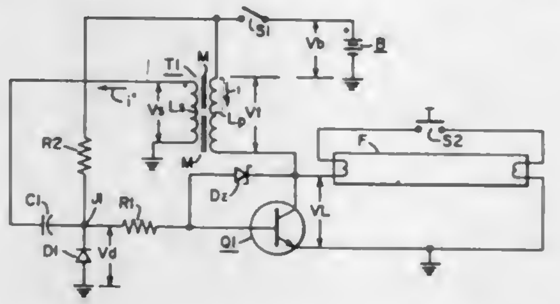
John E. Ward, Lexington, and William D. Stratton, South Acton, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 14, 1967, Ser. No. 616,093
Int. Cl. H01j *29/78*
U.S. Cl. 315—18 7 Claims

Pen tracking apparatus for use with a computer-driven cathode-ray tube display is described. A pattern of beam spots on the cathode-ray tube centered about the previously determined center of the pen is within the field of view of the pen. The amplitude of the pen response to each of these spots is compared to determine in what direction the center of the spots must be moved in order to coincide with the pen center.



3,505,562
SINGLE TRANSISTOR INVERTER WITH A GAS TUBE CONNECTED DIRECTLY TO THE TRANSISTOR

Joseph C. Engel, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1968, Ser. No. 724,698
Int. Cl. H03b *7/06;* **H05b** *41/18, 41/29*
U.S. Cl. 315—206 10 Claims

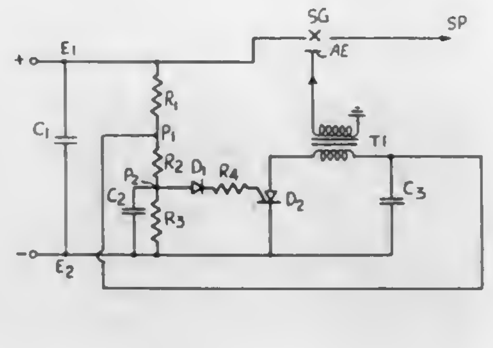


A inverter circuit operative with a D.C. source for supplying a load, such as a fluorescent lamp having a negative resistance characteristic. The inverter circuit utilizes a single active element which may comprise a transistor operative in a switching mode. The load is connected across the transistor and receives current via a ballast inductor from the D.C. source when the transistor is rendered non-conductive. A sensing inductor is provided which is inductively coupled to the ballast inductor and supplies the voltage to a detector, which comprises a peak-to-peak detector whose output is proportional to the voltage developed across the load, the output of the detector is used to control the switched state of the active element.

3,505,563
FLUID FUEL IGNITION COMBUSTION ARRANGEMENT

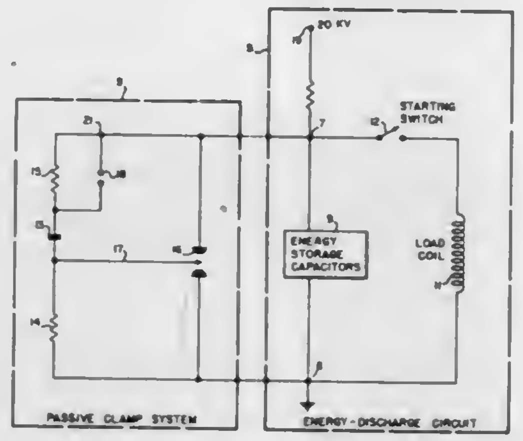
Kenneth Barrington Randall and William Henry Maycock, Coventry, and Roger Thomas Hoffman, Rugby, England, assignors to Associated Electrical Industries Limited, London, England, a British company
Filed Feb. 28, 1966, Ser. No. 530,731
Claims priority, application Great Britain, Mar. 10, 1965, 10,198/65
Int. Cl. H05b *37/02, 39/04*
U.S. Cl. 315—213 7 Claims

For fluid fuel combustion ignition several sparking plugs inside a combustion chamber are connected through respective spark gaps to a capacitor which is chargeable from a direct current source; the spark gaps have trigger electrodes and a common trigger control means is provided for positively determining the time relationship between the discharge instants at the several spark gaps.



3,505,564
AUTOMATIC TRIGGER CIRCUIT FOR PASSIVE CLAMP SYSTEM

Marvin P. Young, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1967, Ser. No. 686,623
Int. Cl. H02h *7/16;* **H03k** *1/14, 1/18*
U.S. Cl. 317—12 6 Claims

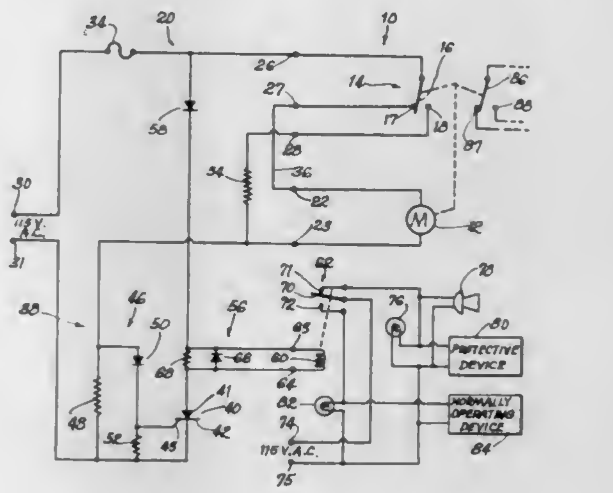


An automatic trigger circuit for a passive clamp system adapted to be coupled across a high voltage LC circuit wherein the clamp system includes a clamp switch that shunts the capacitive component of the LC circuit and which is triggered at the time of the first current maximum within the LC circuit by the automatic trigger circuit. A trigger capacitor and a spark gap are coupled together so that the trigger capacitor discharges when the current reaches its first maximum in the LC circuit, and the discharge of the trigger capacitor triggers the clamp switch so that the current in the LC circuit is clamped.

3,505,565
BIN LEVEL INDICATORS

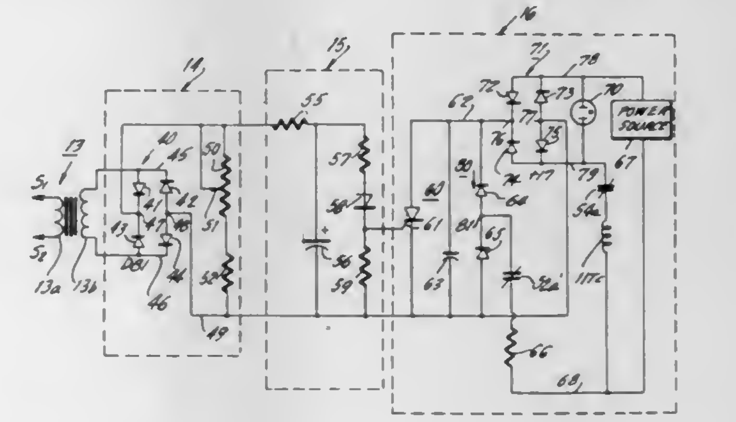
Donald E. Wolf, Glen Ellyn, and Gerald H. Servos, Elmhurst, Ill., assignors to Monitor Mfg., Inc., Minden City, Mich., a corporation of Michigan
Filed June 1, 1967, Ser. No. 642,902
Int. Cl. H02h *7/00, 3/28, 5/04*
U.S. Cl. 317—13 15 Claims

A fail-safe bin level indicator having a drive motor, a torque responsive switch which is operated between first and second positions to de-energize the motor in response to the development of pre-determined torque by the motor, and a relay device which is connected to the motor and the switch and is operated by either burn-out of the motor or excessive current through the motor, but not by normal movement of the switch, the relay device preferably comprising a solid state electronic switch having an input circuit with connections to both the motor and the switch, and an output circuit connected to an electromagnetic relay which operates electrical contacts to perform switching and signaling functions in the event of motor burn-out or failure of other components of the system. In another embodiment, the torque responsive switch is not employed in the system.



3,505,566
GROUND RELAY SYSTEM

Richard R. Conrad, Flourtown, Pa., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 2, 1967, Ser. No. 657,828
Int. Cl. H02h *1/02, 7/00, 1/04*
U.S. Cl. 317—18 11 Claims

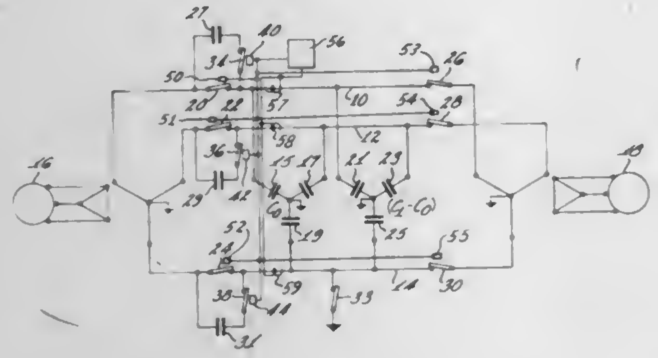


This invention teaches a system for indicating the presence of a grounded condition in a three phase system. The three phase system is comprised of four conductors, one for each phase and a neutral conductor which is preferably arranged either within a cable or within a bus duct. Under normal operating conditions, the currents flowing through each phase plus the current flowing through the neutral conductor yields a resultant current of zero.

3,505,567
SINGLE PHASE RECLOSING OF CIRCUIT BREAKER IN MULTIPHASE ELECTRICAL TRANSMISSION SYSTEMS

Harold A. Peterson, Madison, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 18, 1967, Ser. No. 676,338
Int. Cl. H02h *3/26*
U.S. Cl. 317—22 3 Claims

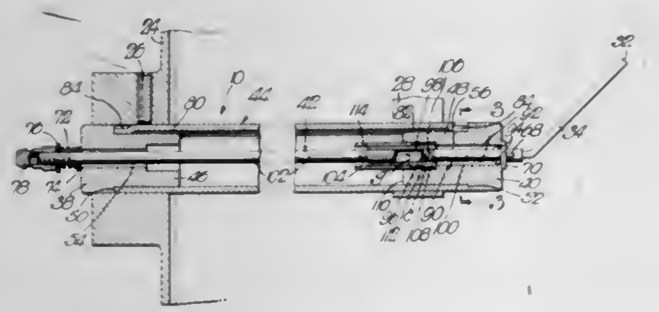
Separate capacitors of predetermined value are placed in parallel with each of the circuit interrupters in each of the phase lines of a three phase electrical transmission system. During a fault condition, only that phase line which is faulted opens and recloses. In the case of all



three phase lines being faulted, all capacitors are disconnected from across the circuit interrupters before the circuit interrupters open simultaneously.

3,505,568
IGNITION ELECTRODE UNIT

John H. Flynn, 284 Elk Ave., New Rochelle, N.Y. 10804
Filed Oct. 17, 1968, Ser. No. 768,462
Int. Cl. F23q *3/00;* **G01v** *1/06*
U.S. Cl. 317—79 **10 Claims**

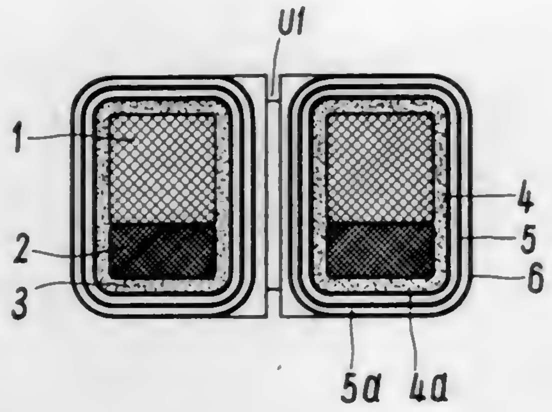


Ignition electrode in which the conductor rod, extending through opposite end pieces and a spacer sleeve therebetween, has a shoulder on its electrode carrying end, and a spring between a terminal on the other end of the conductor rod and the nearest end piece thereto urges the conductor rod with its shoulder against the other end piece. Featured is the formation of the conductor rod in two separate rod sections of which adjacent end lengths are threaded for the reception of a coupling by which they are releasably joined within the spacer sleeve, with this coupling being also tightened against the end piece against which the rod shoulder is spring-urged so that the rod section providing the shoulder is firmly clamped to this end piece.

3,505,569
INDUCTIVE CIRCUIT COMPONENT

Sigfrid Schweizerhof, Backnang, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Sept. 15, 1967, Ser. No. 668,057
Claims priority, application Germany, Sept. 30, 1966, T 32,157
Int. Cl. H02b *1/04, 9/00*
U.S. Cl. 317—101 **5 Claims**

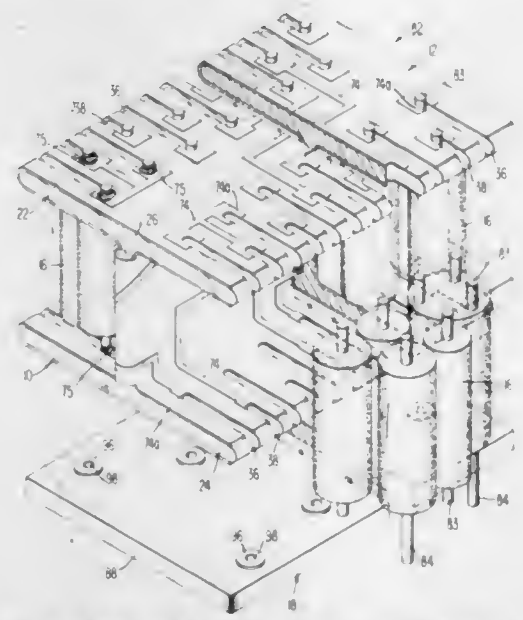
An inductive circuit component having one or more insulated annular windings which is or are completely encased, except for a gap, by one or more layers of a metallic, magnetic material which layer or layers form a closed magnetic core linking the windings, the gap being



arranged so that the core does not form a short-circuited secondary winding.

3,505,570
ELECTRICAL APPARATUS AND METHOD OF FABRICATING IT

Edgăr O. Sprude, 1996 Upland Way, Philadelphia, Pa. 19031, and Wilbur E. Hess, 22 Selwyn Drive, Broomall, Pa. 19008
Filed Mar. 8, 1968, Ser. No. 711,765
Int. Cl. H02b *1/04, 9/00*
U.S. Cl. 317—101 **9 Claims**



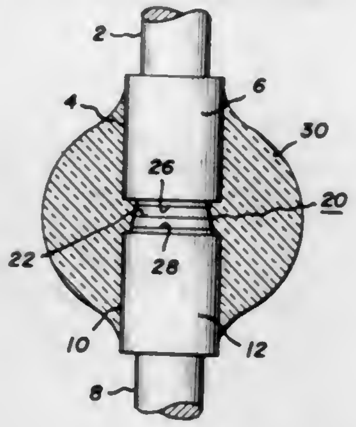
A flexible sheet of electrical insulating material having conductors on both sides is folded about and bonded to a carrier frame of electrical insulating material. Electrical components are inserted into the carrier frame and electrically connected to conductors on the flexible sheet. A pluggable header is connected to the electrical components, and the assembly is encased in an encapsulating material.

3,505,571
GLASS COVERED SEMICONDUCTOR DEVICE

Norman E. De Volder, Sodus Point, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 17, 1966, Ser. No. 535,219
Int. Cl. H01l *3/00, 5/00, 9/00*
U.S. Cl. 317—234 **6 Claims**

This invention relates to a semiconductor device consisting of a semiconductor body coated with a zinc oxide glass that forms an electrically stable seal on at least a portion of the body and has a thermal coefficient of expansion in the range of 3.75 to 4.50×10^{-6} per degree

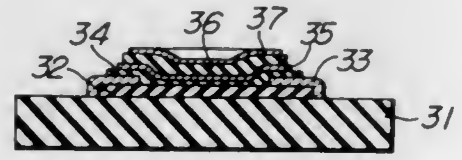
centigrade. The composition of the zinc oxide glass in percent by weight is as follows: Zinc oxide, 50–70%; boron



oxide, 20–30%; silicon dioxide, 5–15%; ceric oxide, 0.5–5%; and bismuth trioxide, 0.01–15%.

3,505,572
ACTIVE ELEMENT INCLUDING THIN FILM HAVING DEEP ENERGY LEVEL IMPURITY IN COMBINATION WITH ELECTROSTRICTION THIN FILM

Akio Yamashita, Ikeda-shi, and Takehiro Tuzaki, Toyonaka-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Nov. 13, 1967, Ser. No. 682,050
Claims priority, application Japan, Nov. 15, 1966, 41/75,674
Int. Cl. H01l *11/00, 11/14*
U.S. Cl. 317—234 **1 Claim**

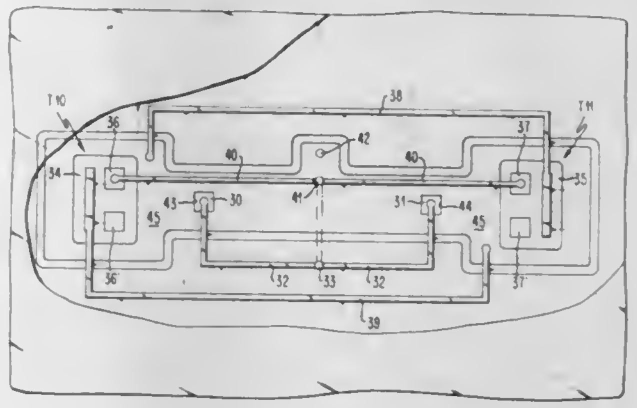


This specification discloses a novel thin film active element comprising a first solid thin film formed of a solid such as a semiconductor, an insulator or the like having a forbidden band with an impurity added thereto and provided with a plurality of electrodes, and a second solid thin film capable of producing the electrostrictive effect and provided with a plurality of electrodes, wherein said second solid thin film is superposed upon said first solid thin film to be in contact with the latter, a control signal is supplied to the electrodes of said second solid thin film to vibrate the latter, and a resulting wave motion is transmitted to said first solid thin film to control the electrical characteristics thereof.

3,505,573
LOW STANDBY POWER MEMORY CELL

Siegfried K. Wiedmann, Esslingen, Germany, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 30, 1968, Ser. No. 763,870
Claims priority, application Germany, Oct. 5, 1967, 1,524,873
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **16 Claims**

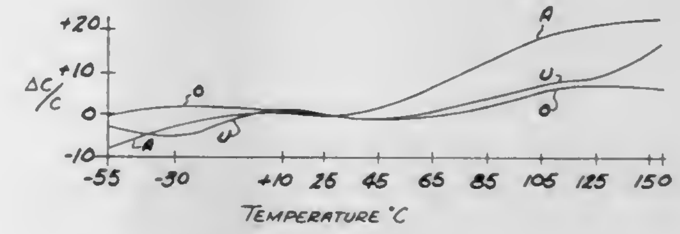
A monolithic memory cell formed by a pair of dual emitter transistors in a bistable circuit configuration, the cell being powered in a high current mode sufficient to maintain the circuit during operating periods, and a low current mode sufficient to maintain the circuit during storage intervals. The cell includes a pair of transistors formed in a substrate of a first type conductivity. The transistors comprise a pair of base regions in the substrate of a conductivity type opposite that of the substrate. A pair of diffused emitters is contained within each base region. The region of the substrate surrounding each base provides the collector for each of said transistors. The low current mode is provided by a constant power source applied to the collector regions through high resistivity substrate. A second power source is selectively applied to the collector regions through a low resistivity, opposite



conductivity type region in the substrate intermediate the pair of transistors. The junction of the intermediate region and the substrate proper acts as a diode to switch the current being applied to the collector to the high current from the second source through the parallel low resistivity path.

3,505,574
CERAMIC COMPOSITION FOR BARRIER LAYER CAPACITORS

Stanley Arnold Long, Mequon, and Charles Luther Fillmore, Menomonee Falls, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 8, 1966, Ser. No. 563,808
Int. Cl. H01g *9/00;* **H01l** *3/00, 5/00*
U.S. Cl. 317—238 **18 Claims**

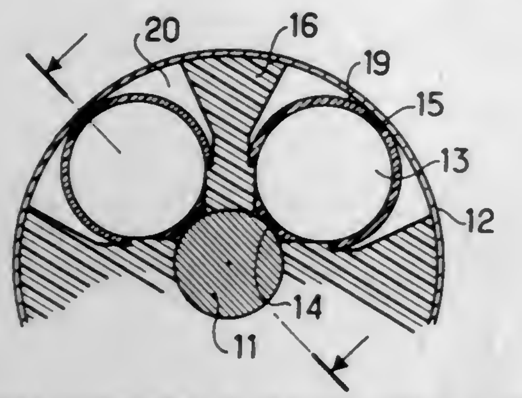


An electric circuit element is formed having a body of a reduced nonstoichiometric semiconductor material composed of barium titanate with minor amounts of bismuth trioxide, a first material selected from niobium pentoxide, rare earth tinates, rare earth oxides, tantalum pentoxide, and mixtures thereof, and preferably a second material selected from among titanium dioxide, stannic oxide, and zirconium dioxide. Electrodes are secured to the body, at least one electrode being nonohmic.

3,505,575
MULTIPLE CAPACITOR

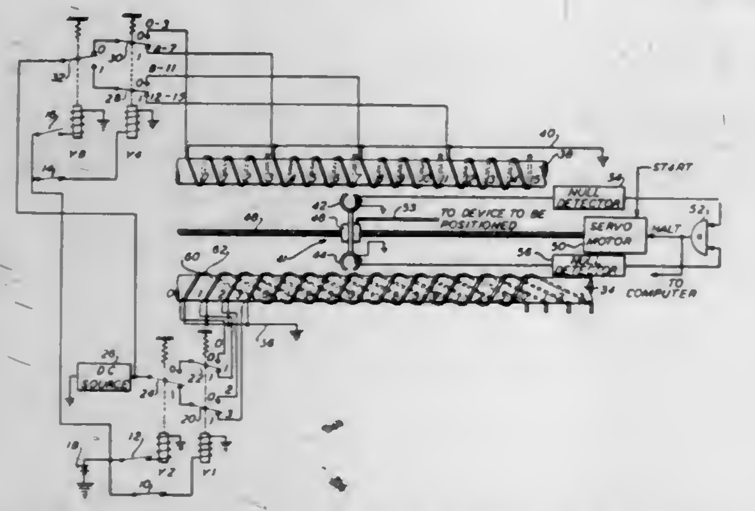
Spartacus Barbini, Chaville, France, assignor to Compagnie Generale d'Electricite, Paris, France, a French corporation
Filed May 17, 1968, Ser. No. 730,157
Claims priority, application France, May 18, 1967, 106,890; June 16, 1967, 110,794
Int. Cl. H01g *5/01, 1/00*
U.S. Cl. 317—242 **14 Claims**

A capacitor is constructed as an elongated body containing the capacitive plates and provided on its lateral surfaces with terminals connected to the plates. The capacitor with lateral terminals may then be inserted with similar capacitors in a coaxial capacitive line between the core and the surrounding tube both of which are electrical conductive. In this way the capacitance between the core and the tube can be varied by introducing or removing capacitors from between them.



3,505,576
DIGITAL SERVOMECHANISM INCLUDING AN INDUCTIVE POSITION ENCODER

William H. Burkhart, Short Hills, N.J., assignor, by mesne assignments, to Litton Business Systems, Inc., a corporation of New York
Filed July 12, 1966, Ser. No. 564,585
Int. Cl. G05b *11/01*
U.S. Cl. 318—18 **11 Claims**

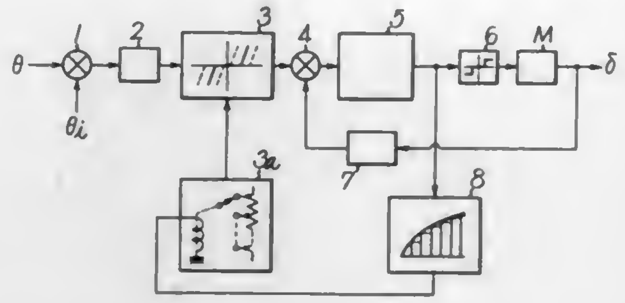


A digital servomechanism including a digital command source and a specific linear digital position encoder. The encoder consists to two parallel rigid bars of nonmagnetic material with grooves therein to receive coil windings. One rod has a plurality of non-inductive bifilar coils wound sequentially the entire length of the rod. The other rod has a plurality of non-inductive bifilar coils wound in segments along the length of the rod. Two pickup heads are provided which are geared to the servomotor and adjacent to the respective coils. The coils are D.C. excited by the command source and the outputs of the pickup heads are summed in an "AND" gate which detects coincidence and causes the servomotor to stop.

3,505,577
ADAPTIVE CONTROL FOR SHIP STEERING WHEREBY SYSTEM IS LESS SENSITIVE IN ROUGH SEA

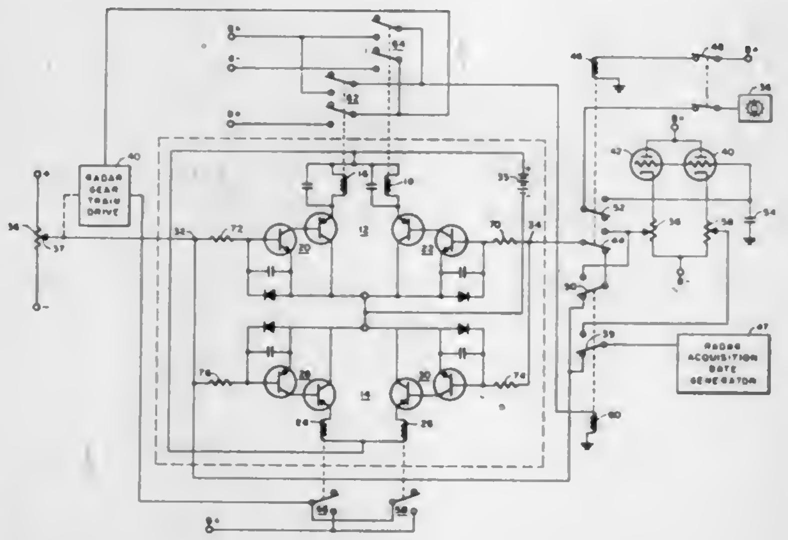
Yoichi Hirokawa, Tokyo, Japan, assignor to Kabushikikaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan, a corporation of Japan
Filed Apr. 4, 1967, Ser. No. 628,441
Claims priority, application Japan, Apr. 13, 1966, 41/23,335
Int. Cl. G05b *11/01*
U.S. Cl. 318—18 **6 Claims**

An automatic pilot system having a plurality of elements for automatically controlling a vehicle to travel along a set course, said automatic pilot system including means for producing an electrical signal corresponding to the number of steering operations of the vehicle in relation to time and other means for determining a steering response sensitivity of the system in accordance with the electrical signal.



3,505,578
"ON-OFF" MOTOR CONTROL FOR USE IN A RADAR SYSTEM

Richard D. Wheeler, Norco, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Mar. 27, 1968, Ser. No. 716,473
Int. Cl. G05b *11/01*
U.S. Cl. 318—18 **5 Claims**

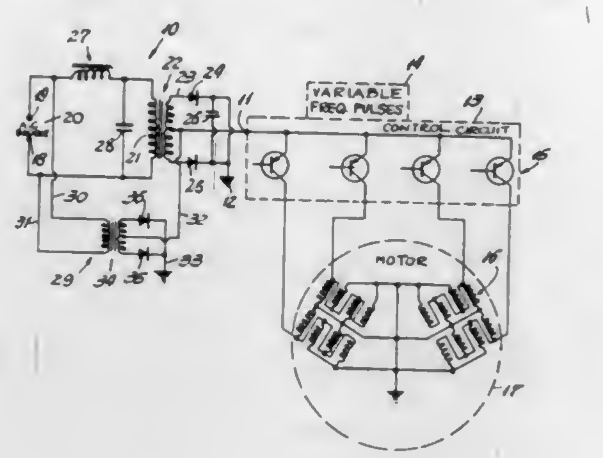


A comparator circuit for providing slew, drive, and drive sense control signals to a radar gear train motor. A comparison is made of two direct current inputs by a circuit which has each input associated with only one relay and whichever input is more positive with respect to the other input causes its associated relay to be energized. Polarity sense between the two inputs is provided since only one relay can be energized. All relays are de-energized when the two inputs are equal.

3,505,579
POWER SUPPLY FOR A STEPPING MOTOR

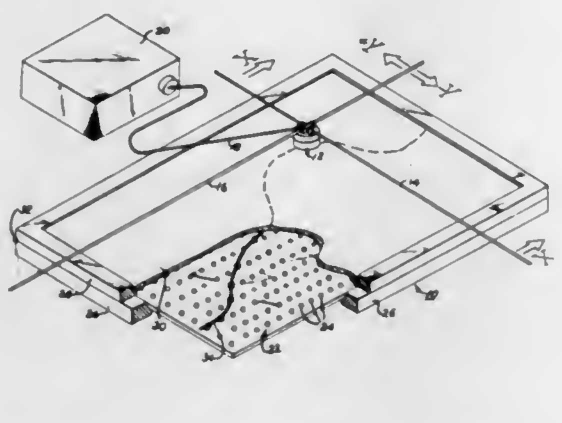
Albert C. Leenhouts, Granby, William M. France, Unionville, and Joseph C. May, Cheshire, Conn., assignors to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed Jan. 5, 1968, Ser. No. 696,077
Int. Cl. H02k *29/00*
U.S. Cl. 318—138 **5 Claims**

A power circuit for supplying power from an A.C. source to a D.C. energized digital or stepping motor to increase the torque of the motor by adjusting the value of the voltage to the motor substantially inversely to the value of the current drawn by the motor at its higher speeds and providing a substantially constant voltage at the low stepping speeds with the speed of the motor being regulated by a control circuit to be independent of the voltage applied thereto.



3,505,580
MAGNETIC LINE FOLLOWER FOR AN X–Y MOTOR CONTROL

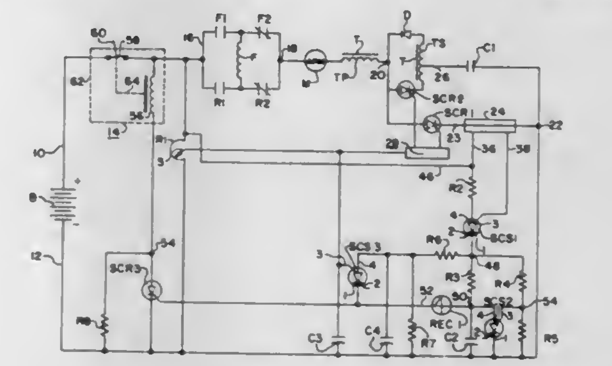
Robert H. Ahrens, Milwaukee, Wis., assignor to Milwaukee Chaplet & Mfg. Company, Inc.
Filed Sept. 15, 1965, Ser. No. 487,468
Int. Cl. G05b *19/02*
U.S. Cl. 318—162 **19 Claims**



A curve defining a desired relationship between variables is established by pressing a flexible cable of magnetic material into slots of non-magnetic pegs selectively located in holes representing points on a plot sheet covered by a planar panel. A reading device actuated across the panel contains magnetic polar elements relatively rotatable about a predetermined axis normal to the panel, one such element registering with the axis and the other being radially offset therefrom. The respective elements are attracted to the cable, which completes a flux path between them, causing the offset element to rotate about the axis to follow the path determined by the cable. Changes in relative position of the elements are communicated magnetically through polarized arms of said elements to an armature which is a rolling electrical contactor riding over fixed resistor contacts in a separate closed chamber to control an electrical current which is a function of the relative positions of the elements and which operates servo motors to maintain the elements on a path defined by the cable.

3,505,581
MALFUNCTION DETECTOR CIRCUIT FOR A SOLID STATE ELECTRIC MOTOR CONTROLLED VEHICLE

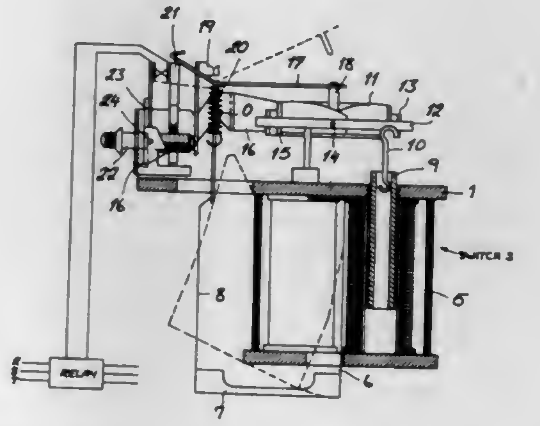
Armand G. Mueller, Wauwatosa, and Robert C. Montross, Mequon, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed May 27, 1968, Ser. No. 732,295
Int. Cl. H02k *17/32*
U.S. Cl. 318—434 **10 Claims**



A control which will detect shorting of the main power silicon controlled rectifier in a solid state electric vehicle system and interrupt the power circuit to the traction motor of the vehicle upon failure of the rectifier to properly control the current pulses to the motor.

3,505,582
PROTECTIVE DEVICE FOR THREE-PHASE INDUCTION-MOTORS

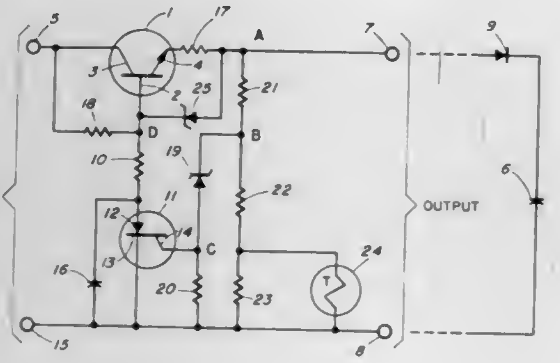
Egon Hoppe and Alex Armand Cretescu, Bucharest, Rumania, assignors to Ministerul Industriei Constructiilor de Masini, Calea Victoriei, Bucharest, Rumania
Filed Mar. 31, 1966, Ser. No. 539,115
Int. Cl. G05b *5/00*
U.S. Cl. 318—475 **7 Claims**



A protective device for three-phase induction-motors having three current coils connected in series with the three line-voltage leads, a relay having individual sets of contacts in series with these leads, and the three power-input terminals of the motor windings. The coils each are designed to displace respective cores coupled with an armature body suspended rollingly with at least two degrees of freedom whereby symmetrical current flow through the coils causes a balanced deflection of the body. Imbalance in the current-flow symmetry through the coils leads to deflection of the body and the operation of a spring-loaded contact when the asymmetry reaches a predetermined level to trip the relay. A thermally sensitive element located within the coil and heated thereby is mechanically connected to the main contacts to trip them upon sensing of overheating of the coils.

3,505,583
VOLTAGE REGULATOR FOR A CAPACITIVE REACTIVE LOAD

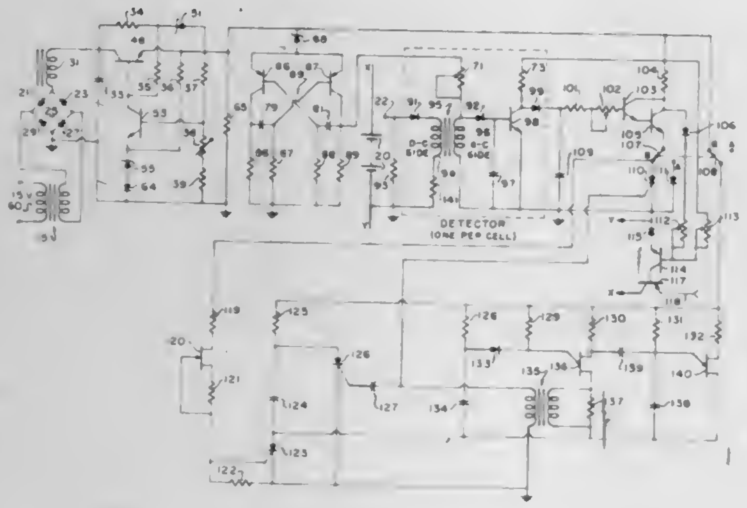
Lawrence E. Burkhardt, Burtonsville, Charles H. Johnson, Hyattsville, and Edward F. Branagan, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 5, 1966, Ser. No. 584,611
Int. Cl. G05f *1/68, 1/64*
U.S. Cl. 320—1 **6 Claims**



A high voltage regulator for providing a constant reference voltage to reactive loads such as RC networks, employing a series connected transistor controlled by a SCR in its base circuit. Zener diodes are used to switch the SCR and to fix the base emitter voltage of the transistor. A thermistor compensates for temperature effects.

3,505,584
CHARGE CURRENT CONTROLLER FOR SEALED ELECTRO-CHEMICAL CELLS WITH CONTROL ELECTRODES

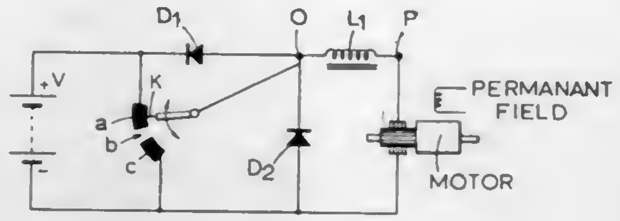
Floyd E. Ford, Davidsonville, Piotr P. M. Liwski, Annapolis, and Nelson H. Potter, Berwyn Heights, Md., and Kenneth Sizemore, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 11, 1966, Ser. No. 550,090
Int. Cl. H01m *45/04*
U.S. Cl. 320—17 **15 Claims**



An automatic charging system for a group of cells of the type having control electrodes includes a detector associated with each cell in the group which samples the control electrode potential at a rapid sampling rate provided by a square wave generator. The detector output is connected to a current control stage which adjusts the cell charging current from an external power supply from full charge to trickle charge to zero as the control electrode voltage increases. A time delay network is provided to adjust the charging current cycle for use with certain types of cells.

3,505,585
ADJUSTABLE D.C. VOLTAGE CONVERTER UTILIZING A MULTI-WAY SWITCH

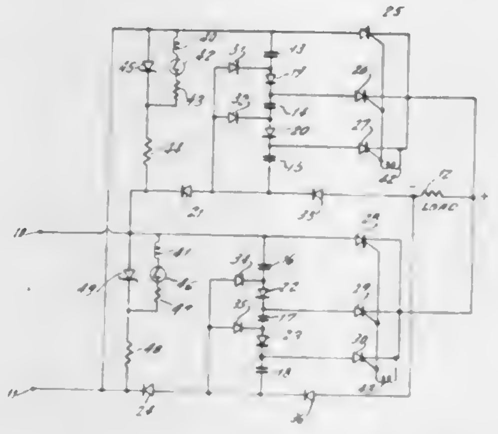
Wolfgang Bial, 405 Shenley Road, Borehamwood, Hertfordshire, England
Filed Aug. 25, 1967, Ser. No. 663,260
Int. Cl. H02m *3/22*
U.S. Cl. 321—2 **12 Claims**



An adjustable direct-current converter is disclosed for adjusting the voltage from a low impedance source, such as a battery, for driving a motor or the like. The converter includes a multi-way switching means having a common terminal and at least two other terminals. The common terminal is connected through an inductor to one of a pair of output terminals. The two other terminals are connected to a pair of input terminals. The time intervals during which the common terminal engages the two other terminals is selectively adjustable.

3,505,586
TRANSFORMERLESS HIGH-CURRENT POWER SUPPLY

Gerald F. Dulin, Torrance, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Feb. 27, 1968, Ser. No. 708,670
Int. Cl. H02m *7/22*
U.S. Cl. 321—15 **3 Claims**

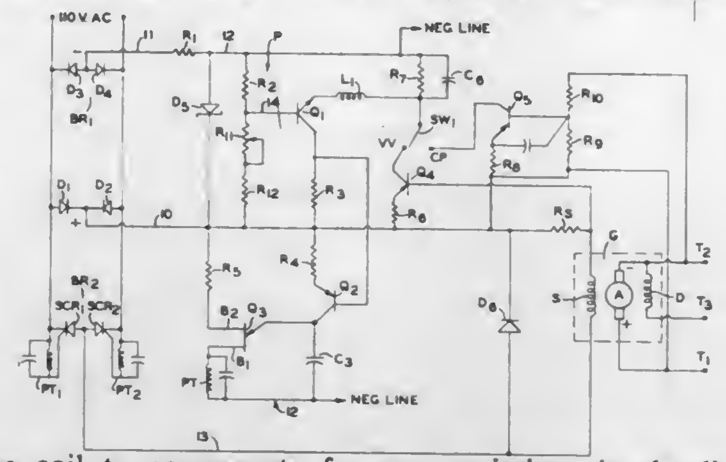


A high-current supply contains a plurality of capacitors which are charged in series from an A-C source, and are discharged in parallel through respective controlled rectifiers and through a D-C load.

3,505,587
ELECTRIC ARC WELDING POWER SUPPLY

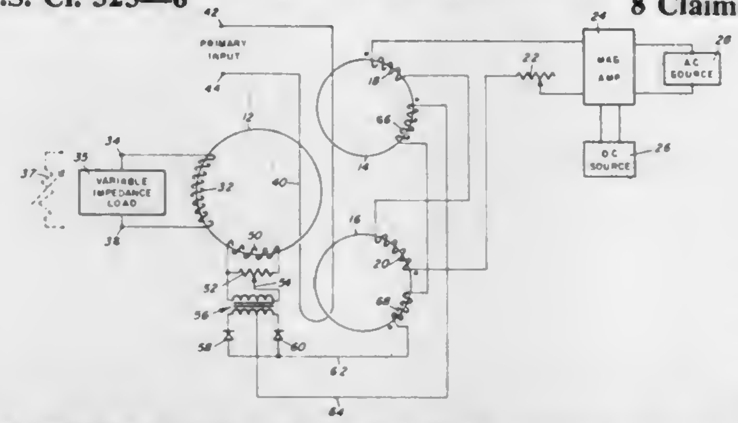
John E. Carroll, Lyndhurst, and Kenneth Anthony Golonka, Richmond Heights, Ohio, assignors to The Lincoln Electric Company, Cleveland, Ohio, a corporation of Ohio
Filed May 31, 1968, Ser. No. 733,497
Int. Cl. H02p *9/14*
U.S. Cl. 322—25 **22 Claims**

A power supply for electric arc welding wherein the volt ampere characteristics are controlled by regulator means for varying the current through a D.C. field coil. For a drooping volt-ampere curve, the means senses the current in the D.C. coil and maintains this current essentially constant with heating of the coil. For a transformer type power source, the means additionally senses the A.C. line voltage and inversely varies the current in the coil to compensate for any variations in the line voltage.



3,505,588
LOAD IMPEDANCE RESPONSIVE FEEDBACK FOR VARIABLE REACTANCE TRANSFORMER

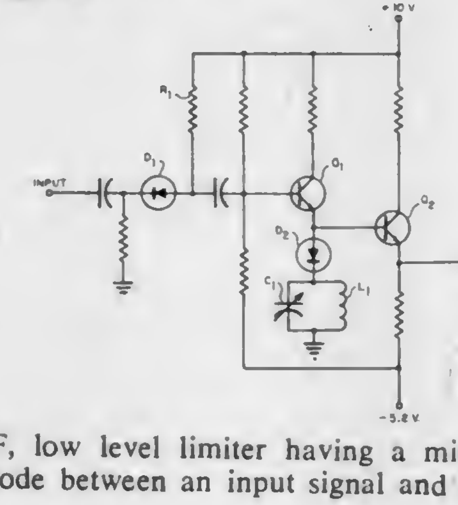
Elwood M. Brock, R.D. 5, Quakertown Road, Flemington, N.J. 08822
Filed Mar. 27, 1968, Ser. No. 716,395
Int. Cl. G05f *1/14;* **H02j** *3/10*
U.S. Cl. 323—6 **8 Claims**



A variable transformer having three annular cores and toroidally-wound primary, secondary, control and feedback windings. The main core carries a secondary winding and a feedback supply winding, while the two auxiliary cores, which are saturable, carry the DC external control windings and the DC feedback control windings. The unitary primary winding surrounds all three cores. The feedback windings carry a major proportion of the control current supplied to the windings on the auxiliary cores, whereby the output of the transformer is responsive to the load impedance connected across the secondary windings.

3,505,589
VERY HIGH FREQUENCY LIMITER

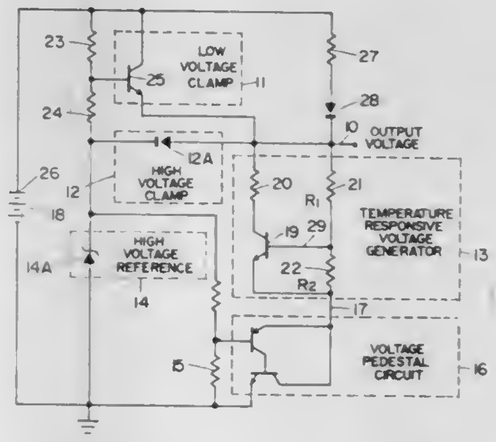
David N. Gershberg, Rockville, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 26, 1968, Ser. No. 701,005
Int. Cl. G05f *3/00*
U.S. Cl. 323—9 **4 Claims**



A VHF, low level limiter having a minority carrier storage diode between an input signal and the base of a transistor and having a parallel resonant circuit connected to the emitter and to ground.

3,505,590
TEMPERATURE RESPONSIVE OUTPUT VOLTAGE APPARATUS

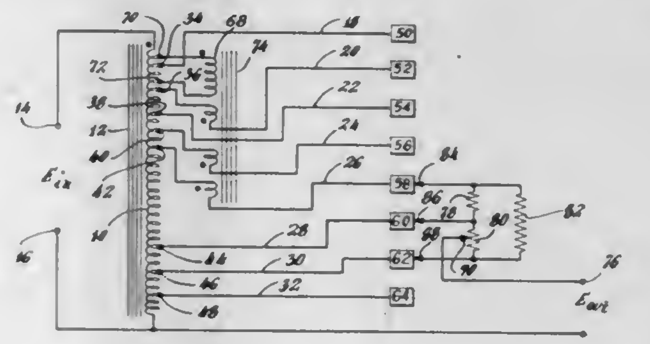
James Elbert Thompson, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Sept. 7, 1967, Ser. No. 666,130
Int. Cl. G05f *1/58, 1/60;* **H02d** *9/00*
U.S. Cl. 323—19 **7 Claims**



The base-emitter junction of a semiconductor device is used as a shunt regulator to provide a reference voltage across a first resistor portion of a voltage divider network. The reference voltage varies inversely with temperature to provide a voltage across the voltage divider which varies inversely with temperature. Limiting voltage means are provided for limiting the minimum voltage excursion of the circuit and the maximum voltage excursion to provide a somewhat S-shaped temperature responsive curve of voltage with respect to temperature.

3,505,591
HIGH RESOLUTION ADJUSTABLE TRANSDUCER EMPLOYING AN AUXILIARY TRANSDUCER

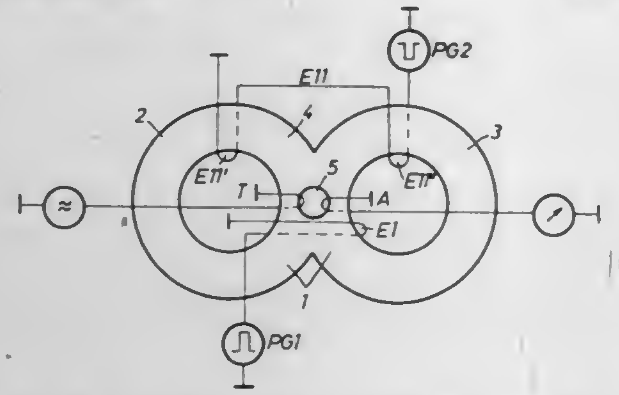
Larkin B. Scott, Fort Worth, Tex., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Oct. 23, 1967, Ser. No. 677,398
Int. Cl. G05f *3/00, 5/00, 7/00*
U.S. Cl. 323—43.5 **7 Claims**



A transducer is described having adjustable means for providing an AC output voltage which is a portion of the input voltage and which includes an improved arrangement for increasing the resolution of the transducer without unduly increasing the number of turns of the transducer. Resolution is enhanced by the use of an auxiliary transformer having a primary winding which is coupled across a portion of the turns of a principal transducer winding, and, a secondary winding which is conductively coupled between an output contact point and a tap position on the principal winding.

3,505,592
MULTI-PATH MAGNETIC CORE VOLTAGE REGULATOR

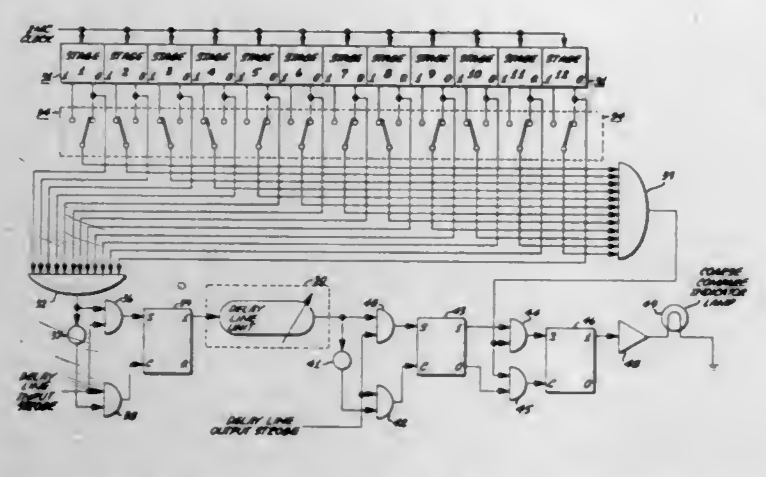
Otmar Kolb, Stuttgart-Weilimdorf, Germany, assignor to International Standard Electric Corporation
Filed Mar. 1, 1967, Ser. No. 619,828
Claims priority, application Germany, Mar. 3, 1966, St 25,059
Int. Cl. G05f *1/04, 7/00*
U.S. Cl. 323—56 **5 Claims**



Multi-path magnetic core arrangements wherein a magnetic core component having substantially rectangular hysteresis loop is comprised of first and second magnetically equal circuits having a common portion. A first setting winding surrounds the common portion. This setting winding is used to increase the permanent flux toward saturation. An additional pair of setting windings surrounds each of the equal magnetic circuits respectively. These windings are used for changing the permanent magnetic flux towards zero. An aperture is located within the common portion. A drive winding is wound to pass through the aperture and end at one side of the common portion. An output winding passes through the aperture and terminates at the other side of the center portion. This arrangement prevents an inversion of magnetic flux direction. The multipath structure so arranged is ideal for use in regulator circuitry.

3,505,593
METHOD AND APPARATUS FOR TESTING AND ADJUSTING DELAY LINES BY DIGITAL TECHNIQUES

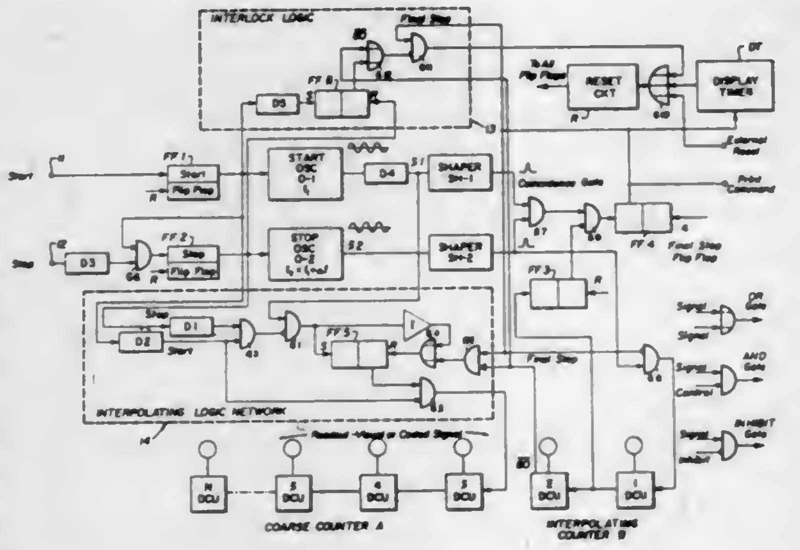
George J. Gram, Greenbelt, Md., and John W. Leitch, North Syracuse, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 30, 1968, Ser. No. 701,595
Int. Cl. G01r *27/28;* **G06f** *15/34;* **H04b** *3/04*
U.S. Cl. 324—57 **10 Claims**



In order to test and adjust a sonic delay line unit utilized for the storage of digital information and to achieve optimum reliability, method and apparatus for effecting coarse and critically fine delay line unit functional length adjustments are disclosed. A coarse adjustment test is made by introducing a periodic test pulse into the delay line unit and varying the delay line unit length to observe a range of coincidence between the test pulse as read from the delay line unit and a precisely timed reference pulse representing the nominal delay to which the delay line unit is to be adjusted. The actual coarse adjustment comprises setting the delay line unit length intermediate the extremes of coincidence.

3,505,594
INTERPOLATING TIME INTERVAL COUNTER WITH COURSE COUNT AMBIGUITY ELIMINATING MEANS

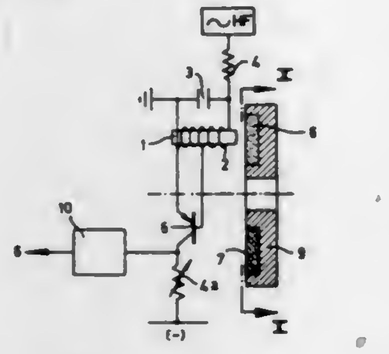
Zoltan Tarczy-Hornoch and Patrick Young, Berkeley, Calif., assignors to W. K. Rosenberry, doing business as Zeta Research, Lafayette, Calif.
Continuation of application Ser. No. 377,972, June 25, 1964. This application Feb. 9, 1968, Ser. No. 704,947
Int. Cl. G04f *11/08*
U.S. Cl. 324—68 **11 Claims**



High resolution interpolating time interval counter utilizing vernier interpolating techniques based upon frequency difference between clock generators, having course count ambiguity eliminating means, stop before start command preventing means and means for preventing the recognition of an early phase coincidence between the clock generators.

3,505,595
ROTATIONAL SPEED SENSOR UTILIZING THE PHASE SHIFT CAUSED BY SUPERPOSITION OF AN A.C. SIGNAL IN THE SENSOR AND A SIGNAL INDUCED FROM THE ROTATING BODY

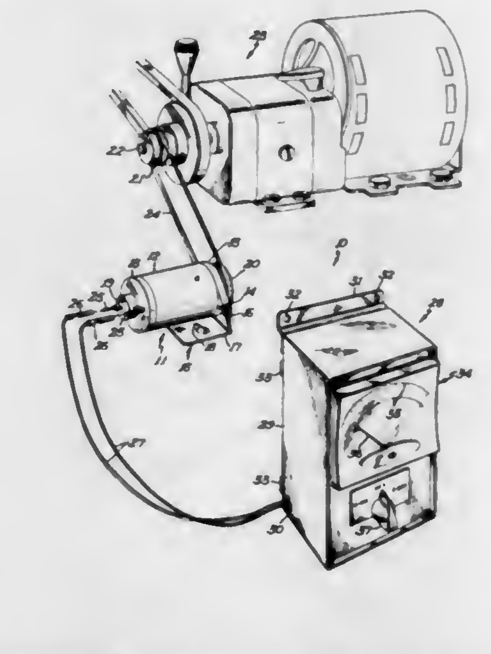
Robert Favre, 36 Servan, Lausanne, Switzerland
Continuation-in-part of application Ser. No. 430,525, Feb. 5, 1965. This application Oct. 20, 1966, Ser. No. 588,121
Int. Cl. G01p *3/44*
U.S. Cl. 324—70 **3 Claims**



A rotational speed sensing circuit is disclosed. A disc having a magnetic sector induces a voltage in an inductance having a permeable core. The inductance is tuned to the frequency of an exciter oscillator coupled thereto. The resultant phase shift between the oscillator voltage and that of the induced voltage is proportional to the rotation of said disc.

3,505,596
HAND TYPE TACHOMETER SELECTIVELY USABLE AS AN INSTALLED TACHOMETER SYSTEM

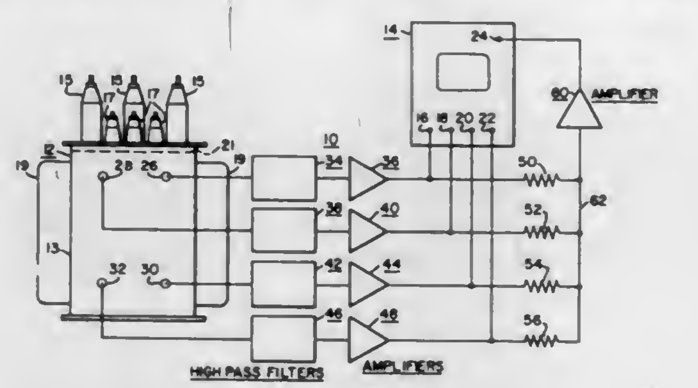
Douglas J. Helm, Minneapolis, Minn., assignor to Zero-Max Industries, Inc., South Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 5, 1968, Ser. No. 695,987
Int. Cl. G01p *3/46*
U.S. Cl. 324—70 **5 Claims**



A tachometer for measuring the rate of mechanical motion of a device, and including a direct current generator having output contacts for ready and releasable connection with electrical conductors of an indicator. A belt and pulley drive interconnecting the generator armature shaft and the output shaft of the device to be measured providing a direct one-to-one drive between the generator and the device to be tested. The direct current generator having a minimum commutator ripple loss thereby permitting extremely accurate and stable measurement of devices even at relatively low speeds.

3,505,597
CORONA TESTING APPARATUS INCLUDING AN OSCILLOSCOPE AND MECHANICAL TO ELECTRICAL TRANSDUCERS HAVING SIGNAL ISOLATING MEANS THEREBETWEEN

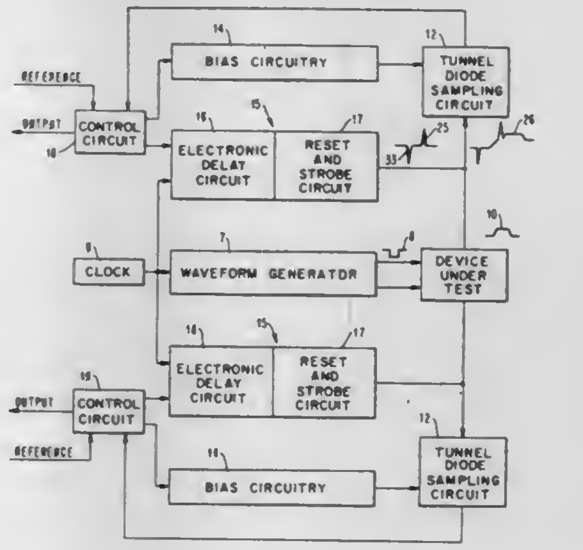
John C. Cronin and Paul Narbut, Sharpsville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 13, 1967, Ser. No. 690,298
Int. Cl. G01r *31/00*
U.S. Cl. 324—72 **10 Claims**



Apparatus for the detection and location of corona within the casing of fluid filled electrical apparatus. A plurality of mechanical to electrical transducers are disposed in predetermined spaced relation with one another, to pickup corona initiated mechanical vibrations in the apparatus to be tested, and the outputs of the transducers are connected to a multitrace oscilloscope. The transducer which first receives the corona initiated vibration initiates the horizontal sweep circuits of each of the traces, with the time between the start of the vertical deflections of any two of the traces indicating the difference between the distances separating the two vibration responsive locations from the source of the corona.

3,505,598
PULSE MEASURING SYSTEM

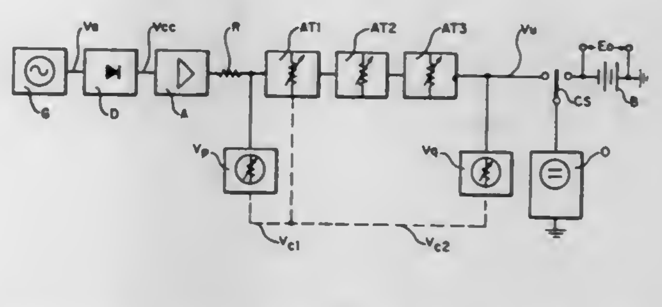
John F. Merrill, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 28, 1967, Ser. No. 663,710
Int. Cl. G04f *11/00;* **G01r** *19/04*
U.S. Cl. 324—77 **12 Claims**



An electrical circuit for measuring (a) the voltage level of a waveform at a specific time with respect to a reference point in time (e.g. clock or sync pulse) and (b) the time required with respect to a reference time for a waveform to reach a specific voltage level. In the first case, the voltage at a given sample time is measured, while in the second case, the time to a given voltage is measured.

3,505,599
A.C. POWER METER COMPENSATED FOR NONLINEAR RECTIFIER

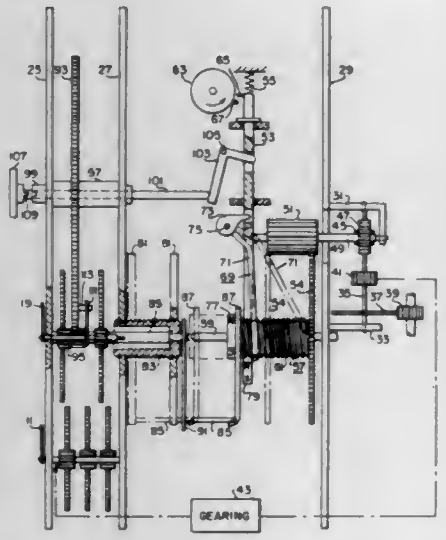
Ettore Massano, Milan, Italy, assignor to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,692
Int. Cl. G01r *17/00, 19/22*
U.S. Cl. 324—98 **2 Claims**



An attenuator circuit of a type of A.C. power meter using a rectifier has auxiliary voltage inserting circuits to compensate for nonlinear characteristics of a preceding diode rectifier. The voltage inserting circuits are controlled in unison with an attenuator control means to provide at two points in the attenuator circuit different required compensating voltages for different ranges of the power meter.

3,505,600
MAXIMUM DEMAND DEVICE WITH PLURAL ORDER INDICATION

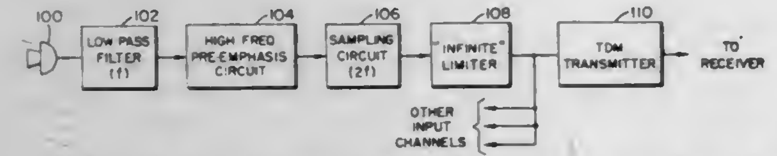
Bernard E. Lenehan, Bloomfield, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 2, 1967, Ser. No. 657,888
Int. Cl. G01r *19/16*
U.S. Cl. 324—103 **10 Claims**



In order to determine the maximum demand of a variable quantity, the quantity is translated into rotary and axial movement of a driving member which is reset at the end of each demand interval. This member is aligned with a rotatable and axially movable driven member. These members are coupled to each other when they occupy predetermined relative axial positions. The driven element operates a counter and is reset at the end of each billing interval.

3,505,601
SAMPLED CLIPPED SPEECH TDM TRANSMISSION SYSTEM

Frank H. Slaymaker, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Continuation of application Ser. No. 240,327, Nov. 27, 1962. This application Oct. 4, 1966, Ser. No. 593,256
Int. Cl. H04b *1/00, 7/00*
U.S. Cl. 325—38 **7 Claims**

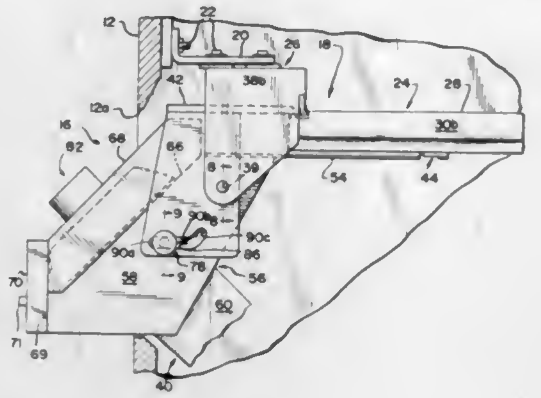


A system for transmitting and receiving speech is described. The speech signal is passed through a very sharp cutoff low pass filter and is differentiated and infinitely limited. The signal is also sampled at a sampling frequency which is at least twice that of the high frequency cutoff of the filter. The sampled signal may be multiplexed with signals from other channels and transmitted via a TDM link to a receiving point.

3,505,602
TUNING STRUCTURE FOR TELEVISION RECEIVER

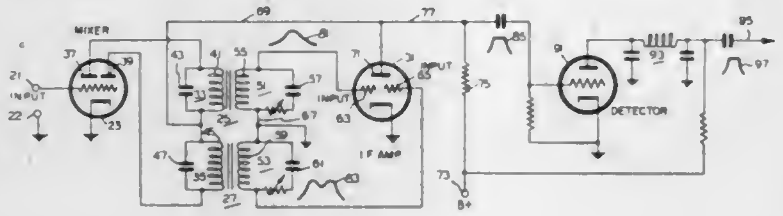
Stephen H. Morrall, Chicago, Paul A. Novak, Wauconda, and Werner H. Wachowiak, Rolling Meadows, Ill., assignors to Warwick Electronics Inc., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,162
Int. Cl. H04b *1/08;* **A47b** *81/06*
U.S. Cl. 325—352 **9 Claims**

A receiver tuning assembly wherein the tuning dials are usually retracted within the cabinet. A chassis containing the dials which moves into and out of the cabinet with movement of a door covering the chassis opening in the cabinet either over the opening or away from the opening respectively. The channel dial has two intersecting surfaces so that the tuned channel can be seen through a window in the cabinet on one surface when the chassis is within the cabinet and on a second surface when the chassis is extended outside of the cabinet.



3,505,603
MUTUALLY COMPENSATED TUNED BANDPASS AMPLIFIER CIRCUITRY

Frank J. Hoban, 116 Lafayette St., Muncy, Pa. 17756
Filed Apr. 2, 1963, Ser. No. 269,924
The portion of the term of the patent subsequent to Feb. 7, 1985, has been disclaimed
Int. Cl. H04b *1/68*
U.S. Cl. 325—430 **10 Claims**

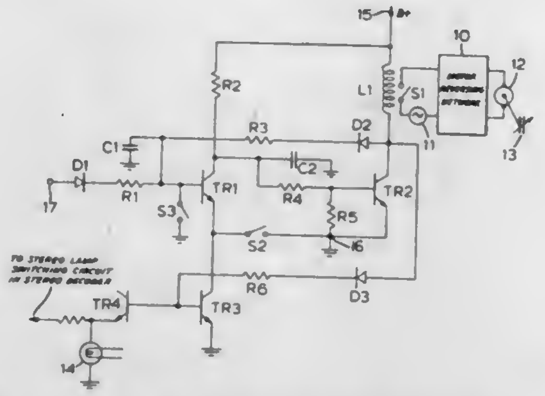


To obtain a broad, flat bandpass characteristic in an amplifier, the input signal is applied to a pair of tuned circuits which are respectively coupled above and below the critical coupling value, and the output energy from the circuits is combined subject to the arithmetic sum of the bandpass characteristics of the resonant circuits.

3,505,604
SELECTIVE AUTOMATIC MOTOR SHUT-OFF NETWORKS FOR SIGNAL SEEKING RECEIVERS

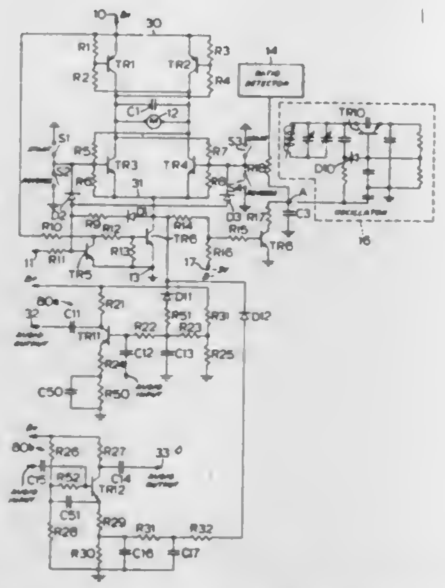
Jacob Buhr, Kitchener, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed Dec. 19, 1966, Ser. No. 602,940
Int. Cl. H04b *1/32*
U.S. Cl. 325—470 **9 Claims**

A signal seeking receiver has an automatic shut-off network operable in a first mode to automatically turn off the tuner motor of the receiver upon tuning to the frequency of either of two different types of signals, e.g., F.M. monaural and F.M. stereo, and operable in a second mode to turn off the motor only when the receiver is tuned to the frequency of one of the foregoing types of signals.



3,505,605
AUTOMATIC MOTOR SHUT-OFF NETWORKS FOR SIGNAL SEEKING RECEIVERS

Jacob Buhr, Kitchener, Ontario, Canada, assignor to Electrohome Limited, Kitchener, Ontario, Canada
Filed Dec. 19, 1966, Ser. No. 602,944
Int. Cl. H04b *1/32*
U.S. Cl. 325—470 **8 Claims**

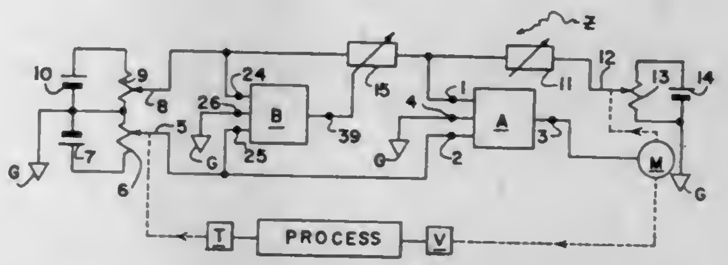


A signal seeking receiver has an automatic motor shut-off network that includes first and second transistors interconnected in flip-flop configuration such that when either is turned on or off, the other is kept turned off or on respectively. Signals are applied to the first transistor to turn it on when the signals are above a predetermined level, and the first transistor is biased on when the motor is operating. The second transistor is connected in a circuit through which current required in order for the motor to operate must pass. Means are provided for changing the state of conduction of one of the transistors to turn on the second transistor and initiate motor operation.

3,505,606
PLURAL MODE PROCESS CONTROLLER

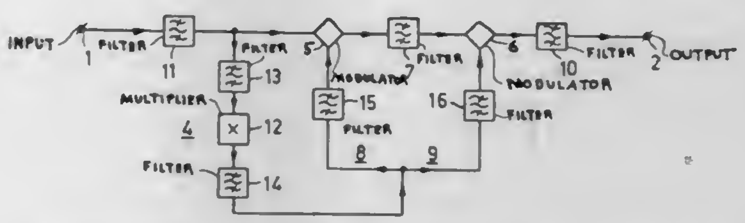
Alan J. Werner, Brighton, N.Y., assignor to Sybron Corporation, a corporation of New York
Filed Oct. 6, 1966, Ser. No. 584,875
Int. Cl. G06g *7/18*
U.S. Cl. 328—146 **10 Claims**

A process controller having several modes of unsaturated operation, and including an amplifier having an input and feedback circuitry to define controller output. The controller includes circuitry for determining when process variable deviation exceeds a predetermined absolute value, and for modifying the input circuitry when this value is exceeded. This modification increases controller gain, and persists until the process variable deviation becomes less than said value again. As shown, the modification is switching resistance in the input circuit, such as to provide the controller with larger reset effect for large process variable deviations than for small process variable deviations.



3,505,607
ARRANGEMENT FOR SELECTING IN A CORRECT PHASE RELATIONSHIP A CHARACTERISTIC COMPONENT FROM A FREQUENCY SPECTRUM

Petrus Josephus van Gerwen and Robert Johannes Sluyter, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 14, 1967, Ser. No. 682,885
Claims priority, application Netherlands, Nov. 19, 1966, 6616319
Int. Cl. H03k *1/04*
U.S. Cl. 328—167 **7 Claims**

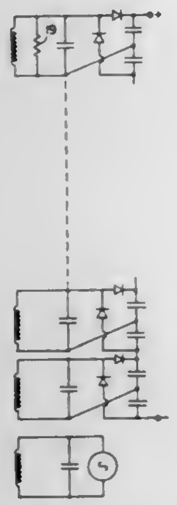


A selection filter for an oscillation occurring in a spectrum of oscillations is comprised of a main channel including a pair of modulators, a filter connected between the modulators, and a filter connected to the output of the last modulator. An auxiliary channel, which also includes a filter, is connected to the input of the main channel. Separate channels are provided for connecting the other input of each modulator to the output of the auxiliary channel.

3,505,608
TRAVELING WAVE HIGH VOLTAGE GENERATOR

Harald A. Enge, Winchester, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Aug. 10, 1967, Ser. No. 659,742
Int. Cl. H05h *5/04;* **H02m** *7/04*
U.S. Cl. 328—233 **7 Claims**

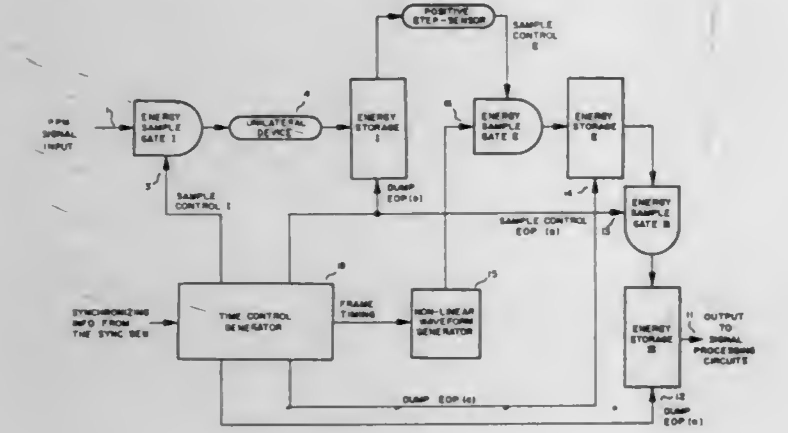
This invention relates to the transmission of electric power across a high voltage and in particular to the generation of high voltage by means of an electromagnetic generator wherein the power is transmitted up through the high-voltage column by means of a traveling wave. In general, the invention comprehends a transformer wherein the secondary coil is divided into a series of secondary coil units. Each coil unit is connected to a capacitor which has such a value that the resonance frequency for each circuit is of the same order of magnitude as the frequency of the applied voltage. Adjacent coil units are electrically insulated from one another as regards the alternating-current part of the circuit, but spaced sufficiently closely to provide inductive coupling. The coil units may each be connected to rectifiers and the direct-current output of same may be coupled in series to build up a high D.C. voltage. The primary coil excites the secondary coil unit at one end of the assembly, and the oscillations in this coil unit are transmitted from coil unit to coil unit along the assembly by the inductive coupling. Thus the induction B goes like a traveling wave along the transformer. The wave length is some fraction, such as 1/10 or 1/20, of the length of the complete secondary. A small part of the power is tapped off



and rectified in each unit. A representative embodiment of the invention might have for example 100 secondary coil units each generating between 30 and 50 kilovolts. For assembly purposes the coil units may be stacked one by one, or n coil units may be pre-assembled into an assembly unit, and the assembly units may then be stacked. The invention is not limited to the generation of high voltage, but includes other embodiments involving the transmission of electric power across a high voltage. For example, the invention may be used to transmit electric power from ground to the high voltage terminal of an electrostatic belt-type accelerator.

3,505,609
MULTICHANNEL, NONLINEAR PULSE DETECTOR AND DEMODULATOR

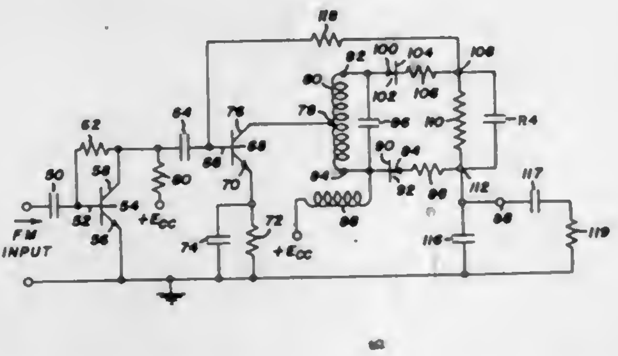
Spyros G. Varsos, Maitland, and Richard A. Branham, Orlando, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Oct. 11, 1965, Ser. No. 494,677
Int. Cl. H03k *9/04*
U.S. Cl. 329—107 **16 Claims**



This invention relates to a device for recreating the intelligence contained in a stream of pulses that have been position modulated, the principle of operation of which device involves the premise that the largest pulse appearing in each of a number of time periods is in each instance the most likely correct pulse. A voltage representative of the position of the largest pulse of each of these periods is derived by the use of a regularly recurring nonlinear waveform. This waveform is not reset except at the end of each time period, with the voltage level corresponding to the position of the most likely correct pulse in each instance being retained until the end of the time period. A succession of readouts of the voltage levels is representative of an expanded version of the originally-transmitted intelligence, the use of the nonlinear waveform making possible the elimination of equipment formerly used in connection with the expansion function.

3,505,610
SIMPLIFIED FM RATIO DETECTOR CIRCUIT

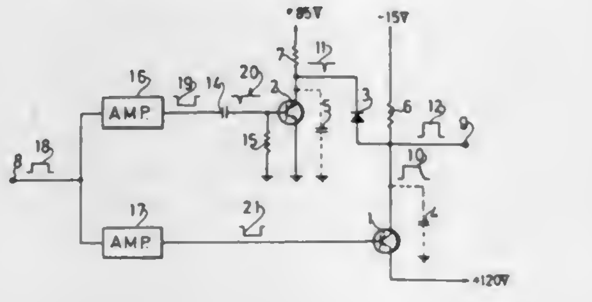
Robert B. Dome, Geddes Township, Onondaga County, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 24, 1967, Ser. No. 611,373
Int. Cl. H03d *3/00*
U.S. Cl. 329—129 **4 Claims**



An FM ratio detector circuit, including a simplified circuit for providing a phase shift between voltages in the primary and secondary circuits. A serially connected resonant circuit and R.F. choke effect the phase shift to produce the desired energizing signal voltages to rectifiers producing a demodulated output.

3,505,611
AMPLIFIER CIRCUIT

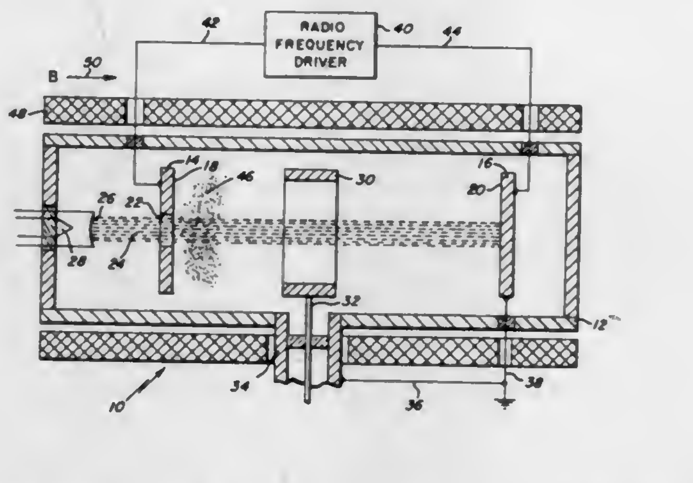
Hisashi Eguchi and Hideo Matsuoka, Tokyo, Japan, assignors to Iwatsu Electric Co., Ltd., Tokyo, Japan
Filed July 18, 1968, Ser. No. 745,777
Claims priority, application Japan, July 21, 1967, 42/46,619
Int. Cl. H03f *3/68*
U.S. Cl. 330—30 **3 Claims**



Amplifier circuit of the invention comprises a pair of transistors having different polarities. A diode is inserted into a connection between collectors of the transistors. One of the transistors is a PNP transistor having a function of A class amplifier, and the other one is a NPN transistor having a function of switching operation. The NPN transistor is impressed by a pulse signal at a time of trailing of the output of the PNP transistor, thereby the trailing wave form of the output of the PNP transistor is improved in rapid trailing.

3,505,612
NOISE POWER GENERATOR UTILIZING SECONDARY EMISSION SOURCES ENERGIZED BY RADIO FREQUENCY MEANS

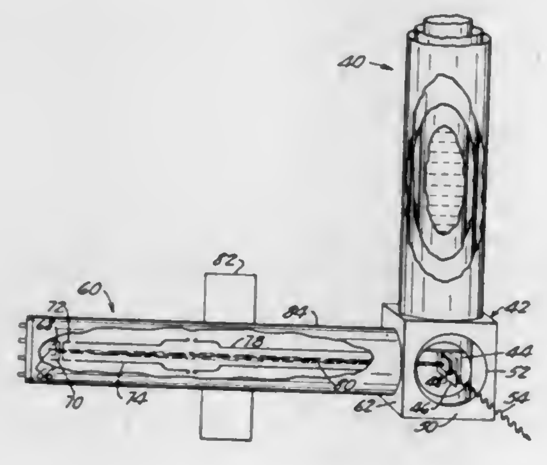
Rudolf C. Hergenrother, West Newton, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed June 30, 1967, Ser. No. 650,011
Int. Cl. H03b *29/00*
U.S. Cl. 331—78 **4 Claims**



A wide band noise generator utilizing a dynode secondary electron emitter arrangement within an evacuated envelope with the dynodes biased by an external high power radio frequency oscillatory source. Random collisions of secondary electrons produced by primary electrons is the desired characteristic for the generation of high noise content output signals coupled to a collector electrode disposed between the dynodes within the envelope. An external magnetic field parallel to the axis of the envelope aids in focusing the electrons.

3,505,613
ZINC OXIDE LASER

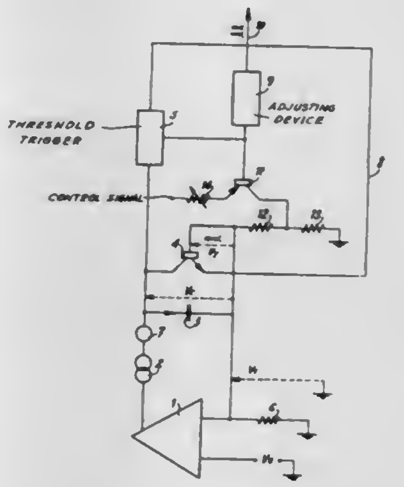
Donald A. Campbell, St. Paul, William C. Tait, Bay Township, Washington County, and James R. Packard, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,153
Int. Cl. H01s *3/06, 3/09, 3/16*
U.S. Cl. 331—94.5 **13 Claims**



A zinc oxide single crystal laser in which the crystal is selected to have a power conversion efficiency of at least 10^{-2} percent in its spontaneous emission region of operation.

3,505,614
VOLTAGE TO FREQUENCY CONVERTER

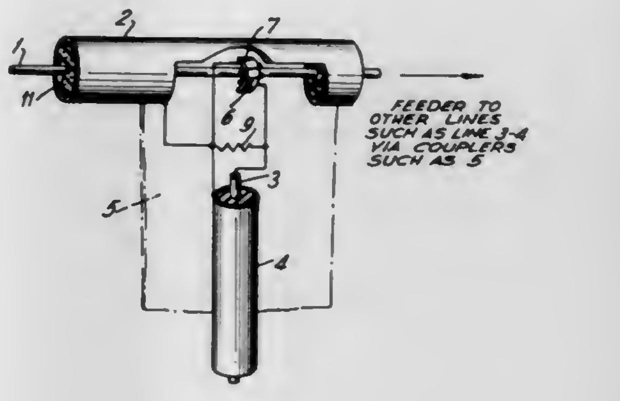
Louis Marthe, Pau, France, assignor to Societe Nationale des Petroles d'Aquitaine, Tour, Aquitaine-Courbevoie, France
Filed Nov. 30, 1966, Ser. No. 597,977
Claims priority, application France, Mar. 9, 1966, 52,630
Int. Cl. H02m *5/30;* **H03c** *3/38;* **H03k** *7/00*
U.S. Cl. 332—9 **3 Claims**



This invention relates to a voltage to frequency converter and, more particularly, to apparatus for deriving from an electrical input signal an output alternating current signal whose frequency at any time is proportional to the voltage of the input signal.

3,505,615
INDUCTIVELY COUPLED TAP

Keneth A. Simons, 3011 Sycamore Road, Bryn Athyn, Pa. 19009
Continuation-in-part of application Ser. No. 574,702, Aug. 24, 1966. This application Jan. 21, 1969, Ser. No. 814,482
Int. Cl. H01p *5/14*
U.S. Cl. 333—10 **17 Claims**

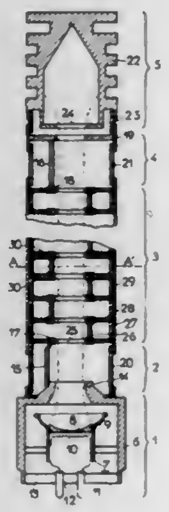

FEEDER TO OTHER LINES SUCH AS LINE 3-4 VIA COUPLERS SUCH AS 5

An inductive coupler with flat response over a broad frequency band, which enables the coupling of drop lines to a main signal cable, such as used in a CATV system, without cutting or connecting to the center conductor thereof.

An inductive coil with ferrite core is positioned within the dielectric of the main cable. The leads of the coil are connected to the drop line, and a back-match impedance connected across the coil.

3,505,616
ELECTROMAGNETIC DELAY LINE FOR A TRAVELLING WAVE TUBE

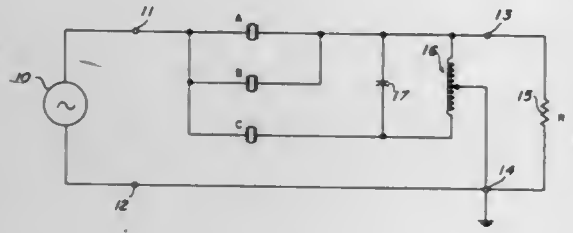
Jean E. Picquendar, Saint-Remy-les-Chevreuses, Olivier Cohen, Gif-sur-Yvette, Robert Lucien Metivier, Fontenay-aux-Roses, and Robert Thimonier, Clamart, France, assignors to Compagnie Francaise Thomson-Houston, Paris, France, a corporation
Filed Oct. 15, 1965, Ser. No. 496,289
Int. Cl. H03h *7/30*
U.S. Cl. 333—31 **11 Claims**



An electromagnetic delay line or slow-wave structure for a high power travelling wave tube which is insulatingly supported within a tubular metal housing. The line, which is comprised of ring-and-bar lines or lines derived thereof having nearly the same transmission and band width properties as a helical line, is supported by members of beryllium oxide secured to either group of said conductors, and located in the same plane as the conductor to which it is secured. The beryllium oxide support members, which are exposed only to weak electric fields, so as not to modify substantially the properties of the line, provide good electrical insulation while also transferring heat to the housing for cooling purposes.

3,505,617
RIPPLE REDUCTION IN A HALF-LATTICE CRYSTAL FILTER USING THREE PARALLELED CRYSTALS RESONANT AT LOWER, CENTER AND UPPER EDGE OF PASS-BAND

Richard G. Wrench, Auburn, Wash., and Richard H. Tuznik, Erie, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 12, 1968, Ser. No. 704,744
Int. Cl. H03h *9/00*
U.S. Cl. 333—72 **1 Claim**



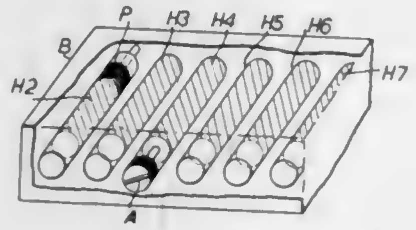
In filters, a half-lattice section with three crystals are paralleled and are resonant, respectively, to f_0,

$$f_0+\frac{\Delta f}{2}, \text{ and } f_0-\frac{\Delta f}{2}$$

The passband is broadened and squared, and ripple is minimized.

3,505,618
MICROWAVE FILTERS

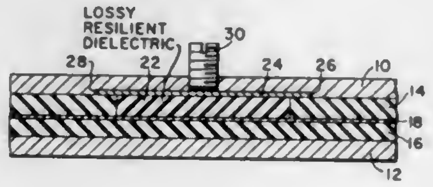
Frederick Brian McKee, Burnham-on-Crouch, England, assignor to The Marconi Company Limited, London, England, a British company
Filed May 4, 1967, Ser. No. 636,049
Claims priority, application Great Britain, June 8, 1966, 25,495/66
Int. Cl. H03h *7/10, 1/00*
U.S. Cl. 333—73 **11 Claims**



A microwave filter consists of a block of dielectric material which is coated with a conductive film on its outer surface to constitute the housing. The block is provided with holes and conductive members may be constituted by deposits of conductive film on the walls of the holes or they may be constituted by a combination of the conductive film and rods which fit in the holes and contact with the deposits of conductive film. The filter characteristic may be made adjustable by threading the rods so that they may be adjustably screwed in the holes.

3,505,619
MICROWAVE STRIPLINE VARIABLE ATTENUATOR HAVING COMPRESSIBLE, LOSSY DIELECTRIC MATERIAL

Otis L. Bishop, Raleigh, N.C., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1968, Ser. No. 768,452
Int. Cl. H01p *1/22*
U.S. Cl. 333—81 **10 Claims**

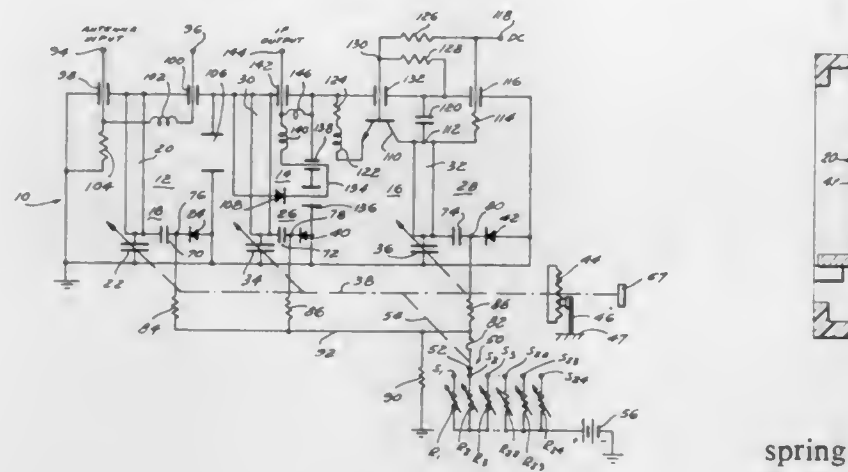


A variable attenuator used in microwave strip transmission lines wherein the variability of the attenuator is achieved by the compression of a lossy resilient dielectric material inserted in one of two dielectric sheets located between one of a pair of ground plane conductors and a relatively thin center conductor strip attached to the other dielectric sheet.

3,505,620
PRESETTABLE TELEVISION CHANNEL TUNER USING VARIABLE CAPACITOR AND VARIABLE CAPACITANCE DIODES

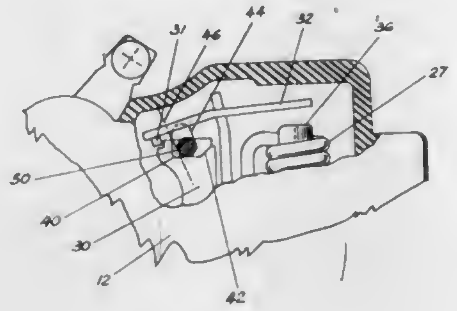
Carroll R. Miner, Wilbraham, Mass., assignor to General Instrument Corporation, Newark, N.J., a corporation of Delaware
Filed Nov. 27, 1968, Ser. No. 779,406
Int. Cl. H03h *5/12;* **H03i** *5/00*
U.S. Cl. 334—15 **12 Claims**

A presettable TV tuner comprises a tuning circuit having a variable capacitor and a voltage-variable capacitor. The variable capacitor is operatively secured to a movable control member having a plurality of predetermined positions to which it can be moved to vary the capacitance value of the variable capacitor, and to apply a different preset capacitance-varying voltage to the voltage variable capacitor, thereby to select a different predetermined channel at each of the predetermined positions of the control member.



3,505,621
COUPLING FOR TWO-POLE CIRCUIT BREAKER

George W. Knecht, Brooklyn, N.Y., assignor to Murray Manufacturing Corporation
Filed June 22, 1967, Ser. No. 648,123
Int. Cl. H01h *75/10, 77/06*
U.S. Cl. 335—8 **3 Claims**

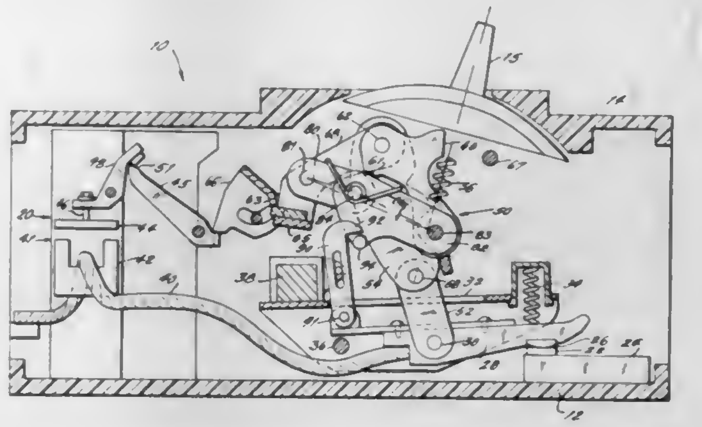


A two-pole circuit breaker of the type including two single pole breakers of half-inch module design mounted side-by-side and interlocked for two pole operation. The interlocking member is shaped in the form of a cylinder having a central flange, the end cylindrical portions are caused, by means of scissor camming action upon their periphery, to transfer the tripping of one circuit breaker to the other.

3,505,622
CURRENT LIMITING CIRCUIT BREAKER WITH COLLAPSIBLE CRADLE STRUCTURE

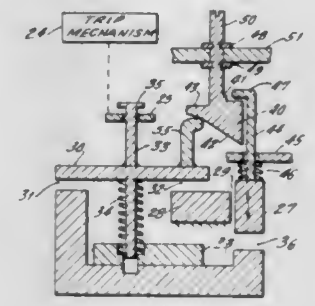
Albert Strobel, Cherry Hill, N.J., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 21, 1968, Ser. No. 777,821
Int. Cl. H01h *77/02*
U.S. Cl. 335—16 **5 Claims**

In a circuit breaker device whereupon the contact blow-off forces accompanying a severe fault condition serve to collapse a two-part cradle structure, a toggle type cradle biasing arrangement is disclosed. The two portions of the cradle structure are normally maintained as a rigid integral member by a spring biased toggle linkage structure. The use of the toggle linkage for biasing the collapsible cradle permits a reduction in the biasing spring requirements, and hence an attendant reduction in the overall circuit breaker size.



3,505,623
ADJUSTABLE MAGNETIC TRIP MEANS FOR CIRCUIT BREAKERS WITH SINGLE ADJUSTMENT MEANS

Carl E. Gryctko, Haddon Heights, N.J., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Aug. 9, 1968, Ser. No. 751,561
Int. Cl. H01h *71/74, 77/06*
U.S. Cl. 335—42 **9 Claims**

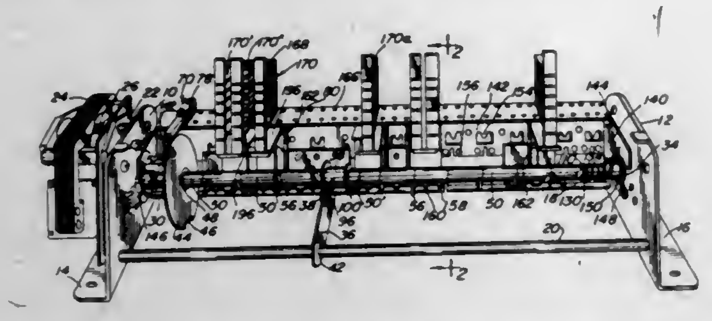


A magnetic trip structure for circuit breakers in which the range of operation is extended and the point of operation is adjustably selected by manipulation of a single control device. A stationary magnet which cooperates with a movable armature is provided with a variable air gap which can be adjusted to adjust the reluctance of the magnetic circuit. This, in turn, adjusts the point at which the armature is attracted to the magnet in order to trip a circuit breaker. A single adjustment means is connected to the movable reluctance adjustment structure by a cam mechanism. This common adjustment structure may be further connected to adjust the armature air gap, whereby a common cam initially causes a major adjustment of the magnetic circuit reluctance and thereafter causes a change in the armature air gap, thereby to have an extended adjustment range for the trip point of the system.

3,505,624
TRIP RELAY BANK

Herman Seiden, deceased, late of Skokie, Ill., by Freida B. Seiden, administratrix, Skokie, Ill., assignor to Bally Manufacturing Corporation, a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 722,488
Int. Cl. H01h *67/02*
U.S. Cl. 335—107 **16 Claims**

A multiple trip relay bank switch to control electric circuits wherein, in an illustrated embodiment, a drive shaft carrying a first set of spaced cams is coupled through one or more friction clutches to a driven shaft carrying additional sets of spaced cams, the cams are engageable with a series of multi-pole switches having circuit responsive armature-controlled latches and one or more of the latches controls the engagement of the friction clutches. Other embodiments are disclosed including multiple drive of sections of interlocked cams from a single shaft with over-riding spring clutch control of any cam section.



3,505,625

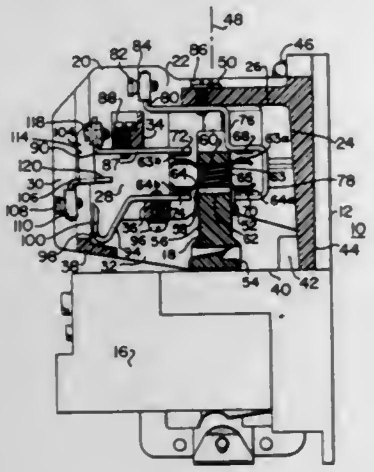
CONVERTIBLE CONTACT STRUCTURE FOR AN ELECTROMAGNETICALLY OPERATED SWITCH

Erik J. Nielsen, Mequon, and Allin W. Schubring, Milwaukee, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Sept. 12, 1968, Ser. No. 759,350

Int. Cl. H01h *45/00*

U.S. Cl. 335—132 **9 Claims**



An arrangement for achieving conversion of the contacts of a relay from a normally open to a normally closed contact operation and vice versa. The conversion is accomplished by connecting a rear set of movable contacts of the relay to a common terminal and providing a removable member which may be selectively secured to either of two stationary contact supports at the front of the relay.

3,505,626

ELECTROMAGNETIC DEVICE FOR CIRCUIT BREAKER TRIP UNIT ASSEMBLY

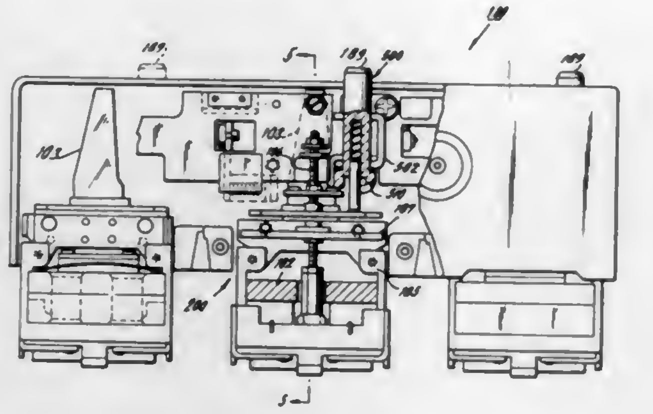
Howard R. Shaffer, Glenside, Pa., assignor to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed July 11, 1968, Ser. No. 744,166

Int. Cl. H01h *9/00*

U.S. Cl. 335—176 **23 Claims**

An electromagnetic device of the type having application for a circuit breaker trip unit assembly, utilizing a modified armature biasing structure as well as a means for indicating actuation of an individual magnetic assembly. The modified armature biasing structure provides a decrease of the force urging the armature away from the cooperating pole faces, as the armature gas separation decreases. By avoiding the heretofore practical arrangement of increasing the bias force with a reduction of the gap separation, the disclosed structure permits a wider range of operation. The visual indicating means in conjunction with the trip unit assembly serves to readily indicate to the operator which pole of a multi-phase device has been actuated and will require manual reset.



The above noted features may be combined, and in one such combined arrangement, the armature bias force is reversed at the concluding portion of its travel, to lock the armature against the magnet pole faces until manually reset.

3,505,627

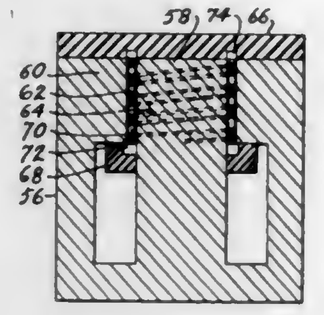
ELECTROMAGNETIC DRIVER FOR PRESSURE MEASURING SYSTEM

Anatole J. Sipin, 117 E. 77th St., New York, N.Y. 10021

Original application Oct. 18, 1965, Ser. No. 497,000, now Patent No. 3,364,749, dated Jan. 23, 1968. Divided and this application Jan. 16, 1968, Ser. No. 718,961

Int. Cl. H01f *1/00, 7/00;* **G01l** *9/00*

U.S. Cl. 335—209 **2 Claims**



A magnetic driver for a pressure measuring system of the force balance type in which the restoring force of the system is applied electromagnetically to a conductive fluid. The electromagnetic driver has a pair of opposite poles separated by an air gap, a plurality of fluid channels in said air gap, and spaced apart conductor means arranged such that the conductive fluid passes through the channels in said air gap.

3,505,628

SOLENOID PLUNGER WITH LIMITED FREE TRAVEL

Perry E. Allen, 4644 Round Hill Road, Birmingham, Mich. 48010

Filed Mar. 4, 1968, Ser. No. 710,039

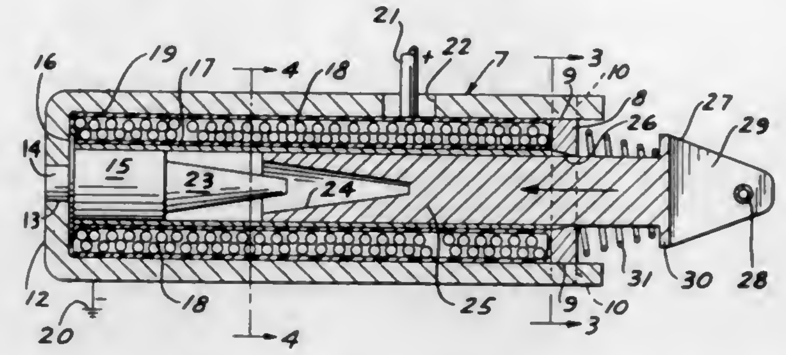
Int. Cl. H01f *7/08*

U.S. Cl. 335—255 **5 Claims**

An improved solenoid which has a substantially high torque ratio with respect to size and weight is constructed with a U-shaped frame, having a frusto-conical core, and a plunger slidable in said frame. The plunger has a conical recess therein for receiving the frusto-conical core.

The plunger also has an enlarged head mounted exteriorly of the frame, the head having a slot for receiving a connecting linkage. The slot is traversed by a pin

which provides means for anchoring the plunger to any connecting linkage, whereby there is delayed motion between the plunger head and the pin, and the connecting linkage upon actuation of the solenoid.



There is a spring concentric with the plunger and positioned between the solenoid frame and the head of the plunger to return the plunger to a position of rest after the solenoid has been actuated.

3,505,629

UNIPOLAR FLAT-TYPE OF MINIATURE CONSTRUCTION

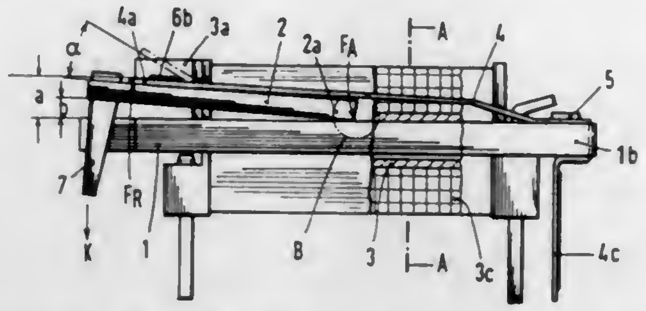
Herbert Krautwald, Harry Schroeder, and Werner Bosch, Munich, Germany, assignors to Siemens Aktiengesellschaft, a coporation of Germany

Filed Aug. 16, 1967, Ser. No. 660,944

Claims priority, application Germany, Aug. 18, 1966, S 105,423

Int. Cl. H01f *7/08*

U.S. Cl. 335—275 **2 Claims**



A unipolar flat-type relay of miniature construction having an E-shaped yoke, a spool carrying a field winding disposed on the center yoke leg, a flat U-shaped armature pivotally disposed on the yoke, and the a frame-like leaf bearing spring which is attached at one end to the outer yoke legs, for example by rivets, the opposite free end of the bearing spring carrying the armature, such bearing spring having a bend therein with the bearing force and the armature reset force being adjustable by selection of the bias angle of the bearing spring, formed by said bend, said spool having an extension thereon forming a stop for the bearing spring and armature which determines the reset position thereof, and in which the pivotal axis may be determined by means projecting the yoke, the spring may be so constructed that a grounding plug is provided, and the spool may be so constructed that a definite predetermined positioning of the spool on the center yoke leg may be achieved.

3,505,630

FUSE CONSTRUCTION

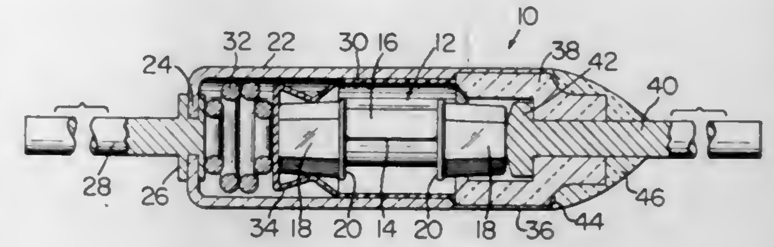
Phillip Edward Merrill, Kettering, and Emil Robert Plasko, Washington Township, Montgomery County, Ohio, assignors to Micro Devices Corp., Dayton, Ohio, a corporation of Ohio

Filed Jan. 29, 1968, Ser. No. 701,392

Int. Cl. H01h *85/16, 85/30, 85/02*

U.S. Cl. 337—201 **12 Claims**

An electric current sensitive fuse is disclosed including an electrically insulative rod or cylinder with a current carrying length of fuse wire extending along a surface of such rod. Two spaced conductive current terminal fuse wire holders are carried by such rod and are connected at each end of such length of fuse wire. Electric current passing through such length of fuse wire below the ampere rating of the fuse flows through the fuse wire while causing said rod surface to dampen vibrations in such length of fuse wire. Electric current above the selected ampere rating of the fuse causes such length of fuse wire to blow.



3,505,631

ELECTRIC THERMOSTAT SWITCH

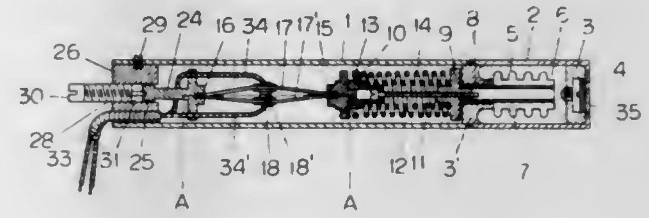
Kenshi Kondo, 6–3 Tamagawa-Seta-machi, Setagaya-ku, Tokyo, Japan

Filed Sept. 17, 1968, Ser. No. 760,163

Claims priority, application Japan, Mar. 27, 1968, 43/23,545

Int. Cl. H01h *37/38, 37/40, 3/12*

U.S. Cl. 337—320 **15 Claims**



A thermostat switch having a bellows, which is extended or compressed by means of thermally expanding liquid, is by a spring connected with one end of each of a pair of adjacent longitudinal metal contact leaves which are fixedly mounted at their other ends and resiliently resist flexure from substantially non-flexed condition in which they are in contact with each other. As the temperature rises, the responding bellows will increasingly load the spring which at a set temperature will flex the leaves out of contact with each other, with excessive flexure of the leaves being prevented by a fixed stop.

3,505,632

INDIRECTLY HEATED THERMISTOR

Hiroyuki Matsuzaki, Kawasaki-shi, Hideo Hiruma, Atsugi-shi, and Hiromi Matsuoka and Tadahiro Izumi, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

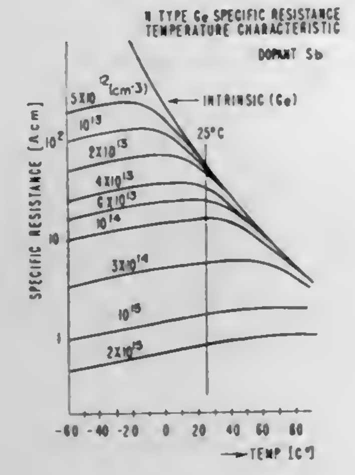
Filed Dec. 6, 1967, Ser. No. 689,242

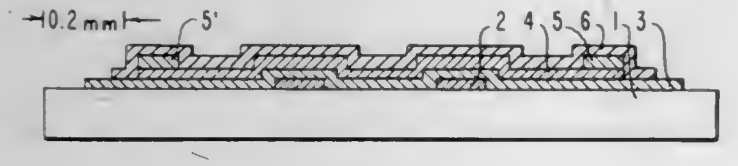
Claims priority, application Japan, Dec. 9, 1966, 41/80,893

Int. Cl. H01c *7/04*

U.S. Cl. 338—23 **2 Claims**

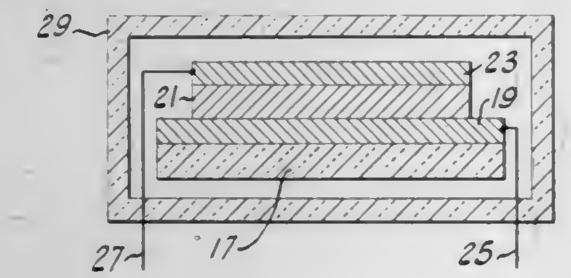
Described herein is an indirectly heated thermistor. The thermistor comprises a heating element, a thermistor element and an insulating film. This insulating film separates the heater from the thermistor element. The thermistor element is a semiconductor monocrystal, preferably a germanium monocrystal.





3,505,633
NONLINEAR RESISTOR

Donald G. Schimmel, Oley, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application May 6, 1963, Ser. No. 278,084. Divided and this application May 22, 1967, Ser. No. 652,362
Int. Cl. H01c *3/00;* H01b *1/06*
U.S. Cl. 338—212 5 Claims

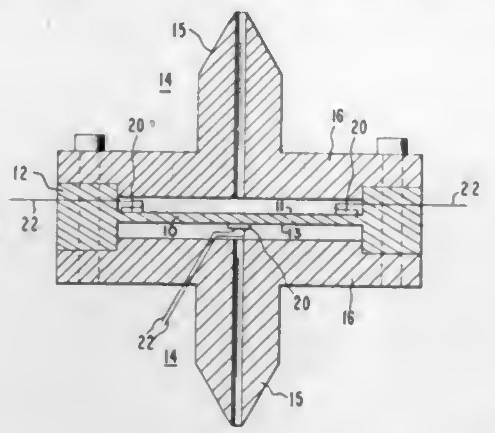


A nonlinear resistor having a pair of spaced electrical conductors and a self-supporting film intermediate and electrically contacting said conductors. The self-supporting film comprising an organic binder and a plasticizer for the binder with nonlinear resistor particles substantially homogeneously dispersed therein.

3,505,634
DIFFERENTIAL PRESSURE TRANSDUCER

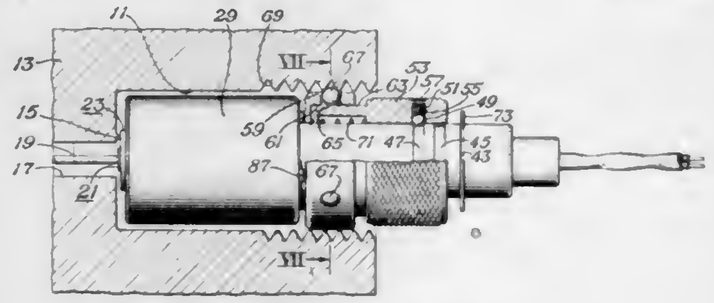
George Von Vick, 160 Robin Way,
Los Gatos, Calif. 95030
Filed Nov. 21, 1967, Ser. No. 684,842
Int. Cl. G01l *13/06*
U.S. Cl. 338—4 7 Claims

A transducer for providing an electrical signal indicating the pressure difference between two fluid media includes a flexible diaphragm having strain gage elements on its surfaces within the different fluid media whose pressure difference is to be measured. Positioning of the strain gage elements at the periphery of the diaphragm surfaces provides minimal sensitivity to applied line pressures. Protection from the fluid media is provided by a layer comprising inert organic material such as one from the class of hexafluoropropylene copolymers that may include a metallic oxide carrier.



3,505,635
PYROTECHNIC DETONATOR CIRCUIT TEST PROBE

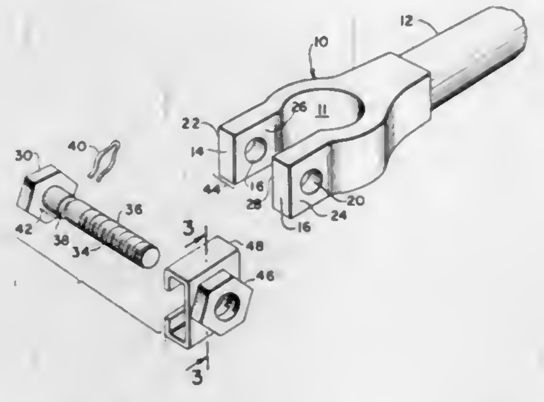
Robert A. Williams, Fort Worth, Tex., assignor to Williams Instruments, Inc., Fort Worth, Tex.
Continuation-in-part of application Ser. No. 621,874, Mar. 9, 1967. This application Aug. 14, 1968, Ser. No. 756,085
Int. Cl. H01r *13/24, 17/18, 33/10*
U.S. Cl. 339—91 6 Claims



A test probe apparatus having electrical contacts for detecting spurious electrical energy in pyrotechnic cartridge wells that in operation carry an explosive for discharging weapons, the apparatus including cam operated retainers for rapid connection and removal from the well.

3,505,636
CLAMPING BOLT ASSEMBLY FOR AN EASILY LOOSENED CLAMP

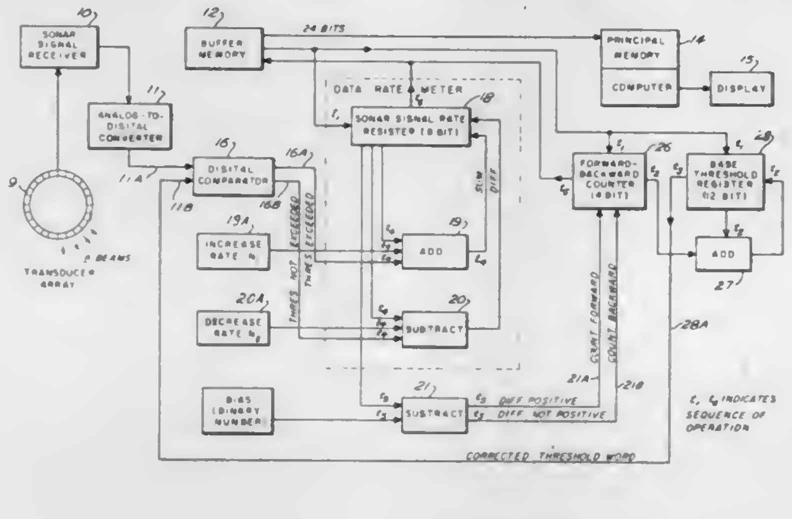
Clell D. McDowell, Newport, N.C., assignor of one-half to Edward F. Bagrowski, Morehead City, N.C.
Filed May 8, 1967, Ser. No. 636,730
Int. Cl. H01r *11/26*
U.S. Cl. 339—226 6 Claims



There is herein disclosed a cable clamping bolt assembly which is operative to easily separate the clamping ears of a split-ring device for clamping a cable to a terminal post of a storage battery. A retaining clip prevents the clamping bolt's head from undergoing axial motion with respect to one of the clamp's ears; and a flanged U shaped element prevents the bolt's associated nut from undergoing axial motion with respect to the clamp's other ear. Hence, as the clamping bolt is suitably rotated the nut moves away from the bolt head and the clamp's ears are separated.

3,505,637
DIGITAL OVERFLOW THRESHOLD FOR SONAR

Joseph Abruzzo, Severna Park, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 10, 1964, Ser. No. 350,923
Int. Cl. G01s *9/66*
U.S. Cl. 340—3 2 Claims

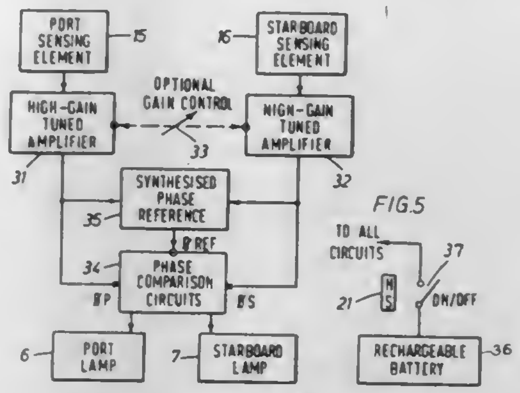


1. In combination in a sonar system for successively sampling sonar beam signals received at a transducer array from a plurality of directions in response to each transmitted pulse, and for storing each signal, which exceeds a threshold quantity, at a different address in buffer storage, said combination comprising:
a comparator;
a signal rate meter including a shift register;
a forward-backward counter;
a base threshold register;
two input circuits of said comparator being connected; respectively, to the output circuits of the sonar receiver and said base threshold register; and two output circuits of said comparator, containing signals, respectively, when the amplitude of sonar signals exceed and do not exceed the magnitude of the base threshold quantity;
means responsive to said two comparator output signals for, respectively, increasing and decreasing the number in the shift register of said rate meter;
means responsive to said shift register for, respectively, adding to or subtracting from the contents of said forward-backward, and
means for adding the contents of said forward-backward counter to the contents of said base threshold register.

3,505,638
DIRECTION FINDING APPARATUS

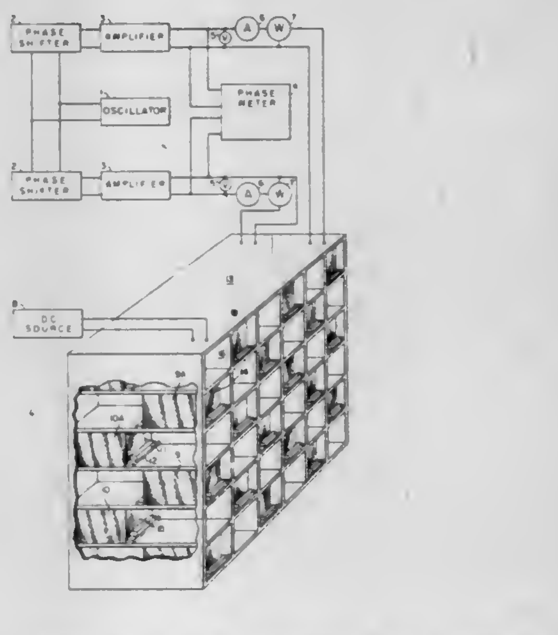
Alexander Smith Watson, Dartmouth, Nova Scotia, Canada, assignor to E. M. I. Cossor Electronics Limited, Dartmouth, Nova Scotia, Canada, a company of Canada
Filed Mar. 26, 1968, Ser. No. 716,038
Claims priority, application Great Britain, Mar. 28, 1967, 14,012/67
Int. Cl. G01s *3/46*
U.S. Cl. 340—6 1 Claim

There is provided a portable direction finding receiver responsive to acoustical pulses of oscillation including two acoustical transducers in spaced relationship mounted on a connecting member, two lamps each associated with a respective transducer, and a sensing circuit for causing one or other lamp to light up depending on which transducer first senses a transmitted pulse to provide an indication of the direction of the pulse source.



3,505,639
DIRECTIONAL ARRAY STRUCTURES FOR FREQUENCY TRANSDUCERS

John Chervenak, Oxon Hill, Md., Robert E. Faires, Washington, D.C., and George Pida, Arlington, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 31, 1961, Ser. No. 99,966
Int. Cl. H04r *1/40*
U.S. Cl. 340—9 4 Claims

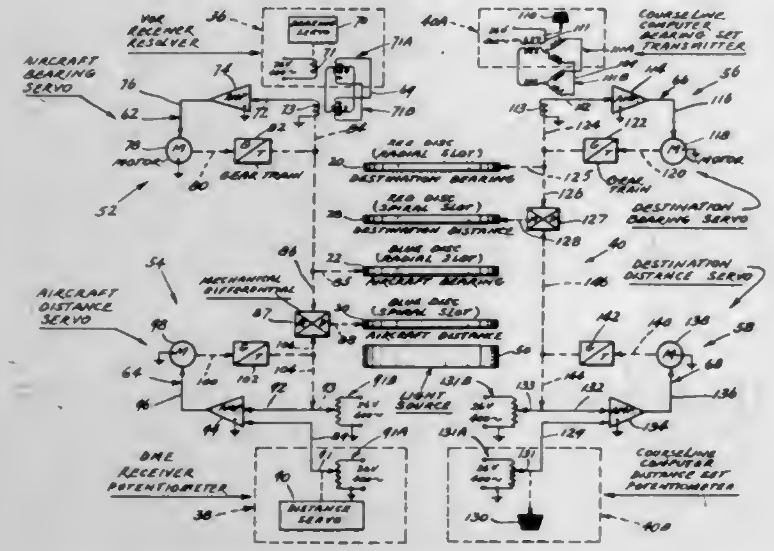


An array of transducers are arranged on a common rigid housing. The housing is divided by rigid conduits forming a plurality of compartments in which are positioned the transducers. A massive motor is provided for vibrating the housing as a whole. The individual transducers radiate in two opposite directions but the array is arranged so that it radiates in only one of the two directions.

3,505,640
AIRCRAFT FLIGHT POSITION DISPLAY INSTRUMENT

Richard L. Cohen, Old Bridge, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,550
Int. Cl. G08g *1/12*
U.S. Cl. 340—24 15 Claims

An aircraft instrument for providing a pictorial display of a position of the aircraft in flight in relation to its destination and a signal transmitting facility by the utilization of dual rotational means including a pair of slotted discs operable by a control means for receiving signals indicative of a position of the aircraft in flight from the facility for transmitting such signals, one of the discs having a radial slot and the other of the discs having an Archimedean spiraled slot, and the discs being rotationally positioned by the control means so as to project on to a display plate and through the slots in the discs a beam of light laterally movable with the flight position of the aircraft in relation to the signal transmitting facility.



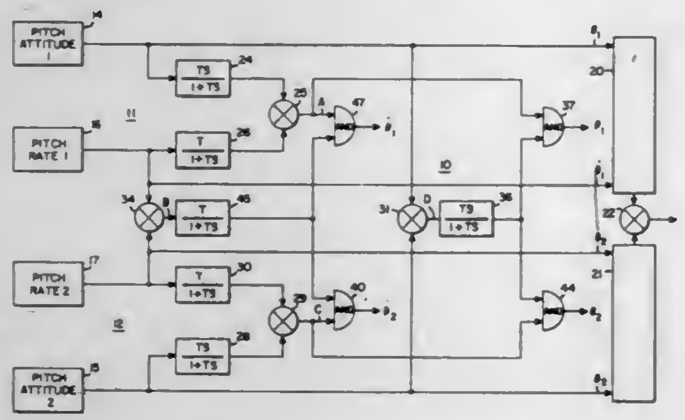
3,505,641
AIRCRAFT CONDITION CONTROL APPARATUS WITH REDUNDANT SENSORS

Boris Boskovich, St. Anthony Village, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 20, 1965, Ser. No. 498,750

Int. Cl. H04b *3/46*

U.S. Cl. 340—27 15 Claims



A specialized technique of comparison monitoring to increase reliability, is based primarily on the fact that the output of one type of sensor can be modified in such a manner that it can be compared to the output of another type of sensor. In the specific example considered, the output of an aircraft attitude sensor is essentially differentiated and compared to the output of an aircraft attitude rate sensor. Actually the attitude signal is high-passed and the rate signal is lagged such that high-passed pitch attitude equals lagged pitch rate.

For a dual-channel system, four separate comparisons are made:

The two rate signals are compared directly.

The two attitude signals are compared directly.

Comparisons are made between the rate signals and the attitude signals as properly phased in that as to each redundant channel, the high-passed attitude signal is compared with the lagged attitude rate signal. This yields four outputs from four comparators in the sense that if one comparator receives as two inputs high-passed attitude and lagged attitude rate from channel 1 and a second comparator receives attitude rate from the sensor in channel 2 and attitude rate from the sensor in channel 1, then if both comparators have an output, it is indicative that the rate signal in channel 1 is erroneous since it is common to both comparison devices.

By using this technique, the equivalent of four-channel redundancy can be achieved from a two-channel system. Similarly, the equivalent of dual-channel redundancy can be achieved from a single-channel system having more than one input.

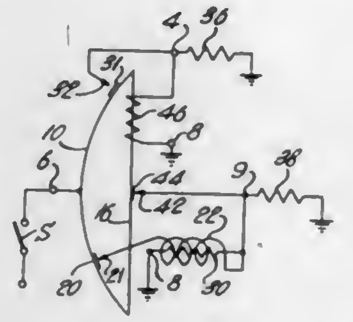
3,505,642
SERIES TYPE TIME DELAY RELAY

Hemming G. Siiberg, Union, N.J., assignor to Wagner Electric Corporation, a corporation of Delaware

Filed Apr. 29, 1966, Ser. No. 546,229

Int. Cl. H01h *61/02*

U.S. Cl. 340—52 10 Claims



A time delay relay of the type having a buckling member moveable between a first and second circuit controlling position by expansion and contraction of an electrically conductive expansible pull means is provided in which a resistor having a positive temperature coefficient of resistance is provided for controlling the expansion of the pull means. The resistor is connected in parallel with and to the midpoint of the pull means to control the current flowing in the pull means to prevent expansion of the pull means and consequent movement of the buckling member from one circuit controlling position to another when the relay is energized. A heater is also provided adjacent the resistor to increase its resistance and conjointly increase current flow in the pull means until the pull means expands sufficiently to move the buckling member to the other circuit controlling position to energize an external load.

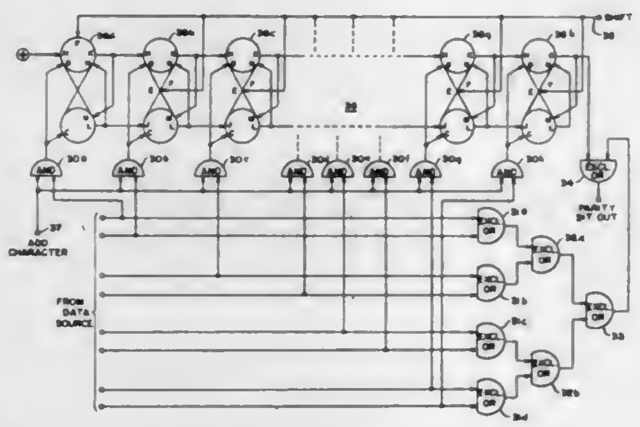
3,505,643
SPIRAL-VERTICAL PARITY CHECK GENERATOR

Alfons Reszka, Northbrook, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware

Filed July 6, 1965, Ser. No. 469,412

Int. Cl. H04l *1/10*

U.S. Cl. 340—146.1 12 Claims



A parity check bit generating circuit in which the characters to be checked are supplied simultaneously in parallel to a spiral parity bit generating circuit in the form of a shift register and a vertical parity bit generating circuit in the form of an exclusive OR-gate tree. The output of the final stage of the shift register and the output of the exclusive OR-gate tree are combined in a modulo 2 adder to provide an output signal which is a combination spiral-vertical check bit.

3,505,644
METHODS OF CONDITIONING BINARY INFORMATION SIGNALS FOR TRANSMISSION

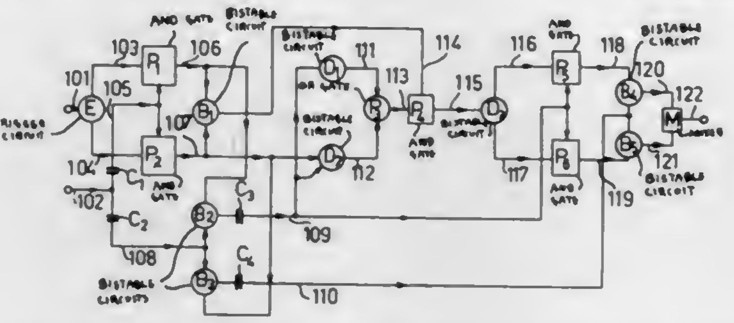
Pierre Louis Vincent Breant, Clamart, France, assignor to Telecommunications Radioelectriques et Telephoniques T.R.T., Paris, France

Filed Sept. 16, 1966, Ser. No. 580,108

Claims priority, application France, Sept. 20, 1965, 31,988

Int. Cl. G08c *25/00*

U.S. Cl. 340—146.1 8 Claims



An apparatus for converting binary to trivalent signals which does not require any memory at a transmitter. The binary zeros are always converted into trinary zeros. Sequential elements of binary ones are converted into trinary ones or minus ones. The polarity being the same for every other group. The polarity does not alternate when the number of intervening zeros is even and the parity of the last element of the preceding group of binary ones is of a selected kind. This kind can be selected as even or odd. The binary waveform can be inverted.

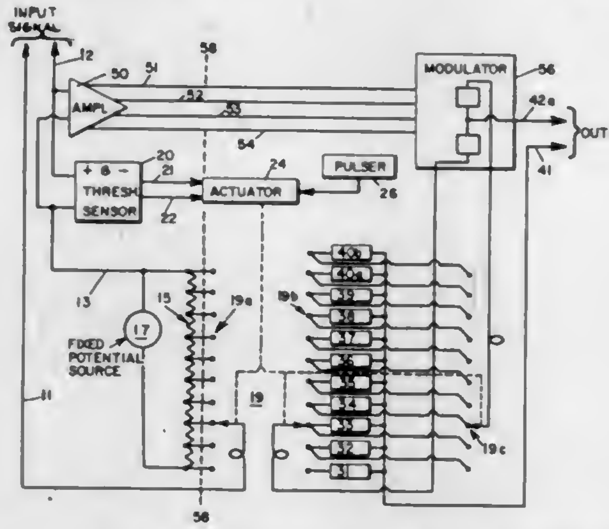
3,505,645
ADJUSTABLE REITERATIVE NETWORK FOR SIGNAL PROCESSING

George F. Quittner, Cleveland Heights, Ohio, assignor to API Instruments Company, Chesterland, Ohio, a corporation of Ohio

Filed Sept. 19, 1966, Ser. No. 580,376

Int. Cl. H04q *1/00*

U.S. Cl. 340—172 4 Claims



Reiterative electrical signal processing apparatus has a source of input and has a fixed potential supply with potential dividing taps connected through a first circuit in a step switch for sequentially opposing the input with a graduated series of references. The difference, of input minus reference, or vice versa, is taken to a threshold device and, when threshold is exceeded, to an actuator for the step switch. The difference is also taken, as through a difference amplifier, to a modulator. A second circuit of the step switch sequentially switches-in graduated output potential sources to provide an intermediate output which is then modulated in the modulator to provide final output of the defined apparatus.

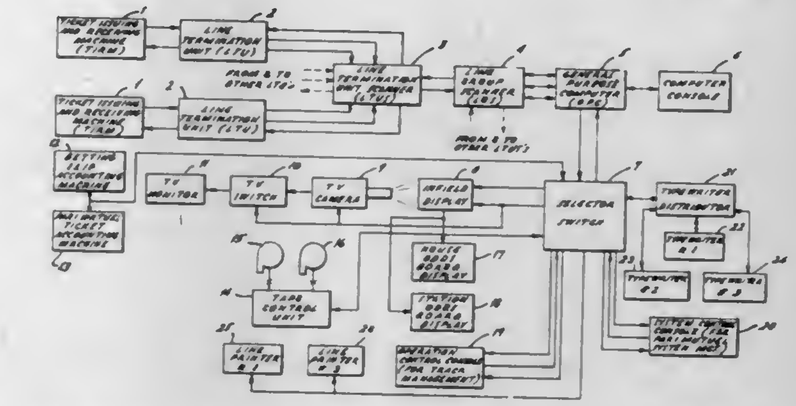
3,505,646
AUTOMATIC PARIMUTUEL WAGERING SYSTEM

Herman A. Affel, Jr., Philadelphia, Pa., Daniel E. Eisenberg, Cherry Hill, N.J., and Arthur D. Hughes, Gladwayne, William F. Schmitt, Wayne, and Franklin W. Kerfoot, Jr., Newtown Square, Pa., assignors, by mesne assignments, to Auerbach Corporation for Information Sciences, Philadelphia, Pa., a corporation of Pennsylvania, and Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 21, 1965, Ser. No. 499,261

Int. Cl. G06f *1/00*

U.S. Cl. 340—172.5 15 Claims



This data processing apparatus for pari-mutuel betting includes a plurality of ticket issuing (and/or receiving) machines located at predetermined points. A bettor takes a betting slip or equivalent and places marks on it corresponding to the horse number, the race number, the amount bet, and the "pool." This betting slip is placed in the ticket machine which scans it and conveys signals in series to a general purpose computer through intermediate signal routing and processing stages. The computer sends back signals to the machine indicating the proper amount to be collected from the bettor and when the bet is paid the machine operator actuates a switch which enables the machine to print a ticket with the wagering data in printed and invisible (magnetic) form. At the end of the race, the winning bettors take their tickets to the ticket machine wherein each ticket is scanned to produce signals that are sent to the computer for verification and processing. The computer sends back signals to the machine which sets up a transient visible display corresponding to the magnetically recorded information on the back of the betting ticket so that the machine operator can compare the printed portion of the ticket with the invisibly recorded wagering data. If the comparison stands up, the operator presses an appropriate button and pays out the amount of money indicated by signals returned from the computer upon scanning of that betting ticket.

3,505,647
APPARATUS PROVIDING ALTERABLE SYMBOLIC MEMORY ADDRESSING IN A MULTIPROGRAMMED DATA PROCESSING SYSTEM

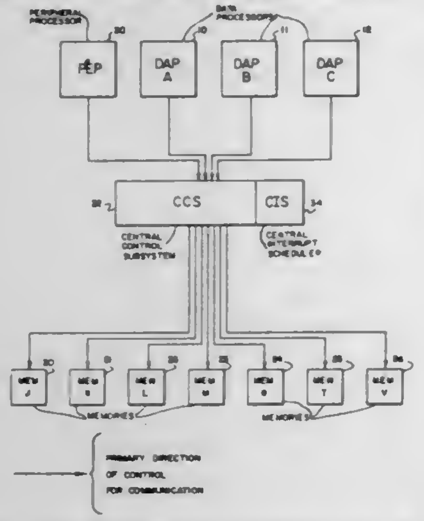
Mark A. Torfeh, Tarzana, Calif., Laszlo L. Rakoczi, Phoenix, Ariz., and Angus McLagan, Venice, and Jesse P. Barlow, Reseda, Calif., assignors to General Electric Company, a corporation of New York

Filed Apr. 18, 1966, Ser. No. 543,237

Int. Cl. G06f *1/00, 7/00, 15/00*

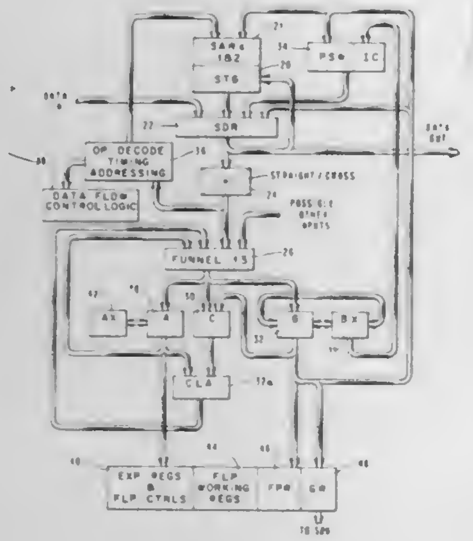
U.S. Cl. 340—172.5 13 Claims

A multiprogrammed data processing system is disclosed in which each program stored in the storage member is written using symbolic addresses, i.e. the block address and word address of the cells in which each data word is stored are relative to a predetermined reference address common to all programs. Whenever a data processor is to communicate with the storage subsystem it furnishes signals representing the program, the symbolic block address and the word address of the data word to be transferred. The symbolic block address and program signals are translated by an address translating device into an actual block address of the storage member. The actual block address and the word address are applied to the storage member and uniquely identify one cell of the storage member in which the data word is stored or to be stored. The address translating device produces an actual block address based on the assignment of memory cells to each program when that program is stored in the memory. This assignment; i.e. the topological relationship between the program and the memory cells assigned to the program, varies as the programs in the memory are changed.



3,505,648
ARITHMETIC AND LOGIC SYSTEM USING AC AND DC SIGNALS

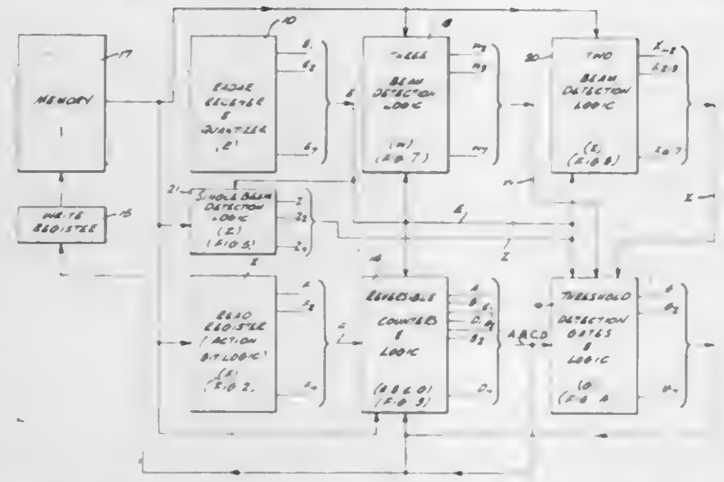
William McGovern, Poughkeepsie, David A. Petersen, Wappingers Falls, and Ralph D. Ross, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 28, 1966, Ser. No. 582,766
Int. Cl. G06f *1/00, 7/00, 15/00;* **G11b** *13/00*
U.S. Cl. 340—172.5 9 Claims



A data processing system has an arithmetic and logic section provided with a data flow path including a plurality of registers for performing various arithmetic logic and processing functions. The registers use triggers that can be set and reset by DC and AC signals. Different types of gates can be used with the triggers to provide OR and EXCLUSIVE-OR funcions, the gates being actuated by DC conditioning signals and AC signals. To perform arithmetic functions, the registers are associated with a carry generating system. The data flow path also includes a gate that, in the absence of a gating signal, represents all ones for use by the registers. The data flow path also includes a funnel connected to the register inputs whereby the registers are set when data appears at the output of the funnel.

3,505,649
DATA PROCESSOR

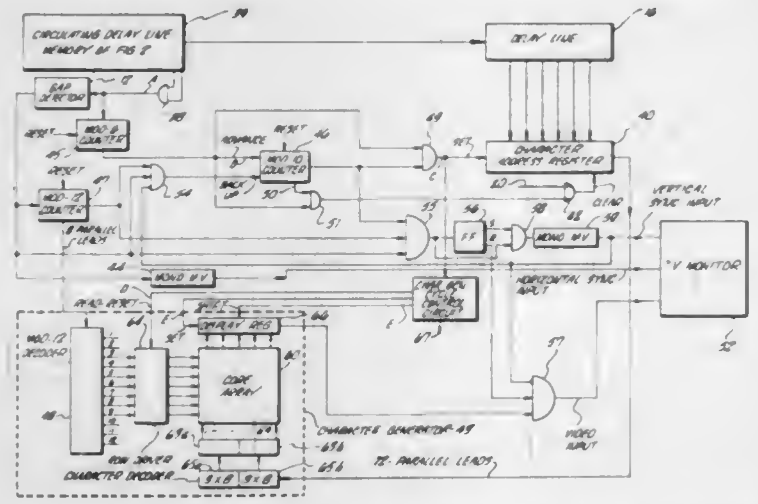
Norol T. Evans, San Pedro, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 10, 1966, Ser. No. 585,644
Int. Cl. G05b *13/00;* **G06f** *3/00*
U.S. Cl. 340—172.5 10 Claims



The present invention distinguishes valid targets from invalid targets in a stacked beam radar surveillance system due to specific signals on one beam, two adjacent beams, or three adjacent beams. During each range bin interval, data words are circulated through the data processor, which words contain the weight of particular range bins on specific beams and are increased by two increments for a hit and decreased by one increment for a miss. When the data words of single or adjacent beams reach predetermined values, a valid target is indicated on a specific beam.

3,505,650
VISUAL CHARACTER DISPLAY DEVICE

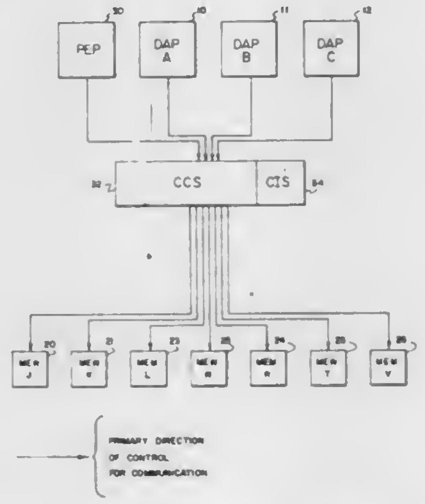
Joseph Reese Brown, Jr., Pasadena, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 17, 1967, Ser. No. 609,910
Int. Cl. G06f *1/00*
U.S. Cl. 340—172.5 20 Claims



A circulating memory device serves to store character information while it is being displayed on a cathode ray tube. Apparatus is disclosed for introducing the character information into the circulating memory in a predetermined sequence such that it can be retrieved from the memory at constant time intervals. The horizontal beam sweeps of the cathode ray tube are synchronized to the circulation of the character information in the memory. Circuitry is also disclosed for retrieving the character information from the memory in the sequence required to modulate the beam of the cathode ray tube as it produces a raster.

3,505,651
DATA STORAGE ACCESS CONTROL APPARATUS FOR A MULTICOMPUTER SYSTEM

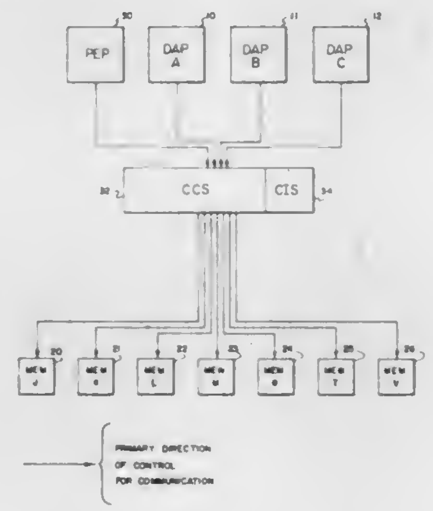
Jesse P. Barlow, Reseda, Calif., Richard Barton, Phoenix, Ariz., and Ernest J. Porcelli, Tustin, Laszlo L. Rakoczi, Newport Beach, and Mark Asad Torfeh, Tarzana, Calif., assignors to General Electric Company, a corporation of New York
Filed Feb. 28, 1967, Ser. No. 619,377
Int. Cl. G06f *9/18*
U.S. Cl. 340—172.5 5 Claims



A multicomputer data processing system in which one of the processors handles real-time events, wherein apparatus controls the access of the plural processors of the system to the system memory bank for providing the real-time processor with access to selected memories of the memory bank at a rate commensurate with the rate of a real-time event.

3,505,652
DATA STORAGE ACCESS CONTROL APPARATUS FOR A MULTICOMPUTER SYSTEM

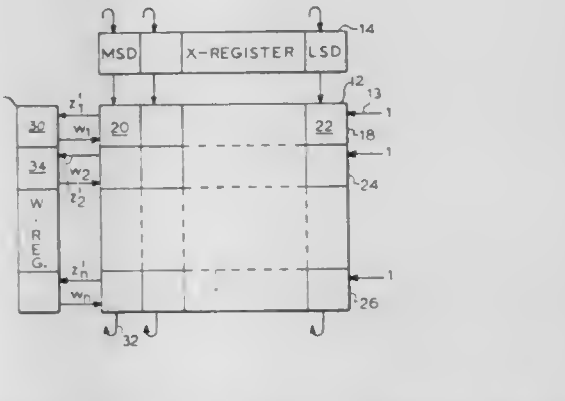
Steven F. Aranyi, Westford, Mass., Jesse P. Barlow, Reseda, Calif., Lorenz A. Hittel, Phoenix, Ariz., and Laszlo L. Rakoczi, Newport Beach, and Mark A. Torfeh, Tarzana, Calif., assignors to General Electric Company, a corporation of New York
Filed Mar. 15, 1967, Ser. No. 623,284
Int. Cl. G06f *9/18*
U.S. Cl. 340—172.5 2 Claims



A multicomputer data processing system is disclosed in which the system's input-output processing unit; for example, can be given exclusive communication with specified data storage members for a specified period of time. If all memory cycles of the storage members are not required by the input-output processing unit during this period, communication between the specified storage members and other processing units is permitted during portions of the specified period which do not conflict with communication between the input-output processing unit and the specified data storage members.

3,505,653
SORTING ARRAY

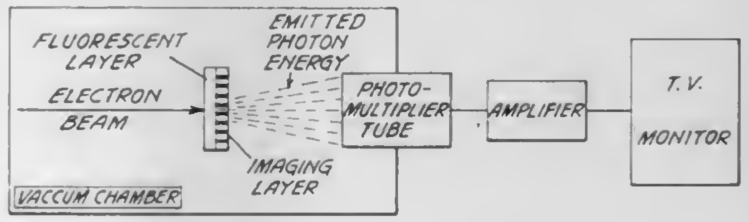
Willilam H. Kautz, Woodside, Calif., assignor to Stanford Research Institute, Menlo Park, Calif., a corporation of California
Filed Aug. 14, 1967, Ser. No. 660,343
Int. Cl. G06f *7/04*
U.S. Cl. 340—172.5 12 Claims



A logic network for use in digital computers for sorting data words or numbers to arrange them according to their values, which uses an array of many identical cells in a two dimensional arrangement adapted for realization by integrated semiconductor technology.

3,505,654
METHOD FOR RETRIEVING PRERECORDED INFORMATION FROM A RECORDING MEDIUM WITH AN UNMODULATED ELECTRON BEAM

Stephen P. Birkeland, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 27, 1964, Ser. No. 406,765
Int. Cl. G11b *1/00*
U.S. Cl. 340—173 4 Claims

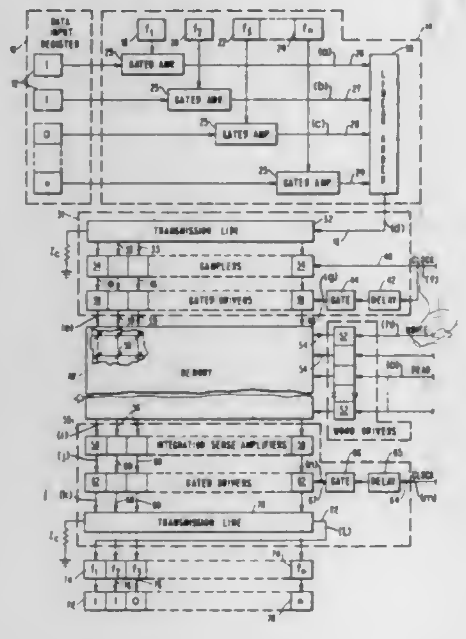


A method for retrieving prerecorded information from a sheet-like photon-energy emissive electron excitable recording medium is shown wherein the method comprises the steps of functionally positioning a means for detecting photon energy adjacent one face of the recording medium and simultaneously directing an unmodulated beam of electrons having a diameter approximately equal to the average lineal distance of an individual information bit to be retrieved from the medium against the opposed face of the medium and wherein said beam has sufficient energy to produce differential photon emission from the one face thereof.

3,505,655

DIGITAL STORAGE SYSTEM OPERATING IN THE MAGNITUDE-TIME DOMAIN

Walther Nystrom, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 21, 1968, Ser. No. 738,939
Int. Cl. G11c *21/00, 27/00*
U.S. Cl. 340—173 **5 Claims**

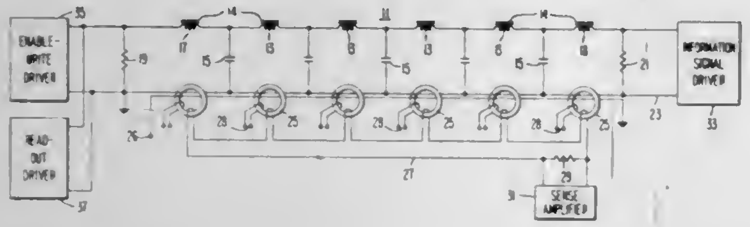


A transforming means responsive to a digital input means generates a composite wave signal in the magnitude-time domain which is quantized by a sampling means and stored in an analog memory. Synthesizing means connected to the analog memory generates a reconstructed signal wave of the composite wave signal, and detection means responsive to the reconstructed wave signal provides a digital output in accordance with the magnitude-time characteristics of the reconstructed wave, and which digital output corresponds to the digital input previously stored in memory.

3,505,656

INFORMATION STATIC STORAGE METHOD AND APPARATUS EMPLOYING DELAY LINES

Donald R. Faulis, Norristown, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 24, 1965, Ser. No. 458,302
Int. Cl. G11c *7/00*
U.S. Cl. 340—174 **26 Claims**

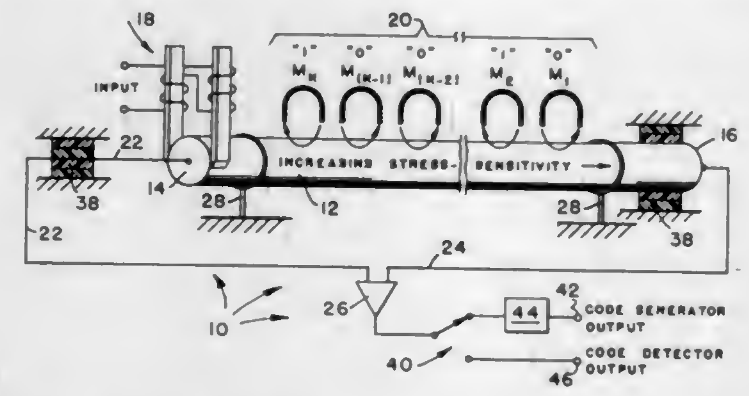


An improved method of entering information signals into memory apparatus and improved magnetic memory apparatus for the storage of such signals. The memory apparatus disclosed includes lumped parameter signal delay lines, lumped parameter sense lines, and distributed parameter signal delay apparatus coupled to signal storage means. Information is entered into the apparatus by impressing a series of partial-select current signals upon the delay means.

3,505,657

TORSIONAL DELAY LINE AND IMPRESSED FLUX LINKAGE INTERACTION DEVICE

Harper J. Whitehouse, Hacienda Heights, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 20, 1965, Ser. No. 474,538
Int. Cl. G11c *11/12;* **H03h** *9/30;* **H01v** *9/00*
U.S. Cl. 340—174 **8 Claims**

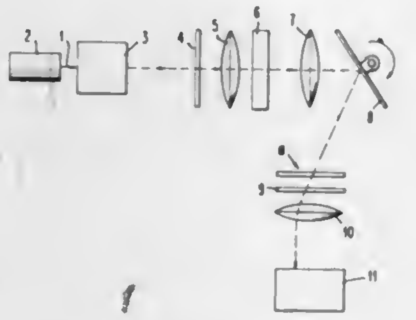


An elongated element, generally a wire, of magnetoelastic material, which is annealed or work-hardened to increase the stress-sensitivity characteristics from one end to the other, thus compensating for attenuation effects and providing for a greater linearity of operation. The delay line is one of the main components in a system for the generation or detection of binary pulse codes, even long codes, having, for example, over five hundred digits.

3,505,658

BEAM ADDRESSABLE MEMORY SYSTEM

George J. Fan, Ossining, N.Y., and Charles Denis Mee, Los Gatos, Calif., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 8, 1966, Ser. No. 563,823
Int. Cl. G11c *11/14, 11/42*
U.S. Cl. 340—174 **8 Claims**



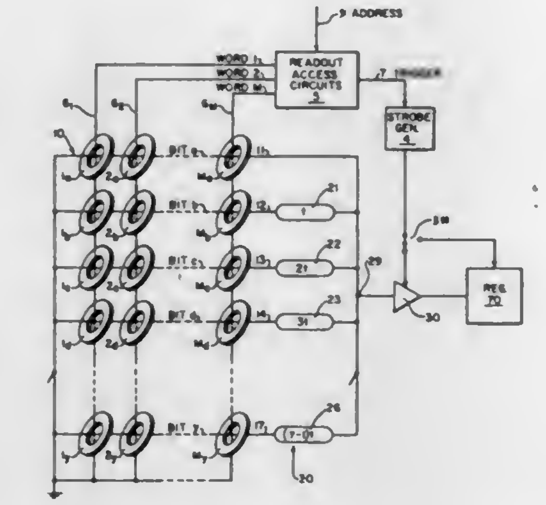
A polycrystalline gadolinium iron garnet thin film storage arrangement, employing a radiant energy beam for storage and retrieval of data, is provided with a rotating mirror for producing line scanning movement of the beam and an electro-optic deflector for transversely deflecting the beam between line scans.

3,505,659

TECHNIQUES FOR TIME SHARING MEMORY SENSE AMPLIFIERS USING DELAY LINES

Michael J. Kelly, Melrose Park, and Bernard J. Rekiere, Addison, Ill., assignors to Automatic Electric Laboratories, Inc., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,468
Int. Cl. H03k *13/256;* **G11c** *7/00;* **G08c** *15/06*
U.S. Cl. 340—174 **6 Claims**

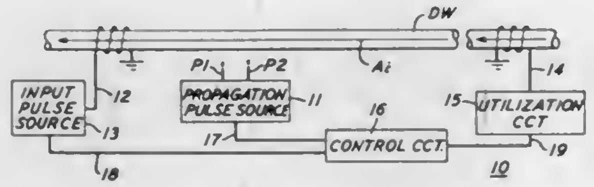
Apparatus for time sharing sense amplifiers to reduce the number of sense amplifiers required in a memory system. Delay circuits or delay lines between memory sense conductors and a strobe-operated sense amplifier read all data bits of a word, extracted from memory in parallel, into a register in series. A second embodiment provides a sense amplifier having gated output circuits which are delay-strobe operated via delay lines so that the above-mentioned serial data may be registered in parallel. Another embodiment provides a separate sense amplifier for corresponding data bits of a plurality of machine words for use in data processing systems wherein each memory word comprises a plurality of machine words.



3,505,660

MAGNETIC DOMAIN WALL SHIFT REGISTER CIRCUIT

Andrew H. Bobeck, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Jan. 17, 1967, Ser. No. 609,841
Int. Cl. G11c *11/14*
U.S. Cl. 340—174 **4 Claims**



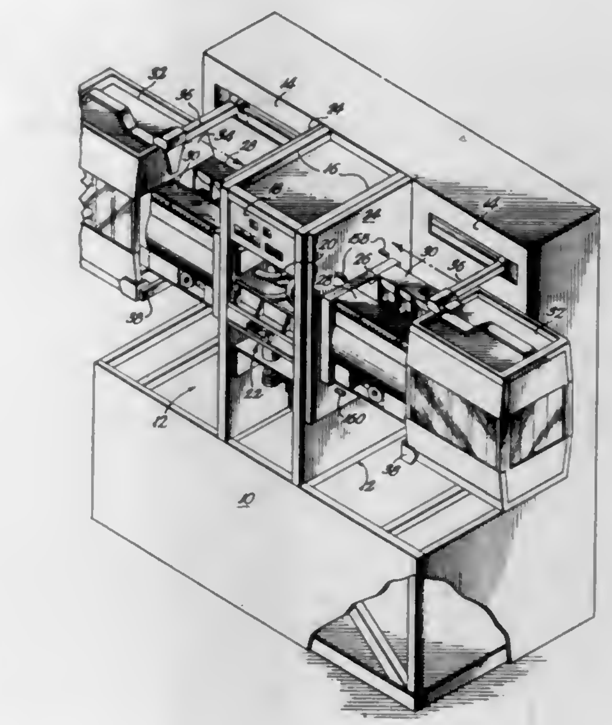
A domain wall shift register is operated on a collapse mode basis. Reverse magnetized domains normally spuriously generated at the end of the magnetic medium of a domain wall shift register in response to fields in excess of a propagation threshold are collapsed selectively in response to relatively low level inputs as they are propagated toward an output position. Binary ones and zeros are represented at the output position by the absence and presence of reverse domains, respectively.

3,505,661

RANDOM ACCESS MEMORY WITH PLURALITY OF TAPE CARTRIDGES

Andrew Gabor, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Mar. 21, 1966, Ser. No. 535,747
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **6 Claims**

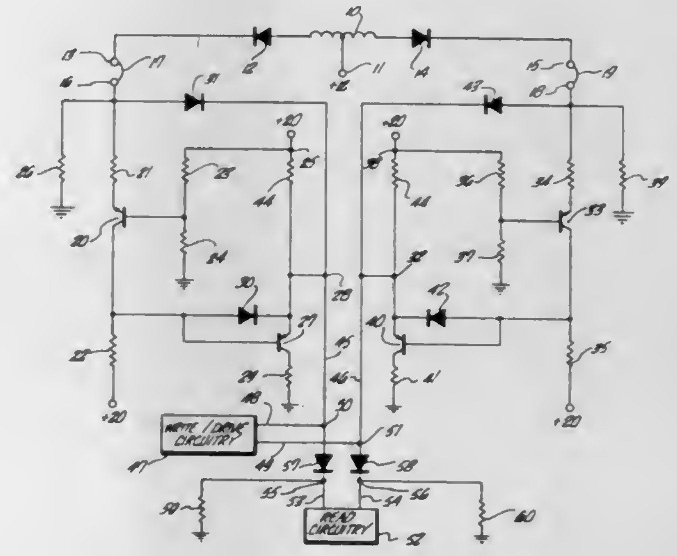
This specification discloses a random access memory in which endless tape loops are stored in interchangeable cartridges, each of the cartridges containing a plurality of tape loops. A chassis is provided to mount two of the cartridges simultaneously and head positioning means is provided to move transducing head assemblies to register with different tracks on the different tape loops in each of the two cartridges mounted on the chassis. The information stored on the tape loops in one of the cartridges can be transferred to corresponding tracks in the tape loops stored in the other cartridge.



3,505,662

READ PREAMPLIFIER WITH BYPASS CIRCUITRY

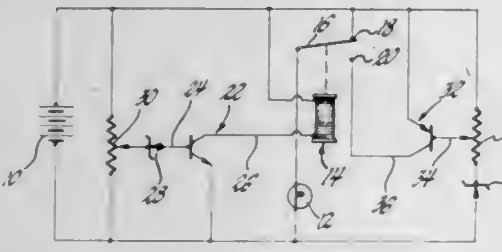
John A. Hibner, Sierra Madre, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 22, 1967, Ser. No. 662,327
Int. Cl. G11b *5/00*
U.S. Cl. 340—174.1 **13 Claims**



A preamplifier circuit having two symmetrical circuits respectively coupled between opposite ends of a read-write head and a single pair of transmission lines. The lines are normally terminated in their characteristic impedance and couple the head to "read" and "write" circuitry. Each symmetrical circuit has a linear amplifier stage coupled to the head and an isolation stage coupled to a respective one of the lines, with the isolation stage having an output impedance substantially matching the characteristic impedance of the line. Each symmetrical circuit also includes first and second bypass paths connecting the head and the isolation stage input, respectively, directly to the respective transmission line. Each path includes a normally back-biased diode which is forward-biased by the application of a "write" drive signal to its associated line.

3,505,663
POWER SOURCE CONDITION INDICATOR

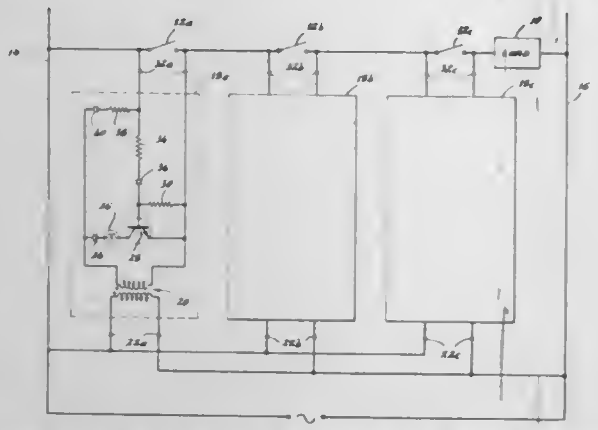
William J. Yule, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 20, 1965, Ser. No. 514,888
Int. Cl. G08b *19/00, 21/00*
U.S. Cl. 340—248 3 Claims



A power source condition indicator incorporating a pair of switching transistor biased so as to respond to low and high voltage conditions. Each switching transistor causes a visual warning to be provided by an indicator.

3,505,664
SWITCH CONDITION INDICATOR

Alton R. Morris, Trumbull, Conn., assignor to Harvey Hubbell Incorporated, Bridgeport, Conn., a corporation of Connecticut
Filed July 7, 1967, Ser. No. 651,826
Int. Cl. G08b *21/00*
U.S. Cl. 340—256 5 Claims

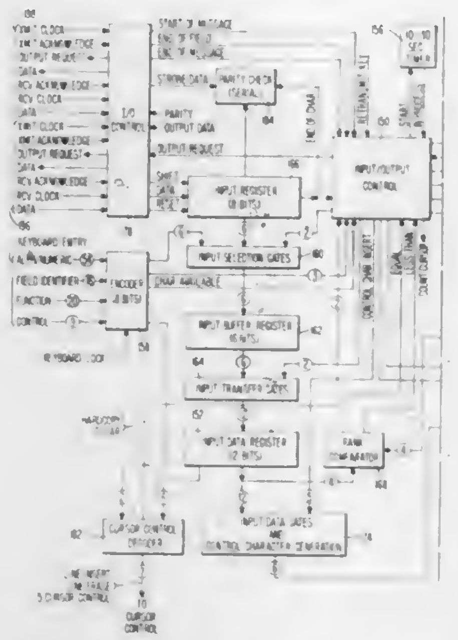


A circuit for indicating the open or closed condition of an external switch. A current control device is connected to control an indicating lamp. A biasing resistor applies a triggering voltage from either the voltage at the external switch or from a separate power supply to permit conduction through the current control device when the switch is open. When the switch is closed, the biasing resistor is shorted so that the current control device does not conduct. Conduction or non-conduction of the current control device controls the on and off condition of the lamp.

3,505,665
DISPLAY SYSTEM

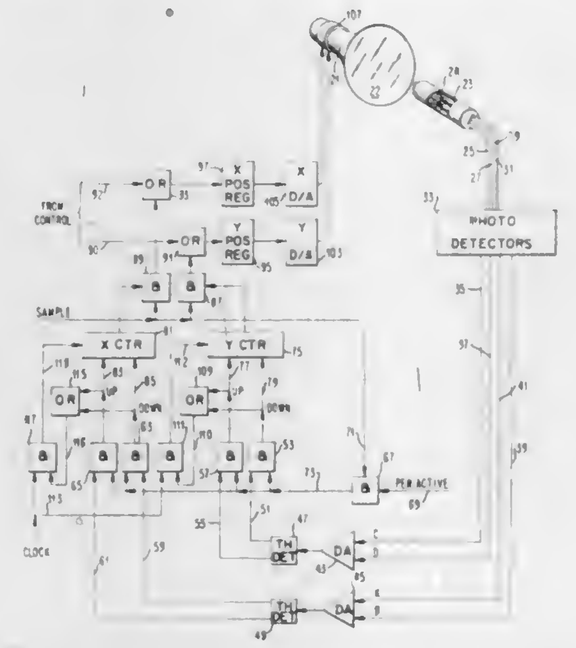
Murray Lasoff, Downingtown, Irwin R. Holmes, Drexel Hill, and Thomas J. Dodds, Jr., Folsom, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 13, 1966, Ser. No. 557,194
Int. Cl. G09f *9/100;* **H01j** *31/16*
U.S. Cl. 340—324 10 Claims

A cathode ray tube display system having a keyboard input, its own memory and the capability of input/output communication with a digital computer is disclosed. The display is organized into fields of different information and with the fields arranged on the cathode ray tube screen in a predetermined rank regardless of the order in which they are entered into the system. The display may be corrected or otherwise edited without having to rewrite other parts of the display. The system is also capable of receiving a fast stream of character codes from the digital computer. The system handles the character codes received from the computer by loading them into its memory two at a time.



3,505,666
TRACKING LIGHT PEN

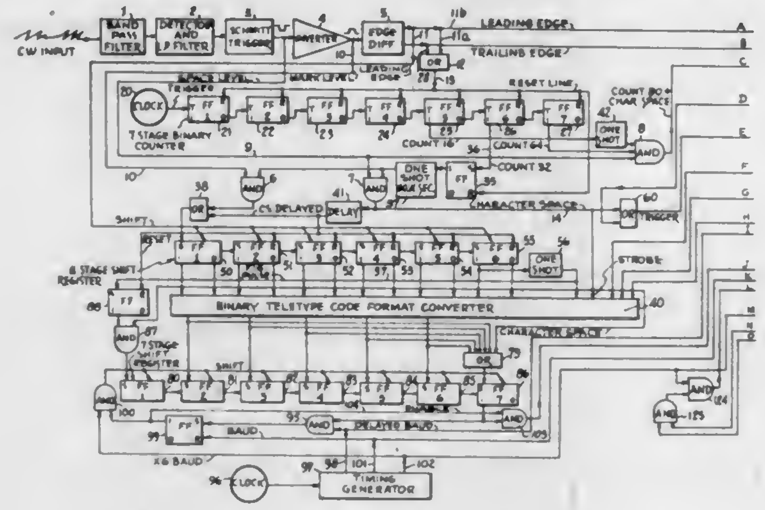
Robert A. Thorpe, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,682
Int. Cl. G08c *9/06*
U.S. Cl. 340—324 8 Claims



A light pen tracking system for manipulating data on a CRT display under operator control includes an array of light detecting elements for causing a pattern or spot of light on the screen of a cathode ray tube display to follow movement of an external light transducer. A logic system under control of the light detector outputs controls digital deflection counters to cause the beam to move in a direction corresponding to the relative location of the light sensors whereby the spot follows the transducer.

3,505,667
CODE CONVERTER

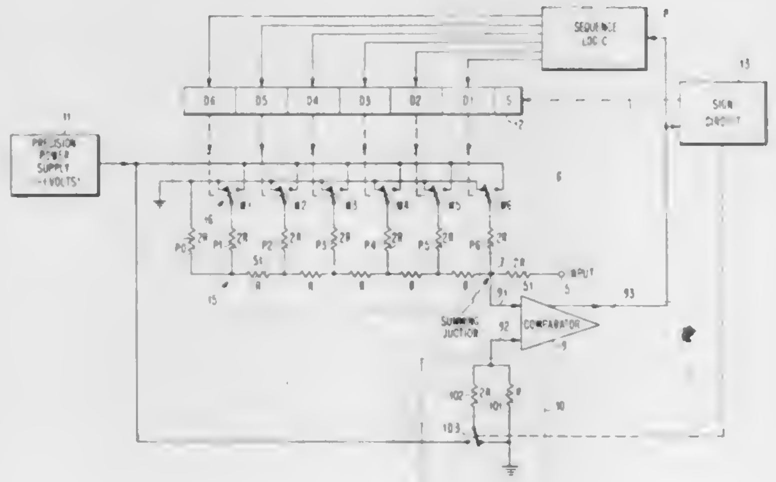
Sidney Wald, Cherry Hill, N.J., and Leroy H. Werner, Levittown, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 30, 1965, Ser. No. 452,084
Int. Cl. G08c *9/00, 11/00;* **G06f** *5/00*
U.S. Cl. 340—347 9 Claims



Morse code signals characterized by mark and space signal levels are applied to an input means including a differentiator whereby the mark signals are differentiated to provide both leading and trailing edge pulses. A counter means is responsive to both the leading and trailing edge pulses to provide a first (dash) or second (character space) pulse each time the counter reaches a predetermined number of counts and there is present a mark (dash) or space (character space) signal level. A binary shift register means shifted by the leading edge pulses is set by the first (dash) and second (character space) pulses to provide binary codes representations of the input signal.

3,505,668
BIPOLAR ANALOG TO DIGITAL CONVERTER

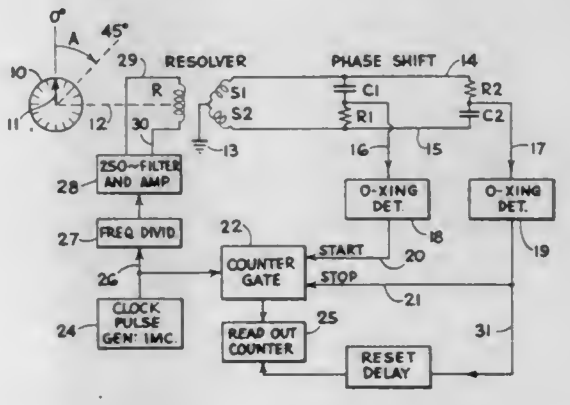
Hjalmar Ottesen, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 1, 1965, Ser. No. 460,431
Int. Cl. H03k *13/14*
U.S. Cl. 340—347 4 Claims



A bipolar successive approximation type of analog to digital converter which merely includes one precision power supply: a successive approximation type of analog to digital converter includes a digital to analog converter, a comparator and sequencing logic for changing the value being converted from a digital number to an analog number. The digital to analog converter of necessity includes a reference source. With the present invention, bipolar operation utilizing a single reference source is accomplished by comparing the voltage at the output of said digital to analog converter to a signal which is responsive to the same power source that generates the reference signal for the digital to analog converter.

3,505,669
ANGLE MEASURING APPARATUS WITH DIGITAL OUTPUT

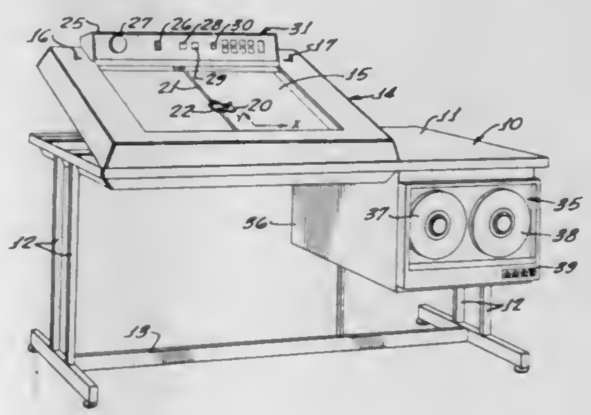
Elvin C. Welch, Culver City, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Aug. 19, 1965, Ser. No. 480,993
Int. Cl. H03k *13/20*
U.S. Cl. 340—347 1 Claim



The invention includes apparatus for repeatedly generating a pulse count of a magnitude directly proportional to the angular position of an input shaft. The input shaft is connected to the rotor of a resolver. The resolver has two stator windings positioned in space quadrature. The stator windings are connected to phase-shift networks which act through zero-crossing detectors to gate pulses to a readout counter.

3,505,670
GRAPHICAL DATA DIGITIZER

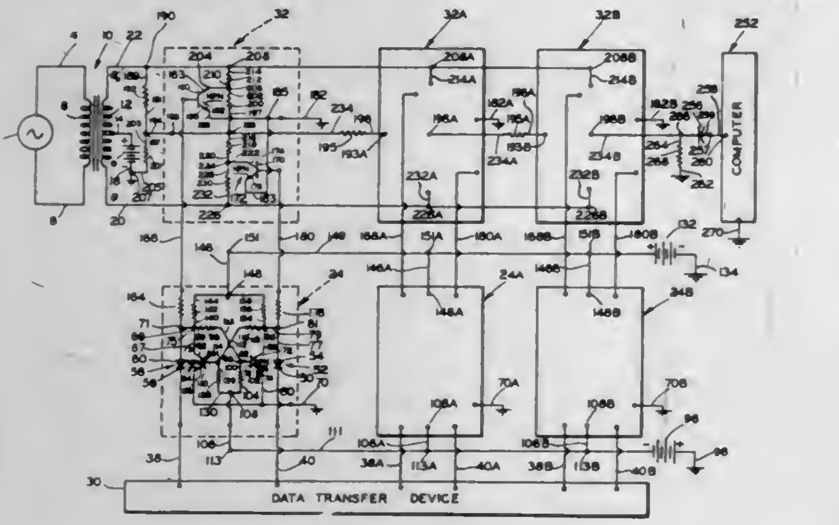
Ronald D. Cone and John A. Dykmans, Saratoga, Calif., assignors to Calma Company
Filed Dec. 21, 1965, Ser. No. 515,419
Int. Cl. H03k *13/02;* **G06f** *3/06*
U.S. Cl. 340—347 29 Claims



A graphical data digitizer wherein the graphical data is traced with a movable stylus and the motion of the stylus is translated into magnetically recorded digital data. Digital encoders produce digital data corresponding to movement of the stylus. These encoders are not supported by the carriage assembly, but rather by the digitizer housing so that the stylus has minimal friction and inertia. Data outputs from the digital encoders in excess of the capability of the magnetic recorder are immediately detected and a warning given the operator.

3,505,671
DIGITAL TO ANALOG CONVERTER

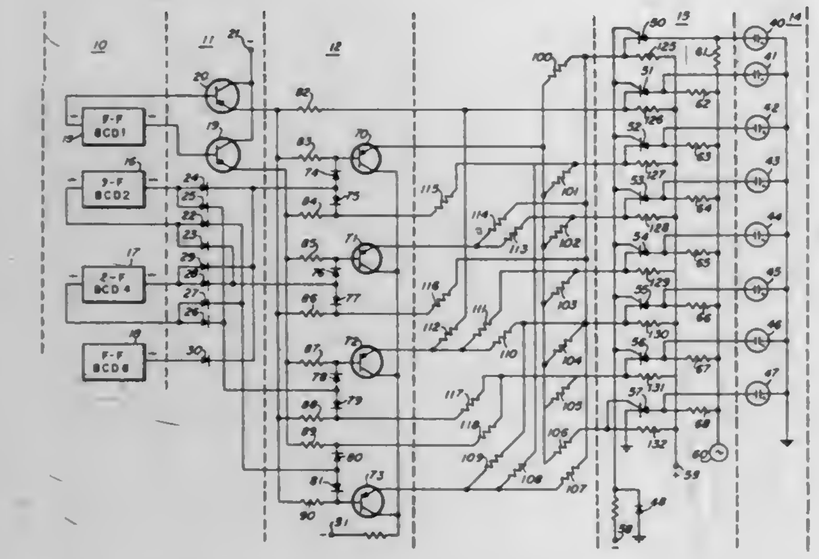
Frederick H. Forrester, Paterson, and Thomas J. Lavin, Midland Park, N.J., assignors to The Bendix Corporation, a corporation of Delaware
Filed Dec. 30, 1965, Ser. No. 517,746
Int. Cl. G08c *9/00, 11/00;* **H04l** *3/00*
U.S. Cl. 340—347 **7 Claims**



A digital to analog converter including switching means excited by a direct current referenced bi-phase alternating voltage and driven by a signal corresponding to digital data for providing an alternating current output proportional to the digital data.

3,505,672
CODE TO READOUT TRANSLATOR

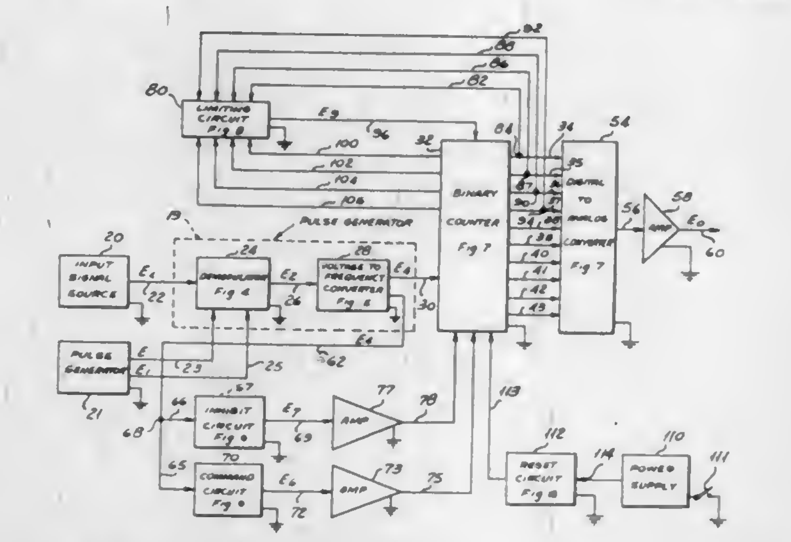
Hamilton C. Chisholm, Orinda, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 13, 1966, Ser. No. 551,183
Int. Cl. G06f *5/00*
U.S. Cl. 340—347 **1 Claim**



A source of binary coded decimal signals representative of one of several characters is fed into a decoding matrix that converts the binary coded decimal signals to plurality of double-weighted code signals. The double-weighted code signals are passed through a gating circuit to actuate certain silicon control rectifiers to actuate discrete sections of a visual display element to form the desired character. An improved translator circuit changing binary coded decimal information to biquinary information utilizing a minimum amount of circuit components is thusly provided to ensure higher reliability than contemporary circuits.

3,505,673
DIGITAL INTEGRATOR-SYNCHRONIZER

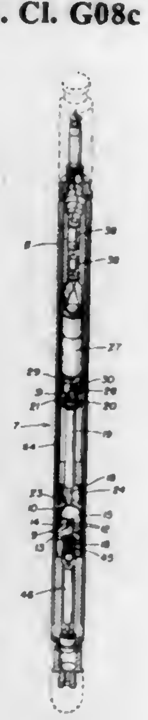
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed June 17, 1966, Ser. No. 558,327
Int. Cl. G08c *1/00*
U.S. Cl. 340—347 **4 Claims**



A digital integrator-synchronizer wherein pulses are provided at a frequency corresponding to an input signal amplitude. A counter counts the total number of pulses for providing a corresponding digital output and a converter converts the digital output into an analog output having an amplitude corresponding to the integral of the input signal amplitude. The output of the converter is combined with the input signal to provide a synchronizing signal, and means are provided for controlling the counting direction of the counter, for inhibiting the counter from operating when erroneous commands are provided and for resetting the counter.

3,505,674
DIGITAL ENCODING DEVICE

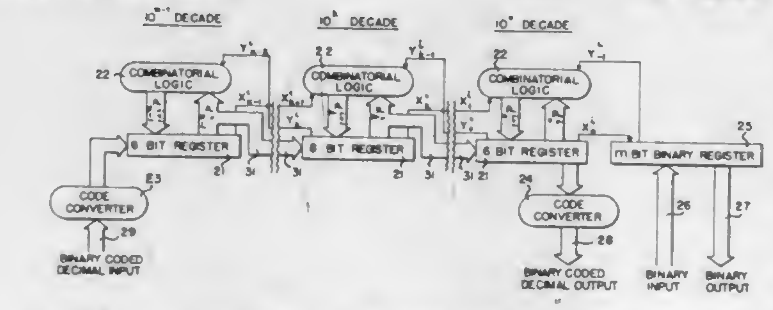
William D. Hough, Arvada, Colo., assignor, by mesne assignments, to Lynes, Inc., a corporation of Texas
Filed June 27, 1966, Ser. No. 560,480
Int. Cl. G08c *5/00*
U.S. Cl. 340—347 **14 Claims**



A housing adapted to be lowered into an oil or gas well drilled into the earth includes therein a condition sensor for measuring the subsurface pressure or temperature or the like. Such condition sensor causes rotational movement of a code drum having a coded pattern of conductive and nonconductive segments on the outer surface thereof. This coded pattern is periodically scanned in an axial direction by a contact brush. An electrical circuit connected to the code drum and the contact brush develops a train of electrical output pulses corresponding to the sequence of conductive and nonconductive segments contacted by the brush during each axial scan. The segment pattern is constructed so that the pulse train for each scan is digitally coded to represent a number indicative of the magnitude of the subsurface condition sensed by the condition sensor. These digitally coded pulses are transmitted by way of an electrical conductor to a recorder located at the surface of the earth.

3,505,675
CONVERTER FOR BINARY AND BINARY-CODED DECIMAL NUMBERS

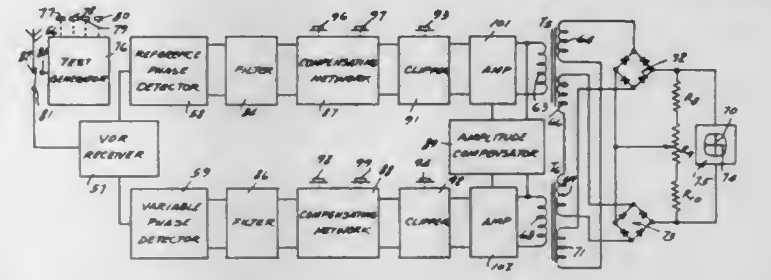
Thomas O. Holtey, Newton Lower Falls, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 21, 1966, Ser. No. 566,890
Int. Cl. G08c *9/00, 11/00*
U.S. Cl. 340—347 **10 Claims**



A BCD-to-binary and binary-to-BCD converter operates at one clock period per binary digit by successive division or multiplication by two in a plurality of identical decade registers. Simplified operation is accomplished by means of a state assignment code which makes the state of a particular flip flop in an adjacent decade register the only criteria external to a particular register which is needed to modify the division or multiplication operation within the particular register to accommodate a remainder or carry digit.

3,505,676
NAVIGATION SYSTEM

Earl Stuart Perkins, Oak Brook, Ill., assignor to Butler National Corporation, Minneapolis, Minn., a corporation of Delaware
Filed Feb. 13, 1968, Ser. No. 705,202
Int. Cl. G01s *1/16*
U.S. Cl. 343—107 **6 Claims**



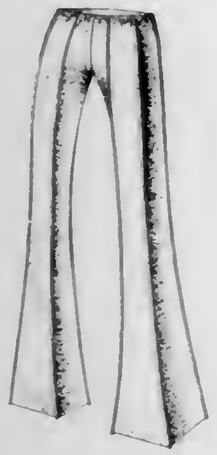
A method and system of aircraft navigation which allows more accurate and precise control than has previously been possible by utilizing improved navigation receivers, indicators and remote control systems so that greatly improved accuracy results. Systems and methods for making transition from an improved cross-country navigation system to an improved instrument landing system are also incorporated in this invention. Certain embodiments include smoothing and processing of navigation information from radio receivers and other sensors to provide an improved navigation system. The selection and use of matched detectors, filters, transformers and indicators in navigation receivers provides greatly improved navigation results.

DESIGNS

APRIL 7, 1970

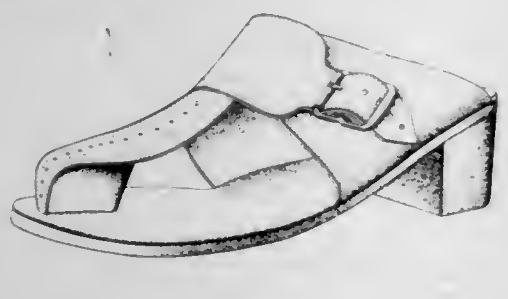
217,082
PANTS
Harold Koenig, 9011 SW. 57th Terrace,
Miami, Fla. 33143
Filed July 14, 1969, Ser. No. 18,192
Term of patent 14 years
Int. Cl. D2—*01*

U.S. Cl. D2—28



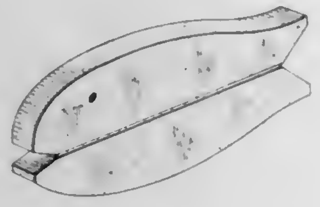
217,083
SANDAL
Jean François Englebert, 267 Rue Saint Leonard,
Liege, Belgium
Filed Feb. 12, 1969, Ser. No. 15,750
Term of patent 14 years
Int. Cl. D2—*04*

U.S. Cl. D2—270



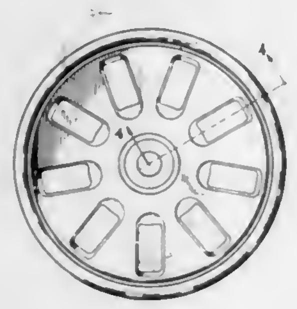
217,084
ABRASIVE HAND TOOL
Robert W. Martin, 1057 Pennington Road,
Trenton, N.J. 08618
Filed Apr. 4, 1969, Ser. No. 16,577
Term of patent 14 years
Int. Cl. D8—*02*

U.S. Cl. D8—91



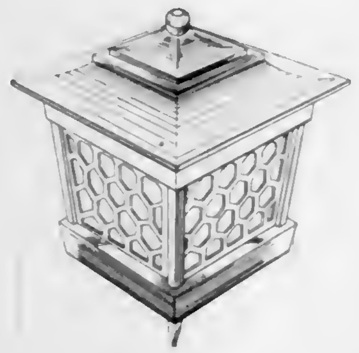
217,085
CAN END
Richard D. Zenger, Downers Grove, Louis H. Huber, Hinsdale, and Leon M. Patarini, Chicago, Ill., assignors to National Can Corporation, Chicago, Ill., a corporation of Delaware
Continuation-in-part of design application Ser. No. 7,893, July 20, 1967. This application July 31, 1968, Ser. No. 12,968
Term of patent 14 years
Int. Cl. D9—*02*

U.S. Cl. D9—254



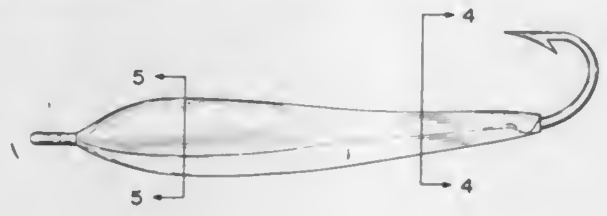
217,086
INSECT TRAP HOUSING
Oscar Miller, 4 Overlook Park,
Newton Center, Mass. 02159
Filed Jan. 13, 1969, Ser. No. 15,325
Term of patent 14 years
Int. Cl. D22—*09*

U.S. Cl. D22—19



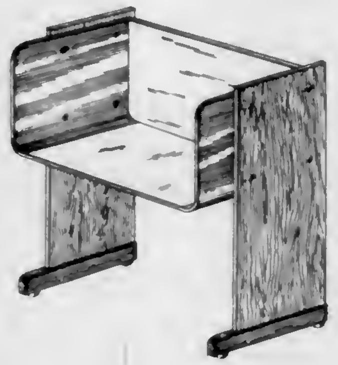
217,087
FISHING LURE
Charles H. Jackson, Jr., 137 Walnut Hills Drive,
San Marcos, Calif. 92069
Filed July 10, 1969, Ser. No. 18,165
Term of patent 14 years
Int. Cl. D22—*07*

U.S. Cl. D22—27



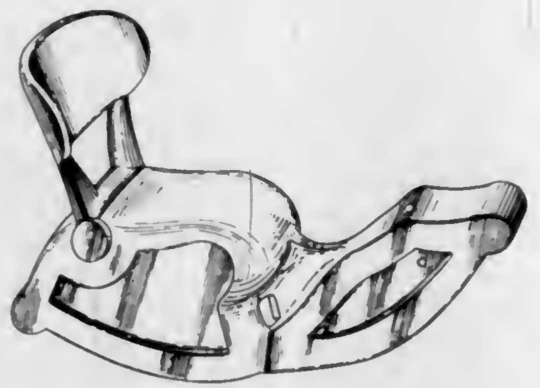
217,088
STUDY CARRELL
John L. Gianfagna, Marietta, Ohio, and Vytautas K. Beleckis and Stephen F. McKeon, Parkersburg, W. Va., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1969, Ser. No. 16,210
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D33—11



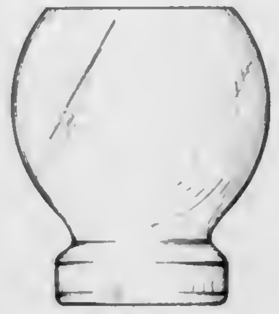
217,089
ROCKER BASE
André R. Julien, 47 Rue Guersant,
Paris, France
Filed Mar. 19, 1969, Ser. No. 16,330
Term of patent 7 years
Int. Cl. D21—*04*

U.S. Cl. D34—15



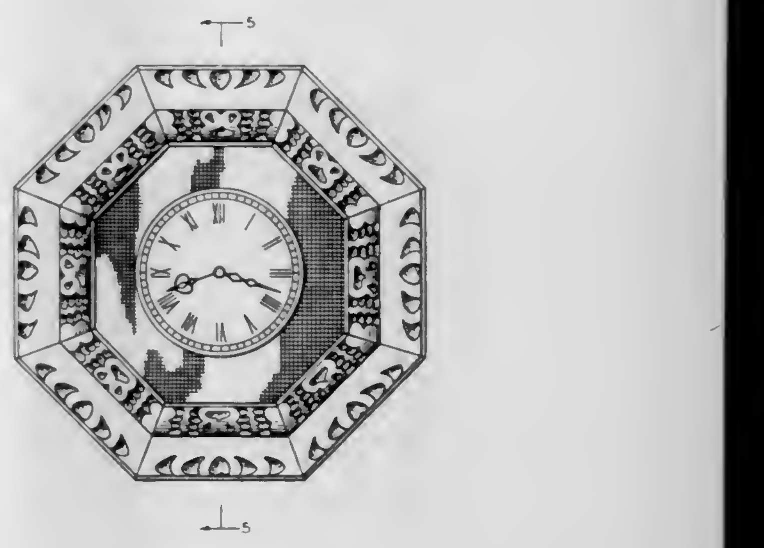
217,090
DRINKING GLASS
Nicholas P. Angelakos, Brooklyn, N.Y., assignor to Lancaster Colony Corporation, a corporation of Delaware
Filed June 6, 1969, Ser. No. 17,550
Term of patent 14 years
Int. Cl. D7—*01*

U.S. Cl. D36—8



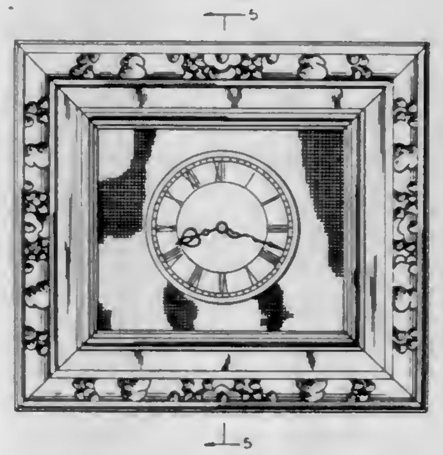
217,091
CLOCK
Allan Weinstein, % London Times Ltd., 2900 W.
Peterson Ave., Chicago, Ill. 60645
Filed Apr. 17, 1969, Ser. No. 16,791
Term of patent 14 years
Int. Cl. D10—*01*

U.S. Cl. D42—7

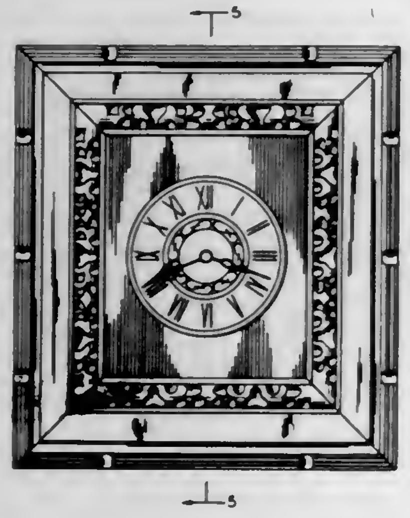


217,092
CLOCK
Allan Weinstein, % London Times Ltd., 2900 W.
Peterson Ave., Chicago, Ill. 60645
Filed Apr. 17, 1969, Ser. No. 16,800
Term of patent 14 years
Int. Cl. D10—*01*

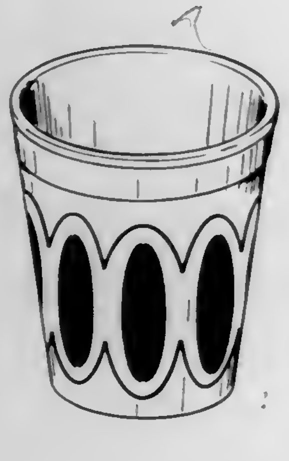
U.S. Cl. D42—7



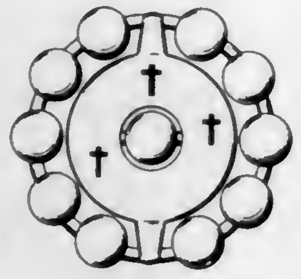
217,093
CLOCK
Allan Weinstein, % London Times Ltd., 2900 W. Peterson Ave., Chicago, Ill. 60645
Filed Apr. 17, 1969, Ser. No. 16,801
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



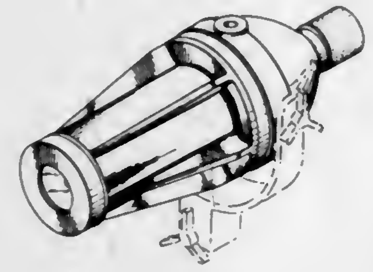
217,094
CUP OR SIMILAR ARTICLE
Philip Thomas Gallagher, East Goshen Township, Chester County, Pa., assignor to The Alan I W Frank Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 30, 1969, Ser. No. 17,944
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—9



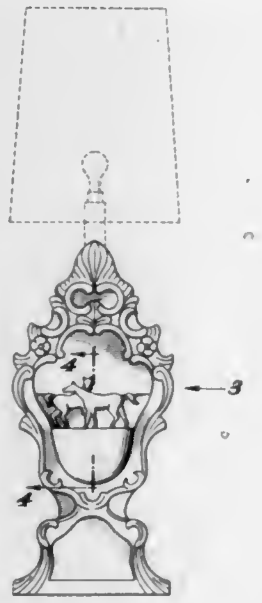
217,095
ROSARY
John Taylor, 3102 N. 6th Ave., Apt. A–111, Phoenix, Ariz. 85013
Filed Apr. 21, 1969, Ser. No. 16,839
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—16



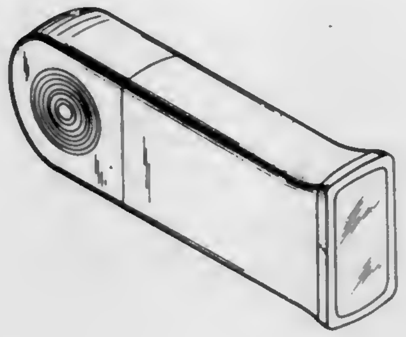
217,096
UNDERWATER SEARCHLIGHT
Jack Birns, Los Angeles, Calif., assignor to Birns & Sawyer Cine Equipment Co., Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 14, 1969, Ser. No. 15,778
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



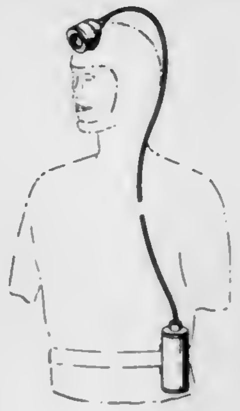
217,097
LAMP OR SIMILAR ARTICLE
Peter Agee, 3799 S. Hobart Blvd., Los Angeles, Calif. 90018
Filed July 9, 1969, Ser. No. 18,134
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



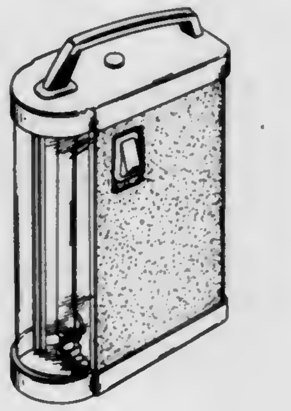
217,098
FLASHLIGHT
Dieter Rams, Koenigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany
Filed Jan. 15, 1969, Ser. No. 15,367
Claims priority, application Germany July 15, 1968
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D48—24



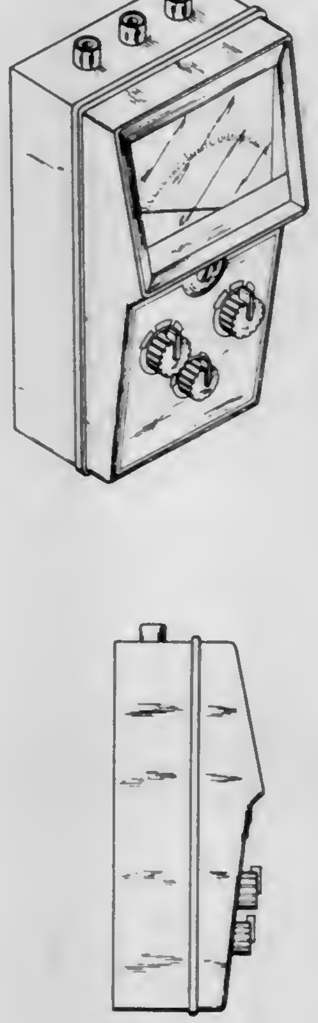
217,099
PORTABLE UNDERWATER PERSONNEL LIGHT
Louis F. S. Bentley, Los Angeles, Calif., assignor to Birns & Sawyer Cine Equipment Co., Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 17, 1969, Ser. No. 15,803
Term of patent 14 years
U.S. Cl. D48—24



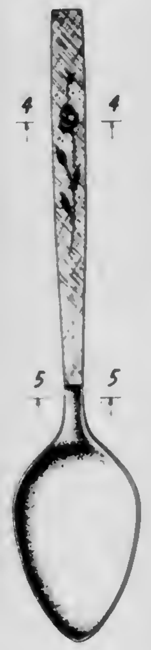
217,100
PORTABLE HAND LANTERN
Peter William Bidder, Dee Why, New South Wales, Australia, assignor to Minitronics Pty. Limited, Brookvale, New South Wales, Australia, a corporation of Australia
Filed May 15, 1969, Ser. No. 17,171
Claims priority, application Australia Nov. 19, 1968
Term of patent 14 years
Int. Cl. D26—*04*
U.S. Cl. D48—24



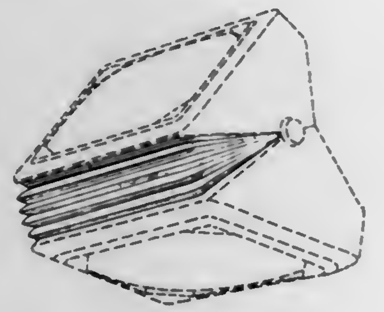
217,101
INDUSTRIAL THERMOMETER
Raymond J. Feldman, Bronx, N.Y., assignor to SOS Consolidated, Inc., Birmingham, Mich., a corporation of Nevada
Filed June 13, 1969, Ser. No. 17,697
Term of patent 14 years
Int. Cl. D10—*09, 11*
U.S. Cl. D52—7



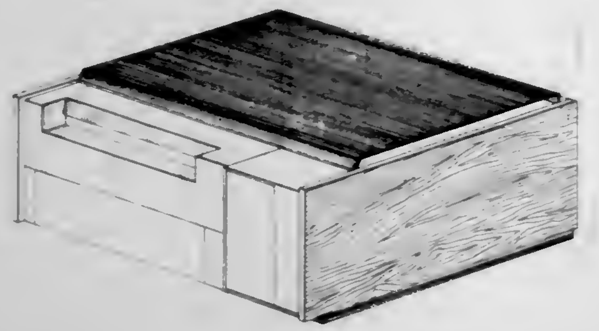
217,102
SPOON OR SIMILAR ARTICLE
Ellen B. Manderfield, Syracuse, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed July 16, 1968, Ser. No. 12,795
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



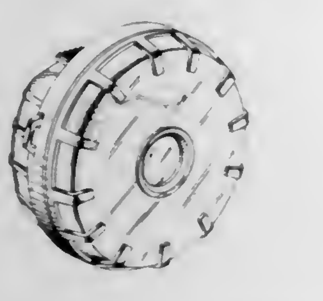
217,103
OVERHEAD PROJECTOR HEAD WITH BELLOWS
Philip M. Field, Maplewood, and John C. Nemesnyik, Nutley, N.J., assignors to Charles Beseler Company, East Orange, N.J., a partnership composed of Martin Fred Myers and Philip Berman
Filed Nov. 13, 1968, Ser. No. 14,428
Term of patent 14 years
Int. Cl. D16—*3, 4*
U.S. Cl. D61—1



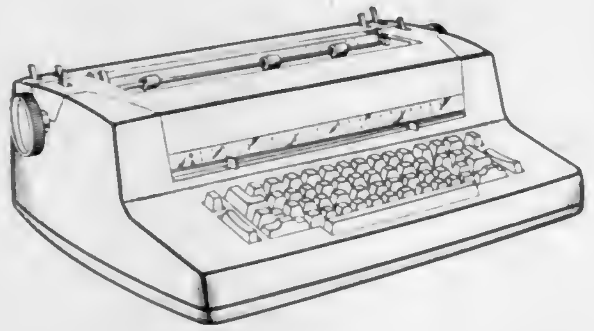
217,104
DOCUMENT COPIER UNIT
John L. Gianfagna, Marietta, Ohio, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 9, 1968, Ser. No. 14,844
Term of patent 14 years
Int. Cl. D16—*5*
U.S. Cl. D61—1



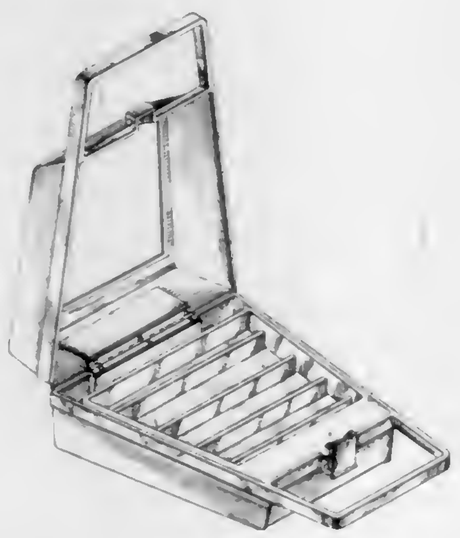
217,105
WATERPROOF CASE FOR A PHOTOGRAPHIC CAMERA
Nobuki Matsumoto, Sadao Okada, Masayuki Sakuma, and Ohiko Yagi, Tokyo, Japan, assignors to Kabushiki-Kaisha Ricoh, Tokyo, Japan
Filed Aug. 11, 1969, Ser. No. 18,635
Claims priority, application Japan Apr. 23, 1969
Term of patent 7 years
Int. Cl. D16—*07*
U.S. Cl. D61—1



217,106
TYPEWRITER OR THE LIKE
Eliot F. Noyes, New Canaan, Conn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Dec. 30, 1968, Ser. No. 15,231
Term of patent 14 years
Int. Cl. D18—*01*
U.S. Cl. D64—11



217,107
CARRYING CASE FOR A PORTABLE APPLIANCE
Raymond T. Cassidy, Stratford, and Martin J. Wolff, New Haven, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 17, 1968, Ser. No. 12,395
Term of patent 14 years
Int. Cl. D3—*99*
U.S. Cl. D87—1



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF APRIL, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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  - Martensson, Kjell Halvard, and Melle, Hans Georg, 3,505,145.
- Abbott, Bobby R. Mouth rinsing device. 3,504,852, Cl. 239-024.
- Abe, Kenichi: *See—*
  - Matsumoto, Satoshi, Sudo, Tadashi, Tanaka, Etsuo, Abe, Kenichi, and Sato, Akihiro 3,505,426.
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  - Griffith, Arvon M., 3,505,446.
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- Acquaviva, Thomas J., Jr., to Xerox Corporation. Roll converter control. 3,504,586, Cl. 083-065.
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- Acton, Daniel D.: *See—*
  - Risch, William E., and Acton, Daniel D. 3,505,152.
- Adams, John S., Jr., and Gerwitz, David L., to Monsanto Research Corporation. Methods of combatting fungal organisms with 2,5- disubstituted α-iodoacetanilides. 3,505,457, Cl. 424-324.
- Aday, Roy W., Jr.: *See—*
  - Malk, David J., Aday, Roy W., Jr., Van Slooten, Nico Jan, Greene, Robert L., Petersen, Arne J., and Matsuyama, George 3,505,197.
- Addis, Edwin C., to Avery Products Corporation. Tape dispenser. 3,505,153, Cl. 156-577.
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  - Kolibas, James A., and Crouser, Darwin S., 3,504,973.
- Adler, Franklin P., to Pullman Incorporated. Railroad car construction. 3,504,636, Cl. 105-366.
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- Aerojet-General Corporation: *See—*
  - Larson, Kenneth W., 3,504,827.
  - Miller, Roger I., 3,505,189.
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  - Christophersen, Clarence E., 3,504,591.
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  - Kiper, Gerd, Engelsmann, Dieter, Fauth, Gunter, Karl, Horst, and Nusser, Helmut, 3,504,602.
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- Ahrens, Robert H., to Milwaukee Chaplet & Mfg. Company, Inc. Magnetic line follower for an X-Y motor control. 3,505,580, Cl. 318-162.
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  - Hoel, Orville Alf, 3,504,670.
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  - Tedeschi, Robert J., and Moore, George L., 3,505,419.
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- Ajax Magnethermic Corporation: *See—*
  - Ross, Nicholas V., 3,505,492.
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  - Newman, Marvin K., and Arnold, Orlan M., 3,504,804.
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- Akhmedov, Baba Abaskuli Ogly: *See—*
  - Sutovsky, Pavel Moiseevich, Ashrafov, Mamed Abdul Ragim Ogly, Efendiev, Gamid Emin Ogly, Akhmedov, Baba Abaskuli Ogly, Timofeev, Vladimir Ivanovich, Kornev, Tovy Noevich, Gelman, Alexandr Shmulevich, and Gusein-Zade, Mamed Mekhti Mirza Aga Ogly 3,504,425.
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- Albanese, Philip: *See—*
  - Jefferies, Robert K., and Albanese, Philip 3,504,633.
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  - Acre, Thomas R., 3,505,125.
  - Woodcock, Ray Edwin, 3,505,062.
- Allen, Arthur Joseph, to Archdale, James, & Company Limited. Setting of cutting tools. 3,504,442, Cl. 033-185.
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- Allied Chemical Corporation: *See—*
  - Dear, Robert E. A., and Gilbert, Everett E., 3,505,459.
  - Murphy, Kevin Paul, and Orfeo, Sabatino R., 3,505,232.
- Allis-Chalmers Manufacturing Company: *See—*
  - Peterson, Harold A., 3,505,567.
- Allison, Kenneth, and Sparke, Maurice Barrington, to British Petroleum Company Limited, The. Decomposition of hydroperoxides. 3,505,360, Cl. 260-348.5
- Almqvist, Kurt Karl Axel: *See—*
  - Josefsson, Erik Anders Ake, Bengtsson, Erik Axel, and Almqvist, Kurt Karl Axel 3,505,061.
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- Alton, James A. Automatic closing system for bifold overhead doors. 3,504,729, Cl. 160-188.
- Amala, Raymond S.: *See—*
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- Amchem Products, Inc.: *See—*
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- Ameliorair (Societe Anonyme): *See—*
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  - L'Eplattenier, Francois, and Calderazzo, Fausto, 3,505,034.
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- American Radiator & Standard Sanitary Corporation: *See—*
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  - Fester, Amos M., and Brogard, Paul D., 3,504,619.
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  - Risch, William E., and Acton, Daniel D., 3,505,152.
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  - Torr, Ralph Percival, 3,504,900.
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- Andrews, Stuart Alexander, and Lewis, Morgan Wynne, to Rolls-Royce Limited, mesne. Electrical pulse transmitting apparatus. 3,504,538, Cl. 073-136.
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  - Anetsberger, Richard J., 3,504,798.
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  - Gipstein, Edward, and Karabinos, Joseph V., 3,505,455.
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  - Sato, Hisayuki, Koga, Mitsuo, Aoki, Takeo, Hayashida, Kazunari, and Kohno, Ikuhiro 3,505,275.
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- Araki, Kazuo, Iijima, Yasuo, Sano, Koichi, Shindo, Kazuo, Saito, Yoo, Kawaguchi, Iwakichi, Hosoda, Minoru, and Murakami, Keiichi, to Nippon Kokan Kabushiki Kaisha, and Toyo Engineering Corporation. Wet process for the manufacture of phosphoric acid. 3,505,013, Cl. 023-122.
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  - Newman, Marvin K., and Arnold, Orlan M. 3,504,804.
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- Aske, Henry D., and Spencer, Stanley E., to Hughes Aircraft Company. Insulated cryogenic refrigerator cold head. 3,504,505, Cl. 062-006.
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- Hirs, Gilles Gerardus, to Nederlandse Organisatie voor Toegepast-Natuurweten- schappelijk Onderzoek ten behoeve van Nijverheid Handel en Verkeer. Element for hydraulical measuring, control and calculating devices. 3,504,529, Cl. 073-054.
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  - Affel, Herman A., Jr., Eisenberg, Daniel E., Hughes, Arthur D., Schmitt, William F., and Kerfoot, Franklin W., Jr. 3,505,646.
- Kerrigan, Vincent, and Pearson, Kenneth William, to Imperial Chemical Industries Limited. Carbonyl bis-urethane production. 3,505,392, Cl. 260-479.
- Kesler, Carl C., Carey, Paul L., and Wilson, Oliver G., to Penick & Ford, Limited. Sugar products prepared from hydroxypropylated starch. 3,505,110, Cl. 127-029.
- Kettler, Roddy E. Method of cleaning masonry. 3,505,112, Cl. 134-002.
- Kibler, Charles J.: *See*—
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- Kidney, Allan James, to Lever Brothers Company. Method of preparing a collagen sausage casing. 3,505,084, Cl. 099-175.
- Kido, Keiichi: *See*—
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- Kidwell, Alfred S., and Migdol, Norman R., to Interchemical Corporation. Stable polysulfide composition containing encapsulated curing agent. 3,505,254, Cl. 260-003.
- Kidwell, Alfred S., and Migdol, Norman R., to Inmont Corporation. Curable normally stable compositions containing cross linking agent in capsule form. 3,505,428, Cl. 260-831.
- Kieser, Hartmut: *See*—
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- Kilduff, Timothy J., and Biggar, Allan M. Method of making electrically conductive pressure sensitive adhesive tapes. 3,505,144, Cl. 156-259.
- Killian, Charles R.: *See*—
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  - Brewer, Charles C., Fritz, Richard C., Killian, Charles R., and Moe, James M. 3,505,422.
- Kim, Raymond W. H., and Kim, Tong Soo, to Bell & Howell Company. Cam for intermittent feed mechanism. 3,504,572, Cl. 074-567.
- Kim, Tong Soo: *See*—
  - Kim, Raymond W. H., and Kim, Tong Soo 3,504,572.
- Kim, Tong Soo, to Bell & Howell Company. Constant diameter cam. 3,504,571, Cl. 074-567.
- Kimble, Robert C.: *See*—
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- Kimura, Genjiro. Compass. 3,504,439, Cl. 033-027.
- King, John B., to Hutches and Son Metal Products, Inc. Two-piece equalizer bracket. 3,504,929, Cl. 280-104.5
- Kinsey, Robert J.: *See*—
  - Diamond, Milton J., and Kinsey, Robert J. 3,504,825.
- Kiper, Gerd, Engelsmann, Dieter, Fauth, Gunter, Karl, Horst, and Nusser, Helmut, to Agfa-Gevaert Aktiengesellschaft. Camera for operation with different sources of artificial light. 3,504,602, Cl. 095-010.

Kirk, Ted: *See—*
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Kisovec, Adrian V., to Boeing Company, The. Rotor system. 3,504,989, Cl. 170-160.25

Kitai, Kiyoshi, to Kabushiki Kaisha Hattori Tokeiten. Camera mechanism for detection of brightness and control of exposure. 3,504,604, Cl. 095-010.

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Kittler, Wolfram: *See—*
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Klamm, Robert L., to Conductron Corporation. Light sensitive apparatus for preventing flameout in combustion engines. 3,504,490, Cl. 060-039.09

Klee, Gerhard, and Jeschke, Norbert, to Samson Apparatebau AG. Tool carrier for machine tools. 3,504,582, Cl. 082-024.

Klein, Erich. Preparation of terpinen-1-ol-(4). 3,505,412, Cl. 260-631.5

Klein, Georges, and Fabre, Jean L., to Compagnie Generale d'Electricite, and Electricite de France. Nozzle principally for magnetohydrodynamic generators. 3,505,543, Cl. 310-011.

Klein, William A., to Minnesota Mining and Manufacturing Company. Abrasive backings saturated with copolymers of acrylic ester and nitrile monomers. 3,505,045, Cl. 051-295.

Kleinmann, Earl E., to Phillips Petroleum Company. Using fluid to which substance is added to motivate additive. 3,504,685, Cl. 137-003.

Kliene, Ronald Ian, to Imperial Chemical Industries Limited. Process for producing hollow bodies reinforced with a foamed structure. 3,505,137, Cl. 156-078.

Klockner-Humboldt-Deutz Aktiengesellschaft: *See—*
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Knapsack Aktiengesellschaft: *See—*
Harnisch, Heinz, Bender, Ludwig, Frorath, Friedrich-Karl, Diskowski, Herbert, and Seifert, Helmut, 3,505,198.

Knecht, George W., to Murray Manufacturing Corporation. Coupling for two pole circuit breaker. 3,505,621, Cl. 335-008.

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Kobler, Richard, Gaven, Thomas J., and Gloor, Albert B., to McGraw-Edison Company. Device for teaching arithmetic. 3,504,449, Cl. 035-031.

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Kolberg, Theodor. Method of blending polyvinyl chloride. 3,505,274, Cl. 260-034.2

Kolibas, James A., and Crouser, Darwin S., to Addressograph-Multigraph Corporation. Copyboard. 3,504,973, Cl. 355-075.

Koller, Frank J., Jr., to Armstrong Cork Company. Shoe upper laminate. 3,505,161, Cl. 161-151.

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Komm, Eduard Lvovich: *See—*
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Kostalos, John, Jr., to Westinghouse Electric Corporation. KVAH computer for obtaining the square root of the sum of two quantities. 3,505,506, Cl. 235-151.31

Kotzsch, Hans-Joachim, and Ismail, Roshdy M., to Dynamit Nobel Aktiengesellschaft. Process for the manufacture of linear silicic ester silazanes. 3,505,381, Cl. 260-448.8

Kovach, Edward J. Extendable platform. 3,504,642, Cl. 108-065.

Kozowyk, Ted, Maniker, Aaron, and Senecal, Donald E., to United States of America, Army. Torsion bar actuating system. 3,504,930, Cl. 280-124.

Kozowyk, Ted, and Sinclair, Alex H., to United States of America, Army. Vehicle variable height actuator. 3,504,931, Cl. 280-124.

Kozowyk, Ted, and Sinclair, Alex H., to United States of America, Army. Dual rate dampening device. 3,504,932, Cl. 280-124.

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Krarup, Kay. Fertilizer applicator. 3,504,647, Cl. 111-096.

Kraszeski, Arthur, and Kent, Stephen D., to Kent, R. O., Corporation. Apparatus and method for making artificial tree branches. 3,504,423, Cl. 029-419.

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Krautwald, Herbert, Schroeder, Harry, and Bosch, Werner, to Siemens Aktiengesellschaft. Unipolar flat-type of miniature construction. 3,505,629, Cl. 335-275.

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Krimm, Heinrich, and Schnell, Hermann, to Farbenfabriken Bayer Aktiengesellschaft. Isocyanato carbonic acid esters. 3,505,384, Cl. 260-463.

Kronig, Walter, and Schwerdtel, Wulf, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of acetic acid. 3,505,400, Cl. 260-541.

Krueger, John R., to Xerox Corporation. Document feeding apparatus control. 3,504,908, Cl. 271-010.

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Kryzer, Benjamin H., to Union Tank Car Company, mesne. Reverse osmosis water softening method and apparatus. 3,505,216, Cl. 210-023.

Kubitzek, Harry, Bodesheim, Ferdinand, Nawrath, Gunther, Reichle, Alfred, and Nischk, Gunther, to Farbenfabriken Bayer Aktiengesellschaft. Bifilar polyamide yarns and filaments. 3,505,165, Cl. 161-173.

Kubo, Seiji, to Hitachi, Ltd. Method of making semiconductor devices having insulating films. 3,504,430, Cl. 029-571.

Kuhnis, Hans Herbert, Ryf, Hugo, and Denss, Rolf, to Geigy Chemical Corporation. 1-Lower alkyl-4-(2'-hydroxylower alkyl)-4-piperidinols and lower alkyl acid esters thereof. 3,505,343, Cl. 260-294.3

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Kunz, Emil: *See—*
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Kurlandsky, Sam, to Aero-Motive Mfg. Co. Chain for supporting flexible conduit. 3,504,864, Cl. 248-051.

Kurz, John C., to Air Balance, Inc. Nonturbulent fire damper. 3,504,615, Cl. 098-001.

Kuschnereit, August. Method and apparatus for separating tangled, coiled helixes. 3,504,783, Cl. 198-033.

Kyowa Hakko Kogyo K.K.: *See—*
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Langecker, Erhard, to Gebr. Battenfeld. Device for producing hollow bodies, bottles or the like, of plastics material. 3,504,397, Cl. 018-005.

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Lasko, William R., and Nichols, Monte C. Multiphase non-metallic compositions of matter. 3,505,218, Cl. 252-001.

Lasoff, Murry, Holmes, Irwin R., and Dodds, Thomas J., Jr., to Burroughs Corporation. Display system. 3,505,665, Cl. 340-324.

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Lawson, Royal H., and Lawson, Andrew L. Intruder resistant fire escape. 3,504,764, Cl. 182-048.

Lawton, Emil A., and Pilipovich, Donald, to North American Rockwell Corporation. Process for the preparation of trifluoramine oxide. 3,505,015, Cl. 023-203.

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Lear, William P., and Auld, Samuel H., to Lear Jet Industries, Inc. Magnetic tape cartridge player with radio having a common amplifier and switchless independent operation therethrough. 3,505,486, Cl. 179-100.11

Leasher, Arthur Lee: *See—*
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Lee, Harvie H.: *See—*
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Lee, Harvie H., and Halley, James W., to Inland Steel Company. Al-Mg-Zn alloy coated ferrous metal sheet. 3,505,043, Cl. 029-196.5

Lee, Richard A.: *See—*
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Lemoigne, Pierre Marcel. Parachute. 3,504,874, Cl. 244-142.

Lenehan, Bernard E., to Westinghouse Electric Corporation. Maximum demand device with plural order indication. 3,505,600, Cl. 324-103.

Leonard, Richard L., Truscott, Thomas B., and Veazey, Thomas M., to Monsanto Company. Solvent removal process for wet spun fibers. 3,505,445, Cl. 264-233.

L'Eplattenier, Francois, and Calderazzo, Fausto, to American Cyanamid Company. Process of producing dihydridotetracarbonylosmium and carbonyl and hydrogen replacement reactions. 3,505,034, Cl. 023-360.

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Lever Brothers Company: *See—*
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Levoy, Myron M., and Dimmock, Thomas H., to Thiokol Chemical Corporation. Plasma energy system and method. 3,505,550, Cl. 313-063.

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Lichtenauer, Gerd, and Loos, Herbert, to Hurth, Carl, Maschienen-und Zahnradfabrik. Spur gear system of crossed axes and method of manufacturing same. 3,504,565. Cl. 074-458.

Liddell, Robert W., to Calgon Corporation. Methods and compositions for inhibiting scale in saline water evaporators. 3,505,238, Cl. 252-180.

Liddiard, Walter Frank. Portable washing and rinsing machine. 3,504,858, Cl. 239-172.

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Lindemann, Martin K., to Air Reduction Company, Incorporated, mesne. Water soluble modified polyvinyl alcohol films. 3,505,303, Cl. 260-091.3

Lindin, Gregory E., to Polaroid Corporation. Printing of lenticular films. 3,504,970, Cl. 355-033.

Lindley, Charles Alexander, to Marquardt Corporation, The. Self-consuming ramjet vehicle. 3,504,631, Cl. 102-049.8

Lindsay, Kenneth L., to Ethyl Corporation. Preparation of alkali metal hydrides. 3,505,036, Cl. 023-365.

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Linley, Philip R., and Linley, Francis M., Jr., to Universal Thread Grinding Company. Apparatus for comparing with a length standard the spacing of test points in a workpiece. 3,504,441, Cl. 033-174.

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Liwski, Piotr P. M.: *See—*
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Llewellyn, Peter M., to Varian Associates. Ion cyclotron resonance mass spectrometer with means for irradiating the sample with optical radiation. 3,505,517, Cl. 250-041.9
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Logrippo, James, to Norristown Rug Manufacturing Company. Braided rug. 3,505,154, Cl. 161-035.
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Long, Louis, Jr.: *See*—
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Long, Stanley Arnold, and Fillmore, Charles Luther, to Globe-Union Inc. Ceramic composition for barrier layer capacitors. 3,505,574, Cl. 317-238.
Longbottom, Eric, to National Research Development Corporation. Bridges. 3,504,389, Cl. 014-013.
Loomis, Russell M., to Unarco Industries Inc. Lading panels with tine receiving elements. 3,504,641, Cl. 108-051.
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Love, William J., to General Electric Company. Foil bearing. 3,504,953, Cl. 308-015.
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Lowe, Warren, to Chevron Research Company. Lubricating oil compositions containing bis- alkenyl succinimides of xylylene diamines. 3,505,227, Cl. 252-051.5
Lowman, Walker B., to Industrial Nucleonics Corporation. Control system for a cigarette-making machine. 3,504,679, Cl. 131-021.
Lowry, Alan B., to Gillette Company, The. Dispensing device. 3,504,862, Cl. 239-565.
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Luckenbaugh, Raymond W., to Du Pont de Nemours, E. I., and Company. Tetrahydro-s-triazin-2-(1H)-ones and thiones. 3,505,323, Cl. 260-248.
Luckers, John, to Centre National de Recherches Metallurgiques. Method and device for the continuous analysis of the composition of a gas. 3,504,521, Cl. 073-001.
Luckey, Manley J. Method and apparatus for determining intoxication. 3,505,022, Cl. 023-232.
Luginsland, Hans-Hermann, Rieck, Gerhard, and Weber, Halmut, to Titangesellschaft mbH. Process for the manufacture of a titanium dioxide pigment for the delustering of polyamide fibers. 3,505,088, Cl. 106-308.
Luksch, Andreas, and Sundberg, Bertil J., to Tennant, G. H., Company. Metal fibril compacts. 3,505,038, Cl. 029-183.5
Lumbroso, Daniel, Vu, Quang Dang, and Odello, Robert, to Institut Francais de Petrole des Carburant et Lubrifiants. Process of hydrogenating benzene. 3,505,421, Cl. 260-667.
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Malmstrom, Sven-Erik, to Forsheda Gummifabrik AB. Seal for relatively rotatable parts. 3,504,917, Cl. 277-025.
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- Weigmann, Erich W., to Entwicktungsring Sud GmbH. Aircraft engine enclosure. 3,504,871, Cl. 244-053.
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NOTE.—First number, class; second number, subclass; third number, patent number

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A UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

April 7, 1970 Volume 873 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 529,080 (ORLON), E. I. du Pont de Nemours and Company, Synthetic fiber-forming polymers and copolymers of acrylic acid or its derivatives produced in the form of fibers for further use in the industrial arts; **Reg. No. 536,272**, same, Yarns of synthetic fibers, **filed** Dec. 24, 1969, D.C., S.D.N.Y., Doc. 69–C–5677, *E. I. du Pont de Nemours & Co.* v. *Astrotex, Ltd. et ano.*

Reg. No. 536,253 (SIGMA AND DESIGN), Sigma Instruments, Incorporated, Electrical relays and acoustic switches; **Reg. No. 788,972** (SIGMA), same, Electromechanical relays, reed relays, electromechanical magnetically latching relays, acoustical switches, stepping motors, stepping motor drives, stepping motor switch combinations, magnetic amplifiers, photo relays, light sources for photo relays, transistor amplifiers, servo-mechanisms, transformers and rectifier assemblies (Class 21); Electrical testing and measuring equipment—namely, electrical and magnetic pick-up equipment for testing power lines, indicating electrical counters, relay test sets, automatic temperature controllers and indicating and measuring systems for power lines (Class 26); **Reg. No. 792,147** (GREEK LETTER SIGMA), same, **filed** Nov. 17, 1966, D.C., S.D.N.Y., Doc. 66–C–3905, *Sigma Instruments, Inc.* v. *Sigma Educational Products, Inc.* Consent judgment, defendant enjoined, Jan. 6, 1970.

Reg. No. 536,272. (See Reg. No. 529,080.)

Reg. No. 645,378 (ANTARCTIC), Croton Watch Co., Inc. Watches, **filed** Apr. 2, 1968, D.C., S.D.N.Y., Doc. 68–C–1326, *Nivada, S.A.* v. *Croton Watch Co., Inc.* Consent judgment, defendant permanently enjoined, Dec. 10, 1969.

Reg. No. 658,084 (DESIGN OF HAT), E. D. Bullard Company, Protective or safety helmets and hats, **filed** Jan. 8, 1970, D.C., N.D. Calif. (San Francisco), Doc. C–70–44 ACW, *E. D. Bullard Co.* v. *United States Safety Service Co.*

Reg. No. 695,416 (NEVCO AND DESIGN), Nevco Wood Products Co., Inc., Clothes hangers; **Reg. No. 860,766** (NEVCO), same, Wood and plastic products—namely, holders, boxes, snack bowls, salad sets, shoeshine and sewing boxes, sold empty in the trade, planters, salt and pepper sets, egg caddies and cup sets, and coasters (Class 2; Int. Cls. 21 and 26); Kitchen, cooking and eating utensils, such as cooking baskets and strainers; and bar accessories, such as ice crushers, spoons, forks, strainers, bottle and can openers, and pourers (Class 13; Int. Cls. 8 and 21); Knives, forks, spoons, files, carving boards, kitchen spades, steak knives, kitchen saws, slicers, carving sets, meat cleavers, salad scissors, choppers and slicers for cheeses, butter, fruits and other foods, pizza and pie cutters, kitchen scissors, poultry shears,

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	20, 085
Date of oldest new application	March 25, 1969
Date of oldest amended application (filing date)	April 28, 1966

C. M. WENDT, Director, Trademark Examining Operation **TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION**	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	5–13–69	9–8–66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	6–6–69	10–20–66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	8–21–69	4–28–66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3–25–69	6–15–67
Renewals (All Classes)	1–12–70	--------
Sec. 12(c) Publications (All Classes)	1–12–70	--------

Applications filed during the month of February 1970—2,618

Registrations Issued ---------------------- 326—No. 888,891 to No. 889,216
Renewals Issued ---------------------- 110

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

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peelers and corers; mixing spoons, spatulas, salad fork and spoon sets, meat presses, tongs, foodboards, scoops, meat tenderizers, egg slicers, graters, peelers, can openers, jiggers, cork-screws, ice picks, ice tongs and lemon squeezers (Class 23; Int. Cl. 8); Bar stools, chairs, tables, racks, shelves, hat stands, training chairs and training seats for children, drawers, drying racks for clothes, tie racks, valets, step stools, benches, and serving wagons (Class 32; Int. Cl. 20); **filed** Jan. 8, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c38, *Nevco Wood Products Co., Inc.* v. *Liberty Import-Export Co. Ltd.*

Reg. No. 721,716 (SAFEWAY), Safeway Stores, Incorporated, Retail grocery services, **filed** Dec. 31, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69-2561-CC, *Safeway Stores, Incorporated* v. *American Institute for Driver Improvement.*

Reg. No. 782,992 (QUALITY COURTS AND DESIGN). Quality Courts Motels, Inc., Providing lodging in tourist courts; **Reg. No. 783,001**, same, Indicating membership in applicant's organization; **Reg. No. 783,371** (SUNBURST AND PYLON DESIGN), same, Providing lodging in tourist courts, **filed** Jan. 16, 1970, D.C.N.J. (Camden), Doc. 56-70, *Quality Courts Motels, Inc.* v. *Universal Housing Corporation and Ben Schlenzig.*

Reg. No. 783,001. (See Reg. No. 782,992.)

Reg. No. 783,371. (See Reg. No. 782,992.)

Reg. No. 788,972. (See Reg. No. 536,253.)

Reg. No. 792,147. (See Reg. No. 536,253.)

Reg. No. 792,341. (See Reg. No. 792,653.)

Reg. No. 792,653 (MAGIC), Basic Vegetable Products, Inc., Dehydrated onions and dehydrated potatoes; **Reg. No. 792,341**, same, Dehydrated vegetable products—namely, granulated garlic, **filed** Feb. 11, 1970, D.C., W.D. Wash. (Tacoma), Doc. 4055, *Basic Vegetable Products, Inc. and American Potato Company* v. *Bea & Johnny's Enterprises, Inc.*

Reg. No. 839,667 (GINO'S), The Dob Corporation, Frozen pizza, **filed** Dec. 30, 1969, D.C., Ariz. (Phoenix), Doc. C-69-569, *Fairmont Foods Company* v. *Leland Stevenson et al.*

Reg. No. 848,145 (INSTANT INSANITY), Parker Brothers, Inc., Color matching block puzzle, **filed** Oct. 17, 1969, D.C., S.D. Fla. (Miami), Doc. 69-1208-C-JE, *Parker Brothers, Inc.* v. *Dade Wholesale Products, Inc.* Final judgment, trademark valid; defendant enjoined, Jan. 13, 1970.

Reg. No. 860,766. (See Reg. No. 695,416.)

Reg. No. 882,659 (SPI), Schinto-Platt Inc., Production and preparation of television commercials, **filed** Jan. 14, 1970, D.C., S.D.N.Y., Doc. 70-176, *Schinto-Platt Inc.* v. *Snazelle Productions Inc.*

Reg. No. 884,128 (KW), Kurt Wayne Inc., Jewelry, including rings, ornamental pins, bracelets, brooches, necklaces, earrings, and diamond settings of precious metals, **filed** Jan. 16, 1970, D.C., S.D.N.Y., Doc. 70-198, *Kurt Wayne Inc.* v. *G & W Castings Inc.*

Emergency Situation in the U.S. Postal Service—Trademarks

This notice is in clarification of and supplemental to the notice of Mar. 19, 1970 (published in the OFFICIAL GAZETTE of Mar. 24, 1970, Vol. 872, No. 4), concerning the emergency situation in the U.S. Postal Service. Section 13 of the Trademark Act of 1946 (60 Stat. 427, as amended) authorizes extensions of time for filing oppositions to registrations of trademarks "for good cause shown." The proclamation by President Nixon of Mar. 23, 1970 (35 F.R. 5001), declaring a state of national emergency in connection with work stoppage in the Postal Service has been determined to constitute a showing of "good cause" within the meaning of Section 13.

The provisions of the previous notice extending the time for taking any action or for paying any fee expiring during the period beginning March 16 and ending Apr. 15, 1970, both dates inclusive, by one month apply to the filing of oppositions and requests for extension of time to oppose under Section 13 of the Trademark Act. To this extent, Rule 2.102 of the Trademark Rules of Practice (Title 37, Code of Federal Regulations, Part 2) is hereby waived under authority of Rule 2.148 because of the extraordinary situation existing in connection with the Postal Service.

In view of possible delays in some areas in the delivery of OFFICIAL GAZETTES mailed during the period of the emergency, attention is directed to the practice whereby a telegraphic request for extension of time will be accepted if followed as promptly as possible, and, in any event, within 10 days after submission of such telegraphic request, by a request satisfying the requirement of Rule 2.102.

WILLIAM E. SCHUYLER, Jr.,
Commissioner of Patents.

Mar. 26, 1970.

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MARKS PUBLISHED FOR OPPOSITION

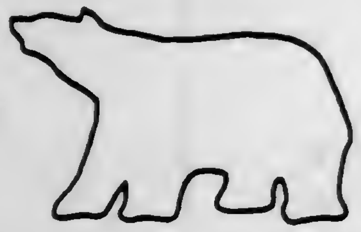
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 265,586. Hitachi, Ltd., Chiyoda-ku, Tokyo, Japan. Filed Feb. 28, 1967.



Priority claimed under Sec. 44(d) on Japanese application filed Oct. 19, 1966; Reg. No. 830,393, dated Aug. 30, 1969.

Class 31—Filters and Refrigerators

For Refrigerators (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Domestic Room Air Conditioners (Int. Cl. 11).

Class 21—Electrical Apparatus, Machines, and Supplies

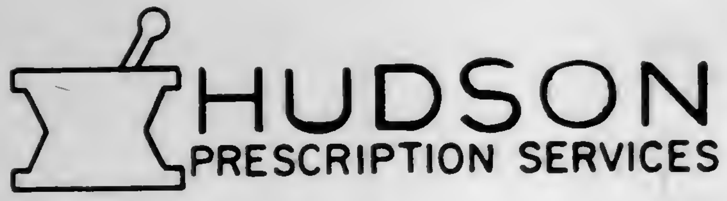
For Closed Circuit Television Camera Systems; Semiconductor, Solid State and Microelectronic Products—Namely, Transistors, Diodes, Capacitors and Resistors; Monolithic and Hybrid Integrated Circuitry; Thin Film Devices and Circuits—Namely, Capacitors, Resistors and Conductors; Screen Printed and Fired Circuitry; and Parts of All Such Goods (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Aircraft Navigational Systems Comprising Vertical Display Generator, Optical Projector, and Image Readout Unit; Air Data Devices—Namely, Tachometer Transmitters, and Servo Encode Modules; Analogue-to-Digital Converters; Gyroscopic Stable Platforms; Gyroscopes; Radar Systems, Consisting of Transmitters, Receivers, Antennas, Synchronizers, Signal Processors, Power Supplies, Cathode Ray Tube and Other Electronic Displays; Control Panels and Ground Support Equipment—Namely, Module Check-Out Equipment, Line Replaceable Unit Check-Out Equipment, and Test Sets; Analogue Computers; Force Balance Engine Pressure Ratio Transducers; and Parts of All Such Goods (Int. Cl. 9).

First use at least as early as May 28, 1962.

SN 268,117. Hudson National, Inc., New York, N.Y. Filed Apr. 3, 1967.



The words "Prescription Services" and the pictorial representation of a mortar and pestle are disclaimed apart from the mark as shown. Owner of Reg. Nos. 783,114 and 787,732.

Class 100—Miscellaneous

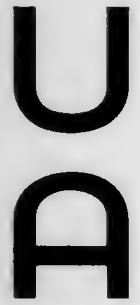
For Preparation of Pharmaceutical Prescriptions (Int. Cl. 42).

Class 103—Construction and Repair

For Custom Manufacturing of Orthopedic Appliances, and Custom Molding and Manufacturing of Plastic Health Aids—Namely, Urinals, Bedpans, and Ostomy Pouches (Int. Cl. 37).

First use Sept. 23, 1966.

SN 270,452. United Aircraft Corporation, East Hartford, Conn. Filed May 2, 1967.



Owner of Reg. Nos. 785,092, 811,287, and others.

SN 281,415. Polysciences, Inc., Bethayres, Pa. Filed Sept. 29, 1967.

The symbols are disclaimed apart from the mark as a whole.

Class 6—Chemicals and Chemical Compositions

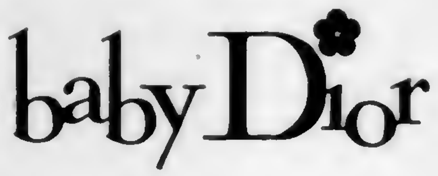
For Chemicals for the Life Sciences and Synthetic Plastics Research—Namely, Unsaturated Monomers, Polymers, Cross-Linking Monomers, Catalysts, Accelerators, Curing Agents, Mono and Polyfunctional Epoxides, Organometallics, Tissue Fixatives, Biological Stains, Tetrazoliums, Enzyme Substrates, Embedding Media, Replica and Anatomical Corrosion Compounds, Ring Opening Monomers, Chain Transfer Agents, Inhibitors, Stabilizers, Solvents, Buffers, and Plasticizers (Int. Cl. 1).

Class 26—Measuring and Scientific Appliances

For Electron Microscopes and Parts Therefor (Int. Cl. 9).

First use Jan. 24, 1962.

SN 285,287. Christian Dior, Societe a Responsabilite Limitee, Paris, France. Filed Nov. 21, 1967.



Priority claimed under Sec. 44(d) on French Reg. Nos. 728,609, dated July 4, 1967 and 729,099, dated July 27, 1967. The term "Baby" is disclaimed apart from the mark as shown, without relinquishing any common law rights therein.

Class 22—Games, Toys, and Sporting Goods

For Toys—Namely, Plush Animals, Dolls, Doll Accessory Items, Toys With Wind Up Movements, Toy Framed Pictures, Children's Toy Pictures Having Movable Parts (Including Musical Movements) and Balls (Int. Cl. 28).

Class 39—Clothing

For Clothes for Infants—Namely, Coats, Raincoats, Dresses, Outfits for Use in Religious Ceremonies, i.e., Baptismal Dress Ensembles, Pants, Shirts, Skirts, Sweaters, Aprons, Gloves, Mufflers, Scarfs, Stoles, Ties, Handkerchiefs, Vests, Overalls, Bloomers, Bibs, Panties, Slips, Culottes, Tights, Diapers, Buntings, Robes, Housecoats, Pajamas, Petticoats, Panties, Swimsuits, Shoes, Boots, Sandals, Slippers and Mules (Int. Cls. 24 and 25).

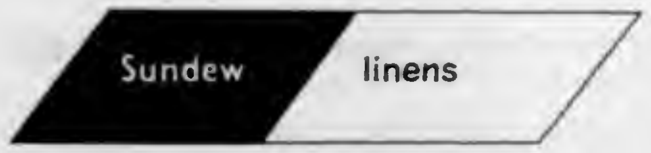
Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Layettes Consisting of Sheets, Pillow Cases and Pillows; Blankets and Towels (Int. Cl. 24).

Class 50—Merchandise Not Otherwise Classified

For Christmas Tree Decorations and Ornaments (Int. Cl. 28).

SN 291,612. Johnston, Allen & Company Limited, Lurgan, Armagh, Northern Ireland. Filed Feb. 21, 1968.



The word "Linens" is disclaimed apart from the mark as shown. Owner of British Reg. Nos. 476,646, dated Jan. 13, 1927; 476,648, dated Jan. 13, 1927; and 755,556, dated July 11, 1956.

Class 39—Clothing

For Handkerchiefs, Both in the Piece and Not in the Piece (Int. Cl. 24).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Table Linen, Bed Linen, and Household Linen, All Being Goods Both in the Piece and Not in the Piece (Int. Cl. 24).

SN 294,431. Clairol Incorporated, New York, N.Y. Filed Mar. 29, 1968.

CUSTOM-CARE

Class 44—Dental, Medical, and Surgical Appliances

For Hair Care Diagnostic Device—Namely, a Device Facilitating the Computation of Proportionate Amounts of Hair Conditioner Formulations for Combination Into a Desired Product (Int. Cl. 7).

Class 51—Cosmetics and Toilet Preparations

For Hair Conditioner (Int. Cl. 3).

First use Mar. 11, 1968.

SN 299,271. Chemetron Corporation, Chicago, Ill. Filed May 29, 1968.

MEPACO

Owner of Reg. No. 619,449.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Packing House Machines and Equipment for Handling, Processing and Packing Meat, Edible and Inedible Animal (Including Beef, Pork, Poultry, Fish Etc.) Products and By-Products; Packing House Cutlery; Meat Packaging Machines; and Parts for the Foregoing (Int. Cls. 7 and 8).

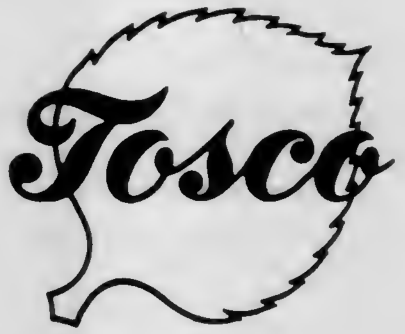
First use May 10, 1933.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Packing House Machines and Equipment—Namely, Smoke Generators; Heated Machines and Equipment for Showering, Washing, Cooking, Sterilizing and Rendering; Branding Equipment; Heat Sealing Equipment; and Parts for the Foregoing (Int. Cl. 11).

First use 1942.

SN 299,902. Toyo Sen-I Co., Ltd., Chiyoda-ku, Tokyo, Japan. Filed 6–7–68.



Class 39—Clothing

For Handkerchiefs (Int. Cl. 24).

First use at least as early as Aug. 31, 1951; in commerce at least as early as Aug. 31, 1951.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Fabrics and Piece Goods Made Wholly of Ramie or Linen, or of Ramie or Linen Combined With Cotton, Wool, or Synthetic Fibers Used for Making Clothing for Men, Women, and Children, Working Clothes, Sweaters, Dress Shirts, Socks, Handkerchiefs, Towels, Pillow Covers, Bed Covers, Cushions, Sleeping Bags, Canvas, Sun Shade Curtains, Wall Covering, and Mosquito Netting (Int. Cl. 24).

First use at least as early as Aug. 31, 1947; in commerce at least as early as Jan. 31, 1951.

Class 43—Thread and Yarn

For Threads and Yarns (Int. Cl. 23).

First use at least as early as Aug. 31, 1947; in commerce at least as early as Jan. 31, 1951.

SN 301,956. Nippon Gakki Seizo Kabushiki Kaisha, Hamamatsu-shi, Shizuoka-ken, Japan. Filed July 3, 1968.

YAMAHA

Owner of Japanese Reg. No. 498,968, dated Mar. 30, 1957; and U.S. Reg. Nos. 691,584, 779,461, and 678,446.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic and Electrical Instruments and Apparatus Including Wirelesses, Particularly Speakers, Audio Amplifiers, Tuners, Radio Sets, Television Sets, Microphones, Earphones, Headphones; and Cabinets for Speakers, Radio Sets, Electric Gramophones, and Television Sets (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Electric Gramophones, Record Players, Tape Recording and Reproducing Apparatus, and Recording Tape (Int. Cl. 9).

SN 302,978. Snia Viscosa Societa Nazionale Industria Applicazioni Viscoza S.p.A., Milan, Italy. Filed July 17, 1968.

SNIA

Owner of Italian Reg. No. 169,084, dated Apr. 20, 1965; and U.S. Reg. No. 733,988.

Class 39—Clothing

For Articles of Clothing Made from Rayon and From Other Artificial and Mixed Fibers, viz, Hosiery, Overcoats, Mantles, Raincoats, Dresses, Skirts, Jackets, Coats, Trousers, Shirts, Blouses, Swimsuits, Aprons, Dressing Gowns, Pyjamas, Underwear, Stockings and Socks, Neckties, Scarves, Shawls, Gloves, Braces, Girdles and Corsets, Caps, Hats, Boots, Shoes and Slippers (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Fabrics of Rayon and of Other Artificial and Mixed Fibers (Int. Cl. 24).

Class 43—Thread and Yarn

For Yarns and Threads Made of Rayon and of Other Artificial and Mixed Fibers (Int. Cl. 23).

SN 303,013. Zoilo Ruiz-Mateos, S.A., Jerez de la Frontera, Cadiz, Spain. Filed July 18, 1968.

ZOILO RUIZ-MATEOS, S. A.

Owner of Spanish Reg. Nos. 507,618 and 507,619, dated Oct. 2, 1967.

Class 47—Wines

For Wines (Int. Cl. 33).

Class 49—Distilled Alcoholic Liquors

For Vodka, Whiskey, Gin, Rum, Brandy, Anisettes, and Aguardientes (Int. Cl. 33).

SN 307,421. Breuer Electric Mfg. Co., Chicago, Ill. Filed Sept. 16, 1968.

CARPETKEEPER

Owner of Reg. No. 804,615.

Class 21—Electrical Apparatus, Machines, and Supplies

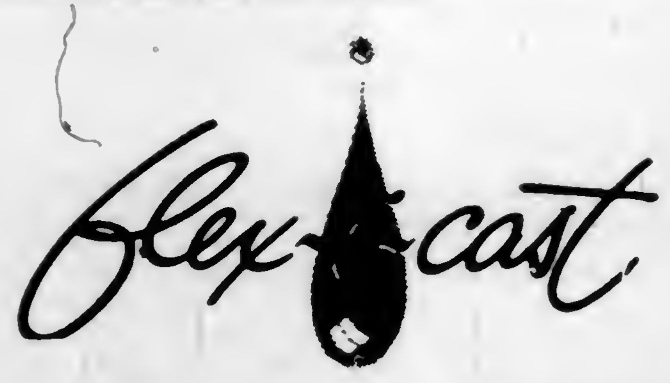
For Domestic Electric Vacuum Cleaners and Domestic Electric Floor Cleaning, Polishing, Sanding, Scrubbing and Waxing Machines (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Commercial and/or Industrial Electric Vacuum Cleaners and Commercial and/or Industrial Electric Floor Cleaning, Polishing, Sanding, Scrubbing and Waxing Machines (Int. Cl. 7).

First use Nov. 14, 1966.

SN 309,500. Urethane Products Canada Ltd., Mississauga, Ontario, Canada. Filed Oct. 14, 1968.



Priority claimed under Sec. 44(d) on Canadian application filed Sept. 7, 1968; Reg. No. 163,993, dated July 18, 1969. Owner of U.S. Reg. No. 849,000.

Class 1—Raw or Partly Prepared Materials

For Urethane Rubber in the Form of Sheets, Slabs, Rods, Bars, Blocks, Tubing, and Sleeves, for Use in Metal Forming Tools as Die Pads, Wear Pads, Covers, Liners, Vibration Dampers, and the Like (Int. Cl. 17).

Class 5—Adhesives

For Urethane Rubber Adhesives (Int. Cl. 1).

Class 6—Chemicals and Chemical Compositions

For Urethane Coatings for Dressing Belts and Similar Surfaces (Int. Cl. 1).

Class 19—Vehicles

For Wheels for Transportation Vehicles (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Urethane Expanding Punches and Dies, Idler Wheels, Bearings, Bushings, Vibration Dampers, Gears, Sprockets, and Impellers, Urethane Covered Rolls and Rollers and Urethane Rolls and Rollers for Use in Industrial Machines; Sheaves and Sheave Linings, Scraper and Wiper Blades, Used as Doctor Blades (Int. Cl. 7).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Urethane Rubber Belting; Urethane Rubber Tires; Seals, Rings, Washers, Diaphragms, Suction Cups and Cup Packings (Int. Cls. 7, 12, and 17).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Urethane Coated Fabrics for Making Conveyor Belts and Related Articles Having a Low Friction Surface (Int. Cl. 24).

SN 309,925. Goerlich's, Inc., Toledo, Ohio. Filed Oct. 18, 1968.

QUESTOR

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Flexible Tubing, Straight Tubing, and Elbows (Int. Cl. 6).

Class 19—Vehicles

For Shock Absorbers for Motor Vehicles (Int. Cl. 12).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

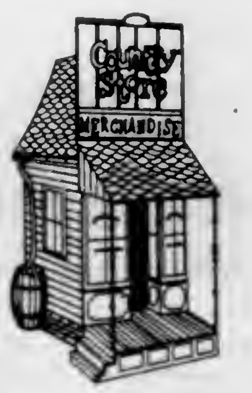
For Exhaust Mufflers and Exhaust System Parts for Motor Vehicles—Namely, Tail Pipes, Exhaust Pipes, Support Clamps, Brackets, and Bushings (Int. Cl. 12).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Flange Gaskets (Int. Cl. 17).

First use Aug. 14, 1968.
Subj. to Intf. with SN 307,122.

SN 310,957. Country Store Sweet Shoppe, Inc., Minneapolis, Minn. Filed Oct. 31, 1968.



The term "Country Store" and the word "Merchandise" are disclaimed apart from their use in the mark.

Class 46—Foods and Ingredients of Foods

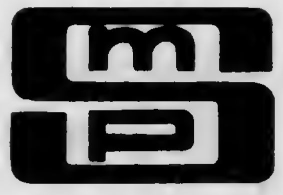
For Candies (Int. Cl. 30).

Class 100—Miscellaneous

For Sweet Shop Services (Int. Cl. 42).

First use October 1964.

SN 312,706. Standard Metal Products Co., Franklin Park, Ill. Filed Nov. 20, 1968.



Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

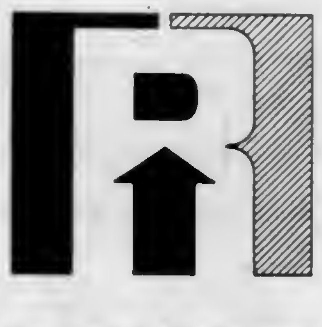
For Equipment for Handling and Processing Containers on the Order of Bottles, Jars and Cans—Namely, Inverter Air Cleaners, Unscramblers, Accumulation Tables, Rinsers, Transfer Disc Assemblies, Conveyors, and Loaders (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Warmers and Pasteurizer-Coolers for Containers on the Order of Bottles, Jars and Cans (Int. Cl. 11).

First use about June 1963.

SN 314,128. Rodgers Hydraulic Incorporated, Minneapolis, Minn. Filed Dec. 11, 1968.



The drawing is lined for the color brown. The mark comprises the letter "R."

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

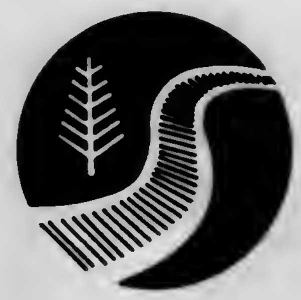
For Hydraulic Valves (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Track Presses, Shop Presses, Forcing Presses, and Hydraulic Pumps and Cylinders (Int. Cl. 7).

First use Aug. 6, 1968.

SN 314,418. General Aluminum Products, Inc., Charlotte, Mich. Filed Dec. 13, 1968.



Class 19—Vehicles

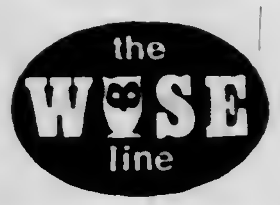
For Tent Camper Adapted To Be Pulled Behind a Snowmobile (Int. Cl. 12).

Class 22—Games, Toys, and Sporting Goods

For Tow Snow Sled or Sleigh Adapted To Be Towed Behind a Snowmobile (Int. Cl. 28).

First use on or about Sept. 1, 1968.

SN 315,387. Cummings Plastic Company, Aurora, Ill. Filed Dec. 30, 1968.



Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Plastic Key Tags (Int. Cl. 20).

Class 21—Electrical Apparatus, Machines, and Supplies

For Plastic Telephone Rings (Large-Numbered Circular Dial Inserted Over Dial Ring on Telephone) (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Plastic Ice Scrapers (Int. Cl. 8).

First use Dec. 4, 1968.

SN 319,663. Teis Myra, Inc., Fayetteville, N.C. Filed Feb. 20, 1969.

TEIS MYRA, INC.
TENNIS IS MY RACKET

Class 103—Construction and Repair

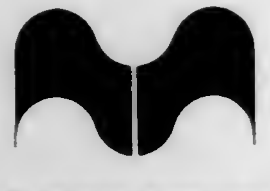
For Tennis Racket Repair and Restringing (Int. Cl. 37).

Class 107—Education and Entertainment

For Tennis Instruction (Int. Cl. 41).

First use Jan. 1, 1967.

SN 319,665. Shachibata Kogyo Kabushiki Kaisha, Nishi-ku, Nagoya, Japan. Filed Feb. 20, 1969.



Class 11—Inks and Inking Materials

For Stamp Pads; Ink for Stamp Pads and Writing Ink (Int. Cl. 16).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rubber Stamps, Including Rotary Stamps for Dating and Numbering and Porous Rubber Stamps Impregnated With Ink; and Spirit Type Duplicators (Int. Cl. 16).

Class 37—Paper and Stationery

For Marking Pens; Fountain Pens; Ball Point Pens; Paper Clips and Holders; Stencil Paper; and Magnetic Clips and Holders (Int. Cl. 16).

First use Sept. 1, 1968; in commerce Sept. 1, 1968.

SN 320,682. Maxam, Inc., Dallas, Tex. Filed Mar. 4, 1969.

MAXAM

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios, Fire Alarms, and Projectors (Int. Cl. 9).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Sewing Machines (Int. Cl. 7).

Class 26—Measuring and Scientific Appliances

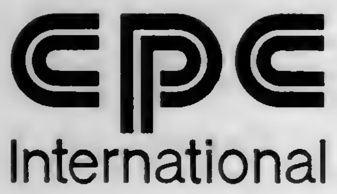
For Floor Polishers and Vacuum Cleaners (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Players (Int. Cl. 9).

First use at least as early as January 1969.

SN 322,119. CPC International Inc., Englewood Cliffs, N.J., by change of name from Corn Products Company, Englewood Cliffs, N.J. Filed Mar. 19, 1969.



Applicant disclaims any trademark right in the word "International," apart from the mark as shown.

Class 4—Abrasives and Polishing Materials

For Shoe Polish (Int. Cl. 3).

Class 6—Chemicals and Chemical Compositions

For Spray Starch, Spray Sizing Preparation for Garments, Ironing Aids, Fabric Softeners, Dyes, and Fabric Whiteners and Brighteners (Int. Cls. 2 and 3).

Class 46—Foods and Ingredients of Foods

For Syrups and Flavored Syrups, Prepared Soups, Edible Corn Oil, Pickles, Mustard, Mayonnaise, Salad Dressings, Tartar Sauce, Meatless Sandwich Spread, Prepared Cereals for Food Purposes, Nuts, Peanut Butter, Margarine, Cake Flour, and Corn Starch, All for Food Purposes (Int. Cls. 29 and 30).

First use at least as early as Mar. 12, 1969.

SN 323,181. Pitronim Inc., Brookline, Mass. Filed Apr. 1, 1969.

PITRONIM

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Circuits and Electronic Components Thereof (Int. Cl. 9).

Class 101—Advertising and Business

For Computer Accounting Services and Computer Programming Services (Int. Cl. 35).

First use Oct. 21, 1968.

SN 323,412. Curlator Corporation, East Rochester, N.Y. Filed Apr. 2, 1969.

CURLATOR

Class 1—Raw or Partly Prepared Materials

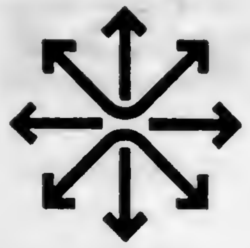
For Random Fiber Webs and Non-Woven Webs Made From Textile Fibers and From Blends of Such Fibers and Other Materials; Roves Formed From Random Fiber Webs; and Non-Woven Webs Made of Pulp and Paper Fibers and Made of Blends of Such Fibers and Other Materials (Int. Cl. 22).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machines for Forming Non-Woven Fiber Webs; Machines for Use in the Textile Industry in Cleaning and Opening Cotton, Linters, Wool, and Other Materials; Feeders for Textile Machines; Apparatus for Slicing Random Fiber Webs and Returning the Sliced-Off Portion of the Web to the Feeder of a Textile Machine; Apparatus for Feeding and Carding Fibers; and Machines for Saturating Random Fiber Webs With a Bonding Agent (Int. Cl. 7).

First use 1948.

SN 324,202. Johnson & Johnson, d.b.a. Cel-Fibe, New Brunswick, N.J. Filed Apr. 10, 1969.



Owner of Reg. No. 730,610.

Class 37—Paper and Stationery

For Disposable Paper Products—Namely, Wipes and Towels (Int. Cl. 16).

Class 39—Clothing

For Examination Jackets, Gowns, and Drapes (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Sheets and Pillow Cases (Int. Cl. 24).

Class 43—Thread and Yarn

For Surgical Drapes and Gowns (Int. Cl. 10).

First use Jan. 10, 1967.

SN 324,323. Anderson Chemical Company, Litchfield, Minn. Filed Apr. 14, 1969.

AN-CARE

Owner of Reg. Nos. 727,581, 857,198, and 858,073.

Class 4—Abrasives and Polishing Materials

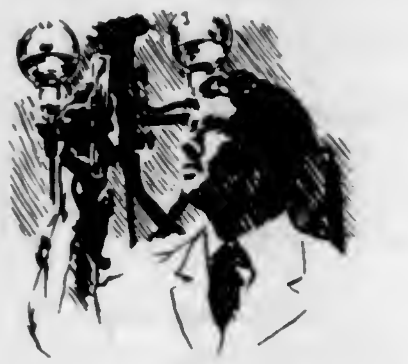
For Floor Waxes (Int. Cl. 3).

Class 52—Detergents and Soaps

For Wax and Finish Remover, Disinfecting Cleaner and Deodorizer, All Purpose Cleaner, and Dust Cleaner for Mops (Int. Cl. 3).

First use on or about Feb. 10, 1969.

SN 324,329. Anderson Chemical Company, Litchfield, Minn. Filed Apr. 14, 1969.



The portrait shown on the drawing is not of a living individual.

Class 4—Abrasives and Polishing Materials

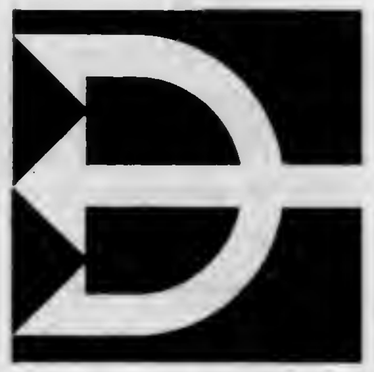
For Waxes for Floors (Int. Cl. 3).

Class 52—Detergents and Soaps

For Disinfecting Cleaner and Deodorizer, General All Purpose Cleaner, Dust Cleaner and Absorbent for Use With Mops, Remover for Wax and Finish (Int. Cl. 3).

First use Feb. 10, 1969.

SN 325,178. Del Amo Enterprises, Inc., Marina Del Rey, Calif. Filed Apr. 22, 1969.



The mark consists of the letter "D" in the form of a trident.

Class 101—Advertising and Business

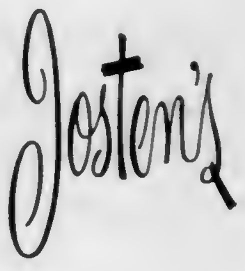
For Retail Boat Sales Agency Services (Int. Cl. 35).

Class 103—Construction and Repair

For Maintenance and Repair of Boats (Int. Cl. 37).

First use Oct. 1, 1968.

SN 327,444. Jostens, Inc., Owatonna, Minn. Filed May 16, 1969.



Owner of Reg. No. 504,577.

Class 28—Jewelry and Precious-Metal Ware

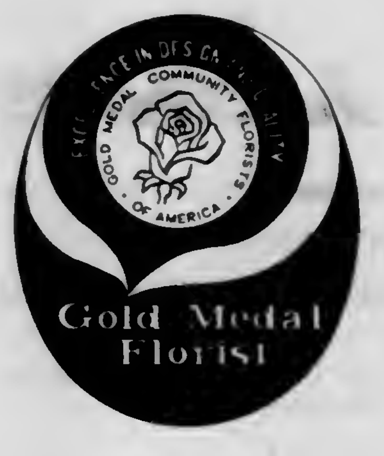
For Scholastic Jewelry—Namely, Class Rings and Ornamental Pins; and Military and Fraternal Rings (Int. Cl. 14).

Class 38—Prints and Publications

For Scholastic Yearbooks; Scholastic Announcements; Commercial Greeting and Holiday Cards; Executive Business Cards; and Name Cards (Int. Cl. 16).

First use 1956, at least as early as 1922 in another form.

SN 327,724. Caffco Imports, Inc., Montgomery, Ala. Filed May 20, 1969.


Gold Medal Community Florists of America
Gold Medal
Florist

No claim of exclusive right to the representation of the flower, the word "Florist" or phrases "Excellence in Design and Quality" and "Community Florists of America" is made apart from the mark as shown, but applicant waives none of its common law rights therein.

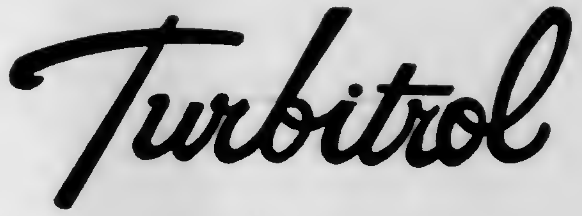
Class 50—Merchandise Not Otherwise Classified

For Artificial Flowers and Artificial Foliages (Int. Cl. 26).
First use on or before Jan. 5, 1969.

Class 101—Advertising and Business

For Retail Floral Shop Services (Int. Cl. 35).
First use at least as early as January 1969.

SN 329,549. The Taulman Company, Atlanta, Ga. Filed June 10, 1969.



Class 26—Measuring and Scientific Appliances

For Instruments and Meters for Measuring and Controlling Water Treatment and Quality, Said Instruments Comprising Turbidimeters, Circular and Strip Chart Recorders, Pilot Filters, pH Sensors and Amplifiers, and Other Sensors Used To Monitor Water Quality (Int. Cl. 9).
First use Sept. 26, 1967.

Class 100—Miscellaneous

For Engineering Services in Connection With the Design and Operation of Water Treatment Facilities (Int. Cl. 42).
First use July 1966.

SN 330,037. Packing Materials Corporation, Chicago, Ill. Filed June 16, 1969.

PACK-KING

Owner of Reg. No. 851,679.

Class 5—Adhesives

For Adhesives, Adhesive Tapes—Namely, Pressure Sensitive, Gummed and Reinforced Tape, and Cellophane and Masking Tape (Int. Cl. 16).

Class 37—Paper and Stationery

For Wrapping Paper, Vapor Phase Inhibitor Paper, Waterproof Paper, and Scratch Paper (Int. Cl. 16).

First use August 1948.

SN 330,174. McKinney Manufacturing Company, Scranton, Pa. Filed June 16, 1969.

McKINNEY

Class 2—Receptacles

For Mailboxes (Int. Cl. 21).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Butt Hinges, Hasps, Strap and T Hinges, Cabinet Hardware, and Shelf Brackets (Int. Cl. 6).

First use Apr. 1, 1969.

SN 330,881. Longchamps, Inc., New York, N.Y. Filed June 25, 1969.

longchamps

Owner of Reg. No. 356,452.

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use in 1921.

Class 104—Communication

For Rendering Technical Assistance to Others in the Establishment and Operation of Restaurant Services (Int. Cl. 35).
First use Mar. 19, 1969.

SN 330,969. Western Cutlery Co., Boulder, Colo. Filed June 25, 1969.

WESTERN

Owner of Reg. Nos. 639,304 and 770,293.

Class 4—Abrasives and Polishing Materials

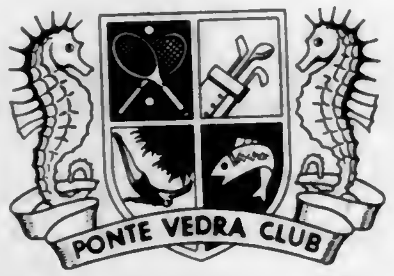
For Hones (Int. Cl. 8).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Knives Such as Hunting, Pocket and Fish Knives, Axes, Knife Saws, and Axe-Knife Combination Units and Leather Sheaths for Each of the Foregoing (Int. Cl. 8).

First use on or about Dec. 15, 1962.

SN 330,991. Ponte Vedra Corporation, d.b.a. Ponte Vedra Club, Ponte Vedra Beach, Fla. Filed June 26, 1969.



Class 100—Miscellaneous

For Providing Hotel, Restaurant, and Bar Services (Int. Cl. 42).

Class 107—Education and Entertainment

For Country Club Services, Including Golf and Clubhouse Services, Tennis and Swimming Pool Services (Int. Cl. 41).

First use September 1959; Sept. 25, 1937, in a different form.

SN 332,280. Amco Engineering Co., Chicago, Ill. Filed July 11, 1969.

amco

Owner of Reg. Nos. 621,248, 858,857, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Equipment Enclosures Which Provide Interference Shielding, Drawers for Electronic Equipment Operably Mounted Within Electronic Equipment Enclosures, Blower Systems Adapted for Mounting Within Electronic Equipment Enclosures, and Components and Parts therefor (Int. Cl. 9).

Class 32—Furniture and Upholstery

For Modular Enclosures Adapted for the Subsequent Mounting Therein of Various Equipment and Test Instruments—Namely Cabinets, File Drawers, Storage Drawers and Components and Parts Therefor (Int. Cl. 20).

First use as early as June 15, 1969.

SN 336,507. Yardley of London, Inc., New York, N.Y. Filed Aug. 28, 1969.

FOAMINE

Class 51—Cosmetics and Toilet Preparations

For Cologne and Foam Bath (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use at least as early as April 1967.

SN 339,641. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

ENCHANTED ISLES

Class 51—Cosmetics and Toilet Preparations

For Dusting Powder and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SN 339,642. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

WISHING WELL

Class 51—Cosmetics and Toilet Preparations

For Lip Pomade, Bubble Bath, Dusting Powder and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SN 339,644. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

THE HEIGHTS

Class 51—Cosmetics and Toilet Preparations

For Cologne and Talcum Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SN 339,645. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

DEPARTURE

Class 51—Cosmetics and Toilet Preparations

For Cologne and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SN 339,646. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

LEEWARD ISLES

Class 51—Cosmetics and Toilet Preparations

For Talcum Powder and After Shave Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SN 339,648. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

SKI-VON

Class 51—Cosmetics and Toilet Preparations

For Moisturized Body Lotion and Moisturized Cleansing Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use July 15, 1969.

SN 339,649. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

DEAR FRIENDS

Class 51—Cosmetics and Toilet Preparations

For Bubble Bath, Dusting Powder, and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use July 15, 1969.

SN 339,650. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

ONE WORLD

Class 51—Cosmetics and Toilet Preparations

For Bubble Bath, Cologne, Lip Pomade, and Dusting Powder (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 26, 1969.

SN 339,651. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

THE PRACTICAL

Class 51—Cosmetics and Toilet Preparations

For After Shave Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap and Shaving Cream (Int. Cl. 3).

First use July 15, 1969.

SN 339,652. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

DAILY-DO

Class 51—Cosmetics and Toilet Preparations

For Moisturized Cleansing Lotion and Toothpaste (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use July 15, 1969.

SN 339,653. Avon Products, Inc. New York, N.Y. Filed Oct. 3, 1969.

GARDEN PATCH

Class 51—Cosmetics and Toilet Preparations

For Cologne, Bubble Bath, Dusting Powder, and Lip Pomade (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 25, 1969.

SN 344,177. ESB Incorporated, Philadelphia, Pa. Filed Nov. 21, 1969.

EXIDE

Owner of Reg. Nos. 36,186, 875,887, and others.

Class 12—Construction Materials

For Caulking Compound (Int. Cl. 17).

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Thermoplastic Hinges (Int. Cl. 20).

First use Mar. 31, 1969.

SN 344,767. Hamilton Hamburgers, Inc., Noblesville, Ind. Filed Nov. 28, 1969.

CLANCY'S

Owner of Reg. No. 866,539.

Class 46—Foods and Ingredients of Foods

For Hamburger Sandwiches (Int. Cl. 29).

Class 100—Miscellaneous

For Drive-In Restaurant Services (Int. Cl. 42).

First use May 17, 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[**NOTE:** For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 297,080. Midcontinent Seed Company, Columbia, Mo. Filed May 1, 1968.

GREEN EARTH

For Field Seeds (Int. Cl. 31).
First use Apr. 9, 1968.

SN 319,084. John R. Stone, d.b.a. Stone's Mink Farm, Dell Rapids, S. Dak. Filed Feb. 13, 1969.

SNO-FAL

For Mink Pelts (Int. Cl. 18).
First use Jan. 14, 1968.

SN 322,535. Adhesive Products Corporation, Bronx, N.Y. Filed Mar. 24, 1969.

MONZINI

For Mix-in-Place Liquid Casting Compound Sold as a Two-Part Package and Used for Making Plastic Castings (Int. Cl. 1).
First use Apr. 1, 1962.

SN 334,952. X-L Laboratories, Inc., Bakersfield, Calif. Filed Aug. 11, 1969.

X-PEL

For Water Dispersible Asphalt (Int. Cl. 19).
First use May 4, 1969.

Class 2 — Receptacles

SN 308,371. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Sept. 27, 1968.

E-Z POLY-FOAM FOOD SERVICE

Applicant disclaims the words "Poly-Foam Food Service" apart from the mark as shown, but does not waive any common law rights that it may have to the mark as a whole. Owner of Reg. Nos. 227,085, 821,397, and others.
For Plastic Containers—Namely, Plates, Bowls and Trays (Int. Cl. 21).
First use Sept. 19, 1968.

SN 308,372. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Sept. 27, 1968.

E-Z POLYFOAM FOOD SERVICE

Applicant disclaims the words "Polyfoam Food Service" apart from the mark as shown, but does not waive any common law rights that it may have in the mark as a whole. Owner of Reg. Nos. 227,085, 821,397, and others.
For Plastic Containers—Namely, Plates, Bowls and Trays (Int. Cl. 21).
First use Sept. 19, 1968.

SN 320,701. Broan Mfg. Co., Inc., Hartford, Wis. Filed Mar. 4, 1969.

stowaway

For Paper Towel Dispensers (Int. Cl. 21).
First use Oct. 28, 1968.

SN 325,473. Eastman Kodak Company, Rochester, N.Y. Filed Apr. 24, 1969.

MICRO-THIN

For Transparent Plastic Jackets for Microfilm Strips (Int. Cl. 20).
First use Apr. 2, 1969.

SN 327,901. Irvin Industries Inc., Lexington, Ky. Filed May 21, 1969.

IRVINPAK

Owner of Reg. Nos. 228,084, 795,068, and others.
For Shipping and Storage Containers (Int. Cl. 20).
First use on or about December 1968.

SN 333,139. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed July 22, 1969.

KAL

For Cylindrical Tanks Made of Aluminum and Suitable for Containing Fluids (Int. Cl. 6).
First use at least as early as Oct. 14, 1968.

SN 335,275. Twin C-McCulloch Company, St. Louis, Mo. Filed Aug. 13, 1969.

KLEEN-UPS

For Polyethylene Disposable Bags (Int. Cl. 20).
First use July 16, 1969.

SN 344,298. Frank Schoonmaker, New York, N.Y. Filed Nov 24, 1969.

"KEEPERKOOL"

For Bottle Jackets (Int. Cl. 21).
First use Oct. 20, 1969.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 325,881. Lark Luggage Corp., New York, N.Y. Filed Apr. 29, 1969.

THE SUPRAFLEX

For Luggage (Int. Cl. 18).
First use Apr. 12, 1969.

SN 326,138. Seward Luggage Manufacturing Company, Inc., Petersburg, Va. Filed May 1, 1969.

FLITE-RITE

For Luggage (Int. Cl. 18).
First use on or about April 1964.

SN 326,384. Lark Luggage Corp., New York, N.Y. Filed May 5, 1969.

THE BATTALION

For Luggage (Int. Cl. 18).
First use Apr. 12, 1969.

Class 6 — Chemicals and Chemical Compositions

SN 281,406. Technicon Corporation, Ardsley, N.Y. Filed Sept. 28, 1967.

AUTOANALYZER

Owner of Reg. Nos. 668,330 and 684,765.
For Chemicals and Reagents To Be Used in Connection With Apparatus for Analyzing Human Blood and Other Body Fluids; and Chemicals for Industrial Use in Analyses Monitoring and Production Systems (Int. Cl. 1).
First use July 1, 1963.

SN 292,878. J. T. Baker Chemical Company, Phillipsburg, N.J. Filed Mar. 11, 1968.

DILUT-IT

For Chemical Reagent Concentrates for Use in Laboratory and Clinical Volumetric and Ionic Standards (Int. Cl. 1).
First use Dec. 21, 1967.

SN 297,855. Eaton Allen Corp., Brooklyn, N.Y. Filed May 10, 1968.

Hi-Fi

For Correction Fluid for Mimeograph Stencils (Int. Cl. 16).
First use Apr. 8, 1957.

SN 312,613. Sandoz-Wander, Inc., Hanover, N.J., by merger and change of name from Sandoz, Inc., Hanover, N.J. Filed Nov. 19, 1968.

RELCASYN

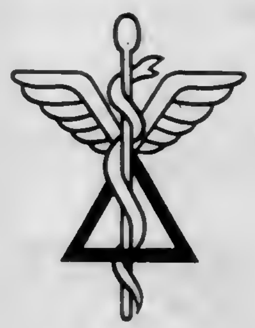
Owner of Reg. Nos. 678,291 and 806,847.
For Organic and Inorganic Pigments (Int. Cl. 2).
First use July 27, 1967.

SN 312,614. Sandoz-Wander, Inc., Hanover, N.J., by merger and change of name from Sandoz, Inc., Hanover, N.J. Filed Nov. 19, 1968.

RELCATHANE

Owner of Reg. Nos. 678,291 and 704,472.
For Organic and Inorganic Pigments (Int. Cl. 2).
First use Nov. 1, 1967.

SN 313,329. Ortho Pharmaceutical Corporation, d.b.a. Ortho Diagnostics, Raritan, N.J. Filed Nov. 29, 1968.



Owner of Reg. Nos. 821,814 and 821,816.
For Diagnostic Reagents for Clinical and Laboratory Use (Int. Cl. 1).
First use Mar. 27, 1967.

SN 321,232. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Mar. 10, 1969.

VENTURE

For Agricultural Chemicals—Namely, Fungicides and Acaricides (Int. Cl. 5).
First use at least as early as May 21, 1968.

SN 321,963. Monsanto Company, St. Louis, Mo. Filed Mar. 17, 1969.

SANTOETHER

For Chemical Fluids for Use as Heat Transfer Fluids, Lubricants, Hydraulic Fluids and Dielectric Fluids (Int. Cl. 1).
First use Feb. 14, 1969.

SN 322,371. West Chemical Products, Inc., Long Island City, N.Y. Filed Mar. 20, 1969.

ACIDYNE

Owner of Reg. Nos. 640,878 and 723,686.
For Acid-Iodophor Sanitizer for Use in the Food Processing Industry (Int. Cl. 5).
First use Mar. 4, 1969.

SN 341,741. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Oct. 27, 1969.

EXOTHERM TERMIL

Owner of Reg. No. 839,013.
For Fungicide for Use in Agriculture and in Floriculture (Int. Cl. 5).
First use Sept. 16, 1969.

SN 342,356. GAF Corporation, New York, N.Y. Filed Nov. 3, 1969.

KATANOL

Owner of Reg. No. 690,390.
For Dye Carrier (Int. Cl. 2).
First use Oct. 7, 1969.

Class 7 — Cordage

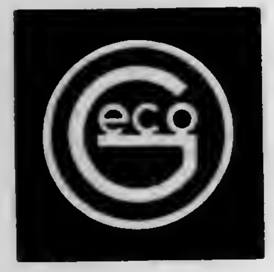
SN 330,705. Berwick Textile Products Co., Inc., Paramus, N.J. Filed June 23, 1969.

VELTEX

For Ribbons and Satin Backed Ribbons for Making Decorative Ties (Int. Cl. 22).
First use Jan. 29, 1969.

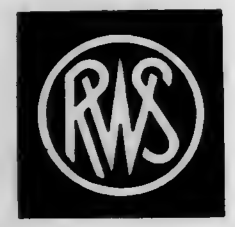
Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 313,089. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed Nov. 26, 1968.



Owner of German Reg. No. 846,268, dated Apr. 26, 1968.
For Cartridges (Int. Cl. 13).

SN 313,090. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed Nov. 26, 1968.



Owner of German Reg. No. 847,137, dated Apr. 26, 1968; and U.S. Reg. No. 796,615.
For Hunting and Sporting Ammunition (Int. Cl. 13).

SN 325,784. Bernard J. Semel, Washington, D.C. Filed Apr. 28, 1969.

ROBOT

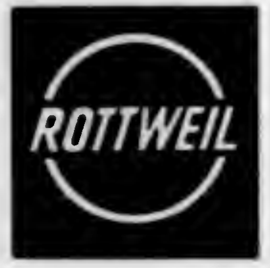
For Fireworks (Int. Cl. 13).
First use June 1968.

SN 325,785. Bernard J. Semel, Washington, D.C. Filed Apr. 28, 1969.

MARDI-GRAS

For Fireworks (Int. Cl. 13).
First use May 1967.

SN 326,083. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed May 1, 1969.



Owner of German Reg. No. 853,679, dated Oct. 24, 1968; and U.S. Reg. No. 818,449.
For Ammunition and Projectiles—Namely, Shot Cartridges and Shot Cartridge Cases, as Well as Powder for Hunting and Sports Purposes (Int. Cl. 13).

SN 331,582. Apache Powder Company, Benson, Ariz. Filed July 2, 1969.

TUF-GLO

Owner of Reg. No. 842,298.
For Detonating Fuse (Int. Cl. 13).
First use Mar. 18, 1969.

SN 332,523. Phillips Petroleum Company, Bartlesville, Okla. Filed July 14, 1969.

PHILMIX

For Blasting Agents (Int. Cl. 13).
First use Mar. 24, 1969.

SN 343,628. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 17, 1969.

TRENCHRITE

For Gelatin Dynamite (Int. Cl. 13).
First use Oct. 13, 1969.

Class 12 — Construction Materials

SN 304,195. Alside, Inc., Akron, Ohio. Filed Aug. 2, 1968.

BRIAR-CUT

For Aluminum Siding (Int. Cl. 6).
First use June 14, 1968.

SN 305,633. Michael Mang-hoo Cheung, d.b.a. Hing Yu Metal Works, Kowloon, Hong Kong. Filed Aug. 21, 1968.

Season-rite

For Steel Louver Windows (Int. Cl. 6).
First use June 1, 1967; in commerce June 1, 1967.

SN 311,079. Transco Inc., Chicago, Ill. Filed Oct. 31, 1968.

UNIVERSAL FABRICATED PRODUCTS

Applicant disclaims the use of the words "Fabricated Products" apart from the mark as shown.
For Fabricated Panel Insulation (Int. Cl. 17).
First use 1946.

SN 313,200. Powerlock Floors, Inc., Philadelphia, Pa. Filed Nov. 27, 1968.

KLIP-LOCK

For Wood Flooring and Parts Thereof for Assembly for Schools (Int. Cl. 19).
First use Sept. 18, 1959.

SN 315,411. Harvestall Industries, Inc., New Hampton, Iowa. Filed Dec. 30, 1968.

AIRTRUSS

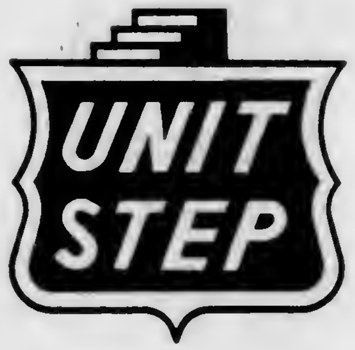
For Floor Supports for Grain Drying Bins (Int. Cl. 6).
First use July 29, 1968.

SN 316,828. Ranco Industrial Products Corporation, Cleveland, Ohio. Filed Jan. 16, 1969.

SQUEEGE-COTE

For Tar-Based Compound for Sealing and Preserving Black-Top Surfaces (Int. Cl. 19).
First use on or about Jan. 7, 1954.

SN 326,053. Unit Step Form Company, Inc., Waterloo, Iowa. Filed May 1, 1969.



Owner of Reg. No. 666,463.
For Pre-Formed Concrete Step Units (Int. Cl. 19).
First use on or about Feb. 1, 1951.

SN 326,150. Unit Step Form Company, Inc., Waterloo, Iowa. Filed May 1, 1969.

UNIT STEP

Owner of Reg. No. 666,463.
For Pre-Formed Concrete Step Units (Int. Cl. 19).
First use on or about Feb. 1, 1951.

SN 327,256. Fox Pools, Inc., York, Pa. Filed May 14, 1969.

MINI-BAG

For Protective Cover for an Outdoor Swimming Pool (Int. Cl. 22).
First use Apr. 3, 1967.

SN 343,058. Rain-Flow Systems, Inc., Indianapolis, Ind. Filed Nov. 10, 1969.

AQUA-FLOW

For Seamless Guttering (Int. Cl. 19).
First use Oct. 14, 1969.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 307,641. Genova Products, Davison, Mich., Filed Sept. 18, 1968.

FLEX-A-FITTING

For Plastic Plumbing Fittings (Int. Cl. 20).
First use Aug. 23, 1968.

SN 328,309. Kenlin Enterprises, Inc., Highland Park, Ill. Filed May 26, 1969.

SURE-STAY

For Mirror Supports (Int. Cl. 6).
First use Oct. 10, 1968.

SN 332,137. The Wm. Powell Company, Cincinnati, Ohio. Filed July 9, 1969.

POWELL PETROL

Owner of Reg. No. 443,524.
For Throttle Valves (Int. Cl. 6).
First use on or about Apr. 13, 1922.

SN 334,799. Aluminum Specialty Company, Manitowoc, Wis. Filed Aug. 8, 1969.

CHERISH

For Cookware (Int. Cl. 21).
First use July 1, 1969.

SN 336,712. Pure Stat Corporation, Ann Arbor, Mich. Filed Aug. 29, 1969.

SPRING TAPPER

For Water Faucet Attachment for Improving the Taste of Drinking Water (Int. Cl. 11).
First use Aug. 14, 1969.

SN 338,160. Monogram Industries, Inc., Los Angeles, Calif. Filed Sept. 17, 1969.

DUOMATIC

For Electrically Operated, Portable Toilet System (Int. Cl. 11).
First use July 31, 1969.

SN 338,241. Gray Tool Company, Houston, Tex. Filed Sept. 18, 1969.

GRAYCHEK

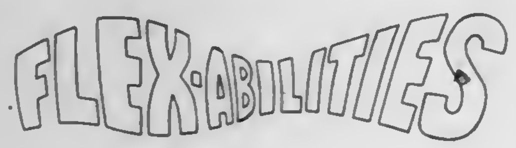
Owner of Reg. Nos. 646,340 and 646,782.
For Valves (Int. Cl. 6).
First use August 1968.

SN 338,242. Gray Tool Company, Houston, Tex. Filed Sept. 18, 1969.

GRAYGATE

Owner of Reg. Nos. 646,340 and 646,782.
For Valves (Int. Cl. 6).
First use during September 1967.

SN 338,346. Avica Corporation, Newport, R.I. Filed Sept. 19, 1969.



For Metal Hose Assemblies, Metal Bellows and Bellows Assemblies, Expansion Joints, and Mechanically Attached Tube Ferrules (Int. Cl. 6).
First use Mar. 6, 1969.

SN 342,599. Henry Soss and Company, Los Angeles, Calif. Filed Nov. 4, 1969.

VANLUBE

For Hinges (Int. Cl. 6).
First use Sept. 1, 1969.

SN 342,929. David Allison Co., Inc., Woodbury, N.Y. Filed Nov. 7, 1969.

ASTROHINGE

For Hinges (Int. Cl. 6).
First use Sept. 9, 1969.

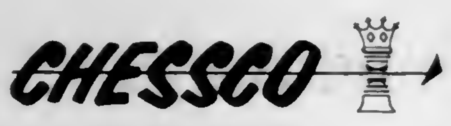
Class 15 — Oils and Greases

SN 318,750. Candle-Lite, Inc., d.b.a Candles 'N Such, Cincinnati, Ohio. Filed Feb. 10, 1969.

CANDLES 'N SUCH

No claim is made to the exclusive right to the use of the word "Candles" separate and apart from the mark as shown.
For Candles (Int. Cl. 4).
First use June 3, 1968.

SN 320,434. Chessco Industries, Inc., Fairfield, Conn. Filed Mar. 3, 1969.



For Fuel Oil Additives (Int. Cl. 1).
First use November 1968.

SN 331,837. The Servco Company, Long Beach, Calif. Filed July 7, 1969.

SERVCO-PLATE

For Dry Film Lubricant (Int. Cl. 4).
First use June 1, 1969.

Class 16 — Protective and Decorative Coatings

SN 341,998. Permanent Pigments, Inc., Norwood, Ohio. Filed Oct. 29, 1969.

PERMTINE

For Solvent for Thinning Artists' Paints and Artists' Varnishes (Int. Cl. 2).
First use Oct. 9, 1969.

Class 17 — Tobacco Products

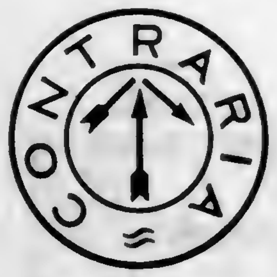
SN 330,482. R. G. Dun Cigar Corporation, Lima, Ohio. Filed June 19, 1969.

GRADUATES

For Cigars (Int. Cl. 35).
First use May 2, 1969.

Class 18 — Medicines and Pharmaceutical Preparations

SN 296,967. Istituto Sieroterapico e Vaccinogeno Toscano Sclavo Societa per Azioni, Siena, Italy. Filed Apr. 30, 1968.



The word "Contraria" is translated as "contrary."
For Biological Preparations—Namely, Sera, Vaccines, Toxoids and Pharmaceutical Preparations (Int. Cl. 5).
First use 1933; in commerce 1962.

SN 305,781. Spofa-Spojene Podniky Pro Zdravotnickou Vyrobu, Zizkov, Czechoslovakia. Filed Rug. 23, 1968.

SPOFA

Owner of Czechoslovakian Reg. No. 93,223, dated Jan. 2, 1947.
For Antiseptics; Sterilizing Agents for Use on the Person; Medicinal Oils; Diagnostic Agents for Use on the Person in Surgical or X-Ray Operations; Parasympatholytic Agents; Vitamins in Solid or Liquid Form; Ascorbic Acid Injections for Intravenous or Intramuscular Use; Anticoagulant Agents; Medicated Adhesive Plasters; Herbs for Medicinal Teas; Medicinal Protective Skin Creams; Eye Drops; Digestive Aids; Antacids; Laxatives; Food Supplements Containing Vitamins or Minerals; Anaesthetics; Analgesics; Sedatives; Narcotics; Antibiotics; Medicinal Dextrose and Dextrose Solutions; Insulin Preparations; Antirheumatic or Antiphlogistic Agents; Steroids; Local Tissue Stimulants; Oral Disinfectants; Oxytocic Agents; Cardiac Tonics or Stimulants; Vasodilators; Diuretics; Antiallergenic Agents; and Antipyretics (Int. Cl. 5).

SN 312,496. Rachelle Laboratoris, Inc., Long Beach, Calif. Filed Nov. 18, 1968.

MYCHEL-S

Owner of Reg. No. 879,802.
For Chloramphenicol, an Antibiotic Drug, in Injectable Form (Int. Cl. 5).
First use Oct. 16, 1968.

SN 315,508. Wilson Industries, Inc., Prairie Village, Kans. Filed Dec. 31, 1968.

STOCKBEST

For Medicated Vitamin Feed Supplement for Animals (Int. Cl. 5).
First use Aug. 19, 1968.

SN 316,600. Broemmel Pharmaceuticals, San Francisco, Calif. Filed Jan. 15, 1969.

DIALYTRATE

For Kidney Dialysis Concentrate for Treatment of Human Beings (Int. Cl. 5).
First use Sept. 15, 1967.

SN 318,381. American Cyanamid Company, Wayne, N.J. Filed Feb. 5, 1969.

PRO-BUMIN

For Normal Serum Albumin (Int. Cl. 5).
First use Dec. 19, 1968.

SN 324,540. USV Pharmaceutical Corporation, New York, N.Y. Filed Apr. 14, 1969.

DERMACYCLINE

For Preparation for Treatment of Certain Dermatoses (Int. Cl. 5).
First use Mar. 18, 1969.

SN 326,780. Merck & Co., Inc., Rahway, N.J. Filed May 8, 1969.

AMPROL Hi-E

Owner of Reg. No. 737,036.
For Preparation for Use in the Prevention of Infectious Diseases, Particularly Coccidiosis, in Animals (Int. Cl. 5).
First use Jan. 20, 1969.

SN 327,754. Fisons Pharmaceuticals Limited, Loughborough, Leicestershire, England. Filed May 20, 1969.

HIFIRON

Owner of British Reg. No. 922,345, dated Mar. 12, 1968.
For Pharmaceuticals for the Treatment of Iron Deficiency Anaemia (Int. Cl. 5).

SN 328,751. The Vitarine Co., Inc., Springfield Gardens, N.Y. Filed May 29, 1969.

KAY POTE

For Solution of Potassium Chloride for Oral Use (Int. Cl. 5).
First use June 2, 1967.

SN 334,763. American Home Products Corporation, New York, N.Y. Filed Aug. 8, 1969.

NORAL

For Progestational Agent (Int. Cl. 5).
First use July 18, 1969.

SN 335,167. Ingram Pharmaceutical Co., San Francisco, Calif. Filed Aug. 13, 1969.

KATO

For Preparation Used as a Supplement in Deficiencies of Potassium and Chloride (Int. Cl. 5).
First use October 1966.

SN 340,745. Texas Pharmacal Company, San Antonio, Tex. Filed Oct. 15, 1969.

CONTRABLEM

For Non-Tinted Drying Gel for Acne (Int. Cl. 5).
First use Oct. 2, 1969.

SN 342,011. Beecham Inc., Clifton, N.J. Filed Oct. 29, 1969.

STRONGPEN

For Antibiotics (Int. Cl. 5).
First use Sept. 10, 1969.

SN 342,012. Beecham Inc., Clifton, N.J. Filed Oct. 29, 1969.

PENGUT

For Antibiotics (Int. Cl. 5).
First use Sept. 10, 1969.

SN 342,013. Beecham Inc., Clifton, N.J. Filed Oct. 29, 1969.

LUXAPEN

For Antibiotics (Int. Cl. 5).
First use Sept. 10, 1969.

SN 342,014. Beecham Inc., Clifton, N.J. Filed Oct. 29, 1969.

BACTOCILL

For Antibiotics (Int. Cl. 5).
First use Sept. 10, 1969.

SN 342,205. DeWitt Drug and Beauty Products, Inc., Great Neck, N.Y., by change of name from DeWitt International Corporation, Great Neck, N.Y. Filed Oct. 31, 1969.

VANQULES

Owner of Reg. No. 777,725.
For Cold Capsules (Int. Cl. 5).
First use Jan. 23, 1969.

SN 342,801. Physicians and Hospitals Supply Company, d.b.a. The Ulmer Pharmacal Company, Minneapolis, Minn. Filed Nov. 6, 1969.

HISCATABS

For Medical Preparation in Tablet Form Used as an Analgesic, Decongestant and Antihistaminic (Int. Cl. 5).
First use Sept. 10, 1969.

SN 343,227. Allen & Hanburys Limited, London, England. Filed Nov. 12, 1969.

SPANDETS

Owner of British Reg. No. 929,331, dated Aug. 12, 1968.
For Slow Release Tablet (Int. Cl. 5).

SN 344,189. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 21, 1969.

ASSET

Owner of Reg. No. 822,275.
For Analgesic Preparations (Int. Cl. 5).
First use Nov. 18, 1969.

SN 344,622. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

BORN FREE

For Acne Preparations (Int. Cl. 5).
First use Oct. 24, 1969.

SN 344,623. Johnson & Johnson, New Brunswick, N.Y. Filed Nov. 26, 1969.

AMNESTY

For Acne Preparation (Int. Cl. 5).
First use Oct. 23, 1969.

SN 344,626. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

RETINAID

For Acne Preparation (Int. Cl. 5).
First use Oct. 30, 1969.

SN 345,052. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Dec. 2, 1969.

NUCON

For Antacid (Int. Cl. 5).
First use Nov. 14, 1969.

SN 345,053. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Dec. 2, 1969.

QUANE

For Antacid (Int. Cl. 5).
First use Nov. 14, 1969.

SN 345,262. Karl H. Sautter, d.b.a. Leo Products, Chicago, Ill. Filed Dec. 4, 1969.

BILAX

For Vegetable Laxative Tablets (Int. Cl. 5).
First use July 15, 1954.

Class 19—Vehicles

SN 304,488. Lennart Folke Nilsson, Ostersund, Sweden. Filed Aug. 6, 1968.

LARVEN

The word "Larven" has the definition of "small animal of creeping type" in Swedish. Owner of Swedish Reg. No. 122,608, dated Feb. 16, 1968.

For Motorized and Unmotorized Snow-Scooters for Land Transport (Int. Cl. 12).

SN 306,957. Sprague Devices, Inc., Michigan City, Ind. Filed Sept. 9, 1968.

Sprague

For Windshield Wipers, Windshield Wiper Motors of Compressed Air Operated Type, Windshield Washers, and Parts Thereof (Int. Cl. 12).
First use Aug. 1, 1941.

SN 314,548. General Aluminum Products, Inc., Charlotte, Mich. Filed Dec. 16, 1968.

SNO-CRUISER

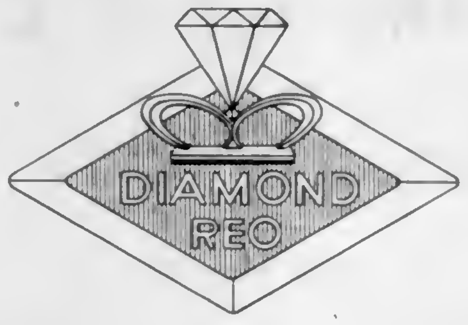
For Tow Snow Sled or Sleigh Adapted To Be Towed Behind a Snowmobile (Int. Cl. 12).
First use on or about Sept. 1, 1967.
Subj. to Intf. with SN 316,474.

SN 316,474. Sears, Roebuck and Co., Chicago, Ill. Filed Jan 13, 1969.

SNOWCRUISER

For Snowmobiles and Snowmobile Trailers (Int. Cl. 12).
First use Aug. 6, 1965.
Subj. to Intf. with SN 314,548.

SN 317,416. White Motor Corporation, Cleveland, Ohio. Filed Jan. 23, 1969.



The drawing is lined for the color red. Owner of Reg. Nos. 818,590, 820,631, and 857,392.

For Trucks, Highway Tractors, and Parts Therefor (Int. Cl. 12).
First use at least as early as Apr. 26, 1967.

SN 320,655. Springdraulic Corporation, San Francisco, Calif. Filed Mar. 3, 1969.

HYDRA GUARD

For Auxiliary Spring Powered Hydraulic Brake Units (Int. Cl. 12).
First use May 1966.

SN 328,465. Hank Thorp, Inc., Edison, N.J. Filed May 27, 1969.

MINILITE

For Automobile Wheels (Int. Cl. 12).
First use January 1965.

SN 330,207. Societe Anonyme dite: Klaxon, Courbevoie, Hauts-de-Seine, France. Filed June 16, 1969.

JERICHO

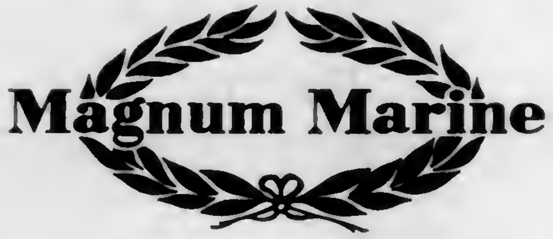
Owner of French Reg. No. 748,682, dated May 10, 1968.
For Horns for Automobiles and Other Vehicles (Int. Cl. 12).

SN 332,988. Peterson Industries, Inc., Smith Center, Kans. Filed July 18, 1969.

Excel

For Pickup Campers and Travel Trailers (Int. Cl. 12).
First use January 1966.

SN 334,190. American Photocopy Equipment Company, Evanston, Ill. Filed Aug. 1, 1969.



For Boats (Int. Cl. 12).
First use Jan. 23, 1967.

SN 335,130. General Appliance Manufacturing Co., Omaha, Nebr. Filed Aug. 12, 1969.

TRAIL BLAZER

For Gasoline-Powered Mini-Bikes (Int. Cl. 12).
First use at least as early as Mar. 15, 1969.
Subj. to Intf. with SN 339,937.

SN 339,937. Rokon Inc., Keene, N.H. Filed Oct. 6, 1969.

TRAIL-BREAKER

For Motorized Two-Wheel, Cross-Country Passenger and Cargo Vehicle in the Nature of a Heavy Duty Motorcycle (Int. Cl. 12).
First use July 24, 1962.
Subj. to Intf. with SN 335,130.

Class 20—Linoleum and Oiled Cloth

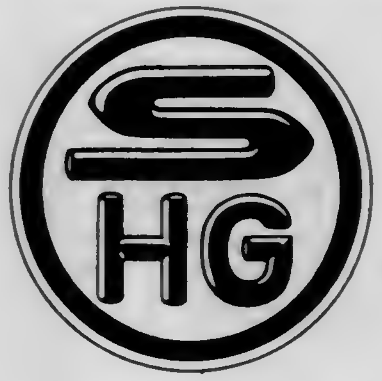
SN 336,091. Congoleum Industries, Inc., Kearney, N.J. Filed Aug. 25, 1969.

CORKEZE

For Plastic Coverings of the Solid Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).
First use Aug. 18, 1969.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 274,668. Schmidt'sche Heissdampf-Gesellschaft m.b.H., Wilhelmshoehe, Germany. Filed June 23, 1967.



Owner of German Reg. No. 800,358, dated Jan. 1, 1964.
For Armatures for Operating Parts of Firing Units and Apparatus Furnaces and Ovens—Namely, Armatures for Slides, for Control Flaps, for Pipe Line Valves, for Doors and Hatches, and for Fuel Charging and Cinder Removing Apparatus (Int. Cl. 9).

SN 287,233. Norwell Manufacturing Co. Inc., Taunton, Mass. Filed Dec. 19, 1967.

Windjammer!

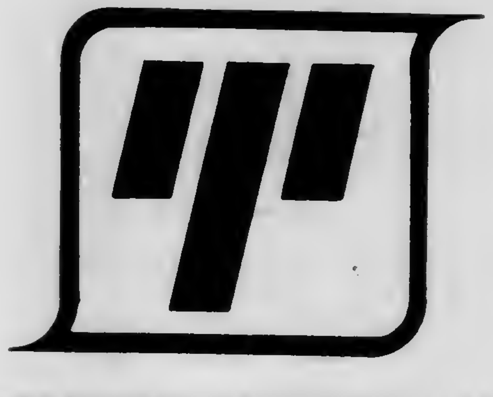
For Electric Light Fixtures (Int. Cl. 11).
First use at least as early as Nov. 1, 1966.

SN 294,324. Morris Struhl, Inc., New York, N.Y. Filed Mar. 27, 1968.

Valiant

Owner of Reg. No. 712,093.
For Electric Travel Iron, Electric Desk Fan, Electric Desk Lamps, Electric Ceramic and Aluminum Hot Pots for Heating Water for Coffee and Tea and the Like, Hand Portable Electric Refrigerator and Freezer Defroster, Electric Percolators, Domestic Electric Blenders for Use With Food and Drink (Int. Cls. 7, 9, and 11).
First use on or about Jan. 17, 1957.

SN 295,194. Telautograph Corporation, Los Angeles, Calif. Filed Apr. 8, 1968.



For Facsimile System for Transmitting Instant Communication of Messages Comprising a Transmitter, Automatic Paper Feed Unit, Receiver and Telescriber (Int. Cl. 9).
First use Feb. 9, 1968.

SN 295,609. The Black and Decker Manufacturing Company, Towson, Md. Filed Apr. 15, 1968.

EXPECT THE BEST FROM BLACK & DECKER

Owner of Reg. Nos. 517,319, 747,219, and others.

For Electric Tools, Appliances and Equipment—Namely, Electric Motor Driven Drills, Variable-Speed Drills, and Accessories for Grinding, Sanding, Buffing and Wire Brushing; Electric Motor Driven Rotary Saws; Electric Motor Driven Jig Saws; Electric Motor Driven Belt Sanders; Electric Motor Driven Dual-Action Finishing Sanders; Electric Motor Driven Tool Carrying Cases Containing Electric Motor Driven Drills, Variable-Speed Drills, and Accessories for Grinding, Sanding, Buffing and Wire Brushing, Rotary Saws, Jig Saws, and Dual-Action Finishing Sanders; Electric Motor Driven Lawn Trimmers and Edgers; and Electric Motor Driven Shrub and Hedge Trimmers (Int. Cl. 7).

First use June 30, 1965.

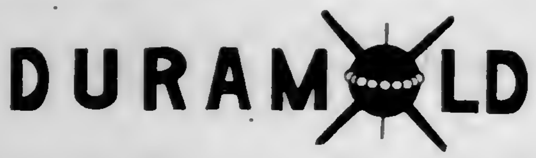
SN 300,347. General Electric Company, Philadelphia, Pa. Filed June 13, 1968.

SILCOMATIC

For Electric Power Conversion Equipment—Namely, Adjustable Voltage Motor Drives, Variable Frequency Cycloconverters, Battery Chargers, Electrochemical Power Supplies, Frequency Changers, Thyristor Amplifiers, Phase Controlled Power Rectifiers for Converting Alternating Voltage to Direct Voltage of Variable or Constant Magnitude, and Line-Voltage Commutated Inverters (Int. Cl. 9).

First use on or before Aug. 1, 1962.

SN 301,419. The Grote Manufacturing Company, Madison, Ind. Filed June 26, 1968.



For Combination Stop, Tail and Turn Lamp; Turn Signal Lamp; Back Up Lamps; License Plate Lamps and Reflectors; Clearance and Marker Lamps; Mobile Home Lamps; Emergency Warning Lamps; School Bus Warning Lamps; Tractor Lamps; and Vehicle Dome and Flood Lamps; and Lenses and Parts for Said Lamps (Int. Cl. 11).

First use on or about Nov. 8, 1963.

SN 313,394. Areoptix Technology Corporation, Plainview, N.Y. Filed Dec. 2, 1968.

AIRYPOINT

For Minature Light Source for Producing Point or Concentrated Beam Focus (Int. Cl. 11).

First use about September 1968.

SN 314,090. Austin W. La Marche, Des Plaines, Ill. Filed Dec. 10, 1968.

LVR

For Voltage Sensing Relay (Int. Cl. 9).

First use at least as early as 1965.

SN 314,576. Midland International Corporation, North Kansas City, Mo. Filed Dec. 16, 1968.

MEDALLION

For Electric Vacuum Cleaners Designated To Be Operated From an Automobile Battery, and Battery Chargers (Int. Cl. 9).

First use on or about Oct. 25, 1968.

SN 314,806. N.V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands. Filed Dec. 18, 1968.

PHILIPS

Owner of U.S. Reg. Nos. 706,721, 838,406, and others.

For Radios; Radiophonograph Combinations; Radio-Tape Recording Combinations; High Fidelity Equipment—Namely, Tuners, Amplifiers and Loudspeakers; and Parts Therefor (Int. Cl. 9).

First use in 1927; in commerce at least as early as December 1949.

SN 318,735. American Chain & Cable Company, Inc., New York, N.Y. Filed Feb. 10, 1969.

PERMADUR

For Material Handling Equipment—Namely, Magnets (Int. Cl. 9).

First use May 29, 1967.

SN 320,036. Cyprus Mines Corporation, d.b.a. Rome Cable Division, Rome, N.Y. Filed Feb. 25, 1969.

PSR

For Cone Termination Kits for Terminating High Voltage Electrical Cables, Comprising Wrapping Tapes in the Nature of Pennants, and Materials for Applying Them to Cable—Namely, Ground Lead, Solder, Abrasive Cloth and Cleaning Solvent (Int. Cl. 9).

First use Feb. 10, 1963.

SN 321,799. Hi-Vu Inc., Indianapolis, Ind. Filed Mar. 14, 1969.

HI-VU

For Extensible Emergency and Floodlight Safety Lighting Equipment for Pedestrian Cross Walks and Vehicles (Int. Cl. 11).

First use December 1968.

Subj. to Intf. with SN 315,611.

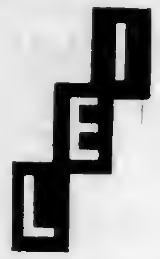
SN 321,937. Hot-Line, Inc., Minneapolis, Minn. Filed Mar. 17, 1969.

HOT-LINE

For Automatic Telephone Dialing Apparatus for an Individual Telephone (Int. Cl. 9).

First use Dec. 18, 1968.

SN 322,030. Lory Electronics Inc., Deer Park, N.Y. Filed Mar. 18, 1969.



For Electro Mechanical Relays (Int. Cl. 9).

First use Jan. 8, 1969.

SN 322,807. Anocut Engineering Company, Elk Grove Village, Ill. Filed Mar. 26, 1969.

MICROBAR

For Electrical-Electronic Spark Responsive Current Shut Off Control for Apparatus for Electrochemical Machining of Metals and Metal Alloys (Int. Cl. 9).

First use May 8, 1967.

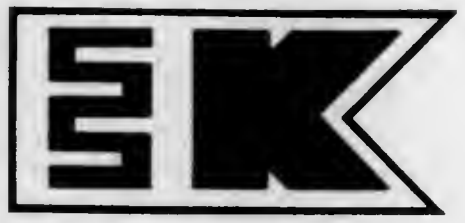
SN 325,495. L'Industrie Electrique de la Seine, Romainville, France. Filed Apr. 24, 1969.

ISOLOC

Owner of French Reg. No. 701,276, dated Sept. 14, 1965.

For Differential Protective Switches (Int. Cl. 9).

SN 327,026. S. S. Kresge Company, Detroit, Mich. Filed May 12, 1969.



For Automotive Storage Batteries (Int. Cl. 9).

First use in or before February 1969.

SN 327,554. Kemlon Products & Development Co., Houston, Tex. Filed May 19, 1969.

KEMLOX

For Plastic Rods and Sheets for Use as Electrical Insulating Material (Int. Cl. 17).

First use at least as early as November 1961.

SN 329,513. Ronan & Kunzl, Inc., Marshall, Mich. Filed June 9, 1969.

ELECTRA-SLIDE

For Automatic Door Opening Apparatus Consisting of Electrically Operated Treadle Actuated Door Controls and Component Parts Thereof for Automatically Opening and Closing Sliding Doors (Int. Cl. 9).

First use September 1967.

Class 22—Games, Toys, and Sporting Goods

SN 303,841. Tensor Corporation, Brooklyn, N.Y. Filed July 29, 1968.

TENSOR

For Rackets for Tennis, Badminton, Squash or the Like (Int. Cl. 28).

First use May 27, 1968.

SN 304,604. William D. Hunter, Salt Lake City, Utah. Filed Aug. 7, 1968.

WONDERSIZER

For Exercising Devices Each Comprising an Essentially Rigid, Open Frame With Which a User May Perform Calisthenics (Int. Cl. 28).

First use at least as early as June 1968.

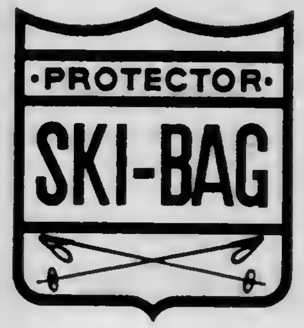
SN 308,153. Karsten Solheim, Phoenix, Ariz. Filed Sept. 24, 1968.

BALLNAMIC

For Golf Playing Equipment (Int. Cl. 28).

First use July 28, 1963.

SN 317,609. Potter Sibley, Inc., Minnetonka, Minn. Filed Jan. 27, 1969.



Applicant disclaims the expression "Ski-Bag," except for use with the mark as shown.

For Bags for Protecting Skis (Int. Cl. 28).

First use Nov. 13, 1968.

SN 321,082. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 7, 1969.

PEA DINGER SWINGER

No claim is made to the word "Swinger" alone.

For Swinging Ball Toys (Int. Cl. 28).

First use Sept. 10, 1968.

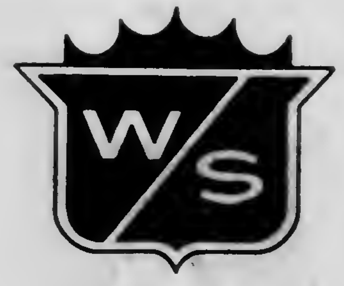
SN 331,900. Charles H. Jackson, Jr., d.b.a. Jaxon Enterprises, San Marcos, Calif. Filed July 7, 1969.

SNEAKY PETE

For Fishing Lure (Int. Cl. 28).

First use Mar. 14, 1969.

SN 332,177. Wilson Sporting Goods Co., River Grove, Ill. Filed July 9, 1969.



Owner of Reg. No. 760,945.

For Golf Gloves (Int. Cl. 28).

First use May 1959.

SN 342,001. Topper Corporation, Elizabeth, N.J. Filed Oct. 29, 1969.

DENISE

For Doll (Int. Cl. 28).

First use Oct. 14, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

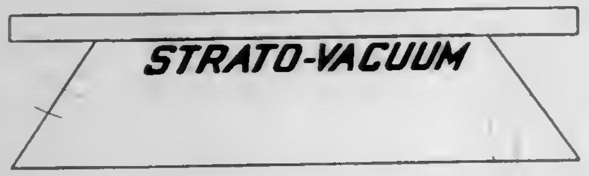
SN 273,075. Jacksonville Blow Pipe Company, Jacksonville, Fla. Filed June 5, 1967.

BLO-HOG

For Unit Comprising a Machine for Breaking or Reducing Wood or Similar Material, to Small Particles, and Transporting the Reduced Particles, and Component Parts Thereof (Int. Cl. 7).

First use May 1949.

SN 296,734. Strato-Vacuum Handling Company, Chicago, Ill. Filed Apr. 18, 1968.



For Vacuum Lifting Apparatus Such as Employ Vacuum Cups for Lifting Sheets of Glass and Metal and Also for Vacuum Pumps for Producing a Vacuum (Int. Cl. 7).

First use Jan. 1, 1963.

SN 297,475. Wetoma Corp., Fort Worth, Tex. Filed May 6, 1968.

PANELKING

For Electrically Powered Industrial Machines for Automatically Unloading, Measuring, Sizing, Cutting and Stacking Wood, Particle Board and Plastic Panels, and Automatically Edge-Banding Wood, Particle Board, and Plastic Panels (Int. Cl. 7).

First use February 1965.

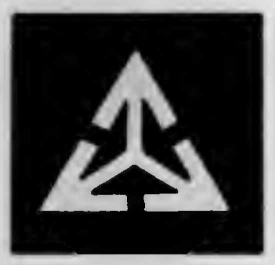
SN 297,476. Wetoma Corp., Fort Worth, Tex. Filed May 6, 1968.

WETOMA

For Electrically Powered Industrial Machines for Automatically Unloading, Measuring, Sizing, Cutting and Stacking Wood, Particle Board and Plastic Panels, and Automatically Edge-Banding Wood, Particle-Board, and Plastic Panels (Int. Cl. 7).

First use November 1957.

SN 297,602. Sanders Associates, Inc., Nashua, N.H. Filed May 7, 1968.



Owner of Reg. Nos. 862,425 and 864,177.

For Hydraulic Power Supply Units Which Circulate and Regulate the Flow of Fluids in a Hydraulic System; and Hydraulic Control Systems Comprised of Hydraulic Servo Valves, Servo Actuators, and Other Circuit Components With the Combination Thereof Producing a Resulting Force, a Force That May Interact With an Input or Reference Function (Int. Cl. 7).

First use Dec. 27, 1967.

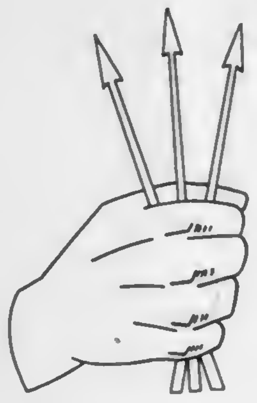
SN 303,804. Kugelfischer Georg Schafer & Co., Schweinfurt, Germany. Filed July 29, 1968.

TAROL

Priority claimed under Sec. 44(d) on German application, filed May 2, 1968; Reg. No. 854,537, dated Feb. 7, 1969. Owner of U.S. Reg. Nos. 759,858, 776,872, and others.

For Antifriction Bearing Assemblies in the Form of Units Ready for Mounting and Including Tapered Roller Bearings, Particularly for Vehicles Running on Rails (Int. Cl. 12).

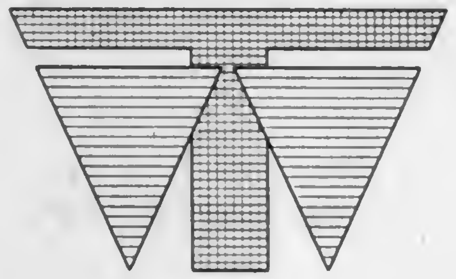
SN 306,880. Carl Schlieper, Remscheid, Germany. Filed Sept. 9, 1968.



For Tools—Namely, Planes and Plane Irons, Chisels, Braces, Drills, Augers and Bits, Saws, Screw Drivers, Pincers, Pliers, Spanners and Wrenches, Vises, Hammers, Punches, Snips, Scrapers, Trowels, Pruning Shears, Axes, Picks, Spades, Scythes, and Sickles; and Cutlery—Namely, Skinning Knives, Guide Knives, Hunting Knives, Butcher and Cook Knives, Scout and Pocket Knives, Scissors and Shears (Int. Cl. 8).

First use January 1957; in commerce 1960.

SN 311,540. Western Tool Co., Arvada, Colo. Filed Nov. 6, 1968.



The drawing is lined for the color blue. The mark consists of the letters "WT."

For Wrenches (Int. Cl. 8).

First use May 5, 1968.

SN 313,094. Adolph Gottscho, Inc., Hillside, N.J. Filed Nov. 26, 1968.

GO-TYPE

Owner of Reg. Nos. 622,131 and 723,451.

For Rubber Type, Particularly for Use in Printing and Marking Machines (Int. Cl. 16).

First use on or before Oct. 1, 1963.

SN 313,140. TSC Industries, Inc., d.b.a. Tractor Supply Co., Chicago, Ill. Filed Nov. 26, 1968.

Owner of Reg. Nos. 662,523 and 742,393.

For Farm Machinery—Namely, Field Pickup Bale Loaders, Boom Cranes, Cement Mixers, Chain Saws, Corn Picker Rolls, Earth Scoops, Bale Elevators and Conveyors, Portable Power-Operated Elevators for Corn and Other Grains, Fork Lift Carriers, Grain Augers, Grain Dividers and Grain Divider Extensions for Use on Harvesters and Combines, Grain Drill Fillers, Harvester Parts, High Pressure Portable Washers, Hoists for Wagons and Trucks, Grain Combine Hopper Top Extensions, Hydraulic Row Markers for Row Crop Planting, Insecticide and Herbicide Applicators, Rear Loaders for Tractor Mounting, Material Scoops, Portable Steam Cleaners, Post Drivers and Pushers, Rotary Field Cutters, Seed and Fertilizer Broadcasters, Tank-Fed Portable Sprayers for Insecticides and Herbicides, Sprayer Tanks, Winders for Tractor Mounting, Gang Cultivators, and Rolling Cultivator Shields, and Parts Therefor (Int. Cl. 7).

First use May 10, 1957.

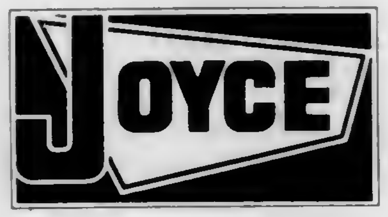
SN 314,561. Imperial Stamp & Engraving Co., Inc., Mount Prospect, Ill. Filed Dec. 16, 1968.

IMPERIAL

For Industrial Type Steel Stamping and Marking Equipment—Namely, Metal Marking Hand Stamps, Type Holders and Type, Numbering Heads, Stamp Holders, Embossing and Debossing Dies, Die Inserts, Punch Press Stamps, Knurl or Roll Carriages, and Roller Bearing Cradles (Int. Cl. 7).

First use May 15, 1951.

SN 314,570. The Joyce-Cridland Company, Dayton, Ohio. Filed Dec. 16, 1968.



Owner of Reg. Nos. 532,984, 676,283, and others.

For Hydraulic, Pneumatic and Electric Lifts for Handling Cargo, Materials and Vehicles; Power-Operated Loading Dock Ramps and Platforms; and Hydraulic Pumping Units (Int. Cl. 7).

First use Oct. 23, 1968.

SN 315,054. Champion Pneumatic Machinery Company, Inc., Princeton, Ill. Filed Dec. 23, 1968.

COMMANDAIR

For Air Compressors and Air Pumps (Int. Cl. 7).

First use Mar. 10, 1968.

SN 315,983. Automated Building Components, Inc., Miami, Fla. Filed Jan. 7, 1969.

VERSA-MATIC

For Multiple Head Presses for Embedding the Teeth of Nailplates Into the Joints of Wooden Members Forming Roof Trusses, Said Presses Being Sold to Truss Manufacturers (Int. Cl. 7).

First use Jan. 2, 1969.

SN 316,123. Rex Chainbelt Inc., Milwaukee, Wis., assignee of Perfection American, Inc., Harvey, Ill. Filed Jan. 8, 1969.

FLEX-O-GEAR

For Gears Having Coil Spring Teeth for Use in Variable Speed Mechanisms or Power Transmission Mechanisms (Int. Cl. 7).

First use Nov. 1, 1968.

SN 316,531. Giddings & Lewis, Inc., Fond Du Lac, Wis. Filed Jan. 14, 1969.

INCRE-MIKE

For Adjustable Cartridge-Type Boring Tools (Int. Cl. 7).

First use Apr. 15, 1968.

SN 316,648. Imperial Knife Association Companies, Inc., Providence, R.I. Filed Jan. 15, 1969.

GOLDEN TOUCH

For Stainless Steel Knives, Forks, and Spoons (Int. Cl. 8).

First use Sept. 24, 1968.

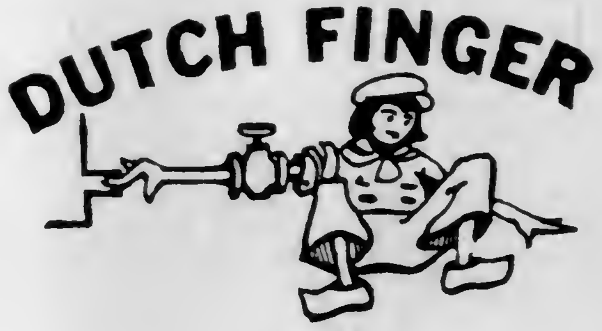
SN 316,963. Aldo Controls & Mfg. Inc., Crystal Lake, Ill. Filed Jan. 21, 1969.

THE GRABBER

For Flexible Pick-Up Hand Tool for Gripping and Picking Up Objects in Inaccessible Places (Int. Cl. 8).

First use Sept. 1, 1967.

SN 317,735. Expando Seal Tools, Inc., Spring House, Pa. Filed Jan. 28, 1969.



For Hand-Operated Tool for Precluding Fluid Flow in Pipe Lines (Int. Cl. 8).

First use Oct. 21, 1968.

SN 318,690. The Warner & Swasey Company, Cleveland, Ohio. Filed Feb. 7, 1969.

SERVOYARN LEVELER

The term "Leveler" is disclaimed apart from the mark as shown without prejudice to any common law rights.

For Textile Drawing Frames (Int. Cl. 7).

First use Oct. 18, 1968.

SN 319,363. Sperry Rand Corporation, New York, N.Y. Filed Feb. 17, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,348, 878,587, and others.

For Fluid Actuated Power Steering Boosters, Fluid Actuated Starters for Engines, and Parts Therefor (Int. Cl. 7).

First use Aug. 16, 1967.

SN 319,369. Sperry Rand Corporation, New York, N.Y. Filed Feb. 17, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,348, 878,587, and others.
For Fluid Actuated Power Steering Boosters, Fluid Actuated Starters for Engines, and Parts Therefor (Int. Cl. 7).
First use Aug. 16, 1967.

SN 319,381. Sperry Rand Corporation, New York, N.Y. Filed Feb. 17, 1969.

SPERRY RAND

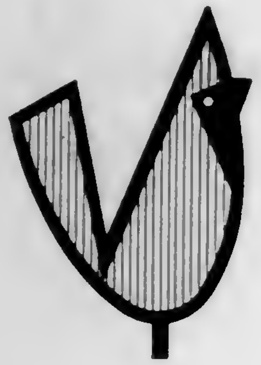
Owner of Reg. Nos. 861,348, 878,587, and others.
For Fluid Actuated Power Steering Boosters, Fluid Actuated Starters for Engines, and Parts Therefor (Int. Cl. 7).
First use Aug. 16, 1967.

SN 322,677. Arnold Manufacturing Company, Pengilly, Minn. Filed Mar. 25, 1969.

FERRET

For Tractor Type Vehicles for Off the Road Use (Int. Cl. 12).
First use Mar. 21, 1969.

SN 324,405. Cardinal Vending Company, Cleveland, Ohio. Filed Apr. 14, 1969.



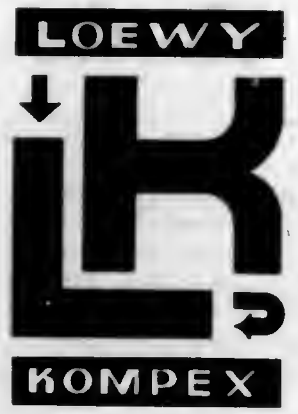
The drawing is lined for red and claim is made to the color.
For Vending Machines Including Machines for Vending of Foods, Beverages and Tobacco Products (Int. Cl. 9).
First use prior to August 1964.

SN 324,408. Clary Corporation, San Gabriel, Calif. Filed Apr. 14, 1969.

WEB-MASTER

For Wood Saws (Int. Cl. 7).
First use on or about Mar. 16, 1967.

SN 325,498. Loewy Machinery Supplies Company, Inc., New York, N.Y. Filed Apr. 24, 1969.



The word "Loewy" is the surname of the chief executive officer and chairman of the board of applicant corporation and is disclaimed apart from the mark.
For Stationary Garbage Compacting Machines (Int. Cl. 7).
First use Oct. 30, 1968.

SN 325,832. Bryant-Poff, Inc., Coatesville, Ind. Filed Apr. 29, 1969.

BIG-PRO

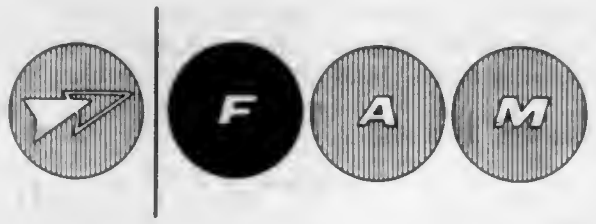
For Hammermill Feed Grinders, Corn Shellers, Screw Conveyors for Grain and Feed, Feed Mixers, Bucket Elevators, Corn Crushers, Corn Cob Blowers, Grain Roller Mills, Augers for Grain and Feed, Grain Cleaners, Grain Distributors and Dust Collectors (Int. Cl. 7).
First use Oct. 1, 1968.

SN 326,487. Rule Industries, Inc., Beverly Farms, Mass. Filed May 6, 1969.

RULE-MASTER

For Water Pumps (Int. Cl. 7).
First use Mar. 29, 1966.

SN 327,420. Speedfam Corporation, Des Plaines, Ill. Filed May 15, 1969.



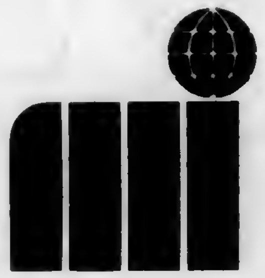
The drawing is lined for the color red.
For Lapping Machines, Free Abrasive Machines, Polishing Machines, Abrading Machines, Grinding Machines, and Machines for Reclamation of Abrasive Vehicle; and Parts and Fixtures for Such Machines (Int. Cl. 7).
First use at least as early as April 1967.

SN 327,581. The Bloomfield Manufacturing Co., Inc., d.b.a. Hi-Lift Jack Co., Bloomfield, Ind. Filed May 10, 1969.

BIG ROVER

For Portable Jacks (Int. Cl. 8).
First use May 7, 1969.

SN 327,772. May-Fran Engineering, Inc., Cleveland, Ohio. Filed May 20, 1969.



For Power Driven Endless Conveyors and Parts Therefor; Conveyor Drive Units; Belt Conveyors; Steel Belting for Conveyors, Parts Feeders, Power Clutches, Horizontal Conveyors for Industrial Products, Centrifugal Separators, Chip Wringers, and Parts for All of the Foregoing (Int. Cl. 7).
First use Nov. 22, 1968.

SN 327,895. Harnischfeger Corporation, West Milwaukee, Wis. Filed May 21, 1969.

POWERMAST

For Overhead Cranes—Namely, Stacker Cranes (Int. Cl. 7).
First use Jan. 24, 1969.

SN 328,119. General Electric Company, Schenectady, N.Y. Filed May 27, 1969.

Owner of Reg. Nos. 274,912, 740,559, and others.
For Turbines; Locomotives; Engines and Jet Propulsion Equipment for Air Craft, Land Transportation, Marine and Space Vehicles and Parts for All the Aforesaid; Drills and Drilling Equipment Accessories and Parts Therefor; Industrial Pumps; Gears and Speed Drives; Hand Tools, Power Tools, Machine Tools, Accessories and Parts Thereof (Int. Cls. 7, 8, and 12).
First use at least as early as 1915.

SN 330,815. Balax, Inc., North Lake, Wis. Filed June 24, 1969.

THREDSHAVER

For Taps (Int. Cl. 8).
First use Apr. 9, 1969.

SN 331,510. Horix Manufacturing Company, Pittsburgh, Pa. Filed July 1, 1969.

HY-FLO

For Machines for Filling Containers With Liquid (Int. Cl. 7).
First use June 10, 1969.

SN 331,618. Harsco Corporation, Camp Hill, Pa. Filed July 2, 1969.

CraneVeyoR

For Crane-Mounted Concrete Conveyors (Int. Cl. 7).
First use March 1969.

SN 332,157. Shin Nippon Koki Co., Ltd., Higashi-ku, Osaka, Japan. Filed July 9, 1969.

SHINE-MATIC

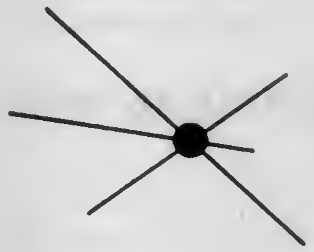
For Lathes, Drilling Machines, Boring Machines, Milling Machines, Planing Machines, Grinding Machines, Hobbing Machines, and Combined Universal Machines Useful for Many Purposes Such as Milling, Boring, Drilling, Tapping, Reaming, etc., and Parts Thereof (Int. Cl. 7).
First use July 20, 1968; in commerce Mar. 23, 1969.

SN 332,848. Parks Woodworking Machine Company, Cincinnati, Ohio. Filed July 17, 1969.

PARKS

For Band Saws, Planers, Radial Saws, Combined Planers and Jointers, Panel Saws, and Combined Drilling and Sawing Machines (Int. Cl. 7).
First use Apr. 25, 1927.

SN 333,871. Buhr Machine Tool Corporation, Ann Arbor, Mich. Filed July 30, 1969.



Owner of Reg. Nos. 682,162 and 870,446.
For Multiple Operation Machine Tools (Int. Cl. 7).
First use Jan. 29, 1957.

SN 342,535. Studebaker Corporation, Muskegon, Mich. Filed Nov. 3, 1969.

CARPETMASTER

For Electrically Operated Commercial Vacuum Cleaners (Int. Cl. 7).
First use on or about Oct. 1, 1965.
Subj. to Intf. with SN 310,588.

Class 24 — Laundry Appliances and Machines

SN 342,350. Ametek, Inc., East Moline, Ill. Filed Nov. 3, 1969.

MI-T-KLEEN

For Dry Cleaning Machinery (Int. Cl. 7).
First use Sept. 29, 1969.

Class 25 — Locks and Safes

SN 337,424. Aug. Bremicker Sohne Kommanditgesellschaft, Volmarstein (Ruhr), Germany. Filed Sept. 9, 1969.

For Padlocks; Police Locks; Door Bolts; Cycle Locks—Namely, Locks for Bicycles, Motor Bikes, Motorcycles, Scooters and the Like; Door Locks; Keys and Hardware for Use With the Foregoing Goods; and Door Chains and Parts Thereof (Int. Cl. 6).
First use approximately in 1955; in commerce December 1964; approximately in 1930, as to "Abus."

SN 343,905. Digital Identification Systems, Inc., Anaheim, Calif. Filed Nov. 19, 1969.

IDENTI-KEY

For Electronic Identification and Actuator Systems—Namely, Electronic Locks and Keys (Int. Cl. 6).
First use at least as early as Oct. 14, 1968.

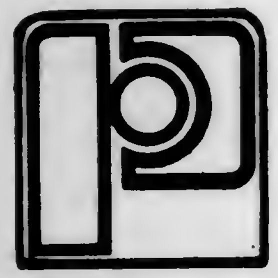
SN 344,281. Digital Identification Systems, Inc., Anaheim, Calif. Filed Nov. 24, 1969.

IDENTI LOCK

For Electronic Identification and Actuator Systems—Namely, Electronic Locks and Keys (Int. Cl. 6).
First use at least as early as Feb. 7, 1969.

Class 26 — Measuring and Scientific Appliances

SN 300,106. Plas Tronics Corp., San Jose, Calif. Filed June 10, 1968.



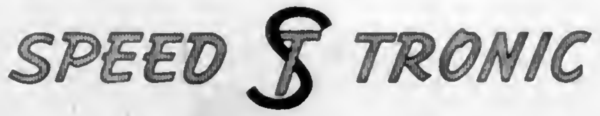
For Computer Tape Reels and Cases (Int. Cl. 9).
First use July 31, 1967.

SN 300,377. Societe Intertechnique, Plaisir, France. Filed June 13, 1968.

DIDAC 800

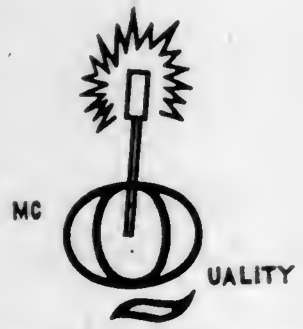
Owner of French Reg. No. 736,374, dated Nov. 23, 1967.
For Digital Data Process Systems for the Numerical Treatment of Information Relating to Measurement or Analysis in Medicine, Biology, Chemistry, Physics, Nuclear Spectrometry, Numerical Comparison of Analogous Signals, Treatment of Information in Electro-Physiology, and Mathematical Calculations of Certain Functions Such as Intercorrelation or Autocorrelation (Int. Cl. 9).

SN 307,570. General Electric Company, Schenectady, N.Y. Filed Sept. 17, 1968.



The drawing is lined for the color red and applicant claims color as an integral feature of the mark. The word "Speed" is disclaimed apart from the mark as a whole.
For Automatically Monitored Speed and Temperature Control Utilizing Computers and Sensors in Automatic Control and Operation of Gas Turbines (Int. Cl. 9).
First use Sept. 15, 1967.

SN 309,274. McHugh Thermodynamics Corporation, Trevose, Pa. Filed Oct. 9, 1968.



The term "Quality" appearing as part of the mark, is disclaimed.
For Thermocouples and Termocouple Accessories—Namely, Heads, Blocks, Compensating Lead Wires, Plugs and Jacks (Int. Cl. 9).
First use June 21, 1962.

SN 310,905. Teledyne, Inc., Los Angeles, Calif. Filed Oct. 30, 1968.

AUTOPOLAR

For Microwave Polarization Switch (Int. Cl. 9).
First use May 26, 1967.

SN 318,576. Potter Instrument Company, Inc., Plainview, N.Y. Filed Feb. 6, 1969.

KDR

For Computer Peripheral Equipment—Namely, a Data Entry Device for Computers Which Records Binary Information on Magnetic Tape in Response to Signals Generated by a Keyboard (Int. Cl. 9).
First use June 23, 1968.

SN 326,476. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed May 6, 1969.

RISTON

Owner of Reg. Nos. 857,019 and 864,442.
For Laminators and Processors for Photopolymer Film (Int. Cl. 9).
First use April 1968.

Class 28 — Jewelry and Precious-Metal Ware

SN 313,838. Vinci Roma Corp., New York, N.Y. Filed Dec. 6, 1968.

VINCI ROMA

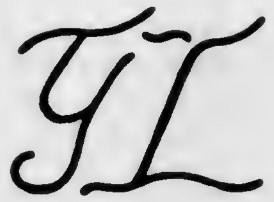
The words "Vinci Roma" may be translated as meaning "Rome conquers" or "Rome vanquishes."
For Zodiac Jewelry Including Cufflinks, Charms, Pendants, Tie Tacks, Medallions, etc. (Int. Cl. 14).
First use Nov. 1, 1968.

SN 315,551. Hamilton Watch Company, Lancaster, Pa. Filed Jan. 2, 1969.

FELICIANA

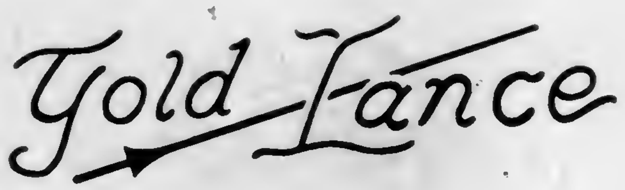
For Sterling Silver Flatware (Int. Cl. 8).
First use Dec. 17, 1968.

SN 334,642. Stuckey & Speer, Inc., Houston, Tex. Filed Aug. 6, 1969.



The mark consists of a representation of the letters "GL."
For Articles of Jewelry (Int. Cl. 14).
First use June 20, 1969.

SN 334,643. Stuckey & Speer, Inc., Houston, Tex. Filed Aug. 6, 1969.



The word "Gold" is disclaimed apart from the mark as shown.
For Articles of Jewelry (Int. Cl. 14).
First use May 13, 1967.

SN 336,468. Peltan & Leru Corp., New York, N.Y. Filed Aug. 27, 1969.

IMP

For Jewelry (Int. Cl. 14).
First use on or about Aug. 8, 1969.

SN 336,581. Lieba, Incorporated, Baltimore, Md. Filed Aug. 28, 1969.

LIEBA

For Jewelry Clips (Int. Cl. 14).
First use October 1965.

Class 29 — Brooms, Brushes, and Dusters

SN 344,773. Arsco Paint Rollers, Inc., Hialeah, Fla. Filed Nov. 28, 1969.

ARLON

For Paint Brushes (Int. Cl. 16).
First use Sept. 1, 1969.

Class 31 — Filters and Refrigerators

SN 299,351. Richard W. Holland, d.b.a. R. W. Holland Company, Houston, Tex. Filed May 29, 1968.

VACUFLO

For Vacuum Diatomaceous Filtration Units for Industrial, Commercial, and Municipal Use (Int. Cl. 11).
First use in or about February 1968.

SN 303,368. Vokes Limited, Guildford, Surrey, England. Filed July 22, 1968.

VOKES VEE-GLASS

Priority claimed under Sec. 44(d) on British Reg. Nos. 920,630 and 920,631, dated Feb. 5, 1968. Owner of U.S. Reg. No. 675,572.
For Glass Filament Filter Media Used for All Types of Air Filtration (Int. Cl. 11).

SN 313,110. Interstate Battery System of America, Inc., Dallas, Tex. Filed Nov. 26, 1968.

INTERSTATE

Owner of Reg. Nos. 830,122 and 841,147.
For Oil Filters (Int. Cl. 11).
First use July 22, 1962.

SN 316,703. Wyott Corporation, Cheyenne, Wyo. Filed Jan. 15, 1969.

FRIGI-CREAMER

For Refrigerated Cream Dispensers for Commercial Use (Int. Cl. 11).
First use May 15, 1968.

SN 318,802. N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands. Filed Feb. 10, 1969.

MILAC

Owner of Dutch Reg. No. 167,477, dated July 24, 1968.
For Milkfilters (Int. Cl. 11).

SN 321,012. Precipitator Corporation of America, Newton, Mass. Filed Mar. 7, 1969.

MICRONAIRE

Owner of Reg. No. 746,607.
For Electrostatic and Mechanical Air Cleaning Devices for Home Use—Namely, Portable Electrostatic Air Cleaning Devices and Portable Mechanical Filter Air Cleaning Devices (Int. Cl. 11).
First use Aug. 8, 1960.

SN 322,428. Flambeau Plastics Corporation, Baraboo, Wis. Filed Mar. 21, 1969.

KOOL-PAC

For Reusable Freezable Gelatin Filled Plastic Containers for Use as a Cooling Media in Picnic Chests (Int. Cl. 11).
First use July 12, 1966.

SN 328,353. Seaton-Wilson, Inc., Burbank, Calif. Filed May 26, 1969.

FILTRACO

For Portable and Stationary Filter Units (Int. Cl. 11).
First use Oct. 17, 1966.

Class 32 — Furniture and Upholstery

SN 334,239. The Lane Company, Inc., Altavista, Va. Filed Aug. 1, 1969.

CONDOMINIUM

For Case Goods, Tables, Chairs, and Bedroom Furniture (Int. Cl. 20).
First use July 23, 1969.

SN 335,304. Peckham Industries, Inc., White Plains, N.Y. Filed Aug. 14, 1969.

CUSTOM HALL

For Laminated Counter Tops, Cabinets and Vanities Primarily for Use in Residential Kitchens, Bathrooms and Bedrooms; Home Bars and Filing Cabinets (Int. Cl. 20).
First use at least as early as 1959 on laminated counter tops, cabinets and vanities.

SN 336,538. Century Products, Inc., Cleveland, Ohio. Filed Aug. 28, 1969.

HOOLA COUPE

For Infant Furniture, Particularly a Combination Infant Play Table, Bouncer and Walker (Int. Cl. 20).
First use Oct. 25, 1968.

SN 338,175. Paramount Bedding Corporation, Norfolk, Va. Filed Sept. 17, 1969.

SILENT SEAL

For Box Springs (Int. Cl. 20).
First use Aug. 28, 1969.

Class 33 — Glassware

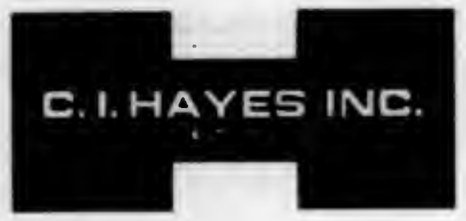
SN 319,644. Societe des Verreries Industrielles Reunies du Loing (S.O.V.I.R.E.L.), Paris (Seine), France. Filed Feb. 19, 1969.

SOVIREL

Owner of French Reg. No. 451,101, dated May 20, 1955 (Paris); Natl. Inst. No. 57,097.
For Industrial Glassware Used in the Manufacture of Leveling Rods, Baking Ovens, Washing Machines Cooking Stoves, Heating Tanks, Discs, Insulators, Steam Tanks, Electronic Equipment, Television Sets, and Industrial Lamps (Int. Cl. 21).

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 301,426. C. I. Hayes Inc., Cranston, R.I. Filed June 26, 1968.


C. I. HAYES INC.

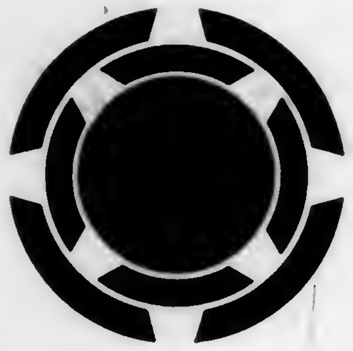
Owner of Reg. No. 666,520.
For Furnaces, Gas Dryers, Gas Generators and Gas Dissociators, All for Industrial Purposes (Int. Cl. 11).
First use on or about Nov. 30, 1964.

SN 315,295. Air Reduction Company, Incorporated, New York, N.Y. Filed Dec. 27, 1968.

DIP-ARC

For Wire Feeder for Electric Arc Welding Apparatus Including Wire Feeder Guns and Cables (Int. Cl. 9).
First use Nov. 12, 1968.

SN 316,419. Dukor Industries, Inc., Redwood City, Calif. by change of name from Dura-Vent Corporation of California, Redwood City, Calif. Filed Jan. 13, 1969.



For Chimney Pipes (Int. Cl. 11).
First use Dec. 12, 1968.

SN 320,459. Dynatech Corporation, Cambridge, Mass. Filed Mar. 3, 1969.

DYNATECH

For Arc Welders (Int. Cl. 9).
First use Dec. 31, 1966.

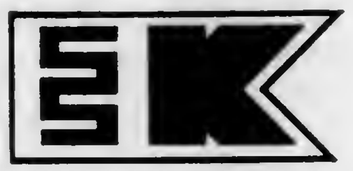
Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 298,441. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed May 17, 1968.

"P/G"

For Tires (Int. Cl. 12).
First use Apr. 11, 1968.

SN 324,920. S. S. Kresge Company, Detroit, Mich. Filed Apr. 18, 1969.



For Tires (Int. Cl. 12).
First use on or before Jan. 30, 1969.

SN 325,051. S.S. Kresge Company, Detroit, Mich. Filed Apr. 21, 1969.

KM 200

For Tires (Int. Cl. 12).
First use on or before Jan. 30, 1969.

Class 36 — Musical Instruments and Supplies

SN 315,116. TEAC Corporation of America, Santa Monica, Calif. Filed Dec. 23, 1968.

TEAC

For Magnetic Tape Recorders/Reproducers and Parts Therefor (Int. Cl. 9).
First use Apr. 15, 1966.

SN 322,910. Randolph William Ray, Douglas McNair Phillips, Jr., Gary Sherman Owens and William Sommers, d.b.a. Ray-Phi Records, Ventura, Calif. Filed Mar. 26, 1969.

RAY-PHI

For Phonograph Records (Int. Cl. 9).
First use Apr. 26, 1968.

SN 323,481. Transitales, Inc., Falls Church, Va. Filed Apr. 2, 1969.

TRANSITUNES

For Prerecorded Magnetic Tapes (Int. Cl. 9).
First use Dec. 30, 1968.

SN 323,482. Transitales, Inc., Falls Church, Va., Filed Apr. 2, 1969.

TRANSITALES

For Prerecorded Magnetic Tapes (Int. Cl. 9).
First use Dec. 13, 1968.

SN 323,483. Transitales, Inc., Falls Church, Va. Filed Apr. 2, 1969.

TRAVELTUNES

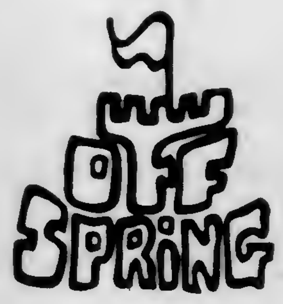
For Prerecorded Magnetic Tapes (Int. Cl. 9).
First use Dec. 30, 1968.

SN 324,062. Gulbransen Company, Melrose Park, Ill. Filed Apr. 9, 1969.

TEENY BOPPER

For Automatic Rhythm Accompaniment Instruments (Int. Cl. 9).
First use Feb. 4, 1969.

SN 324,247. Springboard International Records, Inc., New York, N.Y. Filed Apr. 10, 1969.



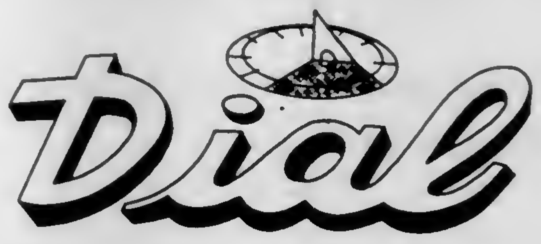
For Phonograph Records and Phonograph Record Albums (Int. Cl. 9).
First use on or about Dec. 9, 1968.

SN 332,747. Walter E. Smith, Caldwell, Idaho. Filed July 16, 1969.

SOUNDS FANTASTIC

Applicant disclaims the word "Sounds" apart from the mark as shown.
For Guitars (Int. Cls. 9 and 15).
First use Oct. 10, 1968.

SN 334,907. Dial Records, Inc., Nashville, Tenn. Filed Aug. 8, 1969.



The drawing is lined for the color orange.
For Phonograph Records (Int. Cl. 9).
First use July 11, 1961.

Class 37 — Paper and Stationery

SN 270,130. Hammermill Paper Company, Strathmore Paper Company Division, West Springfield, Mass. Filed Apr. 27, 1967.

K-MAT

For Inorganic Fiber Paper for the Aircraft and Aerospace Industries (Int. Cl. 16).
First use Apr. 3, 1967.

SN 283,440. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. Filed Oct. 26, 1967.

INSTANT EZ MAIL

For Paper Business Forms and Envelopes (Int. Cl. 16).
First use June 12, 1967.

SN 300,206. J. J. Lester & Co., Inc., d.b.a. Accountants' Supply House, Valley Stream, N.Y. Filed June 11, 1968.

FLASH VARY-USE

For Forms, Single and/or Manifold (Int. Cl. 16).
First use Aug. 14, 1967.

SN 319,043. Fort Howard Paper Company, Greenbay, Wis. Filed Feb. 13, 1969.

IVY

For Disposable Paper Products—Namely, Towels, Napkins, Toilet Paper, Facial Tissue, Wipers, Tablecovers, and Tray Covers (Int. Cl. 16).
First use Dec. 6, 1968.

SN 322,248. Eaton Allen Corp., Brooklyn, N.Y. Filed Mar. 20, 1969.

CO-RECT-OUT

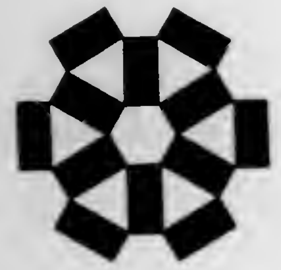
Owner of Reg. Nos. 749,243 and 749,244.
For Paper Containing a Coating of a Transfer Substance for Correcting Carbon Copies by Masking Erroneously Typed Impressions so as To Prepare the Paper for Receiving a Different Impression (Int. Cl. 16).
First use Sept. 9, 1968.

SN 330,311. Tuckersharpe Pen Company, Inc., Richmond, Va. Filed June 17, 1969.

GRAND PRIX

For Writing Instruments—Namely, Ball Point Pens (Int. Cl. 16).
First use Apr. 23, 1969.

SN 331,342. Container Corporation of America, Chicago, Ill. Filed June 30, 1969.



For Paperboard (Int. Cl. 16).
First use May 15, 1969.

SN 335,846. Sidney M. Bliss, d.b.a. Bliss Publishing Company, Eldon, Mo. Filed Aug. 21, 1969.

CAL-MARK

For School Record Books of Grades and Attendance, and Teachers Plan Books (Int. Cl. 16).
First use Feb. 11, 1957.

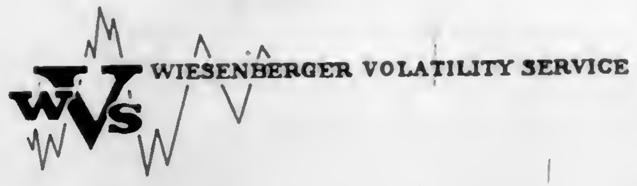
SN 344,047. Avery Products Corporation, San Marino, Calif. Filed Nov. 20, 1969.

SOTUF

For Stock Face Material for Labels (Int. Cl. 16).
First use Sept. 26, 1969.

Class 38—Prints and Publications

SN 272,128. Arthur Wiesenberger & Company, New York, N.Y. Filed May 22, 1967.



No claim is made to the terminology "Volatility Service" apart from the mark as shown.
For Financial Reports (Int. Cl. 16).
First use December 1966.

SN 276,841. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, New York, N.Y., assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed July 26, 1967.

FANTASTIC FOUR

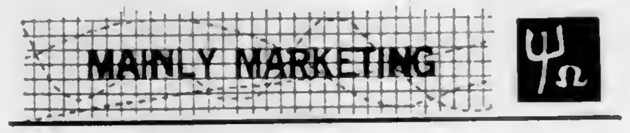
For Publications, Particularly Comic Books and Magazines (Int. Cl. 16).
First use on or about June 28, 1961.

SN 278,017. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, New York, N.Y., assignee, by mesne assignment, of Magazine Management Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed Aug. 10, 1967.

IRON MAN

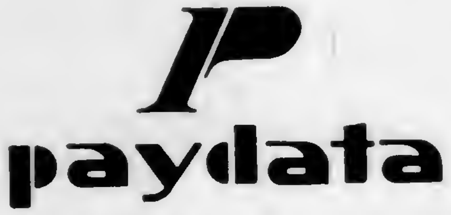
For Publications, Particularly Comic Books and Magazines and Stories in Illustrated Form (Int. Cl. 16).
First use in or about March 1963.

SN 290,759. Schoonmaker Associates, Larchmont, N.Y. Filed Feb. 9, 1968.



Applicant disclaims the words "Mainly Marketing."
For Monthly Marketing Report (Int. Cl. 16).
First use Dec. 5, 1967.

SN 309,279. Paydata, Inc., East Orange, N.J., assignee of Mintz & Girgan, Inc., Kearny, N.J. Filed Oct. 9, 1968.



For Printed Sheets Containing Information for Employees Relating to Employee Benefits (Int. Cl. 16).
First use on or about July 30, 1968.

SN 321,931. Hagen Communications Inc., Upper Montclair, N.J. Filed Mar. 17, 1969.

PUBLISHING MANAGEMENT

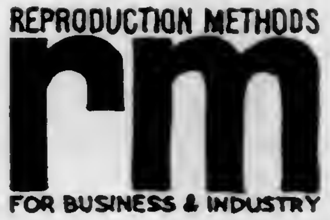
For Newsletter Dealing With News and Ideas for Publishers, Editors, and Other Publishing Executives (Int. Cl. 16).
First use Dec. 1, 1968.

SN 322,952. American Greetings Corporation, Cleveland, Ohio. Filed Mar. 27, 1969.

STOOPID STICK-ONS

Applicant disclaims exclusive rights to "Stick-Ons" apart from the mark as shown.
For Self Adhering Appliques Containing Printed Intelligence (Int. Cl. 16).
First use at least as early as April 1967.

SN 326,592. Gellert Publishing Corp., New York, N.Y. Filed May 7, 1969.



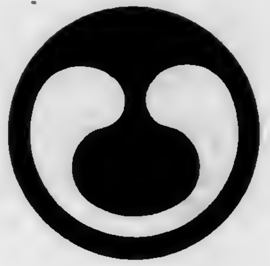
The words "Reproduction Methods for Business & Industry" are disclaimed.
For Magazine (Int. Cl. 16).
First use January 1967; March 1961 in a different display.

SN 326,821. Aranar Marketing Services, Inc., Chicago, Ill. Filed May 9, 1969.

BOX CARD

For the purpose of this registration only, applicant disclaims the word "Card" separate and apart from the mark as shown.
For Greeting Cards, Souvenir Cards, Direct Mail Promotion Cards, and Post Cards Having a Message and/or Greeting Thereon (Int. Cl. 16).
First use Apr. 1, 1969.

SN 329,972. Follett Educational Corporation, Chicago, Ill. Filed June 13, 1969.



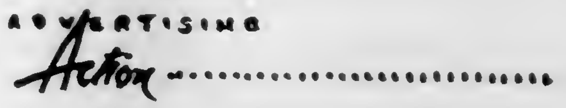
For Books and Catalogs (Int. Cl. 16).
First use Feb. 1, 1969.

SN 330,116. E.S.A. Service Corporation, Loveland, Colo. Filed June 16, 1969.

THE JONQUIL

For Magazine (Int. Cl. 16).
First use in June 1933.

SN 330,481. Elizabeth P. Davis, Washington, D.C. Filed June 19, 1969.



For Newsletter (Int. Cl. 16).
First use May 5, 1969.

SN 331,993. Bro-Dart Industries, Newark, N.J. Filed July 8, 1969.

ROUND-UP

For Educational Kit Comprising the Following: Books, Maps, Tape Recordings, a Tape Player, Teacher's Guides, Bibliographies, Artistic Prints, and a Container for Storing These Items (Int. Cl. 16).
First use June 6, 1969.

SN 333,183. Rodale Press, Inc., Emmaus, Pa. Filed July 22, 1969.

THE BUSINESS OF FITNESS

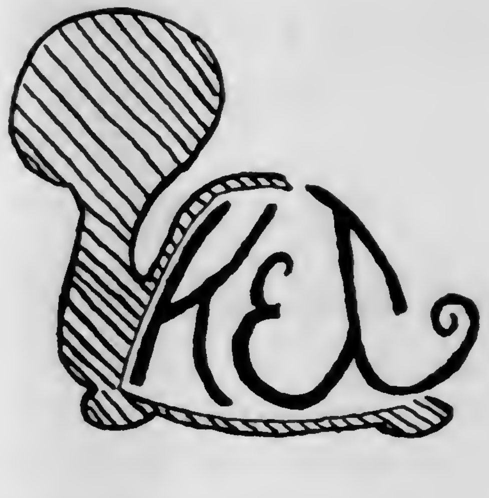
Owner of Reg. No. 859,341.
For Periodical Newsletter (Int. Cl. 16).
First use Jan. 3, 1969.

SN 333,250. DMS, Inc., Greenwich, Conn. Filed July 23, 1969.

GEM

For Weekly Newsletter Pertaining to the Field of Government Electronics (Int. Cl. 16).
First use July 7, 1969.

SN 333,312. Karen E. Thorpe Trego, d.b.a. Ket, West Chester, Pa. Filed July 23, 1969.



The drawing is lined for the color green.
For Greeting Cards and Decorated Note Cards (Int. Cl. 16).
First use Mar. 1, 1969.

SN 334,778. Looart Press, Inc., Colorado Springs, Colo. Filed Aug. 8, 1969.

WHITE LACE

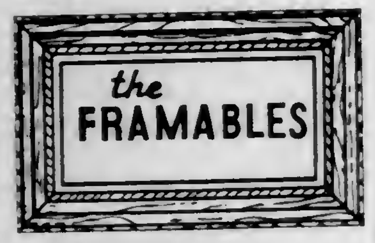
For Fully Printed Wedding Invitations and Announcements (Int. Cl. 16).
First use July 15, 1969.

SN 337,973. Psych-O-Generative, Inc., Waterloo, Iowa. Filed Sept. 15, 1969.

PSYCH-O-GENERATIVE

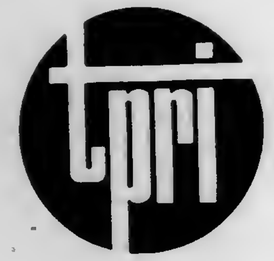
For Printed Educational Workbooks and Transparencies (Int. Cl. 16).
First use on or about Sept. 1, 1968.

SN 338,619. Sherwood Publishing Company, Inc., Amarillo, Tex. Filed Sept. 22, 1969.



For Greeting Cards (Int. Cl. 16).
First use Aug. 30, 1968.

SN 339,251. Time Pattern Research Institute Incorporated, Valley Stream, N.Y. Filed Sept. 29, 1969.



For Computerized Horoscopes (Int. Cl. 16).
First use Apr. 21, 1967.

SN 339,427. Giegy Chemical Corporation, Ardsley, N.Y. Filed Oct. 1, 1969.

GY-CODE

Owner of Reg. Nos. 149,067, 869,956, and others.
For Booklets Containing a Pharmaceutical Formulary Index (Int. Cl. 16).
First use Sept. 4, 1969.

SN 341,838. Norcross, Inc., New York, N.Y. Filed Oct. 27, 1969.

EMERALD

For Greeting Cards (Int. Cl. 16).
First use Sept. 17, 1969.

SN 343,862. Jonathan G. Meader, d.b.a. Ascian, Washington, D.C. Filed Nov. 18, 1969.

ASCIAN

For Reprints of Paintings (Int. Cl. 16).
First use May 29, 1969.

SN 344,993. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 1, 1969.

KALCO

For Printed Labels (Int. Cl. 16).
First use February 1960.

SN 344,995. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 1, 1969.

KAL-FOIL

For Printed Labels (Int. Cl. 16).
First use Jan. 31, 1969.

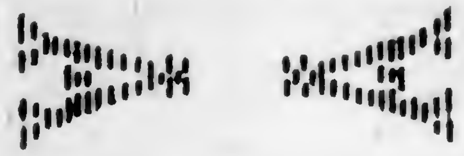
SN 344,997. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 1, 1969.

KAL-GUM

For Printed Labels (Int. Cl. 16).
First use Jan. 31, 1969.

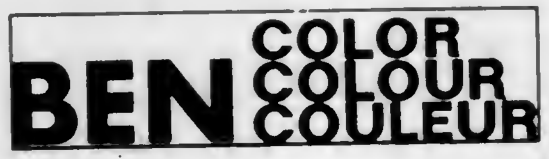
Class 39 — Clothing

SN 297,640. Advance Glove Manufacturing Company, Detriot, Mich. Filed May 8, 1968.



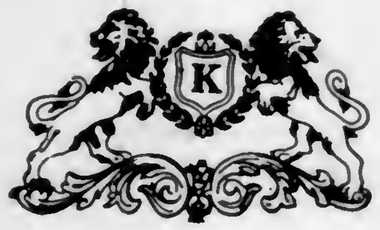
For Gloves (Int. Cl. 25).
First use 1960.

SN 309,302. Schuberth-Werk, Braunschweig, Germany. Filed Oct. 9, 1968.



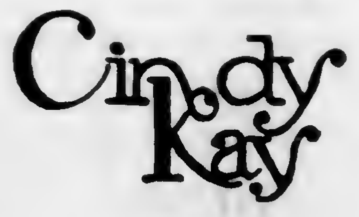
Priority claimed under Sec. 44(d) on German application, filed Apr. 18, 1968; Reg. No. 847,997, dated Aug. 2, 1968.
For Colored Protective Helmets and Caps (Int. Cl. 9).

SN 310,786. Kishu's East-West Fashions, Ltd., Kowloon, Hong Kong. Filed Oct. 29, 1968.



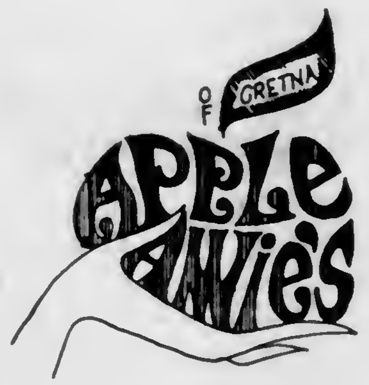
For Ladies' and Men's Suits, Jackets, Shirts, Skirts, Pullovers, Blouses, Slacks, Sweaters, Trousers, Shells, Dresses, Pants, Gloves and Combinations of the Same (Int. Cl. 25).
First use July 9, 1962; in commerce Sept. 5, 1962.

SN 313,501. Figure Flattery Brassiere Company, Inc., New York, N.Y. Filed Dec. 3, 1968.



"Cindy Kay" is a fanciful name.
For Brassieres, Girdles, and Lingerie (Int. Cl. 25).
First use June 1968.

SN 317,432. Apple Annie's of Gretna, Inc., Gretna, La. Filed Jan. 24, 1969.



The drawing is lined for the colors red and green.
For Ladies Apparel—Namely, Shirts, Blouses, Dresses, and Sweaters (Int. Cl. 25).
First use Feb. 1, 1967.

SN 317,437. Carl Gutmann & Company, Inc., New York, N.Y. Filed Jan. 24, 1969.

CATCH CAN

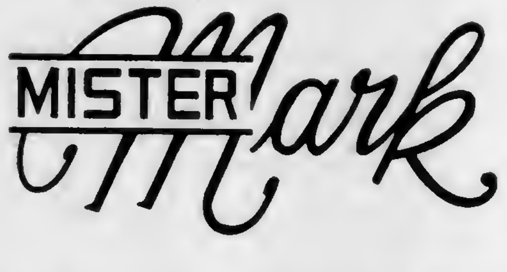
For Ladies' Garments—Namely, Blouses, Shells, Dresses, Pants, Suits, and Tunics (Int. Cl. 25).
First use Dec. 31, 1968.

SN 322,419. Eastco Safety Equipment, Inc., Whitestone, N.Y. Filed Mar. 21, 1969.

GLOFANE

For Safety Equipment—Namely, Fire Resistant Acid Proof and Non-Fire Resistant and Non-Acid Proof Trousers, Jackets, and Gloves (Int. Cl. 9).
First use January 1962.

SN 323,264. The Commercial Electric Company, Toledo, Ohio. Filed Apr. 1, 1969.



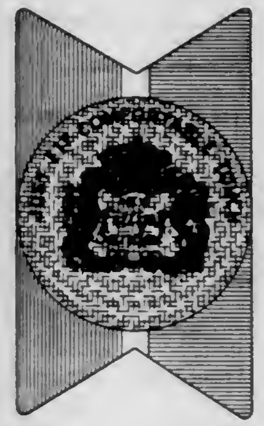
For Men's and Women's Sweaters and Women's Dresses, Suits, and Coats (Int. Cl. 25).
First use Feb. 26, 1969.

SN 324,021. Kops Bros., Inc., New York, N.Y. Filed Apr. 9, 1969.

BRA-TIQUE

For Women's Foundation Garments (Int. Cl. 25).
First use Mar. 31, 1969.

SN 325,258. Otafuku Sangyo Co., Ltd., Shin-Minami-Fukushima, Tokushima, Japan. Filed Apr. 8, 1969.



Applicant disclaims the words "Just Fit Comfortable Touch" and "New Fitting Sandal" apart from the mark as shown. The drawing is lined for red, blue and gold.
For Sandals (Int. Cl. 25).
First use on or before Apr. 1, 1968; in commerce on or before Apr. 1, 1968.

SN 325,521. Stevcoknit Textile Co., New York, N.Y. Filed Apr. 24, 1969.

FABRIMATES

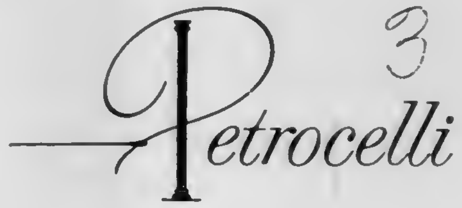
For Women's and Men's Clothing—Namely, Suits, Coats, Slacks, Dresses, Shirts, Blouses, and Shifts (Int. Cl. 25).
First use Apr. 14, 1969.

SN 325,564. Atlas Underwear Corporation, Piqua, Ohio. Filed Apr. 25, 1969.

SKI SKINS

For Men's, Women's and Children's Sox (Int. Cl. 25).
First use Mar. 28, 1969.

SN 326,545. Petrocelli Clothes, Inc., New York, N.Y. Filed May 6, 1969.



Owner of Reg. No. 618,803.
For Men's Suits, Sport Coats, Slacks, Dress Shirts, Knit and Sport Shirts, Top Coats, Overcoats, All Weather Coats, Raincoats, Outerwear Coats, Gloves, Scarves, Mufflers, Underwear, Pajamas, Robes, Sweaters, Ties, Hats, Belts, Shoes, and Socks (Int. Cl. 25).
First use August 1950 on men's suits.

SN 326,611. Aljac Sportswear Limited, Montreal, Quebec, Canada. Filed May 7, 1969.

Aljac

For Men's and Boys' Ski Jackets; Ski Pants; Synthetic Fur Coats; Leather Coats, Jackets; Wool Suburban Coats; Boating Jackets; and Golf Jackets (Int. Cl. 25).
First use Nov. 2, 1950; in commerce Oct. 1, 1968.

SN 327,001. Consolidated Foods Corporation, Chicago, Ill. Filed May 12, 1969.

THE KEATS

For Outer Dress and Sport Shirts (Int. Cl. 25).
First use Apr. 14, 1969.

SN 328,550. Imperial Reading Corporation, New York, N.Y. Filed May 28, 1969.

DI VILLA

"Di Villa" is translated into English as "of the country house." Owner of Reg. Nos. 768,212 and 768,220.
For Men's Shirts (Int. Cl. 25).
First use on or about July 1, 1968.

SN 328,868. Les Tricots Pierre Marquez Ltee., Montreal, Quebec, Canada. Filed June 2, 1969.

PIERRE MARQUEZ

"Pierre Marquez" is a fanciful name and refers to no living individual.
For Various Articles of Men's Clothing—Namely, Shirts, Sweaters, Scarves, Pants, Jackets, Gloves, Mittens, Underwear, Footwear, Headwear, Socks, Suits, Coats, Belts, Pajamas, and Bathrobes (Int. Cl. 25).
First use April 1965; in commerce April 1967.

SN 329,129. Rice Shinkle Imports, St. Louis, Mo. Filed June 4, 1969.

CAPLEO

For Women's Shoes (Int. Cl. 25).
First use Apr. 29, 1969.

SN 330,004. New Process Company, Warren, Pa. Filed June 13, 1969.

BLAIR PRESS

No claim is made to the word "Press" apart from the other feature of the mark shown. Owner of Reg. No. 790,047.
For Wash and Wear Finish With Which Men's Slacks and Women's Slacks Have Been Treated (Int. Cl. 25).
First use June 6, 1969.

SN 330,475. Capezio, Inc., New York, N.Y. Filed June 19, 1969.

capezio

Owner of Reg. Nos. 546,042 and 671,581.
For Shoes, Tights, and Leotards (Int. Cl. 25).
First use May 1, 1967.

SN 330,804. Formaid Co., Boston Mass. Filed June 24, 1969.

CUCOS

For Underpants Bikinis (Int. Cl. 25).
First use at least as early as June 20, 1969.

SN 330,878. Dunn Products, Inc., Chicago, Ill. Filed June 25, 1969.

DUNN

Owner of Reg. No. 639,409.
For Protective Wearing Apparel—Namely, Hats, Caps, Hat Liners and Bands, Hair Nets, Aprons, Gloves, Glove Protectors, Finger Cots, Finger Guards, Hand Coverings, Footwear, Coats, Rubber Suits, Acid Suits, Leggings, Overalls, and Ear Muffs (Int. Cl. 9).
First use in or about 1939.

SN 332,878. Woolrich Woolen Mills, Woolrich, Pa. Filed July 17, 1969.

ALL WOOL AND A YARD WIDE

Owner of Reg. Nos. 164,248 and 164,289.
For Woolen Pants (Int. Cl. 25).
First use 1891.

SN 333,316. Wohl Shoe Company, St. Louis, Mo. Filed July 23, 1969.

DON CARLOS

"Don Carlos" is not the name of any particular individual.
For Shoes (Int. Cl. 25).
First use Feb. 1, 1969.

SN 335,896. Palm Beach Company, Portland, Maine. Filed Aug. 21, 1969.

JOHN WEITZ SIGNATURE COLLECTION

"John Weitz" is the name of a living individual whose consent is of record. Applicant disclaims the words "Signature" and "Collection" apart from the mark as shown.
For Men's and Boys' Suits, Slacks, Coats, Trousers, and Sportcoats (Int. Cl. 25).
First use Jan. 24, 1969.

SN 338,508. White Stag Manufacturing Co., Portland, Oreg. Filed Sept. 22, 1969.

Ski-Burbia White Stag

Owner of Reg. Nos. 369,881, 868,238, and others.
For Ski Pants (Int. Cl. 25).
First use Feb. 25, 1964.

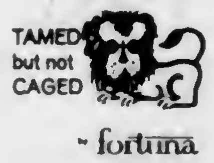
SN 339,785. Commonwealth Hosiery Mills, Inc., Randleman, N.C. Filed Oct. 6, 1969.

RETRACT

For Stockings and Panty Hose (Int. Cl. 25).
First use Sept. 18, 1969.

SN 339,792. Fortuna Foundations, Inc., New York, N.Y. Filed Oct. 6, 1969.

THE TAMER



Owner of Reg. Nos. 327,687, 428,488, and others.
For Women's Foundation Garments (Int. Cl. 25).
First use June 1967; 1935 as to "Fortuna," and March 1965 as to "The Tamer."

SN 343,627. Simon Cohen, Van Nuys, Calif. Filed Nov. 17, 1969.

Mr Si

For Women's Shoes (Int. Cl. 25).
First use Oct. 29, 1963.

SN 344,191. Kanner Dress Co., Inc., Elizabeth, N.J. Filed Nov. 21, 1969.

Bellehaven frocks

The word "Frocks" is disclaimed apart from its use in the mark.
For Women's Dresses (Int. Cl. 25).
First use Aug. 12, 1969.

Class 40—Fancy Goods, Furnishings, and Notions

SN 304,207. Gladys S. Stott, d.b.a. Coventry Creations, North Haven, Conn. Filed Aug. 2, 1968.

THE HAT CHECK

For Hat Fasteners (Int. Cl. 26).
First use Mar. 30, 1968.

SN 318,774. Gaylord Products, Incorporated, Chicago, Ill. Filed Feb. 10, 1969.

GAYLORD

For Bobby Pins (Int. Cl. 26).
First use May 11, 1965.

SN 323,828. Lawrence Corporation, Omaha, Nebr. Filed Apr. 7, 1969.

PAULANN

For Hair Grooming Accessories—Namely, Hair Combs (Int. Cl. 21).
First use on or about July 15, 1965.

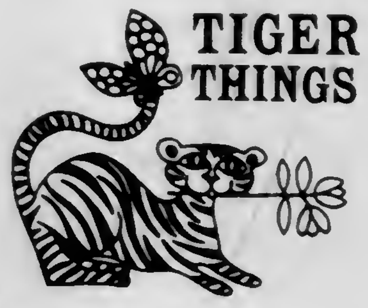
SN 339,504. Golden Touch, Inc., Chicago, Ill. Filed Oct. 2, 1969.

GOLDEN TOUCH

For Wigs (Int. Cl. 26).
First use Jan. 3, 1967.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 275,322. Tiger Fabrics, Inc., New York, N.Y. Filed July 3, 1967.



Owner of Reg. No. 830,429.
For Kitchen Mitts and Pot Holders (Int. Cl. 21).
First use Aug. 9, 1966.

SN 339,824. The Tawashi Club, Inc., New York, N.Y. Filed Oct. 6, 1969.

TAWASHI

For Wash Cloth (Int. Cl. 21).
First use Sept. 29, 1969.

SN 344,201. Vanguard Knits, Inc., Brooklyn, N.Y. Filed Nov. 21, 1969.

SPACELACE

For Lacy Fabrics in the Piece (Int. Cl. 24).
First use Aug. 19, 1969.

Class 44—Dental, Medical, and Surgical Appliances

SN 334,289. American Cyanamid Company, Wayne, N.J. Filed Aug. 4, 1969.

DEXON

For Surgical Sutures (Int. Cl. 10).
First use July 17, 1969.

Class 45—Soft Drinks and Carbonated Waters

SN 260,655. Daily Juice Products, Inc., Oakmont, Pa. Filed Dec. 13, 1966.

Daily's Cocktail Time

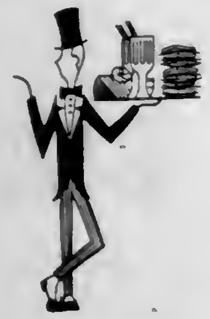
Without relinquishing any of its common law rights, applicant disclaims the word "Cocktail" apart from the mark as shown.
For Non-Alcoholic Cocktail Mix (Int. Cl. 32).
First use Aug. 21, 1966.

SN 321,642. Duffy-Mott Company, Inc., New York, N.Y. Filed Mar. 13, 1969.

PRUNESHINE

For Prune Juice Drink Containing Water and Prune Drink Containing Water (Int. Cl. 32).
First use Mar. 3, 1969.

SN 328,464. The Thin Man, Incorporated, New Haven, Conn. Filed May 27, 1969.



For Carbonated and Non-Carbonated Soft Drinks and Artificially Sweetened Syrups Utilized in Making Soft Drinks (Int. Cl. 32).
First use on or about May 21, 1969.

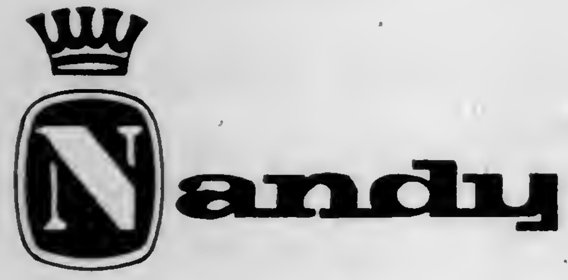
Class 46—Foods and Ingredients of Foods

SN 278,489. Gustav & Wilhelm Heller, Vienna, Austria. Filed Aug. 17, 1967.

SANADIA

Owner of Austrian Reg. No. 37,629, dated Oct. 23, 1957.
For Chocolates, Candy, Dietetic Breads, Dietetic Chocolates, Dietetic Candies, Dietetic Cookies, Canned Dietetic Fruits, Dietetic Rolls, Cakes and Pastries, Dietetic Malt Drinks and Fruit Juice Drinks (Int. Cls. 5, 30, and 32).

SN 298,468. Nazareth Candy Co. Ltd., Nazareth, Isreal. Filed May 17, 1968.

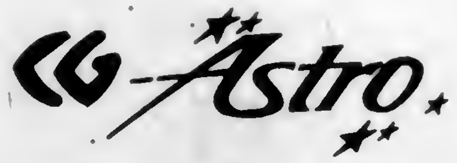


For Candies, Cocoa, Wafers, Biscuits, Crackers and Ice Creams (Int. Cl. 30).
First use Mar. 8, 1968; in commerce Mar. 8, 1968.

SN 300,891. Biscuiterie Nantaise B.N., Nantes (Loire Atlantique), France. Filed June 20, 1968.

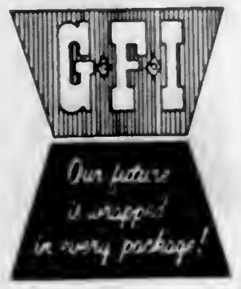
Priority claimed under Sec. 44(d) on French Reg. No. 734,252, dated Dec. 21, 1967.
For Cocoa, Chocolate, Sugar, Flour, Breakfast Cereals, Mixes for Puddings and Cakes, Breads, Biscuits, Cakes, Pastries, Candies, Chocolates, and Chocolate Coated Cookies (Int. Cl. 30).

SN 307,430. Consumer Guild Foods, Inc., Toledo, Ohio. Filed Sept. 16, 1968.



For Salad Dressing, Slaw Dressing, French Dressing, Mayonnaise, Tartar Sauce, and Related Dressings (Int. Cls. 29 and 30).
First use Feb. 15, 1968.

SN 309,765. Guaranteed Foods, Inc., Lenexa, Kans. Filed Oct. 16, 1968.



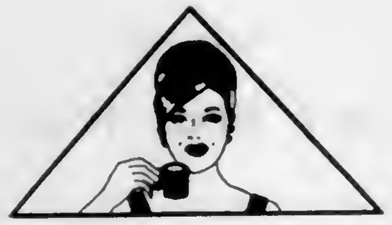
The drawing is lined for the color red.
For Frozen Meats (Int. Cl. 29).
First use Jan. 1, 1960.

SN 315,310. Delta Western Chemical, Inc., Indianola, Miss. Filed Dec. 27, 1968.

DELTA WESTERN

For Liquid Cattle Feed (Int. Cl. 31).
First use Nov. 6, 1968.

SN 318,150. Beech-Nut, Inc., New York, N.Y. Filed Feb. 3, 1969.



The portrait on the drawing is that of "Barbara Kingsbury" whose consent is of record. Owner of Reg. Nos. 343,743, 655,314, and others.
For Coffee (Int. Cl. 30).
First use June 10, 1968.

SN 318,905. W. R. Grace & Co., New York, N.Y. Filed Feb. 11, 1969.

PENNY CANDY STORE

Applicant disclaims the word "Candy" apart from the mark as shown.
For Candy (Int. Cl. 30).
First use Dec. 17, 1965.

SN 321,667. Libby, McNeill & Libby, Chicago, Ill. Filed Mar 13, 1969.

SLOPPY ALFY

For Canned Spaghetti With Tomato Sauce and Cheese (Int. Cl. 30).
First use Feb. 5, 1969.

SN 321,669. Libby, McNeill & Libby, Chicago, Ill. Filed Mar. 13, 1969.

SLOPPY FRANKS

No claim is made to the exclusive use of the word "Franks" apart from the mark as shown, but applicant waives none of its common law rights in said mark.
For Canned Frankfurters in Barbecue Sauce (Int. Cl. 29).
First use Feb. 5, 1969.

SN 324,669. Allied Old English, Inc., Newark, N.J. Filed Apr. 16, 1969.

POLYNESIAN

Owner of Reg. Nos. 770,035 and 811,822.
For Glaze for Meats and Vegetables (Int. Cl. 30).
First use Aug. 15, 1966.

SN 328,249. Pet Incorporated, St. Louis, Mo. Filed May 26, 1969.

SCUDDER BUDS

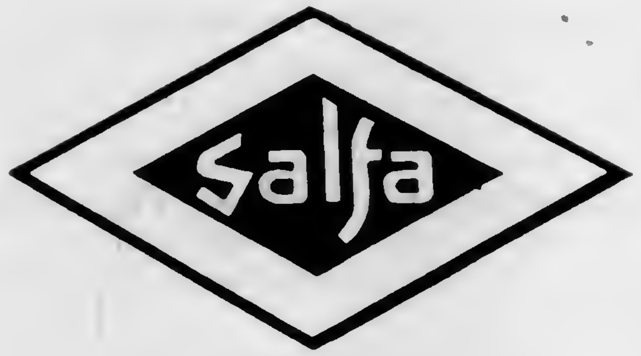
Owner of Reg. Nos. 512,759 and 734,604.
For Cereal-Derived, Flavored Snack Food Product (Int. Cl. 30).
First use Apr. 7, 1969.

SN 328,976. General Foods Corporation, White Plains, N.Y. Filed June 3, 1969.

BLISS

Owner of Reg. No. 102,048.
For Low Calorie Granulated Sugar Replacement (Int. Cl. 5).
First use Apr. 1, 1969.

SN 331,133. Societe Agricole Laitiere Flandre Artois, S.A.L.F.A., Renescure, Nord, France. Filed June 9, 1969.



For Butter, Cream, Cheese, and Yoghurt (Int. Cl. 29).
First use 1941; in commerce 1964.

SN 331,912. Kellogg Company, Battle Creek, Mich. Filed July 7, 1969.

BODY MACHINE

For Cereal-Derived Food Product To Be Used as a Breakfast Food, Snack Food and Confection (Int. Cl. 30).
First use June 23, 1969.

SN 332,104. John Hansen & Sons, Inc., Oakland, Calif. Filed July 9, 1969.

BLUE CHIP

For Coffee, Bread, Soup Base, and Gelatin Dessert Powder (Int. Cls. 29 and 30).
First use May 13, 1968, on coffee.

SN 332,584. General Mills, Inc., Minneapolis, Minn. Filed July 15, 1969.

CHIPLES

Owner of Reg. Nos. 795,344 and 865,070.
For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or about June 10, 1969.

SN 332,732. Malone & Hyde, Inc., Memphis, Tenn. Filed July 16, 1969.

For Instant Breakfasts, i.e., Strawberry, Vanilla, Chocolate and Chocolate Malt Drink Mixture in Powdered Form, Coffee (Non-Dairy) Creamer, Evaporated Milk, Peanut Butter, and Potato Chips (Int. Cls. 5 and 29).
First use Mar. 3, 1969.

SN 333,709. H. Kohnstamm & Co., Inc., New York, N.Y. Filed July 28, 1969.

KOLEOPHILIC

For Certified Food Colors (Int. Cl. 2).
First use Mar. 17, 1969.

SN 342,708. The Kenco Coffee Company Limited, London, England. Filed Nov. 5, 1969.

KENCO

Owner of British Reg. No. 800,317, dated Jan. 13, 1960.
For Tea and Coffee (Int. Cl. 30).

SN 343,626. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Nov. 17, 1969.

GOURMET
TOUCH

For Instant Marinade (Int. Cl. 30).
First use Oct. 29, 1969.

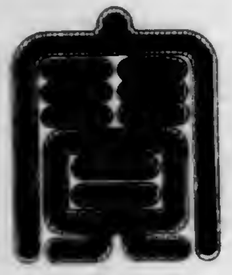
SN 344,060. Lotte Co., Ltd., Shinjuku-ku, Tokyo, Japan. Filed Nov. 20, 1969.

POPPLE

For Chocolate Candy (Int. Cl. 30).
First use Aug. 15, 1968; in commerce Aug. 30, 1968.

Class 47 — Wines

SN 307,874. Takara Shuzo, Ltd., Shimogyoku, Kyoto, Japan. Filed Sept. 20, 1968.



The design comprising the mark is a Chinese character having the sound "Takara," which in the Japanese language means "treasure." The drawing is lined for the color red, but no claim is made to the color so named.
For Japanese Food Seasoning Wine—Namely, Mirin (Int. Cl. 33).
First use December 1911; in commerce 1925.

Class 48 — Malt Beverages and Liquors

SN 316,012. Kiku-Masamune Sake Brewing Co., Ltd., Kobe, Hyogo Prefecture, Japan. Filed Jan. 7, 1969.

KIKU-MASA

The word "Kiku" means "chrysanthemum," and the word "Masa" means "right" or "correct." Owner of Japanese Reg. No. 771,696, dated Feb. 23, 1968; and U.S. Reg. Nos. 320,161, 873,941, and others.
For Japanese Brewed Sake (Int. Cl. 32).

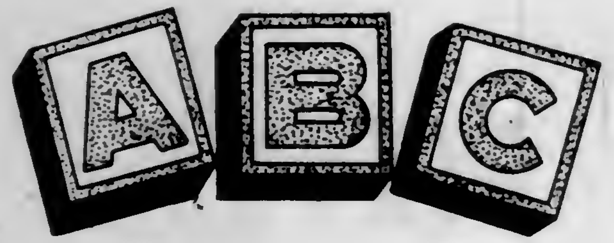
Class 49 — Distilled Alcoholic Liquors

SN 317,842. Vernon B. Hunt, d.b.a. Van Der Hunt Co., Seattle, Wash. Filed Jan. 29, 1969.

DRYtini

For Dry Gin (Int. Cl. 33).
First use Nov. 25, 1968.

SN 327,727. Paramount Distillers, Inc., d.b.a. ABC Distilled Products Co., Cleveland, Ohio. Filed May 20, 1969.



For Vodka, Gin, Bourbon, Whiskey and Rum (Int. Cl. 33).
First use May 26, 1964.

Class 50 — Merchandise Not Otherwise Classified

SN 311,563. Andre Rubber Company Limited, Surbiton, Surrey, England. Filed Nov. 7, 1968.

HIDAC

Owner of British Reg. No. 919,893, dated Jan. 18, 1968.
For Fender Springs Made of Rubber or Predominantly of Rubber for Use on Ships, Jetties, and Parts and Fittings Therefor (Int. Cl. 17).

SN 313,699. Griffolyn Co., Inc., Houston, Tex. Filed Dec. 5, 1968.

GRIFF-GLOW

For Laminated Reflective Warning Flexible Sheeting (Int. Cl. 17).
First use at least as early as Dec. 20, 1967.

SN 321,177. Milton Bradley Company, Springfield, Mass. Filed Mar. 10, 1969.

MARK-N-ERASE

For Training Device Comprising a Writing Board for Display Purposes in a Classroom (Int. Cl. 16).
First use July 1, 1968.

SN 322,634. Howard L. Taylor, Oscoda Aluminum Center, Oscoda, Mich. Filed Mar. 24, 1969.

ZIP-A-LETTER

For Display Signs and the Like and Parts Thereof and Including Detachable Indicia Removably Mounted on a Backing (Int. Cl. 19).
First use July 11, 1968.

SN 323,931. American Flange & Manufacturing Co. Inc., New York, N.Y. Filed Apr. 8, 1969.

CLINCH ON

For Closures for Containers, and Parts Thereof (Int. Cl. 20).
First use Apr. 18, 1958.

Class 51 — Cosmetics and Toilet Preparations

SN 313,560. De Vito Laboratories, Inc., Boston, Mass. Filed Dec. 4, 1968.

EVE OF EDEN

For Spray Bath Powder, Hand and Body Foam, Anti-Perspirant Spray Deodorant, Feminine Shaving Foam, and Sun Tanning Foam (Int. Cls. 3 and 5).
First use Oct. 18, 1968.

SN 313,887. Avon Products, Inc., New York, N.Y. Filed Dec. 9, 1968.

SUMMER LIGHTNING

Applicant disclaims the word "Lightning" apart from the mark as shown.
For Lipstick, Nail Enamel, and Powdered Facial Blusher (Int. Cl. 3).
First use Nov. 18, 1968.

SN 314,844. Andrea Raab Corporation, Brooklyn, N.Y. Filed Dec. 19, 1968.

EYEQ'S

For Cloth Pads Impregnated With Eye Make-Up Remover (Int. Cl. 3).
First use Feb. 15, 1963.

SN 316,154. William Waldron, d.b.a. House of Waldron, Portland, Maine. Filed Jan. 8, 1969.

HOUSE OF WALDRON

For Men's and Women's Cosmetics—Namely, Cologne, After Shave Lotion, Deodorants, Talc, Perfumes, Lipsticks, and Eye Shadow (Int. Cls. 3 and 5).
First use Dec. 2, 1968.

SN 318,186. Givaudan Corporation, Clifton, N.J. Filed Feb. 3, 1969.

PAGAN MOON

For Perfume, Colognes, Toilet Water, Personal Sachet, Bath Oil, Bubble Bath, Talcum Powder, Hand and Body Lotions, Face Cream, and Skin Freshener (Int. Cl. 3).
First use Jan. 10, 1969.

SN 321,382. Chemical Associates, Inc., Houston, Tex. Filed Mar. 11, 1969.

GIDGET

For Hair Spray (Int. Cl. 3).
First use Feb. 19, 1969.

SN 321,686. Sales Affiliates, Inc., New York, N.Y. Filed Mar. 13, 1969.

ZOTOS

Owner of Reg. Nos. 295,481, 861,122, and others.
For Lotions Used in Permanent Waving and Setting of Hair and Hair Setting Lotions and Hair Color Rinses (Int. Cl. 3).
First use June 20, 1966.

SN 323,370. S.A. Internacional de Cosmetologia, Barcelona, Spain. Filed Apr. 1, 1969.

Lorenay

Owner of Spanish Reg. No. 78,926, dated Apr. 8, 1959.
For Perfumery (Int. Cl. 3).

SN 329,735. L'Oreal, Paris, France. Filed June 11, 1969.

PLIFOLAN

Owner of French Reg. No. 748,663, dated Oct. 18, 1968.
For Hair-Setting Preparation (Int. Cl. 3).

SN 330,187. Chas. Pfizer & Co., Inc., New York, N.Y. Filed June 16, 1969

CARNADINE

Owner of Reg. No. 271,195.
For Lipstick (Int. Cl. 3).
First use Oct. 25, 1968.

SN 330,869. Yardley of London, Inc., New York, N.Y. Filed June 24, 1969.

TWIGGY

"Twiggy" identifies "Leslie Hornby," a living individual whose consent is of record.
For Eye Paint—Namely, Compressed Eye Liner (Int. Cl. 3).
First use Feb. 26, 1968.

SN 333,519. Avon Products, Inc., New York, N.Y. Filed July 25, 1969.

EYE WANT

Applicant disclaims the word "Eye" apart from the mark as shown.
For Eyeshadow, Mascara, and Cake Eyeliner (Int. Cl. 3).
First use May 21, 1969.

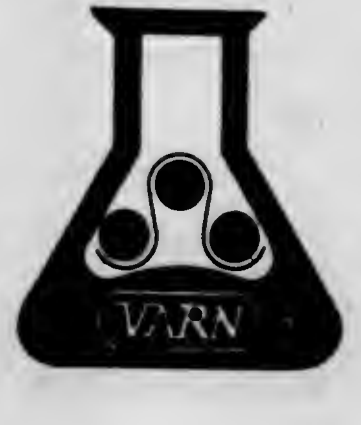
SN 334,174. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Aug. 1, 1969.

FIRMESSCENCE

For Face Cream (Int. Cl. 3).
First use July 16, 1969.

Class 52 — Detergents and Soaps

SN 287,973. Varn Products Company, Inc., Flushing, N.Y. Filed Jan. 2, 1968.



For Printing and Pressroom Supplies—Namely, Washes, Solvents, Detergents, Cleaning Compounds for Cleaning Printing Plates, Rollers and Presses (Int. Cl. 3).
First use Jan. 1, 1961.

SN 321,508. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Mar. 12, 1969.

THUNDERSUDS

For Industrial Detergent for Cleaning Fabrics (Int. Cl. 3).
First use Feb. 4, 1969.

SN 322,611. Owen Laboratories, Inc., Dallas, Tex. Filed Mar. 24, 1969.

MEDI-SOLV

For Hair Shampoo for Use on Oily Scalps (Int. Cl. 3).
First use Sept. 12, 1967.

SN 322,898. National Service Industries, Inc., d.b.a. Zep Manufacturing Company, Atlanta, Ga. Filed Mar. 26, 1969.

ZIP

Owner of Reg. Nos. 696,197, 707,356, and others.
For Hand Soaps and Surface Cleaners for Floor Coverings, Pots, Pans, and General Use (Int. Cl. 3).
First use July 17, 1916, on hand soap.

SN 326,754. The Drackett Company, Cincinnati, Ohio. Filed May 8, 1969.

ROD & ROAD

For Solvent-Type Engine Cleaner (Int. Cl. 3).
First use Mar. 12, 1969.

SN 326,755. The Drackett Company, Cincinnati, Ohio. Filed May 8, 1969.

TRACK

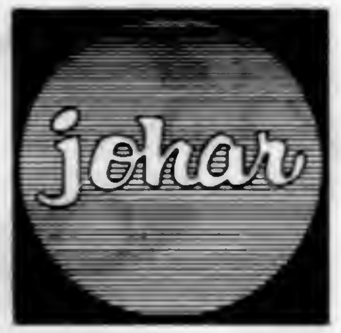
For Solvent-Type Engine Cleaner (Int. Cl. 3).
First use Mar. 12, 1969.

SN 327,154. Lanewood Laboratories, Inc., Framingham, Mass. Filed May 13, 1969.

NURSERY GUARD

The word "Nursery" is disclaimed apart from the mark as shown.
For Aerosol Disinfectant Cleaner for Use in the Nursery (Int. Cl. 3).
First use May 6, 1969.

SN 331,387. Johar Enterprises, Inc., Allentown, Pa. Filed June 30, 1969.



The drawing is lined for the color blue. Owner of Reg. No. 777,149.
For Industrial Detergents (Int. Cl. 3).
First use January 1969.

SN 334,296. Bestline Products Inc., San Jose, Calif. Filed Aug. 4, 1969.

B-15

For Rug Shampoo (Int. Cl. 3).
First use Aug. 1, 1966.

SN 337,775. Calgon Corporation, Pittsburgh, Pa. Filed Sept. 12, 1969.

SWIM

For Powdered Bathing Soap for Children (Int. Cl. 3).
First use Feb. 27, 1961.

SN 340,746. Texas Pharmacal Company, San Antonio, Tex. Filed Oct. 15, 1969.

POLYBRADE

For Abradant Acne Cleanser (Int. Cl. 3).
First use Oct. 2, 1969.

SN 343,470. Knomark Inc., Jamaica, N.Y. Filed Nov. 14, 1969.

SAFETY PLUS

For Drain Cleaner (Int. Cl. 3).
First use Oct. 14, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 293,353. CER Geonuclear Corporation, Las Vegas, Nev. Filed Mar. 15, 1968.

CER

For Research, Consultation and Operational Fielding Services in the Area of Promoting, Developing and Conducting Peaceful Uses of Nuclear Explosives (Int. Cl. 42).
First use July 5, 1966.

SN 299,190. All-Pro Chicken, Inc., Pittsburgh, Pa. Filed May 28, 1968.

ALL-PRO CHICKEN

Applicant disclaims exclusive use of the word "Chicken" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use at least as early as May 17, 1968.

SN 310,817. Bambino's Incorporated, Beltsville, Md. Filed Oct. 30, 1968.

BAMBINO'S

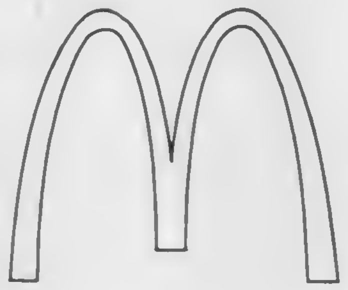
For Restaurant and Carry-Out Restaurant Services (Int. Cl. 42).
First use May 2, 1968.

SN 310,818. Bambino's Incorporated, Beltsville, Md. Filed Oct. 30, 1968.

THE PIZZA PEOPLE

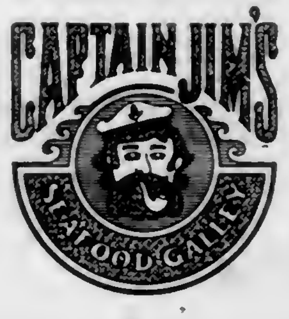
Applicant disclaims the word "Pizza" apart from the mark as a whole.
For Restaurant and Carry-Out Restaurant Services (Int. Cl. 42).
First use May 2, 1968.

SN 312,480. McDonald's Corporation, Chicago, Ill. Filed Nov. 18, 1968.



For Restaurant Services (Int. Cl. 42).
First use Oct. 21, 1968.

SN 314,932. Buffalo Bill's Wild West, Inc., and Kulan Enterprises, Inc. (joint owners), Los Angeles, Calif. Filed Dec. 20, 1968.



The drawing is lined for the colors blue and orange. The portrait identifies a fictitious individual. The word "Seafood" is disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Oct. 9, 1968.

SN 315,476. Dip'n Sip Donuts of America, Inc., Roslindale, Mass. Filed Dec. 31, 1968.

DIP'N SIP

For Restaurant Services (Int. Cl. 42).
First use Jan. 6, 1966.

SN 316,172. American Freedom From Hunger Foundation, Inc., Washington, D.C. Filed Jan. 9, 1969.

A WALK FOR DEVELOPMENT

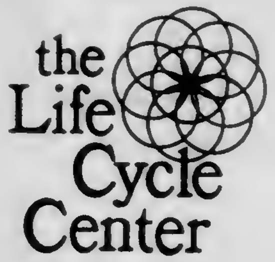
For Association Services—Namely, Promoting Research To Alleviate Hunger (Int. Cl. 42).
First use Aug. 9, 1968.

SN 317,868. The Paradise Gardens Apartments, Scottsdale, Ariz. Filed Jan. 29, 1969.

PARADISE GARDENS

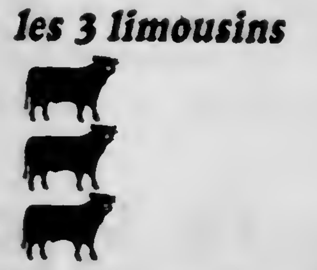
For Providing Residence Apartments (Int. Cl. 42).
First use on or before Dec. 29, 1967.

SN 319,059. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 13, 1969.



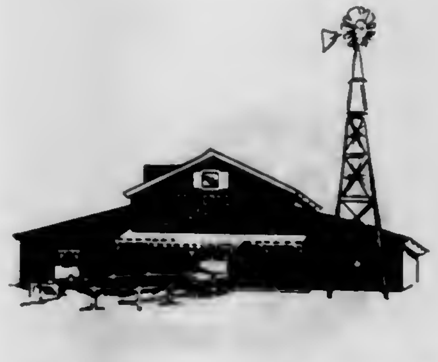
For Educational Information Service Which Disseminates Information Dealing With Feminine Hygiene (Int. Cl. 42).
First use Jan. 8, 1968.

SN 320,064. Les Trois Limousins, Paris, France. Filed Feb. 25, 1969.



Priority claimed under Sec. 44(d) on French Reg. No. 754,772, dated Dec. 6, 1968. The English translation of the French words "Les 3 Limousins" is "the three limousines."
For Hotel and Restaurant Services (Int. Cl. 42).

SN 324,195. Hereford Barn, Inc., Charlotte, N.C. Filed Apr. 10, 1969.



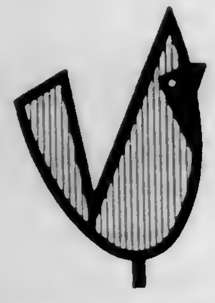
The words "Steak House" are disclaimed apart from the mark as shown, without relinquishing any rights therein under the common law.
For Restaurant Services (Int. Cl. 42).
First use on or about May 5, 1967.

SN 324,402. Cardinal Vending Company, Cleveland, Ohio. Filed Apr. 14, 1969.

CARDINAL

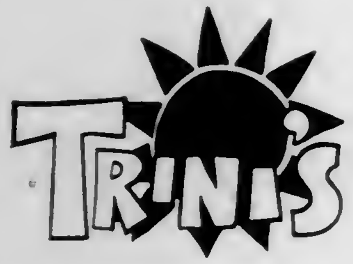
For Vending Services—Namely, the Machine Vending of Foods, Beverages, and Tobacco Products (Int. Cl. 42).
First use prior to August 1964.

SN 324,403. Cardinal Vending Company, Cleveland, Ohio. Filed Apr. 14, 1969.



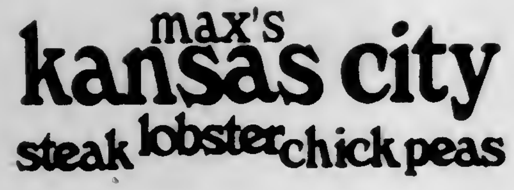
The drawing is lined for the color red.
For Vending Services—Namely, the Machine Vending of Foods, Beverages, and Tobacco Products (Int. Cl. 42).
First use prior to August 1964.

SN 324,946. Trini's Restaurants, Inc., Dallas Tex. Filed Apr. 18, 1969.



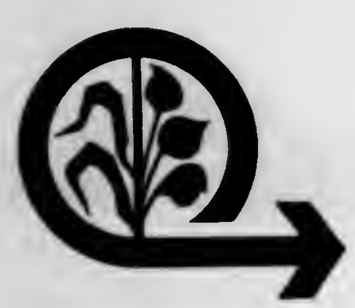
For Restaurant Services (Int. Cl. 42).
First use at least as early as October 1968.

SN 325,121. Max's Kansas City, Inc., New York, N.Y. Filed Apr. 21, 1969.



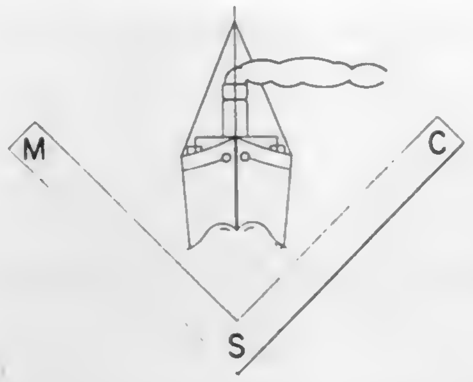
Applicant disclaims the words "Steak, Lobster, and Chick Peas" apart from the mark as a whole while reserving all common law rights therein.
For Restaurant Services (Int. Cl. 42).
First use Dec. 6, 1965.

SN 325,467. Continental Oil Company, Ponca City, Okla. Filed Apr. 24, 1969.



For Providing Agronomic and Horticultural Advice (Int. Cl. 42).
First use about Feb. 8, 1968.

SN 328,712. The Marine Square Club, Inc., Jersey City, N.J. Filed May 29, 1969.



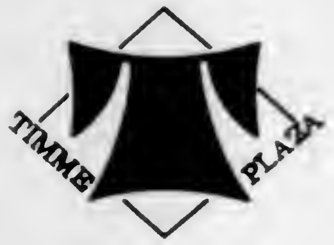
For Fraternal Association Services—Namely, for Promotion of Charitable, Benevolent, and Patriotic Services for Members and for the Community (Int. Cl. 42).
First use May 6, 1927.

SN 334,823. Elizabeth Arden Sales Corporation, d.b.a. Elizabeth Arden, New York, N.Y. Filed Aug. 8, 1969.

RED DOOR

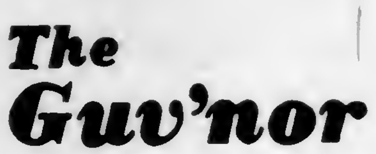
For Beauty Parlor and Beauty Counseling Services (Int. Cl. 42).
First use July 1, 1944.

SN 336,528. Timme Motor Inn Corporation, Wilmington, N.C. Filed Aug. 28, 1969.



For Motor Hotel, Hotel, Restaurant and Bar Services (Int. Cl. 42.
First use June 2, 1969.

SN 341,591. Orsip Restaurant Corporation, New York, N.Y. Filed Oct. 24, 1969.



The word "The" is disclaimed apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Aug. 4, 1969.

SN 342,593. Moran Research Labs, Inc., Cambridge, Mass. Filed Nov. 4, 1969.

BIORAN RESEARCH

For Clinical Laboratory Service To Aid in the Detection of Disease (Int. Cl. 42).
First use Oct. 1, 1968.

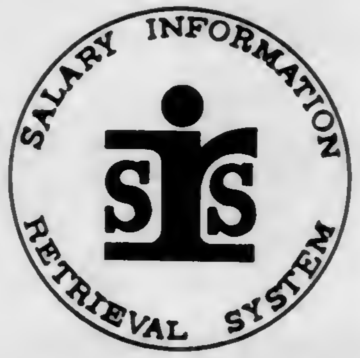
Class 101—Advertising and Business

SN 308,236. Daniel Starch & Staff, Inc., Mamaroneck, N.Y. Filed Sept. 25, 1968.

STARCH

For Researching Analyzing and Reporting on the Effect of Advertisements and Publicity of All Types for All Communications Media (Int. Cl. 35).
First use in or about 1932.

SN 313,107. Industrial Relations Counselors Service, Inc., New York, N.Y. Filed Nov. 26, 1968.



The words "Salary Information Retrieval System" are disclaimed apart from the mark as shown. The mark is a fanciful depiction of the word "Sirs." Owner of Reg. No. 863,276.
For Receiving and Recording Salary, Compensation, Job Classification, and Related Data, and Furnishing Such Data as Requested by Customers (Int. Cl. 35).
First use Aug. 20, 1967.

SN 316,598. S. Bosworth & Associates, Plainview, N.Y. Filed Jan. 15, 1969.

ACTION ACCOUNTING

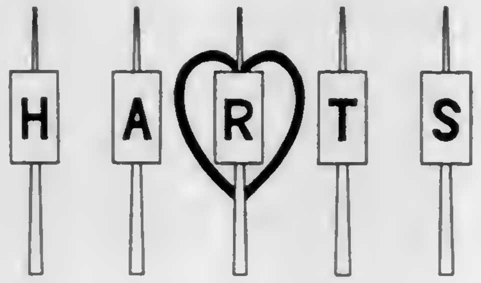
Applicant disclaims the word "Accounting" apart from the mark.
For Preparation of Financial and Related Reports Based on Computer Processed Data Supplied by the Customers (Int. Cl. 35).
First use Dec. 12, 1967.

SN 316,771. Ann G. Collier, Reseda, Calif. Filed Jan. 16, 1969.

PEOPLE UNLIMITED

For Public Relations, Marketing Research, and Marketing Planning Services (Int. Cl. 35).
First use Apr. 16, 1968.

SN 319,598. Harts Stores, Inc., Columbus, Ohio. Filed Feb. 19, 1969.



For Retail Drug and General Merchandise Store Services (Int. Cl. 35).
First use Oct. 1, 1963.

SN 323,839. J. C. Penney Company, Inc., New York, N.Y. Filed Apr. 7, 1969.

THE TREASURY

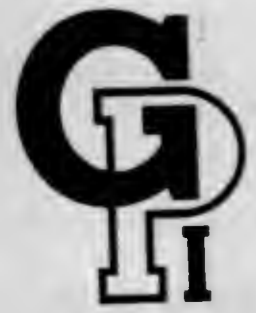
For Providing Retail Department and Food Store Services (Int. Cl. 35).
First use Mar. 5, 1969.

SN 325,391. Prince Georges Properties, Inc., Bladensburg, Md. Filed Apr. 23, 1969.

PGP

For Real Estate Brokerage Services (Int. Cl. 35).
First use Sept. 2, 1959.

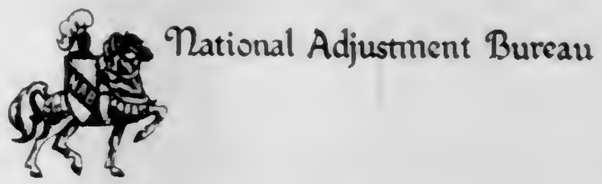
SN 333,629. General Personnel, Inc., Kendallville, Ind. Filed July 28, 1969.



For Employment Agency Services (Int. Cl. 35).
First use Dec. 28, 1968.

Class 102—Insurance and Financial

SN 288,224. National Adjustment Bureau, Inc., Dallas, Tex. Filed Jan. 5, 1968.



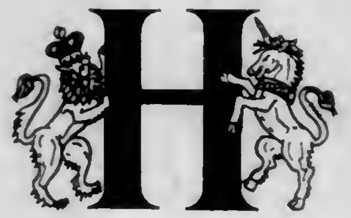
The words "Adjustment Bureau" are disclaimed apart from the mark as shown.
For Collecting Accounts for Others (Int. Cl. 36).
First use Dec. 3, 1967.

SN 310,068. Commercial State Corporation, St. Louis, Mo., assignee of Commercial State Life Insurance Company, St. Louis, Mo. Filed Oct. 21, 1968.

INSURAFUND

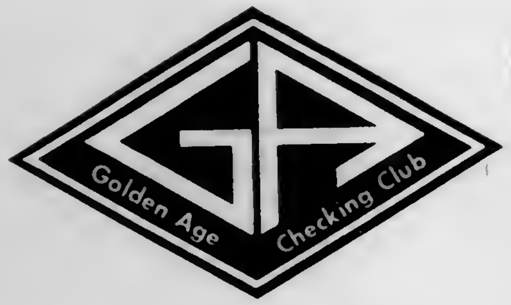
For Life Insurance Underwriting Services (Int. Cl. 36).
First use Jan. 30, 1968.

SN 323,706. Heritage Savings and Loan Association, Richmond, Va. Filed Apr. 4, 1969.



For Banking Services Including Savings Accounts and Loans (Int. Cl. 36).
First use Aug. 29, 1967.

SN 324,712. First Palmetto Bank, Palmetto, Ga. Filed Apr. 16, 1969.

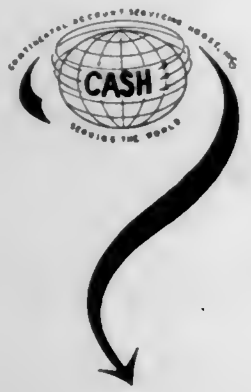


For Banking Services—Namely, Checking Services (Int. Cl. 36).
First use Feb. 28, 1969.

SN 325,742. General United Group, Incorporated, Des Moines, Iowa. Filed Apr. 28, 1969.

For Insurance Services—Namely, Accident, Health and Life Insurance (Int. Cl. 36).
First use Dec. 31, 1968.

SN 326,517. Continental Account Servicing House, Inc., Salt Lake City, Utah. Filed May 6, 1969.


CONTINENTAL ACCOUNT SERVICING HOUSE, INC.
CASH
SERVING THE WORLD

All wording in the mark with the exception of "Continental" is disclaimed apart from the mark as shown without waiving any common law rights therein.
For Account Collection Service (Int. Cl. 36).
First use Nov. 21, 1968.

SN 340,879. Cohen-Hatfield Industries, Inc., New York, N.Y. Filed Oct. 16, 1969.

YACP

For Retail Credit Services (Int. Cl. 36).
First use Aug. 1, 1969.

SN 340,987. A. J. Groesbeck Associates, Inc., Beverly Hills, Calif. Filed Oct. 17, 1969.

A. J. GROESBECK ASSOCIATES, INC.

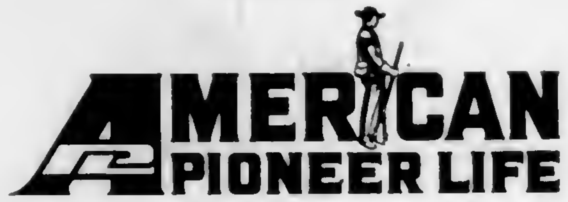
For Insurance and Financial Consultation Services (Int. Cl. 36).
First use January 1969.

SN 341,487. The College Life Insurance Company of America, Indianapolis, Ind. Filed Oct. 23, 1969.

FLEX-ELECT

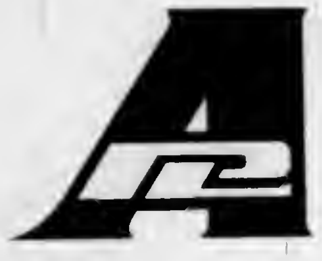
For Underwriting Life Insurance (Int. Cl. 36).
First use Sept. 2, 1969.

SN 343,622. American Pioneer Life Insurance Company, Orlando, Fla. Filed Nov. 17, 1969.



Owner of Reg. Nos. 738,407 and 740,387.
For Underwriting Life, Accident, Hospitalization and Disability Insurance Services (Int. Cl. 36).
First use Mar. 25, 1969.

SN 343,623. American Pioneer Life Insurance Company, Orlando, Fla. Filed Nov. 17, 1969.



For Underwriting Life, Accident, Hospitalization and Disability Insurance Services (Int. Cl. 36).
First use Mar. 25, 1969.

SN 344,059. Liberty Mutual Insurance Company, Boston, Mass. Filed Nov. 20, 1969.

PROTECTION IN DEPTH

For Underwriting of Insurance (Int. Cl. 36).
First use Sept. 16, 1958.

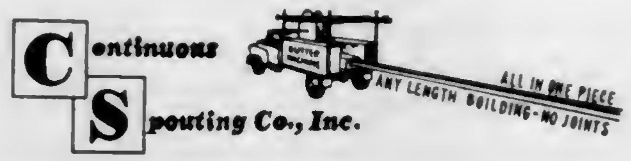
SN 344,287. Hagerstown Trust Company, Hagerstown, Md. Filed Nov. 24, 1969.

SAV-KING

For Savings Account Services (Int. Cl. 36).
First use Nov. 13, 1969.

Class 103 — Construction and Repair

SN 291,591. Continuous Spouting Co., Inc., Cincinnati, Ohio. Filed Feb. 21, 1968.



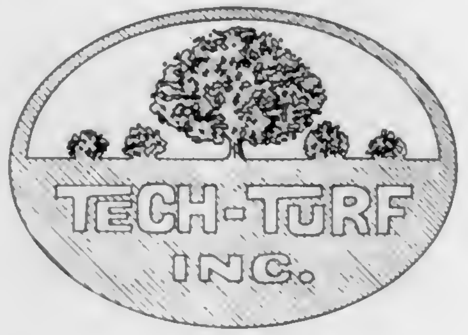
Applicant disclaims, without waiver of common law rights, any exclusive right to the word "All in One Piece Any Length Building-No Joints," apart from their use in connection with the remainder of the mark.
For Installation of Gutters, Downspouts and Elbows, Including Downspout Trenching and Tiling (Int. Cl. 37).
First use in and about June 1963.

SN 310,506. Toledo Engineering Co., Inc., Toledo, Ohio. Filed Oct. 24, 1968.

TECO

Owner of Reg. No. 528,869.
For General Contracting Services for the Glass and Allied Industries (Int. Cl. 37).
First use on or about Jan. 1, 1937.

SN 335,152. Tech-Turf, Incorporated, Maplewood, N.J. Filed Aug. 12, 1969.



The drawing is lined for the color green.
For Landscape Gardening (Int. Cl. 35).
First use on or about Feb. 15, 1966.

SN 341,595. Portable Lubrication, Inc., Minneapolis, Minn. Filed Oct. 24, 1969.

Port·a·Lube

Owner of Reg. No. 867,287.
For Vehicle Maintenance and Lubrication Services (Int. Cl. 37).
First use on or about Apr. 1, 1963.

SN 344,188. International Harvester Company, Chicago, Ill. Filed Nov. 21, 1969.

INTERNATIONAL

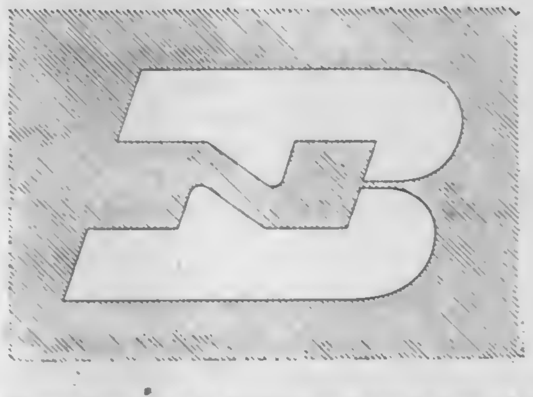
For Repairing Construction Equipment, Farm Equipment, Motor Trucks, Automobiles, Internal Combustion Engines, Turbines and Parts Thereof for All of the Foregoing (Int. Cl. 37).
First use in 1912.

SN 344,910. Traveler's Valet, Inc., Kansas City, Mo. Filed Nov. 28, 1969.

For Dry Cleaning, Laundry and Pressing Services (Int. Cl. 37).
First use in or before October 1969.

Class 105 — Transportation and Storage

SN 297,765. Chicago, Burlington & Quincy Railroad Company, Chicago, Ill. Filed May 8, 1968.



The mark consists of a fanciful representation of the letters "BN." The drawing is lined for the color green but color is not claimed as a feature of the mark.
For Railroad Transportation Services (Int. Cl. 39).
First use Apr. 24, 1968.

Class 106 — Material Treatment

SN 297,822. Bentonize Inc., Minneapolis, Minn. Filed May 10, 1968.

BENTONIZE

For Waterproofing Underground Construction (Int. Cl. 40).
First use Mar. 1, 1968.

Class 107 — Education and Entertainment

SN 291,849. The Electric Circus Company, Ltd., New York, N.Y., assignee of Electric Circus of New York, Inc., New York, N.Y. Filed Feb. 26, 1968.

ELECTRIC CIRCUS

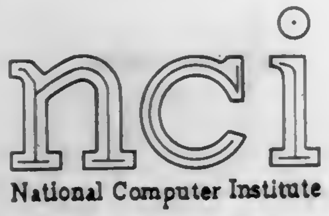
For Providing Facilities for Dancing and Musical Entertainment (Int. Cl. 41).
First use Jan. 15, 1967.

SN 323,463. Mary Moppet's Day Care Schools, Inc., Scottsdale, Ariz. Filed Apr. 2, 1969.

mary moppet's

The name "Mary Moppet's" is a fictitious name and is not now nor has been the name of any individual.
For Child Day Care and Preschool Educational Services (Int. Cl. 41).
First use Oct. 30, 1967.

SN 325,756. Information Industries, Inc., Wayne, Pa. Filed Apr. 28, 1969.



Applicant disclaims the words "National Computer Institute" apart from the mark as shown.

For Conducting Educational Classes for Teaching Computer Programming (Int. Cl. 41).

First use Jan. 30, 1968.

SN 334,282. Potomac Horse Center, Inc., Gaithersburg, Md. Filed Aug. 4, 1969.

POTOMAC HORSE CENTER

Applicant disclaims exclusive right to use of the word "Potomac" apart from the mark as shown. Owner of Reg. No. 846,838.

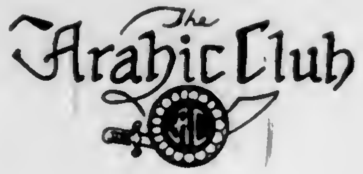
For Equestrian Educational Services—Namely, Riding Instruction (Int. Cl. 41).

First use May 1, 1962.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 329,824. The Arabic Club, Dayton, Ohio. Filed June 12, 1969.



For Indicating Membership in Applicant.
First use during December 1919.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

888,891. AQUA-REZ. Lawter Chemicals, Inc. SN 308,793. Pub. 1–20–70. Filed 10–3–68.

888,892. NYLASAR. Dart Industries Inc., by change of name from Rexall Drug and Chemical Company, d.b.a. Fiberfil. SN 321,272. Pub. 1–20–70. Filed 3–10–69.

888,893. TUFF-TURF. Albany International Corp., by change of name from Albany Felt Company. SN 326,609. Pub. 1–20–70. Filed 5–7–69.

Class 2 — Receptacles

888,894. OLDE BOSTON. Noymer Manufacturing Company. MULTIPLE CLASS (Classes 2, 8, 32, and 37). SN 281,001. Pub. 1–20–70. Filed 9–25–67.

888,895. BARNY BAGS. Barny Bags. MULTIPLE CLASS (Classes 2 and 3). SN 306,872. Pub. 1–20–70. Filed 9–9–68.

888,896. COMMANDER BOARD. Commander Board International, Inc. MULTIPLE CLASS (Classes 2, 13, and 50). SN 325,339. Pub. 1–20–70. Filed 4–23–69.

888,897. COMMANDER BOARD SELLS THE WORLD. Commander Board International, Inc. MULTIPLE CLASS (Classes 2, 13, and 50). SN 325,340. Pub. 1–20–70. Filed 4–23–69.

888,898. HEXAGONAL DESIGN. Container Corporation of America. SN 327,599. Pub. 1–20–70. Filed 5–19–69.

888,899. POLY-LITE. The Coleman Company, Inc. SN 327,858. Pub. 1–20–70. Filed 5–21–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

888,895. (See Class 2 for this trademark.)

Class 5 — Adhesives

888,900. JOY-PLANE. Turnbridges Limited. MULTIPLE CLASS (Classes 5 and 16). SN 310,372. Pub. 1–20–70. Filed 10–23–68.

Class 6 — Chemicals and Chemical Compositions

888,901. SANYO AND DESIGN. Sanyo Chemical Industries, Ltd. SN 275,342. Pub. 1–20–70. Filed 7–5–67.

888,902. OVAL BRINE BUTTONS. International Salt Company. SN 286,537. Pub. 1–20–70. Filed 12–8–67.

888,903. ICC (DESIGN). Independent Chemical Corporation. SN 289,805. Pub. 1–20–70. Filed 1–29–68.

888,904. FIREKILL. Jefferson Chemical Company, Inc. SN 303,802. Pub. 1–20–70. Filed 7–29–68.

888,905. F AND DESIGN. Etablissements Genoud & Cie. SN 304,860. Pub. 1–20–70. Filed 8–12–68.

888,906. WALCO. Baxter Laboratories, Inc. SN 307,823. Pub. 1–20–70. Filed 9–20–68.

888,907. SEA-QUEST. Martens Chemical Corp. SN 317,076. Pub. 1–20–70. Filed 1–21–69.

888,908. DRILSTAR. Paul F. Werler, d.b.a. Chemstar Products Company. SN 321,707. Pub. 1–20–70. Filed 3–13–69.

888,909. ALTIX. Dr. Ing. Max Schlotter, Fabrik fur Galvanotechnik. SN 325,291. Pub. 1–20–70. Filed 4–23–69.

Class 8 — Smokers' Articles, Not Including Tobacco Products

888,894. (See Class 2 for this trademark.)

Class 9 — Explosives, Firearms, Equipments, and Projectiles

888,910. POWER PAKT. Remington Arms Company, Inc. SN 270,083. Pub. 2–27–68. Filed 4–26–67.

888,911. MACE. General Ordnance Equipment Corporation. SN 291,549. Pub. 6–4–68. Filed 2–21–68.

888,912. JET-AXE. Explosive Technology, Inc. SN 322,156. Pub. 1–20–70. Filed 3–19–69.

Class 10 — Fertilizers

888,913. HOPINE. Otsuka Chemical Co., Ltd. SN 259,279. Pub. 1–20–70. Filed 11–23–66.

888,914. CARDINAL. Haley Excelsior, Inc. SN 333,269. Pub. 1–20–70. Filed 7–23–69.

888,915. GU–49. Martin Marietta Corporation. SN 333,418. Pub. 1–20–70. Filed 7–24–69.

Class 12 — Construction Materials

888,916. TOPAZ ELM. U.S. Plywood-Champion Papers Inc. SN 320,223. Pub. 1–20–70. Filed 2–27–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

888,896. (See Class 2 for this trademark.)

888,897. (See Class 2 for this trademark.)

888,917. ANACONDA. The Anaconda Company. MULTIPLE CLASS (Classes 13 and 35). SN 274,563. Pub. 1–20–70. Filed 6–23–67.

888,918. POWER PACK PEDESTAL AND DESIGN. Anne D. Nickola, d.b.a. Adnic Products. SN 313,433. Pub. 1–20–70. Filed 12–2–68.

888,919. POWER PACK PEDESTAL. Anne D. Nickola, d.b.a. Adnic Products. SN 313,434. Pub. 1–20–70. Filed 12–2–68.

Class 14 — Metals and Metal Castings and Forgings

888,920. DODUPHOR. Dr. Eugen Dürrwächter Doduco. SN 317,016. Pub. 1–20–70. Filed 1–21–69.

888,921. FRICTION PRODUCTS CO. AND FP DESIGN. Friction Products Co. SN 329,073. Pub. 1–20–70. Filed 6–4–69.

888,922. FRICTION PRODUCTS CO. AND FP DESIGN. Friction Products Co. SN 329,074. Pub. 1–20–70. Filed 6–4–69.

Class 15 — Oils and Greases

888,923. EL MAR. Continental Oil Company. SN 265,050. Pub. 12–12–67. Filed 2–20–67.

888,924. TOMTEN. Barnängens Tekniska Fabrikers Aktiebolag. SN 301,400. Pub. 1–20–70. Filed 6–26–68.

888,925. MC CULLOCH. McCulloch Corporation. SN 321,969. Pub. 1–20–70. Filed 3–17–69.

888,926. PTA. Pennsylvania Refining Company. SN 322,615. Pub. 1–20–70. Filed 3–24–69.

888,927. BP SUPER PLUS AND DESIGN. The British Petroleum Company Limited. SN 323,244. Pub. 1–20–70. Filed 4–1–69.

888,928. BP AND DESIGN. The British Petroleum Company Limited. SN 323,245. Pub. 1–20–70. Filed 4–1–69.

888,929. GRIND-EZE. Anderson-Lakey Company. SN 329,214. Pub. 1–20–70. Filed 6–5–69.

Class 16 — Protective and Decorative Coatings

888,900. (See Class 5 for this trademark.)

888,930. SOREN-TONE. C. H. Tripp Finishing Company. SN 307,517. Pub. 1–20–70. Filed 9–16–68.

Class 17 — Tobacco Products

888,931. MARK VII. Philip Morris Incorporated. SN 325,666. Pub. 1–20–70. Filed 4–28–69.

888,932. WARREN COUNTY. Scott Tobacco Company. SN 326,601. Pub. 1–20–70. Filed 5–7–69.

Class 18 — Medicines and Pharmaceutical Preparations

888,933. BRIGHT EYE. W. R. Grace & Co. SN 291,736. Pub. 1–20–70. Filed 2–23–68.

888,934. POTIDE ELIXIR. Cooper Laboratories, Inc. SN 315,057. Pub. 1–20–70. Filed 12–23–68.

888,935. MERVAN. Continental Pharma, Societe Anonyme. SN 316,882. Pub. 1–20–70. Filed 1–17–69.

888,936. PAPAVATRAL. Kenwood Laboratories, Inc. SN 316,900. Pub. 1–20–70. Filed 1–17–69.

888,937. LAZY H. Honeggers' & Co., Inc. SN 319,891. Pub. 1–20–70. Filed 2–24–69.

888,938. ENTEX. Baylor Laboratories, Inc. SN 320,020. Pub. 1–20–70. Filed 2–25–69.

888,939. REGNANE. Geigy Chemical Corporation. SN 320,057. Pub. 1–20–70. Filed 2–25–69.

888,940. UPSALGIN. Jean Henri Louis Bru. SN 320,824. Pub. 1–20–70. Filed 3–5–69.

888,941. DEMULEN. G. D. Searle & Co. SN 321,282. Pub. 1–20–70. Filed 3–10–69.

888,942. NEUT. Abbott Laboratories. SN 325,939. Pub. 1–20–70. Filed 4–30–69.

888,943. KOTIQUE. Kimberly - Clark Corporation. SN 330,561. Pub. 1–20–70. Filed 6–20–69.

888,944. MUL-SED. The Dow Chemical Company. SN 334,516. Pub. 1–20–70. Filed 8–6–69.

888,945. LUNOVIS. Warner-Lambert Research Institute. SN 334,949. Pub. 1–20–70. Filed 8–11–69.

888,946. F.D.C. F.D.C. Wholesale Corp. SN 335,405. Pub. 1–20–70. Filed 8–15–69.

888,947. ESTALOR–21. Eli Lilly and Company. SN 335,409. Pub. 1–20–70. Filed 8–15–69.

Class 19 — Vehicles

888,948. VACHERON. Takeyama Textile Co., Ltd. MULTIPLE CLASS (Classes 19, 32, 39, and 42). SN 288,049. Pub. 1–20–70. Filed 1–4–68.

888,949. FLORIG AND DESIGN. Florig Equipment Co., Inc. SN 303,408. Pub. 1–20–70. Filed 7–23–68.

888,950. SKAT-KAT. London Marina, Inc. SN 304,365. Pub. 1–20–70. Filed 8–5–68.

888,951. SPADE PARTS MFG. CO. AND DESIGN. Spade Parts Mfg. Co. MULTIPLE CLASS (Classes 19, 21, and 23). SN 307,051. Pub. 1–20–70. Filed 9–10–68.

888,952. GREYHOUND. The Greyhound Corporation. SN 311,131. Pub. 1–20–70. Filed 11–1–68.

888,953. . . . AND LEAVE THE DRIVING TO US. The Greyhound Corporation. SN 311,140. Pub. 1–20–70. Filed 11–1–68.

888,954. IMAGE OF RUNNING DOG. The Greyhound Corporation. SN 311,262. Pub. 1–20–70. Filed 11–4–68.

888,955. STARDUST. Schwinn Bicycle Company. SN 311,937. Pub. 1–20–70. Filed 11–12–68.

888,956. PORT·O·CRAFT AND DESIGN. Port-O-Craft Industries, Inc. SN 318,674. Pub. 1–20–70. Filed 2–7–69.

888,957. EAST COAST ETC. AND DESIGN. Cottman Rental Corporation. SN 319,142. Pub. 1–20–70. Filed 2–14–69.

888,958. CUSHION PAK. Evans Products Company. SN 320,259. Pub. 1–20–70. Filed 2–27–69.

888,959. ALOUETTE AND BIRD DESIGN. Featherweight Corporation. SN 321,056. Pub. 1–20–70. Filed 3–7–69.

888,960. GLOBESTAR. Globestar Industries, Inc. SN 321,059. Pub. 1–20–70. Filed 3–7–69.

888,961. DANDUX. C. R. Daniels, Inc. SN 321,478. Pub. 1–20–70. Filed 3–12–69.

888,962. EE (DESIGN). Ronald P. Scrima, d.b.a. Exhibition Engineering. SN 329,046. Pub. 1–20–70. Filed 6–4–69.

Class 21 — Electrical Apparatus, Machines, and Supplies

888,951. (See Class 19 for this trademark.)

888,963. WESTINGHOUSE. Westinghouse Electric Corporation. MULTIPLE CLASS (Classes 21, 23, 24, 26, and 34). SN 281,657. Pub. 1–20–70. Filed 10–3–67.

888,964. SNECMA AND DESIGN. Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, S.N.E.C.M.A. MULTIPLE CLASS (Classes 21, 23, 26, and 34). SN 289,216. Pub. 1–20–70. Filed 1–19–68.

888,965. "MINI-VAC." General Floorcraft, Inc. SN 296,956. Pub. 2–11–69. Filed 4–30–68.

888,966. HAPPY HORSE AND DESIGN. Gardner Manufacturing Company, d.b.a. Speed Clean Division of Gardner Mfg. Co. SN 302,931. Pub. 1–20–70. Filed 7–17–68.

888,967. MEW AND DESIGN. Meidensha Electric Mfg. Co., Ltd. SN 304,698. Pub. 1–20–70. Filed 8–8–68.

888,968. COLOR-SONICS. Color-Sonics Inc. SN 309,545. Pub. 1–20–70. Filed 10–14–68.

888,969. GRILLO. Societa Italiana Telecomunicazioni Siemens S.p.A. SN 311,699. Pub. 1–20–70. Filed 11–8–68.

888,970. NIMFAN. EG & G, Inc. SN 314,305. Pub. 1–20–70. Filed 12–12–68.

888,971. MIR-RADIO. Premium Corporation of America, Inc. SN 314,882. Pub. 1–20–70. Filed 12–19–68.

888,972. HEETSTRIP. Therm-O-Lab Corp. SN 314,925. Pub. 1–20–70. Filed 12–19–68.

888,973. SILASTIC 122. Dow Corning Corporation. SN 316,737. Pub. 1–20–70. Filed 1–16–69.

888,974. ON-GUARD. On-Guard Corporation of America. MULTIPLE CLASS (Classes 21 and 25). SN 319,104. Pub. 1–20–70. Filed 2–14–69.

888,975. T-SCREEN. Superior Continental Corporation. SN 319,738. Pub. 1–20–70. Filed 2–20–69.

888,976. WHIRLPOOL AND DESIGN. Whirlpool Corporation. MULTIPLE CLASS (Classes 21, 24, 31, 34, and 52). SN 319,998. Pub. 1–20–70. Filed 2–25–69.

888,977. UNI-WELD AND DESIGN. Endicott Coil Company, Inc. SN 320,466. Pub. 1–20–70. Filed 3–3–69.

888,978. TELETRAN. Lanier Electronic Laboratory, Inc. SN 321,815. Pub. 1–20–70. Filed 2–27–69.

888,979. NYT-CHIP. Nytronics, Inc. SN 327,091. Pub. 1–20–70. Filed 5–12–69.

888,980. MISCELLANEOUS DESIGN. E. Mollik & Sons. SN 328,066. Pub. 1–20–70. Filed 5–22–69.

Class 22 — Games, Toys, and Sporting Goods

888,981. 19TH HOLE. Brandell Products Corporation. MULTIPLE CLASS (Classes 22 and 50). SN 294,163. Pub. 1–20–70. Filed 3–26–68.

888,982. SOFT SHELL STRUCTURE. Taiyo Kogyo Co., Ltd. SN 295,860. Pub. 1–20–70. Filed 4–17–68.

888,983. INTERALP AND DESIGN. Robert Charles Maillot. SN 302,793. Pub. 1–20–70. Filed 6–27–68.

888,984. FLIKORE. Robert E. Harmond. SN 307,205. Pub. 1–20–70. Filed 9–12–68.

888,985. NUMERAMA. Wasik Enterprises, Inc. SN 307,368. Pub. 1–20–70. Filed 9–13–68.

888,986. THE PHRASEMAKER. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co. SN 307,871. Pub. 1–20–70. Filed 9–20–68.

888,987. IN OTHER WORDS. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co. SN 307,873. Pub. 1–20–70. Filed 9–20–68.

888,988. PSYCHOLOGIST. The Game Company. SN 308,692. Pub. 1–20–70. Filed 10–2–68.

888,989. PSYCHIATRIST. The Game Company. SN 308,697. Pub. 1–20–70. Filed 10–2–68.

888,990. FLIPPER GRIPPER. Frederick B. Haskell and Samuel K. Haskell (joint venture). SN 310,230. Pub. 1–20–70. Filed 10–22–68.

888,991. POWER-STRIDE. Harmon Killebrew Enterprises, Inc. SN 311,496. Pub. 1–20–70. Filed 11–6–68.

888,992. ICE DELIGHT MAKER. De Luxe Topper Corporation. SN 314,778. Pub. 1–20–70. Filed 12–18–68.

888,993. JOHNNY SPEEDMOBILE X–1. De Luxe Topper Corporation. SN 315,392. Pub. 1–20–70. Filed 12–30–68.

888,994. "BILLY BILLABONG" BEAR! The Estes Industries, Inc. SN 316,298. Pub. 1–20–70. Filed 1–10–69.

888,995. BLUEGILL AND DESIGN. Bluegill Tackle Manufacturing Company. SN 318,391. Pub. 1–20–70. Filed 2–5–69.

888,996. SWINGIN' GYM. G. Carlton Watkins. SN 318,721. Pub. 1–20–70. Filed 2–10–69.

888,997. MRDYNAMO. Johnnie Johnson, Inc. SN 318,862. Pub. 1–20–70. Filed 2–3–69.

888,998. POGO PONY. Moulded Products, Inc. SN 321,127. Pub. 1–20–70. Filed 3–10–69.

888,999. TEMPEST. Raybestos-Manhattan, Inc. SN 325,220. Pub. 1–20–70. Filed 4–22–69.

889,000. SEXYMETER AND DESIGN. Pennsylvania Electronics Technology, Incorporated. SN 326,020. Pub. 1–20–70. Filed 4–30–69.

889,001. SWIM WHIZZ. Homer LeBlanc, Inc. SN 326,108. Pub. 1–20–70. Filed 5–1–69.

889,002. UNI-ROD. True Temper Corporation. SN 326,265. Pub. 1–20–70. Filed 5–2–69.

889,003. TALKA FUN PHONE. Mattel, Inc. SN 326,305. Pub. 1–20–70. Filed 5–5–69.

889,004. HUNCHO. Cordell Tackle, Inc. SN 326,518. Pub. 1–20–70. Filed 5–6–69.

889,005. HOT WHEELS ETC. AND DESIGN. Mattel, Inc. SN 326,955. Pub. 1–20–70. Filed 5–12–69.

889,006. MEBETOYS. Mattel, Inc. SN 327,457. Pub. 1–20–70. Filed 5–16–69.

889,007. AW AUTO WORLD AND DESIGN. Auto World, Incorporated. SN 328,929. Pub. 1–20–70. Filed 6–3–69.

889,008. STRING-ACROSS. Dennison Manufacturing Company. SN 332,579. Pub. 1–20–70. Filed 7–15–69.

889,009. WOOLY BOOLY. Mattel, Inc. SN 334,780. Pub. 1–20–70. Filed 8–8–69.

889,010. LORI 'N RORI. Mattel, Inc. SN 334,781. Pub. 1–20–70. Filed 8–8–69.

889,011. TEA PARTY KIDDLES. Mattel, Inc. SN 334,782. Pub. 1–20–70. Filed 8–8–69.

889,012. SUDSIE. Mattel, Inc. SN 334,783. Pub. 1–20–70. Filed 8–8–69.

889,013. TOTTER TEETER. Mattel, Inc. SN 334,785. Pub. 1–20–70. Filed 8–8–69.

889,014. MOONLIGHTER. Wham-O Mfg. Co. SN 334,951. Pub. 1–20–70. Filed 8–11–69.

889,015. BUGABOUT. Mattel, Inc. SN 335,107. Pub. 1–20–70. Filed 8–12–69.

889,016. MONGOOSE. Mattel, Inc. SN 335,109. Pub. 1–20–70. Filed 8–12–69.

889,017. SCOTT. Mattel, Inc. SN 335,110. Pub. 1–20–70. Filed 8–12–69.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

888,951. (See Class 19 for this trademark.)

888,963. (See Class 21 for this trademark.)

888,964. (See Class 21 for this trademark.)

889,018. PENN. J. W. Frost. SN 297,553. Pub. 1–20–70. Filed 5–7–68.

889,019. MI-CON. Mi-Con, Inc. SN 302,338. Pub. 1–20–70. Filed 7–9–68.

889,020. DURALIFE. The USMP Co., Inc. SN 306,285. Pub. 1–20–70. Filed 8–29–68.

889,021. MISCELLANEOUS DESIGN. Trepel K.G. Maschinenfabrik. SN 307,880. Pub. 1–20–70. Filed 9–20–68.

889,022. G & P MACHINERY AND DESIGN. Grinding & Polishing Machinery Corp. SN 311,145. Pub. 1–20–70. Filed 11–1–68.

889,023. HOPLAB AND H DESIGN. Hoplab Inc. MULTIPLE CLASS (Classes 23 and 44). SN 311,984. Pub. 1–20–70. Filed 11–13–68.

889,024. TRANSI - SCREENER. The Thornberg Co. SN 315,119. Pub. 1–20–70. Filed 12–23–68.

889,025. T AND DESIGN. Tensiometers, Inc. SN 315,185. Pub. 1–20–70. Filed 12–26–68.

889,026. DETOMASO. Detomaso Automobili S.p.A. SN 315,473. Pub. 1–20–70. Filed 12–31–68.

889,027. ROSETTE. Rose Forgrove Limited. SN 319,507. Pub. 1–20–70. Filed 2–18–69.

889,028. CRYPLEX. Cryplex Industries Inc. SN 321,779. Pub. 1–20–70. Filed 3–14–69.

889,029. OMEGA. Twin Disc, Incorporated. SN 323,487. Pub. 1–20–70. Filed 4–2–69.

889,030. BAN-O-BUG. Double M & J, Inc., d.b.a. Ban-O-Bug. SN 323,687. Pub. 1–20–70. Filed 4–4–69.

889,031. MODULAR. Faustel, Inc. SN 323,808. Pub. 1–20–70. Filed 4–7–69.

889,032. TABIT AND DESIGN. Pinnacle Products Corporation. SN 324,489. Pub. 1–20–70. Filed 4–14–69.

889,033. KARAMITE. Kaman Corporation. SN 325,663. Pub. 1–20–70. Filed 4–28–69.

889,034. METSIL. Hastings & Co., Inc. SN 326,095. Pub. 1–20–70. Filed 5–1–69.

889,035. CHEVRON AND DESIGN. Standard Oil Company of California. SN 329,530. Pub. 1–20–70. Filed 6–9–69.

889,036. VNS. Merriman, Inc. SN 329,941. Pub. 1–20–70. Filed 6–13–69.

889,037. THREDFLOER. Balax, Inc. SN 329,955. Pub. 1–20–70. Filed 6–13–69.

Class 24 — Laundry Appliances and Machines

888,963. (See Class 21 for this trademark.)

888,976. (See Class 21 for this trademark.)

889,038. VERSATRONIC. General Electric Company. SN 319,046. Pub. 1–20–70. Filed 2–13–69.

Class 25 — Locks and Safes

888,974. (See Class 21 for this trademark.)

889,039. SPARVEL. Sparvel Products Co., Inc. SN 336,750. Pub. 1–20–70. Filed 9–2–69.

Class 26 — Measuring and Scientific Appliances

888,963. (See Class 21 for this trademark.)

888,964. (See Class 21 for this trademark.)

889,040. ROYFAX 1700. Litton Business Systems, Inc. SN 290,394. Pub. 1–20–70. Filed 2–6–68.

889,041. SPACE OPTIC. Societe Francaise d'Optique et de Mecanique S.F.O.M. SN 295,277. Pub. 1–20–70. Filed 4–10–68.

889,042. BELTRAC. Knox, Inc., by merger from Applied Engineering Corp. SN 305,621. Pub. 1–20–70. Filed 8–21–68.

889,043. MACBETH. Macbeth Corporation. SN 308,387. Pub. 1–20–70. Filed 9–27–68.

889,044. SAIBOL–8. Sombers Associates, Incorporated. SN 309,489. Pub. 1–20–70. Filed 10–11–68.

889,045. FOCOTAR. Ernst Leitz, G.m.b.H. SN 309,671. Pub. 1–20–70. Filed 10–15–68.

889,046. INTER CHANGER. Micro-Magnetic Industries, Inc. SN 310,345. Pub. 1–20–70. Filed 10–23–68.

889,047. MEMORY RING. Blue M Electric Company. SN 320,023. Pub. 1–20–70. Filed 2–25–69.

889,048. "TESTATION." The Barlow Corp. SN 325,704. Pub. 1–20–70. Filed 4–28–69.

889,049. AMES. B. C. Ames Co. SN 330,045. Pub. 1–20–70. Filed 6–16–69.

889,050. KEYTRAN. Systems Engineering Laboratories, Incorporated. SN 335,647. Pub. 1–13–70. Filed 8–19–69.

Class 27 — Horological Instruments

889,051. MAJORICA. Industria Espanola de Perlas Imitacion, S.A. SN 261,928. Pub. 1–20–70. Filed 1–4–67.

889,052. OMEGA TIME RECORDER. Omega Louis Brandt et Frere S.A. SN 297,433. Pub. 1–20–70. Filed 5–6–68.

889,053. DOUBLE-DATER. Jean R. Graef, Inc. SN 329,077. Pub. 1–20–70. Filed 6–4–69.

Class 28 — Jewelry and Precious-Metal Ware

889,054. TEMPTRESS. Textron Inc. SN 331,446. Pub. 1–20–70. Filed 6–30–69.

889,055. SENTRY. Baldwin Bracelet Corporation. SN 334,582. Pub. 1–20–70. Filed 5–9–69.

889,056. EL CID. El Cid Ring Co. SN 334,668. Pub. 1–20–70. Filed 8–7–69.

Class 29 — Brooms, Brushes, and Dusters

889,057. PERMA-TUFF. Jacko Corporation. SN 311,492. Pub. 1–20–70. Filed 11–6–68.

889,058. E-Z WIND AND DESIGN. C & P Plastics, Inc. SN 322,552. Pub. 1–20–70. Filed 3–24–69.

Class 30 — Crockery, Earthenware, and Porcelain

889,059. DESERT ROSE. Interpace Corporation. SN 309,175. Pub. 1–20–70. Filed 10–8–68.

889,060. MISCELLANEOUS DESIGN. Verreries L. Warin Rapeaud & Cie. SN 321,847. Pub. 1–20–70. Filed 3–14–69.

Class 31 — Filters and Refrigerators

888,976. (See Class 21 for this trademark.)

889,061. RECON + PLUS. Foster Refrigerator Corporation. SN 301,057. Pub. 1–20–70. Filed 6–21–68.

889,062. FLOMATICS. Crane Co. SN 309,666. Pub. 1–20–70. Filed 10–15–68.

889,063. DISPLAY MASTER. Walter Kidde & Company, Inc. SN 322,111. Pub. 1–20–70. Filed 3–18–69.

Class 32 — Furniture and Upholstery

888,894. (See Class 2 for this trademark.)

888,948. (See Class 19 for this trademark.)

889,064. SPACE-SAVER BLICKMAN AND DESIGN. S. Blickman, Inc. SN 308,675. Pub. 1–20–70. Filed 10–2–68.

889,065. OVAL–X. Display Workshop, Incorporated. SN 325,525. Pub. 1–20–70. Filed 4–24–69.

Class 33 — Glassware

889,066. FRANCISCAN. Interpace Corporation. SN 326,881. Pub. 1–20–70. Filed 5–9–69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

888,963. (See Class 21 for this trademark.)

888,964. (See Class 21 for this trademark.)

888,976. (See Class 21 for this trademark.)

889,067. AIRWAYS. Sukup Manufacturing Company. SN 307,359. Pub. 1–20–70. Filed 9–13–68.

889,068. AMANA. Amana Refrigeration, Inc. SN 309,216. Pub. 1–20–70. Filed 10–9–68.

889,069. E & J. Air Reduction Company, Incorporated. SN 312,533. Pub. 1–20–70. Filed 11–15–68.

889,070. JEFFREY. Jeffrey Gallon, Inc. SN 314,084. Pub. 1–20–70. Filed 12–10–68.

889,071. AMERICAN-WARMING MR. EXCEL AND DESIGN. The American Warming & Ventilating, Inc. SN 317,521. Pub. 1–20–70. Filed 1–27–69.

889,072. WINTER KING. Don R. Mattingly, d.b.a. Engineering Products. SN 318,662. Pub. 1–20–70. Filed 2–7–69.

889,073. KLEER-KLEEN. Climate Manufacturing Co., Inc. SN 320,126. Pub. 1–20–70. Filed 2–26–69.

889,074. CHALET. Hardwick Stove Company. SN 336,646. Pub. 1–20–70. Filed 8–29–69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

888,917. (See Class 13 for this trademark.)

889,075. PREMA GLASS. El Dorado Tire Company. SN 314,210. Pub. 1–20–70. Filed 12–11–68.

889,076. CARNEGIE. Broadway Tire & Rubber Co. SN 336,738. Pub. 1–20–70. Filed 9–2–69.

Class 36 — Musical Instruments and Supplies

889,077. MESSAGE DIRECTOR. Carolina Medical Electronics, Inc. SN 316,291. Pub. 1–20–70. Filed 1–10–69.

889,078. LUNA. Reeves Equipment Corporation. SN 329,270. Pub. 1–20–70. Filed 6–5–69.

Class 37 — Paper and Stationery

888,894. (See Class 2 for this trademark.)

889,079. HOME AND AWAY. Rudco Checks, Inc. SN 299,497. Pub. 1–20–70. Filed 5–31–68.

889,080. MAXI-PINK. Scott Paper Company. SN 304,256. Pub. 1–20–70. Filed 8–2–68.

889,081. LARKLAIN. Larklain Products, Ltd. MULTIPLE CLASS (Classes 37 and 38). SN 304,801. Pub. 1–20–70. Filed 8–9–68.

889,082. ROSOBAKE. ALD, Inc. MULTIPLE CLASS (Classes 37 and 46). SN 306,204. Pub. 1–20–70. Filed 8–29–68.

889,083. INTERNATIONAL COATED LITHO. International Paper Company. SN 309,174. Pub. 1–20–70. Filed 10–8–68.

889,084. MULTI-ANALYZER. Scientific Solutions, Inc. SN 318,833. Pub. 1–20–70. Filed 2–10–69.

889,085. AIRES. Scott Paper Company. SN 327,959. Pub. 1–20–70. Filed 5–21–69.

889,086. PARK LANE AND DESIGN. H. E. Butt Grocery Company, d.b.a. H.E.B. Food Stores. SN 328,761. Pub. 1–20–70. Filed 6–2–69.

Class 38 — Prints and Publications

889,081. (See Class 37 for this trademark.)

889,087. CP (DESIGN). Childrens Press, Inc. SN 243,543. Pub. 7–16–68. Filed 4–15–66.

889,088. FANCIFUL DESIGN. Clissold Publishing Co. SN 245,811. Pub. 7–16–68. Filed 5–17–66.

889,089. TIZ AND DESIGN. Willy Nussbaumer, d.b.a. Touristisches Institut Zürich. MULTIPLE CLASS (Classes 38, 100, 101, 105, and 107). SN 286,741. Pub. 1–20–70. Filed 12–12–67.

889,090. SPACEMATIC. Letraset U.S.A., Inc. SN 295,037. Pub. 12–17–68. Filed 4–5–68.

889,091. FOCUS MIDWEST AND DESIGN. Focus/Midwest Publishing Company, Inc. SN 310,764. Pub. 1–20–70. Filed 10–29–68.

889,092. NATIONAL SOFT-SERV AND DESIGN. Clyde A. Harbin. MULTIPLE CLASS (Classes 38, 101, and 107). SN 314,126. Pub. 1–20–70. Filed 12–11–68.

889,093. PILOTS' LOG. Pacific Northwest Sports, Inc., d.b.a. Seattle Pilots Baseball Club. SN 319,724. Pub. 1–20–70. Filed 2–20–69.

889,094. PILOTS AND DESIGN OF WINGED PILOT'S WHEEL. Pacific Northwest Sports, Inc., d.b.a. Seattle Pilots Baseball Club. SN 319,725. Pub. 1–20–70. Filed 2–20–69.

889,095. THE SCRIBNER LIBRARY AND DESIGN. Charles Scribner's Sons. SN 322,134. Pub. 1–20–70. Filed 3–19–69.

889,096. MBA ETC. AND DESIGN. Mortgage Bankers Association of America. SN 324,081. Pub. 1–20–70. Filed 4–9–69.

889,097. GALLEY VIEW AND DESIGN. Nordskog Company, Inc. SN 327,664. Pub. 1–20–70. Filed 5–19–69.

889,098. DYNAMIC INSTRUCTIONAL MODULES AND DESIGN. Applied Science Associates, Inc. SN 328,801. Pub. 1–20–70. Filed 6–2–69.

889,099. RABOS NU-MERICAL DREAM BOOK AND DESIGN. Vernon Book Sales Corp. SN 329,174. Pub. 1–20–70. Filed 6–4–69.

889,100. MISCELLANEOUS DESIGN. Western Publishing Company, Inc. SN 331,083. Pub. 1–20–70. Filed 4–26–69.

889,101. INTERNATIONAL TRADE NEWS. International Trade Club of Chicago. SN 335,171. Pub. 1–20–70. Filed 8–13–69.

Class 39 — Clothing

888,948. (See Class 19 for this trademark.)

889,102. CONVENIENCE WEAR. Angelica Corporation. SN 285,514. Pub. 4–8–69. Filed 11–24–67.

889,103. KUPP. B. Kuppenheimer & Co., Inc. SN 333,870. Pub. 1–20–70. Filed 7–30–69.

Class 40 — Fancy Goods, Furnishings, and Notions

889,104. HAPPY PATCHES. John P. Hoffman. SN 312,997. Pub. 1–20–70. Filed 11–25–68.

889,105. CREWEL AND UNUSUAL. Crewel & Unusual, Inc. SN 322,415. Pub. 1–20–70. Filed 3–21–69.

889,106. OMAR. Omar Enterprises, Inc. SN 328,069. Pub. 1–20–70. Filed 5–22–69.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

888,948. (See Class 19 for this trademark.)

889,107. CONVENIENCE WARE. Angelica Corporation. SN 285,515. Pub. 4-8-69. Filed 11-24-67.

889,108. LEISURE LAWN. Sweetwater Rug Corp. SN 303,934. Pub. 4-22-69. Filed 7-30-68.

889,109. LEISURE LEA. E. T. Barwick Industries, Inc. SN 312,102. Pub. 4-22-69. Filed 11-14-68.

889,110. CREPE DE LYS. Registered Fabrics Corp. SN 318,823. Pub. 1-20-70. Filed 2-10-69.

889,111. DANDUX AND DESIGN. C. R. Daniels, Inc. MULTIPLE CLASS (Classes 42 and 50). SN 321,476. Pub. 1-20-70. Filed 3-12-69.

889,112. TRU-PUTT. Ozite Corporation. SN 327,404. Pub. 1-20-70. Filed 5-15-69.

889,113. ACCOMPLISHMENT. Burlington Industries, Inc. SN 327,765. Pub. 1-20-70. Filed 5-20-69.

889,114. FURBACK. Kandu Chemicals, Inc. SN 327,907. Pub. 1-20-70. Filed 5-21-69.

889,115. ROUND ROBIN. Melco Textile Corporation. SN 328,434. Pub. 1-20-70. Filed 5-27-69.

889,116. EMORY. E. T. Barwick Industries, Inc. SN 334,009. Pub. 1-20-70. Filed 7-31-69.

889,117. EXCITABLE. E. T. Barwick Industries, Inc. SN 334,010. Pub. 1-20-70. Filed 7-31-69.

889,118. MOTIVA. E. T. Barwick Industries, Inc. SN 334,012. Pub. 1-20-70. Filed 7-31-69.

889,119. PACIFIC SUNSET. E. T. Barwick Industries, Inc. SN 334,013. Pub. 1-20-70. Filed 7-31-69.

889,120. QUICK WAY. E. T. Barwick Industries, Inc. SN 334,015. Pub. 1-20-70. Filed 7-31-69.

889,121. VILLAGE INN. E. T. Barwick Industries, Inc. SN 334,021. Pub. 1-20-70. Filed 7-31-69.

Class 44 — Dental, Medical, and Surgical Appliances

889,023. (See Class 23 for this trademark.)

889,122. SECRETEAR. Textron, Inc. SN 313,617. Pub. 1-20-70. Filed 12-4-68.

Class 45 — Soft Drinks and Carbonated Waters

889,123. GREAT DAY. Stuart House International Limited. SN 307,513. Pub. 1-20-70. Filed 9-16-68.

Class 46 — Foods and Ingredients of Foods

889,082. (See Class 37 for this trademark.)

889,124. TRAIL CALL. Hi-Life Packing Company. SN 256,735. Pub. 8-15-67. Filed 10-19-66.

889,125. SIGMAN'S. The Sigman Meat Company, Inc. SN 266,791. Pub. 1-20-70. Filed 3-15-67.

889,126. BUTTERMAKER'S BEST AND DESIGN. Sanna, Inc., d.b.a. Sanna Dairies, Inc. SN 290,890. Pub. 1-20-70. Filed 2-12-68.

889,127. SOMBRERO. Griffin-Holder Company, d.b.a. Ike Griffin & Holder. SN 291,743. Pub. 1-20-70. Filed 2-23-68.

889,128. CAMPECHE KING. Congeladora y Empacadora Peninsular, S.A. SN 304,589. Pub. 1-20-70. Filed 8-7-68.

889,129. MADE WITH A LITTLE BIT OF LOVE. New England Provision Co., Inc. SN 307,224. Pub. 1-20-70. Filed 9-12-68.

889,130. ENCANTOS. Mead Johnson & Company. SN 308,569. Pub. 1-20-70. Filed 10-1-68.

889,131. CARNATION. Carnation Company. SN 312,429. Pub. 1-20-70. Filed 11-18-68.

889,132. STAR DESIGN. Universal Foods Corporation. SN 315,650. Pub. 1-20-70. Filed 12-23-68.

889,133. USNACO AND MAP DESIGN. United States Baking Company, Inc. SN 318,600. Pub. 1-20-70. Filed 2-6-69.

889,134. ACROSS THE SEA. G.M. Fisheries Ltd. SN 326,366. Pub. 1-20-70. Filed 5-5-69.

889,135. GUIDO'S MRS. T'S AND DESIGN. Ateeco, Incorporated. SN 326,839. Pub. 1-20-70. Filed 5-9-69.

889,136. ROXANTHIN Hoffmann-La Roche Inc. SN 327,382. Pub. 1-20-70. Filed 5-15-69.

889,137. JAWBERRY AND BOY DESIGN. Pine Forest Co. SN 335,413. Pub. 1-20-70. Filed 8-15-69.

Class 47 — Wines

889,138. CHIANTI CLASSICO AND DESIGN. Consorzio Vino Chianti Classico. SN 301,331. COLLECTIVE MARK. Pub. 1-20-70. Filed 6-25-68.

889,139. DUC DE BORDEAUX. Roger Joanne & Cie. SN 324,509. Pub. 1-20-70. Filed 4-14-69.

889,140. POCHOLA. Pedro Domecq, S.A. SN 329,506. Pub. 1-20-70. Filed 6-9-69.

Class 48 — Malt Beverages and Liquors

889,141. OX-BOW AND DESIGN. Skaggs Drug Centers, Inc. SN 304,259. Pub. 1-20-70. Filed 8-2-68.

Class 49 — Distilled Alcoholic Liquors

889,142. ISLBRAE. Continental Distilling Corporation. SN 324,640. Pub. 1-20-70. Filed 4-16-69.

889,143. KILTWEEDIE. Continental Distilling Corporation. SN 324,641. Pub. 1-20-70. Filed 4-16-69.

889,144. DALTING. Continental Distilling Corporation. SN 325,651. Pub. 1-20-70. Filed 4-28-69.

889,145. CROWN RUSSE. Joseph E. Seagram & Sons, Inc., d.b.a. Frankfort Distilling Co. SN 329,310. Pub. 1-20-70. Filed 6-6-69.

Class 50 — Merchandise Not Otherwise Classified

888,896. (See Class 2 for this trademark.)

888,897. (See Class 2 for this trademark.)

888,981. (See Class 22 for this trademark.)

889,111. (See Class 42 for this trademark.)

889,146. PSYCHESCOPE. George Klauber Inc. SN 302,817. Pub. 1-20-70. Filed 7-16-68.

889,147. MOP TOPS. Richard S. and Arlene G. Linder (joint owners). SN 322,995. Pub. 1-20-70. Filed 3-27-69.

889,148. TEACH-O-RAMA AND DESIGN. Quality Ideas, Inc. SN 325,218. Pub. 1-20-70. Filed 4-22-69.

889,149. SCULPTA. William D. Samaras, d.b.a. Samaras Photography. SN 325,997. Pub. 1-20-70. Filed 4-30-69.

889,150. TELL AND SELL. Advertising Products, Inc. SN 326,608. Pub. 1-20-70. Filed 5-7-69.

889,151. PLASTIGUARD. Nero Manufacturing Corp. SN 334,943. Pub. 1-20-70. Filed 8-11-69.

Class 51 — Cosmetics and Toilet Preparations

889,152. HANAGASA. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 310,173. Pub. 1-20-70. Filed 10-22-68.

889,153. SUPER G VALUE! AND DESIGN. Genovese Drug Stores, Inc. SN 320,587. Pub. 1-20-70. Filed 3-3-69.

889,154. TALK-UP. Carter-Wallace, Inc. SN 321,604. Pub. 1-20-70. Filed 3-13-69.

889,155. LIQUID LOVE. Precision Merchandise Inc. SN 323,013. Pub. 1-20-70. Filed 3-27-69.

889,156. ALL-IN-ONE. Chesebrough-Pond's Inc. SN 323,757. Pub. 1-20-70. Filed 4-7-69.

889,157. EAU TENDRE. Parfums Christian Dior Societe Anonyme, d.b.a. Christian Dior. SN 324,743. Pub. 1-20-70. Filed 4-16-69.

889,158. PETALED PATH. Stanley Home Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 324,961. Pub. 1-20-70. Filed 4-21-69.

889,159. OPENING NIGHT. Parfums Lucien Lelong Corporation, d.b.a. Lucien Lelong. SN 327,046. Pub. 1-20-70. Filed 5-12-69.

889,160. DRI MAGIC. Union Carbide Corporation. SN 330,074. Pub. 1-20-70. Filed 6-16-69.

889,161. LOVE-LIDS. Menley & James Laboratories, Ltd. SN 332,071. Pub. 1-20-70. Filed 7-9-69.

889,162. INDICATION. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 332,652. Pub. 1-20-70. Filed 7-16-69.

889,163. ARCHIPELAGO. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 332,653. Pub. 1-20-70. Filed 7-16-69.

Class 52 — Detergents and Soaps

888,976. (See Class 21 for this trademark.)

889,152. (See Class 51 for this trademark.)

889,158. (See Class 51 for this trademark.)

889,162. (See Class 51 for this trademark.)

889,163. (See Class 51 for this trademark.)

889,164. PINK ARROW. Astor Products Inc. SN 295,097. Pub. 1-20-70. Filed 4-8-68.

889,165. HI-T. Practical Mfg. Co. SN 305,702. Pub. 1-20-70. Filed 8-22-68.

889,166. PYRESEPT. Dermavet Laboratories, Inc. SN 316,083. Pub. 1-20-70. Filed 1-8-69.

889,167. V-TAR. Dermavet Laboratories, Inc. SN 316,085. Pub. 1-20-70. Filed 1-8-69.

Service Marks

Class 100 — Miscellaneous

889,089. (See Class 38 for this trademark.)

889,168. TEEN TWIST. Marriott Corporation, by change of name from Marriott-Hot Shoppes, Inc. SN 216,844. Pub. 1-20-70. Filed 4-19-65.

889,169. DESIGN OF STRIPED ROOF ETC. Kentucky Fried Chicken Corporation. SN 292,792. Pub. 1-20-70. Filed 3-8-68.

889,170. TACO TICO AND DESIGN. Taco Tico, Inc. SN 294,691. Pub. 1-20-70. Filed 4-1-68.

889,171. CASEY JONES JUNCTION AND DESIGN. Casey Jones Junction, Inc. MULTIPLE CLASS (Classes 100 and 101). SN 298,421. Pub. 1-20-70. Filed 5-17-68.

889,172. PARAMETREX. Dawe's Laboratories, Inc. SN 299,653. Pub. 1-20-70. Filed 6-4-68.

889,173. SINGLE RESPONSIBILITY. The O. K. Earl Corporation. MULTIPLE CLASS (Classes 100, 101, and 103). SN 303,286. Pub. 1-20-70. Filed 7-22-68.

889,174. COMPUMART. Squires-Sanders, Inc., assignee of Computrol Systems, Inc. SN 314,703. Pub. 1-20-70. Filed 12-17-68.

889,175. H (DESIGN). Hardee's Food Systems, Inc. SN 318,305. Pub. 1-20-70. Filed 2-4-69.

889,176. ROADRUNNER AND BIRD DESIGN. Percy Lee Johnson. SN 318,505. Pub. 1-20-70. Filed 2-6-69.

889,177. DOUBLETREE INN. Doubletree Inns, Inc., assignee of Double Tree Inns, Inc. SN 319,590. Pub. 1-20-70. Filed 2-19-69.

889,178. DEVIL AND FORK (DESIGN). Rhode Island Catering Co., Inc. SN 324,506. Pub. 1-20-70. Filed 4-14-69.

889,179. PAPPY'S FISH & CHIPS AND DESIGN. United Investment Corporation. SN 325,938. Pub. 1-20-70. Filed 4-30-69.

889,180. THE SHACK AND DESIGN. The Shack, Inc. SN 326,443. Pub. 1-20-70. Filed 5-5-69.

889,181. ORANGERIE. Longchamps, Inc. SN 329,200. Pub. 1-20-70. Filed 6-5-69.

Class 101 — Advertising and Business

889,089. (See Class 38 for this trademark.)

889,092. (See Class 38 for this trademark.)

889,171. (See Class 100 for this trademark.)

889,173. (See Class 100 for this trademark.)

889,182. CHAIN-LINK (DESIGN). HCI, Inc., by change of name from Heath Consolidated Industries, Inc. SN 285,548. Pub. 1-20-70. Filed 11-24-67.

889,183. P & O AND KEY DESIGN. Parchman & Oyler Co. SN 290,747. Pub. 1-20-70. Filed 2-9-68.

889,184. HANNAH'S OLD TIME PIES AND DESIGN. Hannah's Old Time Pie Shoppes, Inc. SN 312,153. Pub. 1-20-70. Filed 11-14-68.

889,185. NATIONAL SOFT-SERV CONSULTANTS. Clyde A. Harbin. SN 314,219. Pub. 1-20-70. Filed 12-11-68.

889,186. S AND JAR DESIGN. Sizzlebord Restaurants, Inc. SN 318,140. Pub. 1-20-70. Filed 2-3-69.

889,187. TSC. Time Share Corporation. SN 319,401. Pub. 1-20-70. Filed 2-17-69.

889,188. HI-FI FO-FUM. Hi-Fi Fo-Fum, Inc. SN 321,590. Pub. 1-20-70. Filed 4-14-69.

Class 102 — Insurance and Financial

889,189. FIRST HAWAIIAN BANK. First Hawaiian Bank. SN 320,471. Pub. 1-20-70. Filed 3-3-69.

889,190. WARRIOR'S HELMET (DESIGN). First Hawaiian Bank. SN 320,472. Pub. 1-20-70. Filed 3-3-69.

Class 103 — Construction and Repair

889,173. (See Class 100 for this trademark.)

889,191. TAB INDEPENDENT SERVICE AND DESIGN. Tab Services, Inc. SN 312,822. Pub. 1-20-70. Filed 11-21-68.

889,192. ROMAN SYMPHONIC. Medallion Pool Corporation. SN 319,928. Pub. 1-20-70. Filed 2-24-69.

Class 105 — Transportation and Storage

889,089. (See Class 38 for this trademark.)

889,193. BLUE CHIP SERVICE ETC. AND DESIGN. Trans World Airlines, Inc. SN 305,257. Pub. 1-20-70. Filed 8-15-68.

Class 106 — Material Treatment

889,194. CONSUMERS PHOTO CLUB AND TELEPHONE DESIGN. Consumers Photo Service, Inc. SN 326,516. Pub. 1-20-70. Filed 5-6-69.

Class 107 — Education and Entertainment

889,089. (See Class 38 for this trademark.)

889,092. (See Class 38 for this trademark.)

889,195. GUIDELINE. M. Warren Productions, Inc. SN 318,115. Pub. 1-20-70. Filed 1-31-69.

889,196. THE FRIENDLY FARM. The Friendly Farm, Inc. SN 318,416. Pub. 1-20-70. Filed 2-5-69.

889,197. THE WHITE GLOVES AND PARTY MANNERS. White Gloves and Party Manners, Inc. SN 321,854. Pub. 1-20-70. Filed 3-14-69.

Collective Membership Marks

Class 200

889,198. Y DESIGN. National Board of Young Men's Christian Associations. SN 316,117. Pub. 1-20-70. Filed 1-8-69.

889,199. EPEC AND DESIGN. International Union of Operating Engineers. SN 317,237. Pub. 1-20-70. Filed 1-22-69.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

889,200. K & M Rubber Company, Elk Grove Village, Ill. SN 292,275. Filed P.R. 3-1-68; Am. S.R. 9-17-69.

SPIN-SEAL

For Reusable High Volume Plastic Containers for Industrial Use in Connection With the Storage and Shipment of Materials (Int. Cl. 20).
First use on or about Dec. 1, 1967.

Class 10 — Fertilizers

889,201. Northern Peat Moss Co., Ltd., Vancouver, British Columbia, Canada. SN 290,316. Filed P.R. 2-5-68; Am. S.R. 7-17-69.

MICA-PEAT

For Soil Conditioner (Int. Cl. 1).
First use Jan. 15, 1968; in commerce Jan. 15, 1968.

Class 12 — Construction Materials

889,202. Youngstown Sheet and Tube Company, Boardman, Ohio, assignee of The Youngstown Sheet and Tube Company, Youngstown, Ohio. SN 299,527. Filed P.R. 6-3-68; Am. S.R. 12-22-69.

QUIK-SEAL

For Protective Closure Strips for and in Combination With Structural Members, Which Members Are Sometimes Employed as Electrical Conduits (Int. Cl. 19).
First use as early as December 1967.

889,203. Superior Concrete Accessories, Inc., Franklin Park, Ill. SN 301,271. Filed P.R. 6-24-68; Am. S.R. 9-10-69.

Gasket-Lock

For Reglets Adapted for Embedment in Window-Forming Concrete Structures and To Retain Strips of Glazing Gaskets (Int. Cl. 19).
First use on or about June 15, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

889,204. Barth Vitamin Corp., Valley Stream, N.Y. SN 295,099. Filed P.R. 4-8-68; Am. S.R. 12-31-69.

PREVENTIVE KIT

For Combination Package of Five Food Supplements, Each Packaged Individually, Consisting Basically of the Following: Rose Hips, Brewer's Yeast Concentrate, Natural Vitamin E-Complex, Desiccated Beef Liver, and Beef Bone Meal (Int. Cl. 5).
First use September 1963.

Class 31 — Filters and Refrigerators

889,205. Thermotron Corporation, Holland, Mich. SN 299,173. Filed P.R. 5-27-68; Am. S.R. 10-15-69.

THERMO FLEXDUCT

For Insulated Ducting (Int. Cl. 17).
First use Mar. 16, 1963.

Class 32 — Furniture and Upholstery

889,206. Nation-Wide Bedding Corp., Bronx, N.Y., by change of name from Mattress Warehouse, Inc., Bronx, N.Y. SN 289,410. Filed P.R. 1-23-68; Am. S.R. 10-22-69.

FASHIONS IN BEDDING

For Mattresses (Int. Cl. 20).
First use Nov. 20, 1966.

889,207. McGraw-Hill, Inc., New York, N.Y. SN 294,522. Filed P.R. 3-29-68; Am. S.R. 12-17-69.

RECORD LIBRARY

For Cabinets for Holding Phonograph Records (Int. Cl. 20).
First use Mar. 1, 1968.

Class 38 — Prints and Publications

889,208. Borden, Inc., New York, N.Y., by change of name from The Borden Company, New York, N.Y. SN 278,083. Filed P.R. 8-11-67; Am. S.R. 12-22-69.

CROP PROFITS

For Magazine on the Use of Fertilizer Products (Int. Cl. 16).
First use Sept. 1, 1964.

889,209. Weinberg & Johnstone Publications, Los Angeles, Calif. SN 307,815. Filed P.R. 9-20-68; Am. S.R. 1-21-70.

Hospital
Dentistry

For Magazine Published From Time to Time (Int. Cl. 16).
First use at least as early as Mar. 26, 1968.

889,210. Institutional Investor Systems, Inc., New York, N.Y. SN 335,515. Filed P.R. 8-18-69; Am. S.R. 12-15-69.

BLOCK TRADER
DIRECTORY

For Directory To Be Issued Periodically (Int. Cl. 16).
First use at least as early as September 1968.

Class 39 — Clothing

889,211. Oxford Industries, Inc., Atlanta, Ga. SN 295,158. Filed P.R. 4-8-68; Am. S.R. 11-14-69.

OXFORD
SHIRTMAKERS

For Men's and Boys' Dress Shirts and Sport Shirts (Int. Cl. 25).
First use Mar. 11, 1968.

889,212. Exquisite Form Industries, Inc., New York, N.Y. SN 313,918. Filed P.R. 12-9-68; Am. S.R. 12-4-69.

CREPESOFT

For Brassieres and Girdles (Int. Cl. 25).
First use Nov. 25, 1968.

Class 40 — Fancy Goods, Furnishings, and Notions

889,213. B. B. Greenberg Co., Cranston, R.I. SN 301,939. Filed P.R. 7-3-68; Am. S.R. 5-19-69.

D'Amico

For Shoe Ornaments—Namely, Buckles, Bows and Clips (Int. Cl. 26).
First use on or about May 9, 1968.

Class 51 — Cosmetics and Toilet Preparations

889,214. Helene Curtis Industries, Inc., d.b.a. Sue Cory, Chicago, Ill. SN 281,192. Filed P.R. 9-26-67; Am. S.R. 12-18-69.

PRIVATE BLEND

For Cold Permanent Waving Lotion (Int. Cl. 3).
First use on or about Aug. 31, 1967.

889,215. Shiseido Co. Ltd., d.b.a. Shiseido, Chuo-ku, Tokyo, Japan. SN 313,979. Filed P.R. 12-9-68; Am. S.R. 1-5-70.

SHADOW PACT

For Eye Shadow (Int. Cl. 3).
First use Aug. 17, 1968; in commerce Aug. 26, 1968.

Class 52 — Detergents and Soaps

889,216. John H. Breck, Inc., Wayne, N.J. SN 305,804. Filed P.R. 8-23-68; Am. S.R. 10-29-69.

COLOR REFRESHER

For Hair Shampoo (Int. Cl. 3).
First use July 30, 1968.

TRADEMARK REGISTRATIONS RENEWED

34,806. THOMAS A. EDISON. Cl. 36 (Int. Cl. 9). 6–19–1900.
75,976. GARGOYLE. Cl. 15 (Int. Cl. 4). 11–30–09.
75,977. REPRESENTATION OF GARGOYLE. Cl. 15 (Int. Cl. 4). 11–30–09.
76,482. IDEAL. Cl. 34 (Int. Cl. 11). 1–18–10.
76,718. KEYSTONA. Cl. 16 (Int. Cl. 2). 2–8–10.
77,291. "MISSION BRAND" ETC. AND REPRESENTATION OF CARMEL MISSION. Cl. 46 (Int. Cl. 29). 3–29–10.
77,858. EYE-MO. Cl. 18 (Int. Cl. 5). 5–10–10.
264,746. BUCKEYE. Cl. 6 (Int. Cl. 3). 12–3–29.
264,836. CHARM PRINTS. Cl. 20 (Int. Cl. 27). 12–10–29.
266,082. ACES. Cl. 46 (Int. Cl. 30). 1–14–30.
267,057. LAPKIN. Cl. 42 (Int. Cl. 24). 2–11–30.
267,116. GOLDEN HILL. Cl. 46 (Int. Cls. 29, 31, and 32). 2–11–30.
267,634. "FG" ETC. AND FANCIFUL PORTRAIT. Cl. 46 (Int. Cl. 30). 2–25–30.
268,034. LAVISTA. Cl. 1 (Int. Cl. 21). 3–4–30.
268,963. BLUE BANNER. Cl. 46 (Int. Cl. 31). 3–25–30.
269,054. SALPA. Cl. 1 (Int. Cl. 18). 3–25–30.
269,308. "REVERE" AND DESIGN. Cl. 27 (Int. Cl. 14). 4–1–30.
270,578. "ALLIGATOR" AND REPRESENTATION OF ALLIGATOR. Cl. 13 (Int. Cl. 6). 5–6–30.
270,862. REPRESENTATION OF RED COLORED LATERAL EDGE OF BELT. Cl. 35 (Int. Cl. 7). 5–13–30.
270,956. CELOCREPE. Cl. 39 (Int. Cl. 25). 5–20–30.
271,012. FALCOGRAPHS. Cl. 38 (Int. Cl. 16). 5–20–30.
271,348. SIGNATURE. Cl. 46 (Int. Cls. 29 and 31). 6–3–30.
271,706. ART-CRAFT. Cl. 26 (Int. Cl. 9). 6–17–30.
443,657. FEATHERNAP. Cl. 39 (Int. Cl. 25). 6–3–50.
443,719. KLOVER. Cl. 51 (Int. Cls. 3, 4, and 5). 1–31–50.
443,843. KING EDWARD. Cl. 28 (Int. Cls. 8 and 14). 3–21–50.
514,079. UNITILT. Cl. 13 (Int. Cl. 6). 8–23–49.
516,958. SACHET BY THE YARD AND DESIGN. Cl. 51 (Int. Cl. 3). 10–25–49.
516,974. RED TOP AND DESIGN. Cl. 7 (Int. Cl. 22). 10–25–49.
517,133. HY-GEE. Cl. 46 (Int. Cl. 31). 11–1–49.
517,894. MARISOL. Cl. 51 (Int. Cl. 3). 11–22–49.
518,382. PENNSALT HFK. Cl. 12 (Int. Cl. 19). 12–6–49.
519,744. SPARKOFFEE. Cl. 45 (Int. Cl. 32). 1–10–50.
519,747. ASTERMA. Cl. 51 (Int. Cl. 3). 1–10–50.
519,888. LOAD LIMIT. Cl. 21 (Int. Cl. 9). 1–17–50.
519,955. MICHELOB. Cl. 46 (Int. Cl. 31). 1–17–50.
520,004. DURO TEST CANDELITE. Cl. 21 (Int. Cl. 9). 1–17–50.
520,039. THEA. Cl. 6 (Int. Cl. 1). 1–17–50.
520,146. DUNLOP. Cl. 22 (Int. Cl. 28). 1–24–50.
520,164. PENNSALT HF. Cl. 12 (Int. Cl. 19). 1–24–50.
520,171. GLOBE. Cl. 22 (Int. Cl. 28). 1–24–50.
520,181. FAIRFIELD. Cl. 39 (Int. Cl. 25). 1–24–50.
520,217. LABROMIX. Cl. 12 (Int. Cl. 19). 1–24–50.
520,251. MONSANTO. Cl. 5 (Int. Cl. 1). 1–24–50.
520,264. CITATION. Cl. 39 (Int. Cl. 25). 1–24–50.
520,366. PERMAFEED. Cl. 37 (Int. Cl. 16). 1–31–50.
520,385. SIERRA TRIPLEX. Cl. 21 (Int. Cl. 9). 1–31–50.
520,479. MAD. Cl. 51 (Int. Cl. 3). 1–31–50.
520,488. LORD. Cl. 40 (Int. Cl. 26). 1–31–50.
520,496. ALL TY BRAND. Cl. 7 (Int. Cl. 22). 1–31–50.
520,522. FENWICK EXCLUSIVES. Cl. 39 (Int. Cl. 25). 1–31–50.
520,675. GIBRALTOR AND DESIGN. Cl. 12 (Int. Cl. 19). 2–7–50.
520,704. STOCK-IT. Cl. 12 (Int. Cl. 19). 2–7–50.
520,717. BUFFALO. Cl. 23 (Int. Cl. 9). 2–7–50.
520,778. VULCAN AND DESIGN. Cl. 50 (Int. Cl. 8). 2–7–50.
520,784. KARO. Cl. 46 (Int. Cl. 30). 2–7–50.
520,795. VULCAN. Cl. 50 (Int. Cl. 8). 2–7–50.
520,843. CARBOPLAN. Cl. 11 (Int. Cl. 16). 2–7–50.
520,918. DON THE BEACHCOMBER. Cl. 100 (Int. Cl. 42). 2–7–50.
521,026. HUDSON RIVER. Cl. 6 (Int. Cl. 1). 2–14–50.
521,105. YOUNG. Cl. 23 (Int. Cls. 6 and 8). 2–21–50.
521,483. MADEMOISELLE CHANEL 31 RUE CAMBON. Cl. 51 (Int. Cl. 3). 2–28–50.
521,581. SCAT BACK. Cl. 22 (Int. Cl. 9). 2–28–50.
521,668. FUR-AG. Cl. 10 (Int. Cl. 1). 2–28–50.
521,755. GILBERT. Cl. 46 (Int. Cl. 30). 3–7–50.
521,887. LAND O' LACE. Cl. 39 (Int. Cls. 24 and 25). 3–7–50.
521,891. BUNTING. Cl. 23 (Int. Cl. 7). 3–7–50.
522,157. FIDELITY. Cl. 26 (Int. Cl. 9). 3–14–50.
522,200. LUSOL. Cl. 15 (Int. Cl. 4). 3–14–50.
522,206. LANGENDORF. Cl. 46 (Int. Cl. 30). 3–14–50.
522,247. TRIPLEX. Cl. 23 (Int. Cl. 7). 3–14–50.
522,249. LARCHMONT. Cl. 45 (Int. Cl. 32). 3–14–50.
522,386. AUNT JEMIMA. Cl. 46 (Int. Cl. 30). 3–14–50.
522,500. HARLEY-DAVIDSON. Cl. 28 (Int. Cl. 26). 3–21–50.
522,501. HARLEY-DAVIDSON. Cl. 15 (Int. Cl. 4). 3–21–50.
522,575. FIRE-KING. Cl. 33 (Int. Cl. 21). 3–21–50.
522,710. NO-NOX. Cl. 15 (Int. Cl. 4). 3–21–50.
522,867. FOR CHAMPS IN THREE CORNERED PANTS. Cl. 22 (Int. Cl. 28). 3–21–50.
523,167. AUNT JEMIMA AND DESIGN. Cl. 46 (Int. Cl. 30). 3–28–50.
523,426. HYDROTHERM. Cl. 34 (Int. Cl. 11). 4–4–50.
523,461. PALM AND DESIGN. Cl. 46 (Int. Cl. 30). 4–4–50.
523,597. MALE (DESIGN). Cl. 38 (Int. Cl. 16). 4–4–50.
523,616. G,E,C, PLAYED ON CHIMES. Cl. 104 (Int. Cl. 38). 4–4–50.
523,654. TIME-O-LITE. Cl. 26 (Int. Cl. 9). 4–11–50.
523,751. COOK'S DELICIOUS HOTEL COFFEE. Cl. 46 (Int. Cl. 30). 4–11–50.
523,933. SKIP-STAIN. Cl. 52 (Int. Cl. 3). 4–11–50.
523,973. OCEANSIDE AND DESIGN. Cl. 46 (Int. Cl. 29). 4–11–50.
523,976. PLANEX. Cl. 33 (Int. Cl. 14). 4–11–50.
523,977. WIZZARD. Cl. 26 (Int. Cl. 9). 4–11–50.
524,181. TOTES. Cl. 39 (Int. Cl. 25). 4–18–50.
524,464. CITATION. Cl. 27 (Int. Cl. 14). 4–25–50.
524,605. ALPHA COLOR. Cl. 37 (Int. Cl. 16). 5–2–50.
524,678. CONTINENTAL GLO DOWN. Cl. 39 (Int. Cl. 25). 5–2–50.
525,527. CINER. Cl. 28 (Int. Cl. 14). 5–23–50.
525,820. KANT LEEK. Cl. 2 (Int. Cl. 16). 5–30–50.
525,910. SUPER SERVICE. Cl. 21 (Int. Cl. 9). 6–6–50.
526,259. MAJESTY. Cl. 40 (Int. Cl. 26). 6–13–50.
526,375. ANCO. Cl. 49 (Int. Cl. 33). 6–13–50.
526,520. HENRY POLLAK INC. AND DESIGN. Cl. 39 (Int. Cl. 25). 6–20–50.
526,544. JEFFERIES. Cl. 39 (Int. Cl. 25). 6–20–50.
526,699. KRAFTWIST. Cl. 43 (Int. Cl. 23). 6–20–50.
526,700. PAN-THION. Cl. 6 (Int. Cl. 5). 6–20–50.
526,746. GERMAIN'S. Cl. 38 (Int. Cl. 16). 6–27–50.
526,753. SUPERIOR. Cl. 37 (Int. Cl. 16). 6–27–50.
526,822. MONSANTO. Cl. 1 (Int. Cl. 1). 6–27–50.
526,902. ESPRESSO. Cl. 46 (Int. Cl. 30). 6–27–50.
527,107. NIKRO–M. Cl. 14 (Int. Cl. 6). 7–4–50.
527,148. SUPERIOR. Cl. 23 (Int. Cl. 8). 7–4–50.
527,241. COUNTRY DOCTOR PIPE MIXTURE AND DESIGN. Cl. 17 (Int. Cl. 34). 7–4–50.
527,535. MYRJ. Cl. 46 (Int. Cl. 1). 7–11–50.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Feb. 18, 1964

764,863. RE-FLEX. Cl. 1.
764,865. HEXYTEN. Cl. 2.
764,872. MI-LADEE. Cl. 2.
764,875. TOP SECRET. Cl. 2.
764,876. "SQUEEZ-EM." Cl. 2.
764,880. MISCELLANEOUS DESIGN. Cl. 6.
764,881. ROSIMIDE. Cl. 6.
764,897. CRAFT-BILT. Cl. 12.
764,901. BONITA. Cl. 12.
764,903. THER-MATIC. Cl. 12.
764,904. COLORVEIN. Cl. 12.
764,905. PERFAGROOVE-WAINSCOT. Cl. 12.
764,906. CAMEO ROSEWOOD. Cl. 12.
764,907. TRITON. Cl. 12.
764,911. SEAL-DRAFT. Cl. 12.
764,921. PANELPERF. Cl. 12.
764,923. R-TWO. Cl. 12.
764,925. SLIP-LOC. Cl. 13.
764,931. NIKOMEL. Cl. 13.
764,933. RABUN. Cl. 14.
764,941. VUL-MET. Cl. 14.
764,947. PURE AND DESIGN. Cl. 15.
764,951. MCS. Cl. 16.
764,954. REZIMYCIN. Cl. 18.
764,955. CHOOBLES. Cl. 18.
764,957. REPECIDE. Cl. 18.
764,958. "G" GOLDEN-50. Cl. 18.
764,962. GO-LITE. Cl. 19.
764,963. PORTAGE. Cl. 19.
764,965. RICHTEX. Cl. 20.
764,977. BARBIE. Cls. 21 and 36.
764,979. MAGICORD. Cl. 21.
764,980. SMOOCH LAMP. Cl. 21.
764,984. SEC-RE-PHONE. Cl. 21.
764,988. PELCEL. Cl. 21.
764,991. P & S SUPER AND DESIGN. Cl. 21.
764,992. AV AND DESIGN. Cl. 21.
764,994. BABES IN TOYLAND. Cl. 22.
765,000. HYDRA-MATIC. Cl. 23.
765,008. COMET TOTE'N TOOLS AND DESIGN. Cl. 23.
765,011. MOTRIM. Cl. 23.
765,012. NORSE. Cl. 23.
765,016. RABUN. Cl. 23.
765,022. DIVIDER. Cl. 23.
765,023. LAWNMASTER. Cl. 23.
765,031. KNOT ART AND DESIGN. Cl. 23.
765,034. WE USE ZERO BLAST-N-PEEN EQUIPMENT AND DESIGN. Cl. 23.
765,037. SAF-T-MO. Cl. 23.
765,047. TOTE-M-BOARD. Cl. 24.
765,048. P AND DESIGN. Cl. 24.
765,052. CIAS ETC. AND DESIGN. Cl. 26.
765,053. COUNTER CURRENT AND CURRENT SPIRAL DESIGN. Cl. 26.
765,056. H AND DESIGN. Cl. 26.
765,061. SUPERTESTER. Cl. 26.
765,070. BC AND DESIGN. Cl. 28.
765,071. SL IN SHIELD DESIGN. Cl. 28.
765,072. VTF IN DIAMOND DESIGN. Cl. 28.
765,074. MARBULOUS. Cl. 28.
765,075. BMC. Cl. 28.
765,078. NILO AND DESIGN. Cl. 28.
765,080. GILERCO. Cl. 28.
765,085. FAIRWAY. Cl. 31.
765,086. MAGI-TAP. Cl. 31.
765,088. VIENNESE COLLECTION. Cl. 32.
765,091. RABUN. Cl. 32.
765,092. SCOTT-O-MATIC. Cl. 32.
765,095. CURATOR COLLECTION. Cl. 32.
765,096. TUNBRIDGE. Cl. 32.
765,097. THE FORUM OF FINE FURNITURE. Cl. 32.
765,100. PATHFINDER. Cl. 32.
765,101. FC AND DESIGN. Cl. 32.
765,103. PINCH PENNY. Cl. 33.
765,104. CONPACT. Cl. 34.
765,109. TUFTHANE. Cl. 35.
765,114. EXPEDITER. Cl. 36.
765,117. DESIGN OF CAMEO. Cl. 36.
765,121. KON-TACK. Cl. 37.
765,123. FP3. Cl. 37.
765,125. WEATHER MAGIC. Cl. 38.
765,126. HOST. Cl. 38.
765,129. AMERICAN BOY BOOK CLUB. Cl. 38.
765,134. BE IT EVER SO MOBILE THERE'S NO PLACE LIKE HOME. Cl. 38.
765,135. SABER. Cl. 39.
765,137. HALLDOWN. Cl. 39.
765,140. TACONIC. Cl. 39.
765,144. KATHY KING. Cl. 39.
765,148. CARRIAGE HOUSE AND DESIGN. Cl. 39.
765,153. EVER-DRY. Cl. 39.
765,158. DRESSETERIA. Cl. 39.
765,161. RODOTEX. Cl. 39.
765,162. BONANZA. Cl. 39.
765,163. LADY MC KNIGHT AND DESIGN. Cl. 39.
769,165. THE BUCKS COUNTY. Cl. 39.
765,167. N-CIRCLE. Cl. 39.
765,168. LEN STUART. Cl. 39.
765,170. CRESTMOUNT. Cl. 39.
765,173. TAKE SIDES. Cl. 39.
765,174. GROOMER. Cl. 39.
765,175. RICANO. Cl. 39.
765,177. SCULPTURA. Cl. 39.
765,178. TOPSALL. Cl. 39.
765,186. HEXYTEN. Cl. 42.
765,187. WILLA PRINT. Cl. 42.
765,188. IMPERIAL BROCADE. Cl. 42.
765,196. SQUARE IN CIRCLE DESIGN. Cl. 44.
765,197. HEXYTEN. Cl. 44.
765,198. JL AND DESIGN. Cl. 44.
765,202. TITAN. Cl. 44.
765,204. ROL-A-DYE. Cl. 44.
765,209 VIVA. Cl. 46.
765,214. GOLDEN HEART. Cl. 46.
765,216. WOOFY-NUGGETS. Cl. 46.
765,218. LEGAL. Cl. 46.
765,219. DANOLA DANISH BACON AND DESIGN. Cl. 46.
765,231. CENDU. Cl. 51.
765,236. PS PROFILE AND DESIGN. Cl. 100.
765,242. HUMANEERING. Cl. 103.
765,244. PIPE-RATER, INC. AND DESIGN. Cl. 106.
765,245. AMERICAN SOCIETY OF GIRL WATCHERS AND DESIGN. Cl. 200.
765,249. "SUPREME." Cl. 9.
765,252. GAG-BOXES. Cl. 22.
765,254. NEVER ANY SAG· SWING OR SWAY! AND DESIGN. Cl. 32.
765,256. PAPERBACK LIBRARY AND DESIGN. Cl. 38.
765,258. MONTGOMERY COUNTY SHOPPING NEWS. Cl. 38.
765,261. PUPPY PORRIDGE. Cl. 46.
765,263. SNIP-SNAX BY STREIT'S. Cl. 46.
765,264. AGEN AND DESIGN. Cl. 46.
765,272. THORO-FLUSH. Cl. 52.
765,273. BOTTLE (DESIGN). Cl. 52.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

520,010. TOPHET FOR TOP HEAT. Cl. 21. 1–17–50. Wilbur B. Driver Company, Newark, N.J. Amended: In the statement, column 2, lines 1 and 2 are deleted, and the drawing is amended to appear:

TOPHET

590,064. LAWNAIDE. Cl. 10. 5–18–54. The N. S. Koos and Son Company, Kenosha, Wis. Corrected: In the certificate, lines 4 and 15, and in the statement, column 1, line 1, before "N. S." *The* should be inserted.

643,791. BADGER. Cl. 10. 4–9–57. The N. S. Koos and Son Company, Kenosha, Wis. Corrected: In the statement, column 1, line 1, "N. S. Koos & Son Company" should be deleted and *The N. S. Koos and Son Company* should be inserted.

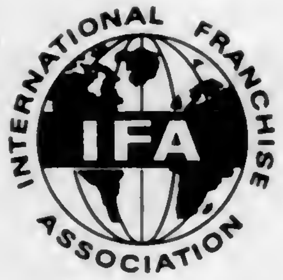
657,246. POLY-MULCH. Cl. 50. 1–14–58. Chester Packaging Products Corp. The Dow Chemical Company, Midland, Mich. Amended to appear:

POLYMULCH

782,658. SOUTHLAND. Cl. 10. 1–5–65. The N. S. Koos and Son Company, Kenosha, Wis. Corrected: In the statement, column 1, line 1, "N. S. Koos & Son Co." should be deleted and *The N. S. Koos and Son Company* should be inserted.

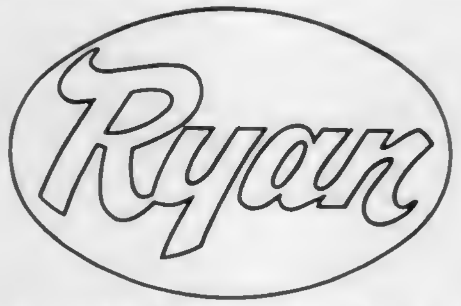
783,212. SEASONCON. Cl. 34. 1–12–65. McQuay, Inc., Minneapolis, Minn. Corrected: In the statement, column 2, line 1, "cooler" should be deleted and *cooled* should be inserted.

832,560. INTERNATIONAL FRANCHISE ASSOCIATION AND DESIGN. Cl. 38 and 200. 7–25–67. International Franchise Association, Inc., Chicago, Ill. Amended to appear:



875,529. SA AND DESIGN. Cl. 21. 8–26–69. Sanders Associates, Inc., Nashua, N.H. Corrected: In the heading, "857,529" should be deleted and *875,529* should be inserted.

878,133. RYAN. Cl. 23. 10–7–69. Ryan Equipment Co., St. Paul, Minn. Amended to appear:



884,563. HOT WHEELS AND DESIGN. Cl. 22. 1–20–70. Mattel, Inc., Hawthorne, Calif. Corrected: In the statement, column 2, line 5, "1969" both occurrences should be deleted and *1968* should be inserted.

885,122. BELGIUM'S FINER FOODS AND DESIGN. Cl. 46. 1–27–70. Belgium's Finer Food A.S.B.L., Brussels, Belgium. Corrected: In the heading, "Membership" should be deleted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

179,902. MAN CARRYING A GASKET. Cl. 35. Frederick Goetze. 2–19–24. New Cert. Sec. 7(c) to Goetzewerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany.

763,810. FERROSONIC. Cl. 21. Electro-Sonic Systems, Inc. 1–28–64. New Cert. Sec. 7(c) to Aerojet-General Corporation, El Monte, Calif.

772,362. PERTH LTD. Cl. 39. F. Jacobson & Sons, Inc., by mesne assignment and change of name from Peerless Mills Corporation. 6–30–64. New Cert. Sec. 7(c) to Gem International, Inc., Kansas City, Mo.

795,014. MISCELLANEOUS DESIGN. Cl. 12. Johns-Manville Corporation, 8–31–65. New Cert. Sec. 7(c) to Goetzewerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany.

833,481. BONUS GIFTS. Cl. 101. Rexall Drug and Chemical Company, assignee of Howard W. Wilson, doing business as Howard W. Wilson & Associates. 8–8–67. New Cert. Sec. 7(c) to Bonus Gifts Incorporated, Westport, Conn.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 4 — Abrasives and Polishing Materials

49,357. Jan. 30, 1906. The Pike Manufacturing Company, Pike, N.H., and Evansville, Vt. Pub. by Norton Company, Watervliet, N.Y.

QUEER CREEK

For Sharpening Stones, Including Oil and Water Stones, Whetstones, and Hones.

Class 5 — Adhesives

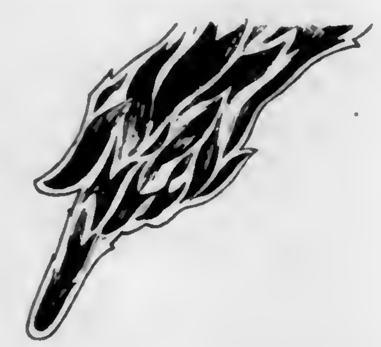
443,312. Aug. 30, 1949. Robert B. Porter, d.b.a Porter Gasket & Distributing Co., Los Angeles, Calif. Pub. by Robert B. Porter and Pauline S. Porter, d.b.a. Porter Mfg. & Supply Co., South El Monte, Calif.

GASGACINCH

For Adhesive Cement (Int. Cl. 1).

Class 18 — Medicines and Pharmaceutical Preparations

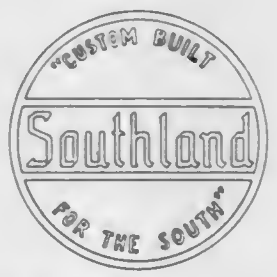
443,874. Mar. 28, 1950. The Norwich Pharmacal Company, Norwich, N.Y. Pub. by registrant.



For Medicinal and Pharmaceutical Preparations, etc. (Int. Cl. 5).

Class 21 — Electrical Apparatus, Machines, and Supplies

320,645. Jan. 1, 1935. Vitalic Battery Co., Inc., Dallas, Tex. Pub. by General Battery and Ceramic, Dallas, Tex.



For Storage Batteries.

Class 39 — Clothing

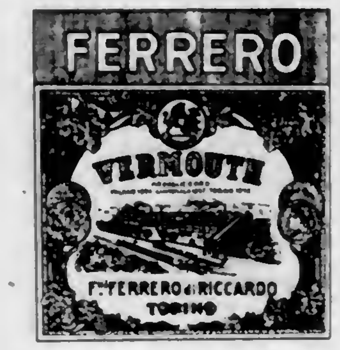
376,712. Apr. 2, 1940. S. Buchsbaum & Company, Chicago, Ill. Pub. by Cable Raincoat Co., Boston, Mass.

Elasti-Glass

For Apparel Belts.

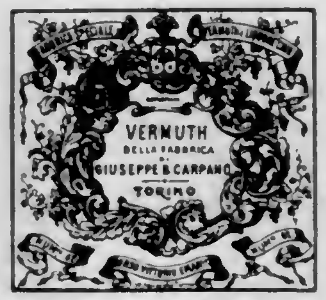
Class 47 — Wines

311,414. Mar. 20, 1934. Fratelli Ferrero di Riccardo, Turin, Italy. Pub. by N.P.T. (Nolily Prat-Torino S.p.A.), Turin, Italy.



For Vermouth.

311,923. Apr. 10, 1934. Giuseppe Bernardino Carpano, Turin, Italy. Pub. by Ditta G.B. Carpano-Antica Fabbrica di Vermouth di Turati Rag. Silvio e C.-Societa in Accomandita Semplice, Turin, Italy.



For Wines and Vermouths.

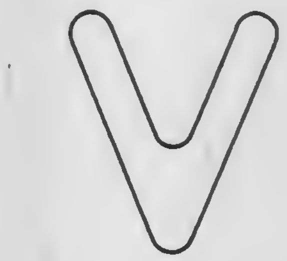
321,339. Jan. 29, 1935. Giuseppe C. Carpano, Turin, Italy. Pub. by Ditta G.B. Carpano-Antica Fabbrica di Vermouth di Turati Rag. Silvio e C-Societa in Accomandita Semplice, Turin, Italy.

PUNTeMES

For Vermouths.

Class 50 — Merchandise Not Otherwise Classified

76,332. Jan. 4, 1910. Oneida Community, Limited, Oneida, N.Y. Pub. by Woodstream Corporation, Lititz, Pa.



For Animal Traps (Int. Cl. 6).

377,713. May 14, 1940. S. Buchsbaum & Company, Chicago, Ill. Pub by Cable Raincoat Company, Boston, Mass.

Elasti-
Glass

For Leather Substitute Comprising a Flexible, Elastic, Chemically Inert Material in Sheet or Strip Form for Use in the Manufacture of Belts, Suspenders, Garters, Parachute Harness, Brief Cases, and Other Articles Usually Made of Leather.

Class 52 — Detergents and Soaps

259,322. July 30, 1929. Barnängens Tekniska Fabrikers Aktiebolag, Stockholm-Bromma, Sweden. Pub. by registrant.

VADEMECUM

For Soaps (Int. Cl. 3).

INDEX OF REGISTRANTS

APRIL 7, 1970

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

ALD, Inc., Chicago, Ill. 889,082, pub. 1–20–70. Multiple Class (Classes 37 and 46).
A.M. Knitwear Corp., Brooklyn, N.Y. 765,140, canc. Cl. 39.
Abbott Laboratories, North Chicago, Ill. 888,942, pub. 1–20–70. Cl. 18.
Advanced Chemoptic Equipment Corp., Eatontown, N.J. 764,984, canc. Cl. 21.
Advertising Products, Inc., Bay City, Mich. 889,150, pub. 1–20–70. Cl. 50.
Aerojet-General Corp. : *See*—
Electro-Sonic Systems, Inc.
Air Reduction Co., Inc., New York, N.Y. 889,069, pub. 1–20–70. Cl. 34.
Albany Felt Co. : *See*—
Albany International Corp.
Albany International Corp., from Albany Felt Co., Albany N.Y. 888,893, pub. 1–20–70. Cl. 1.
Amana Refrigeration, Inc., Amana, Iowa. 889,068, pub. 1–20–70. Cl. 34.
Amerex Trading Corp., New York, N.Y. 765,249, canc. Cl. 9.
American Bakeries Co. : *See*—
Langendorf United Bakeries, Inc.
American Can Co. : *See*—
Marathon Corp.
American Cyanamid Co., Wayne, N.J. 764,863, canc. Cl. 1.
American Hydrotherm Corp., to American Hydrotherm Corp., New York, N.Y. 523,426, ren. 4–7–70. Cl. 34.
American Machine & Foundry Co. : *See*—
Harley-Davidson Motor Co.
American Perfit Crystal Corp. : *See*—
B.B. Crystal Corp.
American Radiator Co., East Orange, N.J., to American Standard Inc., New York, N.Y. 76,482, ren. 4–7–70. Cl. 34.
American Standard Inc. :*See*—
American Raditor Co.
American Society of Girl Watchers, Inc., New York, N.Y. 765,245, canc. Cl. 200.
American Video, Inc., Compton, Calif. 764,992, canc. Cl. 21.
American Warming & Ventilating, Inc., The, Toledo, Ohio. 889,071, pub. 1–20–70. Cl. 34.
Ames, B. C., Co., Waltham, Mass. 889,049, pub. 1–20–70. Cl. 26.
Anaconda Co., The, New York, N.Y. 888,917, pub. 1–20–70. Multiple Class (Classes 13 and 35).
Anchor Hocking Glass Corp., to Anchor Hocking Corp., Lancaster, Ohio. 522,575, ren. 4–7–70. Cl. 33.
Anderson Corp., The : *See*—
Anderson Die Casting & Engineering Corp.
Anderson Die Casting & Engineering Corp., Los Angeles, Calif., to the Anderson Corp., San Juan, Puerto Rico. 514,079, ren. 4–7–70. Cl. 13.
Anderson, F. E., Oil Co., to Anderson Oil & Chemical Co., Inc. Portland, Conn. 522,200. ren. 4–7–70. Cl. 15.
Anderson Oil & Chemical Co., Inc. : *See*—
Anderson, F. E., Oil Co.
Anderson-Lakey Co., Pasco, Wash. 888,929, pub. 1–20–70. Cl. 15.
Angelica Corp., St. Louis, Mo. pub. 4–8–69. Cl. 39.
Angelica Corp., St. Louis, Mo. 889,107, pub. 4–8–69. Cl. 42.
Anheuser-Busch, Inc., St. Louis, Mo. 519,955, ren. 4–7–70. Cl. 46.
Applied Engineering Corp. : *See*—
Knox, Inc.
Applied Science Associates, Inc., Valencia, Pa. 889,098, pub. 1–20–70. Cl. 38.
Arrow-Hart & Hegeman Electric Co., The, to Arrow-Hart, Inc., Hartford, Conn. 519,888, ren. 4–7–70. Cl. 21.
Arrow-Hart, Inc. : *See*—
Arrow-Hart & Hegeman Electric Co., The.
Art-Craft Optical Co., Inc. : *See*—
Design Mfg. Co. Inc.
Astra Laboratory, Scotia, to Arturo Di Q. Cinque and Erna Meess Cinque, Scotia, N.Y. 519,747, ren. 4–7–70, Cl. 51.
Ateeco, Inc., Shenandoah, Pa. 889,135, pub. 1–20–70. Cl. 46.
Atlas Chemical Industries, Inc. : *See*—
Atlas Powder Co.
Atlas Powder Co., to Atlas Chemical Industries, Inc., Wilmington, Del. 527,535, ren. 4–7–70. Cl. 46.
Austin, Nichols & Co., Inc., Brooklyn, to Austin, Nichols & Co., Inc. 526,375, ren. 4–7–70. Cl. 49.
Auto World, Inc., Scranton, Pa. 889,007, pub. 1–20–70. Cl. 22.
Avon Products, Inc., New York, N.Y. 889,152, pub. 1–20–70. Multiple Class (Classes 51 and 52).
Avon Products, Inc., New York, N.Y. 889,162–4, pub. 1–20–70. Multiple Class (Classes 51 and 52).
B.B. Crystal Corp., to American Perfit Crystal Corp., New York, N.Y. 523,976, ren. 4–7–70. Cl. 33.
Balax, Inc., North Lake, Wis. 889,037, pub. 1–20–70. Cl. 23.
Baldwin Bracelet Corp., New York, N.Y. 889,055, pub. 1–20–70. Cl. 28.
Barlow Corp., The, Philadelphia, Pa. 889,048, pub. 1–20–70. Cl. 26.
Barnangens Tekniska Fabrikers Aktiebolag, Stockholm-Bromma, Sweden. 259,322, 12(c) pub. 4–7–70. Cl. 52.
Barnangens Tekniska Fabrikers Aktiebolag, Stockholm-Bromma, Sweden. 888,924, pub. 1–20–70. Cl. 15.
Barny Bags, Balboa Island, Calif. 888,895, pub. 1–20–70. Multiple Class (Classes 2 and 3).
Barth Vitamin Corp., Valley Stream, N.Y. 889,204. Cl. 18.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 889,109, pub. 4–22–69. Cl. 42.
Barwick, E. T., Industries, Inc., Chamblee, Ga. 889,116–21, pub. 1–20–70. Cl. 42.
Bassett Mirror Co., Inc., Bassett, Va. 765,095, canc. Cl. 32.
Baxter Laboratories, Inc., Morton Grove, Ill. 888,906, pub. 1–20–70. Cl. 6.
Baylor Laboratories, Inc., Hurst, Tex. 888,938, pub. 1–20–70. Cl. 18.
Beckley-Cardy Co. : *See*—
Costello, Weber Co.
Belgium's Finer Food A.S.B.L., Brussels, Belgium. 885,122, cor. Cl. 46.
Bengor Products, New York, N.Y. 765,252, canc. Cl. 22.
Benrus Corp. : *See*—
Flevo Watch Corp.
Beraudy Vaure & Cie, Ambert, Puy-de-Dome, France. 765,070, canc. Cl. 28.
Bergdorf & Goodman Co., New York, N.Y. 516,958, ren. 4–7–70. Cl. 51.
Berlitz Schools of Languages of America, Inc., The, New York, N.Y. 523,597, ren. 4–7–70. Cl. 38.
Binky Baby Products Co., to Eagle Druggists Supply Co., Inc., New York, N.Y. 522,867, ren. 4–7–70. Cl. 22.
Blickman, S., Inc., Weehawken, N.J. 899,064, pub. 1–20–70. Cl. 32.
Blue M Electric Co., Blue Island, Ill. 889,047, pub. 1–20–70. Cl. 26.
Bluegill Tackle Mfg. Co., Fuquay-Varina, N.C. 888,995, pub. 1–20–70. Cl. 22.
Bonus Gifts Inc. : *See*—
Rexall Drug & Chemical Co.
Borden, Inc. : *See*—
Columbus-Union Oil Cloth Co.
Borden, Inc., from The Borden Co., New York, N.Y. 889,208. Cl. 38.
Brandell Products Corp., Rosemont, Ill. 888,981, pub. 1–20–70. Multiple Class (Classes 22 and 50).
Braun, B., Melsungen, Germany. 765,196, canc. Cl. 44.
Breck, John H., Inc., Wayne, N.J. 889,216. Cl. 52.
British Petroleum Co. Ltd., The, London, England. 888,927–8, pub. 1–20–70. Cl. 15.
Broadway Tire & Rubber Co., North Hackensack, N.J. 889,076, pub. 1–20–70. Cl. 35.
Bru, Jean Henri Louis, Paris, France. 888,940, pub. 1–20–70. Cl. 18.
Butte Brass & Controls Co., Butte, Mont. 765,242, canc. Cl. 103.
Buchsbaum, S., & Co., Chicago, Ill., by Cable Raincoat Co., Boston, Mass. 376,712–13, 12(c) pub. 4–7–70. Cl. 39.
Buckeye Soda Co., The, Painesville, Ohio, to Pennsalt Corp., Philadelphia, Pa. 264,746, ren. 4–7–70. Cl. 6.
Buffalo Fire Appliance Corp., Dayton, Ohio, to Norris Industries, Inc., Los Angeles, Calif. 520,717, ren. 4–7–70. Cl. 23.
Bunting Brass & Bronze Co., The, Toledo, Ohio. 521,891, ren. 4–7–70. Cl. 23.
Burlington Industries, Inc., Norristown, Pa. 889,113, pub. 1–20–70. Cl. 42.
Butler Bros., to City Products Corp., Chicago, Ill. 526,259, ren. 4–7–70. Cl. 40.
Butt, H. E., Grocery Co., Corpus Christi, Tex. 889,086, pub. 1–20–70. Cl. 37.
C & P Plastics, Inc., Hallandale, Fla. 889,058, pub. 1–20–70. Cl. 29.
CPC International Inc. : *See*—
Corn Products Refining Co.
Cable Raincoat Co. : *See*—
Buchsbaum, S., & Co.
California Fruit Canners Association, to Del Monte Corp., San Francisco, Calif. 77,291, ren. 4–7–70. Cl. 46.
Cameo-Parkway Records, Inc., Philadelphia, Pa. 765,117, canc. Cl. 36.
Cammell Laird & Co. (Shipbuilders & Engineers) Ltd., Birkenhead, England. 764,907, canc. Cl. 12.
Carlisle Mfg. Co. Inc., Newark, N.J. 764,872, canc. Cl. 2.
Carnation Co., Los Angeles, Calif. 889,131, pub. 1–20–70. Cl. 46.
Carolina Medical Electronics, Inc., King, N.C. 889,077, pub. 1–20–70. Cl. 36.
Carter-Wallace, Inc., New York, N.Y. 889,154, pub. 1–20–70. Cl. 51.
Cascade Frozen Foods, Inc., Burlington, Wash. 765,264, canc. Cl. 46.
Cavenham Confectionery Ltd. : *See*—
Walters' Palm Toffee Ltd.
Celanese Corp. : *See*—
Celanese Corp. of America.
Celanese Corp. of America, to Celanese Corp., New York, N.Y. 270,956, ren. 4–7–70. Cl. 39.
Central Non-Food Items, Inc., Minneapolis, Minn. 765,123, canc. Cl. 37.
Champion Mfg. Co., St. Louis, Mo. 765,000, canc. Cl. 23.
Chanel, Inc., to Chanel, Inc., New York, N.Y. 521,483, ren. 4–7–70. Cl. 51.
Chesebrough Mfg. Co., Consolidated, to Chesebrough-Pond's Inc., New York, N.Y. 443,719, ren. 4–7–70. Cl. 51.

Chesebrough-Pond's Inc.: *See*—
  Chesebrough Mfg. Co., Consolidated.
Chesebrough-Pond's Inc., New York, N.Y. 889,156, pub. 1-20-70. Cl. 51.
Chester Packaging Products Corp. The Dow Chemical Co., Midland, Mich. 657,246. Am. 7(d). Cl. 50.
Childrens Press, Inc., Chicago, Ill. 889,087, pub. 7-16-68. Cl. 38.
Chittenden & Eastman Co., Burlington, Iowa. 765,254, canc. Cl. 32.
Chobanian, Albert, d.b.a. Chobanian Enterprises, Chicago, Ill. 765,047, canc. Cl. 24.
Ciner Mfg. Co., New York, N.Y. 525,527, ren. 4-7-70. Cl. 28.
Cinque, Arturo Di Q., and Erna Meess Cinque: *See*—
  Astra Laboratory.
City Products Corp.: *See*—
  Butler Bros.
Clemens, George S., Chicago, Ill. 764,979, canc. Cl. 21.
Climate Mfg. Co., Inc., Hayward, Calif. 889,073, pub. 1-20-70. Cl. 34.
Clissold Publishing Co., Chicago, Ill. 889,088, pub. 7-16-68. Cl. 38.
Cluett, Peabody & Co., Inc.: *See*—
  Schoeneman, J., Inc.
Cochran, Arnette E., d.b.a. Cendu Cosmetics Co., Detroit, Mich. 765,231, canc. Cl. 51.
Coleman Co., Inc., The, Wichita, Kans. 888,899, pub. 1-20-70. Cl. 2.
Color-Sonics Inc., Melrose, Mass. 888,968, pub. 1-20-70. Cl. 21.
Columbian Rope Co.: *See*—
  Plymouth Cordage Co.
Columbus-Union Oil Cloth Co., The, Columbus, Ohio, to Borden, Inc., New York, N.Y. 264,836, ren. 4-7-70. Cl. 20.
Comet Industries Corp., Los Angeles, Calif. 765,008, canc. Cl. 23.
Commander Board International, Inc., St. Louis, Mo. 888,896-7, pub. 1-20-70. Multiple Class (Classes 2, 13, and 50).
Computrol Systems, Inc.: *See*—
  Squires-Sanders, Inc.
Congeladora Y Empacadora Peninsular, S.A., Campeche, Mex. 889,128, pub. 1-20-70. Cl. 46.
Consorzio Vino Chianti Classico, Siena, Italy. 889,138, pub. 1-20-70. Cl. 47.
Consumers Photo Service, Inc., Stamford, Conn. 889,194, 1-20-70. Cl. 106.
Container Corp. of America, Chicago, Ill. 888,898, pub. 1-20-70. Cl. 2.
Continental Distilling Corp., Philadelphia, Pa. 889,142-4, pub. 1-20-70. Cl. 49.
Continental Mills, Inc., Philadelphia, Pa. to Gloversville-Continental Mills, Inc., Gloversville, N.Y. 524,678, ren. 4-7-70. Cl. 39.
Continental Oil Co., Ponca City, Okla. 888,923, pub. 12-12-67. Cl. 15.
Continental Pharma, Brussels, Belgium. 888,935, pub. 1-20-70. Cl. 18.
Continental Tank Co. Inc., Oklahoma City, Okla. 765,104, canc. Cl. 34.
Cook Coffee Co., The, Cleveland, to Cook United, Inc., Maple Heights, Ohio. 523,751, ren. 4-7-70. Cl. 46.
Cook United, Inc.: *See*—
  Cook Coffee Co., The.
Cooper Industries Inc.: *See*—
  Tufkin Rule Co., The.
Cooper Laboratories, Inc., Bedford Hills, N.Y. 888,934, pub. 1-20-70. Cl. 18.
Cora Sund Casparis, d.b.a. Don The Beachcomber, Hollywood, to Don The Beachcomber, Los Angeles, Calif. 520,918, ren. 4-7-70. Cl. 100.
Cordell Tackle, Inc., Hot Springs, Ark. 889,004, pub. 1-20-70. Cl. 22.
Corn Products Refining Co., New York, N.Y., to CPC International, Inc., Englewood Cliffs, N.J. 520,784, ren. 4-7-70.
Corn Products Refining Co., New York, N.Y., to CPC International, Inc., Englewood Cliffs, N.J. 521,026, ren. 4-7-70. Cl. 6.
Costello, Weber Co., Chicago Heights, to Beckley-Cardy Co., Chicago, Ill. 524,605, ren. 4-7-70. Cl. 37.
Cottman Rental Corp., Philadelphia, Pa. 888,957, pub. 1-20-70. Cl. 19.
Craft-Bilt Homes, Inc., Pampa, Tex. 764,897, canc. Cl. 12.
Craig, Carroll C., d.b.a. Fidelity Mfg. Co., Los Angeles, to Fidelity Mfg. Co., Sun Valley, Calif. 522,157, ren. 4-7-70. Cl. 26.
Crane Co., New York, N.Y. 889,062, pub. 1-20-70. Cl. 31.
Crewel & Unusual, Inc., Caledonia, N.Y. 889,105, pub. 1-20-70. Cl. 40.
Cryplex Industries, Inc., Flushing, N.Y. 889,028, pub. 1-20-70. Cl. 23.
Curtis, Helene, Industries, Inc., d.b.a. Sue Cory, Chicago, Ill. 889,214. Cl. 51.
Cushman, Wilhela, d.b.a. Willa Products Unltd., New York, N.Y. 765,187, canc. Cl. 42.
Dahlberg Co., The, Minneapolis, Minn. 765,202, canc. Cl. 44.
Dana Corp.: *See*—
  Triplex Corp. of America.
Daniels, C. R., Inc., Daniels, Md. 888,961, pub. 1-20-70. Cl. 19.
Daniels, C. R., Inc., Daniels, Md. 889,111, pub. 1-20-70. Multiple Class (Classes 42 and 50).
Dart Industries Inc., from Rexall Drug & Chemical Co., Los Angeles, Calif. 888,892, pub. 1-20-70. Cl. 1.
Dawe's Laboratories, Inc., Chicago, Ill. 889,172, pub. 1-20-70. Cl. 100.
Del Monte Corp.: *See*—
  California Fruit Canners Association.
De Loux, Jacques, Inc., Sellersville, Pa. 765,165, canc. Cl. 39.
De Luxe Topper Corp., Elizabeth, N.J. 888,992-3, pub. 1-20-70. Cl. 22.
Dennison Mfg. Co., Framingham, Mass. 889,008, pub. 1-20-70. Cl. 22.
Dermavet Laboratories, Inc., Syosset, N.Y. 889,166-7, pub. 1-20-70. Cl. 52.
Design Mfg. Co. Inc., to Art-Craft Optical Co. Inc., Rochester, N.Y. 271,706, ren. 4-7-70. Cl. 26.
Detomaso Automobili S.p.A., Modena, Italy. 889,026, pub. 1-20-70. Cl. 23.
Display Workshop, Inc., Hartford, Conn. 889,065, pub. 1-20-70. Cl. 32.
Ditta G.B. Carpeno-Antica Fabbrica di Vermouth di Turati Rae. Silvio e C.-Societa in Accomandita Semplice: *See*—
  Giuseppe Bernardino Carpano.
Dixie Lily Milling Co., Tampa, Fla. 765,214, canc. Cl. 46.
Dr. Eugen Durrwachter Doduco, Pforzheim, Germany. pub. 1-20-70. Cl. 14.
Dr. Ing. Max Schlotter, Geislingen an der Steige, Germany. 888,909, pub. 1-20-70. Cl. 6.
Domecq, Pedro, S.A., Cadiz, Spain. 889,140, pub. 1-20-70. Cl. 47.
Double M & J, Inc., d.b.a. Ban-O-Bug, Wichita, Kans. 889,030, pub. 1-20-70. Cl. 23.
Double Tree Inns, Inc.: *See*—
  Doubletree Inns, Inc.
Doubletree Inns, Inc., from Double Tree Inns, Inc., Phoenix, Ariz. pub. 1-20-70. Cl. 100.
Dow Chemical Co., The: *See*—
  Chester Packaging Products Corp.
Dow Chemical Co., The, Midland, Mich. 764,957, canc. Cl. 18.
Dow Corning Corp., Midland, Mich. 888,973, pub. 1-20-70. 70. Cl. 18.
Dow Corning Corp., Midland, Mich. 888,973, pub 1-20-70. Cl. 21.
Dresser Industries, Inc., Dallas, Tex. 765,053, canc. Cl. 26.
Dresseteria, Inc., Chicago, Ill. 765,158, canc. Cl. 39.
Driver, Wilbur B., Co., Newark, N.J. 520,010. Am. 7(d). Cl. 21.
Droz, Arthur W., Geneva, Switzerland. 765,052, canc. Cl. 26.
Duncan Products, Inc., The, Washington, Mo. 765,034, canc. Cl. 23.
Dunlop Tire & Rubber Corp., Buffalo, N.Y. 520,146, ren. 4-7-70. Cl. 22.
Dura Corp., Oak Park, Mich. 765,023, canc. Cl. 23.
Duro-Test Corp., North Bergen, N.J. 520,004, ren. 4-7-70. Cl. 21.
EG & G, Inc., Bedford, Mass. 888,970, pub. 1-20-70. Cl. 21.
Eagle Druggists Supply Co., Inc.: *See*—
  Binky Baby Products Co.
East Asiatic Co., Inc., The, Los Angeles, Calif. 765,219, canc. Cl. 46.
Eberhard Faber Inc.: *See*—
  Eberhard Faber Pencil Co.
Eberhard Faber Pencil Co., Brooklyn, N.Y., to Eberhard Faber Inc., Wilkes-Barre, Pa. 520,366, ren. 4-7-70. Cl. 37.
Edison, Thomas A., Orange, N.J., to McGraw-Edison Co., Elgin, Ill. 34,806, ren. 4-7-70. Cl. 36.
El Cid Ring Co., Jacksonville, Fla. 889,056, pub. 1-20-70. Cl. 28.
El Dorado Tire Co., Detroit, Mich. 889,075, pub. 1-20-70. Cl. 35.
Electro-Sonic Systems, Inc., to Aerojet-General Corp., El Monte, Calif. 763,810, new cert. Cl. 21.
Endicott Coil Co., Inc., Binghamton, N.Y. 888,977, pub. 1-20-70. Cl. 21.
Enterprise Mfg. Co., The, Akron, Ohio, to Shakespeare Co., Kalamazoo, Mich. 520,171, ren. 4-7-70. Cl. 22.
Esleeck Mfg. Co., Turner Falls, Mass. 526,753, ren. 4-7-70. Cl. 37.
Estes Industries, Inc., The, New York, N.Y. 888,994, pub. 1-20-70. Cl. 22.
Etablissements Genoud & Cie, Venissieux (Rhone), France. 888,905, pub. 1-20-70. Cl. 6.
Etablissements Pierre Lemonnier S.A., Mesnil, Seine et Oise, France. 765,218, canc. Cl. 46.
Evans Products Co., Plymouth, Mich. 888,958, pub. 1-20-70. Cl. 19.
Explosive Technology, Inc., Fairfield, Calif. 888,912, pub. 1-20-70. Cl. 9.
Exquisite Form Industries, Inc., New York, N.Y. 765,173, canc. Cl. 39.
Exquisite Form Industries, Inc., New York, N.Y. 889,212. Cl. 39.
F.D.C. Wholesale Corp., Miami, Fla. 888,946, pub. 1-20-70. Cl. 18.
Faustel, Inc., Butler, Wis. 889,031, pub. 1-20-70. Cl. 23.
Fay, Leslie, Inc., New York, N.Y. 765,175, canc. Cl. 39.
Featherweight Corp., Montreal, Quebec, Canada. 888,959, pub. 1-20-70. Cl. 19.
Fels & Co., Philadelphia, Pa. 765,273, canc. Cl. 52.
Ferro Novelty Co. Inc., Johnston, R.I. 765,078, canc. Cl. 28.
Ferruccio Giovannini, to Ferruccio Giovannini, Inc., Chicago, Ill. 267,634, ren. 4-7-70. Cl. 46.
Ferruccio Giovannini, Inc.: *See*—
  Ferruccio Giovannini.
Field, Henry, Seed & Nursery Co., Shenandoah, Iowa. 764,876, canc. Cl. 2.
Fieldcrest Mills, Inc., Spray, N.C. 765,188, canc. Cl. 42.
First Hawaiian Bank, Honolulu, Hawaii. 889,189-90, pub. 1-20-70. Cl. 102.
Flevo Watch Corp., Whitestone, N.Y., to Benrus Corp., Ridgefield, Conn. 524,464, ren. 4-7-70. Cl. 27.
Flexible Steel Lacing Co., Chicago, Ill. 270,578, ren. 4-7-70. Cl. 13.
Florig Equipment Co., Inc., Conshohocken, Pa. 888,949, pub. 1-20-70. Cl. 19.

Focus/Midwest Publishing Co., Inc., St. Louis, Mo. 889,091, pub. 1-20-70. Cl. 38.
Fogleman-Jefferies Corp., The, Burlington, to Renfro Hosiery Mills Co., Mount Airy, N.C. 526,544, ren. 4-7-70. Cl. 39.
Fordham Equipment Co., New York, N.Y. 765,121, canc. Cl. 37.
Forever Yours, Inc., New York, N.Y. 765,167, canc. Cl. 39.
Forgrove, Rose, Ltd., Gainsborough, England. 889,027, pub. 1-20-70. Cl. 23.
Forsberg Mfg. Co., The, Bridgeport, Conn. 765,012, canc. Cl. 23.
Foster Refrigerator Corp., Hudson, N.Y. 889,061, pub. 1-20-70. Cl. 31.
Frank, Alan, Corp., The, Pittsburgh, Pa. 765,100, canc. Cl. 32.
Fratelli, Ferrero di Riccardo, by N.P.T. (Noilly Prat-Torino S.p.A.), Turin, Italy. 311,414, 12(c) pub. 4-7-70. Cl. 47.
French Sardine Co. of California, d.b.a. French Sardine Co., Inc., to Star-Kist Foods, Inc., Terminal Island, Calif. 268,963, ren. 4-7-70. Cl. 46.
Friction Products Co., Medina, Ohio. 888,921-2, pub. 1-20-70. Cl. 14.
Friendly Farm, Inc., The, Dublin, N.H. 889,196, pub. 1-20-70. Cl. 107.
Frost, J. W., Marienville, Pa. 889,018, pub. 1-20-70. Cl. 23.
Furniture City Upholstery Co., Grand Rapids, Mich. 765,101, canc. Cl. 32.
G.M. Fisheries Ltd., Karachi, Pakistan. 889,134, pub. 1-20-70. Cl. 46.
Gallon, Jeffrey, Inc., Columbus, Ohio. 889,070, pub. 1-20-70. Cl. 34.
Game Co., The, New York, N.Y. 888,988-9, pub. 1-20-70. Cl. 22.
Gardner Mfg. Co., d.b.a. Speed Clean Division of Gardner Mfg. Co., Horicon, Wis. 888,966, pub. 1-20-70. Cl. 21.
Geigy Chemical Corp., Ardsley, N.Y. 888,939, pub. 1-20-70. Cl. 18.
Gem International, Inc.: *See*—
  Jacobson, F., & Sons, Inc.
General Battery & Ceramic Texas Corp.: *See*—
  Vitalic Battery Co., Inc.
General Cable Corp., New York, N.Y. 525,910, ren. 4-7-70. Cl. 21.
General Crushed Stone Co., The, Easton, Pa. 520,704, ren. 4-7-70. Cl. 12.
General Electric Co., Louisville, Ky. 889,038, pub. 1-20-70. Cl. 24.
General Floorcraft, Inc., Bronx, N.Y. 888,965, pub. 2-11-69. Cl. 21.
General Ordnance Equipment Corp., Pittsburgh, Pa. 888,911, pub. 6-4-68. Cl. 9.
General Printing Ink Co., to Sun Chemical Corp., New York, N.Y. 271,012, ren. 4-7-70. Cl. 38.
Genovese Drug Stores, Inc., Long Island City, N.Y. 889,153, pub. 1-20-70. Cl. 51.
Germain Seed and Plant Co., to Germain's Inc., Los Angeles, Calif. 526,746, ren. 4-7-70. Cl. 38.
Germain's Inc.: *See*—
  Germain Seed & Plant Co.
Getz, Harold, d.b.a. Barton Mills, Nazareth, Pa. 765,144, canc. Cl. 39.
Gibraltar Cement Products, Inc.: *See*—
  Gibraltar Floors, Inc.
Gibraltar Floors, Inc., to Gibraltar Cement Products, Inc., Detroit, Mich. 520,217, ren. 4-7-70. Cl. 12.
Gibraltar Floors, Inc., to Gibraltar Cement Products, Inc., Detroit, Mich. 520,675, ren. 4-7-70. Cl. 12.
Gilbert, John O., Chocolate Co., to John O. Gilbert II, Marion Gilbert Golladay, Roger M. Gilbert & Russel F. Gilbert, Jr., Bronxville, N.Y. 521,755, ren. 4-7-70. Cl. 46.
Gilbert, John O., II, Marion Gilbert Golladay, Roger M. Gilbert & Russel F. Gilbert, Jr.: *See*—
  Gilbert, John O. Chocolate Co.
Gilda Jewellers Ltd., London, England. 765,080, canc. Cl. 28.
Giuseppe Bernardino Carpano, by Ditta G.B. Carpano-Antica Fabbrica di Vermouth di Turati Rag. Silvio e C.-Societa in Accomandita Semplice, Turin, Italy. 311,923, 12(c) pub. 4-7-70. Cl. 47.
Giuseppe Bernardino Carpano, by Ditta G.B. Carpano-Antica Fabbrica di Vermouth di Turati Rag. Silvio e C.-Societa in Accomandita Semplice, Turin, Italy. 321,339, 12(c) pub. 4-7-70. Cl. 47.
Globestar Industries, Inc., Elkhart, Ind. 888,960, pub. 1-20-70. Cl. 19.
Gloversville-Continental Mills, Inc.: *See*—
  Continental Mills, Inc.
Goetze, Frederick, to Goetzewerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany. 179,902, new cert. Cl. 35.
Goetzewerke Friedrich Goetz Aktiengesellschaft: *See*—
  Goetze Frederick.
  Johns-Manville Corp.
Goodrich, B. F. Co., The, Akron, Ohio. 270,862, ren. 4-7-70. Cl. 35.
Gorham Mfg. Co., to Textron, Inc., Providence, R.I. 443,843, ren. 4-7-70. Cl. 28.
Grace, W. R., & Co., New York, N.Y. 888,933, pub. 1-20-70. Cl. 18.
Graef, Jean R., Inc., New York, N.Y. 889,053, pub. 1-20-70. Cl. 27.
Greenberg, B. B., Co., Cranston, R.I. 889,213. Cl. 40.
Greyhound Corp., The, Chicago, Ill. 888,952-4, pub. 1-20-70. Cl. 19.
Gribbon Co. Inc., New York, N.Y. 267,057, ren. 4-7-70. Cl. 42.
Griffin, Ike & Holder, d.b.a. Griffin-Holder Co., Rocky Ford, Colo. 889,127, pub. 1-20-70. Cl. 46.
Grinding & Polishing Machinery Corp., Indianapolis, Ind. 889,022, pub. 1-20-70. Cl. 23.
Groomer, Ltd., The, Chicago, Ill. 765,174, canc. Cl. 39.
Gulf Oil Corp., Pittsburgh, Pa. 522,710, ren. 4-7-70. Cl. 15.
HCI, Inc., from Heath Consolidated Industries, Inc., Fort Collins, Colo. 889,182, pub. 1-20-70. Cl. 101.
Haines, Charles William, to Larchmont Farms, Inc., Masonville, N.J. 522,249, ren. 4-7-70. Cl. 45.
Haley Excelsior, Inc., Hanover, Va. 888,914, pub. 1-20-70. Cl. 10.
Hannah's Old Time Pie Shoppes, Inc., Houston, Tex. 889,184, pub. 1-20-70. Cl. 101.
Harbin, Clyde A., Whitehaven, Tenn. 889,092, pub. 1-20-70. Multiple Class (Classes 38, 101, and 107).
Harbin, Clyde A., Whitehaven, Tenn. 889,185, pub. 1-20-70. Cl. 101.
Hardee's Food Systems, Inc., Rocky Mount, N.C. 889,175, pub. 1-20-70. Cl. 100.
Hardwick Stove Co., Cleveland, Tenn. 889,074, pub. 1-20-70. Cl. 34.
Harley-Davidson Motor Co., Milwaukee, Wis., to American Machine & Foundry Co., New York, N.Y. 522,500-01, ren. 4-7-70. Cl. 28.
Harmond, Robert E., Union City, Tenn. 888,984, pub. 1-20-70. Cl. 22.
Haskell, Frederick B. and Samuel K. Haskell, Newhall, Calif. 888,990, pub. 1-20-70. Cl. 22.
Hastings & Co. Inc., Philadelphia, Pa. 889,034, pub. 1-20-70. Cl. 23.
Heinicke Instruments Co., Hollywood, Fla. 765,056, canc. Cl. 26.
Henredon Furniture Industries, Inc., Morganton, N.C. 765,088, canc. Cl. 32.
Herschede Hall Clock Co., The: *See*—
  Revere Clock Co., The.
Herzig, R. W., d.b.a. Herzig Trailer Co., Fremont, Nebr. 764,962, canc. Cl. 19.
Hi-Fi Fo-Fum, Inc., Milwaukee, Wis. 889,188, pub. 1-20-70. Cl. 101.
High Seas Tuna Packing Co., Inc., Point Loma, San Diego, to Star-Kist Foods, Inc., Terminal Island, Calif. 523,973, ren. 4-7-70. Cl. 46.
Hi-Life Packing Co., Chicago, Ill. 889,124, pub. 8-15-67. Cl. 46.
Hoffman, John P., Seal Beach, Calif. 889,104, pub. 1-20-70. Cl. 40.
Hoffmann-La Roche Inc., Nutley, N.J. 889,136, pub. 1-20-70. Cl. 46.
Holly Hill Fruit Products Co., Inc.: *See*—
  Holly Hill Fruit Products, Inc.
Holly Hill Fruit Products, Inc., to Holly Hill Fruit Products Co. Inc., Davenport, Fla. 267,116, ren. 4-7-70. Cl. 46.
Honeggers' & Co., Inc., Fairbury, Ill. 888,937, pub. 1-20-70. Cl. 18.
Hoplab, Inc., Quebec, Canada, 889,023, pub. 1-20-70. Multiple Class (Classes 23 and 44).
Hyer, C. H. & Sons, Inc., Olathe, Kans. 765,135, canc. Cl. 39.
Hygrade Food Products Corp., Detroit, Mich. 517,133, ren. 4-7-70. Cl. 46.
Independent Chemical Corp., Glendale, N.Y. 888,903, pub. 1-20-70. Cl. 6.
Industria Spanola de Perlas Imitacion, S.A., Barcelona, Spain. 889,051, pub. 1-20-70. Cl. 27.
Industrial Timer Corp., Newark, to Industrial Timer Corp., Parsippany, N.J. 523,654, ren. 4-7-70. Cl. 26.
Institutional Investor Systems, Inc., New York, N.Y. 889,210. Cl. 38.
International Electronics Co., Ltd., Trumbull, Conn. 764,980, canc. Cl. 21.
International Franchise Association, Inc., Chicago, Ill. 832,560. Am. 7(d). Multiple Class (Classes 38 and 200).
International Harvester Co., to International Harvester Co., Chicago, Ill. 520,496, ren. 4-7-70. Cl. 7.
International Paper Co., New York, N.Y. 889,083, pub. 1-20-70. Cl. 37.
International Salt Co., Clarks Summit, Pa. 888,902, pub. 1-20-70. Cl. 6.
International Trade Club of Chicago, Chicago, Ill. 889,101, pub. 1-20-70. Cl. 38.
International Union of Operating Engineers, Washington, D.C. 889,199, pub. 1-20-70. Cl. 200.
Interpace Corp., Los Angeles, Calif. 889,059, pub. 1-20-70. Cl. 30.
Interpace Corp., Los Angeles, Calif. 889,066, pub. 1-20-70. Cl. 33.
Jacko Corp., Cleveland, Ohio. 889,057, pub. 1-20-70. Cl. 29.
Jackson & Perkins Co., Newark, N.Y. 764,881, canc. Cl. 6.
Jacobson, F., & Sons, Inc., by change of name from Peerless Mills Corp., to Gem International, Inc., Kansas City, Mo. 772, 362, new cert. Cl. 39.
Jaeger Machine Co., Columbus, Ohio. 765,198, canc. Cl. 44.
Jefferson Chemical Co., Inc., Houston, Tex. 888,904, pub. 1-20-70. Cl. 6.
Johns-Manville Corp., New York, N.Y. 764,904, canc. Cl. 12.
Johns-Manville Corp., New York, N.Y. 765,109, canc. Cl. 35.
Johns-Manville Corp., to Goetzewerke Friedrich Goetze Aktiengesellschaft, Dusseldorf, Germany. 795,014, new cert. Cl. 12.
Johnson, Johnnie, Inc., Portland, Oreg. 888,997, pub. 1-20-70. Cl. 22.
Johnson, Percy Lee, Sinton, Tex. 889,176, pub. 1-20-70. Cl. 100.
Johnston, James R., San Diego, Calif. 764,925, canc. Cl. 13.
Jones, Casey, Junction Inc., Wichita, Kans. 889,171, pub. 1-20-70. Multiple Class (Classes 100 and 101).
K & M Rubber Co., Elk Grove Village, Ill. 889,200. Cl. 2.
Kaman Corp., Bloomfield, Conn. 889,033, pub. 1-20-70. Cl. 23.
Kandu Chemicals, Inc., New York, N.Y. 889,114, pub. 1-20-70. Cl. 42.
Kemp, E. F., Corp.: *See*—
  Kemp, Edward F.

- Kemp, Edward F., to E. F. Kemp Corp., Somerville, Mass. 271,348, ren. 4–7–70. Cl. 46.
- Kent, Judy, Inc., New York, N.Y. 765,162, canc. Cl. 39.
- Kentucky Fried Chicken Corp., Nashville, Tenn. 889,169, pub. 1–20–70. Cl. 100.
- Kenwood Laboratories, Inc., New Rochelle, N.Y. 888,936, pub. 1–20–70. Cl. 18.
- Keystone Paint & Varnish Corp.: *See*—
  - Keystone Varnish Co.
- Keystone Varnish Co., to Keystone Paint & Varnish Corp., Brooklyn, N.Y. 76,718, ren. 4–7–70. Cl. 16.
- Kidde, Walter, & Co., Inc., Belleville, N.J. 889,063, pub. 1–20–70. Cl. 31.
- Killebrew, Harmon, Enterprises, Inc., Salt Lake City, Utah. 888,991, pub. 1–20–70. Cl. 22.
- Kimberly-Clark Corp., Neenah, Wis. 888,943, pub. 1–20–70. Cl. 18.
- Klauber, George, Inc., New York, N.Y. 889,146, pub. 1–20–70. Cl. 50.
- Kleinert, I. B., Rubber Co., New York, to Kleinerts, Inc., College Point, N.Y. 443,657, ren. 4–7–70. Cl. 39.
- Kleinerts, Inc.: *See*—
  - Kleinert, I. B., Rubber Co.
- Knox, Inc., from Applied Engineering Corp., South Walpole, Mass. 889,042, pub. 1–20–70. Cl. 26.
- Koh-I-Noor, Spojene Kovoprumyslove Zavody, Narodni Podnik, also named Koh-I-Noor, United Metalware Factories, Prague, Czechoslovakia. 520,488, ren. 4–7–70. Cl. 40.
- Koos, N. S., & Son Co., The, Kenosha, Wis. 590,064, cor. Cl. 10.
- Koos, N. S., & Son Co., The, Kenosha, Wis. 643,791, cor. Cl. 10.
- Koos, N. S., & Son Co., The, Kenosha, Wis. 782,658, cor. Cl. 10.
- Kores Carbon Paper & Ribbons Mfg. Corp., New York, to Kores Mfg. Corp., Bronx, N.Y. 520,843, ren. 4–7–70. Cl. 11.
- Kores Mfg. Corp.: *See*—
  - Kores Carbon Paper & Ribbons Mfg. Corp.
- Kuppenheimer, B., & Co., Inc., Chicago, Ill. 889,103, pub. 1–20–70. Cl. 39.
- Lamb Industries, Inc., Toledo, Ohio. 764,903, canc. Cl. 12.
- Lampert, Seymour, d.b.a. Styline Jewelers, Chicago, Ill. 765,071, canc. Cl. 28.
- Landers, Frary & Clark, New York, N.Y. 764,931, canc. Cl. 13.
- Langendorf United Bakeries, Inc., San Francisco, to American Bakeries Co., Chicago, Ill. 522,206, ren. 4–7–70. Cl. 46.
- Lanier Electronic Laboratory, Inc., Atlanta, Ga. 888,978, pub. 1–20–70. Cl. 21.
- Larchmont Farms, Inc.: *See*—
  - Haines, Charles W.
- Larklain Products, Ltd., Morrison, Colo. 889,081, pub. 1–20–70. Multiple Class (Classes 37 and 38).
- Lawter Chemicals, Inc., Chicago, Ill. 888,891, pub. 1–20–70. Cl. 1.
- Leblanc, Homer, Inc., Utica, Mich. 889,001, pub. 1–20–70. Cl. 22.
- Leitz, Ernst G.m.b.H., Wetzlar/Lahn, Germany. 889,045, pub. 1–20–70. Cl. 26.
- Letraset U.S.A., Inc., Mountain View, Calif. 889,090, pub. 12–17–68. Cl. 38.
- Levy Maurice, New York, to Mauvel, Ltd., New Rochelle, N.Y. 268,034, ren. 4–7–70. Cl. 1.
- Lilly, Eli & Co., Indianapolis, Ind. 888,947, pub. 1–20–70. Cl. 18.
- Linder, Richard S. and Arlene G., South San Francisco, Calif. 889,147, pub. 1–20–70. Cl. 5.
- Litton Business Systems, Inc., Orange, N.J. 889,040, pub. 1–20–70. Cl. 26.
- London Marina, Inc., Durham, N.C. 888,950, pub. 1–20–70. Cl. 19.
- Longchamps, Inc., New York, N.Y. 889,181, pub. 1–20–70. Cl. 100.
- Lufkin Rule Co., The, Saginaw, Mich., to Cooper Industries, Inc., Houston, Tex. 523,977, ren. 4–7–70. Cl. 26.
- M.A.D. Products, Inc., Ramsey, N.J. 520,479, ren. 4–7–70. Cl. 51.
- Macbeth Corp., Newburgh, N.Y. 889,043, pub. 1–20–70. Cl. 26.
- Macy, R. H. & Co., Inc., New York, N.Y. 519,744, ren. 4–7–70. Cl. 45.
- Magi-Pak Corp., Chicago, Ill. 765,086, canc. Cl. 31.
- Maillot, Robert Charles, Alpes-Martimes, France. 888,983, pub. 1–20–70. Cl. 22.
- Mallory, P. R. & Co. Inc., Indianapolis, Ind. 764,988, canc. Cl. 21.
- Marathon Corp., Rothschild, Wis., to American Can Co., New York, N.Y. 525,820, ren. 4–7–70. Cl. 2.
- Marietta, Martin Corp., New York, N.Y. 888,915, pub. 1–20–70. Cl. 10.
- Marriott Corp., from Marriott-Hot Shoppes, Inc., Bethesda, Md. 889,168, pub. 1–20–70. Cl. 100.
- Martens Chemical Corp., Middle Village, N.Y. 888,907, pub. 1–20–70. Cl. 6.
- Mattel, Inc., Hawthorne, Calif. 764,977, canc. Multiple Class (Classes 36 and 21).
- Mattel, Inc., Hawthorne, Calif. 884,563, cor. Cl. 22.
- Mattel, Inc., Hawthorne, Calif. 889,003, pub. 1–20–70. Cl. 22.
- Mattel, Inc., Hawthorne, Calif. 889,005–6, pub. 1–20–70. Cl. 22.
- Mattel, Inc., Hawthorne, Calif. 889,009–13, pub. 1–20–70. Cl. 22.
- Mattel, Inc., Hawthorne, Calif. 889,015–17, pub. 1–20–70. Cl. 22.
- Mattingly, Don R., d.b.a. Engineering Products, Chariton, Iowa. 889,072, pub. 1–20–70. Cl. 34.
- Mauvel, Ltd.: *See*—
  - Levy, Maurice.
- McCulloch Corp., Los Angeles, Calif. 888,925, pub. 1–20–70. Cl. 15.
- McDonald Mfg. C., Los Angeles, to Sierra Electric, Inc., Gardens, Calif. 520,385, ren. 4–7–70. Cl. 21.
- McGraw-Edison Co.: *See*—
  - Edison, Thomas A.
- McGraw-Hill, Inc., New York, N.Y. 889,207. Cl. 32.
- McKnight, Lady Pajama Corp., New York, N.Y. 765,163, canc. Cl. 39.
- McQuay, Inc., Minneapolis, Minn. 783,212, cor. Cl. 34.
- Mead Johnson & Co., Evansville, Ind. 889,130, pub. 1–20–70. Cl. 46.
- Medallion Pool Corp., Lindenhurst, N.Y. 889,192, pub. 1–20–70. Cl. 103.
- Meidensha Electric Mfg. Co., Ltd., Tokyo, Japan. 888,967, pub. 1–20–70. Cl. 21.
- Melco Textile Corp., Carlstadt, N.J. 889,115, pub. 1–20–70. Cl. 42.
- Menley & James Laboratories, Ltd., Philadelphia, Pa. 889,161, pub. 1–20–70. Cl. 51.
- Merriman, Inc., Hingham, Mass. 889,036, pub. 1–20–70. Cl. 23.
- Mi-Con, Inc., Westbury, N.Y. 889,019, pub. 1–20–70. Cl. 23.
- Micro-Magnetic Industries, Inc., Palo Alto, Calif. 889,046, pub. 1–20–70. Cl. 26.
- Miller, Polk Products Corp., to A. H. Robins Co. Inc., Richmond, Va. 523,933, ren. 4–7–70. Cl. 52.
- Minnesota & Ontario Paper Co., Minneapolis, Minn. 764,905–6, canc. Cl. 12.
- Minnesota & Ontario Paper Co., Minneapolis, Minn. 764,921, canc. Cl. 12.
- Mobil Oil Corp.: *See*—
  - Vacuum Oil Co.
- Modernaire Furniture Corp., Paramus, N.J. 765,097, canc. Cl. 32.
- Mollik, E. & Sons, Riverhead, N.Y. 888,980, pub. 1–20–70. Cl. 21.
- Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 520,251, ren. 4–7–70. Cl. 5.
- Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 526,822, ren. 4–7–70. Cl. 1.
- Monsanto Co.: *See*—
  - Monsanto Chemical Co.
- Montgomery Ward & Co., Inc., Chicago, Ill. 765,085, canc. Cl. 31.
- Morgan Drive Away, Inc., Elkhart, Ind. 765,134, canc. Cl. 38.
- Morris, Philip & Co., Ltd., Inc., to Philip Morris Inc., New York, N.Y. 527,241, ren. 4–7–70. Cl. 17.
- Morris, Philip, Inc.: *See*—
  - Morris, Philip & Co. Ltd., Inc.
- Morris, Philip Inc., New York, N.Y. 888,931, pub. 1–20–70. Cl. 17.
- Mortgage Bankers Association of America, Washington, D.C. 889,096, pub. 1–20–70. Cl. 38.
- Mo-Trim, Inc., Cambridge, Ohio. 765,011, canc. Cl. 23.
- Moulded Products, Inc., Maple Plain, Minn. 888,998, pub. 1–20–70. Cl. 22.
- N.P.T. (Noilly Prat-Torino S.p.A.): *See*—
  - Fratelli Ferrero Di Riccardo
- National Biscuit Co., New York, N.Y. 266,082, ren. 4–7–70. Cl. 46.
- National Board of Young Men's Christian Associations, New York, N.Y. 889,198, pub. 1–20–70. Cl. 200.
- National Broadcasting Co., Inc., New York, N.Y. 523,616, ren. 4–7–70. Cl. 104.
- Nation-Wide Bedding Corp., from Mattress Warehouse, Inc., Bronx, N.Y. 889,206. Cl. 32.
- Nero Mfg. Corp., Miami, Fla. 889,151, pub. 1–20–70. Cl. 50.
- New England Provision Co., Inc., Boston, Mass. 889,129, pub. 1–20–70. Cl. 46.
- Nicholson File Co., Providence, R.I. 527,148, ren. 4–7–70. Cl. 23.
- Nickola, Anne D., d.b.a. Adnic Products, Mount Morris, Mich. 888,918–19, pub. 1–20–70. Cl. 13.
- Nordskog Co., Inc., Van Nuys, Calif. 889,097, pub. 1–20–70. Cl. 38.
- Norris Industries, Inc.: *See*—
  - Buffalo Fire Appliance Corp.
- Norristown Herald, Inc., Norristown, Pa. 765,258, canc. Cl. 38.
- Northern Peat Moss Co., Ltd., Vancouver, British Columbia, Canada. 889,201. Cl. 10.
- Norton Co.: *See*—
  - Piks Mfg. Co., The.
- Norwich Pharmacal Co., The, by The Norwich Pharmacal Co., Norwich, N.Y. 443,874, 12(c) pub. 4–7–70. Cl. 18.
- Noymer Mfg. Co., Boston, Mass. 888,894, pub. 1–20–70. Multiple Class (Classes 2, 8, 32, and 37).
- Nytronics, Inc., Pelham Manor, N.Y. 888,979, pub. 1–20–70. Cl. 21.
- O.K. Earl Corp., The, Pasadena, Calif. 889,173, pub. 1–20–70. Multiple Class (Classes 100, 101, and 103).
- Old Dutch Coffee Co. Inc., New York, N.Y., to S. A. Schonbrunn & Co., Inc., Palisades Park, N.J. 526,902, ren. 4–7–70. Cl. 46.
- Omar Enterprises, Inc., Detroit, Mich. 889,106, pub. 1–20–70. Cl. 40.
- Omega Louis Brandt et Frere S.A., Bienne, Switzerland. 889,052, pub. 1–20–70. Cl. 27.
- Oneida Community, Ltd., Oneida, N.Y., by Woodstream Corp., Lititz, Pa. 76,332, 12(c) pub. 4–7–70. Cl. 50.
- On-Guard Corp. of America, New York, N.Y. 888,974, pub. 1–20–70. Multiple Class (Classes 21 and 25).
- Osborn, Ivan S., d.b.a. Porridge Products Co., Le Seuer, Minn. 765,261, canc. Cl. 46.
- Otsuka Chemical Co., Ltd., Osaka, Japan. 888,913, pub. 1–20–70. Cl. 10.

- Owens-Corning Fiberglas Corp., Toledo, Ohio. 764,923, canc. Cl. 12.
- Oxford Industries, Inc., Atlanta, Ga. 889,211. Cl. 39.
- Ozite Corp., Libertyville, Ill. 889,112, pub. 1–20–70. Cl. 42.
- Pace, Helen E., Trumbull, Conn. 765,204, canc. Cl. 44.
- Pacific Northwest Sports, Inc., Seattle, Wash. 889,093–4, pub. 1–20–70. Cl. 38.
- Paperback Library, Inc., New York, N.Y. 765,256, canc. Cl. 38.
- Parchman & Oyler Co., Cincinnati, Ohio. 889,183, pub. 1–20–70. Cl. 101.
- Parents' Magazine Enterprises, Inc., New York, N.Y. 765,129, canc. Cl. 38.
- Parfums Christian Dior Societe Anonyme, d.b.a. Christian Dior, Paris, France. 889,157, pub. 1–20–70. Cl. 51.
- Parfums Lucien Lelong Corp., d.b.a. Lucian Lelong, New York, N.Y. 889,159, pub. 1–20–70. Cl. 51.
- Partake, Inc., Oak Brook, Ill. 765,236, canc. Cl. 100.
- Pass & Seymour, Inc., Syracuse, N.Y. 764,991, canc. Cl. 21.
- Peerless Mills Corp.: *See*—
  - Jacobson, F., & Sons, Inc.
- Penick, S. B., & Co., New York, N.Y. 764,954, canc. Cl. 18.
- Pennsylvania Electronics Technology, Inc., Pittsburgh, Pa. 889,000, pub. 1–20–70. Cl. 22.
- Pennsylvania Refining Co., Cleveland, Ohio. 888,926, pub. 1–20–70. Cl. 15.
- Pennsylvania Salt Mfg. Co., The, to Pennsalt Corp., Philadelphia, Pa. 518,382, ren. 4–7–70. Cl. 12.
- Pennsylvania Salt Mfg. Co., to Pennsalt Corp., Philadelphia, Pa. 520,164, ren. 4–7–70. Cl. 12.
- Pennsalt Corp.: *See*—
  - Buckeye Soda Co.
  - Pennsylvania Salt Mfg. Co., The.
- Perfumeria Gal, S.A., Madrid, Spain. 517,894, ren. 4–7–70. Cl. 51.
- Pike Mfg. Co., The, by Norton Co., Watervliet, N.Y. 49,357, 12(c) pub. 4–7–70. Cl. 4.
- Pine Forest Co., Chicago, Ill. 889,137, pub. 1–20–70. Cl. 46.
- Pinnacle Products Corp., Blauvelt, N.Y. 889,032, pub. 1–20–70. Cl. 23.
- Pipe-Rater, Inc., Odessa, Tex. 765,244, canc. Cl. 106.
- Pirelli Sapsa S.p.A.: *See*—
  - Societa Invenzioni Brevetti Anonima-Torino.
- Plymouth Cordage Co., North Plymouth, Mass., to Columbian Pope Co., Aubury, N.Y. 516,974, ren. 4–7–70. Cl. 7.
- Pollak, Henry, Inc., New York, N.Y. 526,520, ren. 4–7–70. Cl. 39.
- Porter, H. K., Co., Inc., Pittsburgh, Pa. 764,941, canc. Cl. 14.
- Porter, H. K., Co., Inc., Pittsburgh, Pa. 765,022, canc. Cl. 23.
- Porter, Robert B., d.b.a. Porter Gasket & Distributing Co., Los Angeles, by Robert B. Porter and Pauline S. Porter, d.b.a. Porter Mfg. & Supply Co., South El Monte, Calif. 443,312, 12(c) pub. 4–7–70. Cl. 5.
- Port-O-Craft Industries, Inc., Elkhart, Ind. 888,956, pub. 1–20–70. Cl. 19.
- Posen, Michael A., d.b.a. Golden 50 Pharmaceutical Co., Highland Park, Ill. 764,958, canc. Cl. 18.
- Practical Mfg. Co., New York, N.Y. 889,165, pub. 1–20–70. Cl. 52.
- Precision Merchandise Inc., Brooklyn, N.Y. 889,155, pub. 1–20–70. Cl. 51.
- Premium Corp. of America, Inc., Minneapolis, Minn. 888,971, pub. 1–20–70. Cl. 21.
- Pure Oil Co., The, Palatine, Ill. 764,947, canc. Cl. 15.
- Quaker Oats Co., The, Chicago, Ill. 520,039, ren. 4–7–70. Cl. 6.
- Quaker Oats Co., The, Chicago, Ill. 521,668, ren. 4–7–70. Cl. 10.
- Quaker Oats Co., The, Chicago, Ill. 522,386, ren. 4–7–70. Cl. 46.
- Quaker Oats Co., The, Chicago, Ill. 523,167, ren. 4–7–70. Cl. 46.
- Quality Ideas, Inc., Salt Lake City, Utah. 889,148, pub. 1–20–70. Cl. 50.
- Rabun Bronze Foundry, Inc., Los Angeles, Calif. 764,933, canc. Cl. 14.
- Rabun Bronze Foundry, Inc., Los Angeles, Calif. 765,016, canc. Cl. 23.
- Rabun Bronze Foundry, Inc., Los Angeles, Calif. 765,091, canc. Cl. 32.
- Raybestos-Manhattan, Inc., Passaic, N.J. 888,999, pub. 1–20–70. Cl. 22.
- Reeves Equipment Corp., Mount Vernon, N.Y. 889,078, pub. 1–20–70. Cl. 36.
- Registered Fabrics Corp., New York, N.Y. 889,110, pub. 1–20–70. Cl. 42.
- Remington Arms Co. Inc., Bridgeport, Conn. 888,910, pub. 2–27–68. Cl. 9.
- Renfro Hosiery Mills Co.: *See*—
  - Fogleman-Jefferies Corp., The.
- Revere Clock Co., The, Cincinnati, Ohio, to the Herschede Hall Clock Co., Starkville, Miss. 269,308, ren. 4–7–70. Cl. 27.
- Rexall Drug & Chemical Co.: *See*—
  - Dart Industries Inc.
- Rexall Drug & Chemical Co., assignee of Howard W. Wilson, d.b.a. Howard W. Wilson & Associates, to Bonus Gifts, Inc., Westport, Conn. 833,481, new cert. Cl. 101.
- Rhode Island Catering Co., Inc., Washington, D.C. 889,178, pub. 1–20–70. Cl. 100.
- Richco, Inc., Cedar Grove, N.J. 764,965, canc. Cl. 20.
- Rich's, Inc., Atlanta, Ga. 520,522, ren. 4–7–70. Cl. 39.
- Robins, A. H., Co., Inc.: *See*—
  - Miller, Polk Products Corp.
- Rodotex Corp., New York, N.Y. 765,161, canc. Cl. 39.
- Roger Joanne & Cie, Bordeaux, Gironde, France. 889,139, pub. 1–20–70. Cl. 47.
- Roth, Emanuel, Co., Inc., Secaucus, N.J. 521,887, ren. 4–7–70. Cl. 39.
- Rudco Checks, Inc., Teaneck, N.J. 889,079, pub. 1–20–70. Cl. 37.
- Ryan Equipment Co., St. Paul, Minn. 878,133. Am. 7(d). Cl. 23.
- Ryder Supply Co., Chambersburg, Pa. 764,901, canc. Cl. 12.
- Saf-T-Mo-Inc., Monroe City, Mo. 765,037, canc. Cl. 23.
- Salsbury Corp., Los Angeles, Calif. 765,272, canc. Cl. 52.
- Samaras, William D., d.b.a. Samaras Photography, Akron, Ohio. 889,149, pub. 1–20–70. Cl. 50.
- Sanders Associates, Inc., Nashua, N.H. 875,529, cor. Cl. 21.
- Sanna, Inc., d.b.a. Sanna Dairies, Inc, Madison, Wis 889,126, pub. 1–20–70. Cl. 46.
- Sanyo Chemical Industries, Ltd., Kyoto, Japan. 888,901, pub. 1–20–70. Cl. 6.
- Schonbrunn, S. A., & Co. Inc.: *See*—
  - Old Dutch Coffee Co. Inc.
- Schoeneman, J., Inc., Baltimore, Md., to Cluett, Peabody & Co., Inc., Troy, N.Y. 520,181, ren. 4–7–70. Cl. 39.
- Schwinn Bicycle Co, Chicago, Ill. 888,955, pub. 1–20–70. Cl. 19.
- Scientific Solutions, Inc., St. Louis, Mo. 889,084, pub. 1–20–70. Cl. 37.
- Scott Paper Co., Philadelphia, Pa. 765,092, canc. Cl. 32.
- Scott Paper Co., Philadelphia, Pa. 889,080, pub. 1–20–70. Cl. 37.
- Scott Paper Co., Philadelphia, Pa. 889,085, pub. 1–20–70. Cl. 37.
- Scott Tobacco Co., Bowling Green, Ky. 888,932, pub. 1–20–70. Cl. 17.
- Scribner's, Charles Sons, New York, N.Y. 889,095, pub. 1–20–70. Cl. 38.
- Scrima, Ronald P., d.b.a. Exhibition Engineering, Van Nuys, Calif. 888,962, pub. 1–20–70. Cl. 19.
- Sea Island Shirts, Inc., New York, N.Y. 765,148, canc. Cl. 39.
- Seagram, Joseph E. & Sons, Inc., New York, N.Y. 889,145, pub. 1–20–70. Cl. 49.
- Searle, G. D. & Co., Skokie, Ill. 888,941, pub. 1–20–70. Cl. 18.
- Shack, Inc., The, Little Rock, Ark. 889,180, pub 1–20–70. Cl. 100.
- Shakespeare Co.: *See*—
  - Enterprise Mfg. Co., The.
- Shiseido Co. Ltd., d.b.a. Shiesoido, Tokyo, Japan. Cl. 51.
- Shlansky, Louis, Co., New York, N.Y. 765,137, canc. Cl. 39.
- Sierra Electric, Inc.: *See*—
  - Mcdonald Mfg. Co.
- Sigman Meat Co., Inc., The, Arvada, Colo. 889,125, pub. 1–20–70. Cl. 46.
- Sizzlebord Restaurants, Inc., Needham Heights, Mass. 889,186, pub. 1–20–70. Cl. 101.
- Sjuco Aktiebolag, Gothenburg, Sweden. 764,865, canc. Cl. 2.
- Sjuco Aktiebolag, Gothenburg, Sweden. 765,186, canc. Cl. 42.
- Sjuco Aktiebolag, Gothenburg, Sweden. 765,197, canc. Cl. 44.
- Skaggs Drug Centers, Inc., Salt Lake City, Utah. 889,141, pub. 1–20–70. Cl. 48.
- Sklaroff, Harry Sons, Inc., Philadelphia, Pa. 520,264, ren. 4–7–70. Cl. 39.
- Smith, Albert W., d.b.a. Bush Mfg. Co., Newark, N.J. 765,075, canc. Cl. 28.
- Societa Invenzioni Brevetti Anonima-Torino, Turin, to Pirelli Sapsa S.p.A., Sesto San Giovanni, Italy. 269,054, ren. 4–7–70. Cl. 1.
- Societa Italiana Telecommunicazion Siemens S.p.A., Milan, Italy. 888,969, pub. 1–20–70. Cl. 21.
- Societe Francaise d'Optique et de Mecanique S.F.O.M., Rueil-Malmaison (Hauts-de-Seine), France. 889,041, pub. 1–20–70. Cl. 26.
- Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France. 888,964, pub. 1–20–70. Multiple Class (Classes 21, 23, 26, and 34).
- So-Lo Works, Inc., to Totes Inc., Loveland, Ohio. 524,181, ren. 4–7–70. Cl. 39.
- Sombers Associates, Inc., Lake Hiawatha, N.J. 889,044, pub. 1–20–70. Cl. 26.
- Spade Parts Mfg. Co., Westbury, N.Y. 888,951, pub. 1–20–70. Multiple Class (Classes 19, 21, and 23).
- Sparvel Products Co., Inc., Sparta, Ill. 889,039, pub. 1–20–70. Cl. 25.
- Spatz Bros., Inc., New York, N.Y. 765,153, canc. Cl. 39.
- Squires-Sanders, Inc., Liberty Corner, N.J., from Computrol Systems, Inc., Atlanta, Ga. 889,174, pub. 1–20–70. Cl. 100.
- Streit, Aron, Inc., New York, N.Y. 765,263, canc. Cl. 46.
- Standard Oil Co. of California, San Francisco, Calif. 889,035, pub. 1–20–70. Cl. 23.
- Stanley Home Products, Inc., Westfield, Mass. 889,158, pub. 1–20–70. Multiple Class (Classes 51 and 52).
- Star-Kist Foods, Inc.: *See*—
  - High Seas Tuna Packing Co., Inc.
- Starr, Dan L., Seattle, Wash. 765,126, canc. Cl. 38.
- Sterling Drug, Inc.: *See*—
  - Zymole Co.
- Sterling, John, Corp., Richmond, Ill. 764,963, canc. Cl. 19.
- Stewart, Gerson Corp., The, Cleveland, Ohio. 764,951, canc. Cl. 16.
- Stolpen, Beulah H., d.b.a. The Rolling Reader Publishing Co., Westport, Conn. 888,986–7, pub. 1–20–70. Cl. 22.
- Stuart, Dana, Inc., Atlanta, Ga. 764,875, canc. Cl. 2.
- Stuart House International Ltd., Weston, Ontario, Canada. 889,123, pub. 1–20–70. Cl. 45.
- Stuart, Len, Inc., New York, N.Y. 765,168, canc. Cl. 39.
- Sued-Atlas Werke G.m.b.H., Muelheim-Ruhr, Germany. 765,114, canc. Cl. 36.
- Sukup Mfg. Co., Sheffield, Iowa. 889,067, pub. 1–20–70. Cl. 34.
- Sun Chemical Corp.: *See*—
  - General Printing Ink Corp.
- Sun Screen Products, Inc., Spokane, Wash. 764,911, canc. Cl. 12.

Superior Concrete Accessories, Inc., Franklin Park, Ill. 889,203. Cl. 12.
Superior Continental Corp., Hickory, N.C. 888,975, pub. 1–20–70. Cl. 21.
Superior Petticoat Co., Inc., New York, N.Y. 765,177, canc. Cl. 39.
Sweetwater Rug Corp., New York, N.Y. 889,108, pub. 4–22–69. Cl. 42.
Systems Engineering Laboratories, Inc., Fort Lauderdale, Fla. 889,050, pub. 1–13–70. Cl. 26.
Tab Services, Inc., Atlanta, Ga. 889,191, pub. 1–20–70. Cl. 103.
Taco Tico, Inc., Wichita, Kans. 889,170, pub. 1–20–70. Cl. 100.
Taconic Corp., Yonkers, N.Y. 765,074, canc. Cl. 28.
Taiyo Kogyo Co., Ltd., Tokyo, Japan. 888,982, pub. 1–20–70. Cl. 22.
Takeyama Textile Co., Ldt., Osaka, Japan. 888,948, pub. 1–20–70. Multiple Class (Classes 19, 32, 39, and 42).
Talbott Industries, Inc., Reading, Pa. 765,170, canc. Cl. 39.
Tensiometers, Inc., Barrington, R.I. 889,025, pub. 1–20–70. Cl. 23.
Textron Inc.: *See*—
  Gorham Mfg. Co.
Textron Inc., Providence, R.I. 765,061, canc. Cl. 26.
Textron Inc., Providence, R.I. 889,054, pub. 1–20–70. Cl. 28.
Textron Inc., Providence, R.I. 889,122, pub. 1–20–70. Cl. 44.
Therm-O-Lab Corp., North Hollywood, Calif. 888,972, pub. 1–20–70. Cl. 21.
Thermotron Corp., Holland, Mich. 889,205. Cl. 31.
Thomas, Ruth St. John, Phoenix, Ariz. 765,031, canc. Cl. 23.
Thornberg Co., The, Mason City, Iowa. 889,024, pub. 1–20–70. Cl. 23.
Time Share Corp., Hanover, N.H. 889,187, pub. 1–20–70. Cl. 101.
Totes Inc.: *See*—
  So-Lo Works, Inc.
Trane Co., The, La Crosse, Wis. 765,125, canc. Cl. 38.
Trans World Airlines, Inc., New York, N.Y. 889,193, pub. 1–20–70. Cl. 105.
Trepel K.G. Maschinenfabrik, Wiesbaden-Schierstein, Germany. 889,021, pub. 1–20–70. Cl. 23.
Triad Drug Products, d.b.a. Trian Drug Products, Los Angeles, Calif. 764,955, canc. Cl. 18.
Triplex Corp. of America, Chicago, Ill., to Dana Corp., Toledo, Ohio. 522,247, ren. 4–7–70. Cl. 23.
Tripp, C. H., Finishing Co., San Diego, Calif. 888,930, pub. 1–20–70. Cl. 16.
True Temper Corp., Cleveland, Ohio. 889,002, pub. 1–20–70. Cl. 22.
Turnbridges Ltd., London, England. 888,900, pub. 1–20–70. Multiple Class (Classes 5 and 16).
Twin Disc, Inc., Racine, Wis. 889,029, pub. 1–20–70. Cl. 23.
USMP Co., Inc., The, Staten Island, N.Y. 889,020, pub. 1–20–70. Cl. 23.
Ulmann, Bernhard Co. Inc., Long Island City, N.Y. 526,699, ren. 4–7–70. Cl. 43.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 764,994, canc. Cl. 22.
Union Carbide Corp., New York, N.Y. 764,880, canc. Cl. 6.
Union Carbide Corp., New York, N.Y. 889,160, pub. 1–20–70. Cl. 51.
United Investment Corp., Little Rock, Ark. 889,179. pub. 1–20–70. Cl. 100.
United States Baking Co. Inc., White Plains, N.Y. 889,133, pub. 1–20–70. Cl. 46.
United States Glass Co. Inc., New York, N.Y. canc. Cl. 33.
U.S. Plywood-Champion Papers, Inc., New York, N.Y. 888,916, pub. 1–20–70. Cl. 12.
Universal Foods Corp., Milwaukee, Wis. 889,132, pub. 1–20–70. Cl. 46.
Vacuum Oil Co., Rochester, to Mobil Oil Corp., New York, N.Y. 75,976–7, ren. 4–7–70. Cl. 15.
Vanadium-Alloys Steel Co., to Vasco Metals Corp., Latrobe, Pa. 527,107, ren. 4–7–70. Cl. 14.
Vasco Metals Corp.: *See*—
  Vanadium-Alloys Steel Co.
Vermont Treeforms, Inc., Groton, Vt. 765,096, canc. Cl. 32.
Vernon Book Sales Corp., Mt. Vernon, N.Y. 889,099, pub. 1–20–70. Cl. 38.
Verreries L. Warin Rapeaud & Cie, Asnieres, Hauts-de-Seine, France. 889,060, pub. 1–20–70. Cl. 30.
Villard R. & Cie, Lyon, France, 765,072, canc. Cl. 28.
Vitalic Battery Co. Inc., by General Battery & Ceramic Texas Corp., Dallas, Tex. 320,645, 12(c) pub. 4–7–70. Cl. 21.
Viva Macaroni Mfg. Co. Inc., d.b.a. Bay State Macaroni Mfg. Co., Lawrence, Mass. 765,209, canc. Cl. 46.
Vulcan Corp., Portsmouth, Ohio. 520,778, ren. 4–7–70. Cl. 50.
Vulcan Corp., Portsmouth, Ohio. 520,795, ren. 4–7–70. Cl. 50.
Walters' Palm Toffee Ltd., London, to Cavenham Confectionery Ltd., Bristol, England. 523,461, ren. 4–7–70. Cl. 46.
Ward Industries Corp., South Portland, Maine. 765,048, canc. Cl. 24.
Warner-Lambert Research Institute, Morris Plains, N.J. 888,945, pub. 1–20–70. Cl. 18.
Warren, M., Productions, Inc., Branford, Conn. 889,195, pub. 1–20–70. Cl. 107.
Wasik Enterprises, Inc., Western Springs, Ill. 888,985, pub. 1–20–70. Cl. 22.
Watkins, G. Carlton, Paducah, Ky. 888,996, pub. 1–20–70. Cl. 22.
Weinberg & Johnstone Publications, Los Angeles, Calif. 889,209. Cl. 38.
Werler, Paul F., d.b.a. Chemstar Products Co., Minneapolis, Minn. 888,908, pub. 1–20–70. Cl. 6.
Western Publishing Co. Inc., Racine, Wis. 889,100, pub. 1–20–70. Cl. 38.
Westinghouse Electric Corp., Pittsburgh, Pa. 888,963, pub. 1–20–70. Multiple Class (Classes 21, 23, 24, 26, and 34).
Wham-O Mfg. Co., San Gabriel, Calif. 889,014, pub. 1–20–70. Cl. 22.
Whirlpool Corp., Benton Harbor, Mich. 888,976, pub. 1–20–70. Multiple Class (Classes 21, 24, 31, 34, and 52).
White Gloves & Party Manners, Inc., Kewanee, Ill. 889,197, pub. 1–20–70. Cl. 107.
Willy Nussmaumer, d.b.a. Touristisches Institut Zurich, Zurich, Switzerland. 889,089, pub. 1–20–70. Multiple Class (Classes 38, 100, 101, 105, and 107).
Wilson & Co., Inc., Chicago, Ill. 765,216, canc. Cl. 46.
Wilson, Howard W.: *See*—
  Rexall Drug & Chemical Co.
Wilson Sporting Goods Co., to Wilson Sporting Goods Co., Chicago, Ill. 521,581, ren. 4–7–70. Cl. 22.
Woodstream Corp.: *See*—
  Oneida Community, Ltd.
Woolfolk Chemical Works, Ltd., Fort Valley, Ga. 526,700, ren. 4–7–70. Cl. 6.
Woolworth, F. W., Co., New York, N.Y. 765,178, canc. Cl. 39.
Young Corp.: *See*—
  Young Iron Works, Inc.
Young Iron Works, Inc., to Young Corp., Seattle, Wash. 521,105, ren. 4–7–70. Cl. 23.
Youngstown Sheet & Tube Co., Boardman, from the Youngstown Sheet & Tube Co., Youngstown, Ohio. 889,202. Cl. 21.
Zymole Co., The, to Sterling Drug, Inc., New York, N.Y. 77,858, ren. 4–7–70. Cl. 18.

U.S. GOVERNMENT PRINTING OFFICE: O—1970

A UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

April 14, 1970 Volume 873 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of February 1970

Examiner affirmed	188
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Disclaimers

2,811,386.—*Willie J. Shaw,* Birmingham, Ala. RETRACTABLE SUPPORTS FOR A REMOVABLE VEHICLE BODY. Patent dated Oct. 29, 1957. Disclaimer filed Mar. 2, 1970, by the assignee, *Moore-Handley Incorporated.*

Hereby enters this disclaimer to claims 1 to 11, inclusive, of said patent.

2,934,373.—*Luther L. Doty, Jr.,* Birmingham, Ala. RETRACTABLE SUPPORTS FOR A REMOVABLE VEHICLE BODY. Patent dated Apr. 26, 1960. Disclaimer filed Mar. 2, 1970, by the assignee, *Moore-Handley Incorporated.*

Hereby enters this disclaimer to claims 1 to 8, inclusive, of said patent.

3,053,139.—*Erich Loepfe,* Zurich, Switzerland. ELECTRO-OPTICAL WEFT FEELER FOR LOOMS. Patent dated Sept. 11, 1962. Disclaimer filed Feb. 26, 1970, by the inventor.

Hereby enters this disclaimer to claim 1 of said patent.

3,196,629.—*Russell E. Wood,* Syracuse, N.Y. REFRIGERATION HEAD PRESSURE CONTROL SYSTEMS. Patent dated July 27, 1965. Disclaimer filed Jan. 26, 1970, by the assignee, *Carrier Corporation.*

Hereby enters this disclaimer to claims 1, 2, 3 and 4 of said patent.

3,227,931.—*Robert Adler,* Northfield, Ill. PERMANENT-MAGNET UNIFORM-FIELD-PRODUCING APPARATUS. Patent dated Jan. 4, 1966. Disclaimer filed Jan. 12, 1970, by the assignee, *Zenith Radio Corporation.*

Hereby enters this disclaimer to claims 1, 10, 11, 13, 14 and 15 of said patent.

3,324,536.—*Donald E. Hill,* Fort Wayne, Ind. COIL ASSEMBLING APPARATUS. Patent dated June 13, 1967. Disclaimer filed Jan. 16, 1970, by the inventor.

Hereby enters this disclaimer to claims 1–4 and 6 of said patent.

3,325,827.—*Miles Lowell Edwards,* Santa Ana, Calif. DOUBLE CAGE HEART VALVE. Patent dated June 20, 1967. Disclaimer filed Jan. 2, 1970, by the assignee, *American Hospital Supply Corporation.*

Hereby disclaims the terminal portion of the term of the said patent subsequent to Aug. 2, 1983.

3,462,933.—*Mario Nava, Manderley,* Castle Hill, Prestbury, England. FALSE TWIST CRIMPING APPARATUS. Patent dated Aug. 26, 1969. Disclaimer filed Jan. 16, 1970, by the assignee, *Macasta Corporation.*

Hereby disclaims the terminal portion of the term of the said patent subsequent to May 2, 1984.

Market Research Project

The Patent Office is developing a number of internal information systems which will provide the capability to create patent information products in new forms. In the future, for example, patent information may be available in computer magnetic tape and microfilm aperture card form.

In order to assist the Office in planning these and other new patent information products, a market research study is being undertaken to determine the demand for patent information in various forms within the legal and technical communities. Information will be obtained by means of personal interviews and mailed questionnaires. Your cooperation in this endeavor is requested. The results of the study will be used to assist in the planning of new products and services and possibly in the modification of existing Patent Office products and services.

To further assist in this study, specific suggestions for new patent information products or modifications to existing products are solicited. Suggestions and comments may be submitted to:

Commissioner of Patents
Washington, D.C. 20231
Attention: Market Research Study

WILLIAM E. SCHUYLER, Jr.,
Mar. 27, 1970. *Commissioner of Patents.*

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—April 14, 1970

Patents	1301	—No. 3,505,677 to No. 3,506,977, incl.
Designs	109	—No. 217,108 to No. 217,216, incl.
Plant Patents	3	—No. 2,967 to No. 2,969, incl.
Reissues	5	—No. 26,853 to No. 26,857, incl.
Def. Pub.	4	—No. T873,006 to No. T873,009, incl.
Total	1422	

Disclaimer and Dedication

3,467,148.—*Ralph H. Brown, Jr.*, Hopedale, Mass. FILLING CONTROL FOR SHUTTLELESS LOOMS AND FABRIC. Patent dated Sept. 16, 1969. Disclaimer and dedication filed Jan. 16, 1970, by the assignee, *John D. Marshall and Horace L. Bomar, as trustees of The Carolina Patent Development Trust.*

Hereby disclaims and dedicates to the Public the terminal portion of the term of the said patent subsequent to May 20, 1986.

Adjudicated Patents

(D.C. Wis.) Brainard et al. Reissue Patent No. 25,737 (29–568), for MACHINE TOOL WITH MECHANICAL CUTTING TOOL CHANGER. Claims 15, 19 and 20 *Held* valid and infringed. *Kearney and Trecker Corporation* v. *Giddings and Lewis, Incorporated,* 306 F. Supp. 189; 164 USPQ 173.

(C.A. Vt.) Shaw Patent No. 2,637,893 (28–82), for ARTIFICIAL FILAMENT, *Held* valid and infringed, *Shaw* v. *E. B. and A. C. Whiting Company,* 417 F.2d 1097; 163 USPQ 580.

(D.C. La.) La Rose et al. Patent No. 2,871,645 (56–119), for APPARATUS FOR MECHANICALLY HANDLING SUGAR CANE STALKS DURING HARVESTING. Claim 4 *Held* valid and infringed. *Thomson Machinery Company* v. *La Rose et al.,* 306 F. Supp. 681; 163 USPQ 80.

(C.A. Ill.) Steigerwald Patent No. 2,987,610 (219–117), for METHOD AND MEANS FOR WELDING USING A CONTROLLED BEAM OF CHARGED PARTICLES, *Held* invalid. *Deep Welding, Incorporated* v. *Sciaky Brothers, Inc.,* 417 F.2d 1227; 163 USPQ 144.

(D.C. Ga.) Strong Patent No. 2,991,398 (317–109), for METER BOX, *Held* invalid. *Strong* v. *General Electric Company,* 305 F. Supp. 1084; 162 USPQ 141.

(D.C. Nev.) Gordon et al. Patent No. 3,072,982 (22–200), for METHOD OF PRODUCING SOUND AND HOMOGENEOUS INGOTS, *Held* invalid. *Westinghouse Electric Corporation* v. *Titanium Metals Corporation of America,* 306 F. Supp. 402; 163 USPQ 403.

(D.C. Ill.) Edwards Patent No. 3,091,360 (220–97), for NESTABLE CUP, *Held* valid and infringed. *Illinois Tool Works, Incorporated* v. *Sweetheart Plastics, Incorporated,* 306 F. Supp. 364; 163 USPQ 188.

(D.C. Ill.) Steidinger Patent No. 3,104,799 (229–69), for ENVELOPE ASSEMBLY. Claims 1 to 6, 10 to 12 and 18 *Held* invalid. *Uarco Incorporated* v. *Moore Business Forms Incorporated,* 306 F. Supp. 369; 164 USPQ 38.

(D.C. Ga.) Fisher Patent No. 3,123,744 (317–104), for METER BOX WITH A MOISTURE BARRIER ASSEMBLY, *Held* invalid. *Strong* v. *General Electric Company,* 305 F. Supp. 1089; 162 USPQ 141.

(D.C. Ill.) Edwards Patent No. 3,139,213 (220–97), for NESTABLE CUP, *Held* valid and infringed. *Illinois Tool Works, Incorporated* v. *Sweetheart Plastics, Incorporated,* 306 F. Supp. 364; 163 USPQ 188.

(D.C. Tex.) Kelly Patent No. 3,185,228 (175–410), for ROTARY-PERCUSSION DRILL BIT WITH HEEL ROW INSERTS TO PREVENT WEDGING. Claims 3 and 7 *Held* invalid. *Hughes Tool Company* v. *Ingersoll-Rand Company,* 305 F. Supp. 1119; 163 USPQ 125.

(D.C. Calif.) Davidson Patent No. 3,245,719 (297–397), for HEAD REST, *Held* invalid. *Pacific International Plastics* v. *Sterling Plastics Corporation,* 305 F. Supp. 1341; 164 USPQ 35.

Certificates of Correction for the Week of Apr. 14, 1970

Re. 26,539
Re. 26,544
D. 213,181
D. 213,786
D. 213,912
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Patent Office—Postal Service

In view of the return to normal operations of the United States postal service, the Notice of Mar. 19, 1970 (published in the OFFICIAL GAZETTE of Mar. 24, 1970, vol. 872, No. 4) is hereby revised.

After Apr. 15, 1970, the U.S. Department of Commerce Field Offices will no longer be designated as receiving stations for the U.S. Patent Office. Accordingly, after the abovenoted date, all letters or other papers relating to patent and trademark cases will be considered as received in the U.S. Patent Office only if they are filed in accordance with Rule 6 of the Rules of Practice in Patent Cases as amended Nov. 26, 1969.

All other provisions of the Notice of Mar. 19, 1970 and the Notice of Mar. 26, 1970, relating to Trademarks, remain in effect.

WILLIAM E. SCHUYLER, JR.
Mar. 27, 1970. *Commissioner of Patents.*

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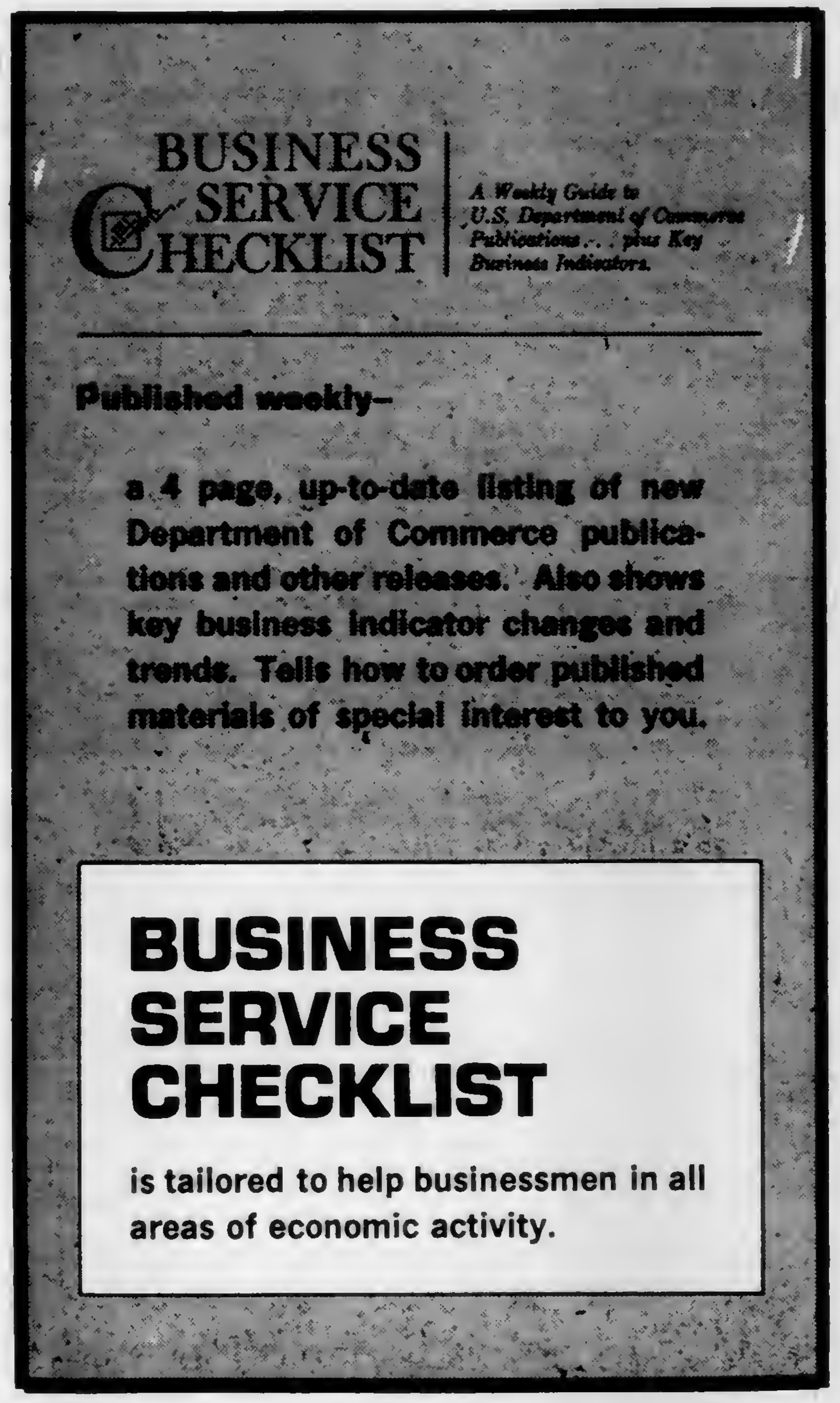

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Dedication

3,213,699.—*Raymond H. Terepin,* Wilmington, Del. POWER TRANSMISSION CHAIN. Patent dated Oct. 26, 1965. Dedication filed Mar. 11, 1970, by the assignee, *Borg-Warner Corporation.*

Hereby dedicates to the People of the United States the entire remaining term of said patent.

Lapsed Patent

The following patent has lapsed under the provisions of 35 U.S.C. 151 for failure of payment of remaining balance of issue fee due therein.

3,462,798 issued Aug. 26, 1969

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MARCH 24, 1970

*Denotes oldest new application.

PATENT EXAMINING GROUPS	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	3-13-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	5-09-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-01-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	1-15-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	6-11-68
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	4-03-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*1-23-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	7-02-68
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	4-30-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-01-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-06-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*5-22-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-03-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	2-14-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	10-23-68

Total number of pending applications (excluding Designs)	182, 522
Total number of Design applications pending	3, 146

Expiration of patents: The patents within the range of numbers indicated below expire during March 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,629,869 to 2,633,570, inclusive
Plant Patents	Numbers 1,172 to 1,177, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE LUKE THORINGTON, GERALD SCHIAZZANO AND JOEL SHURGAN

No. 8188. Decided November 26, 1969

[57 CCPA —; 417 F.2d 528; 163 USPQ 644]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—TERMINAL DISCLAIMER FILED AFTER BOARD DECISION.

"Although appellants filed, after the Examiner's answer but before the Board's decision, a letter 'reserv[ing] the right to disclaim,' we do not perceive any special circumstances which would cause us to depart from our views expressed in *In re Heyl* * * * and *In re Aldrich* * * * where we sustained the Patent Office's refusal to consider, as untimely, terminal disclaimers filed *prior* to the Board's decisions on reconsideration. Here appellants filed their disclaimer *after* the Board's decision on reconsideration. We, therefore, decide this case on the basis that there is no terminal disclaimer for our consideration."

2. PATENTABILITY—DOUBLE PATENTING—TERMINAL DISCLAIMER—35 U.S.C. 101.

"It should now appear clear from this court's recent decisions in this area that double patenting rejections usually take one or both of two forms, namely, the 'same invention' type 'double patenting' identifiable with the statutory provision 35 U.S.C. 101, saying that an inventor may obtain *a* patent, interpreted as meaning only one patent; and the 'obviousness' type 'double patenting,' a judicially-created doctrine grounded in public policy rather than statute and primarily intended to prevent prolongation of monopoly by prohibiting claims in a second patent not patentably distinguishing from claims of a first patent. This court has held that a terminal disclaimer is ineffective where it is attempted to twice claim the same invention; however, an 'obviousness' type 'double patenting' rejection may be obviated by a terminal disclaimer."

3. SAME—SAME—DESIGN AND UTILITY PATENTS.

"Similarly [as in *In re Hargraves*], the decisions in *In re Barber* * * * *In re Phelan* * * * and *In re Dubois* * * * accept the principle that double patenting is a proper ground of rejection if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure."

4. SAME—SAME—SAME—35 U.S.C. 101 AND 171.

"* * * it seems clear to us that double patenting rejections in a design-utility situation cannot be predicated on any statutory provision, but rather only on judicially recognizable doctrine grounded on the theory that a patentee will not be permitted to extend his monopoly beyond that contemplated by law. Thus, it can be seen that 35 U.S.C. 101, the usual authority for prohibiting double patenting where the *same* invention is involved, being limited to utility patents must be read as 'may obtain *a* [utility] patent,' while 35 U.S.C. 171, being limited to design patents must be read as 'may obtain *a* [design] patent' (emphasis supplied). Hence, while statutorily approved double patenting rejections may exist in utility-utility situations or design-design situations, we do not see how there can logically be a statutory base in design-utility situations because of the distinct nature of the two."

5. SAME—SAME—SAME.

"* * * a problem still exists where the same feature constituting the novel utilitarian aspect also produces a unique ornamental appearance * * *. It can be argued * * * that the designated patent is thus invalid in view of the case law stating that a design patent cannot properly be obtained on the configuration of an article made imperative by the utilitarian purpose of the article. The invalidity of the design patent thus presumably defeats double patenting rejections. Such argument is unconvincing to this court, however, not only because this court lacks jurisdiction to determine the validity of an issued patent but also since it would raise serious questions concerning an appellant's good faith in not only challenging the validity of his own patent but also in applying for a design patent on a configuration known to him to be functional. Moreover, if the functionality of the design is known only to the patentee, as it well might be, he will have enjoyed, practically speaking, a monopoly for the years that the design patent has been in existence."

6. SAME—SAME—SAME.

"We agree * * * with this court's prior cases sanctioning double patenting rejections in design-utility situations, while pointing out that such rejections are based on judicial doctrine grounded on the public policy that abhors improper extensions of monopoly, even in the case where an express statutory basis for rejection is lacking. This is the case, irrespective of whether the patent relied on in the rejection and the application on appeal involve the same invention, or whether they involve inventions which are obvious variations of one another."

7. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—IMPROPER STATUTORY BASIS FOR DOUBLE PATENTING REJECTION NOT FATAL—35 U.S.C. 101.

"We note that the Board characterized the double patenting rejections based on the design patent as being under 35 U.S.C. 101. While we disagree with that characterization, we do not believe that error in stating the basis to be fatal and accordingly treat the rejections simply as 'double patenting of the improper extension of monopoly' type."

8. PATENTABILITY — DOUBLE PATENTING — DESIGN AND UTILITY PATENTS — 35 U.S.C. 171.

"Appellants argue that their design patent protects only the ornamental design, while the claims on appeal are directed to the exact structure and function of the lamp. The claims on appeal, it is urged, require the cooperation of certain elements, namely an electrode, a phosphor coating, an ionizable medium and starting gas and an envelope of vitreous material, not shown nor covered by the design patent. We cannot accept this argument. The design patent protects the article of manufacture embodying the ornamental configuration. 35 U.S.C. 171. The article of manufacture is recited therein as being a fluorescent lamp. In our opinion, the evidence of record clearly establishes that the term 'fluorescent lamp' has a well-defined meaning which necessarily includes those elements recited in the claims on appeal. Once the design patent expires, the public should be free to construct fluorescent lamps having the helicoid configuration disclosed without restraint by the claims here on appeal. While the claims on appeal employ terminology which includes helicoid design other than the specific design of the patent, we do not find such differences significant here. Nor do appellants seriously so contend. We agree with the Board that the claims on appeal are directed to an obvious variation of the invention defined by the claims of the design patent as demonstrated by the secondary evidence of record."

APPEAL from Patent Office. Serial No. 441,411.

AFFIRMED.

Gordon D. Coplein for appellants.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MCGUIRE, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from the decision of the Patent Office Board of Appeals, adhered to on reconsideration, affirming the Examiner's rejection of claims 1, 6, 7, 9, 15, 24, 26, 27 and 28[1] in appellants' application [2] on the ground of double patenting. One claim has been indicated to be allowable.

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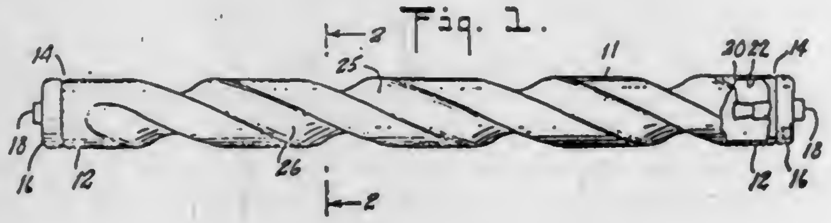
[1] It is appellants' view that claims 2, 5, 10, 14 and 19 are also before us for consideration. Their uncertain status arises due to their inclusion in the final rejection in rejections based on undue multiplicity and on double patenting. In response, appellants elected claims, not including claims 2, 5, 10, 14 and 19, for further prosecution. The Examiner's answer then only repeated the rejection of these claims based on undue multiplicity. On appeal, appellants withdrew a substantial number of claims and the Board reversed the Examiner's holding of undue multiplicity, stating that "no further issue as to claims 2, 5, 10, 14 and 19 is before us." We agree with the Solicitor that the final rejection was later modified by the Examiner's answer to exclude claims 2, 5, 10, 14 and 19 from the double patenting rejections and therefore there is no issue as to those claims before this court.

The invention relates to a noncircular cross-section fluorescent lamp tube and resides particularly in providing the usual generally cylindrical envelope of a fluorescent lamp with one or more grooves or deformations which are rotated around and along the envelope's longitudinal axis in a curved path of finite radius. In the preferred embodiment of the invention, shown in FIG. 1 below, the curved path is a helix which is continuous and extends substantially along and around the entire length of the envelope for more than one full turn of a helix.

Fig. 1.



The specification points out that the invention may be utilized with various types of fluorescent lamps having different radiating materials, tube materials, starting gases, phosphors and types of electrodes, and notes that types of phosphor coatings and electron emissive filament-cathodes are well known. The lamps of the present invention are said to possess several significant electrical operating advantages as well as several mechanical advantages, not the least of which is increased radiation efficiency due to the increase of arc stream length because the arc discharge will follow a helicoidal path which when stretched out is longer than the physical length of the envelope itself, resulting in increased lamp voltage gradient.

Claims 1 and 9 are reproduced as being illustrative:

> 1. An electric discharge lamp comprising an elongated envelope of generally tubular shape, electrode means mounted within said envelope and an ionizable medium contained therein for producing an arc stream when an electric potential is applied across said electrode means, said envelope being formed with two indentations therein, said indentations being spaced from each other and formed along said envelope in separate helical paths around and along the envelope longitudinal axis, each of said indentations being continuous and extending along the major portion of said envelope in its corresponding helical path.
>
> 9. A low pressure electric discharge lamp comprising an elongated, generally straight envelope of vitreous material of generally tubular shape, an ionizable medium within said envelope comprising an inert starting gas and a quantity of mercury and a pair of electrodes at opposite ends of said envelope to establish an arc stream discharge therebetween, the outer wall of said envelope having at least one deformation therein to produce a non-circular envelope cross-section in a plane generally transverse to the envelope longitudinal axis where a said deformation exists, a said deformation and the non-circular cross-section produced thereby being rotated on a path described by a helix around and along the longitudinal axis for more than one full turn of the corresponding helical path to thereby rotate said non-circular cross-section in a corresponding manner, at least a portion of the arc stream tending to travel the helical path of the non-circular cross-section.

While the claims differ in the language used to describe the tube configuration, claims 6 and 7 are similar to claim 9 in other respects. Claim 15 is also similar to claim 9 except that the "ionizable medium" is not specified as including inert starting gas and a quantity of mercury. Claims 24 and 26 additionally call for a phosphor, and claims 27 and 28, dependent from claim 26, respectively recite that the cross-section is symmetric and asymmetric.

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[2] Serial No. 441,411, filed March 11, 1965, for "Continuous Non-Circular Cross-Section Lamp."

The double-patenting rejections, as characterized by the Examiner and Board, are essentially as follows:

1. Claims 1, 6, 7, 9, 15, 24 and 26 to 28 stand rejected under 35 U.S.C. 101 as not patentably distinguishable from the claimed subject matter of appellants' design patent, more particularly claims 1, 15, 24 and 26 to 28 are rejected as patentably indistinguishable from the claim of the design patent while claims 6, 7 and 9 are rejected over the claim of the design patent in view of the disclosure of Lemmers.

2. Claims 7, 9, 24 and 26 to 28 are rejected for double patenting over the claims of the commonly-assigned Olsen patent in view of the disclosure of Ewest.

The references relied on are:

Thorington et al., D. 198,268, May 26, 1964.
Ewest, 2,009,223, July 23, 1935.
Lemmers et al., 2,950,410, Aug. 23, 1960.
Olsen, 3,169,657, Feb. 16, 1965.

Thorington discloses the ornamental design for a fluorescent lamp, as shown thusly:

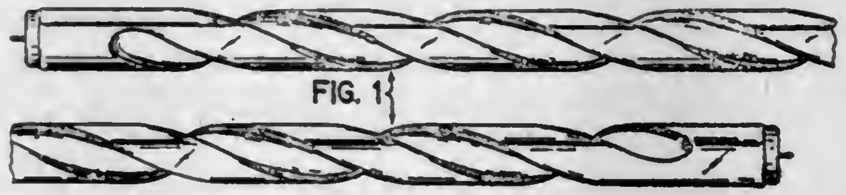


FIG. 1

FIG. 2

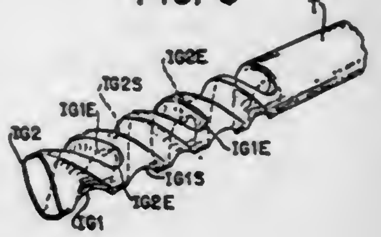
FIG. 3

Ewest shows an early, conventional type of fluorescent lamp having a cylindrical envelope, inert starting gas, a quantity of mercury and electrodes.

Lemmers discloses a low pressure discharge fluorescent lamp whose ionizable atmosphere includes an inert starting gas or mixture of gases. The reference also shows a plurality of spaced indentations or "dimples" formed along straight lines parallel to the lamp's longitudinal axis resulting in an elongated tubular envelope of noncircular grooved cross-section. The "dimples" are staggered to produce a sinuous path for the arc stream.

Olsen discloses a machine for converting glass tubes of a type such as the enclosure for a fluorescent lamp into helicoidal formation and the tubes so formed. The subject matter of Olsen in question is FIG. 6 and claims 11 through 15.

FIG. 6



Claim 12 of Olsen is illustrative and reads as follows:

> 12. An enclosure comprising a single thin walled glass tube having two helical grooves formed in its wall, each of said grooves being circumferentially spaced and comprising disconnected sections respectively lying on and longitudinally spaced along the same helix.

The Board affirmed the double patenting rejections summarized above, finding first that:

> Appellants' departure is that appellants' envelope instead of being a straight cylindrical tube as in Ewest or of a known non-circular cross section that defines an elongated electron discharge path, as in Lemmers et al., takes the form of a straight tube having one or more helical indentations extending substantially the length of the envelope or at least of more than one turn of a helix.

Its rationale was explained thusly:

> In our view, the granting of a second patent on the single feature of novelty of providing helical indentation in an otherwise conventional fluorescent lamp would constitute an unreasonable extension of the monopoly secured by appellants' design patent.
>
> That there would be an extension of the monopoly is clear since anyone wishing to make a fluorescent lamp by conventional techniques after the expiration of the design patent would still be confronted by the instant claims in a mechanical patent, so that the invention depicted in the design patent would still be unavailable to the public for many years thereafter, notwithstanding the expiration of the term of the design patent.
>
> That this extension of the monopoly would be unreasonable is likewise clear for the filing of two patent applications was not the result of some administrative circumstance but manifestly was an effort by appellants to secure greater patent protection with two patents than either patent alone would give. The direct result of issuing two patents for the single inventive concept would be to circumvent the statutory limitation to a 14 year term for a design patent and a 17 year term for a so-called "mechanical" patent.

The Board's factual inquiry is also set out:

> We find that the inventive concepts of the design patent and the double helical embodiment of the instant application are the same. Notwithstanding appellants' argument that their design patent was granted solely on the outer appearance of their lamp envelope, apart from its structure and function, 35 U.S.C. 171 authorizes the granting of a design patent on the *article of manufacture*, not just on *appearance*. In the instant case the article of manufacture is a "fluorescent lamp," whatever connotation that term may have had at the time appellants invented the design thereon, not just the envelope or the "appearance" of one.
>
> The term "fluorescent lamp" at the time appellants filed applications for the instant "mechanical" and their design patents had acquired a well understood meaning both in the dictionary and in the patent art, as the Examiner pointed out in his answer, and such a lamp contemplated the various features of electrodes, ionizable gas and fluorescent coatings on the envelope which appellants here contend are the distinguishing features of the lamp of the instant application over those of the design patent. Furthermore the Lemmers et al. patent describes how noncircular cross sections of the envelope lengthen the discharge path within the lamp and result in an increased efficiency so that appellants' improvement thereover would be merely a different shape for this extended path that apparently will give only the same increased efficiency found therefor by Lemmers et al. Appellants have not called our attention to any comparative test data wherein appellants' configuration of the envelope attains an improved efficiency over the configuration devised by Lemmers et al. On the contrary Lemmers et al. recognized or necessarily provided six of the seven advantages urged by appellants * * * and the seventh advantage * * * of a symmetrical appearance for different orientations of appellants' lamp finds full response in the design patent already granted appellants wherein this difference in appearance is of the essence.

Additionally, the Board affirmed the rejection based on Olsen, finding that it would have been obvious to fabricate the envelope or enclosure, as defined in claims 11 to 15 of Olsen, into a fluorescent lamp having the usual internal components, as disclosed by Ewest. That the helices of Olsen are discontinuous was acknowledged; however the Board felt that "it does not appear from the record before us that either the continuous or the interrupted forms for the helices offer any significant difference in function."

Appellants' petition for reconsideration requesting modification of the Board's decision was denied. Subsequent to this, appellants' assignee filed a terminal disclaimer [3] as to the part of the term of any patent issued on the appealed application extending beyond the expiration date of the issued design patent.

Prior to treating in detail appellants' arguments attacking the soundness of the Board's decision, we consider their request that this court, depending upon the relief granted appellants on the merits, either remand the application to the Patent Office with instructions to expunge the terminal disclaimer from the record or disregard it, or that the terminal disclaimer be favorably considered on the merits. **[1]** Although appellants filed, after the Examiner's answer but before the Board's decision, a letter "reserv[ing] the right to disclaim," we do not perceive any special circumstances which would cause us to depart from our views expressed in *In re Heyl*, 54 CCPA 1608, 379 F.2d 1018, 154 USPQ 178 and *In re Aldrich*, 55 CCPA 1431, 398 F.2d 855, 158 USPQ 311, where we sustained the Patent Office's refusal to consider, as untimely, terminal disclaimers filed *prior* to the Board's decisions on reconsideration. Here appellants filed their disclaimer *after* the Board's decision on reconsideration. We, thereore, decide this case on the basis that there is no terminal disclaimer for our consideration.

Appellants set forth several reasons in support of their contention that the Board erred. Summarized briefly, the pertinent points are:

1. There can be no holding of double patenting in a design patent-utility patent situation because of the differences in (*a*) the statutory origin (35 U.S.C. 101 *vs.* 35 U.S.C. 171); (*b*) the subject matter protected (utility *vs.* ornamentality) by legal monopoly; (*c*) the tests for infringement.
2. The design patent and the claims on appeal are directed to different inventions since the design patent fails to show the claimed elements of an electrode, a phosphor coating, an ionizable medium, a quantity of gas and an envelope of vitreous material.
3. There will be no extension of monopoly since the design covered by the design patent can be employed without infringing the claims on appeal.
4. The Olsen patent and the subject application are for different inventions when one compares the invention defined by the respective claims.

The Solicitor's brief, in the main, reiterates the positions of the Examiner and Board without amplifying the reasons for the rejections.

We shall treat appellants' arguments in the order presented above, setting them out in detail as we comment thereon. First, however, we provide some general observations regarding the area of double patenting. **[2]** It should now appear clear from this court's recent decisions[4] in this area that double patenting rejections usually take one or both of two forms, namely, the "same invention" type "double patenting" identifiable with the statutory provision 35 U.S.C. 101, saying that an inventor may obtain *a* patent, interpreted as meaning only one patent; and the "obviousness" type "double patenting," a judicially-created doctrine grounded in public policy rather than statute and primarily intended to prevent prolongation of monopoly by prohibiting claims in a second patent not patentably distinguishing from claims of a first patent. This court has held that a terminal disclaimer is ineffective where it is attempted to twice claim the same invention; however, an "obviousness" type "double patenting" rejection may be obviated by a terminal disclaimer.

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[3] Actually, two terminal disclaimers were filed for reasons which are unnecessary to mention here. We will refer to the two as one.

Appellants contend that there can be no double patenting in a design patent-utility patent situation because of the different statutory bases on which design and utility patents are predicated, namely, 35 U.S.C. 101 for utility patents and 35 U.S.C. 171 for design patents.[5] These separate provisions, it is urged, result in differences in subject matter, criteria of patentability and scope of protection in that 35 U.S.C. 101 requires usefulness or utility as a prerequisite to patentability, while the key word in 35 U.S.C. 171 is "ornamental." The design patent, appellants argue, protects only the visible, ornamental features of the article, its distinctive appearance as shown in the patent drawings, and cannot be predicated on nor protect function, whereas a utility patent defines by its claims a utilitarian article including the operating functions and elements hidden from view. Accordingly, they urge, the tests for infringement differ for the two also. In brief, they thus view the holding of double patenting in the instant situation as not authorized by statute. Appellants rely principally on language in the case of *Gross* v. *Norris*, 18 F.2d 418 (D. Md. 1927),[6] stating:

> But it is difficult to understand how a situation of double patenting can arise in the case of a design and of a mechanical patent applicable to the same device, notwithstanding certain statements in the books to the contrary. * * * There may be double patenting when two patents for the same mechanical structure are sought, * * * and when two patents for the same design are applied for * * *. But a design patent and a mechanical patent relate to different subject matter. The first pertains to the appearance while the second relates to the mechanical structure of a device, and it is well settled that a design and a mechanical patent covering the same article of manufacture, may coexist. * * *
>
> It is true that a design patent cannot be used to protect a mechanical function, or to cover an article whose configuration affects its utility alone, and whose appearance is a matter of no consequence. * * * Yet, if an attempt is made to cover such a structure by both kinds of patents, double patenting does not result, for the reason that the design patent is invalid. * * * [Citations omitted.]

Appellants acknowledge, however, that the view expressed in that case has not been universally followed.

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[4] Extensive citation will not be undertaken, but see *In re White*, 56 CCPA 870, 405 F.2d 904, 160 USPQ 417 (1969).

[5] The statutory provisions read:

§ 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§ 171. Patents for designs

Whoever invents any new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title.

The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.

[6] The appellate court reversed the lower court on the question of whether the design patent met the "standard of invention," but did not disapprove the language quoted. *Gross* v. *Norris*, 26 F.2d 898 (4th Cir. 1928).

While the question of rejecting claims of a utility application for double patenting in view of a design patent is an unusual one, it is not one of first impression in this court.[7] In *In re Hargraves*, 19 CCPA 784, 53 F.2d 900, 11 USPQ 240, appellant's design patents recited a design for "resilient tires" and displayed, in substance, the identical design shown by the drawings and fairly set out in the claims of the utility application on appeal. This court observed:

> While it is true, as a matter of law, that one may have a mechanical patent and a design patent upon the same subject matter, there must be a clear patentable distinction between the two inventive ideas involved. * * *
>
> * * * * * * *
>
> If the two Hargraves design patents, or if either of them, would anticipate the application here, then to issue the mechanical patent asked for now would result in a double patenting to the appellant, which would be clearly contrary to law. The power to create a monopoly, in such cases, is exhausted by the first patent.

The court then found that the same inventions were involved and that granting a utility patent would be simply to further extend the appellant's monopoly. It further observed:

> Finally, appellant presents this novel proposition: That his design patents are void as being upon an unpatentable subject matter, namely, tire treads, and that, therefore, he stands as one having no preexisting patent, and should be given a patent upon his mechanical device. Upon the invalidity of his design patents, he cites several cases where courts have held design patents upon tire treads to be void. [Citations omitted.]
>
> We are of the opinion that the question of the validity of appellant's prior design patents can not be raised by him in this proceeding. Waiving the question of the possible estoppel of the appellant to question his own patents, it seems quite evident that it is not the function of this court to determine whether appellant's former patents were illegally granted. That may be done in another court, as provided by law. The patents themselves furnish *prima facie* proof of their validity.

[3] Similarly, the decisions in *In re Barber*, 23 CCPA 834, 81 F.2d 231, 28 USPQ 187; *In re Phelan*, 40 CCPA 1023, 205 F.2d 183, 98 USPQ 156, and *In re Dubois*, 46 CCPA 744, 262 F.2d 88, 120 USPQ 198, accept the principle that double patenting is a proper ground of rejection if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure.

[4] Viewing these cases with the perspective gained from this court's recent decisions in the area of double patenting and in the light of the relevant statutory provisions, as we must, it seems clear to us that double patenting rejections in a design-utility situation cannot be predicated on any statutory provision, but rather only on judicially recognizable doctrine grounded on the theory that a patentee will not be permitted to extend his monopoly beyond that contemplated by law. Thus, it can be seen that 35 U.S.C. 101, the usual authority for prohibiting double patenting where the *same* invention is involved, being limited to utility patents must be read as "may obtain *a* [utility] patent," while 35 U.S.C. 171, being limited to design patents must be read as "may obtain *a* [design] patent" (emphasis supplied). Hence, while statutorily approved double patenting rejections may exist in utility-utility situations or design-design situations, we do not see how there can logically be a statutory base in design-utility situations because of the distinct nature of the two. This view is not inconsistent with the above cited decisions of this court since nowhere therein were the double patenting rejections based on a statutory provision.

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[7] The conflicting theories and cases on this point are analyzed in a thorough review by Megley, Design and Mechanical Patents Relating to the Same Subject Matter, J. Pat. Off. Soc., vol. XLIV, p. 309, May 1962.

[5] However, a problem still exists where the same feature constituting the novel utilitarian aspect also produces a unique ornamental appearance, as the tire tread in *Hargraves*, supra. It can be argued, as was attempted in *Hargraves*, that the design patent is thus invalid in view of the case law stating that a design patent cannot properly be obtained on the configuration of an article made imperative by the utilitarian purpose of the article.[8] The invalidity of the design patent thus presumably defeats double patenting rejections. Such argument is unconvincing to this court, however, not only because this court lacks jurisdiction to determine the validity of an issued patent but also since it would raise serious questions concerning an appellant's good faith in not only challenging the validity of his own patent but also in applying for a design patent on a configuration known to him to be functional. Moreover, if the functionality of the design is known only to the patentee, as it well might be, he will have enjoyed, practically speaking, a monopoly for the years that the design patent has been in existence.

[6] We agree, therefore, with this court's prior cases sanctioning double patenting rejections in design-utility situations, while pointing out that such rejections are based on judicial doctrine grounded on the public policy that abhors improper extensions of monopoly, even in the case where an express statutory basis for rejection is lacking. This is the case, irrespective of whether the patent relied on in the rejection and the application on appeal involve the same invention, or whether they involve inventions which are obvious variations of one another.[9]

Finally, we turn to the factual inquiry required here and the issues raised by appellants' points 2, 3 and 4, supra. **[7]** We note that the Board characterized the double patenting rejections based on the design patent as being under 35 U.S.C. 101. While we disagree with that characterization, we do not believe that error in stating the basis to be fatal and accordingly treat the rejections simply as "double patenting of the improper extension of monopoly" type.

[8] Appellants argue that their design patent protects only the ornamental design, while the claims on appeal are directed to the exact structure and function of the lamp. The claims on appeal, it is urged, require the cooperation of certain elements, namely an electrode, a phosphor coating, an ionizable medium and starting gas and

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[8] Appellants raise the point but do not make this argument, stating in their brief "The concept of appellants' earlier issued design patent being invalid *ab initio*, on the theory that if there is double patenting the design patent must have been to unpatentable subject matter, is not discussed in this brief. Permitting a patentee to later challenge the validity of his own patent would do violence to the patent system by injecting factors of uncertainty and instability."

[9] The next question logically would be whether a terminal disclaimer will overcome a holding of double patenting in the design-utility area as we have held that it will overcome double patenting rejections in the utility patent area where those rejections are based on the judicial doctrine of preventing unlawful timewise extensions of monopoly. Since no terminal disclaimer is properly before us for consideration, we must refrain from deciding that question here.

an envelope of vitreous material, not shown nor covered by the design patent. We cannot accept this argument. The design patent protects the article of manufacture embodying the ornamental configuration. 35 U.S.C. 171. The article of manufacture is recited therein as being a fluorescent lamp. In our opinion, the evidence of record clearly establishes that the term "fluorescent lamp" has a well-defined meaning which necessarily includes those elements recited in the claims on appeal. Once the design patent expires, the public should be free to construct fluorescent lamps having the helicoid configuration disclosed without restraint by the claims here on appeal. While the claims on appeal employ terminology which includes helicoid design other than the specific design of the patent, we do not find such differences significant here. Nor do appellants seriously so contend. We agree with the Board that the claims on appeal are directed to an obvious variation of the invention defined by the claims of the design patent as demonstrated by the secondary evidence of record.

Appellants further argue that no extension of monopoly will exist since there are several ways in which the invention covered by the design patent can be practiced without infringing the claims on appeal. Without discussing appellants' hypothesis in detail, we note only that these appear to be unrealistically strained efforts to produce an article that conforms to the illustration in the design patent but not to the claims on appeal and results in an article of dubious commercial worth.[10] We fail to see the pertinence of the affidavit placing in evidence an advertisement of a table lamp having a helicoid "metal candlestick" base.

While it may be unnecessary to do so, we treat also the "obviousness" type double patenting rejection based on Olsen and Ewest. We cannot sustain that rejection. Comparing the invention defined in the claims of Olsen with that defined in the claims on appeal, we fail to see that the latter is obvious. Olsen calls merely for a glass tube having *disconnected* sections and even if Ewest would render obvious the use of such tube for fluorescent lamps, the desired noncircular cross-section arising from a continuous helical groove would be lacking.

Accordingly, the decision of the Board is affirmed with respect to the rejection of claims 1, 6, 7, 9, 15, 24 and 26 to 28 as unpatentable over the design patent on the ground of double patenting, and reversed with respect to the rejection of claims 7, 9, 24 and 26 to 28 as unpatentable over the claims of Olsen in view of Ewest.

AFFIRMED.

BALDWIN, *J.*, concurring.

I am in complete agreement with the majority opinion, but wish to take this opportunity to adhere to my position regarding the handling of terminal disclaimers by the Patent Office as set forth in the concurring opinion in *In re Jursich*, 56 CCPA 1141, 410 F.2d 803, 161 USPQ 675 (1969).

I particularly approve of the action taken by the Board of Appeals in such cases as *Ex parte Fertig*, 155 USPQ 475 (1967) and *Ex parte Deering*, 157 USPQ 164 (1967).

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[10] For example, making the lamp envelope only and painting it as a barber pole.

U.S. Court of Customs and Patent Appeals

IN RE PAUL A. MÜLLER

No. 8186. Decided November 26, 1969

[57 CCPA —; 417 F.2d 1389; 163 USPQ 641]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE.

"We do find that the Board erred in concluding that there was insufficient disclosure to support the claims. The Board appears to have placed undue reliance on the drawings, which are illustrative rather than comprehensive of the disclosure. The * * * specification language regarding FIG. 17 speaks of 'the mentioned filtering material.' No particular type is specified, and we think this language is a direction to persons skilled in the art to use *any* of the disclosed forms of filtering material. There is no requirement in the law that every feature recited in a claim must appear in a single figure of the drawing, and the applicant should not be required here to illustrate the cylindrical folding with each and every disclosed material, since it is clear how it could be done."

2. REISSUE—NARROWED CLAIMS—35 U.S.C. 251.

"This brings us to the rejection, affirmed by the Board, for lack of error within the meaning of 35 U.S.C. 251. Pursuant to restriction requirement imposed in the first office action on the original application, Muller was forced to elect provisionally one of the several species of filter material forms; he chose the multi-layer form shown in FIG. 6 *provided* no generic claim was finally held allowable. The Board concluded that '[d]ue to this election no claims were thereafter presented restricted to the form of FIG. 17.' This is not so, since the election of the filter material of FIG. 6 had nothing to do with the shape of the filter body. The material form and the finished body are not different species of a genus. Moreover, the provisional election disappeared with the allowance of claims 1–3 of the patent, each of which is generic as regards filter material since each is readable upon the FIG. 2 type, the FIG. 3 type, or the FIG. 6 type of material. Finally it should be noted that the *addition* of a limitation to a claim, as distinguished from the substitution of a limitation, can never result in a claim to a different species, since species claims must be mutually exclusive in scope. By including an additional limitation in each of four new claims here, appellant is not shifting to different species; he is simply defining his invention more narrowly, which he could have done but failed to do in the prosecution of the patent. We find here no deliberate renunciation of subject matter, and we do not reach the question of whether a deliberate non-election of species can be remedied by reissue. We conclude that the reissue oath here shows that the failure to present the narrower claims was through error without any deceptive intention. The oath was therefore sufficient under 35 U.S.C. 251."

APPEAL from Patent Office. Serial No. 253,784.

REVERSED.

David E. Varner, *Cushman, Darby & Cushman* for appellant.

Joseph Schimmel (*Lutrelle F. Parker*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, MCGUIRE, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

LANE, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of all claims in appellant's application Serial No. 253,784, for reissue of his U.S. Patent No. 2,847,086 entitled "Filtering Material." We conclude that the decision of the Board must be reversed.

The specification and drawings of the reissue application are identical to those of the original patent. All the claims (1–10) of the patent were presented again in the reissue application, and four additional claims (15–18) were sought. Claims 15–18 correspond to claims 1–3 and 9 of the patent except that each of the new claims is of narrower scope by virtue of the addition of one limitation not present in the original claims. Claim 16 is illustrative and is produced here with italics indicating matter added to corresponding claim 2 of the patent.

> 16. Filtering means for a gaseous medium comprising: a plurality of adjacent layers *constituted by adjacent folds* of crepe paper material *folded and shaped to form an essentially round cylindrical filter body*, each *of said layers being* provided with a plurality of spaced apart openings struck out of said material but leaving thereat projections extending from said openings therebeyond, said projections spacing respective opposite surfaces of adjacent layers from each other and being made of said crepe paper material terminating in irregularly shaped frayed ends, whereby the projections of one layer may interlace with the projections of an adjacent layer to thereby provide a tortuous path between said layers for the passage of said gaseous medium between said layers and along said surfaces of the latter.

The new claims were rejected as (1) not being supported by adequate original disclosure (35 U.S.C. 112; 35 U.S.C. 251); and (2) being based upon an insufficient reissue oath, since the oath did not show "error" within the meaning of 35 U.S.C. 251, as they are drawn to species which were not elected under a restriction requirement in the original application. Rejection of the new claims removed any basis for reissuing claims 1–10 and the latter claims were formally rejected for this reason. The Board affirmed the Examiner on each ground. No questions of prior art are involved.

THE DISCLOSURE

The specification, which as we have said is identical with that of the patent, discloses various materials and structural forms for filters of general utility, such as air, dust, smoke and liquid filters. Essentially three stages of manufacture are involved: selection of the basic materials, making "filter materials" from the basic materials, and making "filter bodies" from the filter materials.

The basic material is selected from various papers, such as crepe paper as recited in claim 16. There is no issue here regarding the recital of basic materials in the claims.

The specification teaches forming the basic material into any of various types of filter material. This may be done in several different ways, thus forming several varieties of filter material. These can be considered in two groups. The first group are of the type formed by perforating the basic material so as to leave projections extending from the perforations as in FIGS. 1–3.

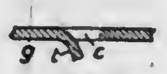


Fig. 1

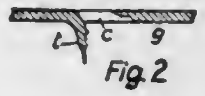


Fig. 2

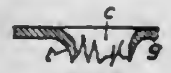


Fig. 3

The second group are of the type formed by making clean perforations in the basic material and then adding a layer of fibrous material as shown for example in FIGS. 7, 11 and 12.

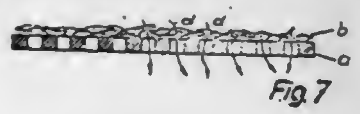


Fig. 7

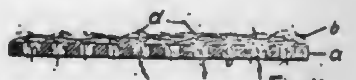


Fig. 11

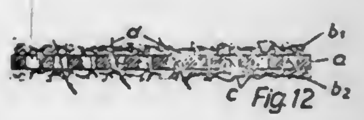
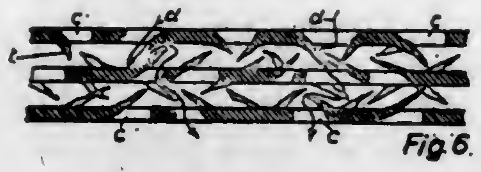
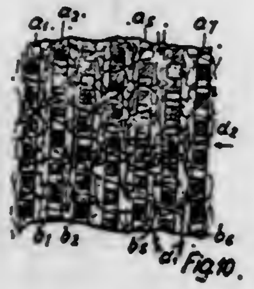
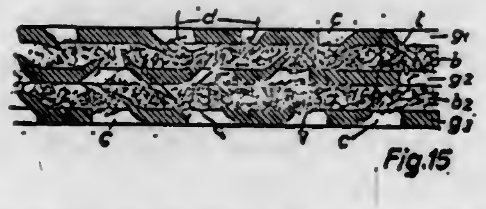


Fig. 12

For effective filtration the filter material is multi-layered, and this is illustrated for the first group in FIG. 6, for the second group in FIG. 10, and for a combination of the two group types in FIG. 15.



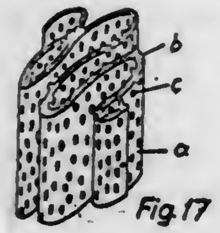




The new claims here in issue recite a filter material of the first type, namely, the type having projections with frayed ends which interlace when the pad is folded. It is undisputed that this interlacing projection type of filter material is clearly disclosed.

Having described the various filter materials, the specification states:

> FIGS. 16 and 17 show two further possibilities of forming the mentioned filtering material into a filter body. In FIG. 16 the filtering material is wound about an axis AB and forms a roll. In the embodiment according to FIG. 17 the filtering material is first folded and then shaped to form an essentially round cylindrical body only a sector thereof being shown.



It is at this point that the issue of sufficiency of disclosure arises. The claim limitation of "an essentially round cylindrical filter body" is supported by the above quotation from the specification. There is no contention that persons skilled in the art would not have enough information to make such bodies. The issue arises because the cylindrical filter body *shown* in FIG. 17 appears to be made from material of the second type (clean perforations), whereas the new claims recite material of the first type (projections from the perforations).

THE BOARD

The Board sustained the rejection for insufficient disclosure, stating that the applicant nowhere disclosed a material like the center layer of FIG. 6 (projections from each side of the paper) formed into a body of cylindrical shape. The cylindrical shape, said the Board, was described with reference to FIG. 17 which shows a material not of the projection type but of the type "shown, for example, in FIG. 7 or 11."

The Board rejected applicant's contention that the material shown in FIG. 6 could be folded into a form upon which the claims would read, since if that material were folded upon itself there would be no interlacing projections between adjacent folds.

OPINION

We do not dispute the Board's view of what is disclosed in FIGS. 6 and 17. **[1]** We do find that the Board erred in concluding that there was insufficient disclosure to support the claims. The Board appears to have placed undue reliance on the drawings, which are illustrative rather than comprehensive of the disclosure. The above quoted specification language regarding FIG. 17 speaks of "the mentioned filtering material." No particular type is specified, and we think this language is a direction to persons skilled in the art to use *any* of the disclosed forms of filtering material. There is no requirement in the law that every feature recited in a claim must appear in a single figure of the drawing, and the applicant should not be required here to illustrate the cylindrical folding with each and every disclosed material, since it is clear how it could be done.

Our holding that the disclosure directs the shaping of any of the disclosed materials into cylindrical bodies is confirmed by the initial description of the drawing wherein it is said:

> FIGS. 1–6 show filtering material of the first type,
> FIGS. 7–14 show filtering material of the second type,
> FIG. 15 shows a combination of filtering materials of the first and second types,
> FIGS. 16 and 17 show the manner in which filtering bodies are manufactured *from the filtering material according to this invention,* * * * [Emphasis added.]

This language clearly indicates that any of the disclosed forms of filtering material can be formed into cylindrical filtering bodies as *illustrated* in FIG. 17.

Examination of the various forms of filter material reveals that the types shown in FIGS. 1–3, if folded and shaped into cylindrical form, would have some adjacent layers with opposed interlacing projections. The claims do not require that every pair of adjacent layers have such projections. Accordingly, the claims are fully supported by the disclosure.

THE QUESTION OF ERROR

[2] This brings us to the rejection, affirmed by the Board, for lack of error within the meaning of 35 U.S.C. 251. Pursuant to restriction requirement imposed in the first office action on the original application, Muller was forced to elect provisionally one of the several species of filter material forms; he chose the multi-layer form shown in FIG. 6 *provided* no generic claim was finally held allowable. The Board concluded that "[d]ue to this election no claims were thereafter presented restricted to the form of FIG. 17." This is not so, since the election of the filter material of FIG. 6 had nothing to do with the shape of the filter body. The material form and the finished body are not different species of a genus. Moreover, the provisional election disappeared with the allowance of claims 1–3 of the patent, each of which is generic as regards filter material since each is readable upon the FIG. 2 type, the FIG. 3 type, or the FIG. 6 type of material. Finally it should be noted that the *addition* of a limitation to a claim, as distinguished from the substitution of a limitation, can never result in a claim to a different species, since species claims must be mutually exclusive in scope. By including an additional limitation in each of four new claims here, appellant is not shifting to different species; he is simply defining his invention more narrowly, which he could have done but failed to do in the prosecution of the patent. We find here no deliberate renunciation of subject matter, and we do not reach the question of whether a deliberate non-election of species can be remedied by reissue. We conclude that the reissue oath here shows that the failure to present the narrower claims was through error without any deceptive intention. The oath was therefore sufficient under 35 U.S.C. 251.

Accordingly, the decision of the Board on each of the claims in issue is reversed.

REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,531,999, L. Wallerstein, MANUFACTURE OF CRYSTALLINE DEXTROSE, **filed** Dec. 16, 1969, D.C., S.D. Ill. (Peoria), Doc. 4511, *Baxter Laboratories, Inc.* v. *A. E. Staley Manufacturing Co.*

2,544,246, G. H. Butterfield, CORNEAL CONTACT LENS, **filed** May 7, 1969, D.C., S.D. Calif. (San Diego), Doc. 69–126–S, *George H. Butterfield, Sr.* v. *San Diego Contact Lens Laboratory, Inc.* (Case transferred to Northern District of Illinois at Chicago), Feb. 5, 1970. **Same, filed** Sept. 30, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1434–HW, *George H. Butterfield, Sr.* v. *Mueller Welt Contact Lenses, Inc.* Order dismissing complaint with prejudice, Oct. 28, 1965. **Same, filed** Feb. 11, 1970, D.C., S.D. Fla. (Miami), Doc. 70–175–C–JE, *George H. Butterfield, Sr.* v. *Global Contact Lens, Inc.* **Same, filed** Feb. 11, 1970, D.C., Nebr. (Omaha), Doc. C–03465, *George H. Butterfield, Sr.* v. *Commercial Optical Company.* **Same, filed** Feb. 11, 1970, D.C., N.D. Tex. (Dallas), Doc. CA–3–3643–C, *George H. Butterfield, Sr.* v. *Southwestern of Dallas Optical Co., Inc.* **Same, filed** Feb. 11, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–128, *George H. Butterfield, Sr.* v. *Fred Rump Contact Lens Laboratory.* **Same, filed** Feb. 11, 1970, D.C., Wash., Doc. 408–70, *George H. Butterfield, Sr.* v. *Alpha Contact Lens, Inc.* **Same, filed** Feb. 11, 1970, D.C., Kans. (Wichita), Doc. W–4315, *George H. Butterfield, Sr.* v. *Dr. Doyle O. Burch, doing business as Magic Circle Contact Lens Lab.* **Same, filed** Feb. 12, 1969, D.C., M.D. Tenn. (Nashville), Doc. 5648 and 5649, *George H. Butterfield, Sr.* v. *Nashville Optical Dispensary* and *George H. Butterfield, Sr.* v. *Horner-Rausch Optical Co., Inc.* **Same, filed** Feb. 12, 1970, D.C., E.D. Mich. (Detroit), Doc. 34450, *George H. Butterfield, Sr.* v. *Jardon Plastic Research Corp.* **Same, filed** Feb. 12, 1970, D.C., E.D. Mich. (Detroit), Doc. 34451, *George H. Butterfield, Sr.* v. *James H. Hood, doing business as International Lens Lab.* **Same, filed** Feb. 12, 1970, D.C., Ariz. (Phoenix), Doc. C–70–90 Phx., *George H. Butterfield, Sr.* v. *Guaranteed Contact Lenses of Arizona, Inc.* **Same, filed** Feb. 13, 1970, D.C., W.D. Tenn. (Jackson), Doc. 1963–C, *George H. Butterfield, Sr.* v. *Muller's Contact Lens Service, Inc.* **Same, filed** Feb. 13, 1970, D.C., N.D. Ind. (Fort Wayne), Doc. 70–F23, *George H. Butterfield, Sr.* v. *Indiana Contact Lens, Inc.* **Same, filed** Feb. 16, 1970, D.C., W.D. Okla. (Oklahoma), Doc. 70–87–C, *George H. Butterfield, Sr.* v. *Tom Brown's Optical Service, Inc.* **Same, filed** Feb. 16, 1970, D.C., N.D.N.C. (Greensboro), Doc. C–31–G–70, *George H. Butterfield, Sr.* v. *Future Optics, Inc.* **Same, filed** Feb. 16, 1970, D.C., S.D.N.Y., Doc. 70–C–633, *George H. Butterfield, Sr.* v. *Professional Contact Lens Service.* **Same, filed** Feb. 16, 1970, D.C., S.D.N.Y., Doc. 70–C–640, *George H. Butterfield, Sr.* v. *Tru Form Contact Lens.* **Same, filed** Feb. 16, 1970, D.C., W.D. Pa. (Pittsburgh), Doc. 70–175, *George H. Butterfield, Sr.* v. *Dr. Arthur G. Duppstadt.* **Same, filed** Feb. 16, 1970, D.C., S.D.N.Y., Doc. 70–C–641, *George H. Butterfield, Sr.* v. *Prestige Contact Lens, Inc.* **Same, filed** Feb. 16, 1970, D.C., S.D.N.Y., Doc. 70–C–642, *George H. Butterfield, Sr.* v. *Rynco Scientific Corp.* **Same, filed** Feb. 16, 1970. D.C., E.D. (Brooklyn), Doc. 70–C—199, *George H. Butterfield, Sr.* v. *Micro-Thin Contact Lens Lab Inc.* **Same, filed** Feb. 16, 1970, D.C., E.D. (Brooklyn), Doc. 70–C–200, *George H. Butterfield* v. *Professional Contact Lens Co., Inc.* **Same, filed** Feb. 17, 1970, D.C., S.D. Ohio (Columbus), Doc. 70–39, *George H. Butterfield, Sr.* v. *The White-Haines Optical Company.* **Same, filed** Feb. 17, 1970, D.C., Mass. (Boston), Doc. 70–285–M, *George H. Butterfield, Sr.* v. *Dalton Contact Lens Inc.* **Same, filed** Feb. 19, 1970, D.C., M.D. Fla. (Jacksonville), Doc. 70–89–C–J, *George H. Butterfield, Sr.* v. *Frontier Contact Lenses, Inc.* **Same, filed** Feb. 20, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c413, *George H. Butterfield, Sr.* v. *Invisible Lens Corporation.* **Same, filed** Feb. 20, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c414, *George H. Butterfield, Sr.* v. *Halcon, Inc.* **Same, filed** Feb. 20, 1970, D.C., W.D.N.Y. (Buffalo), Doc. C–1970–88, *George H. Butterfield, Sr.* v. *Gordon Contact Lenses, Inc.* **Same, filed** Feb. 24, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–170, *George H. Butterfield, Sr.* v. *Reese Optical Co., Inc.* (*Div. of Bausch & Lomb*).

2,579,304, J. B. Crawford, SELF-ADJUSTING RECIRCULATING OVERFLOW, **filed** Oct. 29, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–2165–IH, *Wilbur Kinkead, Alden Tollefson, Martha O. Clark and Esther Gibson* v. *Frank Industries, doing business as Industrial Specialties, Anthony Pools, et al.*

2,613,086, J. N. Wolfram, COUPLING FOR FLARELESS TUBES; **3,485,517**, E. E. Howe, PRESSURE FITTING FOR PIPES CARRYING GASEOUS FLUIDS, **filed** Dec. 17, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2612, *Chicago Fittings Corporation* v. *Earl E. Howe, Richard Howe, and Margaret Frisby.*

2,621,653, H. Briggs, FRACTURE REDUCING DEVICE, **filed** Dec. 2, 1969, D.C., W.D. Tenn. (Memphis), Doc. C–69–368, *Orthopedic Equipment Co.* v. *Wright Manufacturing Co. and Frank O. Wright.*

2,625,335, R. Atwood, TEXTILE SPOOL DRIVING CONNECTION; **2,953,317**, Atwood and L'Allemand, SPOOL; **3,051,411**, same, TEXTILE BOBBIN; **3,095,161**, same, ANTI-SLOUGHING BOBBIN; **3,107,067**, same, SLIP SLEEVE TEXTILE BOBBIN, **filed** Nov. 21, 1966, D.C., S.D.N.Y., Doc. 66–C–3966, *Gretner, A.G.* v. *Dyson-Kissner Corporation.* Consent order discontinuing action and all cross and counterclaims, Dec. 1, 1969.

2,628,568, M. L. Rhine, HIGH PRESSURE PUMP, **filed** Aug. 2, 1966, D.C., N.D. Ill (Chicago), Doc. 66c1421, *Ellipse Corp.* v. *Ford Motor Co.* Judgment, plaintiff is owner of patent. Claims 1 and 3 of patent are valid and infringed, Dec. 22, 1969.

2,653,526, W. E. Peery, PRINTING SYSTEM FOR PHOTOCOMPOSING MACHINES OR THE LIKE; **2,787,654**, same, ELECTRONIC PHOTO-TYPECOMPOSING SYSTEM, **filed** Dec. 10, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2552, *Compugraphic Corporation* v. *The Singer Company.*

2,702,049, M. M. Seeloff, FLUID VALVE, **filed** Jan. 8, 1970, D.C., E.D. Mich. (Detroit), Doc. 34201, *Versa Products Co., Inc.* v. *Ross Operating Valve Co.*

2,074,663, D. R. Blake, LEVELING DEVICE, **filed** July 8, 1968, D.C., S.D.N.Y., Doc. 68–C–2767, *David R. Blake* v. *United Industrial Syndicate, Inc.* Stipulation of discontinuance without prejudice, Dec. 19, 1969.

2,724,720, Berger and Ludwig, DICARBAMATES OF SUBSTITUTED PROPANE DIOLS, **filed** Jan. 13, 1970, D.C.N.J. (Newark), Doc. C–44–70, *Carter-Wallace, Inc.* v. *Rondex Laboratories, Inc.*

2,787,654. (See 2,653,526.)

2,953,317. (See 2,625,335.)

3,051,411. (See 2,625,335.)

3,095,161. (See 2,625,335.)

3,107,067. (See 2,625,335.)

3,210,267, Plank and Rosinski, CATALYTIC CRACKING OF HYDROCARBONS WITH THE USE OF A CRYSTALLINE ZEOLITE CATALYST CONTAINING RARE EARTHS AND A POROUS MATRIX; **3,436,357**, same, CATALYST AND CONVERSION OF ORGANIC COMPOUNDS IN THE PRESENCE THEREOF; **3,459,680**, same, CRYSTALLINE ZEOLITE COMPOSITE FOR CATALYTIC HYDROCARBON CONVERSION, **filed** Nov. 3, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–633–F, *Mobil Oil Corporation* v. *Filtrol Corporation and Texaco Inc.* (Amended notice.)

3,250,571, R. Richter, NONFERROUS WHEEL HAVING STEEL INSERTS AND STEEL RIM WELDED THERETO; **3,250,572**, same; **D. 204,933**, same, WHEEL; **3,302,273**, Benton and Bennett, METHOD OF MAKING COMPOSITE VEHICLE WHEEL; **3,399,930**, J. C. Bennett, COMPOSITE VEHICLE WHEEL AND METHOD OF MAKING THE SAME, **filed** July 11, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–1333–DWW, *Roy Richter, Inc., doing business as Cragar Industries and Electro Chemical Industries, Inc.* v. *Fenton Mfg. Corporation and Aaron J. Fenton.*

3,250,572. (See 3,250,571.)

3,302,273. (See 3,250,571.)

3,399,930. (See 3,250,571.)

3,436,357. (See 3,210,267.)

3,436,851, J. J. Gilbert, HAND ELECTRIC STEAMING AND PRESSING DEVICE TO TOUCH-UP HANGING GARMENTS, **filed** Dec. 22, 1969, D.C.N.Y. (Brooklyn), Doc. 69–C–1605, *Franzus Industries, Inc.* v. *Abraham & Straus, Inc., et al.*

3,459,680. (See 3,210,267.)

3,485,517. (See 2,613,086.)

Re. 25,360, E. G. Rice, COMBINATION STOCKINGS AND PANTY, **filed** Dec. 16, 1969, D.C.N.C. (Greensboro), Doc. C–258–G–69, *Tights, Inc.* v. *Acme-McCrary Corp.*

D. 204,933. (See 3,250,571.)

DEFENSIVE PUBLICATIONS

APRIL 14, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T873,006

USE OF POLYOLEFINS AS TEXTILE FINISHING AGENTS

Robert H. Saunders, Chadds Ford, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

Continuation-in-part of application Ser. No. 717,378, Mar. 29, 1968. This application Feb. 28, 1969, Ser. No. 803,439

Int. Cl. D06m *15/26*
U.S. Cl. 117—139.4
No Drawing. 13 Pages Specification

Water repellency, shrink resistance, abrasion resistance, lubricity, and wrinkle resistance of natural fiber fabrics are improved by surface application of relatively small amounts of crystalline olefin polymers and copolymers—preferably polypropylene and copolymers of propylene and ethylene. The polymer employed is in the form of fine particles, the major portion of which are discrete particles of 0.02 to 0.4 micron diameter. These are preferably applied from dispersion in an organic liquid in which the polymer is soluble at elevated temperatures—e.g., hydrocarbons, followed by fusion of the particles by heating. Application can also be from solution or in solid particle form, followed by fusion. The polymer concentration is preferably about 0.1 to 5%.

T873,007

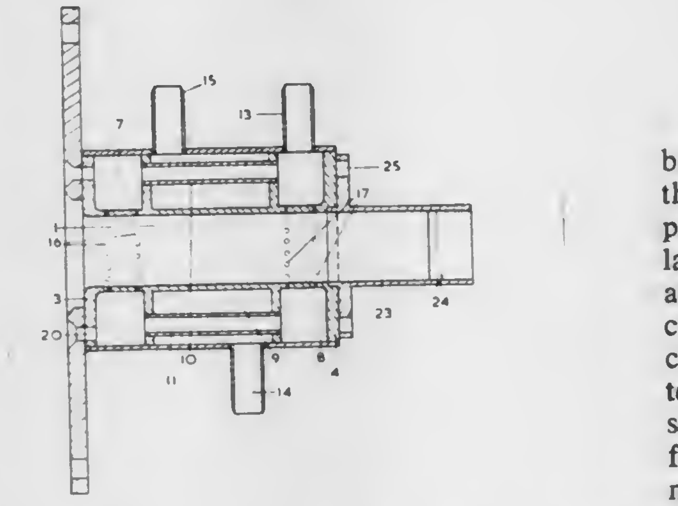
METHOD AND APPARATUS FOR THE PRODUCTION OF EXTRUDED TUBING

Alistair Paul Bennett and John Peter Grove, Welwyn Garden City, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed June 2, 1969, Ser. No. 829,269

Claims priority, application Great Britain, June 17, 1968, 28,681/68

Int. Cl. B29c *17/07;* **B29d** *23/04*
U.S. Cl. 264—90
2 Sheets Drawing. 5 Pages Specification



A method and apparatus are disclosed for the production of extruded tubing made of polymeric materials. The process consists of the sequential steps of extruding the polymeric material first through a water-cooled vacuum sizing die having a smooth central bore (**1**) with a vacuum zone at either end, and then a contraction die having a smooth passageway (**23**) therethrough a decreasing size from the entry point to the exit point. The contraction die is mounted adjacent to the vacuum die (FIG. 3).

The preferred polymeric material to be used according to the process is 4-methyl pentene-1. Because of the high melting point of 4-methyl pentene-1, tubing thus produced has a smooth surface finish, can be easily sterilized, and is suitable for laboratory, hospital and dairy equipment.

A hot extruded parison at a temperature in excess of the melting point of the polymeric material is passed into the vacuum die, suction is applied through the vacuum zone thereby causing the tubing to conform to the smooth surface of the bore. The heated tubing is then passed into the contraction die where it cools and contracts. Tubing having a smooth surface finish results.

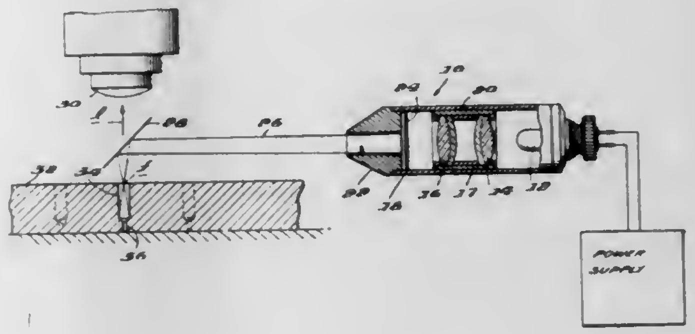
T873,008

METHOD OF INSPECTING THE INTERIOR OF SMALL HOLES

Frederic T. Taraschi, Haddon Heights, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation of application Ser. No. 636,459, May 5, 1967. This application Oct. 14, 1969, Ser. No. 866,443

Int. Cl. F21l *1/00*
U.S. Cl. 240—2.18
1 Sheet Drawing. 7 Pages Specification



For inspecting the interior of small deep bores such as bores in spinnerets employed for melt spinning of synthetic filaments the interior of the hole is illuminated by passing a light beam from a high intensity zirconium arc lamp (**12**) through an achromatic condensing lens (**14**) and an achromatic focusing lens (**16**). The lens system collects a large angle of the light emitted from the zirconium arc and condenses it such that a narrow high intensity beam of converging light emerges from the passage through nose piece (**22**). Iris diaphragm (**24**) is useful in reducing the diameter of the beam. A half silvered mirror (**28**) directs the light beam into the hole the focal point of the light beam being at or near the entrance to the hole and on the centerline of the hole. A microscope (**30**) is positioned with its optical axis in line with the center of the hole for inspecting the interior of the hole.

T873,009
METHOD OF COATING ON HYDROPHOBIC MATERIALS

Robert Benton Campbell, Kodak Park Division, Rochester, N.Y. 14650, and Charles Harold Gaffin II, 222 Escuela St., Apt. 23, Mountain View, Calif. 94040
Filed Nov. 7, 1969, Ser. No. 874,982
Int. Cl. G03c *1/80, 1/86*
U.S. Cl. 96—85
No Drawing. 6 Pages Specification

An improved method is provided for adhering a hydrophilic layer to a hydrophobic support or layer in the production of a multilayer or coated element. Accordingly, the hydrophilic coating or layer contains colloidal silica, generally in the ratio of binder solids to silica solids of 1:50 to 1:3 and preferably 1:20 to 1:10. The hydrophilic layer containing colloidal silica is applied to any hydrophobic surface and is preferably a polymeric support such as a polyolefin support which includes, for example, paper coated with polyethylene or polymerized olefin mixtures. Preferably, the hydrophilic coating or layer is an aqueous dispersion such as a hydrophilic colloidal including gelatin and the like, water-soluble polymers, etc. The improved method of this invention provides highly increased adhesion to the hydrophobic support or underlayer without the necessity of pretreatment thereof, such as by flame treatment, electron bombardment and chemical treatments. This process is especially useful in the production of photographic elements wherein a coating of the above silica-containing layer and an overcoated silver halide layer can be carried out simultaneously on a hydrophobic support surface.

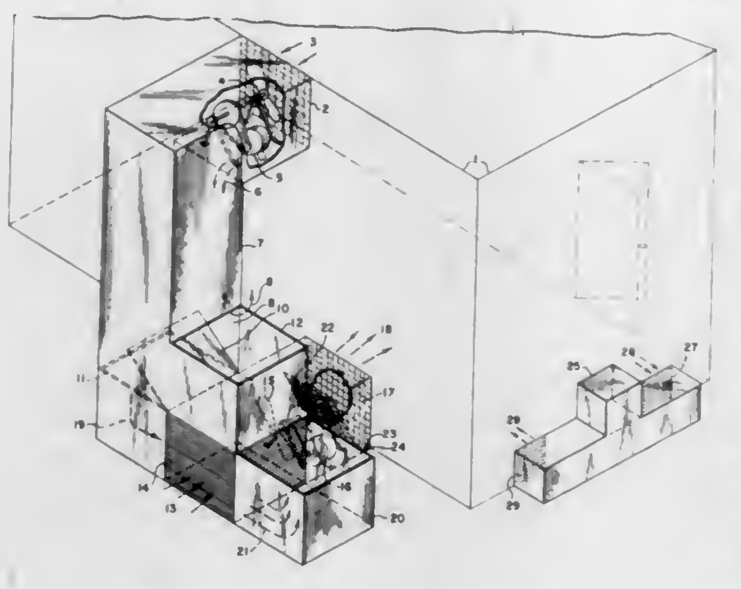
REISSUES

GRANTED APRIL 14, 1970

Matter enclosed in heavy brackets **[ ]** appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,853
ROOM AIR PURIFIER

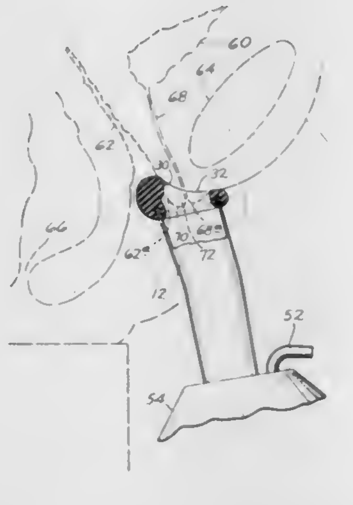
Cloyd D. Waldron, 1308 Willow Lane,
Mobile, Ala. 36605
Original No. 3,417,577, dated Dec. 24, 1968, Ser. No. 555,141, June 3, 1966. Application for reissue Mar. 20, 1969, Ser. No. 817,230
Int. Cl. F25d *23/12*
U.S. Cl. 62—263 5 Claims



Room ventilating apparatus that positively replaces foul air in the room with fresh air by using a fan to remove foul air from near the ceiling of the room, and by using another fan to add fresh air near the floor of the room. The positive exchange of heat between removed air and inducted air by positively forcing both through a heat exchanger. The use of a flat plate heat exchanger that can have more heat flow area than exchangers formerly proposed.

26,854
APPARATUS FOR OBTAINING URINE SAMPLES

Jerry D. Giesy, 8335 SW. Ridgeway Drive,
Portland, Oreg. 97225
Original No. 3,335,714, dated Aug. 15, 1967, Ser. No. 392,745, Aug. 28, 1964. Application for reissue July 15, 1969, Ser. No. 848,370
Int. Cl. A61b *5/00;* **A61f** *5/44;* **A61g** *9/00*
U.S. Cl. 128—2 5 Claims



An apparatus for collecting uncontaminated urine samples from female patients includes a container with an elongated tube sealingly mounted in the open end of the container. The tube on its distal end includes a compressible and resilient pad portion which is adapted to be positioned to produce close encirclement of the urethral meatus to form a seal thereabout and provide urine samples free from extraurethral contamination.

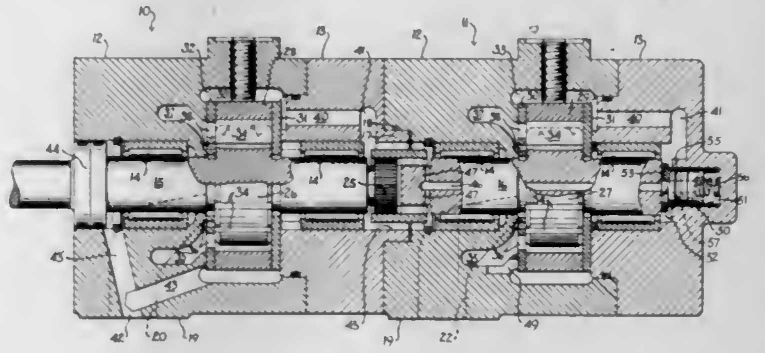
26,855
METHOD OF PRODUCING CATHODES FOR HOLLOW CATHODE LAMPS OF SPECTROSCOPIC ANALYZERS

Kazuo Yasuda, Makoto Ousawa, and Hisasuke Takeuchi, Hitachi-shi, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a Japanese joint-stock company
No Drawing. Original No. 3,164,466, dated Jan. 5, 1966, Ser. No. 242,891, Dec. 7, 1962. Application for reissue Dec. 13, 1966, Ser. No. 661,132
Claims priority, application Japan, Dec. 9, 1961, 36/44,614
Int. Cl. B22f *3/26*
U.S. Cl. 29—182.1 25 Claims

A hollow emissive cathode for a spectroscopic analyzer which emits several characteristic line spectra equal in kind and number to the individual elemental metals contained in the sintered mixture from which the cathode is made; extreme mutual diffusion in such mixture is thereby kept relatively small.

26,856
FLUID ENERGY TRANSLATING DEVICE

Charles H. Whitmore, Barrington, Ill., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Original No. 3,395,643, dated Aug. 6, 1968, Ser. No. 593,893, Nov. 14, 1966. Application for reissue July 23, 1969, Ser. No. 846,991
Int. Cl. F04b *23/04;* **F04c** *1/00;* **F04d** *29/66*
U.S. Cl. 418—13 21 Claims



1. In a rotary fluid energy translating device having a housing with opposing front and rear interior walls, pressure fluid transfer means in the housing including a rotor confined between said opposing walls, and upon which pressure fluid imposes a rearward thrust during operation of the device, said rotor being carried by a shaft which has front and rear end portions journalled in bearings in the housing, said front wall having a pair of ports through which fluid is delivered to and received from the fluid pressure transfer means, and at one of which ports fluid is under pressure, and means defining a case drain chamber in the housing to receive pressure fluid which leaks

through any clearance between the rotor and said front and rear walls of the housing, the combination of:

(A) means communicating said one port with the case drain chamber;

(B) means defining a rear chamber in the housing adjacent to the rear end portion of the shaft and its bearing;

(C) passage means in the housing communicating said rear chamber with the case drain chamber so that the pressure of fluid in said chambers is substantially the same as that at said one port;

(D) exhaust passage means for conducting fluid from said rear chamber;

(E) restriction means to meter the flow of fluid through said exhaust passage means and thereby cause pressure to be maintained in said rear and case drain chambers;

(F) and fluid pressure responsive means connected with the shaft and having a surface upon which pressure fluid in said rear chamber acts to impose upon the shaft and the rotor thereon axial thrust which opposes and is substantially equal to said rearward thrust.

26,857

PROCESS FOR MANUFACTURE OF THIN FILMS

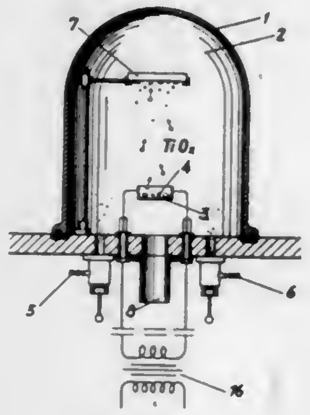
Max Auwarter, Balzers, Liechtenstein, by Optical Coating Laboratory, Inc., Santa Rosa, Calif., a corporation of California, assignee

Original No. 2,920,002, dated Jan. 5, 1960, Ser. No. 362,792, June 19, 1953. Application for reissue Jan. 6, 1969, Ser. No. 805,388

Int. Cl. B44d *5/06;* **C03c** *17/22*

U.S. Cl. 117—33.3 **12 Claims**

Process for the deposition of mechanically and chemically resistant, substantially absorption-free light-transparent thin films composed substantially completely of a saturated metallic compound on a carrier, comprising enriching the atmosphere of a vaporization chamber with a reactive gas whereby said reactive gas is contained in substantially higher proportion than in the normal atmosphere, vaporizing a substance selected from the group consisting of a vaporizable metal compound, the thin film of which is mechanically and chemically resistant, substantially absorption-free and light-transparent and a mixture of such compound with vaporizable free metal of the type in the compound in the enriched atmosphere and under a reduced pressure below that which leads to a substantial decrease in the hardness of the film, and effecting the condensation of the thus formed vapor on the carrier to thereby form a thin film of substantially completely saturated metallic compound on said carrier.



PLANT PATENTS

GRANTED APRIL 14, 1970

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing

2,967

MINIATURE ROSE PLANT

Ralph S. Moore, 2519 E. Noble Ave.,
Visalia, Calif. 93277
Filed Apr. 15, 1968, Ser. No. 721,533
Int. Cl. A01h *5/02*

U.S. Cl. Plt.—7 **1 Claim**

1. A new and distinct variety of miniature rose plant of hardy, dwarf, rounded, much branched, bush type, as illustrated and described, characterized by buds and flowers resembling the Easter Morning miniature rose (U.S. Plant Patent No. 2,177) in general form and the flouribunda rose Pinocchio (U.S. Patent No. 484, expired) in color, the general color effect of the freshly opened flower being soft to medium pink, becoming deeper pink as flower ages; and further characterized by a plant which is vigorous and compact in growth, each to propagate from cuttings, with medium small semi-glossy foliage and an abundance of bloom borne almost continuously throughout the growing season with flowers borne singly or several to stem.

2,968

ROSE PLANT

Seizo Suzuki, 324 3-chome, Tamagawa-Okusawa-cho,
Setagaya-ku, Tokyo, Japan
Filed May 29, 1968, Ser. No. 733,196
Int. Cl. A01h *5/02*

U.S. Cl. Plt.—11 **1 Claim**

1. A new and distinct variety of rose plant of the hybrid tea class substantially as herein shown and described primarily characterized by: continuous medium-large blooms of good substance which are bicolor of white and red until the half-open stage and change gradually into wholly bright red as they open in the sun, and also by the especially disease resistant, strong, vigorous plant with beautiful foliage.

2,969

GERANIUM PLANT

Paul H. Ekdahl, Dutch Land Road,
Freehold, N.J. 07728
Filed June 28, 1968, Ser. No. 741,145
Int. Cl. A01h *5/02*

U.S. Cl. Plt.—68 **1 Claim**

1. A new and distinct variety of geranium plant substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a vigorous and upright-branching plant habit, distinctive and attractive foliage having superior zonal markings therein which are larger than the zonal markings of the present variety and often cover more than half the total leaf area, said markings appearing to be a very deep purple color in the early spring and when viewed from a distance of less than 20 feet, but appearing to be very black when viewed from a gerater distance, and with increasing light intensity becoming deep maroon overcast with brown which persists throughout the growing season contrary to the leaves of the parent variety which almost lose their zonal coloring during the darker months of the growing season, a habit of bearing the flowers well above the foliage on strong peduncles, and a distinctive, attractive and clear pink general color tonality of the flowers.

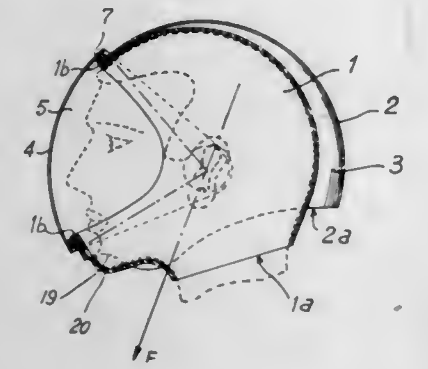
PATENTS

GRANTED APRIL 14, 1970

GENERAL AND MECHANICAL

3,505,677
DIVING CASQUE

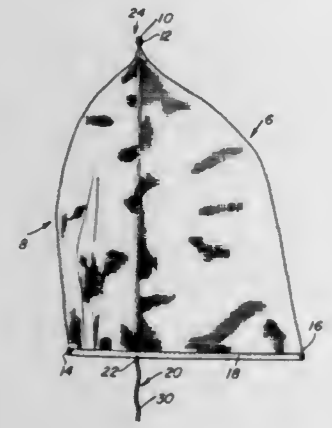
Yves Le Masson, Etampes, and Marcel Pravaz, Clichy, France, assignors to Societe Industrielle des et Piel (S.I.D.E.P.), Etampes, France, and E.F.A. Etudes et Fabrication Aeronautiques, Clichy, France
Filed Dec. 21, 1967, Ser. No. 692,579
Claims priority, application France, Dec. 26, 1966, 88,818
Int. Cl. B63c
U.S. Cl. 2—2.1 **17 Claims**



A diving casque comprising an elastic and head-fitting inner hood and a rigid protective outer helmet with a floodable space therebetween. The hood and the helmet are provided with facial openings and are connected together round the said openings. A glass is pivotally mounted on the helmet. Control means are provided for translating the glass when in front of said facial openings. The hood and the helmet are provided with neck openings and the neck opening edge of the helmet is formed with a chin notch through which can extend a corresponding chin protuberance formed in the hood. The casque is provided with a cap comprising frontal band for drawing the front backwards and neck bands for pinching the hood on the cheeks.

3,505,678
MULTIPURPOSE HAIR NET

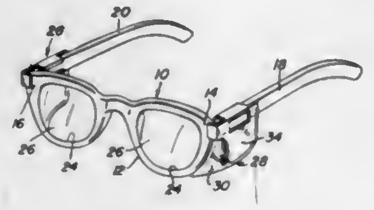
Gladys B. Key, Anderson, Ind. (9012 Carriage Lane, R.R. 3, Box 232–1, Pendleton, Ind. 46064)
Filed Feb. 8, 1968, Ser. No. 703,982
Int. Cl. A42b *5/00*
U.S. Cl. 2—4 **4 Claims**



The article shown, unlike popularly marketed single purpose head coverings, is multipurpose, versatile and well adapted to serve the many purposes for which it can be used. Most prefabricated nylon tulle indoor and outdoor head coverings are limited to serve a prescribed use and function as (1) a slumber cap for overnight retention of a hairdo (2) as a wind bonnet (3) an all-weather bonnet or the like. The innovation herein revealed is washable, economical, neat and attractive, can be worn while trying on dresses, while dressing and undressing, used as a wind bonnet while travelling, boating, fishing, skiing, and wherever and whenever the wearer desires to protectively encompass her hairdo.

3,505,679
REMOVABLE EYE SIDE SHIELD FOR GOGGLE TEMPLES

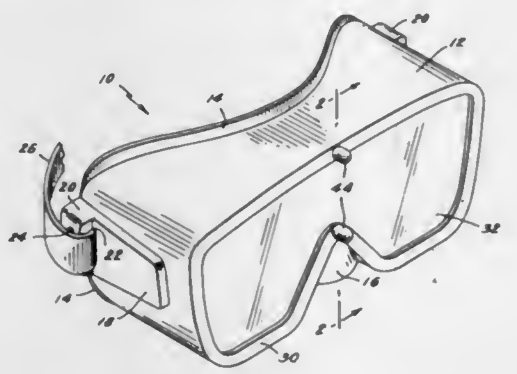
Richard H. Bennett, 239 Broad St., Oneida, N.Y. 13421
Filed July 3, 1968, Ser. No. 742,466
Int. Cl. A61f *9/00*
U.S. Cl. 2—13 **6 Claims**



A side shield for glasses of the type including a forward frame portion having upper opposite side corner portions to which the forward ends of a pair of temple bars are pivotally secured, the side shield including an upstanding panel-like member constructed of tarnsparent material provided for removable support from the forward end of each of the temple bars with the panel member depending downwardly from the corresponding temple bar and having its forward edge portion conforming to and disposed immediately adjacent the corresponding side edge portion of the frame portion of the glasses.

3,505,680
SAFETY GOGGLE

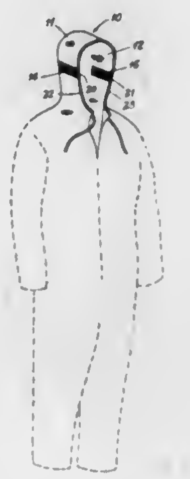
Ernest A. Ring, Riverside, R.I., assignor to Watchemoket Optical Co., Inc., Providence, R.I., a corporation of Rhode Island
Filed Sept. 9, 1968, Ser. No. 758,262
Int. Cl. A61f *9/02*
U.S. Cl. 2—14 **1 Claim**



A safety goggle comprising a frame having means for mounting a pair of spaced lenses with an insulating air space therebetween whereby the goggle will not fog, even when subject to sudden temperature changes, said double lens construction eliminating the necessity of vents, thus further enhancing the safety characteristics of the goggle, said lenses having means for securely mounting them in the frame but for readily permitting removal of the lenses whenever necessary or desirable.

3,505,681
HOOD FOR A GARMENT USED IN CONTROLLED ENVIRONMENT ROOMS

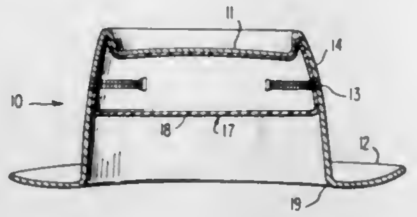
Milton W. Israel, St. Louis, Mo., assignor to Angelica Corporation, St. Louis, Mo., a corporation of Missouri
Filed Sept. 20, 1968, Ser. No. 761,031
Int. Cl. A41d *13/00, 13/02*
U.S. Cl. 2—84 **5 Claims**



A hood for a garment, such as a coverall or smock, used in a controlled-environment room, the hood being made mainly from low-porous fabric to minimize particulate transfer from the body of the wearer, but incorporating more highly porous panels next to the ears of the wearer to eliminate or substantially reduce annoying reverberations that otherwise would be produced by the low-porous fabric.

3,505,682
FLIPPER HAT

Edward C. Mims, 254 Church St., Elberton, Ga. 30635
Filed Sept. 5, 1968, Ser. No. 757,711
Int. Cl. A42c *5/00*
U.S. Cl. 2—185 **2 Claims**

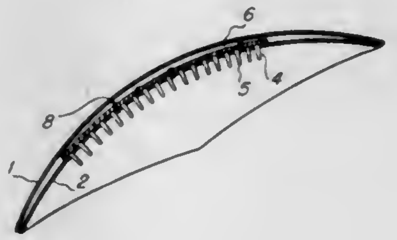


A hat for sportsmen or the like having a waterproof compartment integrally formed therewithin capable of opening and closing along the crown portion for carrying any number of small paraphernalia intended to be insulated from the various weather elements.

3,505,683
HEAD COVERING

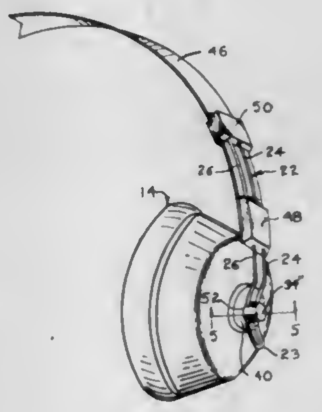
Janine Wright, 22 Warner Road, Maplewood, N.J. 07040
Filed May 12, 1965, Ser. No. 455,125
Int. Cl. A42b *1/02*
U.S. Cl. 2—198 **4 Claims**

A head covering for flexibly covering a wearer's head including downwardly depending prongs on the inner surface thereof for engaging the scalp and spacing the head covering from the head to avoid crushing the coiffure of a wearer.



3,505,684
ATTACHMENT MOUNTING MEANS FOR HEARING PROTECTOR EAR CUPS

Lawrence C. Hutchinson, Southbridge, and Edward P. Megarry, East Brookfield, Mass., assignors to American Optical Corporation, Southbridge, Mass., a corporation of Delaware
Filed Mar. 3, 1969, Ser. No. 803,569
Int. Cl. A42b *1/06*
U.S. Cl. 2—209 **8 Claims**

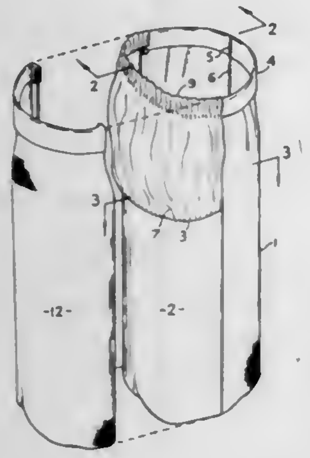


Hearing protector ear cup supporting means including an adjustable headband of lightweight construction having provision at each of its opposite ends for supporting an ear cup. Attachment means for the ear cups include at each end of the headband an arcuately shaped formation of spaced parallel wires between which an ear cup mounting stud extends. The stud is aligned coaxially with the cup and is so constructed and arranged in conjunction with its respective arcuately shaped end of the headband as to permit rotational adjustment of the ear cup about its axis as well as tilting adjustment thereof for accurately positioning each ear cup of the hearing protector structure in comfortably fitted acoustically sealed relationship about the ear independently of the positional relationship of the headband selected by the wearer for maximum comfort in its extension over, behind, or beneath the chin of a wearer's head.

3,505,685
MATERNITY SKIRTS

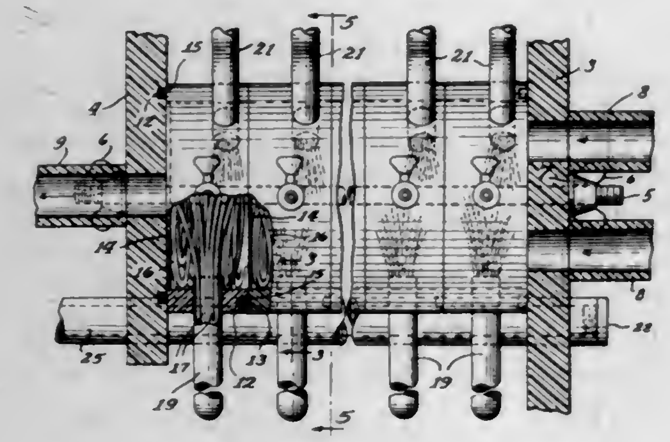
Elsie L. Granchelli, 178 Dickson Blvd., Moncton, New Brunswick, Canada
Filed July 8, 1968, Ser. No. 743,207
Int. Cl. A41d *1/14, 1/20*
U.S. Cl. 2—221 **1 Claim**

A maternity skirt composed of three sections, namely, a back panel extending downwards from a waistband to a bottom horizontal hem; a lower front panel extending from a horizontal front edge located slightly below the part of the abdomen subjected to distention due to pregnancy and terminating in a hem on the same horizontal plane as that of the back panel, and being effected vertically by abdominal variance, and a horizontally and vertically expandible front panel secured along its bottom edge to the top edge of said lower front panel along its edges and to the respective edges of the back panel, the said expandible panel being pleated vertically and expandible laterally under progressive abdominal girth increasing said expandible panel being of greater vertical extent than the side edges of the back panel to which it is attached and said vertically increased portion having its marginal top edge yieldably influenced towards the wearer's body towards substantially lengthwise alignment with the waistband of the back panel and thereby allowed progressive outward expansion under abdominal increase.



3,505,686
DEVICE FOR EFFECTING BLOOD INTERCHANGE FUNCTIONS

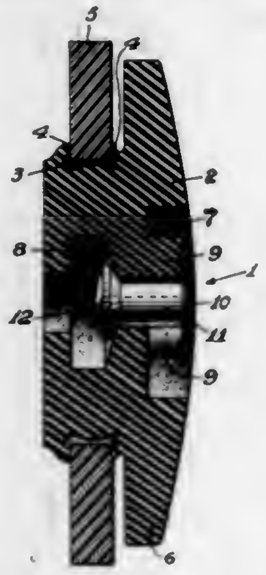
Bruce R. Bodell, 808 Park Ave.,
River Forest, Ill. 60305
Continuation-in-part of application Ser. No. 247,994, Dec. 28, 1962. This application Mar. 8, 1965, Ser. No. 438,027
Int. Cl. A61f *1/00;* **A61m** *1/03;* **B07b** *1/28*
U.S. Cl. 3—1 **13 Claims**



Extracorporeal and implantable blood interchange devices used for the oxygenation of blood or the removal of undesirable components therefrom and characterized by the use of a multitude of parallel-connected capillary tubes of silastic or similar material with the oxygen or other purifying fluid being flowed through the capillary tubes, and with the blood to be purified or oxygenated being in close physical contact with the exterior surfaces of the tubes.

3,505,687
VALVE ARRANGEMENT FOR AN ARTIFICIAL LIMB

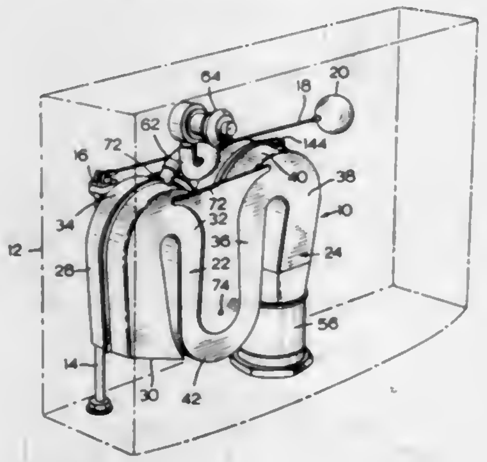
Jan Prahl, Weiler zum Stein, near Winnenden, Germany, assignor to Wilhelm Julius Teufel, Stuttgart, Germany, a limited-liability company of Germany
Filed Jan. 11, 1968, Ser. No. 697,167
Claims priority, application Germany, Jan. 26, 1967, T 22,004
Int. Cl. A61f *1/02*
U.S. Cl. 3—17 **5 Claims**



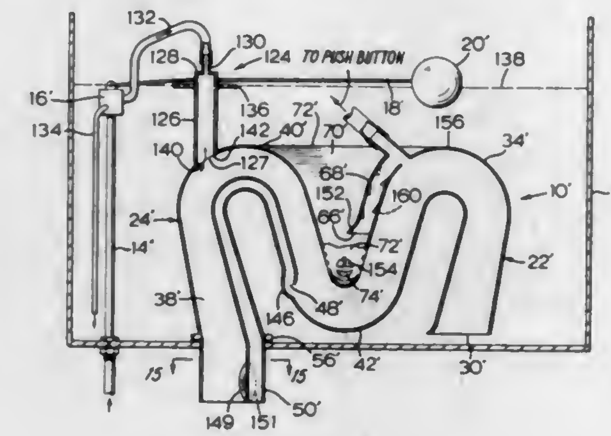
A valve arrangement for the hollow shaft of an artificial limb in which a plug is releasably secured in an opening of a rigid support, and a passage in the plug is normally blocked by a manually operable valve. The inner edge of the support is resiliently sealed between the free annular rims of two radially projecting and axially spaced annular lips on the plug, defining therebetween a groove whose bottom has a smaller cross section than the opening in the support, whereby the plug is readily inserted and removed, yet tightly sealed to the support when inserted.

3,505,688
SIPHON VALVE

Frank Philip Sloan, 19 Lascelles Blvd., Toronto 7, Ontario, Canada
Continuation-in-part of abandoned application Ser. No. 499,715, Oct. 21, 1965. This application Feb. 12, 1968, Ser. No. 704,593
Int. Cl. E03d *1/08*
U.S. Cl. 4—42 **29 Claims**



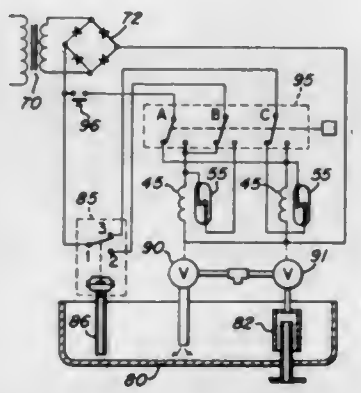
A siphon valve primarily for toilet tanks, having primary and secondary siphons joined at an intermediate bend to form an M-shaped structure. A relatively large tertiary siphon inside the secondary siphon extends from just above the intermediate bend to the secondary siphon outlet. Water enters the primary siphon and discharges through the secondary and tertiary siphons, flow commencing upon release of air through an air opening in the top of the primary siphon.



From the air opening, a duct leads to a secondary air inlet located in a secondary reservoir between the siphons. The secondary reservoir has a small drain hole so that water drains therefrom, to expose the secondary air inlet, at a rate slower than the emptying of the tank through the siphon valve.

3,505,689
ELECTRIC VALVES

Robert J. Neff, R.R. 1, Medway, Ohio 45341, and George W. Armstrong, 284 E. Dayton Drive, Fairborn, Ohio 45324
Filed Oct. 17, 1966, Ser. No. 587,132
Int. Cl. E03d *13/00*
U.S. Cl. 4—100 **3 Claims**

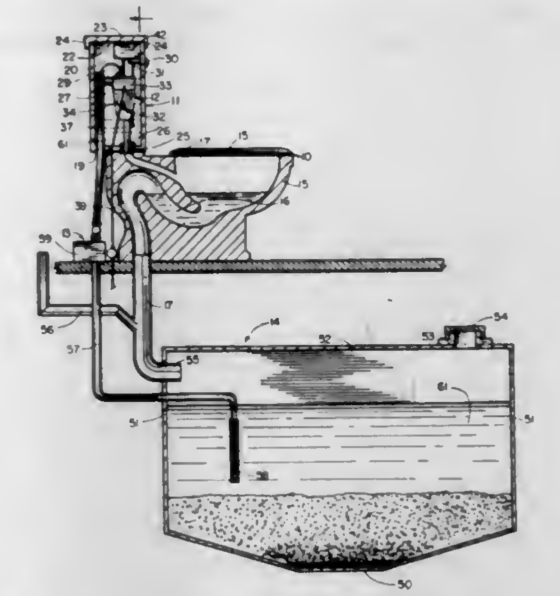


Electric solenoid valves for operation on low voltage DC current are controlled with holding circuits employing magnetic reed switches magnetically associated with the solenoid coils. A non-magnetic insert is received within the axially open end of the coil and one or more reed switches are inserted therein. Also, electric toilet circuits are disclosed employing reed switches magnetically associated with the solenoid-operated flush and/or fill valves.

3,505,690
RECYCLING SEWAGE DISPOSAL SYSTEM

Lawrence W. Lockwood, 821 E. Crown Ave., Spokane, Wash. 99207
Filed Aug. 7, 1967, Ser. No. 658,930
Int. Cl. A47k *11/02;* **A61l** *11/00*
U.S. Cl. 4—115 **7 Claims**

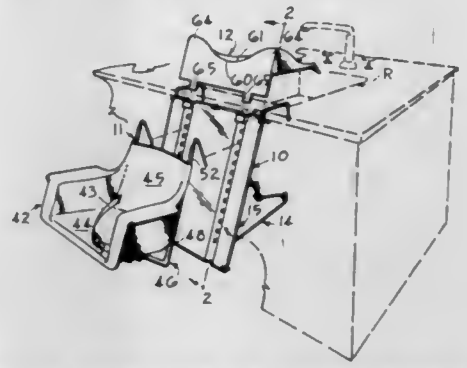
A sewage disposal system having means for separating and recycling the liquid portion of contained waste to aid in flushing operations. The system is adapted to operate with a normal toilet of commerce with or without an earth drain. A fresh system with auxiliary disinfecting



means is embodied to provide a substantially uncontaminated water seal in the toilet bowl trap by use of less fresh water than in an ordinary toilet.

3,505,691
SHAMPOO CHAIR

Charles I. Reynolds and Ann M. Reynolds, both of 2183 McAfee Road, Decatur, Ga. 30032
Continuation-in-part of application Ser. No. 597,428, Nov. 28, 1966, now Patent No. 3,428,361. This application Aug. 7, 1968, Ser. No. 750,879
Int. Cl. A47k *3/12*
U.S. Cl. 4—159 **9 Claims**

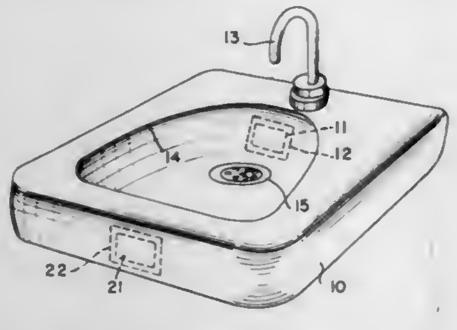


Apparatus for supporting a child adjacent a receptacle such as a sink for the shampooing of the child's hair, including generally a support structure, a seat structure and a head rest. The support structure has positioning means for engaging the receptacle and fixing the support structure with respect to the receptacle. The seat structure includes a seat for supporting the child and hook means to selectively engage the support structure for adjustably positioning the seat structure in front of the receptacle. The head rest is detachably connected to the support structure so that it overlies the receptacle and has a configuration for positioning the child's head comfortably while directing the shampooing fluid away from the child's face.

3,505,692
PROXIMITY CONTROL FOR A LAVATORY

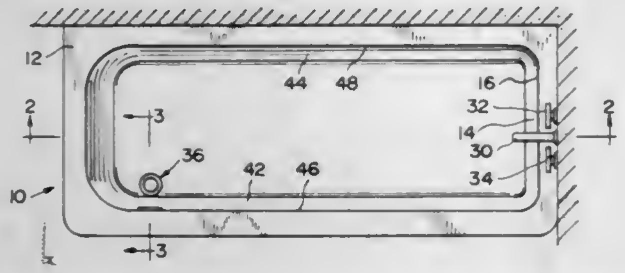
Norman A. Forbes, Louisville, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1967, Ser. No. 668,357
Int. Cl. A47k *1/04*
U.S. Cl. 4—166 **19 Claims**

A proximity control arrangement for a lavatory utilizing a dual antenna system for sensing the simultaneous presence of the user in front of the lavatory and the positioning of his hands beneath its water faucet. One antenna is disposed in the area beneath the faucet and, after sensing the presence of the user's hands, causes the proximity circuit arrangement to turn the water on and to simultaneously switch to a second antenna, secured along the leading edge of the lavatory, for sensing the presence of the user. When the user leaves the lavatory, the proximity circuit arrangement interrupts the water flow; and after a predetermined delay during which the lavatory surfaces drain dry, the circuit switches the apparatus back to sensing with the first antenna in readiness for the next cycle of operation.



3,505,693
BATHTUB

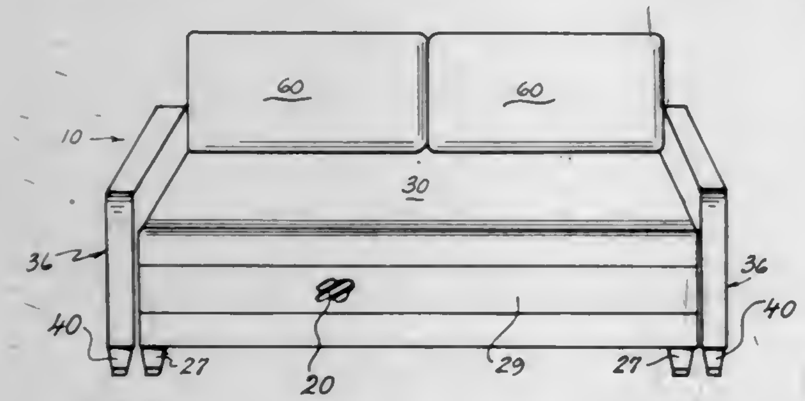
Robert J. Corbett, 300 N. State St.,
Chicago, Ill. 60630
Filed Jan. 3, 1967, Ser. No. 606,831
Int. Cl. A47k *3/00*
U.S. Cl. 4—173 **2 Claims**



A bathtub having a front wall, a controlled source of water at the front end, a rear wall and a sloping bottom wall whereby the bathtub may be filled at one end and drained at the other end at one side thereof.

3,505,694
COMBINATION LOVE SEAT AND BED

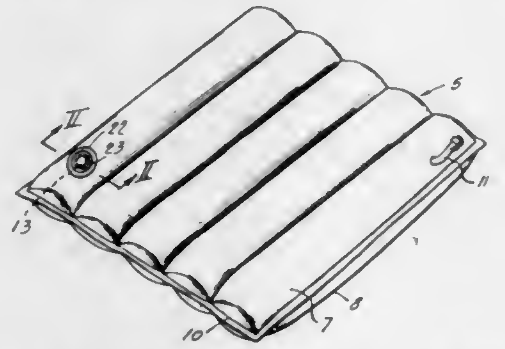
Joseph J. Pesta, 6333 Jacksonville Road,
Ocala, Fla. 32670
Filed Apr. 16, 1968, Ser. No. 721,830
Int. Cl. A47c *19/04*
U.S. Cl. 5—17 **3 Claims**



A combined love seat and bed having a main hollow fixed seat rectangular in configuration enclosed at the rear and sides by a frame. The sides of the frame are constituted by a swingable arm rest. An extension seat is slidably mounted in the main seat and when one of the arm rests is swung away from the frame, said extension seat is adapted to slide outwardly of the main seat forming an extension thereof for supporting the legs of the user. A U-shaped member carried by the extension seat supports the extension seat in extended position. The main set is covered at its front and top by upholstery and removably cushions are placed on the top upholstery at the rear thereof.

3,505,695
STRAIN SEPARABLE INFLATION GAUGE FOR INFLATABLE ARTICLES

Morris Bishaf, Skokie, and Leonard E. Messineo, Glenview, Ill., assignors to Stebco Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 5, 1967, Ser. No. 673,211
Int. Cl. A47c *27/08*
U.S. Cl. 5—348 **10 Claims**



Confronting walls which normally move apart during inflation of an inflatable structure, such as an air mattress, have thereon respective strain separable portions of an inflation gauge. In the collapsed condition of the inflatable structure such portions of the gauge are connected. During inflation when about the ideal pressure has been reached the portions of the gauge separate and afford a sensible signal of that fact.

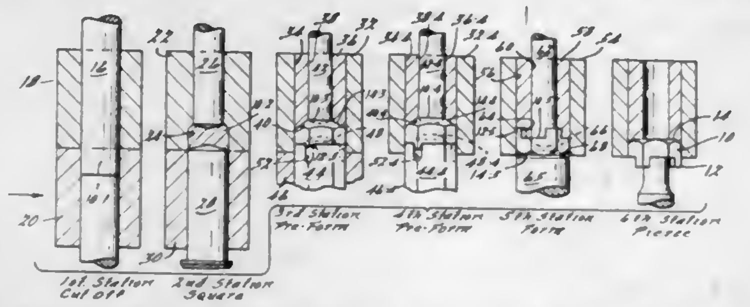
3,505,696
FUGITIVE TINTING OF SYNTHETIC FIBERS

Julian J. Hirshfeld, Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 1, 1965, Ser. No. 492,322
Int. Cl. D06p *1/00*
U.S. Cl. 8—164 **6 Claims**

Fugitive tinting of articles made of synthetic fibers is accomplished by contacting the fibers with a hydrolyzed anthocyan dye.

3,505,697
APPARATUS FOR MAKING NUTS

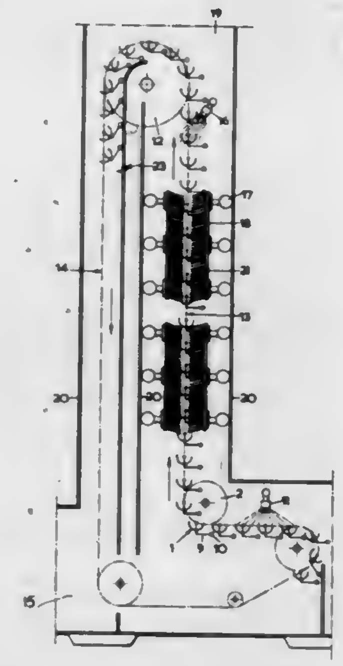
Vernon L. Westbay, Detroit, Mich., assignor to Zimmer Manufacturing Industries, Inc., a corporation of Michigan
Original application Aug. 25, 1965, Ser. No. 482,534, now Patent No. 3,382,516. Divided and this application Mar. 12, 1968, Ser. No. 712,571
Int. Cl. B21d *53/20, 53/24*
U.S. Cl. 10—72 **4 Claims**



Apparatus for making nuts including a punch for indenting the center of a blank in a lobed pattern.

3,505,698
MACHINE FOR WASHING EGGS

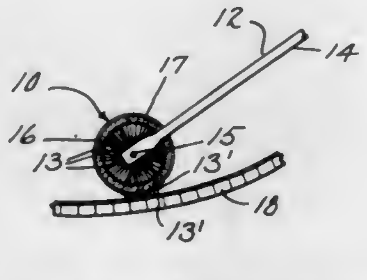
Jelle van der Schoot, Aalten, Netherlands, assignor to Van Katwijk's Industrieen N.V., Aalten, Netherlands, a corporation of the Netherlands
Filed Dec. 6, 1967, Ser. No. 688,581
Claims priority, application Netherlands, Dec. 8, 1966, 6617256
Int. Cl. A01k *43/00*
U.S. Cl. 15—3.13 **11 Claims**



A machine for washing and drying eggs, comprising a first, laterally closed tower housing a vertically rising run of a conveyor for moving successive series of eggs, brushes disposed on opposite sides of said conveyor along a substantial length thereof, the bristles of said brushes extending into the path of travel of the eggs to brush along the surfaces thereof as the eggs move past said brushes, and spraying means adapted to moisten said bristles with hot washing liquid from above; and a second laterally closed tower housing a downcoming run of said conveyor, said first and second towers communicating at their tops with a common discharge conduit through which vapour generated from the hot washing liquid is removed from said first tower and a stream of air is maintained in said second tower countercurrently to the downwardly travelling eggs therein to dry the eggs and remove moist air therefrom.

3,505,699
ART OF CLEANING TYPE OR OTHER MATERIAL

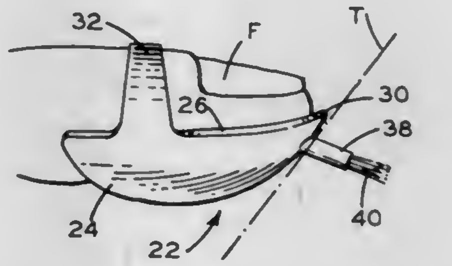
John W. Trumbull, 1817 Park Ave.,
Racine, Wis. 53402
Filed Jan. 22, 1968, Ser. No. 699,449
Int. Cl. A47l *25/00;* **B08b** *1/00;* **B41m** *3/00*
U.S. Cl. 15—104 **7 Claims**



To clean type and the like there is provided a tool with an arcuate surface having radially-projecting probing elements adapted to project through a thin covering layer of putty-like tacky material when said tool is rolled or rocked over the type, said probing elements dislodging dirt particles from the crevices and said tacky material picking up and removing said dirt. A handle thereon permits the manipulation of the tool without the user getting her hands soiled, and to renovate said tool it is merely necessary to roll the same over a carrier sheet having a new wafer of said tacky material which is thereby transferred to the tool.

3,505,700
FINGER-OPERATED BRUSH

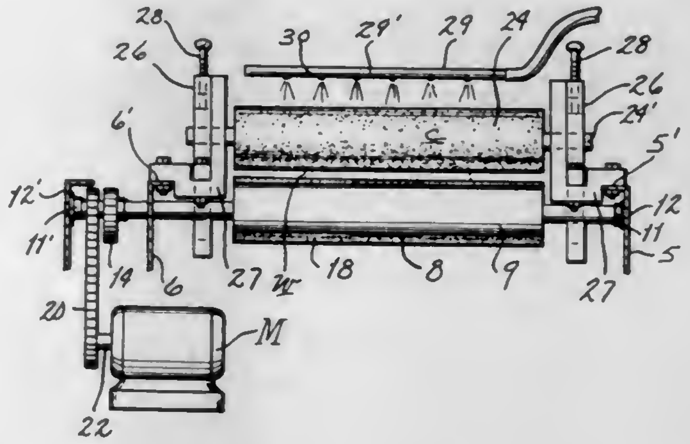
Rodney Rodriguez, 230 E. 52nd St.,
New York, N.Y. 10022
Filed July 24, 1968, Ser. No. 747,182
Int. Cl. A46b *5/04*
U.S. Cl. 15—160 **3 Claims**



A finger-operated brush for the application of cosmetics. The brush includes finger-mounting means having a finger-receiving aperture for receiving a finger therethrough. The finger-mounting means terminates above the first joint of the finger to eliminate interference with the normal flexing of the finger joint. The finger-mounting means includes at least one wall for covering a portion of the finger. A brush is connected to the wall and extends outwardly therefrom.

3,505,701
LIQUID REMOVING MACHINE

Edward W. Keil, Manchester, Mo., assignor to Total Systems Concept, Inc., St. Louis, Mo., a corporation of Missouri
Continuation of application Ser. No. 594,034, Nov. 14, 1966. This application July 12, 1968, Ser. No. 751,664
Int. Cl. F26b *13/14*
U.S. Cl. 15—102 **2 Claims**



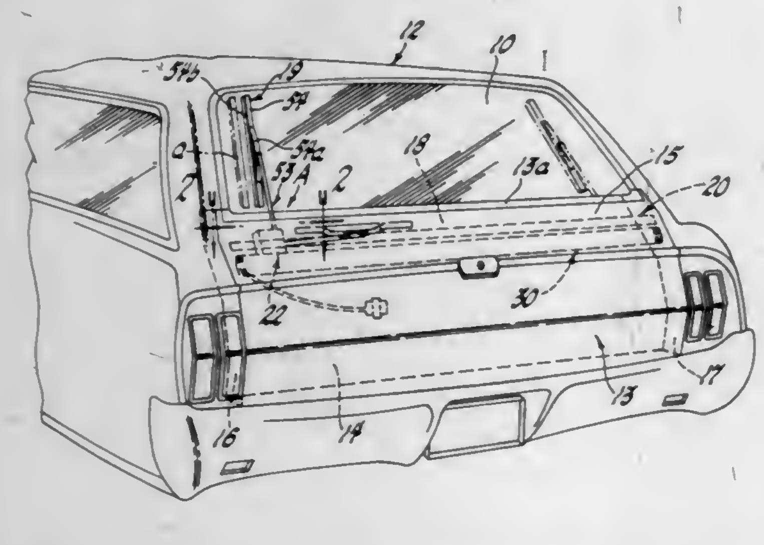
A machine adapted for removing liquid from sheet material for substantial drying thereof incorporating a pair of vertically aligned, cooperating rollers formed of resilient material, each roller having oil tanned leather disposed about its peripheral surface for contacting the material to be treated to remove moisture contained on and in such material, there being means for continuously supplying liquid to the surface of said leather for enhancing the absorptive qualities thereof.

3,505,702

WINDOW WIPING APPARATUS HAVING A LINEARLY MOVABLE WIPER

Donald E. Omlie, Utica, and Ronald A. Niewolak, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 29, 1968, Ser. No. 724,929
Int. Cl. A47l *1/00;* **B60s** *1/08*
U.S. Cl. 15—250.17 **7 Claims**



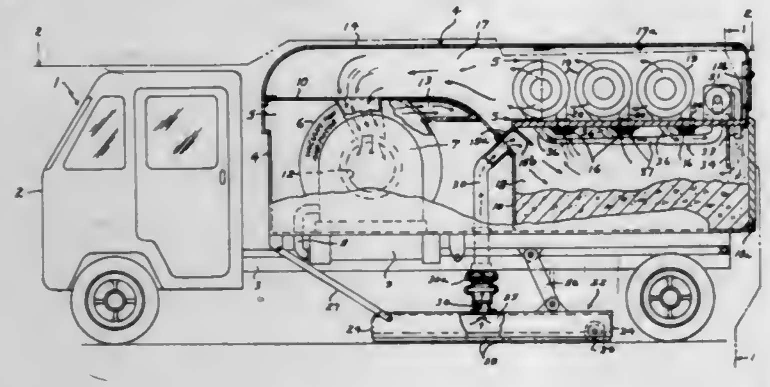
In a preferred form, this disclosure relates to a window wiping apparatus for cleaning a window of a vehicle and which is adapted to be concealed within a well or recess adjacent the lower edge of the window when not in use. The window wiping apparatus includes a carriage supported for linear movement in opposite directions, a wiper for wiping the window and which is movable between a substantially horizontal, parked position within the well when not in use and a substantially vertical, operating position during running operation. The apparatus further includes a single drive means for both linearly moving the carriage and wiper in opposite directions between first and second positions during running operation and to and from the parked position when running operation is terminated and initiated, respectively.

3,505,703

INSTALLATION OF INERTIAL DUST FILTER ON AIRPORT RUNWAY AND/OR STREET CLEANING EQUIPMENT

Roger A. Miller and Edward S. Issenmann, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force

Filed May 15, 1968, Ser. No. 729,330
Int. Cl. E01h *1/08;* **A47l** *9/16*
U.S. Cl. 15—340 **3 Claims**



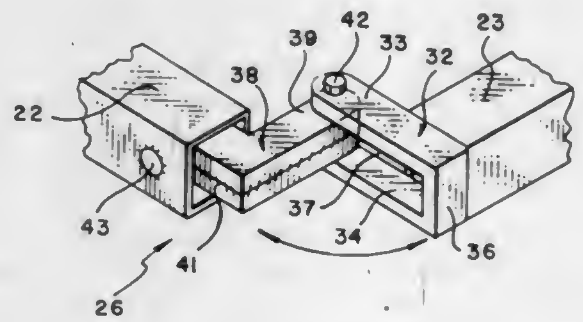
An inertia operated surface cleaner and centrifugal dust separator having a mobile support with an upper closed low pressure compartment with an engine driven vacuum fan for exhausting the air from said compartment. A closed dust and debris collecting chamber is located under the low pressure compartment with a suction duct opening into the collection chamber with a debris deflector for deflecting debris and heavier particles discharged from said duct into said collecting chamber. A suction unit is carried by said support to traverse the surface to be cleaned, and is connected to the lower end of said suction duct. A plurality of cylindrical centrifugal or inertial dust separators are fixed in said low pressure compartment and screened dust and air mixture delivery conduits extend upwardly from said collection chamber tangentially into each of the centrifugal inertia dust separators to discharge the dust and air mixture from said chamber into the opposite ends of each of said centrifugal separators to whirl the air and dust mixture therein toward a transverse plane intermediate the ends of the separators to throw the heavier dust particles outward toward the inner surface and longitudinally toward the center of the separators. Clean air is withdrawn axially in the opposite directions from the ends of the separators by the low pressure in the surrounding low pressure compartment. An annular dust collection and delivery trough is located intermediate the ends of each of the separators receiving the inertially separated dust and has a tangential dust discharge conduit therefrom connected to dust ejection blower means with dust discharge conduit means discharging downwardly into the collection chamber, and a baffle plate for directing the separated duct downwardly into the collection chamber.

3,505,704

HINGE FOR TRANSVERSE RELATIVE MOVEMENT FOR FRAME STRUCTURES

Michael C. Hornung and Everett J. Tasset, both of Spearville, Kans. 67876

Filed Sept. 20, 1967, Ser. No. 669,185
Int. Cl. E05d *3/10*
U.S. Cl. 16—128 **4 Claims**



A hinge for uniting sections of a frame of agricultural implements thereby allowing the frame to be folded in a forward position, when desired, and when in an extended working position allowing the elements to rise and fall with variations of the surface of the ground. The hinge maintains the sections in a horizontal position when in both the folded and extended working position.

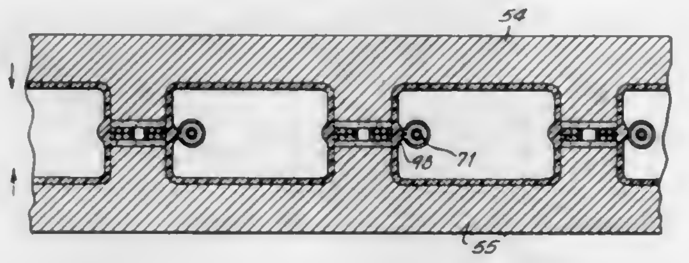
3,505,705

APPARATUS FOR PRODUCTION AND FILLING OF FLANGELESS PLASTIC CONTAINERS

John H. Stroop, New York, N.Y., assignor to Total Packaging Inc., New York, N.Y., a corporation of New York

Filed Dec. 28, 1966, Ser. No. 605,462
Int. Cl. B29d *23/00, 31/00*
U.S. Cl. 18—5 **5 Claims**

A machine to thermo-mold and weld flangeless containers from plastic sheeting, having means for feeding various combinations of hot plastic sheeting between cooperating die-sets and molding the hot sheeting to the internal contour of the dies, means for elevating the temperature of the weld areas of the hot plastic to its meltflow temperature to permit the plastic to flow together and extrude or mold at the closing area of the die-sets and form a flat flangeless weld on the container.

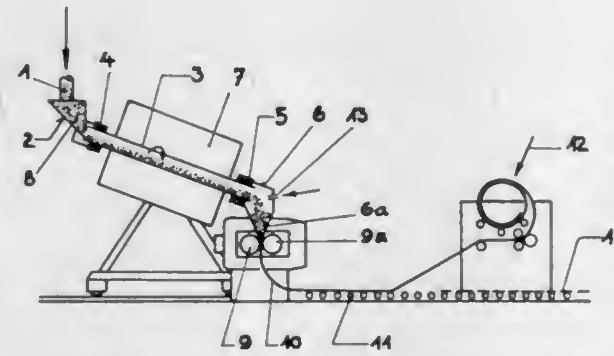


3,505,706

APPARATUS FOR PRODUCING CONTINUOUS STEEL STRIP OR OTHER SECTION

Kurt Claus, Metzkausen, Eckard Gehring, Dusseldorf-Kaiserwerth, Ulf Geler, Osterath-Bovert, Werner Marx, Dusseldorf, and Oswald Kaiser, Lintorf, near Dusseldorf, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a German company

Continuation-in-part of application Ser. No. 494,839, Oct. 11, 1965. This application Nov. 2, 1967, Ser. No. 680,075
Claims priority, application Germany, Oct. 22, 1964, Sch 35,997; Jan. 19, 1965, Sch 36,408, Sch 36,409; Mar. 17, 1965, Sch 36,719; Apr. 14, 1965, Sch 36,882; Apr. 17, 1965, Sch 36,901
Int. Cl. B29b *3/00;* **B29d** *9/02*
U.S. Cl. 18—9 **6 Claims**



A rolling mill for rolling steel particles into dense strip, having a rotary furnace for heating the particles in a protective atmosphere and a device for metering the particles into the roll gap.

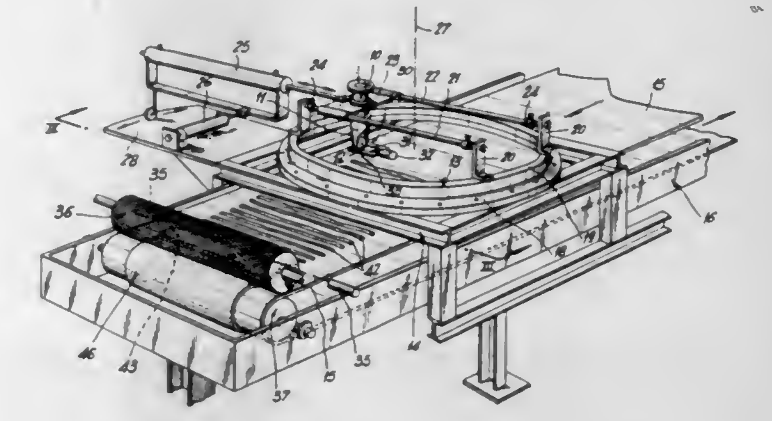
3,505,707

APPARATUS FOR THE MANUFACTURE OF ARTIFICIAL CHAMOIS LEATHERS WITHOUT TEXTILE SUPPORTS, ESPECIALLY OF REGENERATED CELLULOSE

Pierre E. Villain, Beauvais, France, assignor to Novacel, Paris, France, a French corporation

Filed Mar. 28, 1967, Ser. No. 626,578
Claims priority, application France, Apr. 12, 1966, 57,253
Int. Cl. B29d *7/10*
U.S. Cl. 18—15 **10 Claims**

Apparatus for providing a layer of material for the production of an artificial chamois which comprises in combination, a conveyor means adapted to receiving threads of paste, extrusion nozzle coupled with a source of paste and mounted above said conveyor means with to-and-fro movement on a support means capable of annular displacement about an axis perpendicular to said conveyor means, cutting means located at the level of said extrusion nozzle, the means of controlling the output of paste from said extrusion nozzle associated therewith, control means provided to insure the respective movement of said extrusion nozzle and support means so as to control the supply of paste from said extrusion nozzle in the form of threads deposited on said conveyor means perpendicular to its direction of forward movement and, downstream from extrusion nozzle a means associated with said conveyor means to form said threads of paste into a layer of same.

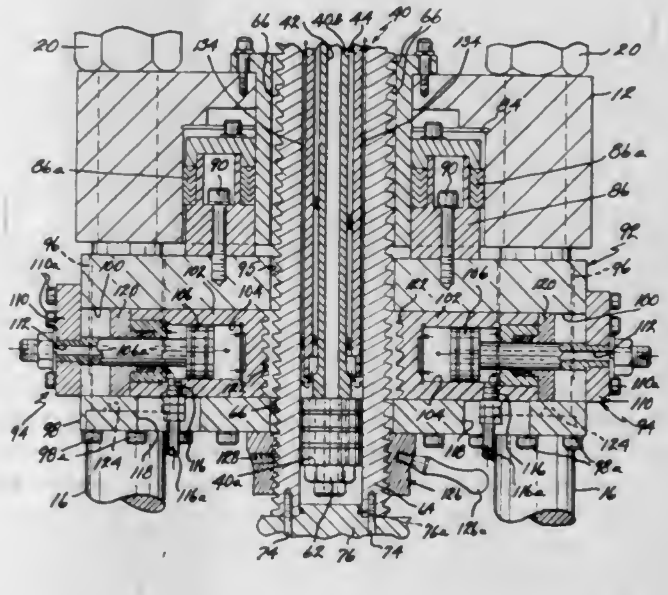


3,505,708

FLUID POWER ACTUATED CLAMP FOR MOLDING APPARATUS

Ernest P. Moslo, 12700 Lake Ave., Cleveland, Ohio 44107

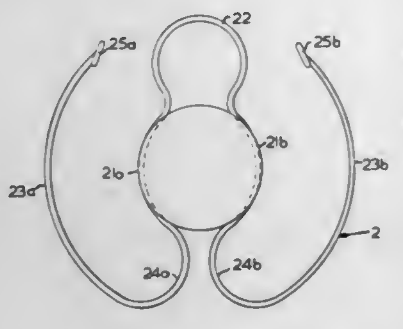
Filed Jan. 30, 1967, Ser. No. 612,438
Int. Cl. B29c *1/16*
U.S. Cl. 18—43 **19 Claims**



A molding machine for plastics comprising a primary motor unit having a threaded exterior configuration and coupled to the movable platen, for closing and opening the molds, and a secondary motor unit for applying high pressure closing force to the molds, with clamping jaws coupled to the secondary motor unit for clamping the latter to the threaded primary motor unit to apply the force of the secondary motor unit to the platen, and an adjustable threaded nut mounted on the primary motor unit for aligning the clamping jaws with the threads on the primary motor unit.

3,505,709
QUICK RELEASE CLIP

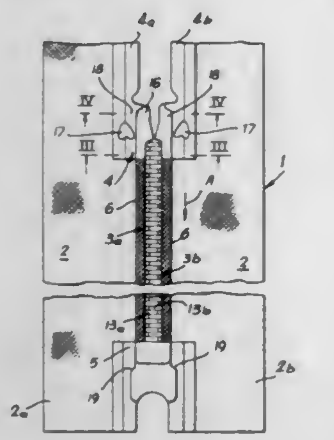
James F. Tirone, R.R. 1, Ridgeville, Ontario, Canada
Filed July 12, 1968, Ser. No. 744,383
Claims priority, application Canada, Jan. 25, 1968, 10,746
Int. Cl. F21r *17/06*
U.S. Cl. 24—81 **6 Claims**



There is provided a simple one-piece clip for attaching lamp shades and the like to electronic fixtures such as lamp-holders. The clip has a configuration that permits it to resiliently engage the exterior surface of a lampholder and the interior surface of an associated lamp shade. Removal of the lamp shade may be effected conveniently without disengagement of the clip from the lamp-holder.

3,505,710
SLIDE-FASTENER ASSEMBLY

Alfons Fröhlich, Essen, Germany, assignor to Opti-Holding AG., Glarus, Switzerland, a corporation of Switzerland
Filed Jan. 9, 1968, Ser. No. 696,656
Claims priority, application Germany, Jan. 10, 1967, O 12,214
Int. Cl. A44b *19/32, 19/36*
U.S. Cl. 24—205.11 **7 Claims**

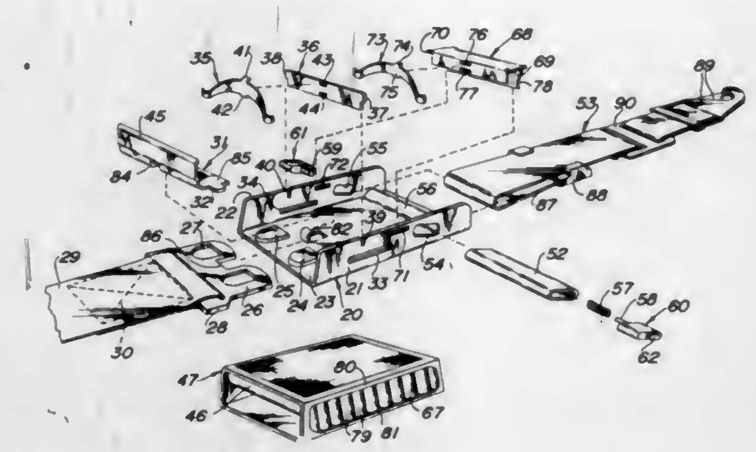


A slide-fastener stringer whose slide-fastener halves include carrier bands having ladderlike arrays of openings and continuous (helicoidal) coupling elements with heads protruding through the openings, a pair of end-stop members at opposite ends of the coupling elements preventing withdrawal of the slider from the stringer; the fabric carrier bands are at least partly embedded in the end-stop members.

3,505,711
FULL-CONTROL SAFETY-BELT BUCKLE

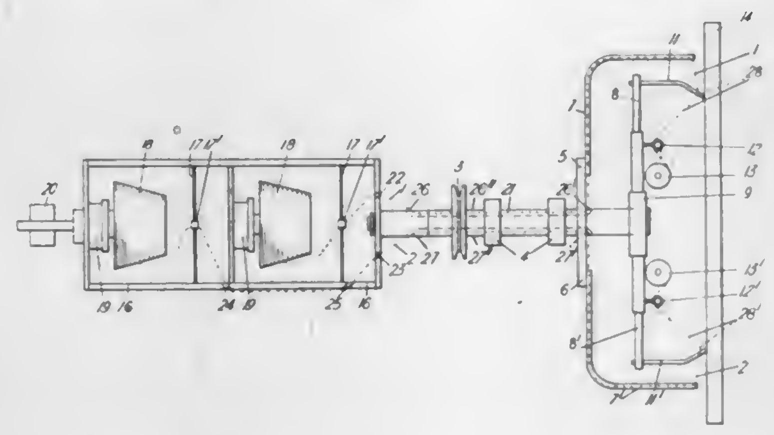
Andrew G. Carter, 2930 Lake Drive SE., Grand Rapids, Mich. 49506
Filed Apr. 15, 1966, Ser. No. 542,813
Int. Cl. A44b *11/10, 11/25*
U.S. Cl. 24—230 **7 Claims**

A safety-belt buckle with a slide-action handle receivable over a frame and mechanism in one of opposite directions of freedom of movement, with retractable securing means preventing withdrawal of the handle. One form of the invention utilizes opposite movement of the handle to effect unlocking and belt-release, respectively. The assembly of the mechanism is effected by placement of interior components, followed by a movement of the handle into position along the path of the locking-unlocking slide action, the components being insertable only in the absence of the handle.



3,505,712
APPARATUS FOR FORMING FLAT WEFT LOOPS FOR A NONWOVEN NETTING

Henri Servage, Cremieu, France, assignor to Moulinage et Retorderie de Chavanoz, Chavanoz, Isere, France, a French body corporate
Continuation of abandoned application Ser. No. 428,359, Jan. 27, 1965. This application Sept. 23, 1968, Ser. No. 770,885
Claims priority, application France, Jan. 28, 1964, 961,770
Int. Cl. D02g *3/00;* **D04h** *3/08*
U.S. Cl. 28—1 **6 Claims**

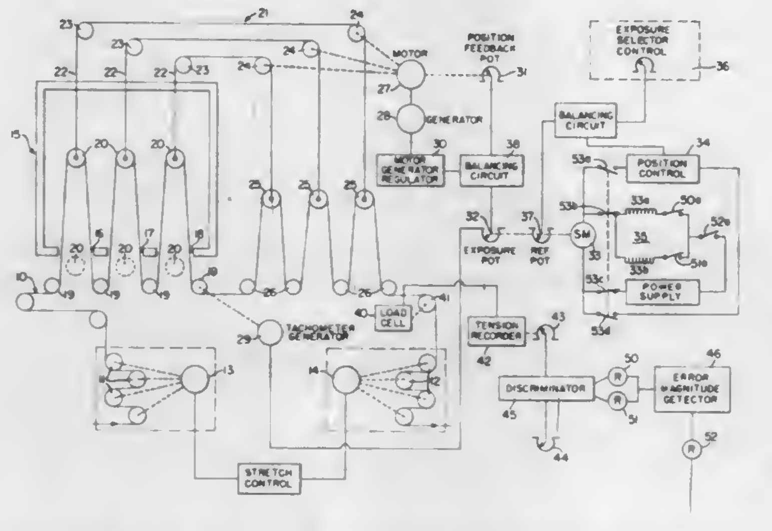


The invention relates to an apparatus for forming flat weft loops in the manufacture of nonwoven netting. A shaft carries on its axis at least two tubular members which extend radially outwardly from the shaft for rotation therewith. The yarn from each bobbin is guided through a separate one of said tubular members and, as the latter rotate, at least two flat weft loops are formed on guide bars which are spaced apart but located radially inwardly of the open ends of the tubular members.

3,505,713
METHOD AND APPARATUS FOR CONTROLLING MOVING MATERIAL

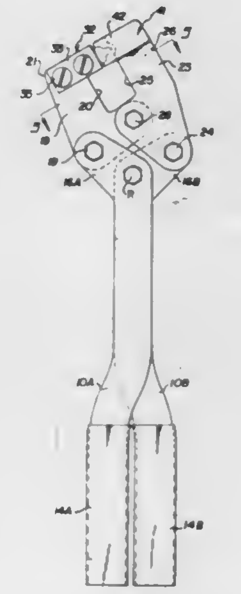
Newell A. Williams and Robert C. Jenkins, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed May 8, 1967, Ser. No. 636,990
Int. Cl. D02j *13/00*
U.S. Cl. 28—62 **12 Claims**

A sampling type control system for use in connection with apparatus for treating a continuous strand or strip of material such as tire cord fabric being translated through a treating station. The system monitors a physical characteristic of the strand or strip that is affected by the treatment and compares it at spaced time intervals with a fixed reference. The differential if any is then analyzed as to its sign and magnitude and used to adjust the treating conditions to bring the physical characteristic back to the condition established by the reference. The sampling is then repeated after one or more treatment intervals have elapsed.



3,505,714
METAL CLIPPING TOOL

Guy Boileau, 7187 Gilley Ave., Burnaby, British Columbia, Canada
Filed June 19, 1967, Ser. No. 646,925
Claims priority, application Canada, Jan. 9, 1967, 979,869
Int. Cl. B23p *17/00*
U.S. Cl. 29—21.1 **5 Claims**

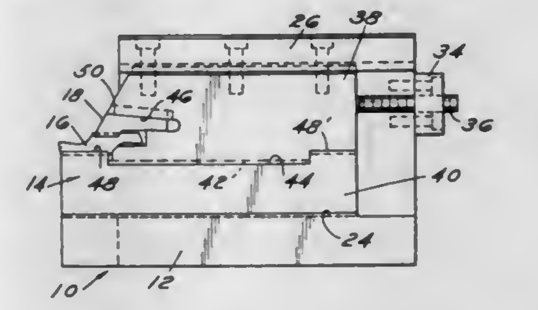


A metal clipping tool having lever-operated jaws fitted with metal piercing and shaping members for forming fasteners in adjoining structural members.

3,505,715
CUTTING TOOLHOLDER AND INSERT

William E. Germani, Metamora, Mich., assignor to The Valeron Corporation, a corporation of Michigan
Filed Jan. 21, 1969, Ser. No. 792,503
Int. Cl. B26d *1/00*
U.S. Cl. 29—96 **7 Claims**

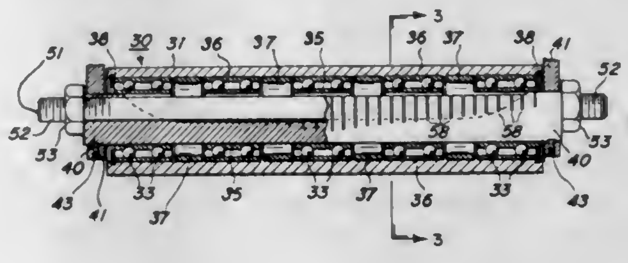
A cutting tool including a blade holder for cylindrical inserts, with wedge means for retaining the insert, means for retaining the insert, means for retaining the wedge in the holder when the insert is changed, and a two-piece construction for readily renewing the insert seat. Also



directed to a particular form of cylindrical insert and means of obtaining side clearance therefor.

3,505,716
ROLL APPARATUS

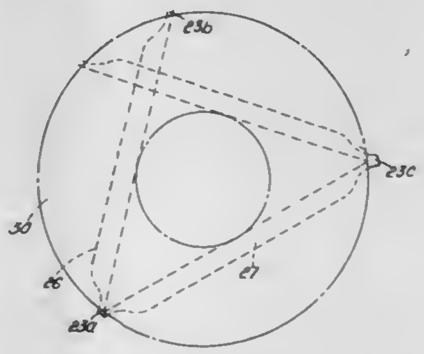
Rabin Moser, Fairport, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 11, 1967, Ser. No. 689,557
Int. Cl. B21b *13/02*
U.S. Cl. 29—116 **1 Claim**



A roll apparatus for applying pressure uniformly across the entire length of the operating surface or nip defining line of pressure rolls. The apparatus comprises a roll shell supported by bearings on a shaft which is internally stressed to counteract the bending moments applied to the shell.

3,505,717
METHOD OF MAKING A BLADED ROTOR MEMBER FOR A FLUID FLOW MACHINE

Jack Palfreyman, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Dec. 19, 1966, Ser. No. 602,931
Claims priority, application Great Britain, Jan. 10, 1966, 1,135/66
Int. Cl. B23p
U.S. Cl. 29—156.8 **3 Claims**

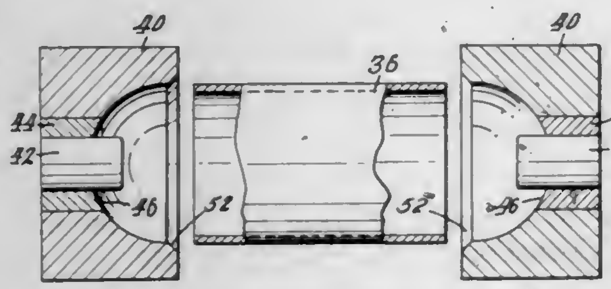


A method of making a bladed rotor member of a gas turbine engine in which coated fibres are employed in the formation of both the blades and the hub portion of the rotor member. The blades and hub portion together form an integral structure, the hub portion being sandwiched between axially spaced metal discs which are secured to the hub portion.

3,505,718

ONE-PIECE SHEET METAL HOLLOW BALL FOR BALL VALVES

Carl F. Carlstrom, Shrewsbury, Mass., assignor to General Industries, Inc., Worcester, Mass., a corporation of Massachusetts
Filed Jan. 15, 1968, Ser. No. 697,727
Int. Cl. B21d *53/00*
U.S. Cl. 29—157.1 **3 Claims**



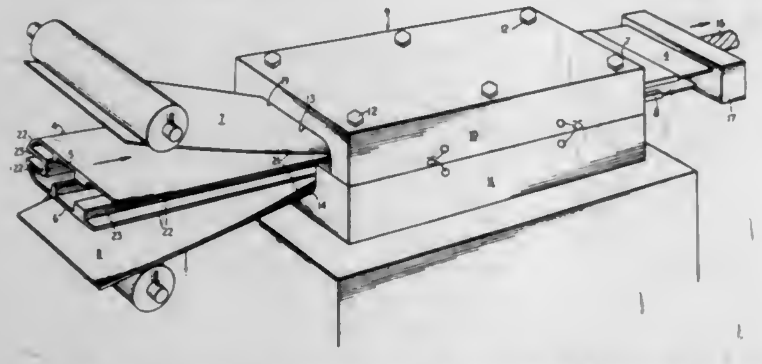
This invention relates to a new and improved ball for ball valves, and it comprises a single piece of sheet metal formed into a hollow ball perfectly smooth at the exterior thereof and forming a very inexpensive and lightweight ball for ball valves. This ball can be provided with a flow passage sleeve or it can be used in some instances without.

The sheet metal blank from which the hollow ball is made may be a flat sheet of suitable metal or it may be in the form of a single piece of tubing open at both ends.

3,505,719

DRAWING AND SWAGING DIE APPARATUS

Laurence O'Malley, 61 Jacobson Ave., Kyeemagh; John Cowdroy, 15 Old Sydney Road, Seaforth; and Richard Vanzanten, 5 Murralon Place, Lane Cove, all of New South Wales, Australia
Filed Nov. 14, 1966, Ser. No. 594,216
Claims priority, application Australia, Nov. 15, 1965, 66,524/65
Int. Cl. B21d *5/08*
U.S. Cl. 29—200 **3 Claims**



A die for making extended lengths of composite metal sections with a passage having an entry end and an exit end. The entry end is adapted to receive an inner metal section and sheet metal to cover with a close fit part or all of the inner section. Means are provided for covering the sheet metal with a close fit part or all of the inner section as the section and the sheet metal are drawn through the die. The entry end is approximately similar in shape but larger in size than the composite section and the passage near the exit end is substantially identical in size and shape with the composite section. The covering means includes a pluarity of rollers rotatably mounted on and within the die, each adapted to engage an adjacent part of the sheet metal and swage it against an adjacent part of the metal section wih a close fit. The drawing and swaging die apparatus has lubricating rollers and elongated tapered drawing die halves fastened together having parallel tapered swaging rollers for swaging edges of stainless steel strips to an angle of 45° about edges of an aluminum extrusion, and parallel cylindrical rollers to force the bent edges hard against walls of a channel in the aluminum extrusion. The drawing die passage tapers slightly toward the exit end thereby forcing the stainless steel strips hard against the surface of the aluminum extrusion.

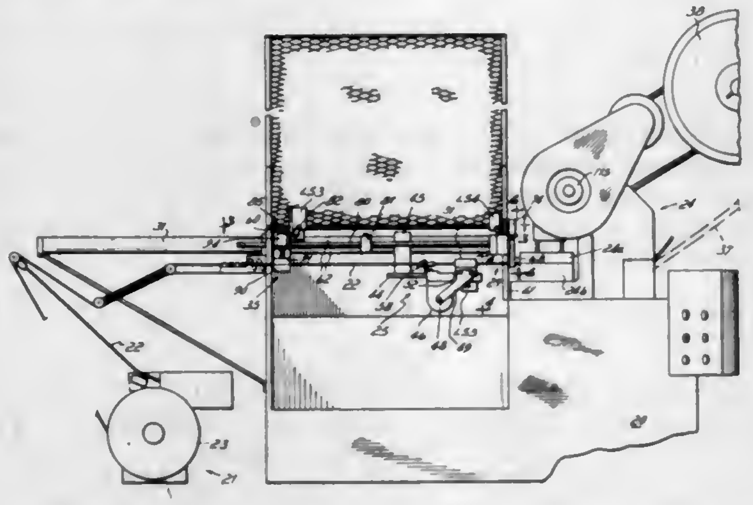
ERRATUM

For Class 29—203 see:
Patent No. 3,506,411

3,505,720

APPARATUS FOR STRIPPING THE INSULATION FROM A LEAD WIRE AND APPLYING A CONNECTOR THERETO

Henry H. Heimbrock, Cincinnati, Ohio, assignor to Van Products, Incorporated, Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 28, 1968, Ser. No. 708,879
Int. Cl. H01r *43/04;* **B21f** *15/06*
U.S. Cl. 29—203 **7 Claims**

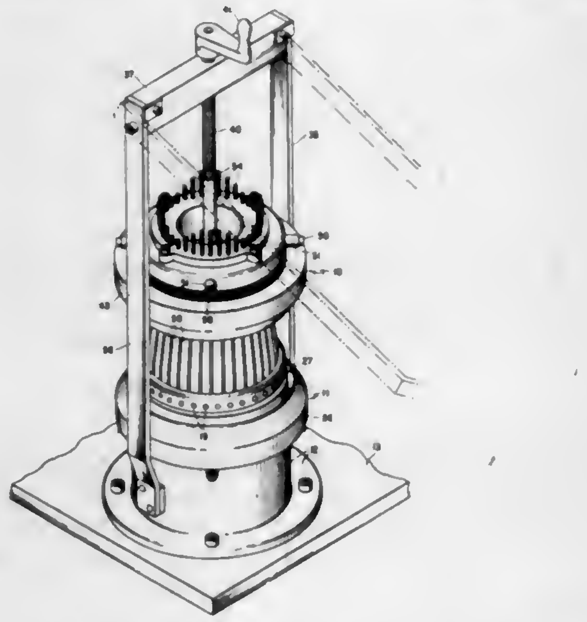


Apparatus for feeding wire from an endless supply to a crimping punch by which an electrical connector is applied to the end of the wire, the apparatus having means intermediate the supply and the crimping punch for cutting the wire and stripping the insulation from that end to which the connector is to be applied.

3,505,721

MACHINE AND SET-UP TOOL THEREFOR

Robert G. Walker, Fort Wayne, Ind., assignor to Industra Products, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Mar. 4, 1968, Ser. No. 710,329
Int. Cl. H02k *15/06*
U.S. Cl. 29—205 **16 Claims**



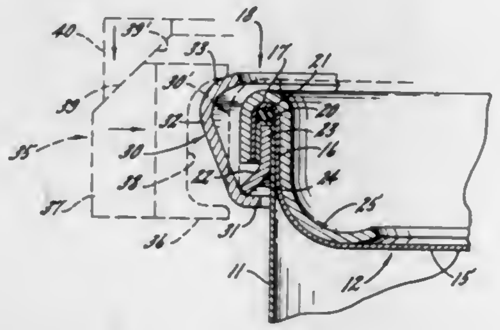
The fingers of a coil placing machine are made adjustable, and are held or released by locking means.

The fingers can be adjusted for various lamination stack heights by a set-up tool mounted on the coil placing machine. The set-up tool also has locking means which selectively engage each of the fingers when the set-up tool is in position. With the set-up tool locking means engaging the fingers, the coil placing machine locking means are released. The set-up tool is moved so that the fingers are moved to a position where the fingers can accommodate windings for the desired lamination stack height.

3,505,722

RECONDITIONABLE CONTAINER

Frederick E. Ullman, Winnetka, Ill., assignor to Inland Steel Corporation, Chicago, Ill., a corporation of Delaware
Filed June 28, 1967, Ser. No. 649,714
Int. Cl. B23p *7/00*
U.S. Cl. 29—401 **22 Claims**

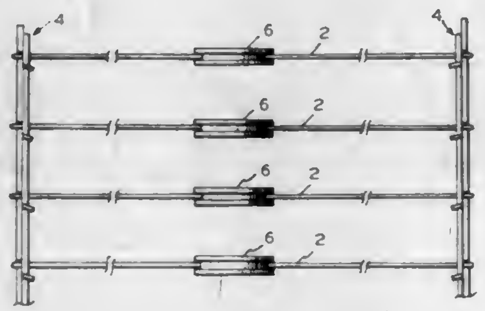


An improved multi-trip metallic shipping container and method of assembly and disassembly thereof which permit of repetitive use of the metallic container components while at the same time permitting unimpeded access into the interior of the container and into the normally inaccessible chime portions thereof for cleaning, dedenting and related container reconditioning purposes.

3,505,723

METHOD FOR WEIGHT LOADING WICKS PRIOR TO DIPPING OF CANDLES

Sverker R. F. Y. Bjorck, Enskede, Sweden, assignor to Liljeholmens Stearinfabriks Aktiebolag, Stockholm, Sweden, a corporation of Sweden
Original application June 22, 1965, Ser. No. 465,929, now Patent No. 3,390,444, dated July 2, 1968. Divided and this application Apr. 26, 1968, Ser. No. 763,993
Int. Cl. B23p *11/00*
U.S. Cl. 29—429 **9 Claims**

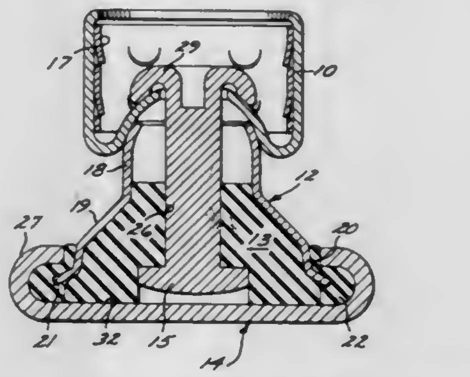


Weights are applied to wick lengths in preparation for the formation of candles by attaching an elongated clamp bar to one end of a plurality of parallel wicks, placing a weight on top of each of the wick lengths and pressing the weights downwardly to form generally U-shaped loops whose side legs are at least as long as the length of the candles to be formed, attaching a second clamp bar to the opposite ends of the wick lengths and suspending the two clamp bars in parallel, horizontal relationship in a candle dipping frame.

3,505,724

METHOD OF MAKING A CHAIR GLIDE

Robert E. Leitner, 2729 Harbor View Drive, Corona del Mar, Calif. 92625, and Karl Sator, 1028 N. Wanda Drive, Anaheim, Calif. 92806
Filed Jan. 3, 1968, Ser. No. 695,428
Int. Cl. B23p *11/00*
U.S. Cl. 29—432.2 **9 Claims**

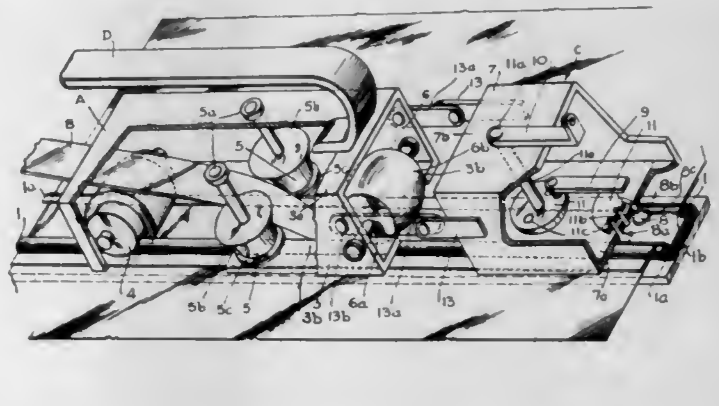


A chair glide in which the swivel retainer has outwardly-flared legs which are fully embedded in a rubber cushion, the outer diameter of the retainer at the leg ends being greater than the inner diameter of the preformed base of the glide, whereby the user may not remove the base from the retainer. The disclosure further relates to a method of manufacturing the glide by pressing the swivel retainer downwardly into the rubber cushion to provide a cushion-cutting and leg-flaring operation which is followed by a surprising rebound action as soon as the pressure is relieved.

3,505,725

METHOD FOR MAKING LAP JOINTS

Walter John Curry, 337 Roberts Ave., Winnipeg, Manitoba, Canada
Filed Aug. 23, 1963, Ser. No. 304,057
Claims priority, application Canada, Aug. 25, 1962, 856,726
Int. Cl. B23p *11/02;* **B31f** *1/00*
U.S. Cl. 29—451 **2 Claims**



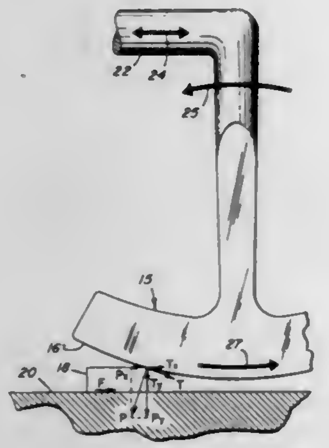
A method of joining flexible material to a connector including disposing a channel-shaped connector along the margin of the material, pressing the margin of the material into the channel-shaped connector and inserting a locking tape over the margin of the material with the edge portion of the locking tape within flanges on the channel-shaped connector. Apparatus for forming a lap joint for pieces of flexible material including a frame, a roller at the leading end of the frame for pressing overlapping marginal portions of flexible material into a channel member, means for buckling a locking tape prior to insertion thereof in the channel member and a roller mounted at the rear portion of the flange for pressing the buckled locking tape in the channel.

3,505,726

BONDING PROCESS WHICH REDUCES WORKPIECE DISPLACEMENT AND BACKWELDING

Gary Evan Kleinedler, Flemington, N.J., and Jaroslav Mracek, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 2, 1966, Ser. No. 598,820
Int. Cl. B23k *21/00*
U.S. Cl. 29—470.1 **5 Claims**



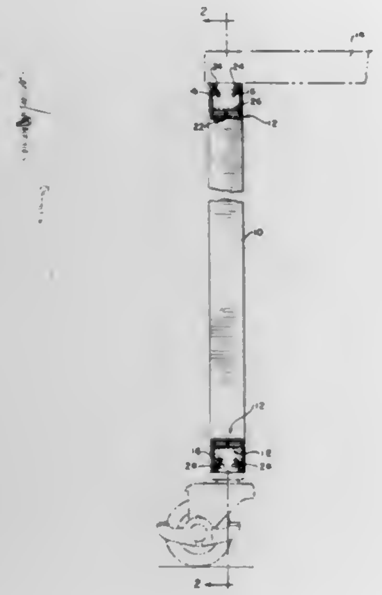
A bonding tool is moved into contact with a workpiece with a rolling motion, and, simultaneously, a sliding motion is superposed upon the rolling motion of the bonding tool to reduce the workpiece displacing forces generated by the bonding tool and to prevent backwelding of the workpiece to the bonding tool.

3,505,727

CONCEALED WELD CONSTRUCTION

John H. Johnson, Jamestown, N.Y., assignor, by mesne assignments, to Clark Adams Corp., Chicago, Ill., a corporation of Delaware

Filed Feb. 14, 1967, Ser. No. 616,761
Int. Cl. B23k *21/00*
U.S. Cl. 29—470.7 **5 Claims**



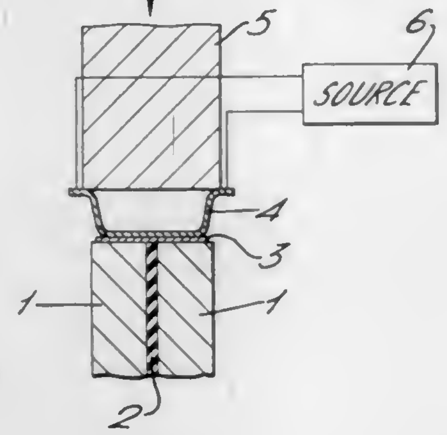
A welding means and method for use in constructing metal furniture joints or the like, providing a joint of superior mechanical strength while all evidences of welding heat disfigurement are confined within areas not normally viewable when the product is in use.

3,505,728

METHOD OF MAKING THERMOELECTRIC MODULES

Gerald Edward Hare, Ottawa, Ontario, Canada, and Frank Neighbour, Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Sept. 1, 1967, Ser. No. 665,173
Int. Cl. H01l *7/02*
U.S. Cl. 29—573 **5 Claims**



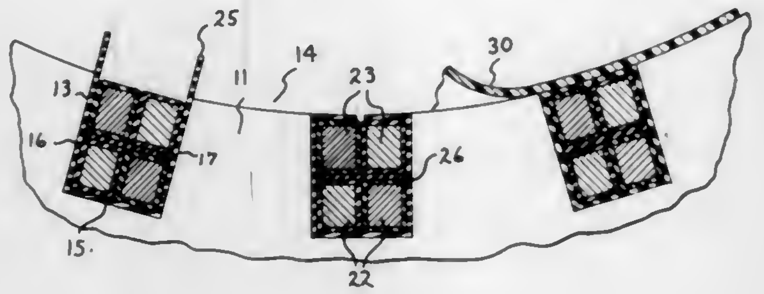
The bismuth telluride based elements of a thermoelectric module are electrically connected by metallic, preferably gold, straps which are simply pressed against the elements and heated to form an alloy bond with the elements, the temperature for gold being 460° C.

3,505,729

METHOD OF MAKING STATORS FOR DYNAMOELECTRIC MACHINES

Roy L. Balke and Robert S. Pearson, Erie, Pa., assignors to General Electric Company, a corporation of New York

Original application June 28, 1965, Ser. No. 467,432, now Patent No. 3,330,977, dated July 11, 1967. Divided and this application Apr. 27, 1967, Ser. No. 634,331
Int. Cl. H02k *15/00*
U.S. Cl. 29—596 **5 Claims**



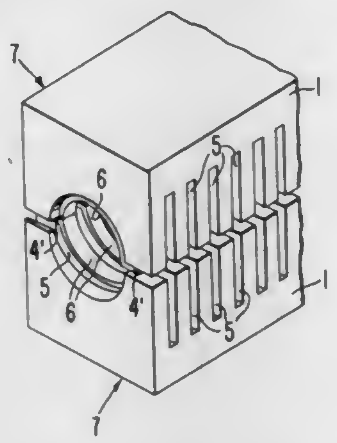
A method of making stators for dynamoelectric machines wherein coils are positioned within the electrically insulated slots of the stator and a layer of thermosetting resin composition is applied to the inside surface of the stator and over the conductors positioned within the slots thereof. A layer of loose weave glass cloth is embedded into the resin composition and radial pressure is applied to force the resin composition into and around the fibers of the glass cloth and compress them against the surface of the stator bore. The resin composition is cured while the radial pressure is maintained to form a rigid hoop of hardened resin intimately bonded to the inside surface of the stator bore.

3,505,730

MICROWAVE TUBES EMPLOYING CERAMIC COMB SUPPORTED HELIX DERIVED SLOW WAVE CIRCUITS AND METHODS OF FABRICATING SAME

Richard B. Nelson, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Jan. 16, 1967, Ser. No. 609,522
Int. Cl. H01p *11/00*
U.S. Cl. 29—600 **9 Claims**



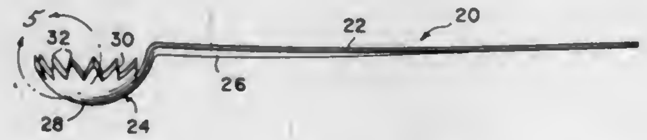
Methods for fabricating ceramic comb supported helix derived slow wave circuits are described wherein a conductive member is bonded to a ceramic rod structure. The bonded unit is then slotted with an array of slots. The slots are arranged in certain patterns and pass through certain portions of the conductive member and partially through the ceramic rod to produce at least a portion of a helix derived slow wave circuit with an array of ceramic fingers bonded thereto and supporting same. In certain embodiments, a complete comb supported slow wave circuit is formed by bonding two or more of such slotted ceramic and metal structures together. In one embodiment, two or more bonded ceramic and metal structures form a surrounding barrel structure forming a central ceramic portion of the vacuum envelope of a microwave tube. In another embodiment, two or more slotted metal and ceramic structures are bonded to a surrounding metallic barrel structure which forms the central vacuum envelope of the microwave tube.

3,505,731

CORING DEVICE

Clayton E. Giangiulio, Forest Lane and Skyline Road, Malvern, Pa. 19355

Filed Jan. 8, 1968, Ser. No. 696,389
Int. Cl. A47j *25/00*
U.S. Cl. 30—25 **5 Claims**



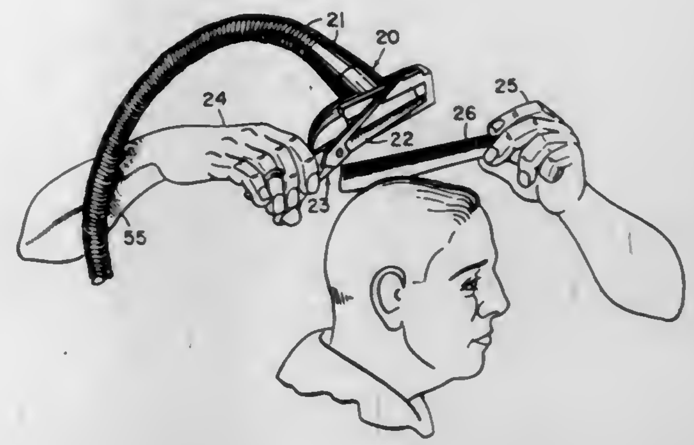
A coring device comprising a handle having a concave cutting member at one end thereof. The cutting member includes a plurality of spaced teeth, with each tooth terminating in a point and having at least one cutting edge formed thereon.

3,505,732

DEVICE FOR REMOVING CUTTINGS FROM THE AREA ADJACENT A PAIR OF SCISSORS

Gerald DiTrapani, 1261 3-Mile Road NE., Grand Rapids, Mich. 49505

Filed Oct. 11, 1967, Ser. No. 674,486
Int. Cl. B26b *13/24*
U.S. Cl. 30—133 **3 Claims**



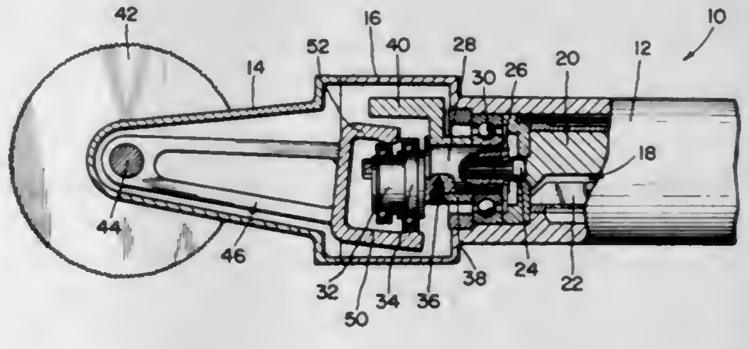
A device for removing cuttings from the area adjacent the cutting portions of a pair of scissors, including a suction head secured to one of the scissor members, and a vacuum hose connected to the suction head.

3,505,733

POWER OPERATED HAND TOOL

Peter D. Holden, Convent Station, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 9, 1967, Ser. No. 673,547
Int. Cl. B23d *45/00;* **F16h** *21/18*
U.S. Cl. 30—166 **6 Claims**



A power operated hand tool wherein a driven element, connected such that its transverse oscillation drives a working implement, is transversely oscillated by eccentrics through roller bearings and cooperating arcuate protrusions on the driven element.

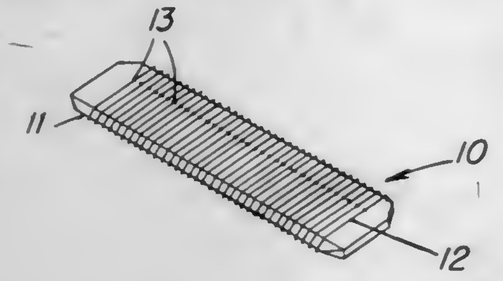
3,505,734

CUTTING BLADE WITH SELF-CONTAINED GUARD

Clemens A. Iten, Staunton, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia

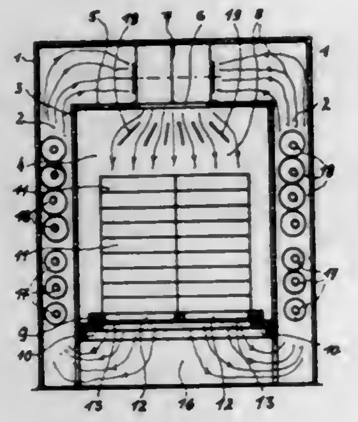
Filed Feb. 28, 1968, Ser. No. 709,126
Int. Cl. B26b *21/54*
U.S. Cl. 30—346.58 **6 Claims**

This disclosure is directed to a cutting blade such as a razor blade having a self-contained permanently attached guard whereby the blade holder may be of simple economical form and the normal guards or combs or other cutting edge protective means built into the blade holder may be omitted, the guard here comprising a thread having successively spaced portions arranged to extend beyond the cutting edge the spacing and thread diameter dimensions being of critical values, the thread being of a material which is flexible to enable it to be readily formed into the desired shape but having suitable stiffness and resistance to being severed when engaged against the sharpened blade edge.



3,505,735
DEVICE FOR THE PRODUCTION OF YOGURT

Ernst Breuning, 6 Fruhlingsweg,
7016 Gerlingen 2, Germany
Filed July 3, 1968, Ser. No. 742,309
Claims priority, application Germany, July 6, 1967,
1,582,952
Int. Cl. A01j *11/00;* **A23c** *9/12, 23/00*
U.S. Cl. 31—2 **20 Claims**

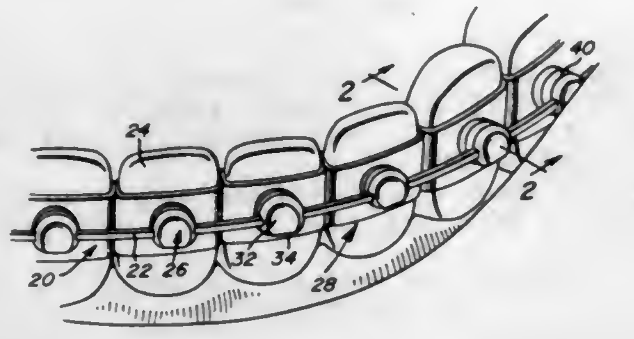


A device for the production of yogurt includes a chamber and a support, for stacked yogurt containers, positioned in the chamber and dividing the chamber into two separate compartments. The support has openings, through a support surface engageable with the bottom side of the stack of containers, communicating with both compartments, the two compartments being otherwise airtightly sealed from each other. A blower circulates air through the compartments and the openings, and a heat exchanger is positioned in the air flow path to influence the temperature of the circulated air. The area of the openings corresponds to the cross section of the stacked containers.

3,505,736
MECHANICAL ARCH FORM WITH PLURALITY OF INTEGRAL ARCH FORM ATTACHMENTS

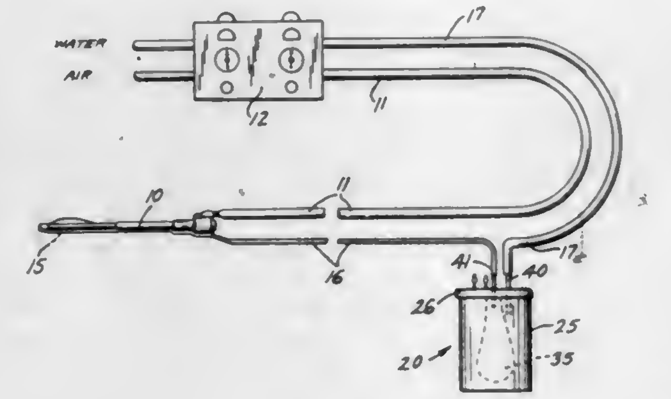
Allen C. Brader, 1350 Hamilton St., Allentown, Pa.
18102, and Raymond C. Thurow, 8 W. Mifflin St.,
Madison, Wis. 53703
Filed July 11, 1967, Ser. No. 652,444
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 **11 Claims**

A mechanical arch form to facilitate and control application of force to a tooth or teeth in the practice of orthodontic methods. The arch form is provided with a plurality of integral attachments for cooperation with a fixed tooth attachment for the application of forces in all three planes of space plus torsion to accomplish optimum positioning of each tooth. The attachments may be cooperatively retained with a fixed tooth attachment (dental attachment) in various manners and the arch form attachments may be rigidly fixed to the arch form or may be slidably attached to the arch form, rotatively or nonrotatively in either instance.



3,505,737
FLUID SUBSTITUTION DEVICE

Theodore L. Merolla, Old Greenwich, Conn. 06830
Continuation of application Ser. No. 365,712, May 7,
1964. This application Oct. 2, 1967, Ser. No. 672,391
Int. Cl. A61c *1/08*
U.S. Cl. 32—28 **2 Claims**

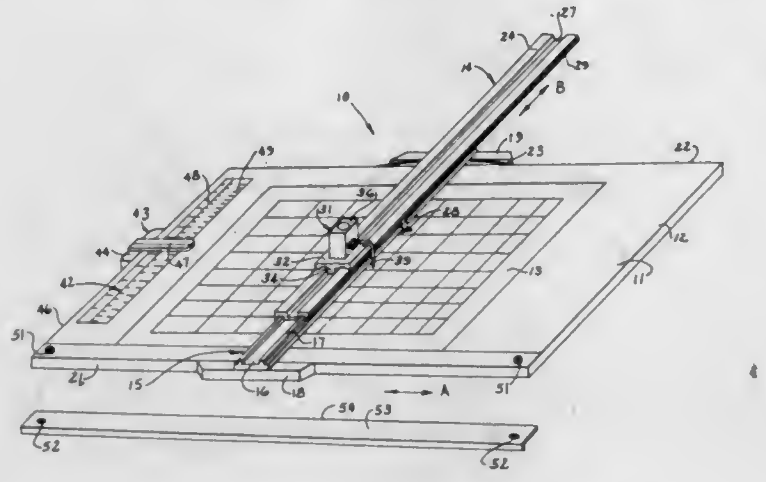


Dental drilling apparatus for supplying liquid to the drilling area for the cooling thereof and for removal of debris therefrom. The rate of flow and volume of said liquid is delivered in response to the operation of the drill therefor by displacement of said liquid to be fed by a second entirely segregated liquid. The liquid is delivered from a rigid container having a removable lid, an inlet, an outlet, and a flexible inner container disposed in said first container. The liquid is delivered through the outlet of said container. A second liquid, in volumetric equivalence to the amount of said first liquid delivered to said drilling area, is fed into said container and displaces the liquid removed through said outlet. The first container is completely closed against escape of liquid other than through the inlet and outlet, except for bleeder means.

3,505,738
SYSTEM FREQUENCY RESPONSE ANALYZER AND PLOTTER

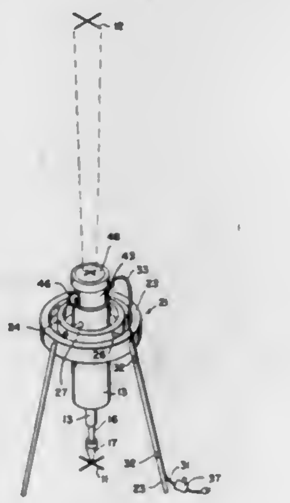
Benny R. Coleman, Union Hill Road, R.F.D. 2,
Nicholasville, Ky. 40356
Filed Mar. 29, 1968, Ser. No. 717,469
Int. Cl. G01c *21/20*
U.S. Cl. 33—1 **14 Claims**

A frequency response calculator and plotter including a board adapted to have a sheet of graph paper mounted thereon, and complex slide means movable both longitudinally and transversely relative to the graph paper to analyze, mechanically calculate and plot an overall system response curve from a plurality of individual system component curves. A family of templates, representing commonly encountered complex transfer functions, are positionable on the board to permit the response curves of the individual components to be quickly and efficiently plotted.



3,505,739
APPARATUS FOR TRANSFERRING FLOOR TO CEILING MARKINGS

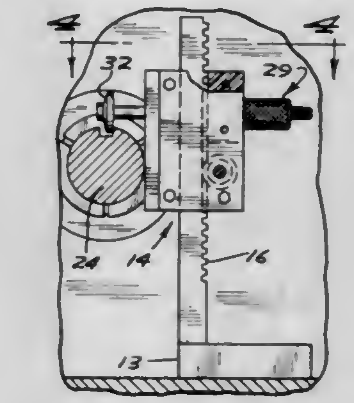
William C. Abrams, % Eveready Electric Company,
1624 Folsom St., San Mateo, Calif. 94103
Filed Dec. 22, 1967, Ser. No. 692,762
Int. Cl. G01c *1/00*
U.S. Cl. 33—46 **3 Claims**



Apparatus for use by electricians, heating, air-conditioning and ventilating contractors and the like is provided in order to transfer location markings interpolated from blueprints to actual markings on the floor of the building to the ceiling as disclosed. A tube is supported from the floor in such manner that the tube is vertically aligned and its vertical axis is accurately located in line with a floor marking. One means to transfer the floor marking to the ceiling is by light transmission. A bulb is supported in the tube and light emitted therefrom is focused on the ceiling. Light from the bulb passes through a crosshair located centrally of the axis of the tube and such crosshair is projected onto the ceiling. The workman marks on the ceiling the location of the crosshair which is in vertical alignment with the floor marking. Illumination of the bulb may be from a conventional electrical outlet, from a flashlight battery, or by a blinker circuit. Alternatively, a compressed air gun may be located in the tube and a pellet containing a dye propelled from the gun onto the ceiling where it leaves a mark.

3,505,740
MEASURING DEVICE FOR DETERMINING THE RADIAL DISPOSITION OF A KEYWAY IN A SHAFT

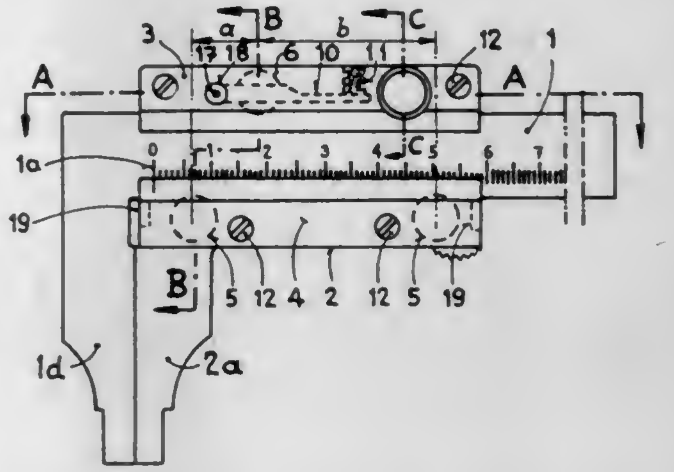
Duane L. Hanauer and Bernard J. Hanauer, Avon, Minn.,
assignors to Hanauer Machine Works, Inc., Avon,
Minn., a corporation of Minnesota
Filed Jan. 4, 1968, Ser. No. 695,608
Int. Cl. G01b *5/00*
U.S. Cl. 33—143 **5 Claims**



A measuring device for determining the radial disposition of a generally planar surface located in radially or arcuately spaced relationship to a generally cylindrical surface. The apparatus is adapted for determining the radial disposition of a generally planar surface such as a keyway in a generally cylindrical shaft, and includes a base plate having a support column member disposed at right angles to the base plate having measuring means mounted thereon. The measuring means are adapted for reciprocatory up-and-down motion relative to the base plate, and include an abutment plate for meeting the cylindrical surface of the member being studied. Means including an extensible member arranged for relative motion with the abutment plate are also provided. A scale mechanism, particularly a micrometer mechanism, is provided for determining the relative spacing between the outer surface of the abutment plate and the inner contacting surface of the extensible member.

3,505,741
CALIPER RULE

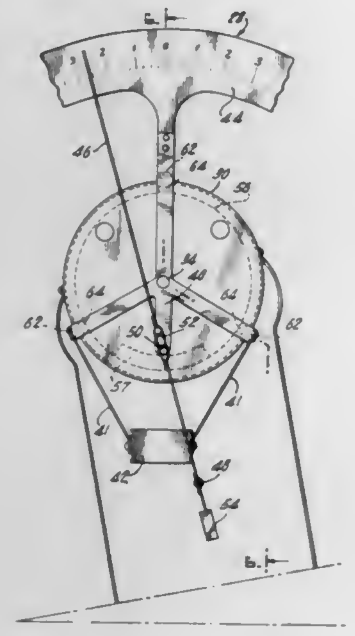
Hans Meyer, 24 Bugnon, Renens, Vaud, Switzerland
Filed Oct. 31, 1968, Ser. No. 772,202
Claims priority, application Switzerland, Dec. 12, 1967,
17,384/67
Int. Cl. G01b *3/20*
U.S. Cl. 33—143 **4 Claims**



A slider mounted on wheels rolls along the beam, the wheels being adjustable to permit perfect matching of the two caliper jaws. A clamp locks the slider without exerting pressure on the wheels.

3,505,742
INDICATOR DEVICE FOR CONTINUALLY MONITORING DEVIATIONS FROM THE CORRECT ELEVATION AND GAUGE OF RAILROAD TRACKS

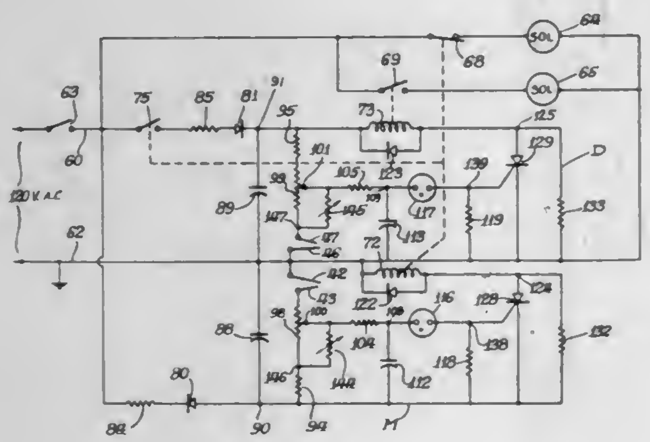
Rene A. Fiechter, 137 Hollywood Ave.,
Douglaston, N.Y. 11363
Filed Dec. 4, 1968, Ser. No. 781,215
Int. Cl. B61k *9/08*
U.S. Cl. 33—145 **8 Claims**



An indicator device being transported on railroad tracks for continually monitoring the elevation or cross-level and gauge of the tracks, and marking areas by means of aerosol spray cans where faulty elevation and gauges are detected. The device utilizes two pendulums, one of which is in a liquid medium in a housing, the other pendulum being located outside of the housing. The device may be disassembled and made portable.

3,505,743
FABRIC FINISHING MACHINE AND AUTOMATIC CONTROL FOR OPERATING SAME

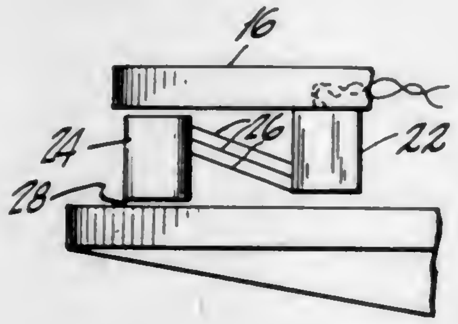
David L. Radford and Michael G. Mladejovsky, Salt Lake City, Utah, assignors to McGraw Edison Company, Elgin, Ill., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 752,320
Int. Cl. F26b *19/00*
U.S. Cl. 34—45 **14 Claims**



A finishing machine for fabrics, including means for moistening and for drying the fabric, and control means that sense the moisture level in the fabric and respond upon certain predetermined levels being reached to control the operation of the machine, such as terminating one and automatically starting the other of the moistening and drying means and thereafter further terminating the other of the moistening and drying means.

3,505,744
CENTRIFUGAL FORCE CONTROLLED TRANSDUCER

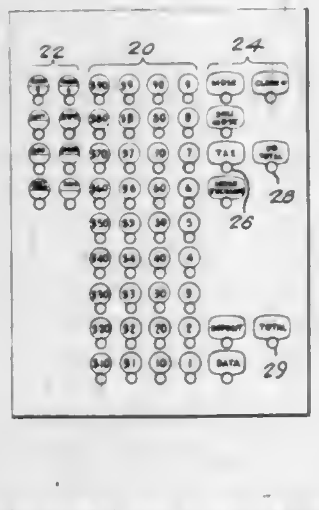
Abraham Lichowsky, Los Angeles, Calif., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,653
Int. Cl. G11b *5/52, 5/54, 5/60*
U.S. Cl. 340—174.1 **4 Claims**



This disclosure relates to the problem of supporting a transducer, such as a magnetic head, spaced appropriate distances from a recording medium, such as a memory disk, during the time the recording medium is moving and the time it is at rest. The transducer is brought into an air bearing engagement with the recording surface by virtue of centrifugal force acting on a radially extendable rotating transducer support which also moves the transducer toward the recording surface as the rotation and resulting centrifugal force increases.

3,505,745
METHOD OF TEACHING THE USE OF BUSINESS MACHINES

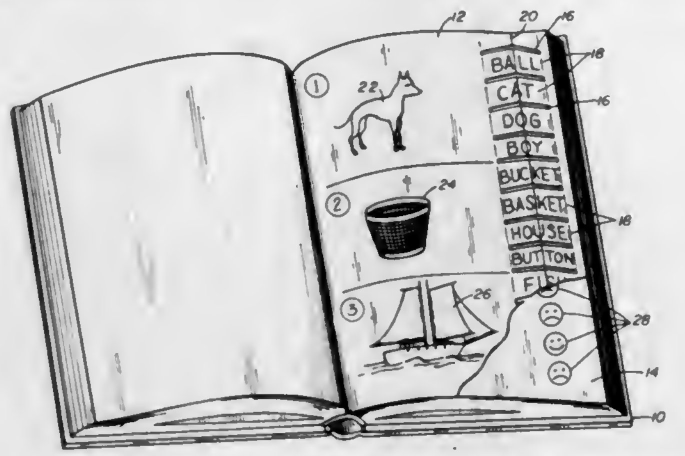
Shirley Gillian Carlisle, Pierrefonds, Quebec, Canada, assignor to The Eaton T. Company Limited, Toronto, Ontario, Canada
Filed May 4, 1967, Ser. No. 636,165
Int. Cl. G09b *19/00*
U.S. Cl. 35—5 **1 Claim**



A stencil superimposed on a perpetual writing device. The stencil includes holes corresponding to the keys on a business machine which is being taught. The student simulates an operation by marking the perpetual writing device through the holes in the stencil corresponding to the keys he or she would punch on the machine.

3,505,746
EDUCATIONAL TESTING SYSTEM

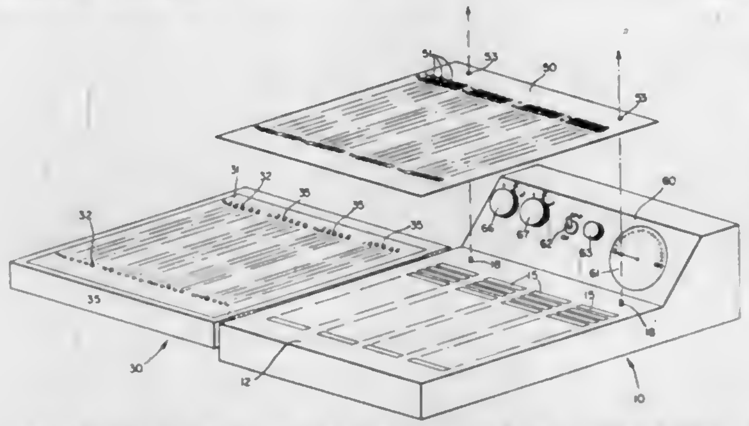
Hal D. Jackson, 1112 E. 35th Place,
Tulsa, Okla. 74105
Filed Nov. 13, 1967, Ser. No. 682,320
Int. Cl. G09b *3/08*
U.S. Cl. 35—9 **6 Claims**



A knowledge testing system which can be incorporated into books or the like includes reusable answer indicia covering tabs which, when pressed downward with a finger or object will reveal the correctness of a test answer.

3,505,747
ELECTRICAL SCORING DEVICE FOR MULTIPLE CHOICE EXAMINATIONS

Norman W. Wray, Sr., Box 312, R.F.D. 2,
Glen Mills, Pa. 19342
Filed July 3, 1967, Ser. No. 650,871
Int. Cl. G09b *7/00*
U.S. Cl. 35—48 **1 Claim**

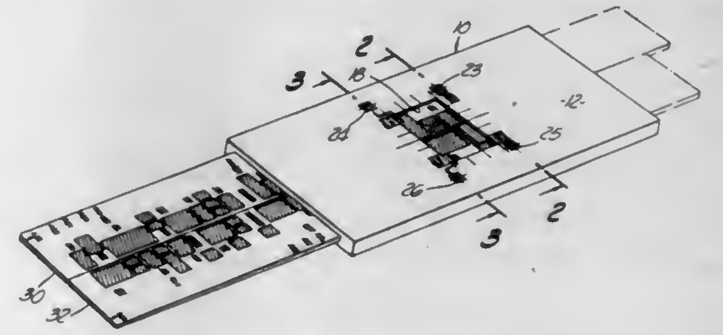


An electrical scoring device for grading multiple choice type of examination sheets. The examinee indicates his answer choices by punching holes in an answer sheet which is then placed between the base and hinged lid of the scoring device. The base contains at least as many conductive strips as there are questions while the lid contains as many holes as there are possible answers. Each hole corresponding to a correct answer is provided with a spring-biased contactor pin. For each correct answer punched an appropriate contactor pin and conductive strip complete a circuit. Each correct answer results in incremental current flow, the total of which is indicated on a grading meter showing percentage of correct answers.

3,505,748
LAYOUT INDICATOR

Kendall R. Wolfe, 490 S. San Vicente Blvd.,
Los Angeles, Calif. 90048
Filed July 3, 1967, Ser. No. 650,911
Int. Cl. G09b *1/16, 25/00*
U.S. Cl. 35—53 **1 Claim**

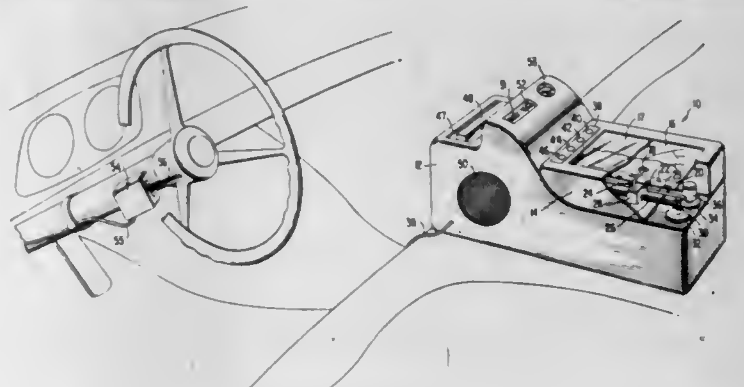
The invention relates to the field of layouts of pictorial material and copy for printed publications such as school yearbooks for example. One each of two facing pages having an even and an odd page number of books, material comprising pictures and printed copy is presented in predetermined layout form, that is, in predetermined arrangements or patterns of the pictures and printed copy material, depending upon the size, shape and number of the pictures and copy and the effect desired. The device of the invention is a layout indicator for graphically illustrating a large number of such layouts or patterns and identifying individual layouts by code numbers, the device providing means for selecting and identifying by code number individual layouts which are presented in a viewing window in the device. In a preferred form of the invention, the layouts are graphically presented on strips that slide through a masking sleeve having a viewing window in it of a size to view an area representing facing even and odd pages of the book. The layouts are graphically displayed on the strips so that when the strip is moved a fraction of the depth of the viewing window, say ⅓ of this dimension, at each of these steps a discrete graphic layout is presented, and is identified by a code number presented in another window in the device. On the other side of the strips are presented layouts which are graphically such that a coded layout is presented and identified by its code number when the strips are moved in increments equal to the depth of the viewing window.



In a modified form of the invention the number of discrete identifiable layouts that can be selected by code is multiplied by increasing the width of the graphic presentation of the layouts and then providing an additional sliding member having a window that moves horizontally with respect to the first viewing window.

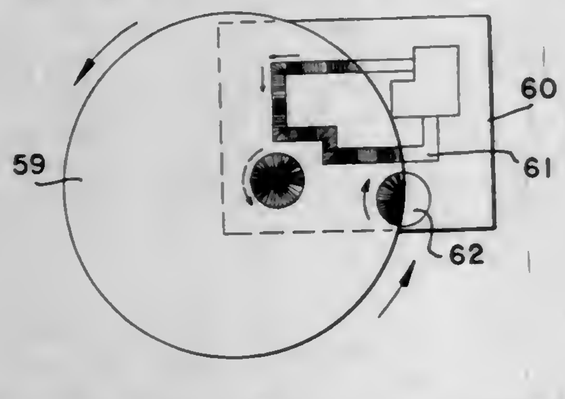
3,505,749
GUIDANCE AND POSITION-ADVISORY METHOD AND SYSTEM

Leland J. Hewitt, 9528 Dalegrove,
West Los Angeles, Calif.
Filed Mar. 22, 1967, Ser. No. 625,162
Int. Cl. G09f *27/00*
U.S. Cl. 40—28.1 **20 Claims**



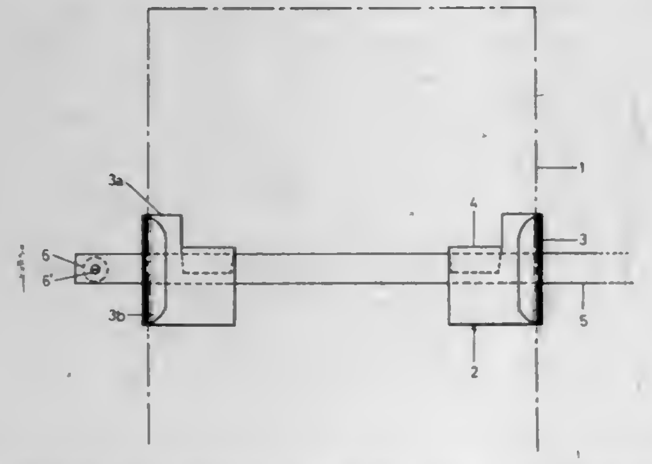
Operation of a tape playback to provide prerecorded guidance information pertinent to a predetermined route is correlated with an indexing traverse of a map of the route. A visual display may present guidance information in response to coded media on the traversed map. Sensors may detect the accomplishment of guidance commands by an operator of a vehicle and advise the operator of incorrect vehicle guidance.

3,505,750
APPARATUS FOR CREATING APPEARANCE OF OBJECTS IN MOTION
Donald N. Yates, 710 Rockwood Drive,
Gibsonia, Pa. 15044
Filed Aug. 28, 1967, Ser. No. 663,832
Int. Cl. G09f *13/34*
U.S. Cl. 40—106.53 **11 Claims**



A variety of motion effects are obtained by providing a screen of alternate light and dark areas arranged as the radial or spiral spokes of a wheel and rotating this grid over a stationary artwork grid made up of differently formed alternate light and dark areas.

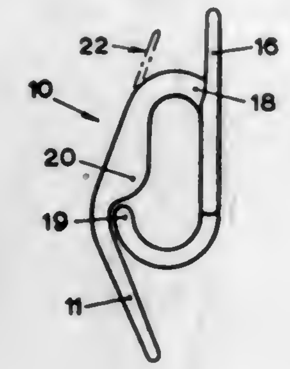
3,505,751
DISPLAY DEVICES
Lars Anders Martin Romberg, Rodhakevagen 31A,
Uppsala, Sweden
Filed Dec. 28, 1967, Ser. No. 694,254
Claims priority, application Sweden, Oct. 4, 1967,
13,602/67
Int. Cl. G09f *1/12*
U.S. Cl. 40—152.1 **13 Claims**



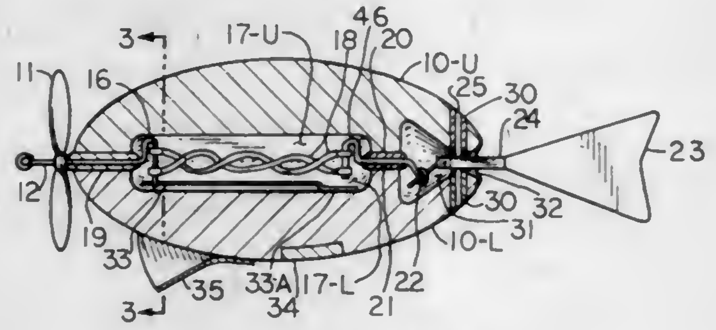
A device for holding a display unit, for example, a picture disposed between a base and a transparent cover plate, on a surface. The device includes a bar adapted to be secured to the surface and two holders adapted to be disposed on the bar and on each of the two opposing edges of the display unit. Each such holder has a first means for being carried by the bar and a second means for holding the display unit by clamping action. The second means is provided a flexible lock adapted to press the display unit against the back of the surface provided therefor.

3,505,752
EAR TAG
Douglas Harold Beattie, "Haldon Downs," Inland Road,
Kaikoura, South Island, New Zealand
Filed June 25, 1968, Ser. No. 739,730
Claims priority, application New Zealand, June 26, 1967,
148,916
Int. Cl. G09f *3/00*
U.S. Cl. 40—302 **4 Claims**

A plastic ear tag for livestock comprising a tag member having a hook portion at one end, and a resilient member attached to the tag member and carrying at a position intermediate its length an abutment which, in conjunction with the hook portion, is adapted to form a normally closed loop.



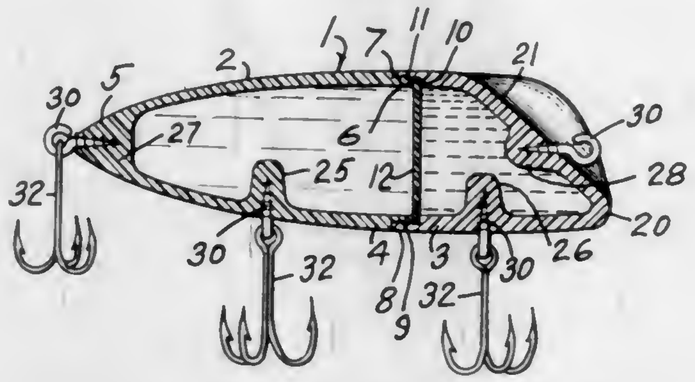
3,505,753
ANIMATED FISHING LURE AND CHILD'S TOY
Homer I. Henderson, 2220 Live Oak,
San Angelo, Tex. 76901
Filed May 9, 1967, Ser. No. 637,103
Int. Cl. A01k *85/06*
U.S. Cl. 43—26.2 **3 Claims**



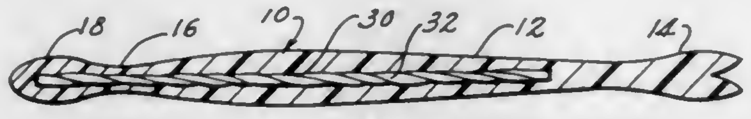
An animated fish lure comprising a body having a cavity therein. In the cavity is a resilient member, preferably a rubber band, that can store torsional energy, as a "spring member." To the forward energy-input end of the spring is connected an input shaft, which is rotatable and extends through the front of the lure, and mounted on this shaft, external of the lure body, is a water propeller. When the lure is towed in water the propeller causes the shaft to turn and store torsional energy in the spring. A ratchet engages the propeller input shaft to prevent reverse rotation, i.e., unwinding of the spring. Operably connected to the rear or output end of the spring is a lure propelling means, as a flexible tail or paddle wheels, which propelling means is actuated by the energy stored in the spring and operates to slowly propel the lure in the same direction in which it was towed, even for several seconds after the towing stops.

3,505,754
FISH LURE
Joseph W. Lawlor, P.O. Box 7374,
North Las Vegas, Nev. 89101
Filed July 29, 1968, Ser. No. 748,358
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.22 **1 Claim**

A fish lure having a body which is formed in two hollow sections detachably connected together. The rear section is tapered from the point of joinder with the front section to the tail portion and the front section is provided with a rearwardly inclined front wall, which wall is transversely curved on a uniform radius. At the zone of connection between the front section and the rear section is a disk which seals the front section from the rear section. Both sections carry depending fish hooks and the inclined wall of the front section is adapted to be secured to a fish line. The front section may be ballasted by placing water therein in which water is confined between the disk and the inclined front wall. The lure may receive inserts within one or both sections to attract game fish.



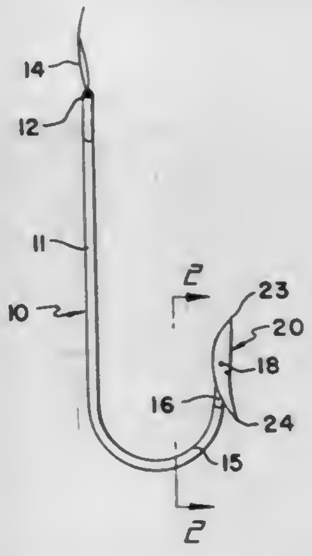
3,505,755
FISH LURE
John C. Pearce, Randolph County, near Lumpkin, Ga. (℅ Streak-O-Lean Lure Company, Lumpkin, Ga. 31815)
Filed Feb. 6, 1968, Ser. No. 703,416
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.06 **3 Claims**



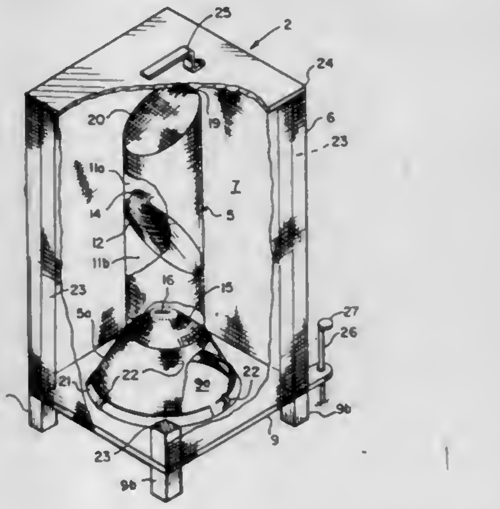
A flexible plastic fish lure which resemblies a worm, eel or any other bug or creature, sometimes called a live-action lure, with a substance or compound inside which may include fish oil and other odorous substances attractive to those fish affected by smell. An elongated wick-like member of textile fibers is saturated with the substance or compound and positioned to be covered by the liquid plastic material which encapsulates the wick-like member after solidifying. Thus, when the lure leaves the place of fabrication it is sealed until used and the oil and grease and odor is not substantially apparent and will not stain the fisherman's clothes but one a hook is inserted through the plastic and penetrates the wick-like material and makes an opening from the interior to the outside and the lure is brought into contact with the water the odor is released.

3,505,756
HINGED BARB FISHHOOK
Daniel T. R. Bowden, Campbell River, British Columbia, Canada (P.O. Box 99, Quesnel, British Columbia, Canada)
Filed Apr. 24, 1968, Ser. No. 723,817
Int. Cl. A01k *83/00*
U.S. Cl. 43—43.16 **5 Claims**

A fish catching device comprising a hook having a barb hingedly mounted on the hook portion for swinging movement between a normal or set position substantially aligned with the hook portion and an angular or cross position relative to the hook portion. Latching means is provided for releasably retaining the barb in the normal or set position.



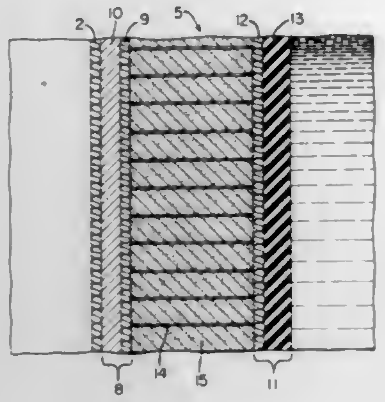
3,505,757
TRAP FOR INSECTS SUCH AS FLIES
Kenneth F. Hall, 9205 W. 73rd Place,
Arvada, Colo. 80002
Filed July 19, 1967, Ser. No. 654,654
Int. Cl. A01m *1/10*
U.S. Cl. 43—118 **9 Claims**



A trap for insects such as flies having upright inner and outer enclosures defining an insect confining chamber therebetween and arranged for placement of an open bottom portion of the inner enclosure in overhanging relation to a bait which attracts the insects. Intercepting surface portions within the inner enclosure define an upwardly inclined crawl surface for directing insects in an upward movement from the bait and restricted openings along at least one side wall and at the top of the inner enclosure through which the insects may pass in their upward movement. A detachable arrangement associated with the inner enclosure to remove the insects without contacting same.

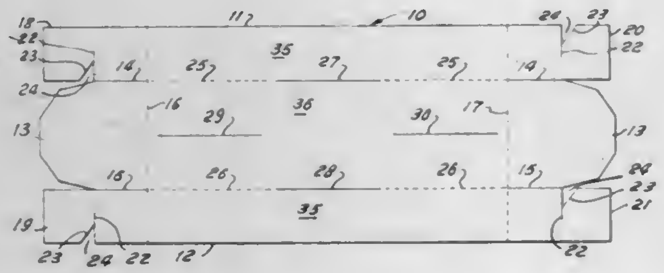
3,505,758
ANTIFOULING COVERING FOR SUBMERGED MARINE OBJECTS
Laverne H. Willisford, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Nov. 15, 1967, Ser. No. 683,229
Int. Cl. A01m *25/00*
U.S. Cl. 43—131 **8 Claims**

An antifouling protective covering for preventing growth of barnacles and other marine organisms on the exterior of marine objects, such as sonar domes and the like, submerged in sea water. The covering consists of a double-wall, rubber-coated fabric reservoir which carries an intermediate layer of diffusible toxic or repellent material. The toxic material diffuses through the outer wall and provides a continuous supply of toxic material to the exposed outer surface to replace any toxic material lost to sea water.



3,505,759
DIE-CUT FOLDABLE STRUCTURAL UNITS

James E. McKee, Donald R. McKee, and Charles F. McKee, all of 3119 Milton, Dallas, Tex. 75205
Filed Sept. 2, 1965, Ser. No. 484,587
Int. Cl. A63h *33/08;* **B65d** *5/26*
U.S. Cl. 46—23 **1 Claim**

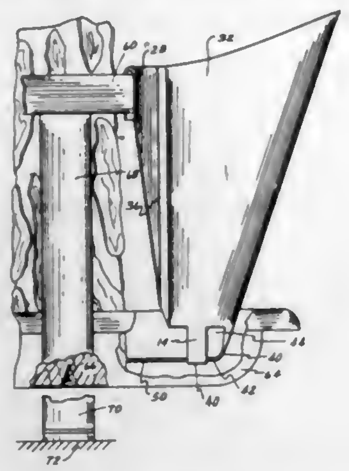


The invention concerns the provision of a flexible structural unit which is die-cut in blanks from cardboard or paper, and generally rectangular in outline, having a plurality of tabs and strategically located slits and scorings by which the blank can be folded and the tabs interlocked or lapped to produce units having a variety of forms, and whereby certain of the tabs can be selectively extended through the slits in the blanks to join the several formed units in a composite structure.

3,505,760
WATERING DEVICE FOR XMAS TREES

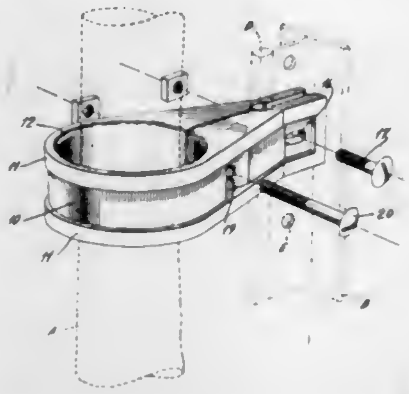
Edward B. Ambrose, 103 Mayfair Place, Chicago Heights, Ill. 60411
Filed Mar. 27, 1968, Ser. No. 716,565
Int. Cl. A47g *33/12*
U.S. Cl. 47—38 **6 Claims**

A water feeder having a somewhat conical funnel portion, securable to a stand supporting the trunk of a Xmas tree with the butt end thereof in a water basin. The feeder receives an inverted bottle filled with water when inverted therein and has a longitudinal slot adjacent to the trunk which drains spillage against the trunk. The bottom of the feeder is open and supports the neck of the bottle with its mouth above the level of the lower end of the trunk. The feeder is inclined inwardly toward the tree for ease of manipulating and inserting the bottle with the weight of the elevated butt end of the bottle holding the lower end of the feeder in proper position under pressure in spaced orientation from the tree trunk.



3,505,761
TREE SUPPORT

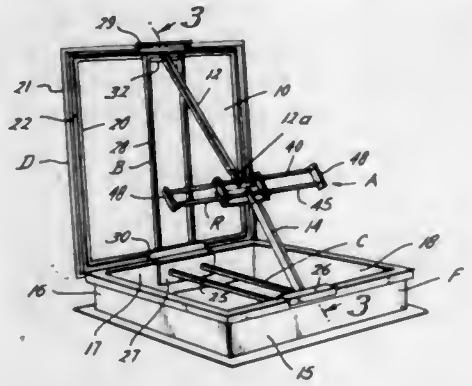
Jean Prieur, 5950 38th Rosemount Ave., Montreal, Quebec, Canada
Filed Sept. 15, 1967, Ser. No. 668,095
Int. Cl. A01g *17/14;* **A44b** *21/00;* **F16i** *3/12*
U.S. Cl. 47—43 **1 Claim**



The invention consists of a tree support in which the belt encircling the tree trunk and fastened to a stake is made of inert non-wettable material which prevents the growth of microorganisms at the point of contact of the belt with the tree trunk.

3,505,762
LIFTING ASSEMBLY FOR OPENING A HINGED COVER

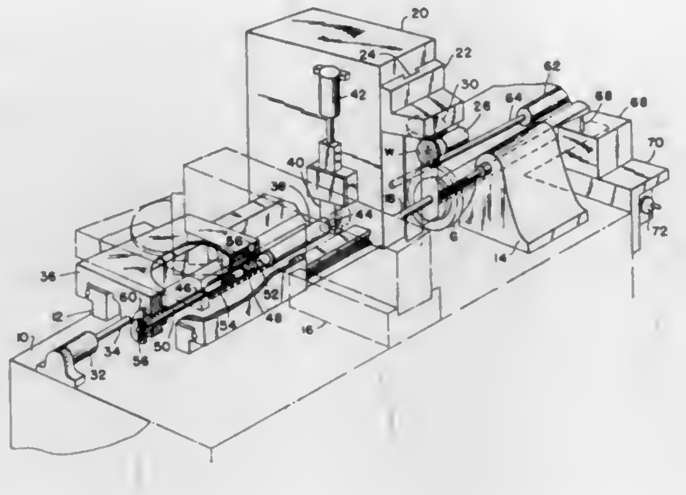
Kiyoshi Sandow and George H. Allen, Houston, Tex., assignors to Plasteco, Inc., a corporation of Texas
Filed Jan. 13, 1969, Ser. No. 790,592
Int. Cl. E04d *13/03;* **E05f** *1/12*
U.S. Cl. 49—386 **10 Claims**



A lifting assembly separate from a skylight cover and a curb, or similar construction, but adapted to be attached thereto for opening or raising the cover relative to the curb.

3,505,763
GEAR GRINDING MACHINE

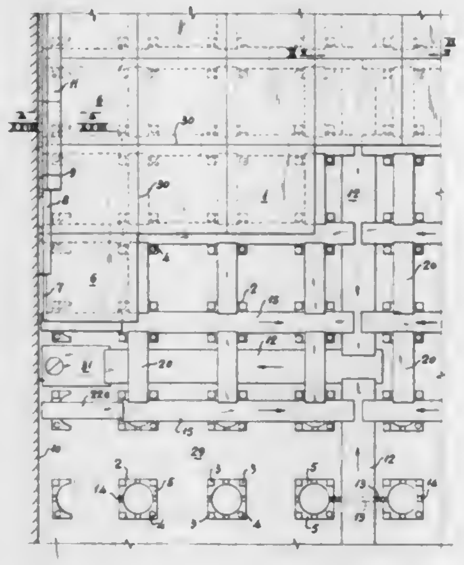
Arthur B. Bassoff, Oak Park, Mich., assignor, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,777
Int. Cl. B24b *5/00*
U.S. Cl. 51—52 **20 Claims**



A machine for grinding relatively large gears in which the gear is mounted on the frame for rotation only, the grinding wheel is reciprocated back and forth to grind the gear teeth, camming means or provided for rotating the gear to compensate for helix angle, to provide crowning if desired, and to provide for grinding one side of a tooth at a time, the wheel column being independently movable to an end of the frame for coaction with a vertically movable wheel trimmer.

3,505,764
SYSTEMS OF CONSTRUCTION OF TERRACES

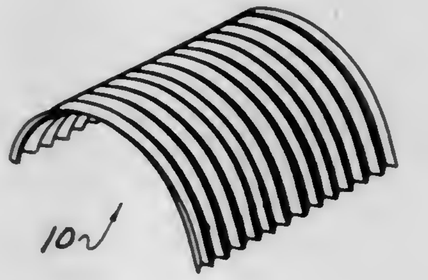
Jesús Alberto Cagigal Gutierrez, Zurbano 35, Madrid 4, Spain
Filed Mar. 6, 1968, Ser. No. 710,982
Claims priority, application Spain, Mar. 13, 1967, 337,970
Int. Cl. E04b *5/02;* **E04d** *13/04*
U.S. Cl. 52—11 **4 Claims**



A terrace construction is made up of a plurality of coplanar juxtaposed tiles supported by spaced sustaining elements and with channels beneath the joints between juxtaposed tiles for draining the terrace. The sustaining elements have three rigid coplanar support means and one elastically mounted support means and each sustaining element is located at the intersecting joints between four tiles. Each support means of a sustaining element contacts a different tile. Cementitious material is placed in the elastically mounted sustaining element to fix it in coplanar position with the other three rigid support means supporting a tile.

3,505,765
BUILDING CONSTRUCTION

John F. Blaski, 1844 Miner St., Des Plaines, Ill. 60016
Continuation-in-part of application Ser. No. 415,748, Dec. 3, 1964. This application Apr. 18, 1968, Ser. No. 729,866
Int. Cl. E04b *1/32;* **F04c** *2/32*
U.S. Cl. 52—80 **16 Claims**

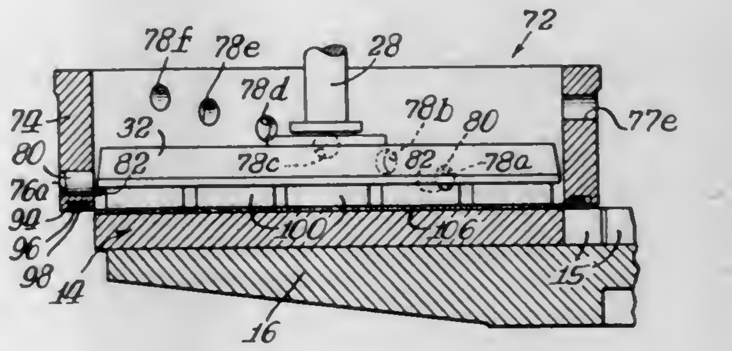


A building construction panel in the configuration of a portion of a frustum of a cone, having curvatures in two directions at right angles to each other, is formed by a series of flanged rollers in succession from a blank piece of sheet metal having arcuate outer and inner edges the radii of which conform to the slant lengths of the conic frustum. A series of such panels are attached end-to-end to form the portions of conic frustums and the portions of conic frustums are joined at their side edges to form the building.

The flanged rollers are disposed on two mutually perpendicular radii and on the surface of an imaginary cone corresponding to the portions of conic frustums of which the building is made.

3,505,766
LAPPING MACHINE TRUING RING

Stephen A. Boettcher, Deerfield, and James N. Farley, Palatine, Ill., assignors to Speedfam Corporation, Skokie, Ill., a corporation of Illinois
Original application Dec. 9, 1964, Ser. No. 416,989, now Patent No. 3,375,614, dated Apr. 2, 1969. Divided and this application Sept. 13, 1967, Ser. No. 667,595
Int. Cl. B24b *5/00, 29/00, 41/06*
U.S. Cl. 51—129 **19 Claims**



A truing and retaining ring having stop means projecting radially inwardly of the annular body portion thereof and being engageable by a plate adapted to bear against work pieces for arresting the downward movement of the plate.

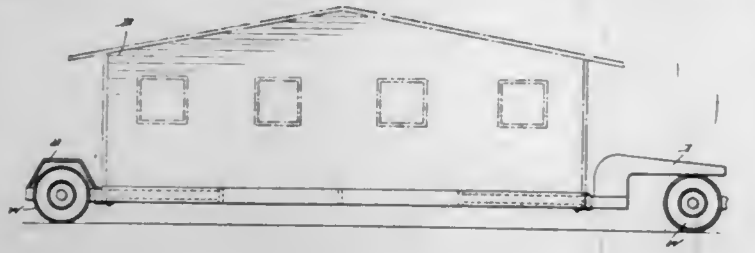
ERRATA

For Class 52—11 see:
Patent No. 3,505,764

For Class 52—80 see:
Patent No. 3,505,765

3,505,767
PREFABRICATED TRANSPORTABLE MODULAR BUILDING UNITS

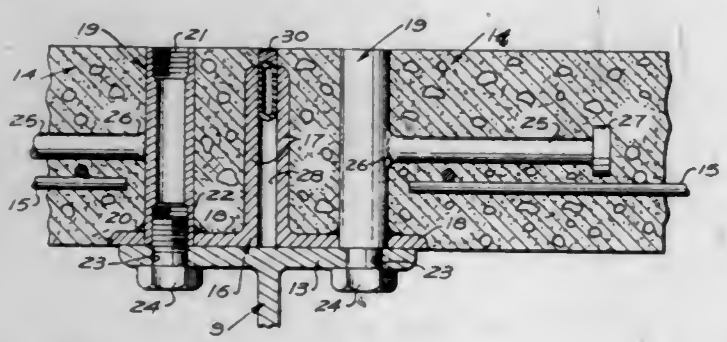
James W. Fyle, Jr., 9220 Pulaski Highway,
Baltimore, Md. 21220
Filed Oct. 30, 1968, Ser. No. 771,738
Int. Cl. E04h *1/12;* **B60p** *3/40*
U.S. Cl. 52—143 **13 Claims**



A prefabricated transportable modular building unit comprising a strong load-bearing metallic flooring frame formed of longitudinal and transverse marginal structural members with transverse reenforcing members extending between the longitudinal ones and provided with a pair of metallic tubes extending inwardly from each end of the flooring frame for a substantial extent, each pair being symmetrically disposed with respect to the longitudinal axis of the frame but at different lateral displacements from said axis. Each pair of tubes is adapted to nest therein, with minimal clearance, a pair of rods extending from the inner end of a front and rear vehicular transporting dolly, to which dollies are additionally clamped the front and rear ends of the flooring frame to constitute self-contained trailer body of adequately low height for the conveyance of the building unit from its point of fabrication to its installation site. The relative lateral displacement of the coupling rods on each of the dollies permits the connection of the free ends of the rods with the opposite dolly to shorten the longitudinal displacement between the dollies, following their disengagement from the floor frame, for the idle return of the pair of vehicular dollies.

3,505,768
PORTABLE PARKING STRUCTURE

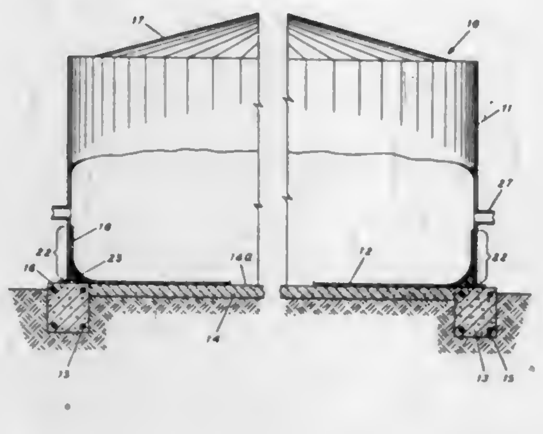
Charles A. Bentley, Los Angeles, Calif., assignor to Portable Parking Structures, Inc., Los Angeles, Calif., a corporation of California
Continuation-in-part of application Ser. No. 598,809, Dec. 2, 1966. This application Aug. 23, 1968, Ser. No. 755,002
Int. Cl. E04h *6/03;* **E04b** *5/14*
U.S. Cl. 52—174 **3 Claims**



A portable multiple deck parking structure having a framework of columns, and horizontal as well as inclined beams and precast concrete slabs for placement on the horizontal and inclined beams to form deck surfaces as well as ramps connecting the deck surfaces, the columns and beams being of standard sizes and bolted together, and the concrete slabs having connectors embedded therein so that the entire structure may be readily assembled at one site, then, when desired, may be as readily disassembled for transportation and reassembly at another site.

3,505,769
CORROSION-RESISTANT STORAGE TANK AND METHOD OF FORMING

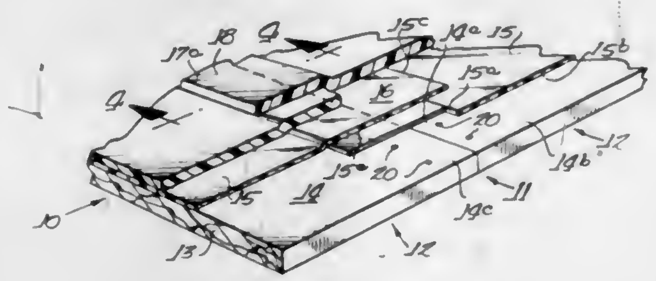
Roy R. H. Miron, Corte Madera, Donald G. Huggins, Walnut Creek, John E. Rinne, Berkeley, and Vernon E. Summerfelt, Anaheim, Calif., assignors to Chevron Research Company, a corporation of Delaware
Original application Mar. 29, 1965, Ser. No. 443,420, now Patent No. 3,423,264, dated Jan. 21, 1969. Divided and this application July 25, 1968, Ser. No. 767,551
Int. Cl. E04f *15/12;* **E04h** *7/04*
U.S. Cl. 52—249 **1 Claim**



A corrosion-resistant storage tank for corrosive fluids is provided with a bottom consisting essentially of polymerized thermosetting resin reinforced with fibrous glass. The bottom rests on a foundation which includes a concrete support annulus in contact with the vertical side wall of the tank.

3,505,770
BUILDING CONSTRUCTION

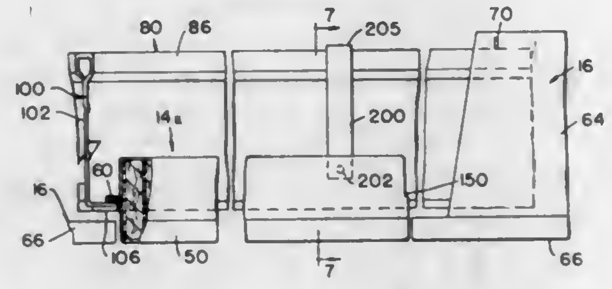
Richard J. Bennett, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 778,724
Int. Cl. E04c *2/20;* **E04d** *1/36, 1/28*
U.S. Cl. 52—309 **7 Claims**



A panel is provided for use with a second panel of substantially like construction to form a weather-proof roof or exterior wall. Each panel is a self-contained unit and includes a base member having a broad surface over which a pair of weather-proof laminas are positioned. Peripheral segments of the laminas of one panel are adapted to be disposed in substantially interlaid relation with respect to the peripheral segments of the laminas of the other panel, when said panels are arranged in abutting side-by-side relation, so as to form a weather-proof joint.

3,505,771
ACOUSTICAL CEILING

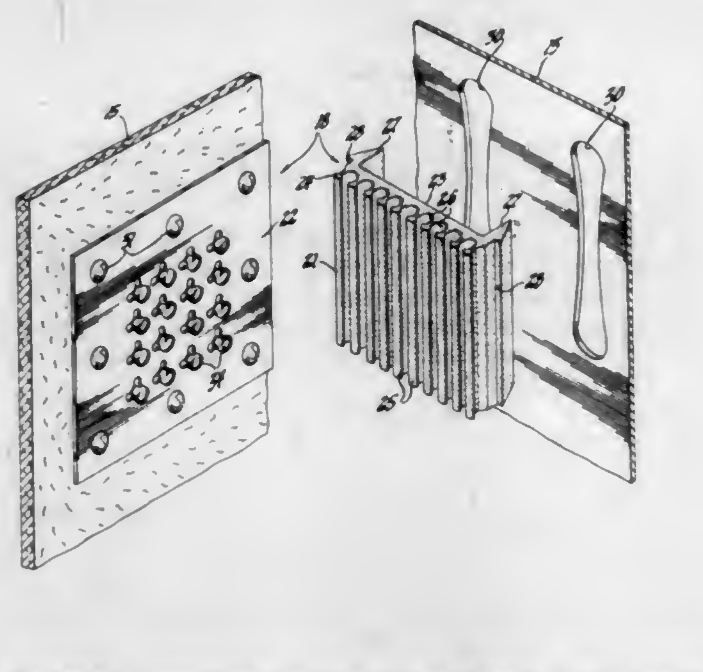
Walter W. Thompson, P.O. Box 627,
Hazlehurst, Ga. 31539
Filed Feb. 12, 1968, Ser. No. 704,890
Int. Cl. E04b *5/52*
U.S. Cl. 52—495 **6 Claims**



The acoustical ceiling system is made up essentially of rows of acoustical panels and light fixtures. Alternate rows have acoustical panels supported on longitudinal bars extending along the sides thereof. The remaining rows consist alternately of acoustical panels and lighting fixtures. The lighting fixtures are supported by the longitudinal bars. The acoustical panels between the lighting fixtures in one embodiment of the invention are supported entirely by transverse bars extending between the longitudinal bars, and in another embodiment are supported in part by the transverse bars and in part by straps or spring clips extending over the longitudinal bars.

3,505,772
RETAINER INCLUDING TWO INTERFITTING PARTS

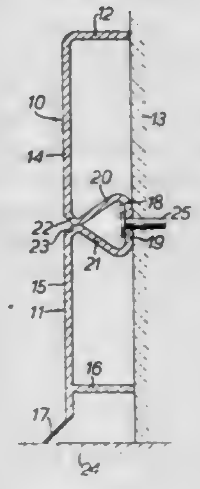
James H. De Claire, East Detroit, and Floyd I. Dully, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 708,041, Feb. 26, 1968. This application Apr. 17, 1969, Ser. No. 824,345
Int. Cl. E04b *1/49;* **A44b** *17/00;* **E04f** *19/02*
U.S. Cl. 52—511 **19 Claims**



A fastener comprises two parts; a plastic body having parallel ridges defining undercut slots between them, and a sheet metal body having a two-dimensional array of headed tabs struck out from it. The tabs enter alternate ones of the slots, the heads of the tabs engaging in the undercut slots with an interference fit. The plane of the tabs is at 45° to the direction of the slots. An installation of these fasteners retaining a trim panel in an automobile body is shown.

3,505,773
FINISHING STRIPS

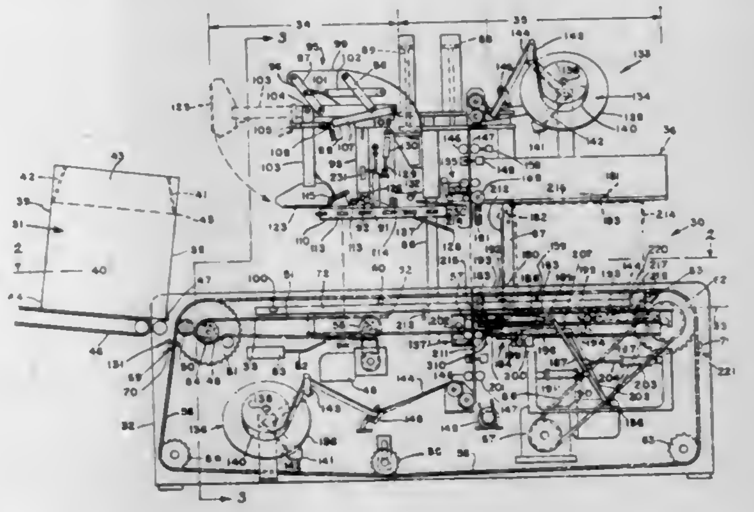
Garry M. Thomas, Belbroughton, England, assignor to Monoclad Systems Limited, Stourbridge, England, a British company
Filed Mar. 8, 1968, Ser. No. 711,740
Claims priority, application Great Britain, Mar. 10, 1967, 11,356/67
Int. Cl. E04f *19/04*
U.S. Cl. 52—717 **4 Claims**



A finishing strip such as may be used as a skirting is made from self-supporting yet flexible and resilient material of substantially uniform thickness. It has hollow protruding portions with a channel-shaped intermediate portion having a mouth which may be closed or slightly open. The protruding portions extend away from opposite sides of the mouth and then extend back to the plane containing the base of the channel. In use nails or screws can secure the base of the channel against a flat wall, with the heads inside the channel, and the protruding portions touching the wall.

3,505,774
PRESSURE PAD BOX TAPING MACHINE AND METHOD

Lester Gidge, 61 Linwood St.,
Nashua, N.H. 03060
Filed Oct. 23, 1967, Ser. No. 677,404
Int. Cl. B65b *7/20, 61/00;* **B31b** *1/72*
U.S. Cl. 53—14 **14 Claims**

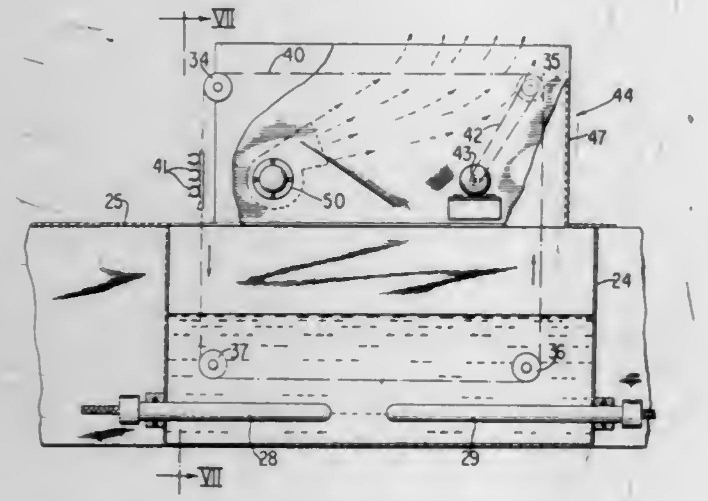


An automatic top flap closing and top and bottom taping machine of the type having a conveyor moving each successive random-sized, carton first to a measuring and top flap folding station, where a single head descends to sense size, fold flaps, and adjust to taping requirements, and then through a taping zone where the carton is held closed as moist tape is applied along the front wall, along top and bottom walls, and along rear wall of the carton.

The trailing flap folder adjusts to cartons of unusual length, a backer plate extends under the infolded upper side flaps during taping for proper adhesion and tape is applied by flat yieldable pad pressure for a prolonged period, rather than by roller nip pressure, to assure a firm sealing. The adhesive on the tape is physically upset and grooved during moistening by nip pressure against a double helix grooved wetting roll to speed wetting and assure spreading of the adhesive for a firm seal.

3,505,775
METHOD OF MANAGING A VOLATILE SUBSTANCE

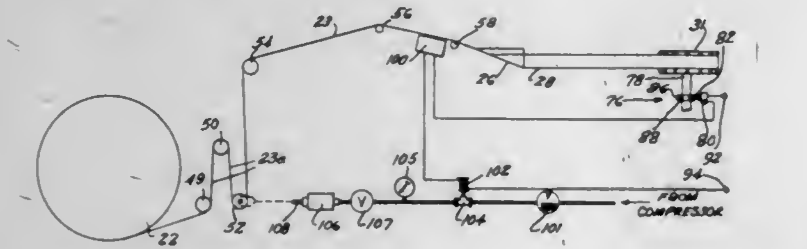
Harold Willids Andersen, Oyster Bay, Harold W. Andersen, Laurel Hollow, and Charles H. Harrison, Oyster Bay Cove, N.Y., assignors to H. W. Andersen Products, Inc., Oyster Bay, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 448,090, Apr. 14, 1965. This application June 8, 1966, Ser. No. 556,134
Int. Cl. A61j *5/00;* **A61l** *9/04;* **B67c** *7/00*
U.S. Cl. 53—25 **9 Claims**



1. The method of managing a volatile sterilant or anesthetic, comprising the steps of maintaining the sterilant or anesthetic below its boiling temperature, placing the sterilant or anesthetic in a rigid impermeable container along with a solid mass of a substantially saturated hydrocarbon, thereafter hermetically sealing said container, and thereafter subjecting the container to a temperature sufficient to dissolve the solid substantially saturated hydrocarbon in said sterilant or anesthetic, said hydrocarbon retarding the rate of vaporization of said sterilant or anesthetic upon subsequent release from the container during use.

3,505,776
PACKAGING MACHINE

Charles E. Cloud, Wilmette, Ill., assignor to Cloud Machine Corporation, Skokie, Ill., a corporation of Delaware
Filed Sept. 1, 1967, Ser. No. 664,996
Int. Cl. B65b *41/18, 9/08*
U.S. Cl. 53—51 **24 Claims**



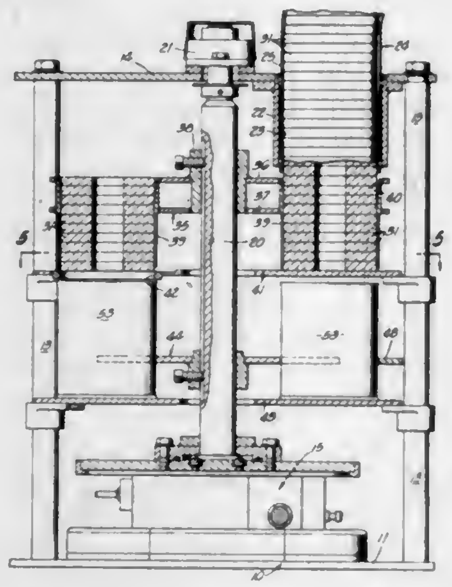
A continuous packaging apparatus having a roll of film, a deformable roller, a brake to control the tension of the film, an electric eye to sense the alignment of print marks on the film and a registration unit cooperable with the eye to actuate a solenoid operated valve which controls the diameter of the deformable roller to thereby regulate the speed of the film, a filler, a cut-off unit and a longitudinal sealer to make a complete package.

ERRATUM

For Class 53—166 see:
Patent No. 3,505,787

3,505,777
CAN LOADER

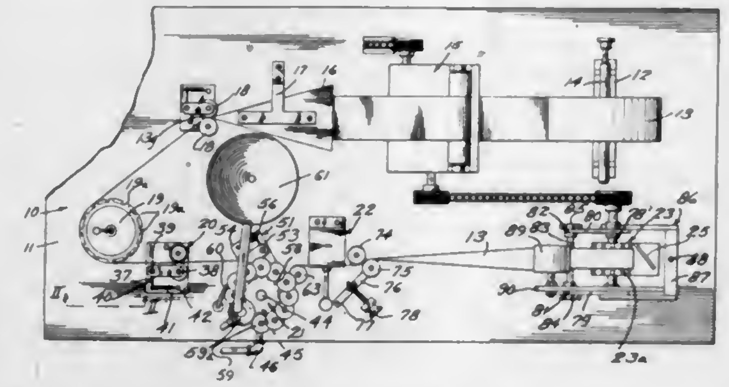
Masato Tsutsumi, Kahului, Maui, Hawaii, assignor to Maui Pineapple Company, Ltd., Kahului, Maui, Hawaii, a corporation of Hawaii
Filed June 1, 1967, Ser. No. 642,918
Int. Cl. B65b *35/32, 5/10, 33/06*
U.S. Cl. 53—168 **1 Claim**



A machine particularly intended to load pineapple slices into cans wherein a right angle tube receives pineapple slices sharing a horizontal axis and guides the slices through a 90° arc until they share a vertical axis. A gage sleeve and plate then transfers a preselected stack of pineapple slices to a dispensing aperture through which they fall by gravity into a can.

3,505,778
METHOD OF AND APPARATUS FOR PROVIDING A SPOUT-LIKE DISCHARGE FOR A SEALED PACKAGE

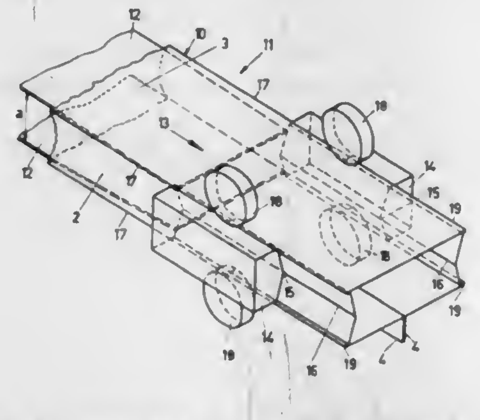
Charles E. Cloud and Donald E. Cloud, Wilmette, Ill., assignors to Cloud Machine Corporation, Skokie, Ill., a corporation of Delaware
Original application July 13, 1964, Ser. No. 382,016. Divided and this application Dec. 9, 1966, Ser. No. 623,152
Int. Cl. B65b *51/30, 9/08*
U.S. Cl. 53—180 **9 Claims**



A packaging apparatus including means for filling a series of open pockets with material to be packaged and means for sealing an open end of the filled pockets is characterized as comprising sealing means forming a series of pockets in strip-form packaging material and means for sealing together confronting sides of each pocket in areas contiguous to a bottom sealed edge in a manner to longitudinally reduce the pocket, thereby forming spout portions. This is a division of application Ser. No. 382,016, filed July 13, 1964, now abandoned.

3,505,779
FILLED FLAT BAG AND A METHOD AND DEVICE FOR PRODUCING THE SAME

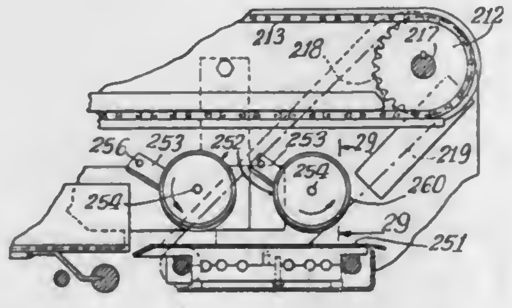
Georg Kopp, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed July 21, 1967, Ser. No. 655,234
Claims priority, application Switzerland, Sept. 14, 1966, 13,250/66
Int. Cl. B65b *51/30*
U.S. Cl. 53—180 **5 Claims**



A piece of wrapping material is folded in the form of a rectangular hose which extends around articles to be packaged, and the narrow longitudinal sides of the hose are bent or folded inwardly to give the package a neat appearance, an increased stiffness and permit an easy storage of the same. The device for producing these filled bags is provided with oppositely arranged pressing members producing the inwardly directed folds when the hose with the articles therein is advanced lengthwise to its longitudinal axis. The four longitudinal corners of the hose are provided with narrow marginal folds produced by pressing rollers cooperating with the pressing members.

3,505,780
WRAPPING MACHINE

Omar Hansen, Jr., Carl Littlefield, and Allen R. Haddix, Bluffton, Ind., assignors to Franklin Electric Company, Inc., Bluffton, Ind., a corporation of Indiana
Original application Apr. 30, 1964, Ser. No. 363,954, now Patent No. 3,432,987, dated Mar. 18, 1969. Divided and this application Apr. 22, 1968, Ser. No. 738,753
Int. Cl. B65b *11/22, 51/16*
U.S. Cl. 53—210 **3 Claims**



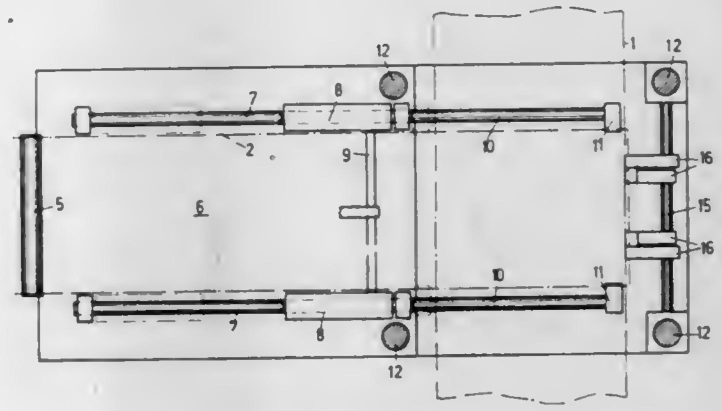
This disclosure deals with a wrapping machine for wrapping a series of items such as foodstuffs in a protective heat sealable film. An operator of the machine positions each item to be wrapped in a shallow tray and then inserts the article, consisting of the tray with the item therein, into the machine which folds a section of film about the article and folds the edges of the film underneath the article. The wrapped article is then moved across a heated element and pressed firmly against the element to seal the edges.

ERRATUM

For Class 53—259 see:
Patent No. 3,505,789

3,505,781
DEVICE FOR SEALING COVER SHEETS ONTO CONTAINERS

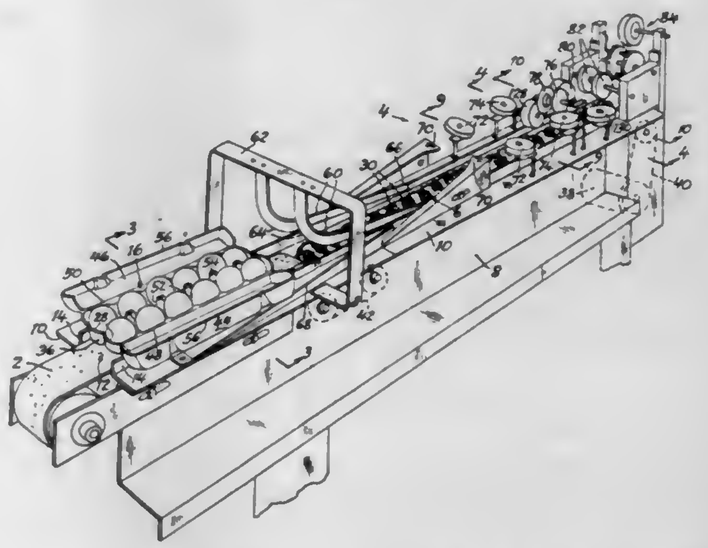
Horst Loewenthal, Neuhausen am Rheinfall, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Nov. 3, 1967, Ser. No. 680,459
Claims priority, application Switzerland, Nov. 11, 1966, 16,242/66
Int. Cl. B65b *7/28*
U.S. Cl. 53—329 **7 Claims**



A container sealer is disclosed in which containers molded in a sheet are advanced in one direction and a sealing sheet is advanced in the crosswise direction by clamps. Further clamps, which are automatically opened, closed, and pivoted, prevent the sealing sheet from moving backwards until the sealing operation commences.

3,505,782
EGG CARTON CLOSING MECHANISM

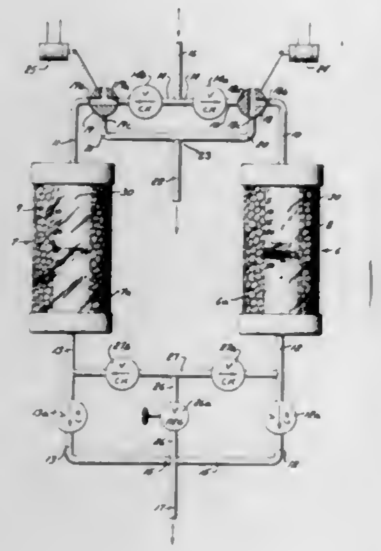
Otto C. Niederer, Bear Tavern Road, Titusville, N.J. 08560
Filed Mar. 8, 1967, Ser. No. 621,667
Int. Cl. B65b *7/26*
U.S. Cl. 53—376 **11 Claims**



Equipment for closing egg cartons of the type which contain one dozen eggs arranged with six eggs in each of two parallel rows of egg receiving cavities projecting downward from the base of the carton, and have at least one cover member hingedly connected to a longitudinal edge of the base of the carton. The equipment embodies a conveyor having yieldable and deformable means, such as coiled spring elements, thereon which are spaced apart longitudinally of the conveyor so as to enter the spaces between the egg receiving cavities in the base of the carton to positively move each carton past cover closing means. The cover closing means are symmetrically arranged with respect to the conveyor to engage and close cover members which are hingedly connected to either, or to both, longitudinal edges of the cartons moved past the same by the conveyor.

3,505,783
HEATLESS DRYING SYSTEM

Harold E. Graham, Wilmington, Del., assignor to Deltech Engineering, Inc., New Castle, Del., a corporation of Delaware
Filed Sept. 27, 1967, Ser. No. 670,980
Int. Cl. B01d *53/00*
U.S. Cl. 55—33 **8 Claims**

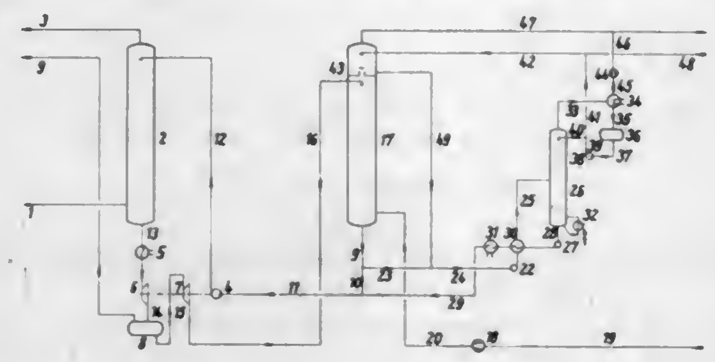


Method and apparatus for controlling the degree of dryness of gas, e.g. air, in a heatless drying system. The use of a color indicator within each of a pair of drying beds provides a means of determining the relative position of the humidity gradients in the two beds. The color indicators provide useful control parameters for assuring that the gas is being properly dried.

3,505,784
SCRUBBING PROCESS FOR REMOVING CARBON DIOXIDE FROM LOW-SULFUR FUEL GASES OR SYNTHESIS GASES

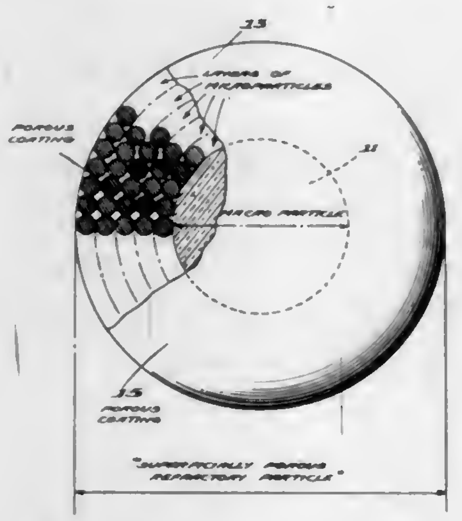
Gerhard Hochgesand, Neu Isenburg, Hellmut Heidl, Bad Homburg var der Hohe, Herbert Unland, Lorsbach, Taunus, Alexander Doerges, Oberursel, Taunus, and Karl Bratzler, Bad Homburg var der Hohe, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Oct. 20, 1967, Ser. No. 676,937
Claims priority, application Germany, Oct. 25, 1966, M 71,431
Int. Cl. B01d *19/00*
U.S. Cl. 55—44 **14 Claims**

Feed gases having a zero to low sulfur content is scrubbed with N-methyl pyrrolidone as an absorbent at about ambient temperature to absorb carbon dioxide from said gas to a residual content below 40 parts per million. The rich absorbent thus produced is regenerated to remove absorbed carbon dioxide therefrom by flashing said rich absorbent and stripping it with a gas having a low carbon dioxide content. Absorbent which has thus been regenerated is re-used for scrubbing additional quantities of said feed gas.



3,505,785
SUPERFICIALLY POROUS SUPPORTS FOR CHROMATOGRAPHY

Joseph J. Kirkland, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 20, 1967, Ser. No. 647,506
Int. Cl. B01d *15/08*
U.S. Cl. 55—67 **8 Claims**



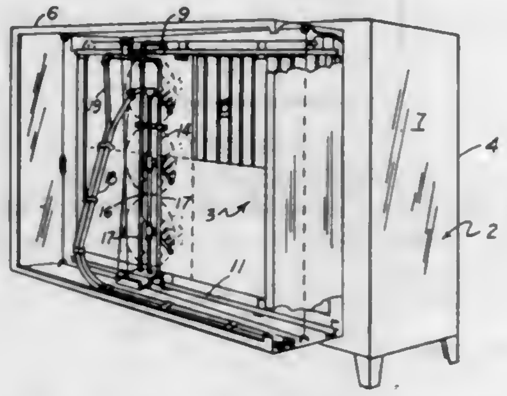
This invention relates to an improvement in chromatography and chromatographic columns. A novel packing of superficially porous refractory particles for use in chromatography has been prepared consisting of a plurality of discrete macroparticles with impervious cores and having irreversibly joined thereto a coating of a series of sequentially adsorbed like monolayers of like colloidal inorganic microparticles. The coating is characterized by being uniform and of predetermined thickness. In preferred embodiments, the cores would be ceramics, preferably glass spheres, and the coating would consist of monolayers of colloidal refractory particles, preferably silica, in a structure of predetermined thickness and porosity.

3,505,786
GAS FILTER APPARATUS

Alan E. Revell and Wilson A. Welch, Louisville, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Nov. 5, 1968, Ser. No. 773,506
Int. Cl. B03c *3/78, 3/74;* **B01d** *46/12*
U.S. Cl. 55—118 **5 Claims**

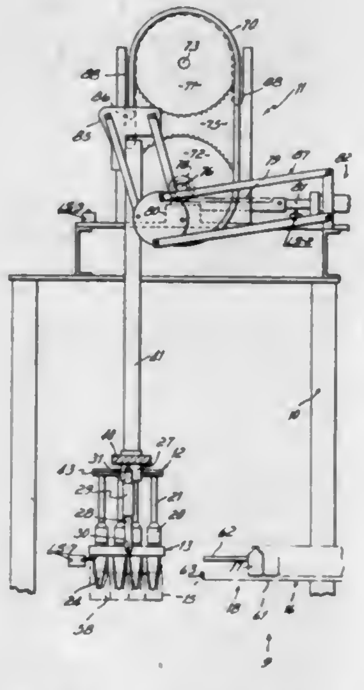
An improved washing device for gas filter apparatus of the plate electrode assembly type wherein a longitudinally extending fluid washer is pivotally mounted to rotate about a pivot axis in a plane parallel to the face of the gas treating plate electrode assembly, the wall of

the washer being provided with a plurality of apertures through which fluid passes to flush the plate electrode assembly, one aperture being so positioned in the fluid washer to propel the washer and introduce flushing liquid along one side of the plates of the plate electrode assembly and at least a second aperture so positioned in the fluid washer to introduce flushing liquid along the other side of the plates of the plate electrode assembly.



3,505,787
CASE PACKER

Henry C. Tiews, Framingham, Mass., assignor to The Lodge & Shipley Company, Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 4, 1968, Ser. No. 710,102
Int. Cl. B65b *35/36*
U.S. Cl. 53—166 **7 Claims**

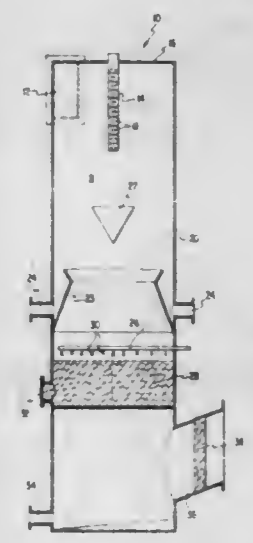


Apparatus having a bottle conveyor, a case conveyor, and means for transporting bottles between the bottle conveyor and the case conveyor, the transporting means including a lifting head having pickup cups depending therefrom and a bottle guide carried by said lifting head for holding said bottles segregated from each other during transport between said bottle conveyor and said case conveyor and for guiding said bottles into said case.

3,505,788
GAS SCRUBBER APPARATUS AND PROCESS

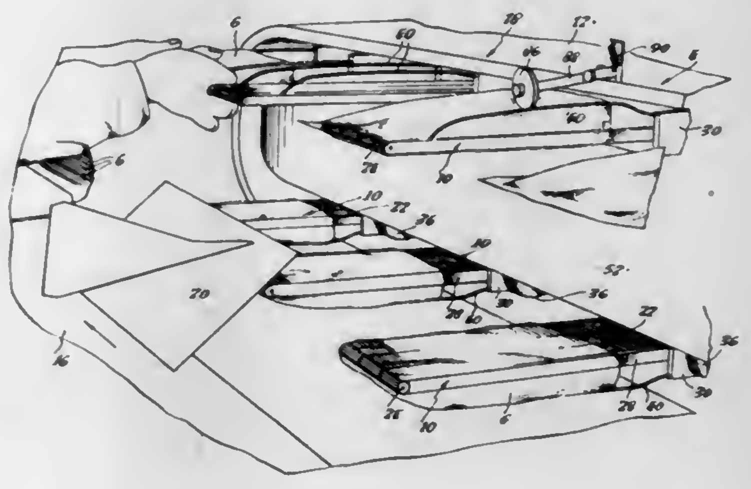
Aaron J. Teller, Great Neck, N.Y., and Edward S. Wyatt, Lakeland, Fla., assignors to Wellman-Lord, Inc., a corporation of Florida
Filed May 23, 1968, Ser. No. 731,506
Int. Cl. B01d *47/06*
U.S. Cl. 55—233 **9 Claims**

An apparatus for and a process of recovering foreign materials from a carrier gas. The carrier gas and foreign material are introduced tangentially into an elongated vertical cylindrical recovery zone into which a washing liquid is radially sprayed. A major portion of the foreign material captured by the water spray is washed to the cylindrical sidewall by the spray. The resulting slurry or solution passes behind a barrier and is discharged from the recovery zone. The gas, with some entrained liquid and small foreign particles, passes through the barrier and flows into a packed bed, concurrently with a second washing liquid to further remove foreign material from the carrier gas. The bed is packed with a material having a substantially nonadhering surface and a high free volume. The liquid then leaves the recovery zone through one outlet, and the carrier gas leaves through another outlet which includes a second packed bed to remove entrained liquid.



3,505,789
POUCH-FILLING MACHINE

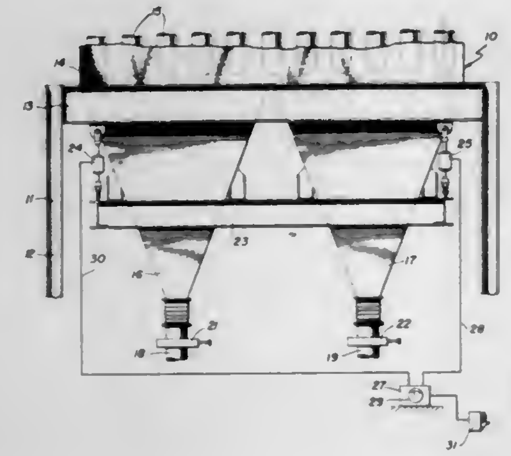
Donald James Reay McKay, Taunton, England, assignor to Somerwest Limited, Taunton, Somerset, England, a British company
Continuation-in-part of application Ser. No. 633,109, Apr. 24, 1967. This application Jan. 6, 1969, Ser. No. 789,120
Claims priority, application Great Britain, Apr. 28, 1966, 18,659/66; Nov. 16, 1966, 51,325/66
Int. Cl. B65b *5/04, 39/06*
U.S. Cl. 53—259 **9 Claims**



A pouch-filling machine comprises a plurality of individual endless conveyors, each arranged so that it is capable of being sheathed from one end by a pouch. Transport means are provided for presenting the other end of each conveyor to a filling station. Drive means are provided for activating each conveyor at the filling station to convey a product presented at the filling station into a pouch prepositioned to sheath the conveyor. Drive means are also provided for activating the conveyor at an ejection station to convey the product off the conveyor at said one end, whereby the filled pouch is ejected from the conveyor.

3,505,790
DUST COLLECTOR

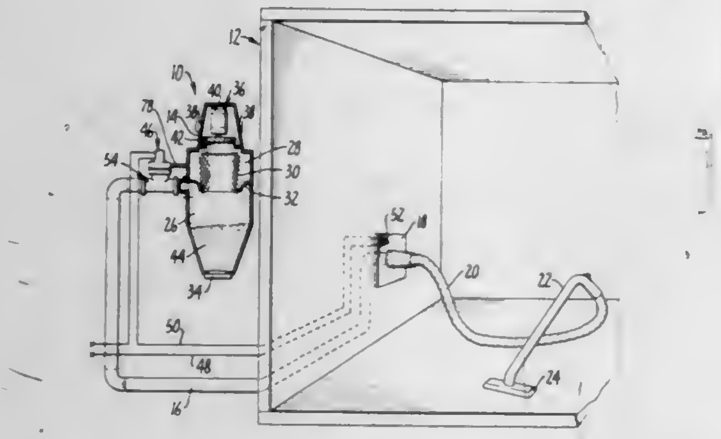
Edmund F. Rothemich, Worcester, Mass., assignor to Riley Stoker Corporation, Worcester, Mass., a corporation of Massachusetts
Filed Oct. 31, 1966, Ser. No. 590,657
Int. Cl. B01d *45/00*
U.S. Cl. 55—274 **7 Claims**



A dust collector arranged to remove dry powdered materials from the products of combustion in a steam generating unit or the like and to weigh the same, the collecting hopper being independently supported from the main body of the dust collector and having electrical strain gages formed into the suspension means to permit automatic weighing of collected dust.

3,505,791
VACUUM CLEANER FILTER CONDITION SENSING SYSTEM

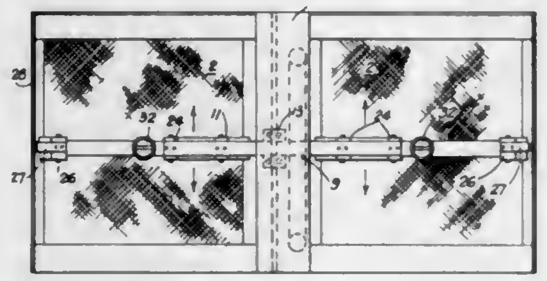
John J. Breslin, Los Altos Hills, Calif., assignor to Beamco, Inc., Mountain View, Calif., a corporation of California
Filed July 1, 1968, Ser. No. 741,789
Int. Cl. B01d *46/00*
U.S. Cl. 55—274 **5 Claims**



A system for use with a vacuum cleaner having a vacuum tank divided into a vacuum source section and a collection section by a fluid pervious filter. The system is designed to sense when the filter becomes overladen and comprises a pressure differential switch coupled between the vacuum source section and a vacuum inlet conduit section; an electrcal circuit connected across the switch for completion therethrough; and, a signal light or other signaling device coupled to the circuit for activation therethrough. The switch incorporated into the system is provided with a T-fitting for direct interposition in the vacuum inlet conduit and includes a housing section fabricated of electrically non-conductive material having the switch contacts mounted directly therein.

3,505,792
SELF-CLEANING FILTER

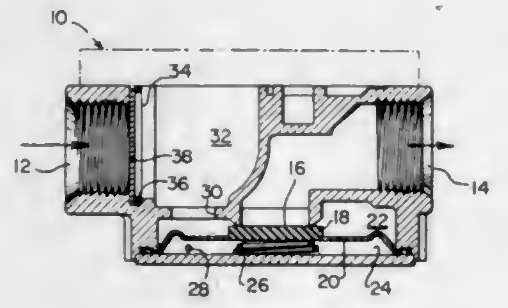
Francis E. Dahlem, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed July 8, 1968, Ser. No. 743,171
Int. Cl. B01d *41/00*
U.S. Cl. 55—294 **5 Claims**



An improved self-cleaning filter apparatus including a filtering screen, a slotted scanning tube for cleaning the screen, and a continuous conveyor assembly for reciprocating the scanning tube over the filtering screen surface in cantilever supported fashion from one side of the filtering screen.

3,505,793
FLOW CONTROL WITH FILTER

Lauren D. Haskins, Long Beach, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,549
Int. Cl. B01d *46/40*
U.S. Cl. 55—417 **5 Claims**

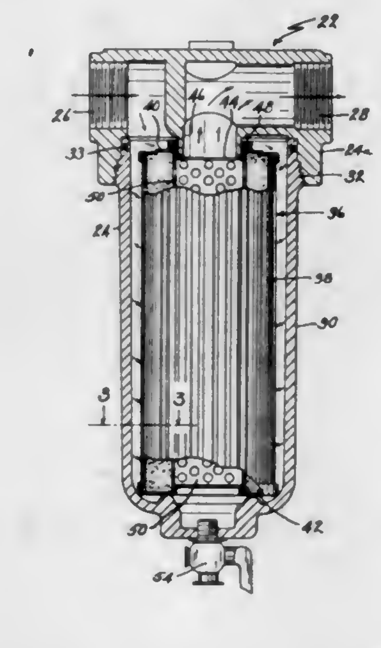


A flow control device having a filter screen adjacent an inlet port; the screen includes a series of lowered strips which divert the fluid flow therethrough in a particular orientation with respect to the inlet port.

3,505,794
AIR FILTER

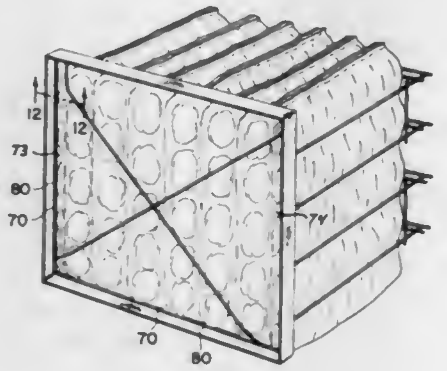
Raymond W. Nutter, Fairview, and Frederick M. Sitter, Erie, Pa., assignors to Van-Air Incorporated, a corporation of Pennsylvania
Filed May 29, 1968, Ser. No. 732,996
Int. Cl. B01d *53/16, 50/00*
U.S. Cl. 55—487 **11 Claims**

A filter adapted for removing hydrocarbons and other contaminants from pressurized air and adapted to be disposed in the air line, and comprising a housing having an inlet and an outlet and a replaceable microporous cartridge disposed in the housing in the air flow between the inlet and the outlet, for filtering out the hydrocarbons and other contaminants, said replaceable cartridge comprising a pleated composite sleeve-like member adapted to pass air therethrough after which the air is adapted to pass through the outlet of the housing, and wherein the pleated composite filter member comprises an outer filter layer of fibrous material, a fibrous sheet layer having activated carbon particles therein, a backup filter layer of a relatively small porosity as compared to the porosity of the carbon impregnated sheet, and a further layer of fibrous material.



3,505,795
PLEATED GAS FILTER

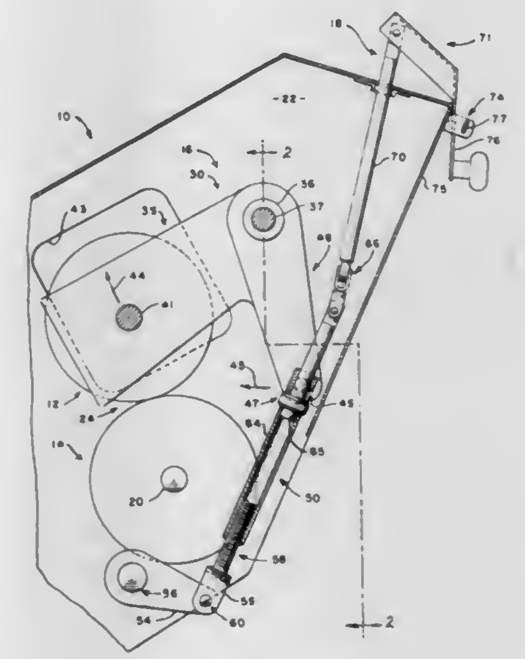
Oscar A. Wurtenberg, Louisville, Ky., assignor, by mesne assignments, to Wehr Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 26, 1968, Ser. No. 724,555
Int. Cl. B01d *39/08*
U.S. Cl. 55—499 **6 Claims**



A gas filter structure in which an expendible pleated filter element is detachably secured and with the effective filtering surface of the element being enlarged by incorporating shallow end pockets therein as the filter is assembled. The confining structure for the filter element effects the shaping of the filter pockets during passage of gas through the filter and is demountable for storage or shipment purposes.

3,505,796
CONDITIONER ROLL MOUNTING

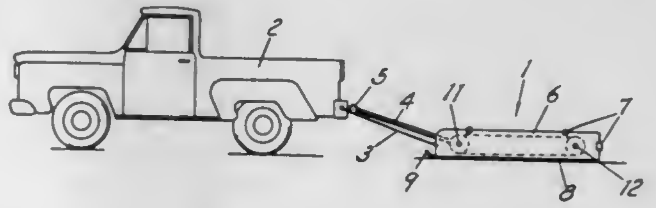
Lawrence M. Halls, New Holland, and Henry N. Lausch, Leacock, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Nov. 3, 1967, Ser. No. 680,537
Int. Cl. A01d *73/00*
U.S. Cl. 56—1 **5 Claims**



An agricultural machine having a pair of cooperating conditioning rolls rotatably supported on the machine frame, with one of the rolls being adapted to move toward and away from the other of the rolls in the event excessive material or a foreign object is passed through the rolls. The movable roll is biased toward the other roll by a torsion bar linked to the movable roll mounting.

3,505,797
HIGH SPEED GRASS MOWER

Frederick B. Curtenius, 1537 Long Road, Kalamazoo, Mich. 49001
Filed Mar. 20, 1968, Ser. No. 714,716
Int. Cl. A01d *35/00*
U.S. Cl. 56—25 **6 Claims**

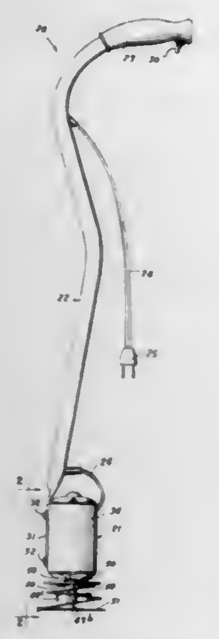


A frame having longitudinal side members with runners on the bottom, fore and aft cross shafts journalled with the frame, a drive connection to one shaft, laterally spaced sprockets on each shaft, chain loops trained around the sprockets on each side of the frame and plural cutter bars connected between the chains at spaced intervals, the cutter bars having sharpened cutting edges facing forwardly on the lower reaches of the chain loops.

3,505,798
VEGETATION CUTTER

Clare P. Tubbs, 1400 Apache St., Richardson, Tex. 75880
Filed Oct. 12, 1967, Ser. No. 674,792
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 **13 Claims**

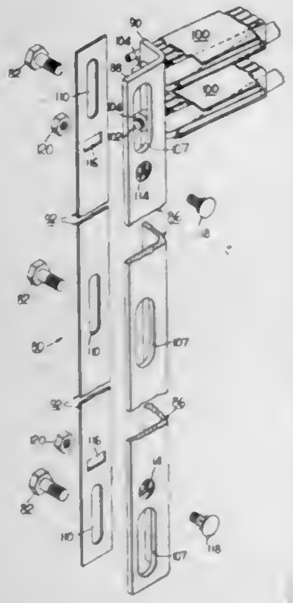
A rotary power vegetation cutter including a handle, a motor on the handle, a rotary cutter blade assembly on the motor shaft including cutting teeth radially spaced from the axis of rotation of the blade assembly and circumferentially spaced from each other, and an open ended flexible protector around the blade.



3,505,799

MOISTENER FOR COTTON PICKING SPINDLES OF COTTON HARVESTER

Rector C. Fergason, Gadsden, Ala., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Sept. 29, 1967, Ser. No. 671,688
Int. Cl. A01d *45/18*
U.S. Cl. 56—41 **2 Claims**

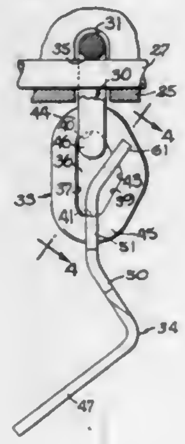


A moistening apparatus for the rotating cotton picking spindles of a cotton harvester in which a plurality of vertically spaced moistening devices are carried by a support bracket assembly mounted adjacent the path of movement of the cotton picking spindles. The support bracket assembly is vertically and horizontally adjustable. The moistening device includes a mounting arm secured to the mounting bracket, an attaching clip secured to the mounting arm, and a plurality of wick elements formed of rubber or the like detachably secured to the attaching clip by support rods which pass through holes in the attaching clip and the wick elements. A water supply tube is attached to the mounting clip and distributes water to the wick elements.

3,505,800

CUTTER ASSEMBLY FOR A FLAIL-TYPE MOWER

James Edson McCanse, Oregon, Ill., assignor, by mesne assignments, to Hesston of Delaware, Inc., Wilmington, Del., a corporation of Delaware
Filed May 4, 1967, Ser. No. 636,209
Int. Cl. A01d *55/20*
U.S. Cl. 56—294 **14 Claims**

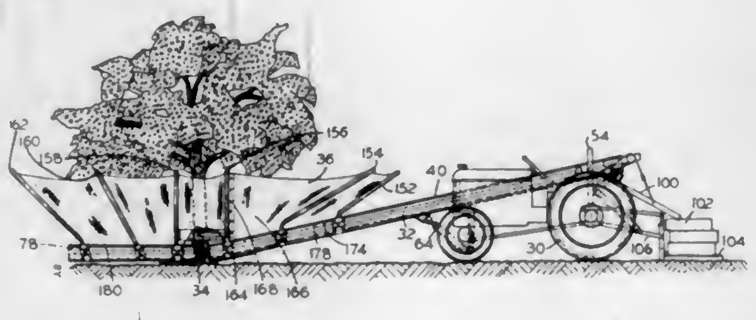


A cutter assembly for a flail-type mower and including an oval-shaped link pivotally suspended from the rotor of the mower, a D-shaped link interlinked chain fashion with the oval link, and a flail blade which is hooked pivotally onto the D-link and which simply may be unhooked from the D-link when it is necessary to remove the blade. The two links and the blade coact with each other to hold the blade securely attached to the rotor during normal service use of the mower in spite of the fact that the blade merely is hooked onto the D-link.

3,505,801

FRUIT HARVESTER

Cuyler T. Nye, R.D. 3, Lyons, N.Y. 14489
Filed Mar. 12, 1968, Ser. No. 712,417
Int. Cl. A01g *19/08*
U.S. Cl. 56—329 **10 Claims**



Fruit tree harvesting apparatus comprising an elongated inclined boom including a conveyor adapted to be carried by a tractor at its upper end and reach to the trunk of a fruit tree at the other, and a vibratory tree shaker yieldingly mounted on the boom, and a solid clamp for the shaker to grip the trunk of a tree and bearing on opposite sides of the tree trunk and applying pressure to the opposite sides of the tree along a clamp axis, with the shaker being oriented to apply vibratory forces to the tree trunk at an accelerating frequency in the direction of the clamp axis, and a folding fruit catching canopy mounted on swinging supports pivoted on the conveyor boom.

3,505,802

HIGH BULKY AND CRIMPY FIBROUS MATERIAL

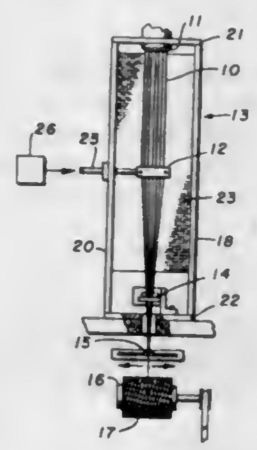
Sadayuki Okada and Seinosuke Nomura, Inazawa-shi, Aichi-ken, Japan, assignors to Gijutsu Kenkiyu Kumiai Amaike Kenkiyusho, Amaike-machi, Inazawa-shi, Aichi-ken, and Daido Keori Kabushiki Kaisha, Sotokanda, Chiyoda-ku, Tokyo, Japan
Filed Feb. 24, 1967, Ser. No. 618,448
Claims priority, application Japan, Mar. 5, 1966, 41/13,226
Int. Cl. D02g *3/02*
U.S. Cl. 57—156 **17 Claims**

A process for producing wool fiber material having a high crimp potential and a high bulk by preventing the slippage between the fibers during their stretching. The fiber slippage is avoided by temperarily twisting the fiber bundle prior to its stretching and setting operation and subsequently releasing the twist on the stretched and set bundle of fibers.

3,505,803

PRODUCING INDIVIDUALLY TWISTED FILAMENT YARN

George R. Hughey, Raleigh, N.C., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Original application June 23, 1965, Ser. No. 466,237, now Patent No. 3,367,100, dated Feb. 6, 1968. Divided and this application Oct. 11, 1967, Ser. No. 688,290
Int. Cl. D01d *5/22, 11/00;* **D02g** *1/02, 3/22*
U.S. Cl. 57—157 **1 Claim**



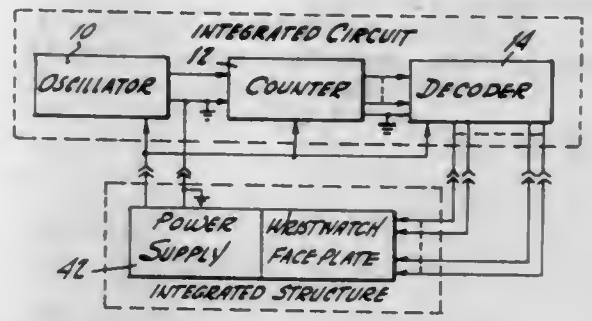
A method of producing continuous filament yarn having permanently and individually twisted filaments by directing a stream of fluid tangentially against a hardened length of separate filaments with sufficient force to back twist a length of each filament which has not completely hardened. The streams are directed tangentially clockwise against some of the filaments and tangentially counterclockwise against others to provide each filament with the corresponding directional twist. Yarn produced by this method is naturally bulky. The method is particularly applicable in preparing yarn from nylon, and especially from nylon-66.

3,505,804

SOLID STATE CLOCK

Steven R. Hofstein, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 23, 1968, Ser. No. 723,512
Int. Cl. G04c *3/300*
U.S. Cl. 58—23 **7 Claims**

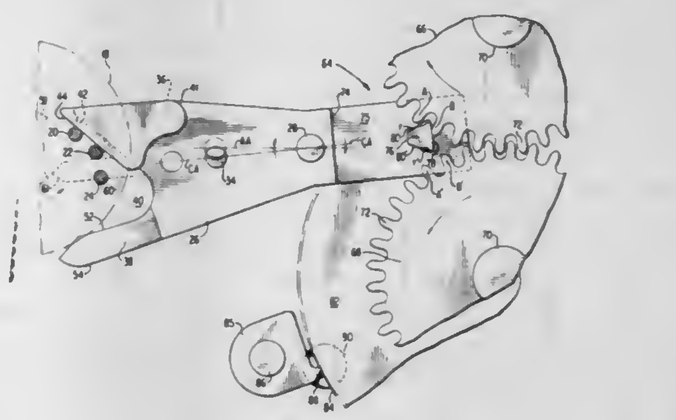
The face plate of a solid state clock employs a liquid crystal of relatively limited life—not greatly different than that of the clock battery. The latter is integrated into the face plate structure so that both the face plate and battery are replaced at the same time.



3,505,805

CONTACT INDEX SYSTEM

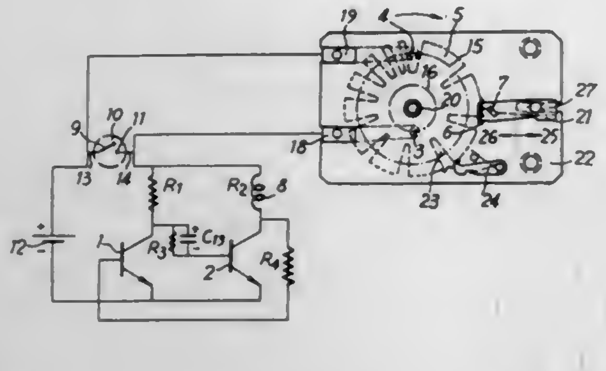
Nathan Cohen, Philadelphia, James H. Eckenrode, Millersville, and Donald W. Brashear, Lancaster, Pa., assignors to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Jan. 4, 1968, Ser. No. 695,731
Int. Cl. G04c *3/04*
U.S. Cl. 58—28 **32 Claims**



The contact index system comprises a pallet pivoted for rocking movement on a plate and an oscillating roller having three pins engaging within a forked end of the pallet, two pins of which pivot the pallet from lateral banked positions through a central position. A magnet on the plate aligned along the centerline joining the axes of the pallet and roller cooperates with a magnet mounted along the central axis of the pallet to drive the pallet from the central position to banked positions on opposite sides of the centerline. The first roller pin makes initial contact with one arm of the forked end of the pallet to pivot the pallet toward the central position. The second pin makes electrical contact with the arm of the pallet and pivots the pallet past the central position. The third pin clears the pallet and, being longer in length than the first two pins, strikes the opposite stepped down arm of the fork to prevent overbanking at the completion of the roller oscillation and to provide maximum range of oscillation. A pair of meshing index wheels are driven by a pin mounted on the opposite end of the pallet. The pin rocks between the gears and alternately strikes a tooth on each gear to advance the meshed gears until the next tooth on the same gear engages against the pin to prevent further movement of the pallet away from the central position. Magnetically actuated pawls engage a retaining wheel to preclude reverse motion of the index wheels as the pallet pin rocks between tooth-engaging positions.

3,505,806
TIME SIGNAL GENERATOR

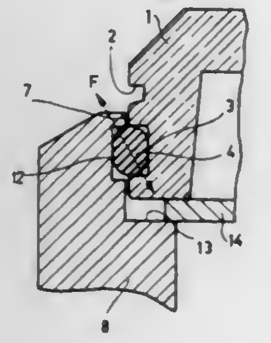
André de Schwiegne, La Vedette, and Marcel Hoyaux, Paris, France, assignors to Fabrique d'Horlogerie La Vedette, Saverne Bas-Rhin, and Jaz S.A., Paris, France, both companies of France
Filed Oct. 10, 1967, Ser. No. 674,148
Claims priority, application France, Oct. 25, 1966, Patent 81,524
Int. Cl. G04c *21/00*
U.S. Cl. 58—38 9 Claims



Time signal generator intended to be associated with a mechanical or electrical timepiece, the generator being mechanically independent from the timepiece from which it receives brief and uniform electrical impulses triggered by suitable contact mechanism, the counting of the signals is ensured by an independent counting system constituted by a movable circular ratchet positioned by means of a fixed jumper and the mechanical advance takes place stepwise through the action of an electromagnet fast on a pawl acting on the ratchet and the number of teeth of which correspond to the number of signals or impacts to be produced during a complete cycle. The ratchet suitably is of electrical insulating material and has two conductive tracks on which rub two electrically conductive brushes inserted in the electrical circuit. The first track can be continuous while the second counting track has irregular conducting sectors determining the number of signals to be eimtted or of blows to be struck, interrupted by non-conductive sectors. The generator also has an electronic timing amplification circuit of the multivibrator type which has two transistors for ensuring a regular and adjustable cadence to the tops and also the electric commutation of motor currents, the driving of the counting ratchet taking place by the return movement of the motor armature of the electromagnet.

3,505,807
WATERTIGHT TIMEPIECE CASE

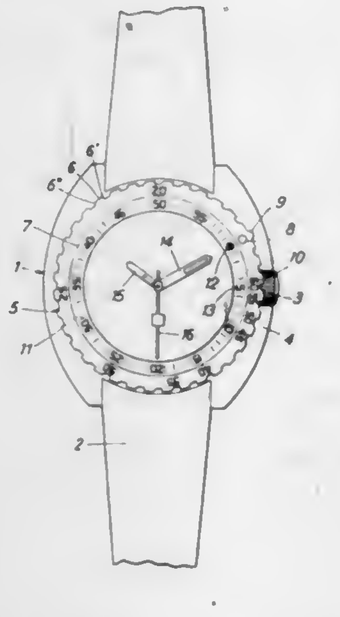
Ervin Piquerez, 2854 Bassecourt, Switzerland
Filed Feb. 23, 1968, Ser. No. 707,745
Claims priority, application Switzerland, Feb. 24, 1967, 2,750/67; June 1, 1967, 7,849/67
Int. Cl. G04b *37/08*
U.S. Cl. 58—90 3 Claims



A watertight closure for a timepiece, such as a wrist watch, is described. Grooves placed in the casing and the crystal of the watch form a complementary rectangular enclosure in which an elastomeric ring of circular cross section is deformed, exerting a retaining force and, by virtue of its resiliency acts as a watertight seal.

3,505,808
DIVER'S WATCH

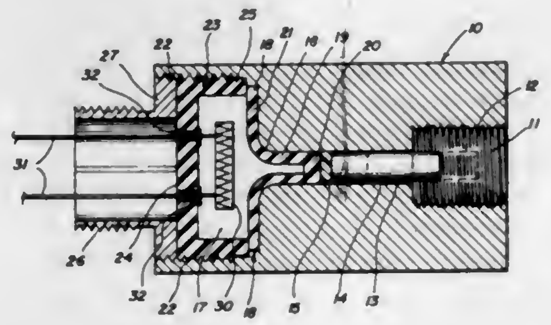
Urs Alois Eschle, Le Locle, Switzerland, assignor to Manufacture des Montres Doxa SA, Le Locle, Switzerland, a body corporate of Switzerland
Filed Apr. 10, 1968, Ser. No. 720,102
Claims priority, application Switzerland, Apr. 14, 1967, 5,295/67
Int. Cl. G04b *19/18*
U.S. Cl. 58—126 5 Claims



A diver's watch having a rotatable bezel carrying two graduated scales having a common zero point. One of said scales forms a graduation dividing the circle of the bezel into minutes while the other scale comprises a graduation and indications referring to diving depths.

3,505,809
THERMAL MOTOR

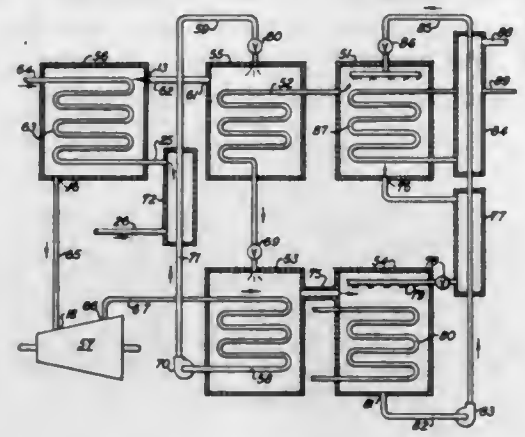
John F. Sherwood, Glendora, Calif., assignor to Thermal Hydraulics Corporation, Glendora, Calif., a corporation of California
Filed May 20, 1968, Ser. No. 730,456
Int. Cl. F03g *7/06*
U.S. Cl. 60—23 4 Claims



A thermal motor comprising a high pressure housing, a chamber in the housing containing expansible material encased in sealing means which includes a resilient elastic portion, the housing having a bore therein, a piston shaft slidable in the bore, and a heating element in the chamber. The resilient elastic portion of the sealing means is elongated and extends into the bore. When the expansible material in the chamber is heated, it exerts pressure against the sealing means and causes the elongated portion to actuate the piston shaft.

3,505,810
SYSTEM FOR GENERATING POWER

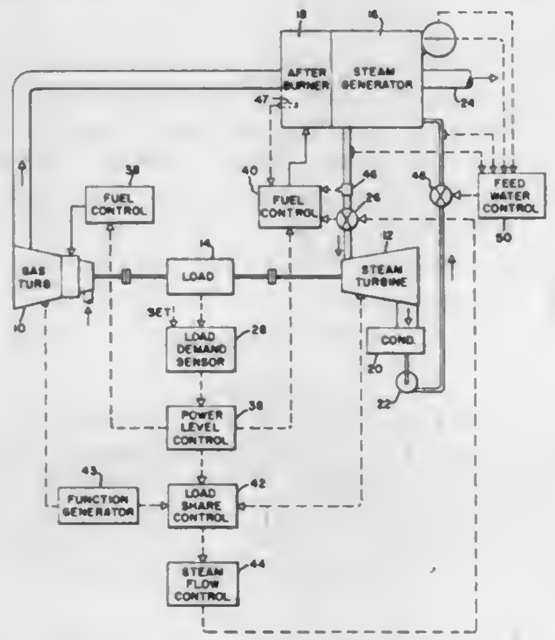
Gohee Mamiya, 105 Mitsuzawa Kami-cho, Kanagawa-ku, Yokohama, Japan
Filed Dec. 4, 1967, Ser. No. 687,641
Claims priority, application Japan, Mar. 13, 1967, 42/15,677; May 22, 1967, 42/32,456
Int. Cl. F01k *25/00*
U.S. Cl. 60—36 1 Claim



A power generating system which comprises a circuit including a generator section, a condenser section, an evaporator section and an absorber section connected to each other to form a conventional absorption refrigerating system; a superheater section connected to said condenser, means for introducing the medium through said superheater section to a power section where the medium is expanded adiabatically, means for condensing the medium discharged from said power section, said condensing means being placed in said evaporator section of said circuit, means for transmitting said condensed medium from said condensing means to an evaporator which is arranged in the heat exchanging relation with said condenser in said refrigeration circuit.

3,505,811
CONTROL SYSTEM FOR A COMBINED GAS TURBINE AND STEAM TURBINE POWER PLANT

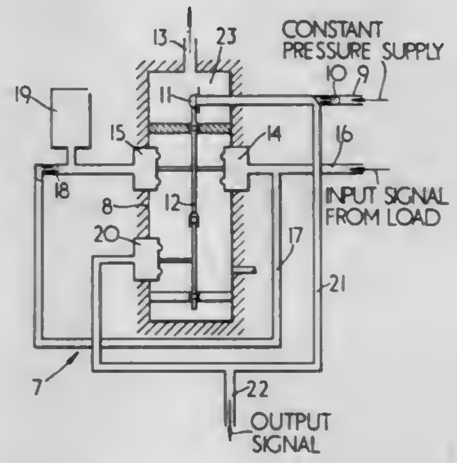
Frank A. Underwood, Cape Elizabeth, Maine, assignor to General Electric Company, a corporation of New York
Filed Sept. 23, 1968, Ser. No. 761,511
Int. Cl. F02c *7/02;* **F02d** *25/00*
U.S. Cl. 60—39.03 8 Claims



In a combined steam turbine and gas turbine power plant wherein the gas turbine exhaust gas is utilized to generate steam for driving the steam turbine, the temperature of the exhaust gas is raised by controlled supplemental firing to increase the quantity of steam available for the steam turbines. A load sharing control is programmed to insure an optimum power split between the gas turbine and the steam turbine at all levels of loading.

3,505,812
FUEL SYSTEM FOR A GAS TURBINE POWER PLANT

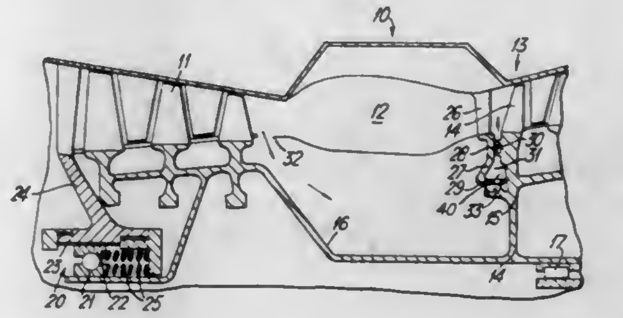
Robin Michael Dakin, West Hartford, Conn., and Richard Henry Moss, Coventry, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed July 29, 1968, Ser. No. 748,476
Claims priority, application Great Britain, Aug. 10, 1967, 36,752/67
Int. Cl. F02c *3/10, 9/04*
U.S. Cl. 60—39.16 2 Claims



A gas turbine fuel system including a restricter connected to a pressurised fluid supply, a valve member controlling flow through said restrictor, first pressure-responsive means connected to receive a fluid pressure signal variable in accordance with turbine speed, means for producing a time delay in response to said fluid pressure signal, second pressure-responsive means connected to receive the same fluid pressure signal as said first pressure-responsive means but via said time delay means, third pressure-responsive means connected to said pressurised fluid supply downstream of said restrictor and means for transmitting the fluid pressure applied to said third pressure-responsive means as an output signal to operate a fuel control valve.

3,505,813
TURBINE ENGINE WITH AXIAL LOAD BALANCING MEANS FOR THRUST BEARING

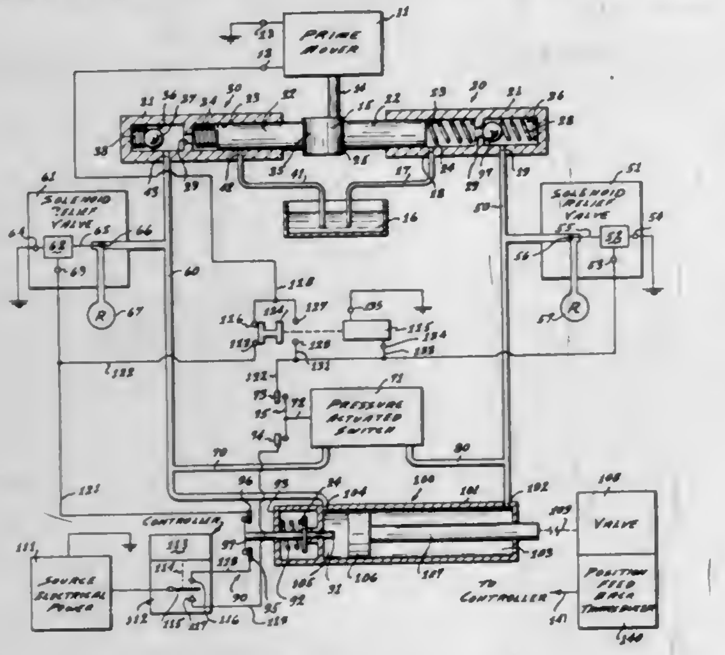
Denis McCarthy, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed May 31, 1968, Ser. No. 733,419
Int. Cl. F02c *7/20;* **F04d** *29/04;* **F16c** *19/10*
U.S. Cl. 60—39.31 10 Claims



A gas turbine engine has a rotatable assembly mounted in a thrust bearing with freedom of limited axial movement, the rotatable assembly having a part with a substantially axially facing surface which defines with fixed structure a chamber to which gas under pressure from a gas flow duct of the engine is supplied during operation of the machine, and a variable flow restriction communicating with said chamber and variable in response to axial movement of the rotatable assembly relative to the fixed structure to control the pressure in said chamber.

3,505,814
VALVE OPERATOR SYSTEM

Chester S. Beard, Woodland Hills, and Frank R. Hedger, Van Nuys, Calif., assignors to Bell Aerospace Corporation, a corporation of Delaware
Filed Nov. 1, 1967, Ser. No. 679,898
Int. Cl. F15b *15/18, 13/02*
U.S. Cl. 60—52 **7 Claims**



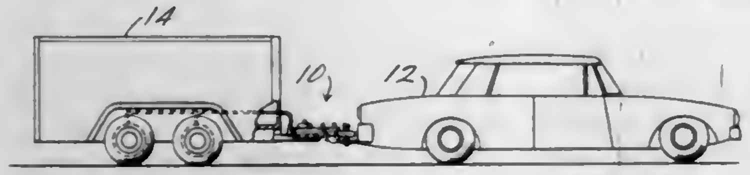
Disclosed is a hydraulically powered operator for utilization to position a valve in a desired position responsive to signals applied from a controller. The system includes a prime mover connected to a hydraulic pump which supplies hydraulic fluid to a pair of conduits connected to a hydraulic actuator which in turn is connected to operate the valve. Valves are operatively interconnected with the pair of conduits in such a manner as to apply fluid under pressure to one side of the valve actuator while at the same time relieving the opposite conduit. A pressure-actuated switch is connected to the actuator in such a manner as to automatically maintain force applied to the valve, when it is moving in the closed direction, until the pressure within the actuator reaches a predetermined value. If power is removed from the system either intentionally or inadvertently, the system is hydraulically locked in its last position.

ERRATUM

For Class 60—54.5 see:
Patent No. 3,506,977

3,505,815
TRAILER HITCH WITH TRAILER BRAKE ACTUATOR

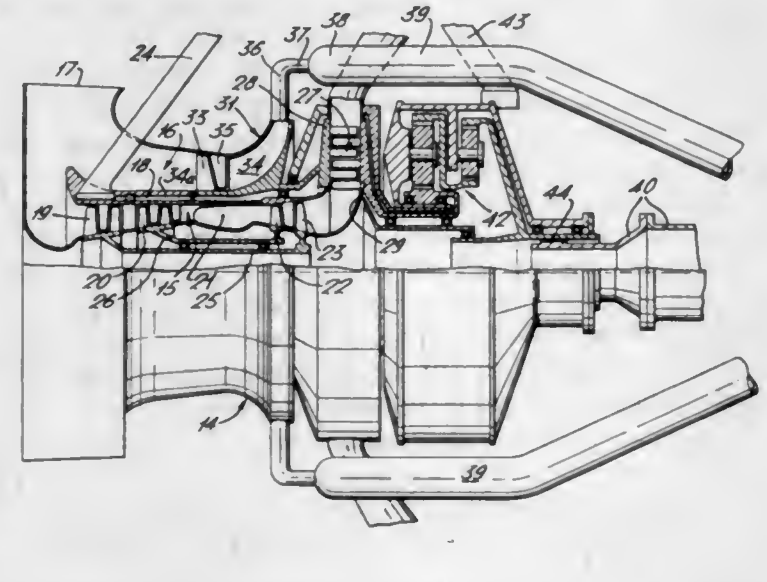
Joseph L. Wherry, Perrysburg, Ohio, assignor to Toledo Stamping & Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed Feb. 15, 1968, Ser. No. 705,724
Int. Cl. F15b *7/00;* **B60t** *7/20*
U.S. Cl. 60—54.5 **6 Claims**



A trailer hitch with a trailer brake actuator has a valve for releasing pressure of the brake fluid for enabling the trailer to be backed up easily. The valve in the master cylinder enables a portion of the brake fluid to flow back to the reservoir of the fluid system when the pressure of the brake fluid is above its normal operating pressure range. The valve can open when the piston of the master cylinder moves into the cylinder a predetermined distance. The valve also can begin to open upon being subjected to a predetermined pressure or an accumulator can be used with the actuator to relieve pressure of the brake fluid to enable the piston to move further into the cylinder. The valve arrangement is relatively simple, reliable in operation, and adds little cost to the hitch and actuator.

3,505,816
GAS TURBINE POWER PLANT

Geoffrey Light Wilde, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 25, 1968, Ser. No. 715,803
Claims priority, application Great Britain, Apr. 12, 1967, 16,872/67; June 15, 1967, 27,752/67
Int. Cl. F02c *3/10, 7/02*
U.S. Cl. 60—226 **13 Claims**

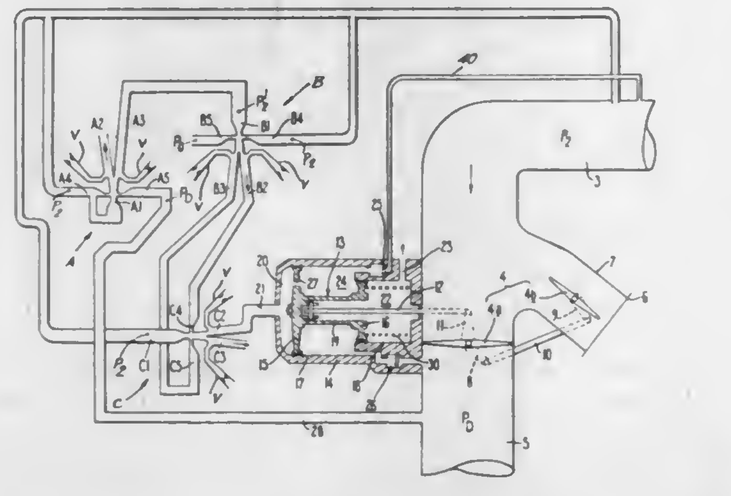


A gas turbine power plant, especially for a helicopter, includes a main flow duct in which is located a gas turbine gas generator and a multi-stage free turbine driven by exhaust gases from the generator. At least one stage of the turbine is radial flow. There is a fan duct which is radially outwardly of, and coaxially with, the main flow duct in which the gas turbine generator is located, and the fan duct contains a fan having at least one centrifugal flow rotor stage drivingly connected to the radial flow stage of the free turbine. The fan exhaust may be directed into hollow apertured rotary wings, of a rotary wing aircraft, or one stage of the turbine may be drivingly connected to a member which is external to the power plant such as to the hub rotor of a rotary wing aircraft.

3,505,817
VALVE CONTROL APPARATUS

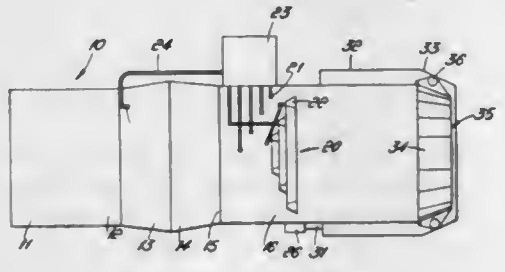
Hugh Francis Cantwell, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 21, 1968, Ser. No. 714,981
Claims priority, application Great Britain, Apr. 7, 1967, 16,151/67
Int. Cl. F02k *3/02;* **F04d** *27/00;* **F15c** *1/14*
U.S. Cl. 60—226 **10 Claims**

A valve control apparatus comprises two butterfly valves through which compressor bleed air from a gas turbine engine compresor is directed into a dump outlet. Three jet fluid elements are provided to direct air under pressure from a source into a particular one of two outlet channels when the compressor bleed pressure is greater than a predetermined valve, and into the other channel when the bleed pressure is less than said predetermined value. There is also provided a pressure-responsive valve which is responsive to air pressure in one of the channels and which controls the two butterfly valves so that the compressor bleed air is directed into the dump duct when the bleed pressure is greater than the predetermined value and into the outlet when the bleed pressure is less than the predetermined value.



3,505,818
GAS TURBINE ENGINE

Walter George Cross and William Ralph Coleman Ivens, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Oct. 20, 1967, Ser. No. 676,813
Claims priority, application Great Britain, Nov. 16, 1966, 51,443/66
Int. Cl. F02k *1/18*
U.S. Cl. 60—242 **9 Claims**

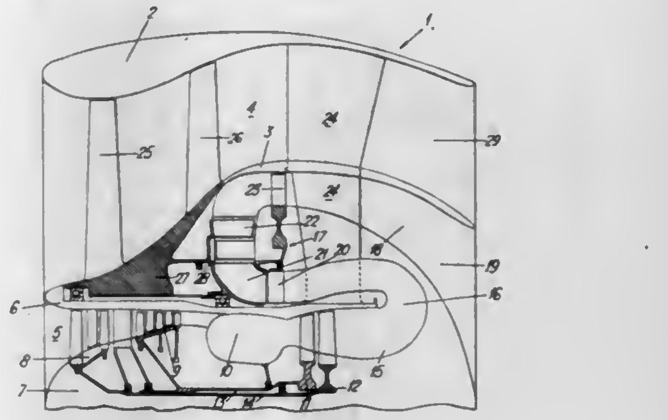


A gas turbine engine, having reheat combustion equipment, has a variable area nozzle which, on a predetermined variation in jet pipe pressure, has its area adjusted at a high initial speed which is subsequently reduced in order that stiction in the nozzle mechanical parts is overcome quickly.

3,505,819
GAS TURBINE POWER PLANT

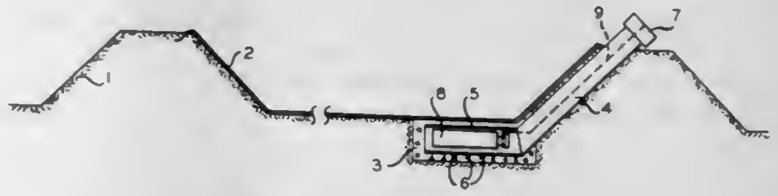
Geoffrey Light Wilde, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company
Filed Feb. 5, 1968, Ser. No. 703,036
Claims priority, application Great Britain, Feb. 27, 1967, 9,300/67
Int. Cl. F02k *3/04;* **F04d** *29/34*
U.S. Cl. 60—269 **7 Claims**

The invention concerns gas turbine power plant comprising a main flow duct which has mounted therein, in flow series, compressor means, combustion equipment, turbine equipment, turbine means for driving said compressor means and free turbine means, and a fan duct surrounding the main flow duct. The fan duct has a two-stage fan therein, the stages being mounted on a common rotor and without a stator stage therebetween, the common fan rotor being driven in operation by the free turbine means.



3,505,820
LEAK DETECTION FOR LINED RESERVOIRS

Homer L. Draper, Duane W. Gagle, and Richard J. Bennett, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 28, 1967, Ser. No. 694,284
Int. Cl. E02b *3/00;* **G01m** *3/04*
U.S. Cl. 61—1 **4 Claims**

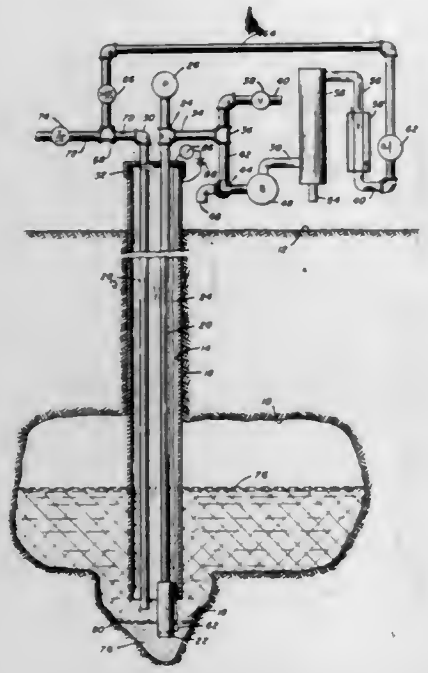


A liquid collection zone containing aggregate is provided at a low level beneath the liner of a lined reservoir. A conduit which can be plastic leads from this zone up to a point peripheral to the lined reservoir. To test for leakage a provided closure at the end of the conduit is removed and a sampler, for example, a bottle at the end of a rod or wire is pushed down into the zone beneath the lined reservoir. Any liquid accumulating there is now withdrawn by withdrawing the now filled bottle and is analyzed, if desired, to determine whether it is ground water or leakage from the lined reservoir.

3,505,821
METHOD OF PREPARING A CAVERN FOR STORING ANHYDROUS AMMONIA

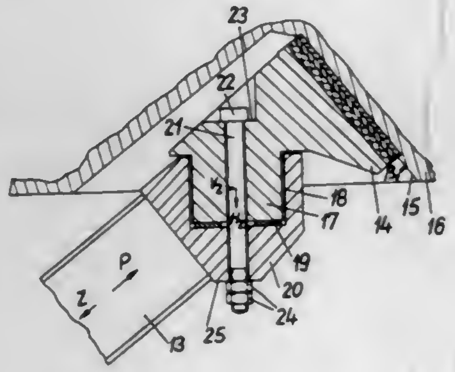
Sidney E. Scisson and James H. Cobbs, Tulsa, Okla., assignors to Fenix & Scisson, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Oct. 21, 1968, Ser. No. 769,208
Int. Cl. B65g *5/00;* **E21f** *17/16*
U.S. Cl. 61—.5 **5 Claims**

This invention relates to a method of removing water from an underground cavern having a sump in the lower portion and having a tubular member extending from the earth's surface to the sump, the method including injecting anhydrous ammonia under pressure into the cavern and maintaining the pressure for sufficient time to cause the anhydrous ammonia to mix and react with the water in the cavern, including the connate water in the cavern formation surfaces. The product of such reaction and mixture flowing by gravity to the sump is then pumped to the surface. The steps of injecting anhydrous ammonia and pumping the product of the mixture and reaction to the surface may be repeated until the water content of the product is lowered to a predetermined maximum level.



3,505,822
PIVOT BEARING FOR SEGMENTAL GATES

Hans Schulz, Rheinhausen (Lower Rhine), Germany, assignor to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany
Filed May 17, 1968, Ser. No. 730,092
Claims priority, application Germany, May 19, 1967, 1,634,018
Int. Cl. E02b *7/40, 7/42*
U.S. Cl. 61—25 5 Claims

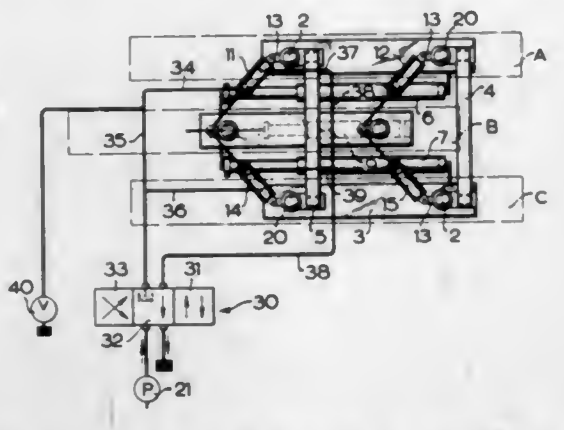


A pivot bearing for segmental gates, in which the supporting arms of said gates are arranged at an acute angle with regard to the flanks of the piers while the bearing base plate is substantially perpendicular with regard to the respective supporting arm pertaining thereto.

3,505,823
HYDRAULIC SUPPORT SYSTEMS FOR MINE WORKINGS

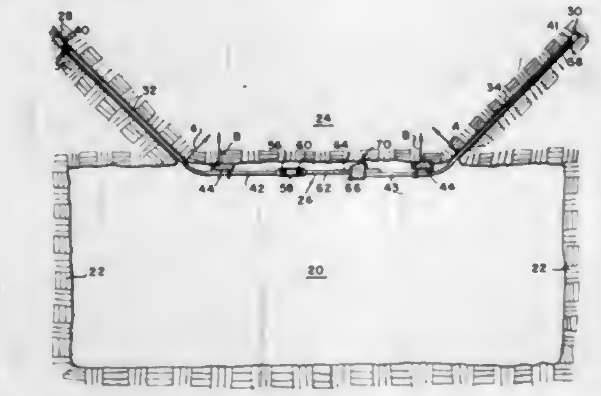
Günter Bell, 14 Heinrichstrasse, 4351 Horenburg, Germany
Filed July 18, 1968, Ser. No. 745,865
Claims priority, application Germany, July 19, 1967, 1,583,108
Int. Cl. E21d *23/18*
U.S. Cl. 61—45 2 Claims

Hydraulic roof support system for long wall faces of mines in which three frames form a self-advancing assembly and ram cylinders interconnect these frames for advancing either the center frame or the two outer frames. Two pairs of steering cylinders interlink the frames, which on pressurization act in opposite directions for correcting the positions of the frames, the chamber of annular cross section in one of each pair of steering cylinders being equal to the full cross section of the piston in the other steering cylinder of that pair. The chamber which comprises the full cross section of the piston in one steering cylinder is connected to the chamber of annular cross section in the associated cylinder.



3,505,824
ROOF SUPPORT OF UNDERGROUND MINES AND OPENINGS

Claude C. White, 3912 Cahaba Road, Birmingham, Ala. 35243
Continuation-in-part of application Ser. No. 625,070, Mar. 22, 1967. This application Feb. 5, 1969, Ser. No. 796,775
Int. Cl. E21d *11/00;* **E04c** *5/12*
U.S. Cl. 61—45 16 Claims

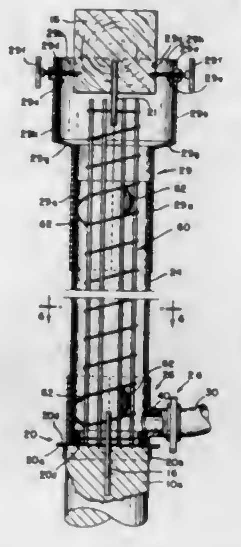


A roof support for underground mines and openings embodying anchor members embedded in holes drilled in spaced, opposed relationship in a mine roof, a pair of rods, one terminal of each of which is secured to an anchor member, the rods extending downwardly though the mine roof holes, at which point the rods are bent inwardly towards the center of the opening into overlapped relationship, the overlapped portions of the rods being held in fixed relationship with each other, the structure further including mechanism for applying approximately equal forces to the anchor members and rods, to produce a resultant upward and inward force on the roof with respect to the opening.

3,505,825
SYSTEM FOR REPLACING DETERIORATED WOOD PILING

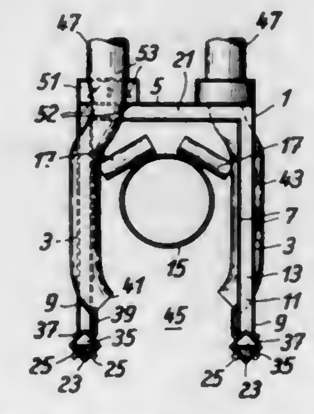
James E. Colby, Rte. 5, Box 1069, Bremerton, Wash. 98310
Continuation-in-part of application Ser. No. 662,946, Aug. 24, 1967. This application Sept. 5, 1968, Ser. No. 757,708
Int. Cl. E02d *5/38, 5/64*
U.S. Cl. 61—54 13 Claims

Wood piling deteriorated by contact with water and air or by sea life can be replaced with an encased concrete piling extending from just below the mudline to the underside of the load-bearing cap of an overhead structure. The deteriorated piling is severed below the mudline and a tubular concrete form positioned between the stub head and the overhead cap. Concrete is then transferred in a continuous pour from the bottom up until the tubular form is filled. The tubular form may be designed as a permanent component of the replacement piling so as to protect the concrete from its environment.



3,505,826
APPARATUS FOR EMBEDDING A PIPELINE INTO A WATER BED

Rudolf Harmstorf, Schillerstr. 45, Hamburg-Altona, Germany
Filed Feb. 28, 1968, Ser. No. 708,857
Claims priority, application Germany, Jan. 13, 1968, H 65,035
Int. Cl. F16l *1/00;* **E02b** *5/02;* **E02b** *3/88*
U.S. Cl. 61—72.4 13 Claims

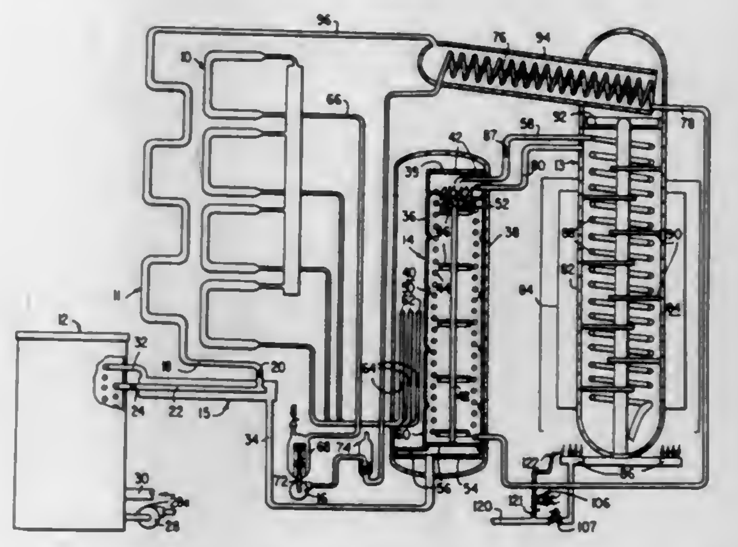


A pipeline laying on the surface of a water bed is embedded into the ground by a train of towed flushing and suction elements. The ground below the pipeline is hydraulically broken up by flushing water jets from the elements and forms suspensions which are sucked off by the elements and deposited beside the pipeline route. The pipeline sinks into the formed ditch by deflection under its weight. The ditch is backfilled by towing a shovel along the ditch. The operations are performed in sections and can be accomplished also in strong water currents.

3,505,827
REFRIGERATION SYSTEM HAVING GENERATOR FUEL SUPPLY CONTROL MEANS

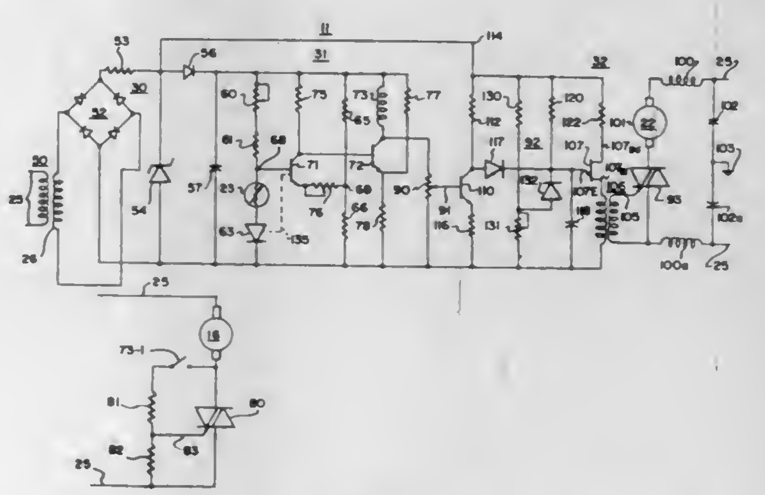
Lowell A. McNeely and Patrick L. Murphy, Indianapolis, Ind., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Aug. 27, 1968, Ser. No. 755,639
Int. Cl. F25b *15/00*
U.S. Cl. 62—148 3 Claims

A refrigeration system comprised of a generator, solution-cooled absorber, primary absorber, condenser, liquid-suction heat exchanger, and chiller, wherein there is incorporated in the system circuitry associated with the fuel combustion source for the generator which assures that under low main line fuel pressure conditions input of fuel to the system will be essentially terminated, or at least significantly reduced, thereby markedly improving the safety of the system and preventing the possibility of damage to one or more of the components thereof.



3,505,828
CONTROL FOR REFRIGERATION APPARATUS

Donald R. Vander Molen, Stevensville, and Dana E. Whitlow, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed June 20, 1968, Ser. No. 738,609
Int. Cl. F25d *17/00*
U.S. Cl. 62—180 9 Claims

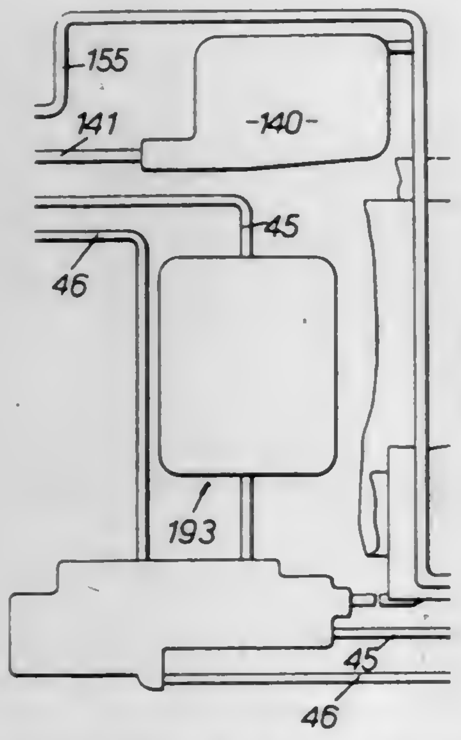


An air conditioning control having a two stage temperature compensated transistor amplifier connected to a thermistor temperature sensing bridge for cycling the compressor on and off. The speed of a fan for the evaporator is varied above a minimum speed in accordance with temperature when the compressor is operating.

3,505,829
APPARATUS FOR CONTROLLING AT LEAST ONE RAM

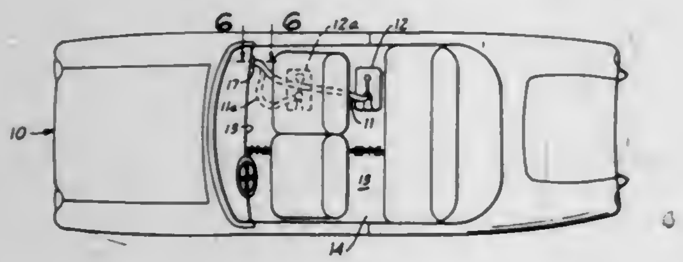
Christopher Linley Johnson and John Vaughan Rooks, Allestree, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed Dec. 6, 1967, Ser. No. 688,528
Claims priority, application Great Britain, Dec. 22, 1966, 57,582/66
Int. Cl. F02k *1/12, 1/18;* **F16d** *31/02*
U.S. Cl. 62—242 10 Claims

The effective area of a variable area nozzle of a gas turbine engine is controlled by hydraulically operated rams. The control is exercised by an apparatus comprising a variable output hydraulic pump which is connected by ducting to opposite sides of pistons in the rams. The output of the pump can be altered to move the pistons. A by-pass valve is provided for ensuring that the flow through a by-pass conduit is inversely proportional to the pressure differential between the input and output of the pump so that when the pressure differential changes this is compensated for by an inverse change in the flow through the by-pass conduit.



3,505,830
BOX REFRIGERATED BY VEHICLE AIR CONDITIONING

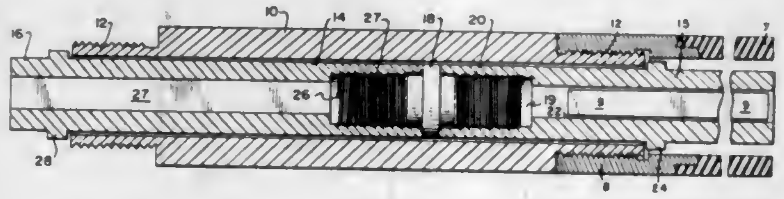
Gus A. Koerner, 4417 Creekbend,
Houston, Tex. 77035
Continuation-in-part of application Ser. No. 638,411, May 15, 1967, This application Mar. 11, 1969, Ser. No. 806,104
Int. Cl. F25d *23/12;* **B60h** *3/04*
U.S. Cl. 62—337 **14 Claims**



The disclosure is to a box of insulative material, as styrofoam, to receive therein items to be refrigerated or kept cool. A flexible conduit from an inlet through the lid of the box, has its outer end adapted to engage with the conventional grill in the dashboard of a motor vehicle to communicate with the flow of the vehicle's air-conditioning air. Outlet means in the lid are selectively disposed therein to act as damper means to control the flow of air through the box. Since the flexible conduit is connected to move with the lid while being detachable from the grill, it may accompany the box which is best packed exteriorly of the vehicle and then returned and selectively disposed therein, as under a front seat or in the rear part of the vehicle passenger compartment, the flexible conduit then being engaged upon the grill for the box contents to receive air-conditioned air.

3,505,831
FLEXIBLE SHAFT COUPLER

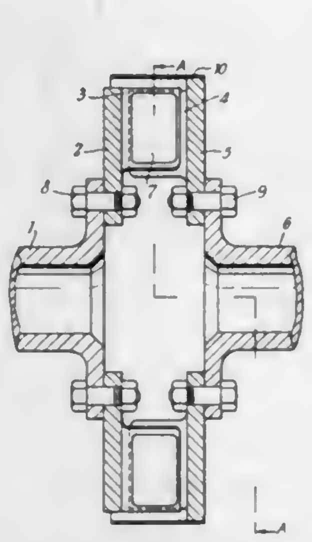
Gerald W. Palmer, Chicago, and Rex E. Beach, Aurora, Ill., assignors to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed July 5, 1968, Ser. No. 742,761
Int. Cl. F16c *1/06*
U.S. Cl. 64—4 **2 Claims**



A cylindrical housing has its opposite ends adapted for threading engagement with fittings on respective ends of the outer casings of a pair of flexible shafts. This housing has a central, through bore. An elongated, cylindrical coupling member has its opposite ends arranged for driving engagement with respective flexible driving shafts contained within such casings. The outside diameter of the coupling member is less than the diameter of the coupling member to an extent resulting in the former being loosely received within the latter for free rotation therein and for limited lateral movement relative thereto. The engagement between the surface of such bore and outer surfaces of the coupling member serve as the sole means rotatably supporting the coupling member.

3,505,832
FLEXIBLE COUPLINGS

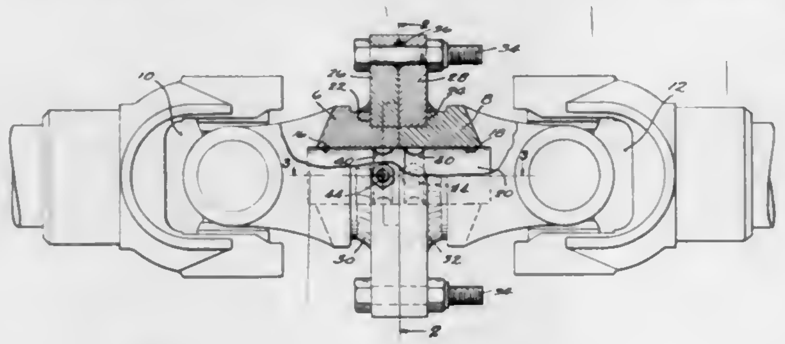
John Cannon Braithwaite, Lancashire, England, assignor to Vickers Limited, London, England, a British company
Filed July 11, 1968, Ser. No. 744,036
Claims priority, application Great Britain, July 17, 1967, 32,837/67
Int. Cl. F16d *3/68*
U.S. Cl. 64—14 **5 Claims**



A shaft coupling device comprising two coaxial members carrying interdigitated vanes on their facing surfaces, and resiliently distortable elements cooperating with the vanes to connect the members together axially and limit relative rotation thereof, the elements being formed of laminations of a first, resilient, material and a second less resilient material.

3,505,833
AUTOMATIC LUBRICATION FOR TORQUE LIMITING DEVICES

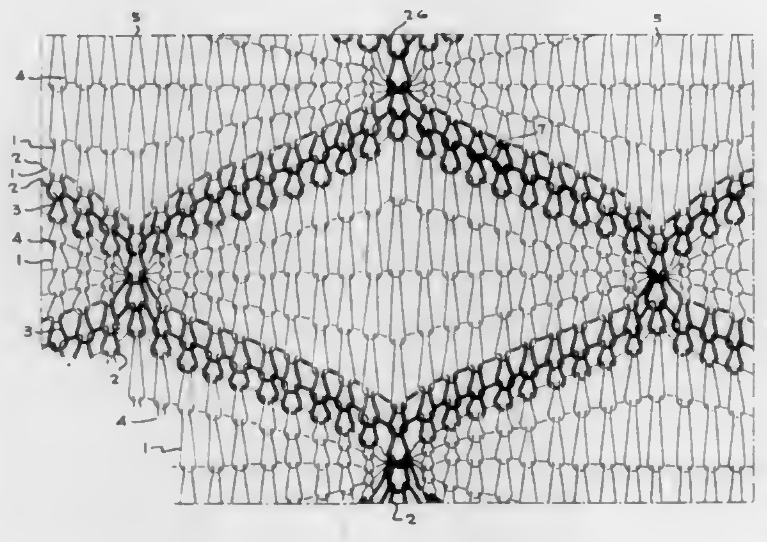
Bennett B. Reak, West Bend, Wis., assignor to Weasler Engineering & Mfg. Co., Inc., West Bend, Wis., a corporation of Wisconsin
Filed Oct. 25, 1968, Ser. No. 770,709
Int. Cl. F16d *3/56, 9/00*
U.S. Cl. 64—28 **9 Claims**



Aligned shaft elements normally rotatable in unison are connected by torque limiting devices which release under predetermined load. Shear bolts are a simple example. Preferably the shaft elements are secured against axial separation when release occurs, and have normally inactive bearing surfaces and means to store and distribute lubricant to the bearing surfaces which are only subject to relative rotation when the torque limiting device is released.

3,505,834
METHOD OF PRODUCING A NET STOCKING ON A SINGLE FEED MACHINE

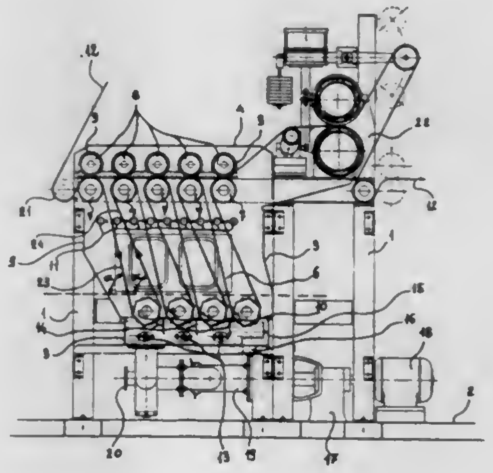
Henry Bryson, Albemarle, and Rufus Preston Pruitt and Roy Clyde Slagle, Concord, N.C., assignors to Chadbourn, Inc., Charlotte, N.C., a corporation of North Carolina
Filed May 1, 1968, Ser. No. 725,680
Int. Cl. D04b *9/26*
U.S. Cl. 66—40 **4 Claims**



Fabrics, or stockings, having allover diamond patterns formed by joining vertically spaced, horizontally stripes at horizontally spaced points, the diamond patterns being in horizontal rows with the diamond patterns of adjacent rows horizontally staggered. The fabrics are made on a circular knitting machine by feeding a body yarn to all needles in all courses, feeding a stripe yarn in predetermined spaced courses, and holding, or tucking, the stitches of selected spaced needles between adjacent stripes. After one tucking operation and a succeeding stripe is knit, needles are selected intermediate those previously selected to hold stitches.

3,505,835
APPARATUS FOR THE CONTINUOUS LIQUID TREATMENT OF FABRICS

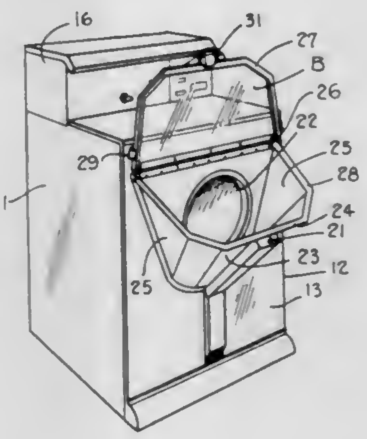
Armando Reggiani, Bergamo, Italy, assignor to Reggiani S.p.A., Bergamo, Italy
Filed Dec. 8, 1966, Ser. No. 600,203
Claims priority, application Italy, Dec. 10, 1965, 27,478/65
Int. Cl. D06f *29/00, 35/00*
U.S. Cl. 68—22 **4 Claims**



Apparatus for the continuous treatment of fabrics open widthwise with liquids wherein the fabric undergoing treatment therein is provided with thin surface films of treating liquid, is agitated and is inclined with respect to its horizontal plane of advancement therethrough.

3,505,836
WASHING MACHINE

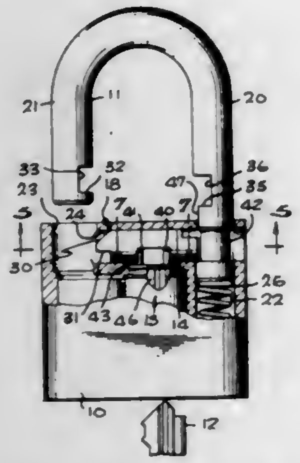
John T. Langston, Edwards Road,
Taylors, S.C. 29687
Filed Apr. 1, 1968, Ser. No. 717,808
Int. Cl. D06f *37/10*
U.S. Cl. 68—210 **2 Claims**



An automatic clothes washing machine having a rectangular housing with an opening in a vertical wall thereof for receiving clothes and the like. A chute having a wall extending upwardly and outwardly from a bottom portion is joined to the vertical wall of the washing machine below the opening and extends upwardly therefrom. The chute is also joined by side portions to the vertical wall of the washing machine substantially laterally of the opening. A hinged door is carried by the side wall above the chute and extends across the chute for closing the top of such when in a down position. The chute is designed for receiving a substantial portion of excess suds formed in the washing machine during the washing operation so as to avoid suds lock. An electric switch is carried on the outer extremity of the chute for preventing the operation of the washing machine when opened, as a result of raising the door.

3,505,837
PADLOCK PICKING GUARD AND DRIVER SPACER

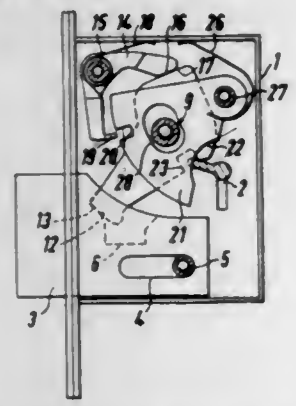
Richard L. Armstrong, Santa Fe Springs, Calif., assignor to Norris Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Oct. 2, 1968, Ser. No. 764,501
Int. Cl. E05b *67/24, 63/00*
U.S. Cl. 70—38 **3 Claims**



A padlock wherein a key is inserted from the end opposite the shackle, there being a tailpiece on the key-actuated plug having projections for shifting opposite split elements of a blocker in opposite directions to lock and unlock the shackle, and in which there is a disc having holes in it to fit over the projections to keep them at a precise diametrical distance from each other and also to prevent the padlock from being picked by an unauthorized instrument inserted through the keyhole.

3,505,838
LOCKS AND KEYS

Jack William Taylor, Bournemouth, England, assignor to Ingersoll Locks Limited, London, England, a British company
Filed Jan. 25, 1968, Ser. No. 700,611
Int. Cl. E05b *65/06, 21/02*
U.S. Cl. 70—134 **6 Claims**

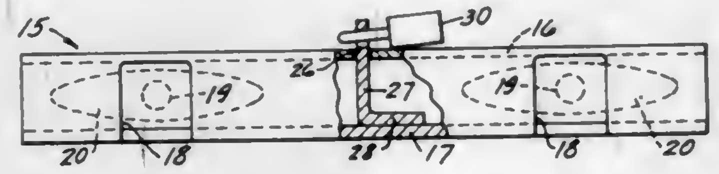


This invention relates to the type of lock in which the deadbolt is moved from the outward locked position to the inward unlocked position and vice-versa as the result of the insertion and rotation of a predetermined key, the operation of the key being to first align impediments to enable the deadbolt to move and then to cause actual movement of the deadbolt.

3,505,839
OUTBOARD MOTOR LOCK

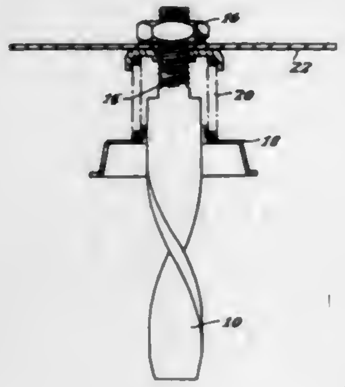
George E. Pavek, 908 Summit Ave.,
St. Paul Park, Minn. 55110
Filed Apr. 23, 1968, Ser. No. 723,524
Int. Cl. F16b *41/00*
U.S. Cl. 70—230 **2 Claims**

Locking devices for outboard motors which are designed to protect the motor from theft or accidental dislodgement through vibration during operation comprise a body member for snugly receiving the head portions of the motor clamps and a closure member enclosing said head portions within the locking device and means for locking said body and closure members together.



3,505,840
LOCKS

Felix R. Forster, Strode Road, Willesden Green, London, NW. 10, England
Filed June 11, 1968, Ser. No. 736,085
Claims priority, application Great Britain, June 12, 1967, 26,931/67
Int. Cl. E05b *65/19*
U.S. Cl. 70—286 **6 Claims**

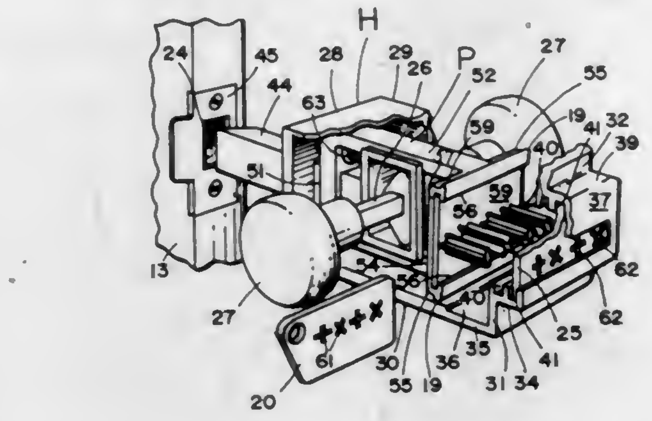


A lock formed in two parts for securing together two components such as the bonnet or hood of an automobile, the arrangement being such that when the lock is closed it can only be opened by performing two or more separate and sequential operations. One part of the lock such as that mounted on the bonnet or hood includes a helically twisted metal tongue whilst the other part mounted on the body of the automobile includes a rotatable member having a slot into which the tongue can engage to rotate the member which on passing two or more given points is prevented from rotation in the opposite direction by spring loaded plungers until the plungers are sequentially released in the correct order.

3,505,841
COMBINATION LOCK

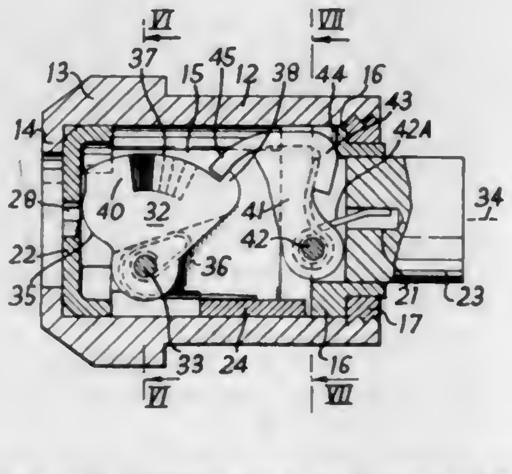
Fred G. Sinclair, North Miami, Fla., assignor to Perennial Products, Inc., North Miami, Fla., a corporation of Florida
Filed Aug. 12, 1968, Ser. No. 751,873
Int. Cl. E05b *19/00, 19/16, 25/08*
U.S. Cl. 70—350 **4 Claims**

A combination lock having a housing in which a pin plate support is slidably mounted and actuated by a lock bolt support with a back plate having openings removably mounted on the housing and pin carrying plate removably mounted on the pin plate support, the pins being in alignment with the openings in the back plate when the lock is in its locked position. Upon sliding movement of the pin plate support a certain distance, the pins are brought out of the alignment with the openings in the back plate when the lock is in its locked position. Upon sliding movement of the pin plate support a certain distance, the pins are brought out of alignment with the openings in the back plate, but upon inserting a key having identical openings as said back plate in the path of movement of the pins, the pins are received by the openings in the key and maintained in alignment with the openings in the back plate to unlock the lock.



3,505,842
IN COMBINATION, A PLUG AND CYLINDER TYPE LOCK MECHANISM AND A KEY

Jack William Taylor, Bournemouth, England, assignor to Venner Limited, New Malden, Surrey, England, a company of Great Britain
Filed July 12, 1967, Ser. No. 652,757
Claims priority, application Great Britain, Aug. 30, 1966, 38,703/66
Int. Cl. E05b *27/02*
U.S. Cl. 70—365 **1 Claim**

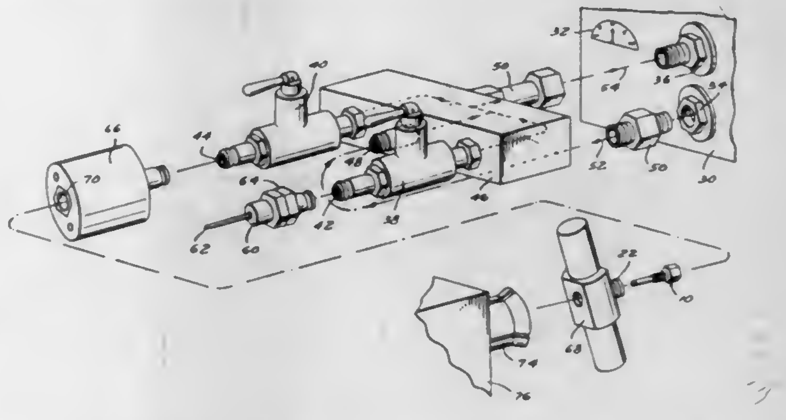


A plug and cylinder type lock mechanism in which a key receiving plug is located in a cylinder and normally locked against rotation therein but unlocked as a result of insertion of a correct key, the stepped leading edge of which pushes a plurality of operating members to positions in which they allow movement of a latching member. The key and keyhole have correspondingly fluted profiles and the edges of the operating members to be contacted by the key are shaped to engage the key along the centre line of its thickness.

3,505,843
AIR GAGE MASTER AND METHOD FOR MAKING SAME

Curtis D. Kelsay, Columbus, Nebr., assignor to Becton, Dickinson and Company, East Rutherford, N.J., a corporation of New Jersey
Filed May 26, 1967, Ser. No. 641,839
Int. Cl. B21c *51/00*
U.S. Cl. 72—34 **5 Claims**

A gaging apparatus for producing a working master having flow and pressure characteristics which are identical to those of a standard sample hypodermic needle from which the master is produced. A master having an inner diameter slightly larger than standard is placed in a collet which may be squeezed so as to reduce the master cross-sectional flow area. Two valves alternately supply the master and the standard with a constant flow of compressed air. Gage back pressure, due to flow through the standard, is monitored upstream of the standard and this pressure serves as a reference. The master cross-sectional flow area is reduced until upstream gage pressure of the master is identical to the standard.



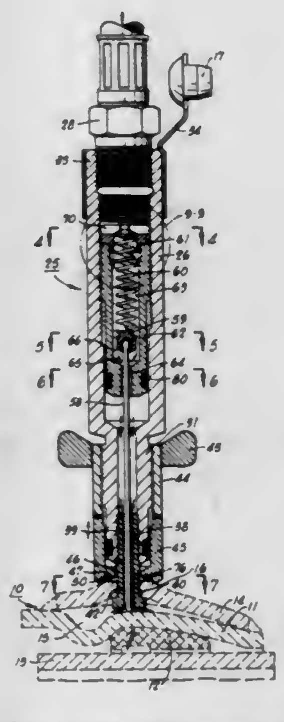
3,505,844
ROLLING LUBRICATION

John O. McLean, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 573,945
Int. Cl. B21b *45/02;* **C10m** *7/24, 7/20*
U.S. Cl. 72—42 **6 Claims**

A lubricating system for cold rolling aluminum employs as a lubricant an aqueous dispersion of from about 0.1% to about 15% by weight of at least one polar compound such as a long chain fatty alcohol, a long chain fatty acid alkyl ester, or a long chain aliphatic carboxylic acid.

3,505,845
HYDRAULIC FORGING TOOL

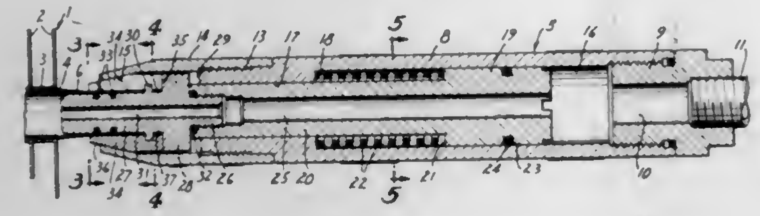
Robert P. Montesi, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Nov. 3, 1967, Ser. No. 680,429
Int. Cl. B21d *22/12*
U.S. Cl. 72—54 **15 Claims**



A portable tool for hydraulic wall forging. The tool includes an elongated tubular body through which to dispense pressurized forging fluid remotely supplied thereto against the wall to be forged and an outwardly extending axially movable rod for continuous follower engagement against the forge responsive wall surface. The rod is operably connected to disrupt fluid dispensing at a presettable extention reflecting the required extent of wall forging. Principal application of the tool is for the forging of pipe couplings into a lock-tight joint with contained pipe.

3,505,846
HYDRAULIC CHUCK

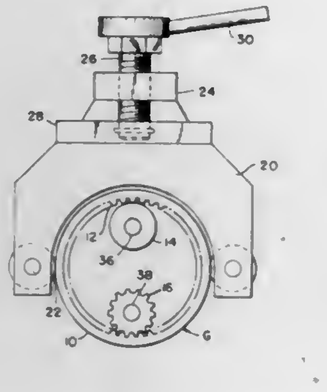
George A. Smida, 6511 46th Ave. N.,
Minneapolis, Minn. 55428
Filed Jan. 15, 1968, Ser. No. 697,693
Int. Cl. B21d *22/10*
U.S. Cl. 72—61 **5 Claims**



A hydraulic chuck for gripping a tube to be radially expanded and for admitting hydraulic fluid under tube expanding pressure to the tube. A fluid powered piston actuated mandrel is snugly receivable into the tube and cooperates with a chuck portion to move gripping jaws into clamping engagement with the portion of the tube in which the mandrel is received.

3,505,847
PITCH DIAMETER ROUNDER

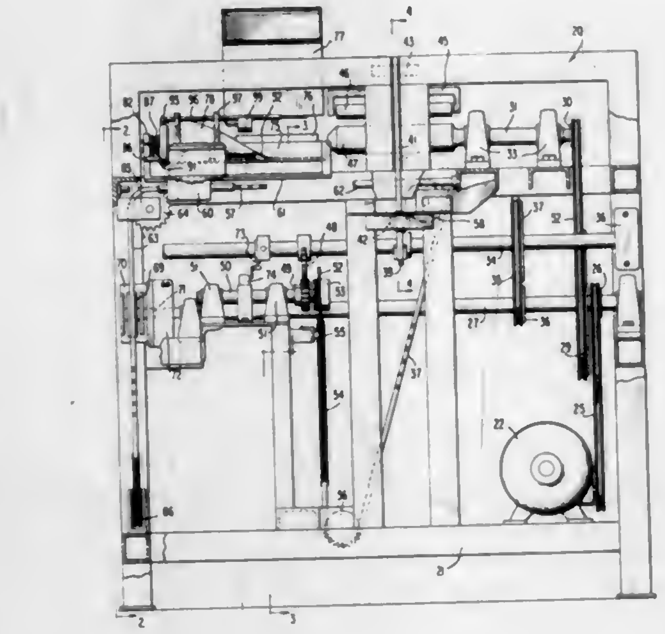
Russel W. Anthony and Carl H. Motz, Detroit, Mich., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 465,487, June 21, 1967. This application Aug. 10, 1967, Ser. No. 659,672
Int. Cl. B21b *1/08*
U.S. Cl. 72—107 **1 Claim**



Method and apparatus for rounding an internally toothed gear in which the gear is supported on a pair of rotary members located within the gear, one of which is a pinion and the other of which is a smooth roller, and in which the ring deforming pressure is applied by a pair of external rollers located at a fixed center distance, the rollers being moved generally tangentially with the rollers contacting the outer surface of the gear at points spaced substantially 90 degrees from the zone of engagement with the internal members, and in which the direction of movement of the rollers over the gear is such as to apply increased pressure between the smooth internal roller and the gear.

3,505,848
METAL TUBE RECONDITIONING MACHINE

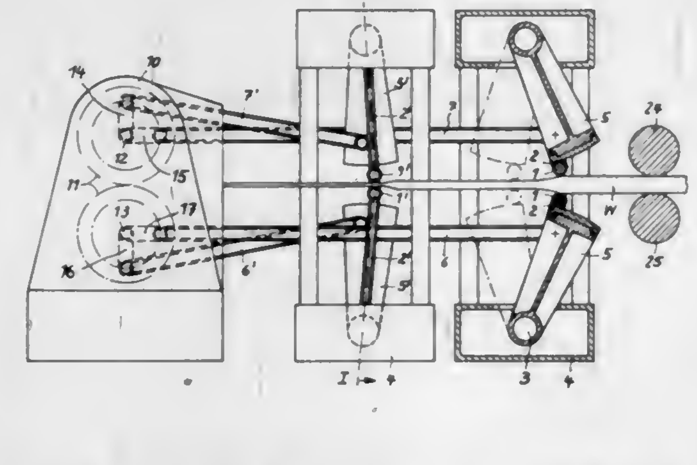
Coy V. Jones, Sr., Greer, S.C., assignor to Gaston County Dyeing Machine Company, Stanley, N.C., a corporation of North Carolina
Filed Jan. 29, 1968, Ser. No. 701,214
Int. Cl. B21d *15/00*
U.S. Cl. 72—110 **15 Claims**



A machine which automatically delivers a damaged metal tube from a group thereof and orients the tube for passage into engagement with an automatic straightening mechanism and delivers the tube to the straightening mechanism and then after the straightening operation removes the straightened tube to a discharge point and discharges it prior to automatically receiving the next tube to be straightened in a repetitive cycle.

3,505,849
ROLL STAND FOR A ROLLING MILL

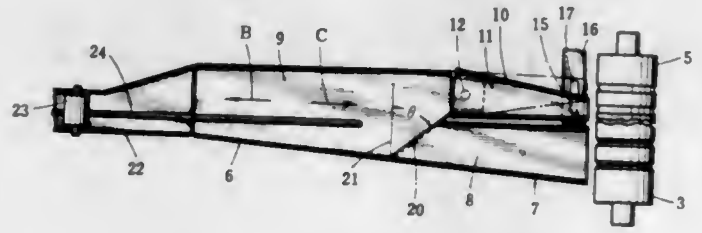
Dietrich Grube, Ratingen-Tiefenbroich, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a company of Germany
Filed Sept. 27, 1967, Ser. No. 670,991
Claims priority, application Germany, Oct. 1, 1966, Sch 39,613
Int. Cl. B21b *29/00*
U.S. Cl. 72—215 **4 Claims**



A roll stand with the working rolls guided along arcuate paths and having swinging backing segments with arcuate section bearing surfaces for backing the working rolls.

3,505,850
WIRE GUIDE FOR WIRE ROLLING MILLS

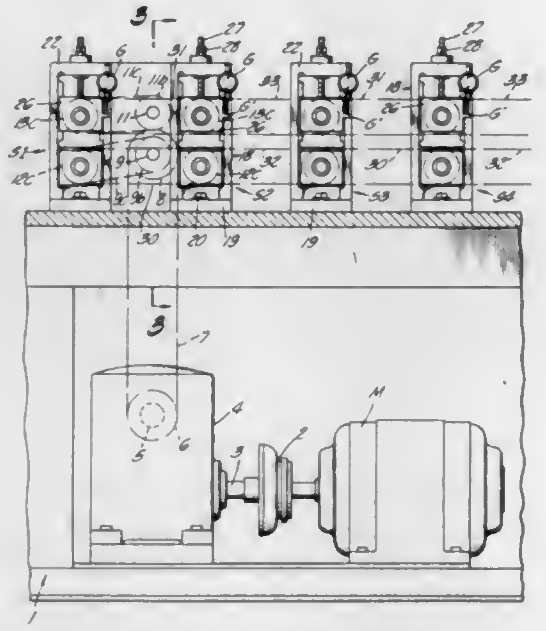
Yasuyosho Ookawa, Numazushi, Japan, assignor to Fujikura Densen Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Oct. 20, 1967, Ser. No. 676,834
Claims priority, application Japan, Feb. 15, 1967, 42/9,279
Int. Cl. B21b *39/18*
U.S. Cl. 72—229 **8 Claims**



A wire rolling mill having a first roll means for treating a wire as it moves in a first direction through the first roll means and a second roll means located adjacent the first roll means for further treating the wire as it moves in a second direction, which is opposed to the first direction, through the second roll means. A wire guide means is situated on the same side of both of the roll means for receiving and guiding the wire as it moves in the first direction from the first roll means and for guiding the wire in the second direction to the second roll means. A stationary deflecting means is operatively connected with this wire guide means to automatically deflect the wire as it moves in the second direction toward the second roll means so that the wire will be reliably received by the latter.

3,505,851
ROLL FORMING MACHINE

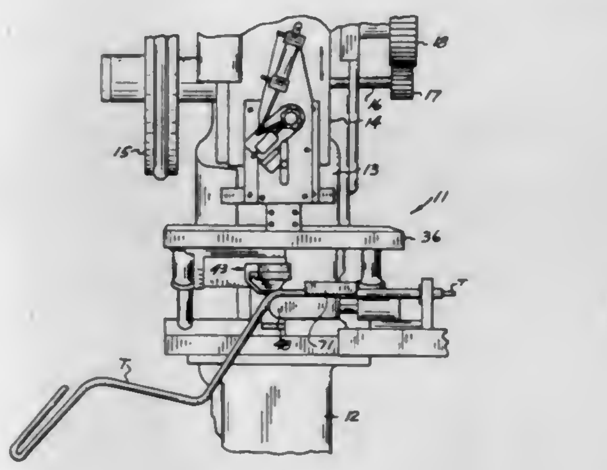
William Alvarez, 1255 Lasterbrook St.,
Placentia, Calif. 92670
Filed Feb. 13, 1967, Ser. No. 615,432
Int. Cl. B21b *35/00*
U.S. Cl. 72—249 **1 Claim**



A roll forming machine having a changeable gear input to drive looped chains which in turn drive the respective sets of rolls at successive forming stages at which the vertical spacing between rolls is positively indicated by a position indicator gage.

3,505,852
TUBE BENDING MACHINE

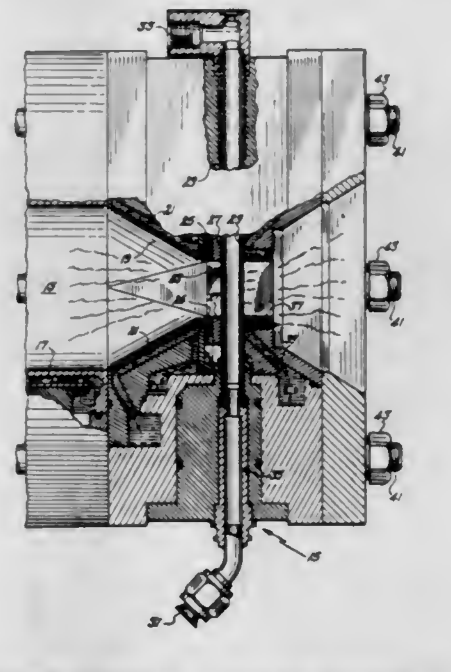
Frank Sassak, Dearborn, Mich., assignor to Bend-Rite, Incorporated, Detroit, Mich.
Filed Mar. 7, 1968, Ser. No. 711,418
Int. Cl. B21d *7/024*
U.S. Cl. 72—321 **11 Claims**



In a tube bending machine having a bed mounting a radius die, a die shoe mounting a rotative bending die and a power reciprocated ram; an improved lost motion actuator connecting means between said ram and die shoe for regulating reciprocal movements of said die shoe with respect to said bed; an improved support means for holding and guiding a tube to be bent for projection onto said radius die and to facilitate successive radial adjustments of the tube to produce a series of angularly related bends therein in a continuous operation, and an improved power operated tube clamping means for anchoring the tube during bending.

3,505,853
ROCKET THRUST CHAMBER FOR EVALUATING REFRACTORY METALS

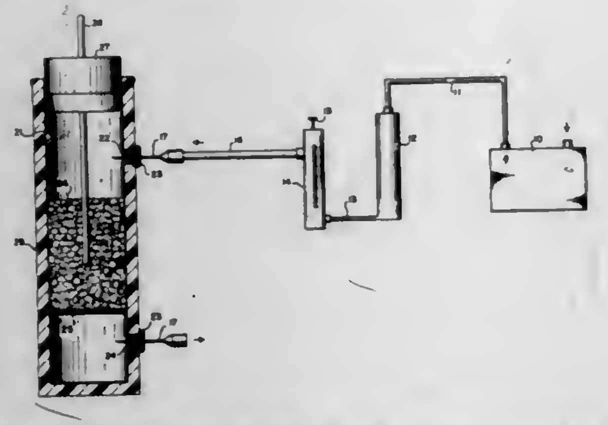
Stanley Greenfield, Woodland Hills, Gary L. Falkenstein Los Angeles, Eugene R. Reinhart, Canoga Park, and Richard H. Dougherty, Tarzana, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 25, 1968, Ser. No. 700,587
Int. Cl. G01n *17/00, 25/00*
U.S. Cl. 73—15.4 **2 Claims**



A rocket thrust chamber having a specially constructed nozzle attached at the downstream end which includes a water-cooled contraction section that transitions from circular to rectangular. A pair of tubular test specimens are positioned perpendicular to the flow of combustion gases across the throat section which is of rectangular configuration immediately downstream from the contraction section. The nozzle section includes a rectangular divergent exit nozzle downstream from the throat section. Coolant is circulated through the specimen as well as through the combustion chamber and nozzle and the specimens are further cooled by the transpiration of helium at the location where they join the wall of the throat section.

3,505,854
METHOD FOR DETERMINING ORGANIC LOADING ON CHARCOAL

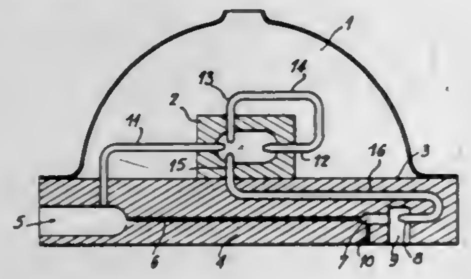
David L. Venezky, Fairfax County, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 11, 1967, Ser. No. 638,708
Int. Cl. G01n *7/14*
U.S. Cl. 73—19 3 Claims



This invention is directed to an apparatus and method for determining organic loading on charcoal which is used for air purification or for other purposes where organic materials are adsorbed. The method involves placing a sample of charcoal in an air-tight sample holder or tube in which a thermometer or any other temperature recording device is extended into the tube through the cap and placed in contact with the charcoal. Dry gas is forced through an opening above the charcoal and directed down through the charcoal at any desired flow rate for example five cubic feet per hour and exhausted below the charcoal into the atmosphere or recycled over a drying device in a closed system. The temperature indication given by the thermometer is observed and the time noted when the temperature reading reaches its lowest value. The amount of charcoal loading is related to the time required for the thermometer to reach its lowest temperature reading.

3,505,855
DEVICE FOR DISCRIMINATING BETWEEN TWO GASES OF DIFFERENT VISCOSITIES

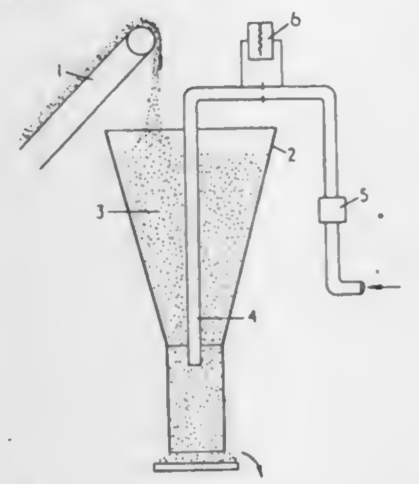
Jean-Noel Gaston André Rolland, Montrouge, France, assignor to Compagnie des Compteurs, Paris, France, a French company
Filed Feb. 24, 1969, Ser. No. 801,689
Claims priority, application France, Feb. 27, 1968, 141,335
Int. Cl. G01n *11/04*
U.S. Cl. 73—23 8 Claims



A device for discriminating between two gases of different kinematic viscosities having a viscosity detector formed by a duct of great length in comparison to its diameter and terminating in a bell-shaped chamber. A recovery pipe is positioned in line with the outlet of the duct and adjacent the bell-shaped chamber. A signal is actuated by the pressure developed in the recovery pipe which is dependent upon the viscosity of the gas tested.

3,505,856
METHODS OF MEASURING THE PERMEABILITY OF PARTICULATE MATERIAL

Henry Gilbert Meunier, Liege, Belgium, assignor to Centre National de Recherches Metallurgiques, Brussels, Belgium, a Belgian company
Filed Dec. 6, 1966, Ser. No. 599,374
Claims priority, application Belgium, Dec. 7, 1965, 673,409; Jan. 7, 1966, 674,864; June 8, 1966, 682,293
Int. Cl. G01n *15/08*
U.S. Cl. 73—38 6 Claims



To measure the permeability of particulate materials as the material is passed through a container, air is blown through the container and material in the material flow direction at a rate of 20–100 m.^{3} per hour through a tube having a diameter of from 40–100 mm. The outlet end of the tube is located at a distance from 100 to 600 mm. from the outlet end of the container. To determine the permeability of the particulate material, either the air is blown in at constant pressure and the flow rate is measured, or the flow rate is maintained constant and the pressure is measured.

3,505,857
ANALYSIS OF GASOLINE BLENDING COMPONENTS

Gilbert I. Jenkins, Ascot, England, assignor to The British Petroleum Company, Limited, London, England
No Drawing. Filed Feb. 20, 1969, Ser. No. 801,186
Claims priority, application Great Britain, Feb. 28, 1968, 9,653/68
Int. Cl. G01n *33/22*
U.S. Cl. 73—61 10 Claims

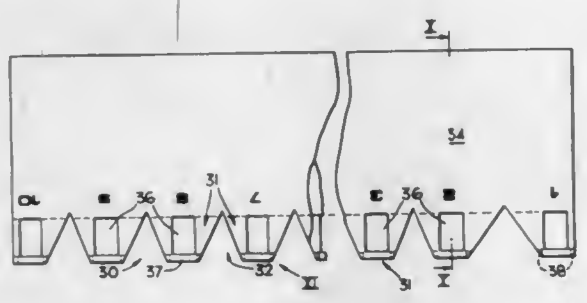
The RON, MON, RVP and SG of a low olefin, lead free gasoline blending component are determined by measuring the percentage of the component in each of 12 specified chemical groups and applying regression equations.

3,505,858
APPLICATOR MEANS

Joachim Kohn, London, England, assignor to Shandon Scientific Company Limited, London, England, a British company
Filed Nov. 16, 1967, Ser. No. 683,560
Claims priority, application Great Britain, Nov. 25, 1966, 52,987/66
Int. Cl. G01n *31/08, 1/00*
U.S. Cl. 73—61.1 10 Claims

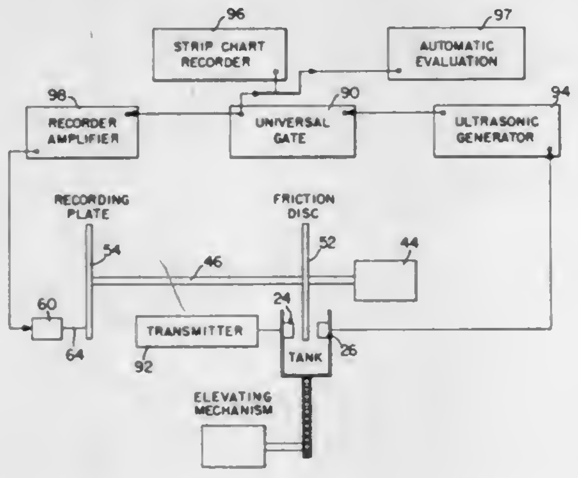
An elongated plate-like applicator provided in one longitudinal edge with cut-outs which separate the edge into a plurality of spaced and aligned edge elements

formed with longitudinally aligned liquid holding channels of a uniform cross-section. A pallet is provided with a row of spaced liquid receiving stations into which the respective edge elements of the applicator may be dipped to fill the channels, whereupon the applicator may be used to simultaneously transfer a plurality of liquid samples of substantially the same volume to a work surface.



3,505,859
ULTRASONIC TESTING APPARATUS

Clifton A. Byers, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Feb. 27, 1967, Ser. No. 618,608
Int. Cl. G01n *29/04*
U.S. Cl. 73—67.5 7 Claims

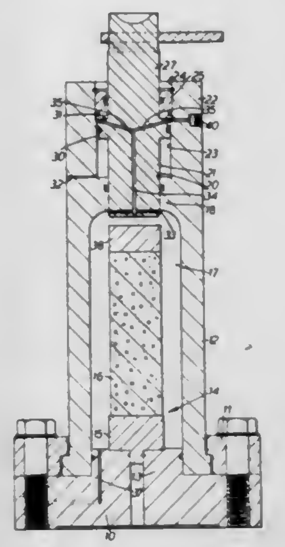


The invention relates to an ultrasonic test apparatus where the article to be tested is immersed into a liquid and a through transmission of ultrasonic sound is utilized where the transmission covers substantially the entire area of the article to be tested and a total integration of the total signal achieved by the scanning is utilized to determine where the article falls with respect to a predetermined minimum standard. This determines whether the article as a whole meets minimum requirements. Collimators are utilized with the ultrasonic transducers which include a sound absorbing material to insure good sound transmission only along the axes thereof.

3,505,860
GEOLOGICAL SAMPLE TESTING APPARATUS

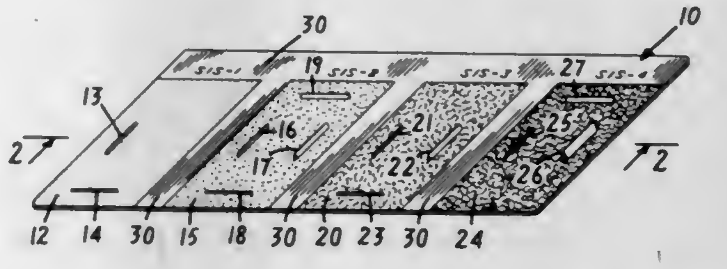
Alan W. Bishop and Angus E. Skinner, London, England, assignors to Wykeham Farrance Engineering Limited
Filed Oct. 20, 1967, Ser. No. 676,948
Claims priority, application Great Britain, Oct. 28, 1966, 48,380/66
Int. Cl. G01n *3/00, 3/08*
U.S. Cl. 73—94 4 Claims

A geological sample testing cell having a chamber within which a sample way be placed between a ram and a platten leaving a space around the sample into which hydraulic fluid may be introduced to apply pressure to the sample, the ram affording a piston surface within a cylinder substantially equal in area to the area of the ram and arranged to act in the same direction as the ram, the cylinder being in communication with the space containing the hydraulic fluid.



3,505,861
CAST SURFACE COMPARISON STANDARD

Ernest A. Schoefer, Garden City, N.Y., and Gordy E. Loftin, Moorestown, N.J., assignors to Alloy Casting Institute, New York, N.Y., an unincorporated association of New York
Filed Mar. 4, 1968, Ser. No. 710,257
Int. Cl. G01b *5/28*
U.S. Cl. 73—105 4 Claims

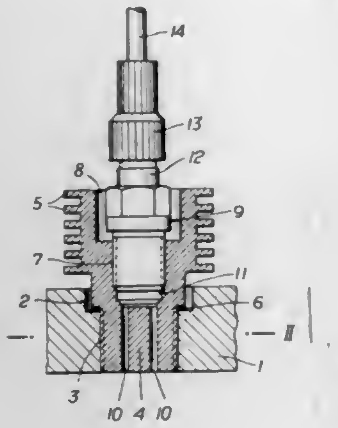


The device described is a standard scale used for classification of surface finishes of castings and the like by visual and/or tactile comparison. The scale includes a plurality of separate areas, each formed with a particular standard overall roughness, against which the casting surface to be classified is compared. In addition, each area of the scale is provided with a number of raised protrusions of predetermined heights representing standardized classifications of irregularities on the general surface. Full grading of a particular casting surface includes a general smoothness figure and an irregularity rating, both obtained by visual and/or tactile comparison with the scale.

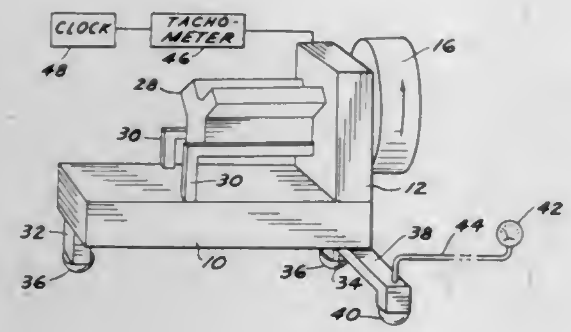
3,505,862
PIEZOELECTRIC PRESSURE MEASURING INSTRUMENT

Hans List, 126 Heinrichstrasse, Graz, Austria, and Rudolf Zeiringer, Graz, Austria; said Zeiringer assignor to said List
Filed Apr. 23, 1968, Ser. No. 723,436
Claims priority, application Austria, May 11, 1967, A 4,456/67
Int. Cl. G01l *23/10, 23/28*
U.S. Cl. 73—115 1 Claim

A piezoelectric measuring instrument for the measurement of high temperature ranges in which a transducer housing is provided with a measuring element with cooling members surrounding the housing and the cooling surfaces on the cooling members being in heat conducting contact with a wall of the housing.



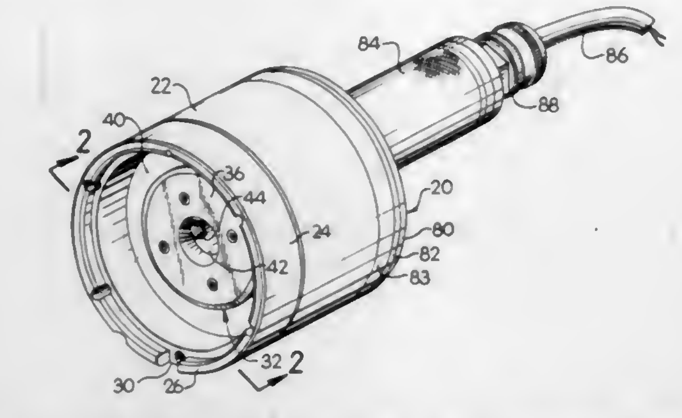
3,505,863
METHOD AND APPARATUS FOR TESTING THE ACCELERATION OF PRIME MOVERS
Carroll J. Lucia, Box 38, Suamico, Wis. 54173
Filed Oct. 24, 1967, Ser. No. 677,574
Int. Cl. G01m *15/00*
U.S. Cl. 73—116 7 Claims



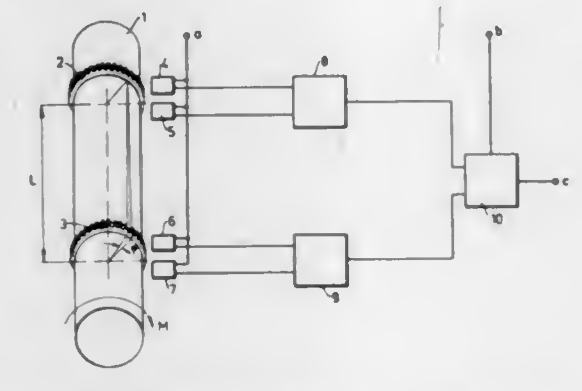
A prime mover is tested, according to the invention, by having its output shaft coupled to a flywheel of known inertia which is driven and accelerated from a first predetermined angular velocity to a second predetermined velocity. The time taken for accelerating the flywheel is measured, and the average torque developed by the prime mover is derived from the time taken to accelerate the flywheel. The continuous torque developed, during acceleration, by the prime mover is monitored by measuring the reaction force exerted by the flywheel upon its support during acceleration. Alternately, the invention provides for a test stand on which a prime mover may be tested while a second prime mover is being installed or disconnected, and for comparing the torque developed by a prime mover to the torque of a reference prime mover.

3,505,864
ENGINE TIMER
Arthur R. Crawford, Columbus, Ohio, assignor to Electronics Marketing Corporation, Columbus, Ohio, a corporation of Ohio
Filed Dec. 19, 1967, Ser. No. 691,894
Int. Cl. G01m *15/00*
U.S. Cl. 73—118 13 Claims

An engine timer for internal combustion engines adapted to be mounted on a distributor housing and used as an instrument to set the ignition timing with the engine in a static state. The instrument measures the relative angular rotation between the engine's distributor housing and distributor rotor with respect to a position wherein the ignition points have opened and is characterized by an angle of rotation indicator and means for energizing said indicator, at the instant the ignition points open, responsive to rotation of the distributor housing by the operator.



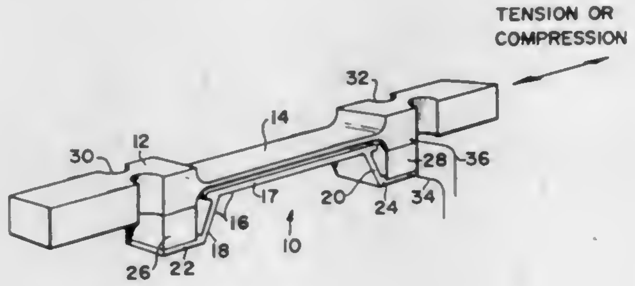
3,505,865
ARRANGEMENT FOR MEASURING ANGULAR DIFFERENCES
Gunnar Axel Kihlberg, Sollentuna, and Karl Erik Olof Byström, Bromma, Sweden, assignors, by mesne assignments, to Jungner Instrument Aktiebolag, Stockholm, Sweden
Filed Mar. 15, 1967, Ser. No. 623,444
Claims priority, application Sweden, Mar. 16, 1966, 3,468/66
Int. Cl. G01l *3/10*
U.S. Cl. 73—136 4 Claims



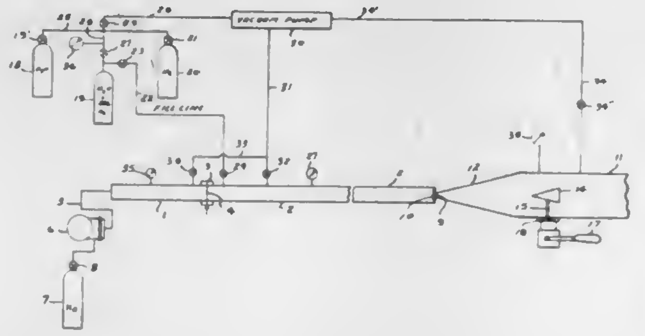
A system for measuring angular differences between two mechanical elements, such as toothed wheels, including a transmitter means, such as an inductive transmitter, operatively coupled to each of the mechanical elements and adapted to produce a voltage vector which varies 360 electrical degrees for each pitch of a tooth of the toothed wheel, and a comparison unit adapted to receive the voltage vectors and supply an indication of the angular difference between the mechanical elements, such as an output voltage directly proportional to the difference in phase angle between the voltage vectors. This system for measuring angular differences is preferably used for measuring torsion angles appearing in a shaft so that the torque acting on the shaft can be easily measured.

3,505,866
SINGLE TINE DIGITAL FORCE TRANSDUCER
Leon Weisbord, New York, N.Y., and Jerome Martin Paros, Darien, Conn., assignors to Singer-General Precision Inc., a corporation of Delaware
Filed Oct. 13, 1966, Ser. No. 586,408
Int. Cl. G01l *1/10*
U.S. Cl. 73—141 7 Claims

The invention comprises a flat, vibrating tine which, together with a pick-off and drive member which is also flat and closely spaced to the tine, form the respective plates of an electrical capacitor which is a part of the frequency determining circuit of an oscillator. The tine vibrates at frequencies which are variable with the force applied to the tine, either lower for compressive forces or higher for tensile forces. As the tine vibrates the spacing between the capacitor plates is changed whereby the oscillator is frequency modulated. The output of the oscillator is applied to a frequency demodulating circuit which removes the carrier frequency and provides as an output, a potential varying at a rate equal to the tine vibration frequency. To maintain vibration of the tine and make up for any losses, a portion of the output potential of the demodulator is superimposed on a direct potential which is applied across the capacitor plates. This drives the tine at its vibration rate. Thus, changes in vibration of the tine, as caused by changes in stress applied to it, produce output potentials from the demodulator which are indicative of both the direction and intensity of the applied force.



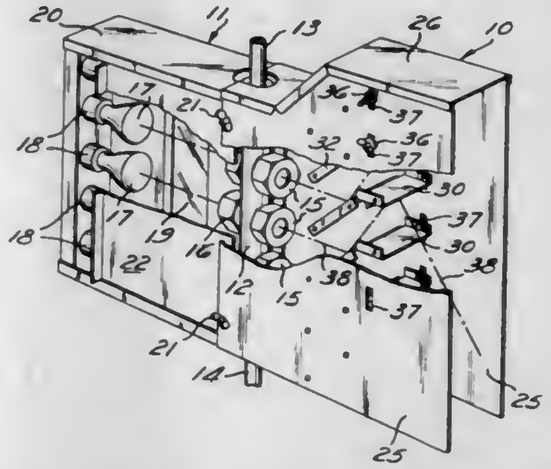
3,505,867
HIGH ENTHALPY AIR FOR HYPERSONIC SHOCK TUNNEL TESTING
Paul J. Ortwerth and Roger R. Craig, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 4, 1968, Ser. No. 695,682
Int. Cl. G01m *9/00*
U.S. Cl. 73—147 2 Claims



An economical method and apparatus for improving shock-tunnel performance by using room temperature helium in the driver tube and a mixture of one mole of nitrous oxide per .886 mole of nitrogen in the driven tube to produce air at increased stagnation temperatures. The mixture as introduced into the driven section of the shock tunnel has a pressure up to about .43 percent of the desired test stagnation pressure and the helium is introduced into the driver section at about 400 times the mixture pressure in the driven tube.

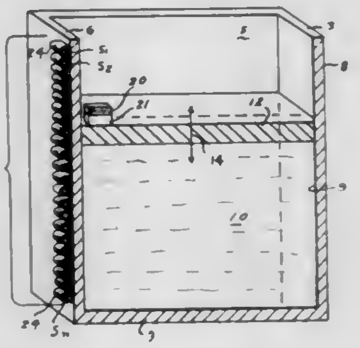
A diaphragm is positioned between the driver and driven sections of the shock-tunnel. When the diaphragm is ruptured to allow the helium to pass into the driven section, an explosion takes place and the nitrous oxide and nitrogen react to form air at high temperature. The end of the driven tube is closed off except for a relatively small opening through which the reaction air can move into the usual nozzle of a wind tunnel. This opening is temporarily sealed by an easily ruptured disk and the latter, before rupture, causes the column of air to be reflected immediately after the shock. The temperature of the air behind the shock rises sharply to rupture the disk and the air at high enthalpy, and with speed of 4 to 9.5 Mach number enters the wind tunnel to react on the model. The model is tested both aerodynamically and for the heat transfer rate in this manner.

3,505,868
VIEWING DEVICE FOR LIQUID LEVEL GAGES
Allan R. Goellner, Parma Heights, Ohio, assignor to The Clark-Reliance Corp., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 8, 1967, Ser. No. 681,400
Int. Cl. G01f *23/02*
U.S. Cl. 73—293 7 Claims



A viewing device for liquid level gages of the type having small ports through which light is projected through filters so that the ports show one color, such as green, where a liquid is present behind the ports and another color, such as red, where a gas is present. The apparatus comprises a hood containing a system of mirrors mounted adjacent to the ports of the gage and arranged so that the ports can be observed from a convenient location even though the gage itself may be many feet away.

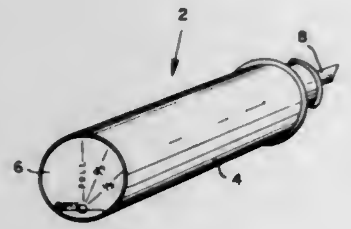
3,505,869
APPARATUS FOR MEASURING FLUID LEVEL IN A CONTAINER
Winford M. Crawford, Anaheim, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 17, 1968, Ser. No. 721,978
Int. Cl. G01f *23/12*
U.S. Cl. 73—313 2 Claims



Apparatus having a magnet movable according to changes in level of material content inside a container of non-magnetic material for passage of magnet flux that encompasses various magnetic reed switches located at differing levels externally of the container. The magnetic flux is utilized in circuitry having a battery, ammeter and plural impedances electrically connected in series with each other and having particular magnetically-operated reed switches connected to effect electrical shunt of one or more impedances, so that current flow indicated externally by the ammeter varies to represent internal level of container content.

3,505,870
PRESSURIZED CONTAINER WITH CONTENT INDICATOR

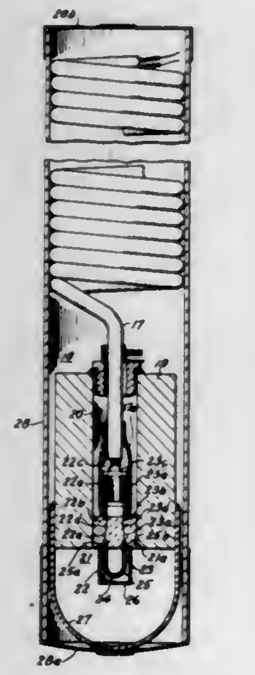
Jerry G. Smylie, Los Banos, Calif., assignor to Avoset Company, Oakland, Calif., a corporation of Delaware
Filed Aug. 7, 1968, Ser. No. 750,894
Int. Cl. G01f *23/02*
U.S. Cl. 73—323 **3 Claims**



A pressurized container has a window in its bottom wall spaced from the center of the bottom wall and adjacent the side wall of the container. Markings on the exterior of the bottom wall adjacent the window indicate the amount of fluid product in the container when the container is rotated with its axis substantially horizontal to a position where the fluid product shows through a predetermined portion of the window.

3,505,871
APPARATUS FOR DETERMINING THE TEMPERATURE OF A MOLTEN FERROUS BATH IN A BASIC OXYGEN FURNACE

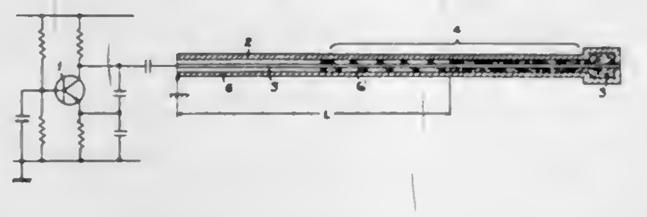
David W. Kern, Slatedale, and Philip D. Stelts, Center Valley, Pa., assignors to Bethlehem Steel Corporation, a corporation of Delaware
Filed Mar. 21, 1968, Ser. No. 714,820
Int. Cl. G01k *1/14, 7/04*
U.S. Cl. 73—359 **1 Claim**



Apparatus for obtaining a temperature measurement of a molten ferrous bath in a basic oxygen furnace. The apparatus includes a drop-in type thermocouple mounted in the bore of a dense forged steel member. The thermocouple is connected to a recording device by a cable. The drop-in thermocouple, the dense forged steel member and cable are contained in an elongated protective tubular member.

3,505,872
APPARATUS FOR MEASURING TEMPERATURE WITH DIGITAL READOUT

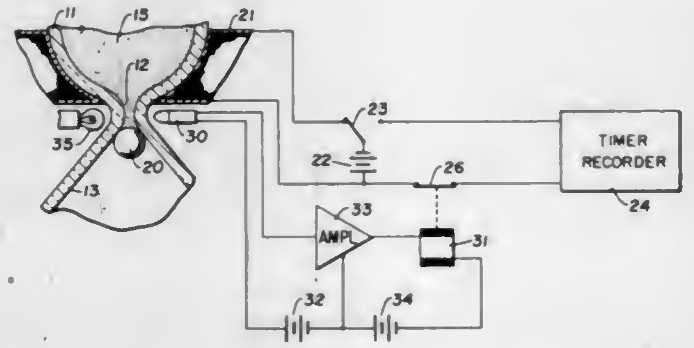
René Marolf, Baden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Apr. 5, 1968, Ser. No. 718,996
Claims priority, application Switzerland, July 14, 1967, 10,116/67
Int. Cl. G01k *5/18*
U.S. Cl. 73—368 **10 Claims**



A device for effecting a digital readout of a measurement of temperature employs a thermometer the liquid capillary column of which varies the length of a quarter-wave co-axial line of which the thermometer forms a part. The variable length of the line is coupled to and serves to effect a corresponding change in the output frequency of a variable frequency oscillator, and this variation in frequency output is utilized to actuate a digital counter up or down in accordance with the sense of the change in frequency.

3,505,873
MATERIAL FLOW GRAVITY METER

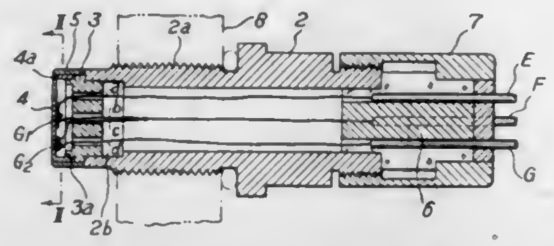
Boyd Cornelison, Edwin G. Millis, and Frederick E. Romberg, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 28, 1966, Ser. No. 590,258
Int. Cl. G01v *7/00*
U.S. Cl. 73—382 **7 Claims**



The disclosure is directed to a gravity measuring system including a vessel with upper and lower storage chambers communicating at an orifice and having a return channel coupling the lower chamber to the upper chamber. Fluid granular material is disposed in the upper chamber, with a stopper preventing the flow of the granular material through the orifice. Control structure is provided to actuate the stopper to abruptly open the orifice to initiate flow of the granular material to the lower chamber. The time interval required for all of the granular material to flow through the orifice is measured to provide a direct-indication of the ambient gravity of the gravity meter.

3,505,874
PRESSURE GAUGE INCORPORATING SEMI-CONDUCTOR TRANSDUCER

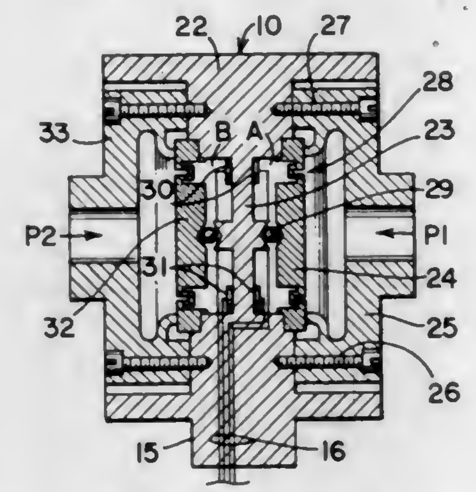
Yossimi Kato and Yasunori Muramatsu, Kariya, Aichi, Japan, assignors to Toyoda Machine Works Ltd., Kariya, Aichi, Japan
Filed Dec. 23, 1968, Ser. No. 785,988
Claims priority, application Japan, Dec. 27, 1967, 43/83,882
Int. Cl. G01l *9/04*
U.S. Cl. 73—398 **1 Claim**



A pressure gauge incorporating semi-conductor transducers includes a deformable disk diaphragm. Two transducer elements comprising two layers of monocrystal semi-conductor material having the same characteristics are bonded on one surface of the diaphragm. One of the transducer elements is bonded in a diametrical direction on a central portion of the diaphragm and the other of said transducer elements is bonded on an outer peripheral portion of the diaphragm in such manner that an angle between a normal passing over a point of said element and going toward the center of said diaphragm and the crystal direction of maximum sensitivity of the element is between 20° and 80°.

3,505,875
PRESSURE TRANSDUCER

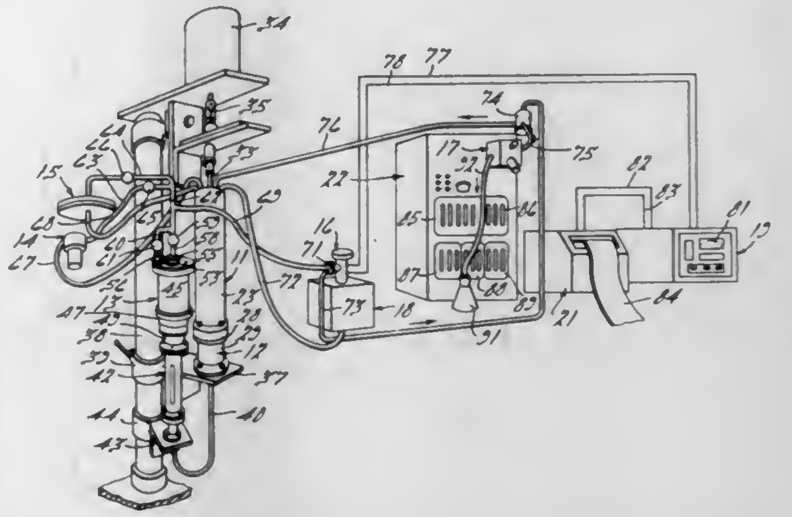
Darl Benner, Jr., Covina, Calif., assignor, by mesne assignments, to Genisco Technology Corporation, a corporation of California
Filed Mar. 14, 1968, Ser. No. 713,191
Int. Cl. G01l *7/08*
U.S. Cl. 73—407 **6 Claims**



A differential pressure transducer for indicating the difference between two absolute pressures with consistent sensitivity for different absolute values is provided. The invariant sensitivity for equal differential pressures under different absolute pressure values is realized by unique diaphragms for transducing the respective pressures into physical movements. Each diaphragm is in the form of a metal disc having its periphery rigidly and sealingly secured and its central portion free to move in a direction normal to the plane of the diaphragm. This movement is accommodated by annular axially directed wall portions of the disc defining flexures and formed by means of annular grooves. The flexure arrangement is such that radially directed components of the pressure force are canceled in the flexure means so that a consistent reaction force to a given differential pressure is provided independent of the absolute pressure.

3,505,876
FILTER EVALUATION EQUIPMENT

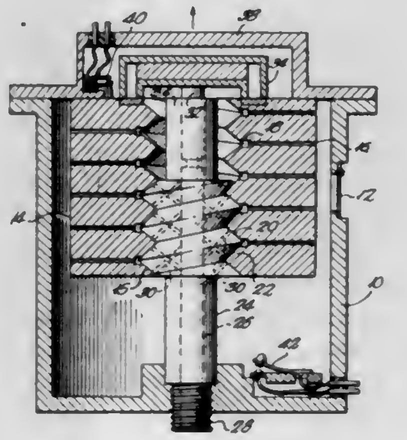
Louis F. Niebergall, Racine, Wis., assignor, by mesne assignments, to Tenneco Inc., Houston, Tex., a corporation of Delaware
Filed Feb. 8, 1968, Ser. No. 704,074
Int. Cl. G01n *15/02;* **B01d** *29/00*
U.S. Cl. 73—432 **13 Claims**



An apparatus for evaluating both the efficiency and the size of foreign particles removed from a fluid by a fluid filter. The apparatus includes a test housing having a specially formed cavity in which the filter to be tested is positioned and wherein a test fluid is directed through the filter. The special shape of the cavity precludes the settling out of foreign particles from the test fluid to insure against false efficiency readings. After the test fluid has passed through the fluid filter a sensing apparatus determines both the size of the particles remaining in the test fluid and the number of such particles. By continously recirculating the test fluid through the filter being tested and through the sensing apparatus, instantaneous readings of the filter efficiency and the size of particles removed from the test fluid may be determined.

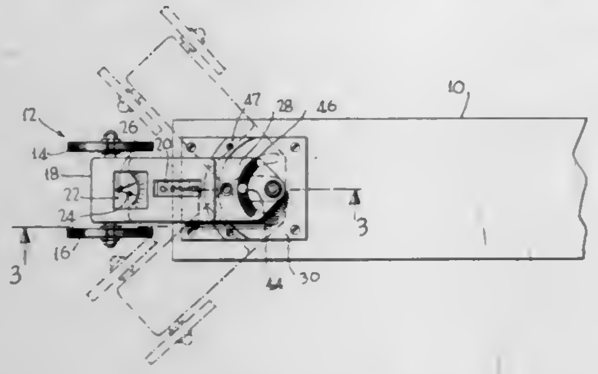
3,505,877
GAS-BEARING INERTIAL DISTANCE METER

Hugh E. Riordan, Wyckoff, N.J., assignor to Singer-General Precision Inc., a corporation of Delaware
Filed Nov. 21, 1966, Ser. No. 595,957
Int. Cl. G01p *7/00*
U.S. Cl. 73—490 **1 Claim**



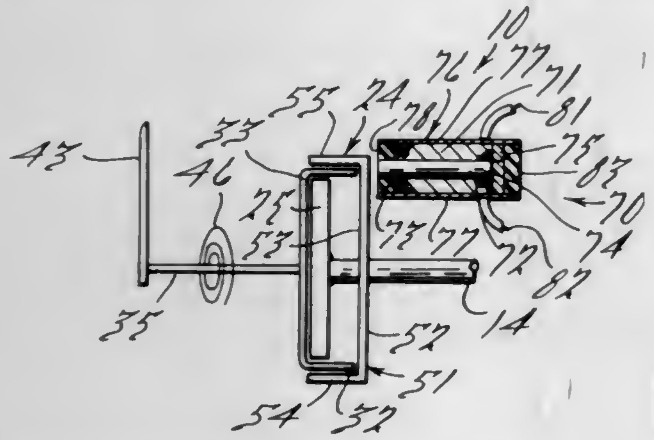
An accelerometer comprising a mass mounted on a helically threaded gas bearing screw so that acceleration causes the mass to move along the screw and E-bridge pickoff means disposed adjacent the mass to produce an output signal depending on the relative position of the mass along the screw.

3,505,878
SPEED AND DISTANCE INDICATOR FOR A SKI DEVICE
Edward W. Moll, 518 General Armstrong Road, King of Prussia, Pa. 19406
Filed Mar. 18, 1968, Ser. No. 713,890
Int. Cl. G01p *3/00*
U.S. Cl. 73—490 **8 Claims**



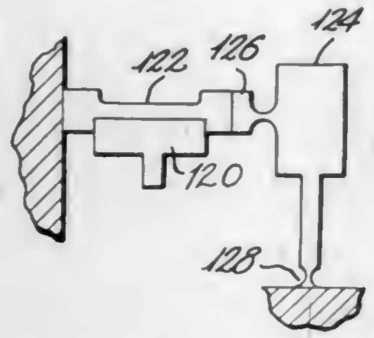
An indicator is mounted to a ski or surf board to engage snow or water to indicate the distance traveled, speed, or maximum speed attained by a skier or surf board rider. Inertia means are provided with the indicator so that the measurement continues when the skier or surfer is free of the snow or water. The indicator may be mounted to provide linear measurements for different directions of travel.

3,505,879
ELECTRICAL GENERATOR INCLUDING COMPONENTS OF AN AUTOMOTIVE VEHICLE MECHANICAL SPEEDOMETER
Lawrence J. Vanderberg, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed July 31, 1968, Ser. No. 749,091
Int. Cl. G01p *3/22*
U.S. Cl. 73—493 **10 Claims**



An electrical generator for producing periodically varying electrical energy for use in an automotive vehicle and having a frequency proportional to vehicle speed in which the stator of the electrical generator is mounted adjacent to or on the frame of a mechanical speedometer and includes means for producing a magnetic flux through an output coil or winding. The rotor of the electrical generator is the rotor of the mechanical speedometer that includes a magnetic and a body constructed of ferromagnetic material, commonly referred to as a flux collector. The magnet and the flux collector cooperate with means positioned in the speedometer for indicating the speed of the vehicle. The ferromagnetic means or flux collector also varies the flux through the output coil or winding periodically at a frequency proportional to the speed of rotation of this body of ferromagnetic material or the speed of rotation of the rotor of the speedometer thereby producing in the output coil or winding periodically varying electrical energy having a frequency proportional to vehicle speed.

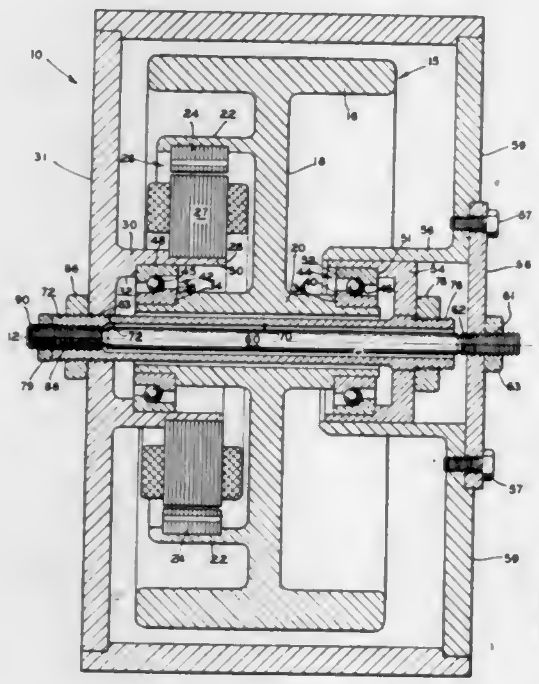
3,505,880
PNEUMATIC VIBRATORY DIGITAL SENSORS
Hugh E. Riordan, Wyckoff, N.J., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,679
Int. Cl. G01p *15/02*
U.S. Cl. 73—515 **13 Claims**



The patent specification and drawings disclose a pneumatic sensor which produces an output in the form of digital pulses that are representative of unknown quantities to be monitored, for example pressure or acceleration.

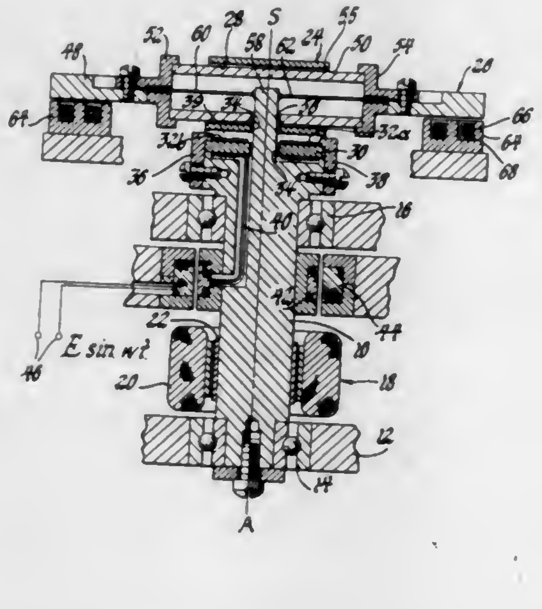
The sensor includes a coupling chamber defined by a base, side walls and a vibrating resonator element wherein fluid pulses are produced by the venting and closing of the chamber through control orifices formed by the chamber walls and the vibrating element. The frequency of vibration of the resonator element, which determines the frequency of the digital output pulses, varies with its axial load. When axial forces representative of variations in the quantity to be monitored are applied to the resonator element its vibrational frequency is changed thus changing the frequency of the digital pulse output, which thereby is representative of the monitored quantity.

3,505,881
PRESSURE COMPENSATED ROTOR MOUNTING
Horace M. Varner, Livingston, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed May 3, 1967, Ser. No. 635,862
Int. Cl. G01c *19/16*
U.S. Cl. 74—5 **4 Claims**



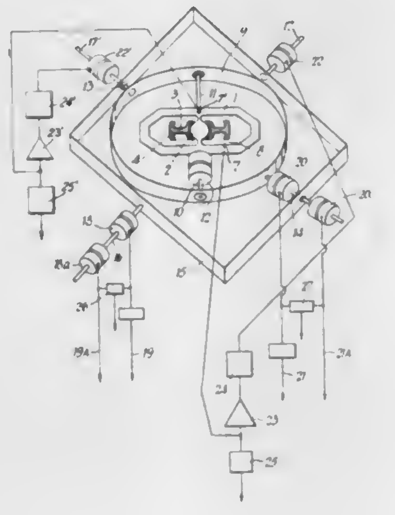
An assembly for mounting a hollow rotating member in a sealed casing, the casing being reinforced by a strut member extending through the hollow member and a cantilevered strut member attached to one end of the casing and extending through the hollow member, the cantilevered member being adjustable within the casing to preload the rotary ball bearings within which the rotor is mounted.

3,505,882
TUNED ROTOR SQUEEZE-FILM BEARING GYROSCOPE
Clarence A. Haskell, Marblehead, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 4, 1968, Ser. No. 695,674
Int. Cl. G01c *19/16, 19/28*
U.S. Cl. 74—5 **5 Claims**



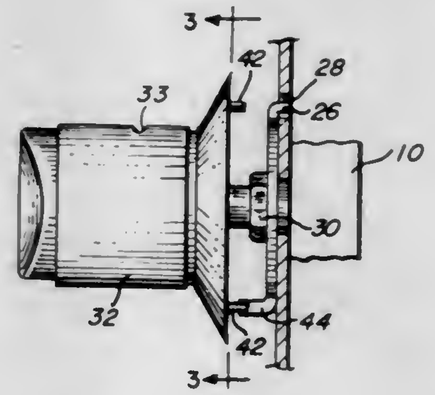
A gyroscopic instrument including a rotor having a spin axis and a squeeze-film gas bearing between the rotor and its support shaft to permit rotor deflection about an axis orthogonal to the spin axis.

3,505,883
GYROSCOPIC SYSTEMS
Malcolm F. Moulton, London, England, assignor to Elliott Brothers (London) Limited, Lewisham, London, a British company
Filed Nov. 8, 1967, Ser. No. 681,376
Claims priority, application Great Britain, Nov. 10, 1966, 50,478/66
Int. Cl. G01c *19/28*
U.S. Cl. 74—5.6 **6 Claims**



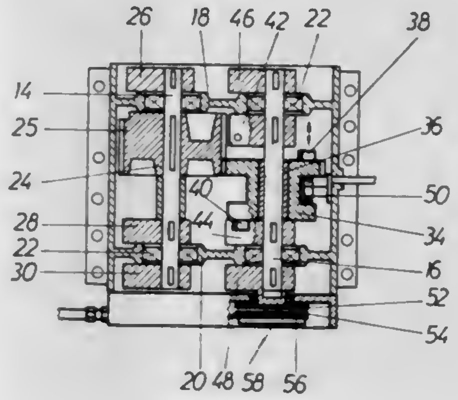
A self-monitoring aircraft gyroscopic system applicable to a gyroscope rotor spinning on a gas bearing. Capacitor pick-offs sense the gap between the rotor and the gyroscope frame in two axes at right angles to the spinning axis and together with servomotors on the gyroscope gimbal ring pivots, form two closed loop servosystems for detecting relative movement between the rotor and the frame.

3,505,884
ROTATION LIMIT DEVICE
Robert M. Ford and David W. Friday, Framingham, Mass., assignors to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed June 3, 1968, Ser. No. 733,893
Int. Cl. F16h *35/18*
U.S. Cl. 74—10.2 **5 Claims**



A knob mounted on the end of a rotatable shaft which extends through a control panel from an adjustable device supported on the rear side of the panel, the knob having a circular series of equally spaced holes in the panel side thereof, two of said holes containing removable pins which protrude from the panel side of the knob to define the maximum limits of clockwise and counterclockwise rotation of the knob. An anti-rotate washer orientates the adjustable device on the control panel and has a right angle tab which extends out from the control panel into the rotational path of the roll pins which protrude from the panel side of the knob.

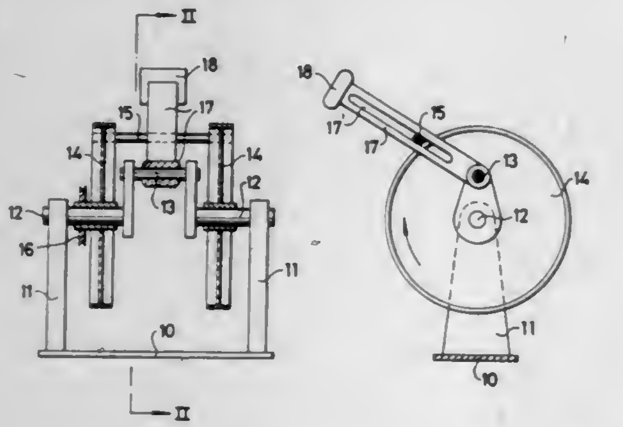
3,505,885
VIBRATION GENERATORS
Hans-Georg Waschulewski, Dusseldorf, Hans Bäumers, Dusseldorf-Gerresheim, and Hans Reinhart Lambertz, Kaarst, Germany, assignors to Losenhausen Maschinenbau Aktiengesellschaft, Dusseldorf-Grafenberg, Germany
Filed Mar. 12, 1968, Ser. No. 712,549
Int. Cl. F16h *33/20*
U.S. Cl. 74—61 **3 Claims**



A vibration generator constructed as directional vibrator with variable vibration orientation, has two counter-rotating unbalances in transmissive coupling with each other via a dog clutch which can be engaged in a plurality of clutch positions and can be indexed by definite angular amounts. One dog of said dog clutch is moved simultaneously into the path of a stop which corresponds to an adjacent clutch position when said dog clutch is disengaged from one clutch position. Said dog clutch is adapted to bear on said stop after the unbalance on the outward side is decelerated relative to the counter-rotating unblance on the input side.

3,505,886
HAMMERING VIBRATOR

Arne Hill, Gustav Adolfs vag 10B, Kalmar, Sweden, and Edvin Svante Lindell, Sundbyberg, Sweden; said Lindell, assignor to said Hill
Filed June 11, 1968, Ser. No. 736,217
Int. Cl. F16h *21/14*
U.S. Cl. 74—61 **4 Claims**

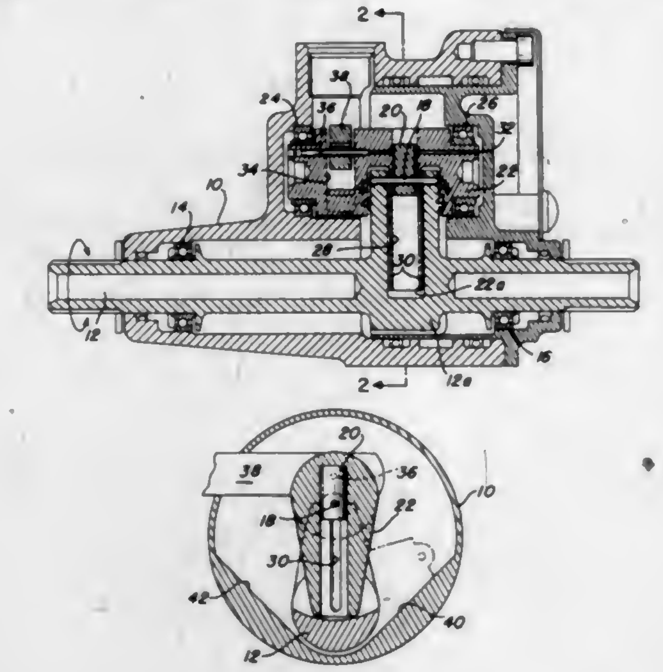


A hammering vibrator includes a weight secured to one end of a lever which is swingably supported by two parallel and spaced shafts, one of which forms part of a driver rotatable about a fixed axis while the other is eccentrically located relative to said fixed axis to determine the direction of maximum thrust exerted by said swingable weight, the connection between said weight lever and one of said two shafts permitting a fulcrum displacement in the direction between the weight and the other connection. Preferably the connection permitting the fulcrum displacement is the one between the weight lever and said eccentrically located shaft.

3,505,887
OVERTRAVEL MECHANISM

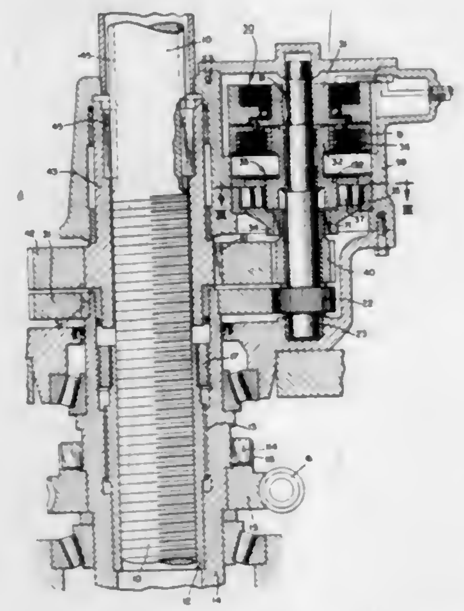
John P. Anderson, Encino, Calif., and Myrl E. Orme, Normandy Park, Wash., assignors to The Bendix Corporation, a corporation of Delaware
Filed Sept. 30, 1968, Ser. No. 763,901
Int. Cl. F16h *21/02*
U.S. Cl. 74—89 **7 Claims**

A mechanism is described for permitting a large angular travel in an input member to be converted to a very short linear translation of an output member. An input shaft is supported in a housing parallel with an intermediate shaft, with the said shafts carrying interlinking lever structures. The intermediate shaft carries a lever with a channel therethrough, and a block is slidable in the channel and pinned to the input shaft lever near its end such that when the input shaft is centered, the pin is located near the axis of rotation of the intermediate shaft. A second pin is carried in said intermediate shaft slightly displaced from its axis, and this pin drives an output member, whereby over a first range of movement of the input shaft movement of said output member is approximately linearly related to movement of the input shaft, over a second range movement of said output member becomes progressively less, and over a third range of movement of said input shaft said output member begins moving in the opposite direction.



3,505,888
ROTARY AND LINEAR DUAL MOTION VALVE OPERATOR

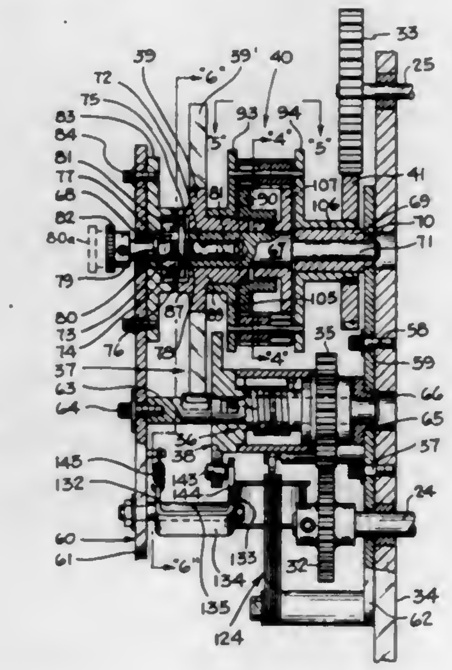
Walter J. Denkowski, King of Prussia, Pa., assignor to King of Prussia Research and Development Corporation, King of Prussia, Pa., a corporation of Pennsylvania
Filed Oct. 10, 1968, Ser. No. 766,518
Int. Cl. F16h *25/00;* **F16d** *3/24;* **F16k** *31/02*
U.S. Cl. 74—89.15 **15 Claims**



A valve operator is disclosed which in a typical application is used to control an alumina slurry valve. In normal operation, the alumina slurry valve operator raises and lowers the valve stem (to open and close the valve) by driving a nut rotationally while the stem is locked against rotation. The locking means includes a sleeve keyed to the stem and coupled through gears to a no-back drive. Torque sensing means sense that the valve seat of the alumina slurry valve should be scraped and cleaned. Clutch means are then engaged to utilize the no-back drive to drive the gear train to rotate the stem in the same direction and at the same time as the nut but at a slightly slower speed of rotation, thereby to move the rotating stem very slowly in the downward direction, thereby to scrape and clean the valve seat. In some cases, it will be preferable to utilize the no-back drive to drive the gear train to rotate the stem in the same direction and at the same time and at the same speed as the nut, thereby to rotate the stem to scrape the valve seat but without moving the stem downwardly.

3,505,889
DRIVE MEANS FOR RECORDER

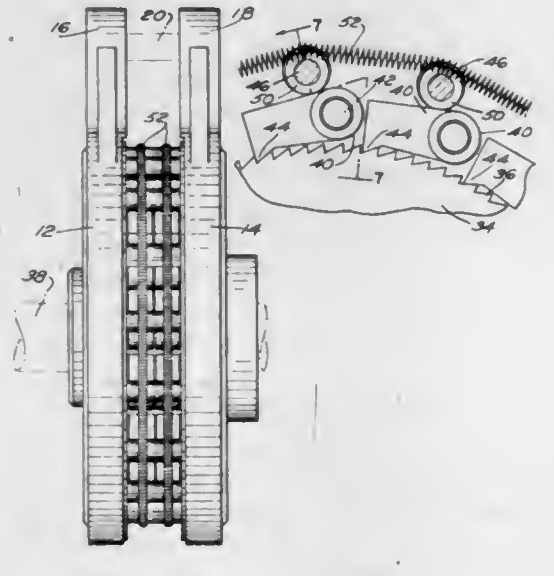
Hilding A. Anderson, Lake Zurich, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed May 22, 1968, Ser. No. 731,101
Int. Cl. F16h *1/44, 27/00*
U.S. Cl. 74—125.5 **18 Claims**



There is disclosed drive means for a recorder including a clutch selectively operable to drive a Geneva mechanism which in turn drives record feed wheels through a planetary gear mechanism. The planetary gear mechanism can be operated to effect either single or multiple line feed of a record medium.

3,505,890
MULTI-PAWL RATCHET INDEXER

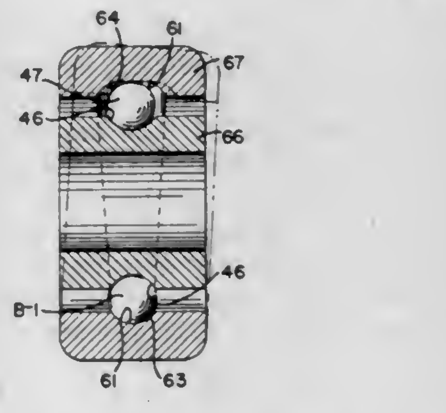
Carl G. Peterson, Esmond, R.I., assignor to Carl G. Peterson Co., Smithfield, R.I., a corporation of Rhode Island
Filed Nov. 20, 1968, Ser. No. 777,221
Int. Cl. F16h *27/02*
U.S. Cl. 74—142 **10 Claims**



A multi-pawl ratchet indexer for close tolerance feeding on any type of roll feed, comprising a ratchet wheel fixed to a shaft, a plurality of pawls extending around the periphery of the ratchet wheel, said pawls being arranged with respect to said ratchet teeth so that there is always at least one pawl in alignment with the driving edge of said teeth, said pawls being pivotally mounted between a pair of spaced plates with means for imparting oscillatory movement to said plates, whereby to intermittently drive said ratchet wheel with a minimum of backlash, and means normally urging said pawls into engagement with said ratchet wheel, said means also functioning to limit the outward movement of the pawls at a point where the pawls barely clear the ratchet wheel.

3,505,891
SELF-ALIGNING BEARING

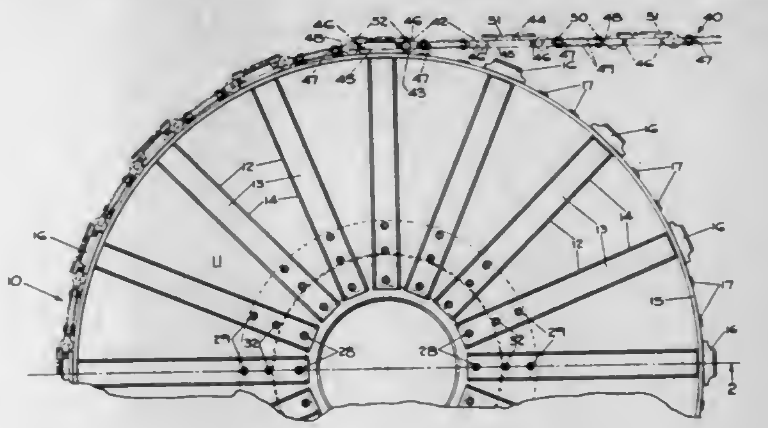
D. Eugene Smith, Rolla, Mo., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed May 23, 1968, Ser. No. 731,596
Int. Cl. F16h *21/16;* **F16c** *13/06*
U.S. Cl. 74—105 **8 Claims**



A self-aligning bearing for use in a crank and pitman drive linkage, comprising an inner ring having an outer annular raceway, a plurality of balls mounted on the raceway, an outer ring having an inner annular raceway aligned with the outer raceway for maintaining alignment of the balls. The inner raceway is configurated to provide a continuously variable transverse curvature, the curvature varying progressively from a minimum point to a maximum point, said minimum and maximum points being diametrically positioned. Such a bearing provides for a high load-carrying capacity in the area of minimum transverse curvature and permits lateral swinging movement of one member relative to the other about a ball positioned adjacent the minimum transverse curvature thereby effecting alignment of the parts.

3,505,892
LARGE DIAMETER SPROCKET WHEEL

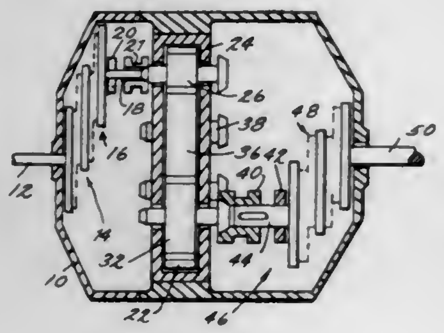
Richard B. Graham, Columbus, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed June 3, 1968, Ser. No. 733,925
Int. Cl. F16h *55/30*
U.S. Cl. 74—243 **4 Claims**



A large diameter sprocket wheel of simple construction, which is substantially rigid to support a chain on such sprocket wheel.

3,505,893
MULTIPLE SPEED INTERNAL GEAR TRANSMISSION

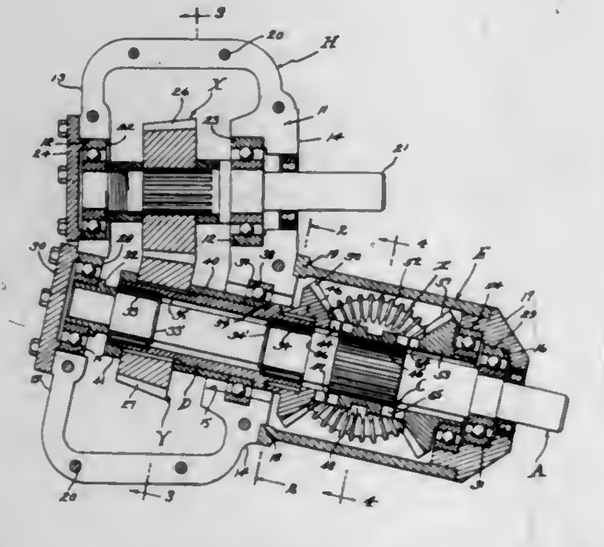
Richard Schmidt, 11525 Islandale,
Cincinnati, Ohio 45240
Filed Mar. 4, 1968, Ser. No. 710,025
Int. Cl. F16h *3/08*
U.S. Cl. 74—325 **10 Claims**



Increased gearing flexibility is achieved in a multiple speed internal gear transmission. A pair of flexible couplings are provided for a power input and an axially-aligned power output shaft so that each of the shafts is adapted to be radially displaced or shifted in a direction perpendicular to its respective axis. The power input may therefore be "plugged in" directly to any of a set of vertically-aligned power gears, all of which are in mesh with and mounted within a driven internal ring gear. After the power flows through one of the power gears, a radially displaceable output shaft permits a direct "plug in" power takeoff from any of the vertically-stacked power gears. The transmission thus provides a wide range of speed variations, while using a relatively small number of gear trains mounted in a compact housing.

3,505,894
REVERSIBLE SHAFT TRANSMISSION

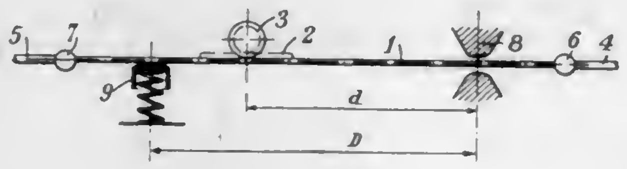
Henry T. Halibrand, 6469 Nancy St.,
Los Angeles, Calif. 90045
Filed Aug. 8, 1968, Ser. No. 751,279
Int. Cl. B63h *1/14;* **F16h** *3/14, 57/02*
U.S. Cl. 74—379 **16 Claims**



A transmission especially suited for marine use wherein a propeller driving countershaft is engaged and disengaged or reversed as to rotation, and provides an angle drive with or without speed change to the driven countershaft that extends reversely with respect to a driving power shaft, and wherein the said countershaft carries a surrounding drive shaft having the transmission gearing thereon and adapted to absorb the axial thrust thereof independent of the axial thrust imposed upon the countershaft by the propeller thrust.

3,505,895
RACK-AND-PINION STEERING SYSTEMS

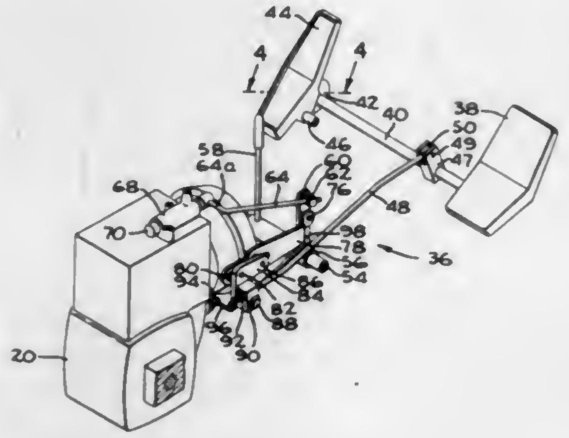
Raymond A. Ravenel, Sceaux, France, assignor to Societe Anonyme André Citroen, Paris, France
Filed Feb. 14, 1968, Ser. No. 705,382
Claims priority, application France, Mar. 15, 1967, 98,872
Int. Cl. F16h *1/04*
U.S. Cl. 74—422 **2 Claims**



Rack-and-pinion steering gear wherein the rack is slidably guided in a bearing and held in meshing engagement with the driving pinion by a push member, characterized in that said push member is off-set in relation to the driving pinion on the side opposite to that of said bearing.

3,505,896
HYDROSTATIC TRACTOR CONTROL APPARATUS

David H. Phillips, Port Washington, Wis., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 653,981, July 17, 1967. This application Mar. 6, 1969, Ser. No. 806,039
Int. Cl. G05g *11/00*
U.S. Cl. 74—481 **6 Claims**

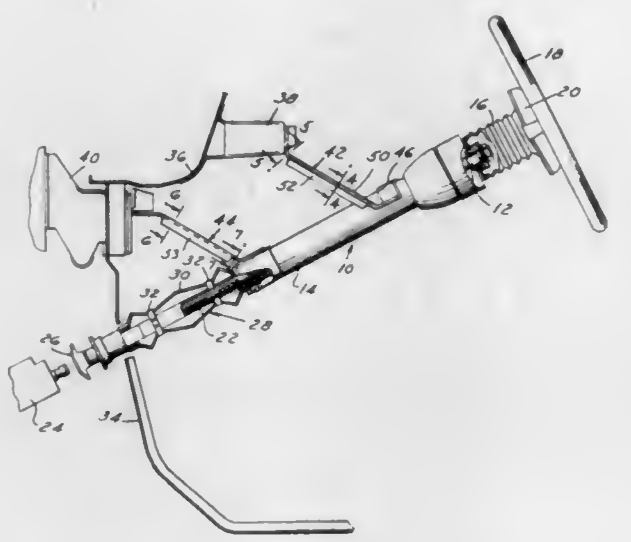


The speed and direction of a tractor, having a hydrostatic transmission coupled to a suitable internal combustion engine, is controlled by linkages connected to a foot operated pedal. A hand operated transmission lever is connected to the linkages. This lever may be positioned in a "park," "neutral" or "drive" position. In drive, forward movement of the tractor takes place when the pedal is rotated in the clockwise direction and the speed achieved is proportional to the degree of pedal rotation. For rearward movement the pedal is rotated in the counterclockwise direction with the speed in such direction also being proportional to the amount of pedal rotation.

3,505,897
ENERGY ABSORBING STEERING COLUMN

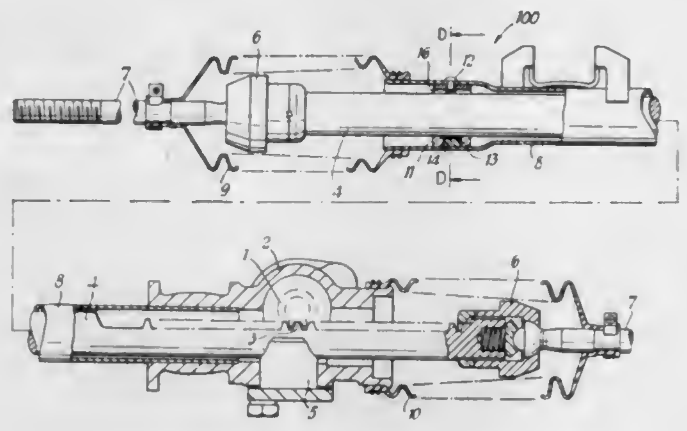
Clarence E. Scheffler, Detroit, and Garrett S. Van Camp, Farmington, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 27, 1968, Ser. No. 755,689
Int. Cl. B60r *21/02;* **B62d** *1/18*
U.S. Cl. 74—492 **8 Claims**

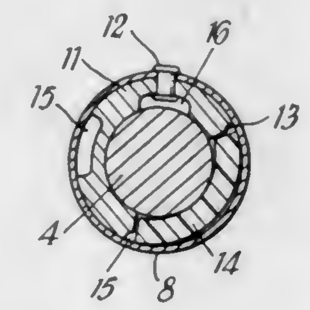
An energy absorbing steering column for a motor vehicle having sheet metal bracket members supporting the column from the instrument panel of the vehicle. The bracket members are constructed to buckle and absorb energy when an impact force is exerted on the upper end of the column.



3,505,898
STEERING GEAR ASSEMBLY

Kenneth Bradshaw, Clifton, England, assignor, by mesne assignments, to Cam Gears, Ltd., Hitchin, England, a British company
Filed Sept. 12, 1968, Ser. No. 759,271
Claims priority, application Great Britain, Sept. 12, 1967, 41,500/67
Int. Cl. B62d *1/20*
U.S. Cl. 74—498 **10 Claims**

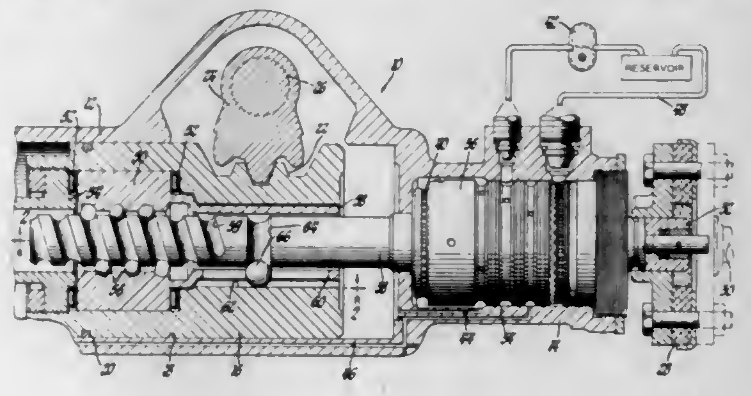




A rack and pinion steering gear assembly in which the rack bar is carried for longitudinal movement in a rack bar housing by means of a bushing mounted in the housing. The bushing includes a radial slot in which is disposed a plastic bushing which bottoms at opposite ends on the rack bar and on the inside surface of the rack bar housing to apply a radial force on the rack bar to dampen out shock forces which may emanate from the steered wheels and which may cause rattle of the rack bar.

3,505,899
VARIABLE RATIO STEERING GEAR

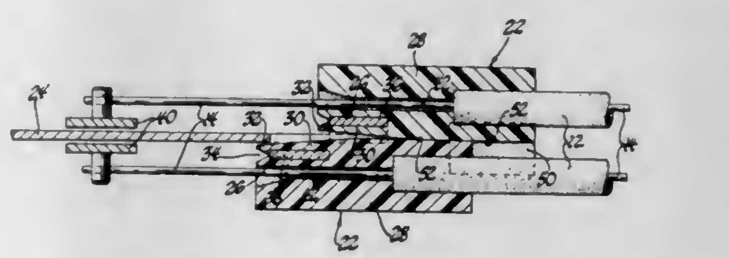
Duane K. Dye, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1968, Ser. No. 756,512
Int. Cl. B62d *1/20*
U.S. Cl. 74—499 **6 Claims**



A variable ratio automotive steering gear unit includes a reciprocable input member formed with gear teeth meshing with cooperating gear teeth on an output sector driving the pitman shaft, and a constant lead screw engaged by a recirculating ball connection with a nut mounted within the input member in a manner providing unitary reciprocation of the nut with the input member but rotation of the nut about the axis of the screw relative to the input member. A lead modulating cam causes predetermined such relative rotation of the nut during its reciprocation unitarily with the input member whereby to modulate the linear displacement of such unit per increment of screw rotation to effect a variable reduction ratio between the screw rotation and the pitman shaft rotation.

3,505,900
MOTION TRANSMITTING REMOTE CONTROL ASSEMBLIES

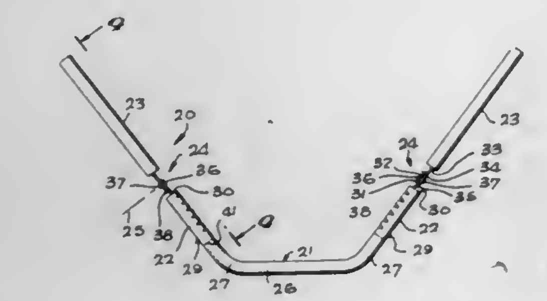
Peter A. Stahr, Pontiac, Mich., assignor to Teleflex, Incorporated, North Wales, Pa., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,395
Int. Cl. F16c *1/14, 1/16;* **F16l** *3/22*
U.S. Cl. 74—501 **17 Claims**



A pair of motion transmitting remote control assemblies with each including a flexible conduit with a fitting of organic polymeric material attached to one end of the conduit. A motion transmitting core element is movably disposed in the conduit and extends from the fitting. The fitting includes an opening extending therethrough as defined by a flexible lip so that the fitting may be disposed in engagement with a support structure whereby the support structure extends through the opening of the fitting. Each fitting also includes a groove and lug extending from opposite sides thereof so that the fittings of the two control assemblies can be connected together. Such fittings, when connected together, are attached to a support means comprising a plate with portions extending from opposite sides thereof to define adjacent straps with these straps being disposed in the openings of the respective fittings. The fittings are longitudinally offset from one another so as to be attached to the side by side straps of the support plate. The core elements extend along opposite faces of the support plate and are attached to control elements.

3,505,901
APPARATUS FOR CUSTOM HANDLEBAR SELECTION

Frank G. Stone, Long Beach, Calif., assignor of one-half to Peter Mead, Canoga Park, Calif.
Filed June 21, 1968, Ser. No. 749,553
Int. Cl. B62k *21/16*
U.S. Cl. 74—551.4 8 Claims



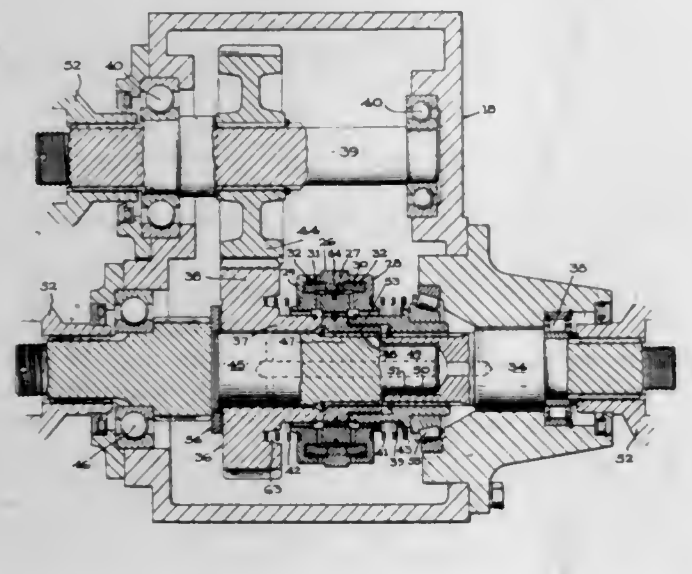
Apparatus for individual pre-manufacture selection of motorcycle handlebars and the like. The apparatus comprises a generally U-shaped central member, the end portions of which are inserted into substantially cylindrical extension members. The extension members are attached to handles by articulating joints which permit selection of the angle of attachment. Translation and rotation of the cylindrical members with respect to the end portion permit selection respectively of handlebar length and handle orientation. Appropriate scales are provided for recording the selected configuration, the scales facilitating ready fabrication of the desired custom handlebar.

ERRATUM

For Class 74—626 see:
Patent No. 3,505,912

3,505,902
TRANSFER CASE DIFFERENTIAL MECHANISM

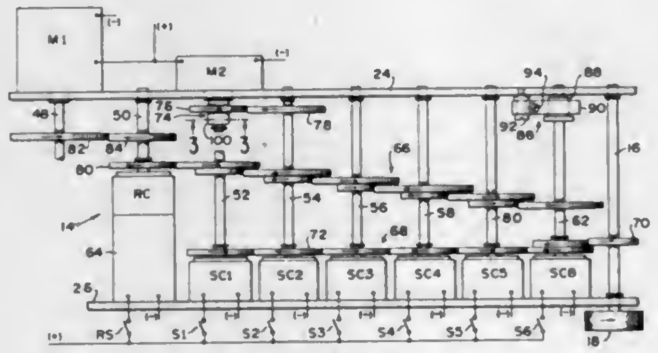
Albert F. Myers, Berkley, Mich., assignor to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Original application June 7, 1967, Ser. No. 644,240, now Patent No. 3,451,496, dated June 24, 1969. Divided and this application Dec. 9, 1968, Ser. No. 803,503
Int. Cl. B60k *17/30;* **F16h** *35/04*
U.S. Cl. 74—650 4 Claims



A transfer case differential mechanism of the automatic overrunning or declutching type for an automotive vehicle having a plurality of driving axles wherein the power input to the differential is provided internally by a driving shaft which is coaxial with the elements of the differential, the outputs are delivered to parallel shafts, one of which is coaxial with the driving shaft, by an external gear and a side gear, respectively, and all of the parts of the differential are supported by the coaxial driving and driven shafts without the use of a conventional rotatable differential case.

3,505,903
MULTIPLE SPEED DRIVE

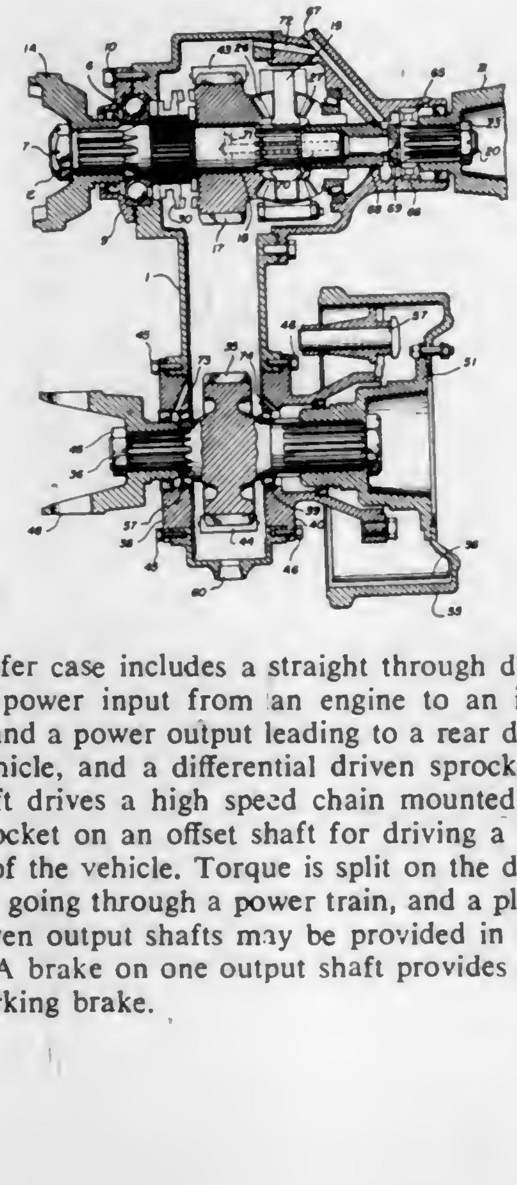
Albert M. Grass, 101 Old Colony Ave., Quincy, Mass. 02170
Filed Apr. 8, 1968, Ser. No. 719,519
Int. Cl. F16h *37/06*
U.S. Cl. 74—661 5 Claims



A multiple-speed drive for a strip chart recorder has a number of shafts interconnected by a train of spur gears and rotated at different speeds. Plural continuously rotating motors are adapted with overrunning clutch means to import a selected speed to the shafts. A second train of mutually engaged spur gears are freely turnable on the shafts, each gear having a clutch for selective engagement with its shaft, the train being connected to an output drive wheel.

3,505,904
CHAIN DRIVE TRANSFER CASE

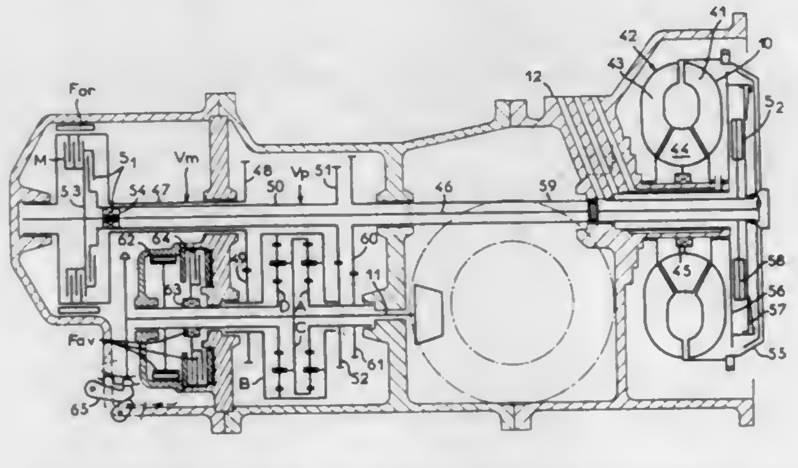
Arthur Murray Williams, Jr., Lakewood, Colo., assignor, by mesne assignments, to The American-Coleman Company, Littleton, Colo., a corporation of Delaware
Filed June 17, 1968, Ser. No. 737,659
Int. Cl. F16h *1/38, 37/08, 57/10*
U.S. Cl. 74—665 9 Claims



A transfer case includes a straight through drive shaft having a power input from an engine to an input differential and a power output leading to a rear differential of the vehicle, and a differential driven sprocket on the drive shaft drives a high speed chain mounted over another sprocket on an offset shaft for driving a front differential of the vehicle. Torque is split on the drive shaft instead of going through a power train, and a plurality of chain driven output shafts may be provided in the transfer case. A brake on one output shaft provides a positive action parking brake.

3,505,905
TRANSMISSION ESPECIALLY FOR AUTOMOBILE VEHICLE

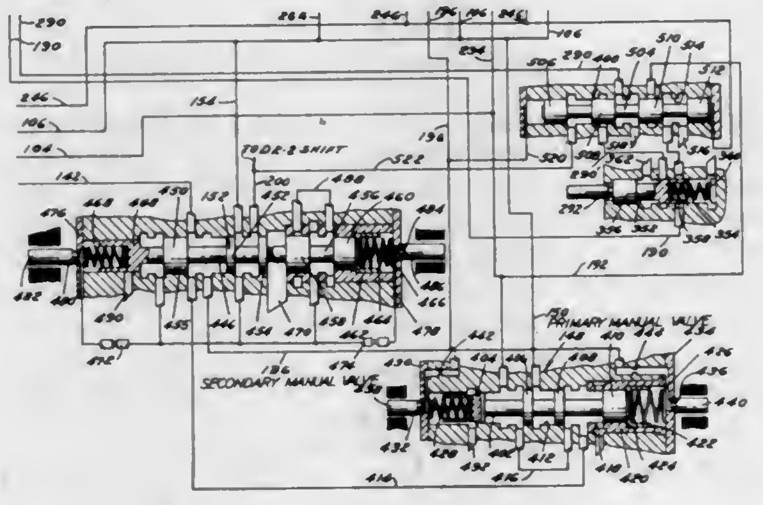
Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Aug. 3, 1967, Ser. No. 658,230
Claims priority, application France, Aug. 16, 1966, 73,509; July 26, 1967, 115,688
Int. Cl. F16h *47/08*
U.S. Cl. 74—688 5 Claims



A known planetary gear train has four elements, the first of which may be free or coupled to the input, the second of which may be free or coupled or immobilized, the third of which is permanently connected to the output, and the fourth of which may be free or immobilized. This known gear train is improved by inserting, between the input and the first element, a ratio-varying means in the form of at least two selectively engageable clutches of different driving ratios. This does not modify the middle forward drive, but modifies in the same direction the reverse and low forward drives, and modifies in the opposite direction the high forward drive.

3,505,906
REMOTE CONTROL TRANSMISSION RANGE SELECTOR VALVE FOR AN AUTOMOTIVE VEHICLE POWER TRANSMISSION MECHANISM

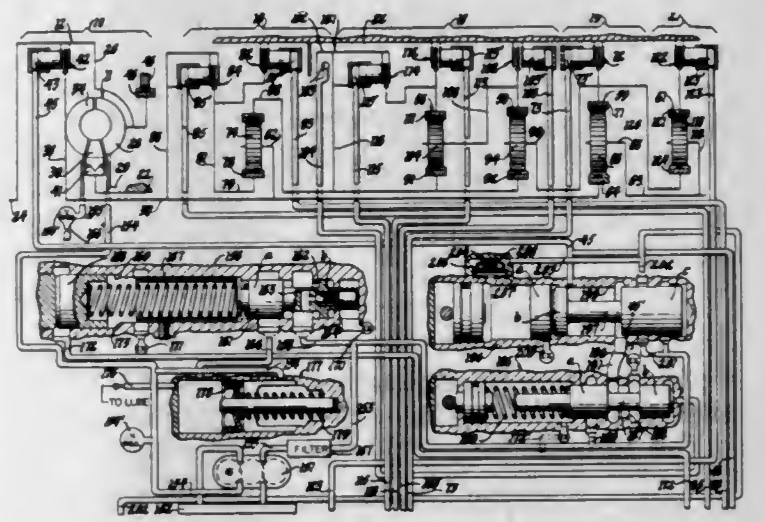
George E. Lemieux, Livonia, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 20, 1968, Ser. No. 706,933
Int. Cl. B60k *21/06;* **F16h** *5/60*
U.S. Cl. 74—753 6 Claims



This specification discloses an electric solenoid operated manual selector valve for the control system of an automatic vehicle power transmission mechanism. Multiple forward drive ranges are established by appropriately positioning movable valve elements to each of several fixed positions, which will permit distinctive valve functions, including three forward driving operating modes and a single reverse drive operating mode. Each of the movable elements of the manual valve system is controlled by pilot valves, which in turn are actuated remotely by means of driver-controlled solenoid operators. The manual valves acting in cooperation with each other and with a downshift blocker valve distribute selectively control pressure to various regions of the circuit thereby initiating the desired circuit functions.

3,505,907
TRANSMISSION AND CONTROLS

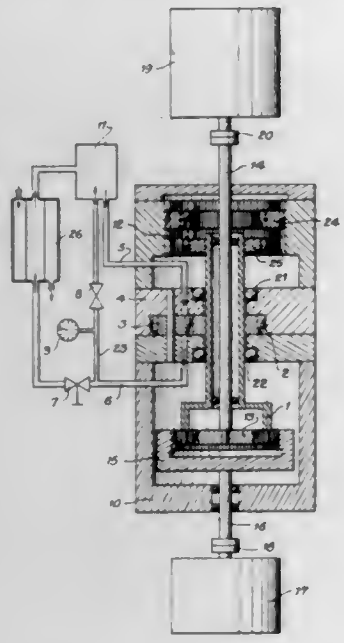
Joseph R. Fox, Brownsburg, Jerry R. Marlow, Greenwood, and Robert H. Schaefer, Westfield, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 4, 1968, Ser. No. 718,702
Int. Cl. F16h *5/02, 5/34*
U.S. Cl. 74—753 19 Claims



A transmission is disclosed having a reverse and plural forward ratio range unit and a two ratio splitter unit having a control system having a shift valve for each range ratio and a splitter shift valve for the splitter unit. A fluid supply is connected to the highest forward ratio shift valve which when upshifted engages the highest forward ratio and when downshifted feeds the next lower forward shift valve. Each forward shift valve functions in the same manner and the lowest forward shift valve feeds the reverse shift valve. The range shift valves are spring biased to upshift position, biased to downshift by fluid in a downshift chamber which may be vented by an upshift solenoid vent valve and biased or held upshifted by fluid in an upshift chamber controlled by adjacent shift valves and/or unblocking solenoid vent valves to provide a latching device. For upshifting, the higher ratio shift valve first upshifts to effect the ratio shift and then the lower ratio shift valve downshifts to latch the higher ratio shift valve upshifted. On some upshifts the lower ratio exhaust is free until the lower ratio shift valve downshifts and then is restricted until the trimmer regulator valve increases the engaging pressure for the higher ratio to a pre-determined value. For downshifting, the lower ratio shift valve first upshifts to unlatch the higher ratio shift valve for its downshift to effect the ratio shift. On downshifts the exhausts are free or restricted. On a 4–5 shift where both a range and splitter ratio are engaged and disengaged, the engagement time is longer because two motors are actuated so the exhaust from two motors diengaging is restricted by the exhaust control valve normally used to control the exhaust from one motor. The latching system will hold any properly upshifted range shift valve in upshift position until the next lower or any higher shift valve is upshifted or an unblocking solenoid is activated. When a solenoid does not operate on command or operates without command some forward ratio drive ratio will remain operative.

3,505,908
TRANSMISSION UNIT

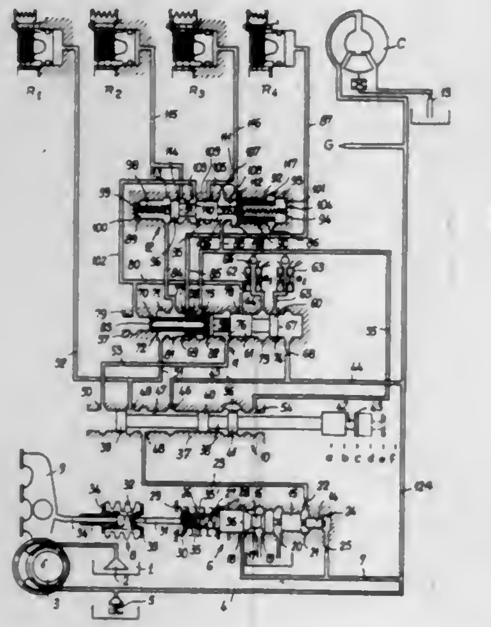
Bruno Herrmann, Bridgeport, Conn., assignor to Motoren- und Turbinen-Union, Munich, Germany
Filed Apr. 29, 1968, Ser. No. 724,713
Claims priority, application Germany, Apr. 29, 1967, M 73,794
Int. Cl. F16h *3/44;* F16d *57/06*
U.S. Cl. 74—790 7 Claims



A planetary gear joined to a drive shaft is hydraulically clutched to a driven shaft by gear pumps. Reduction of the fluid flow through the pumps engages the clutch.

3,505,909
HYDRAULIC CONTROL DEVICES FOR AUTOMATIC TRANSMISSION OF AUTOMOTIVE VEHICLES

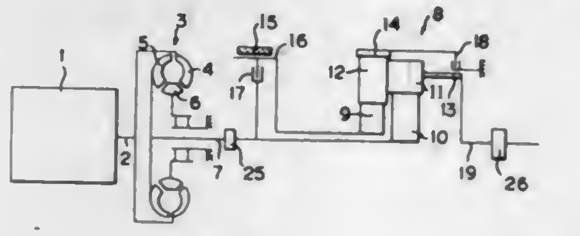
Jean Maurice, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, and Automobiles Peugeot, Paris, France
Filed Apr. 4, 1968, Ser. No. 718,893
Claims priority, application France, May 3, 1967, 105,119
Int. Cl. B60k *21/14*
U.S. Cl. 74—864 8 Claims



A valve for regulating the pressure of the fluid delivered to the transmission receivers is associated with a variable-elasticity connection responsive to the suction in the induction manifold of the vehicle engine, and a manual shift valve coupled with electric control means and capable of producing the various conditions of operation of the transmission is associated with a hydroelectric control valve having electric control means and a relay valve permitting an additional regulation of the pressure of the fluid delivered to said transmission receivers.

3,505,910
SPEED CHANGE CONTROL DEVICE FOR THE AUTOMATIC TRANSMISSION CONTROL SYSTEM USED FOR AUTOMOTIVE VEHICLES

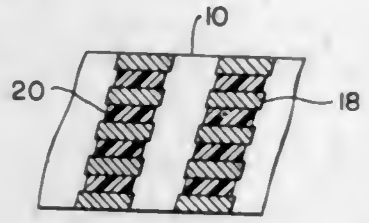
Tetsuo Shimosaki, Hiroshima-ken, Japan, assignor to Toyo Kogyo Kabushiki Kaisha, Hiroshima-ken, Japan, a corporation of Japan
Filed Mar. 1, 1968, Ser. No. 709,714
Claims priority, application Japan, Mar. 7, 1967, 42/14,567
Int. Cl. B60k *21/04*
U.S. Cl. 74—864 2 Claims



This invention provides an improved speed change or transmission control device for automotive vehicles by effectively controlling the neutral time of the speed change gears, especially when a down shift operation is carried out, by providing two governor valves on the drive shaft and driven shaft, respectively, which are arranged in front of and behind the speed change gear, respectively, to control the opening and closing operation of the shift control valve by detecting the speeds of rotation of the drive and driven shafts.

3,505,911
METHOD OF MAKING A GEAR SHAVING CUTTER

Russell W. Anthony and Warren C. McNabb, Detroit, Mich., assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Nov. 21, 1967, Ser. No. 684,796
Int. Cl. B21k *21/00*
U.S. Cl. 76—101 16 Claims

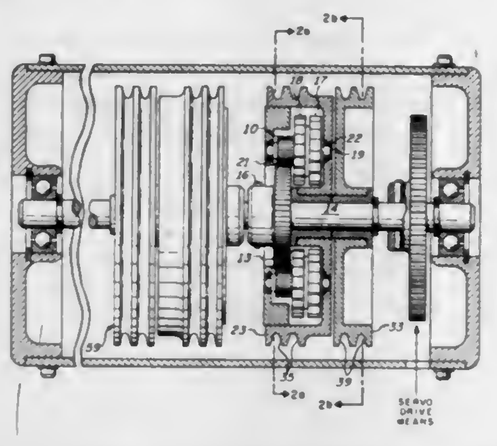


A gear shaving cutter in the form of a steel gear having its teeth provided with a plurality of slots separating each tooth into a plurality of axially separated blades, the space between the blades of each tooth being substantially filled with a plastic material preferably yieldable and resilient, bonded to the adjacent side surfaces of the blades and supporting them against lateral thrust.

3,505,912
CLUTCH MECHANISM

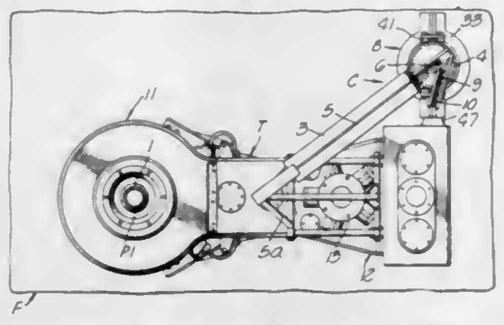
Harry Miller, Scottsdale, Ariz., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Sept. 26, 1968, Ser. No. 762,831
Int. Cl. F16h *5/10*
U.S. Cl. 74—626 9 Claims

A clutch apparatus having a first drive member disengageably connected to an output member by means of a sun and planet gear arrangement coacting with contradirectionally operative ratchet mechanisms for driving both the output member and a second input member when coupled thereto, the second drive member being operative to actuate the ratchet mechanisms so as to disengage the first drive member and independently control the position of the output member.



3,505,913
POWER TONG CRANE

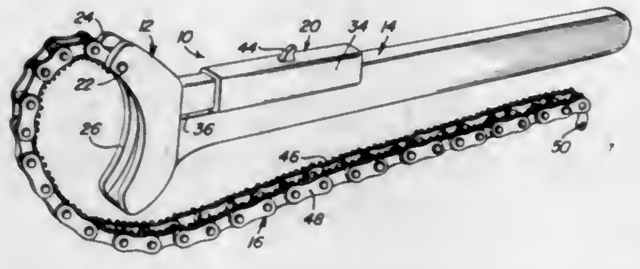
John L. Dickmann, Whittier, and Garth F. Nicolson, Huntington Beach, Calif., assignors to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,812
Int. Cl. B25b *13/50, 29/00*
U.S. Cl. 81—57.35 17 Claims



A crane for power well pipe tongs in which the crane includes a boom supported on a post and the power tong assembly is supported by a pair of cable actuated within the post to raise and lower the tong assembly, one cable being connected to the pivot support for the tong assembly and the other cable being connected to the tong assembly, and the boom being swingable between positions at which the tong head overlies the well bore or is located to one side of the well bore.

3,505,914
CHAIN WRENCH

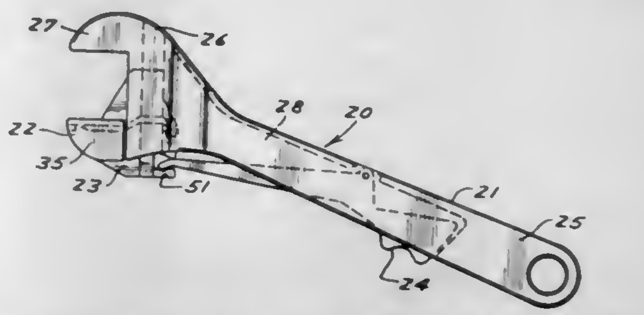
Virgil M. Ockinga, Morrill, Nebr. 68824 (G.D., Cairo, Nebr.)
Filed Oct. 24, 1967, Ser. No. 677,518
Int. Cl. B25b *13/52*
U.S. Cl. 81—66 9 Claims



A chain wrench for pipe in which an arcuate jaw extending laterally from the wrench handle is spaced throughout from the pipe by pipe gripping elements projecting from the link chain. The jaw thus provides backing for the chain when engaged with a pipe for a substantial circumferential distance about the pipe. A spring-biased hook slidably mounted on the handle maintains tension on the chain when engaged with the pipe.

3,505,915
SELF-ADJUSTING AND LOCKING WRENCH

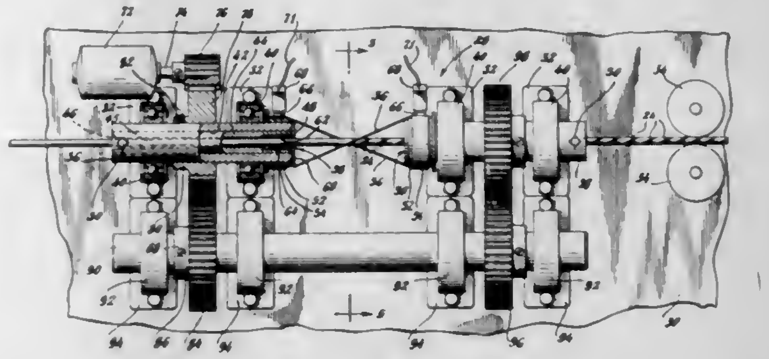
Edmund W. F. Rydell, % The Rydell Company, 2328 N. 2nd St., Minneapolis, Minn. 55411
Filed Dec. 12, 1967, Ser. No. 689,863
Int. Cl. B25b *7/02*
U.S. Cl. 81—355 8 Claims



An open end adjustable wrench having a fixed jaw on a body member, opposing movable jaw means mounted in a slide on the body member and spring tensioned to close toward the fixed jaw, and a lever pivoted to the body member and connected to the movable jaw means to move the same in an opening direction to engage a workpiece. The movable jaw means is made up of a plurality of jaws independently mounted in the slide to tilt and bind therein when pressure is transmitted from the jaw to a workpiece so as to lock the jaw means in workpiece holding position.

3,505,916
SPIRAL STRIPED INSULATOR CONDUCTOR AND SPIRAL STRIPING MEANS

Adolph W. Brandt, 124 Los Angeles Ave., Stratford, Conn. 06497
Filed May 15, 1968, Ser. No. 729,248
Int. Cl. B23b *3/06*
U.S. Cl. 82—54 5 Claims

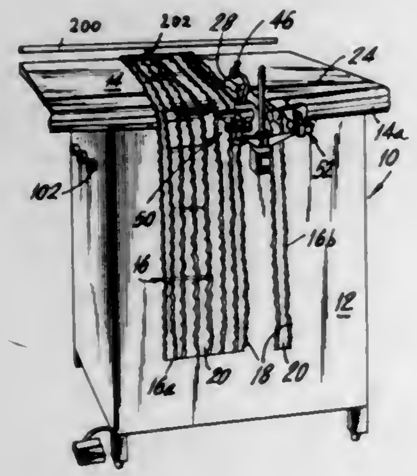


A spiral striping die for cutting through a portion of the plastic insulation of a longitudinally moving insulated conductor including axially spaced rotatable spindles having conductive rings mounted on the facing ends thereof. Electrically heatable cutting wires are secured to the conductive rings and are positioned to contact the central axial insulated conductor. A heating circuit including conductive shoes connected to a suitable power source are in continuous sliding engagement with the conductive rings. The rotable spindles are synchronously driven by a driving arrangement to rotate the heated cutting wires over the surface of the moving insulated conductor.

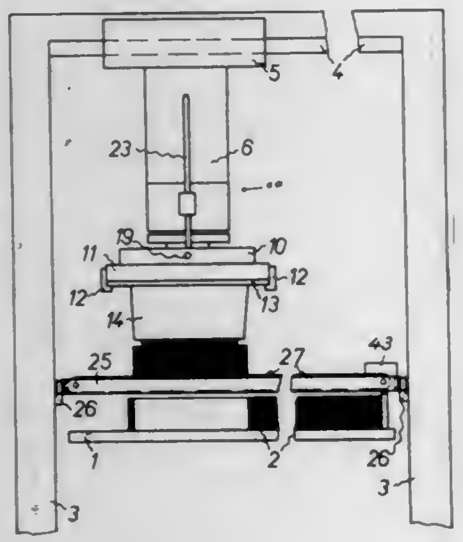
3,505,917
DEVICE FOR CUTTING ALONG CURVED EDGE OF EMBROIDERED MATERIAL

Alfred A. Heitzman, 303 Park St., Moonachie, N.J. 07074
Filed Mar. 11, 1968, Ser. No. 712,115
Int. Cl. B26d *5/00, 7/06*
U.S. Cl. 83—72 14 Claims

A device for continuously cutting textile material such as embroidered material having thickened scallops or curved patterns to separate the material along curved cutting lines includes a continuously rotating circular cutting knife which projects outwardly through a slot on a cutting table in a position to cut the material into two separate parts which are conveyed outwardly in separate feeding paths on each side of the knife by two separate roller sets, each including an upper and lower roller and an engagement roller carried on a slide which may be moved along from the other two to position the material therebetween. A feature of the invention is that the construction and arrangement of the roller sets is such that they operate to pull the material through the circular cutting knife from each side thereof in a manner insuring that the knife will cut the material over the curved outline of the scallops formed on the material in a uniform and even manner and without stopping or damaging the material by cutting improperly. The device includes a thickness control gauge between which the fabric material is passed and which permits passage of the material without the raised scallop portion but not of the portions thereof which are thickened by the provision of the scallops which are formed such as by embroidering.



3,505,918
APPARATUS FOR DIE-CUTTING BLANKS FROM A PILE OF SHEET MATERIAL
Willy Schneider, 43 Albisstrasse, 8134 Adliswil, Switzerland
Filed June 19, 1967, Ser. No. 649,072
Claims priority, application Switzerland, June 21, 1966, 8,968/66
Int. Cl. B65h *35/00*
U.S. Cl. 83—112 **3 Claims**



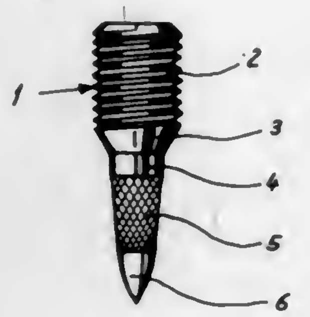
A method of cutting blanks from a pile of sheets by means of a frame-shaped closed cutting die. The die has a space which can be modified to create a partial vacuum therewithin. The blanks are cut from the pile by means of the die and the partial vacuum then broken, and the cut blanks discharged upon the delivery table.

The invention also includes the cutting die itself which includes a cutter head having a space therewithin, an air conduct opening into the space, a valve within the conduit, a vacuum source connected to the conduit, and a shiftable delivery table beneath the die.

ERRATUM

For Class 85—1 see:
Patent No. 3,506,377

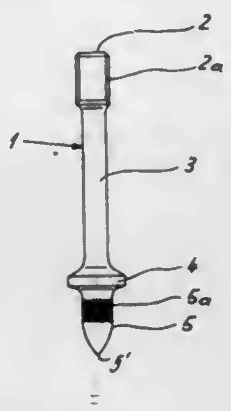
3,505,919
ANCHORING DEVICE HAVING A KNURLED ANCHORING SURFACE
Elmar Batliner, Eschen, Liechtenstein, and Elmar Thurner, Feldkirch-Gisingen, Austria, assignors to Hilti Aktiengesellschaft, Schaan, Liechtenstein
Filed Apr. 5, 1968, Ser. No. 719,118
Claims priority, application Germany, Apr. 14, 1967, H 62,446
Int. Cl. F16b *19/14*
U.S. Cl. 85—10 **9 Claims**



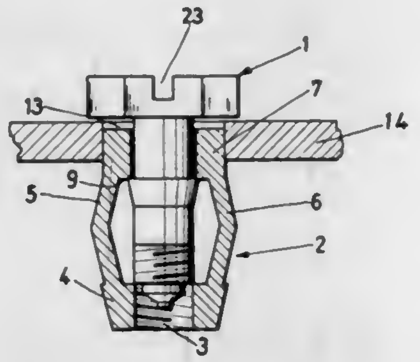
An anchoring device arranged to be driven by means of a powder charge in a tool into a receiving material such as steel, sheet metal, and similar metallic materials is comprised of an axially extending shank portion having a leaded end and a trailing end. The shank portion is arranged to be driven with its leading end first into the receiving material. The shank portion has a frustoconically shaped section which extends from a point near the leading end toward the trailing end and its surfaces diverge toward the trailing end. The frustoconically shaped section is knurled and, preferably, the height of the knurled surfaces varies along the extent of the knurled portion of the shank.

3,505,920
ANCHORING ELEMENTS
Elmar Thurner, Feldkirch-Gisingen, Austria, assignor to Hilti Aktiengesellschaft, Schaan, Furstentum, Germany
Filed Oct. 18, 1968, Ser. No. 768,807
Claims priority, application Germany, Nov. 2, 1967, 60,678
Int. Cl. F16b *15/00, 19/14, 39/00*
U.S. Cl. 85—10 **6 Claims**

Anchoring elements such as a bolt, nail or similar securing devices include a pointed tip portion and an elongated shank portion terminating in a head which is advantageously of a wider diameter than the shank portion and may be threaded. A feature of the construction is the provision of a colar located adjacent the head portion in a position to be engaged by a driving piston of a setting tool of a type which is adapted to be operated by an explosive charge. A driving piston of a setting tool includes an elongated bore for accommodating the long shank portion and an internal ledge which seats on the collar portion to apply a driving pressure to this portion without bending the shank portion.

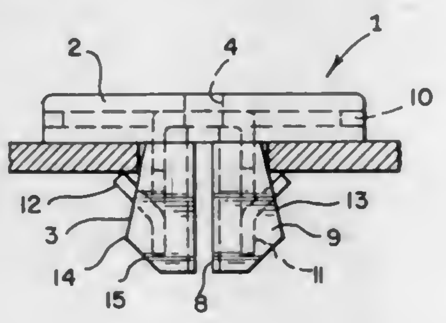


3,505,921
FASTENING DEVICE
Wilhelm Klaus Wigam, Hamburg, Germany, assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 21, 1969, Ser. No. 809,359
Int. Cl. F16b *13/06, 13/12*
U.S. Cl. 85—71 **3 Claims**



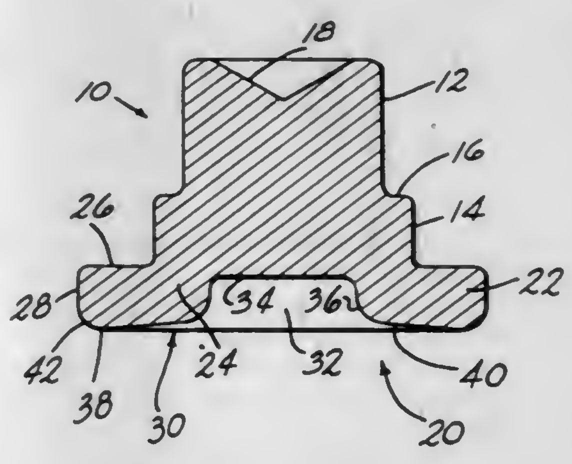
A fastener device for securing two workpieces having openings in registry including a screw threaded member rotatably assembled with a nut by means of a ring connected and axaially spaced from the nut member by a plurality of struts. Rotation of the screw within the nut and movement of the nut towards the screw head expands the struts to secure the two workpieces together.

3,505,922
MOUNTING FASTENER
George A. Tinnerman, 17864 Beach Road, Lakewood, Ohio 44107
Filed Feb. 27, 1968, Ser. No. 708,604
Int. Cl. F16b *13/06*
U.S. Cl. 85—83 **2 Claims**



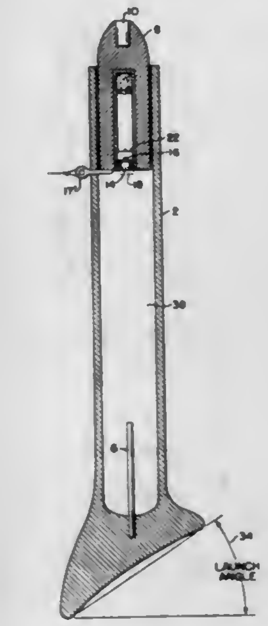
A composite fastener of plastic material and metal has a head and stem structure with an aperture therethrough the stem structure being expandable upon insertion in an opening in a base and retained therein by a shank threaded into the aperture. The head and stem structure have a metal insert embedded therein, metal elements in the stem structure having projections which are held expanded by the shank to retain the fastener in the opening in the base.

3,505,923
SELF-ADJUSTING HINGE RIVET
William J. Neill, Jackson, Mich., assignor to Hancock Industries, Inc., Jackson, Mich., a corporation of Michigan
Filed Aug. 12, 1968, Ser. No. 751,898
Int. Cl. F16b *19/06*
U.S. Cl. 85—37 **5 Claims**



A rivet particularly suitable for functioning as a pivot hinge about which contiguous members may be relatively pivoted. The head construction incorporates a self-adjusting feature which compensates for member dimensional tolerances assuring a uniform pivoting action after swaging of the rivet, and the rivet construction is such as to permit swaging upon conventional flat anvil surfaces.

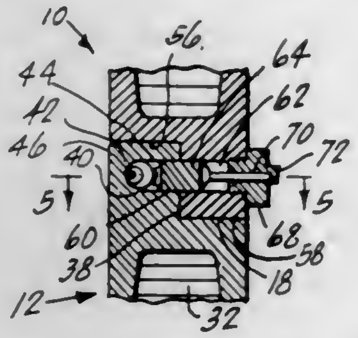
3,505,924
SILENT MORTAR
John J. Driscoll, Paris, France, assignor to Allied Research Associates, Inc., Concord, Mass., a corporation of Delaware
Filed Apr. 18, 1967, Ser. No. 631,650
Int. Cl. F41f *1/06*
U.S. Cl. 89—1 **8 Claims**



A mortar with a projectile having a cylinder which contains the propellant, and a piston within the cylinder which pushes upon a rod within the mortar tube to accelerate the projectile. The piston contains the expanded propellant charge and silences the operation.

3,505,925
STRUCTURE RELEASE SYSTEM

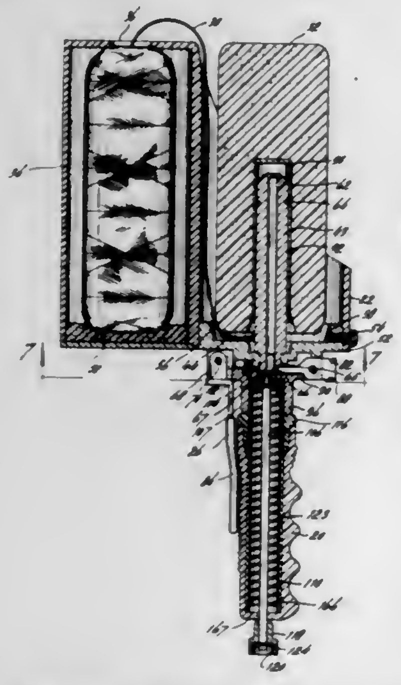
William F. Carr, Santa Monica, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Continuation-in-part of application Ser. No. 447,643, Apr. 13, 1965. This application Oct. 16, 1967, Ser. No. 675,436
Int. Cl. F16l *37/00*
U.S. Cl. 89—1 **6 Claims**



A system for releasably connecting structures having lapped joints wherein the release forces do not impart a separation force on the structures. A locking sector is placed in the plane of separation of the lapped joints of mated structures and is removed therefrom by a force in a direction normal to the desired direction of separation of the structures.

3,505,926
LINE THROWING DEVICE

Arthur M. Johnson, Silver Spring, Md., assignor to Scientific Products Corp., Alexandria, Va., a corporation of Virginia
Filed July 9, 1968, Ser. No. 743,446
Int. Cl. F41b *3/00;* **F41f** *1/00*
U.S. Cl. 89—1 **5 Claims**

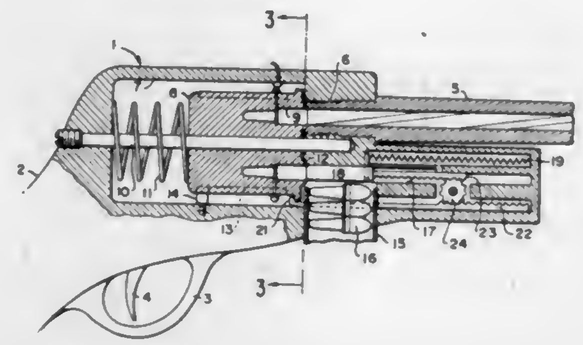


Projectile throwing devices, particularly a blank cartridge fired device for throwing a projectile and attached line to a distant point.

3,505,927
AUTOMATIC FIREARM HAVING ELECTRICAL IGNITION OF CARTRIDGES IN A ROTATING AND RECIPROCATING CYLINDER

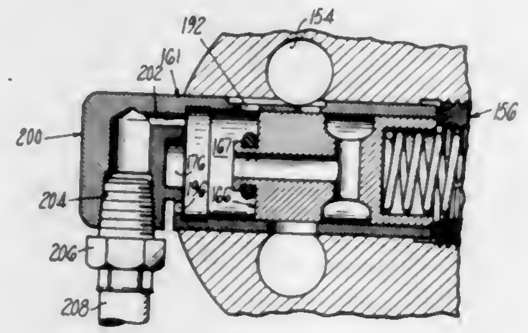
John J. Driscoll, Paris, France, assignor to Allied Research Associates, Inc., Concord, Mass., a corporation of Delaware
Filed Nov. 6, 1967, Ser. No. 680,935
Int. Cl. F41d *7/00, 9/06, 11/02*
U.S. Cl. 89—135 **1 Claim**

An automatic firearm comprising a cylinder rotatably and reciprocably mounted in a frame and having a plurality of blind cartridge receiving chambers movable between a loading position adjacent a magazine and a firing position in registry with a barrel, in which there is an electrical ignition contact in each cylinder that prepares a firing circuit with a contact on the frame when the cylinder is in firing position.



3,505,928
SYSTEM FOR PERFORMING TOOL OPERATION AND SIGNALING COMPLETION THEREOF

Hugh L. Whitehouse, South Euclid, Ohio, assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed July 21, 1967, Ser. No. 655,079
The portion of the term of the patent subsequent to Mar. 19, 1985, has been disclaimed and dedicated to the Public
Int. Cl. F01b *25/26;* **F15b** *11/08, 13/04*
U.S. Cl. 91—1 **1 Claim**

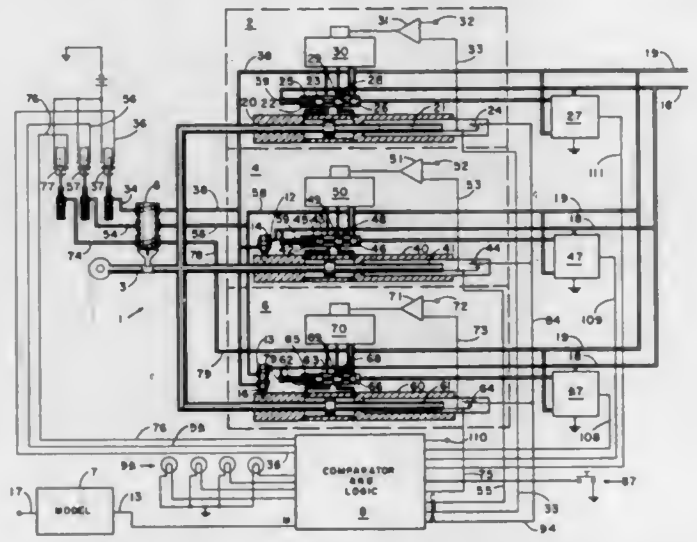


A system for performing a tool operation and sensing the completion thereof including an air operated tool having an air motor, shut-off control handle having a supply passageway connected to the motor, a pressure sensitive valve movable in the passageway between an operative position and a shut-off position for controlling air flow to the motor, a signaling means, and sensing means connected between the shut-off control handle and the signaling means wherein the sensing means is operable only in response to the valve moving into shut-off position for automatically signaling completion of a tool operation during an operating cycle of the tool.

3,505,929
REDUNDANT FLIGHT CONTROL SERVOACTUATOR

Patrick Steve Coppola, Binghamton, Richard Mark Perry, Johnson City, and John Elmer Rinde, Endicott, N.Y., assignors to General Electric Company, a corporation of New York
Filed Apr. 16, 1968, Ser. No. 721,818
Int. Cl. F01b *25/26;* **F15b** *11/16, 15/26*
U.S. Cl. 91—1 **10 Claims**

A redundant servoactuator for a redundant flight control system which will correct for two consecutive failures and which on the third failure will center lock the mechanism. The servoactuator is electro-hydraulic and includes three electro-hydraulic actuator channels arranged in parallel and an electronic comparator and logic circuit. One of the three electro-hydraulic actuator channels has a positive drive connection with an output yoke whereas the other two initially are in an active monitoring condition and take over in predetermined order on failure of the first channel. The electronic comparator and logic circuit operates from comparisons of electric signals indicating the position of the channel drive members, inactivates failed channels, retains information as to channel failures, and in those instances in which the controlling channel fails, passes control to another channel. Determination of failure is based on majority voting, and for this reason the system includes as a fourth channel an electronic actuator model which receives actual command inputs but generates a theoretical response rather than a sensed value for the comparators.

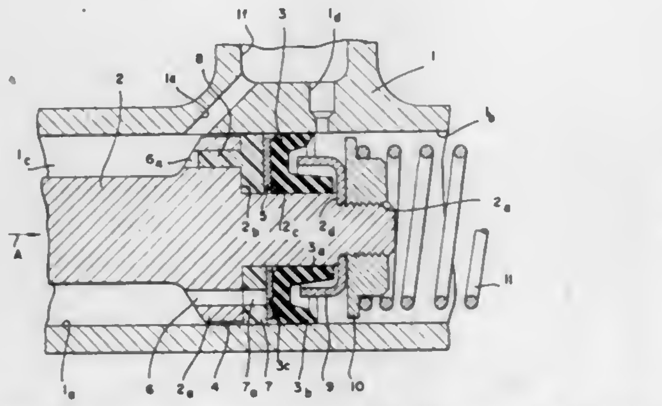


ERRATUM

For Class 92—239 see:
Patent No. 3,505,934

3,505,930
PISTON ARRANGEMENT FOR THE MASTER CYLINDER OF A VEHICLE BRAKE

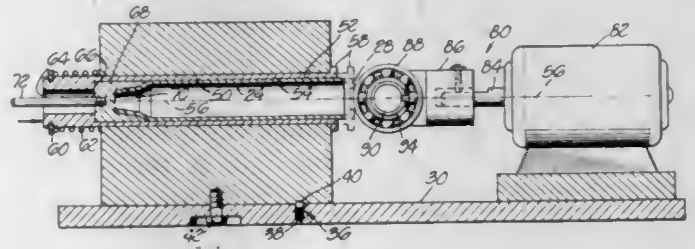
Gert Schrader, Walldorf, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Feb. 2, 1968, Ser. No. 702,595
Claims priority, application Germany, Feb. 3, 1967, T 33,142
Int. Cl. F16j *9/00*
U.S. Cl. 92—240 **9 Claims**



A master-cylinder piston assembly for vehicle brake systems and other hydraulic installations, especially installations operating at elevated pressures, the piston having a so-called "primary" cup and, between the face of the piston and the rear surface of the primary cup or the disk abutting same, a disk of polytetrafluorethylene of substantially the full diameter of the cylinder bore and sealingly engaging the walls thereof; an axial projection of this sealing disk is received in an axial bore of the piston to prevent rotation of the disk which has a port registering with the bypass bore of the piston.

3,505,931
METHODS AND APPARATUS FOR FLANGING HYGIENIC MEDIUM APPLICATOR TUBES

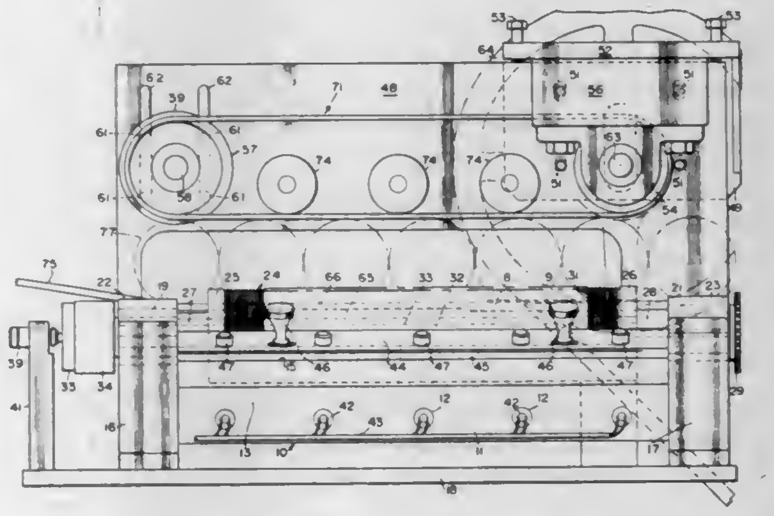
Joseph A. Voss, 1223 Race St., Apt. 902, Denver, Colo. 80206, and Carl W. Johnson, Neenah, Wis.; said Johnson assignor to said Voss
Filed July 5, 1968, Ser. No. 742,808
Int. Cl. B31f *1/00, 7/00*
U.S. Cl. 93—36 **9 Claims**



Methods and apparatus are disclosed for forming an inwardly-directed flange on an end of a laminated paper tube structure utilized as the inner, hygienic medium-ejecting tube of an hygienic medium applicator device. The tube is held solely about its exterior surface while a spinning roller assembly is brought into engagement with the tube end. Through the spinning roller assembly, a force is exerted on the tube end in a direction substantially parallel with the longitudinal axis of the tube. As a result, the tube end folds inwardly to form the flange.

3,505,932
METHOD OF SEALING A CONTAINER

Robert E. Fogg, Lynn, Mass., assignor to Comstock & Wescott, Inc., Cambridge, Mass., a corporation of Massachusetts
Original application June 22, 1966, Ser. No. 559,534, Divided and this application Apr. 29, 1968, Ser. No. 760,367
Int. Cl. B31b *1/62*
U.S. Cl. 93—39.1 **5 Claims**

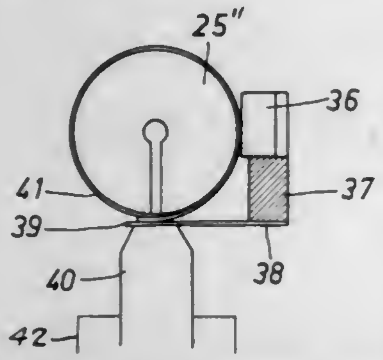


A series of alternating dots and stripes of a sealing composition are applied to the flanged periphery of a fibrous cylindrical container body before the closure is applied and roll seamed.

3,505,933

APPARATUS FOR SEALING THE LONGITUDINAL SEAM OF OVERLAPPING ENDS OF BLANKS FOR CONTAINER SIDES OF PAPER

Werner Schmidt, Hamburg, Germany, assignor to Maschinenfabrik Rissen G.m.b.H., Hamburg-Rissen, Germany
Filed Dec. 27, 1966, Ser. No. 604,721
Int. Cl. B31c *7/02*
U.S. Cl. 93—79 **2 Claims**

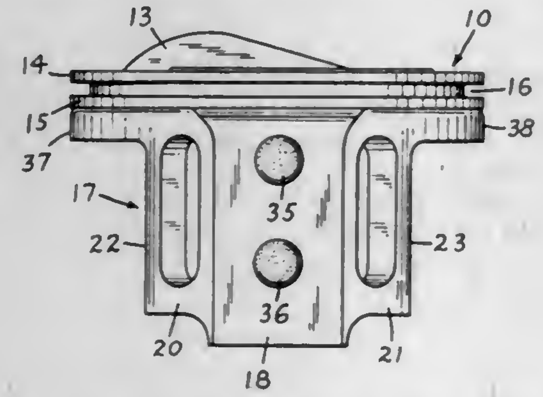


Apparatus for forming container walls from blanks of paper, plastic, metal foil or the like. A turret carries a plurality of mandrels supporting the blanks as well as a plurality of clamping flaps for holding the ends of each blank in overlapping position to form a seam. One or more heating jaws are movably mounted on a stationary base for sealing each seam while one of the clamping flaps still acts on the seam.

3,505,934

PISTON FOR INTERNAL COMBUSTION ENGINE

Richard L. De Biasse, 3 Oak St., Madison, N.J. 07940
Continuation-in-part of application Ser. No. 669,905, Sept. 22, 1967. This application Jan. 10, 1969, Ser. No. 798,853
Int. Cl. F16j *1/04*
U.S. Cl. 92—239 **11 Claims**



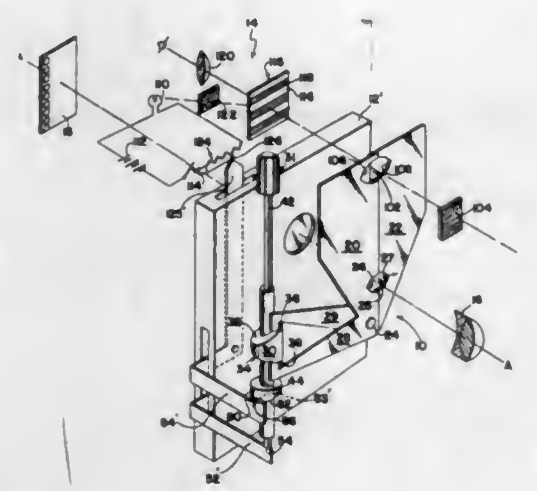
This invention relates to a light weight piston for an internal combustion engine, the piston having not more than two piston ring grooves and a skirt having antifriction pads therein engageable with the cylinder wall of the engine at narrow zones substantially in a plane perpendicular to the axis of the piston pin for the piston, the skirt being spaced from the cylinder wall between the zones to reduce friction losses between the piston and the cylinder wall.

3,505,935

EXPOSURE CONTROL SYSTEM FOR A PHOTOGRAPHIC CAMERA

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Apr. 6, 1967, Ser. No. 628,941
Int. Cl. G03b *7/08*
U.S. Cl. 95—10 **14 Claims**

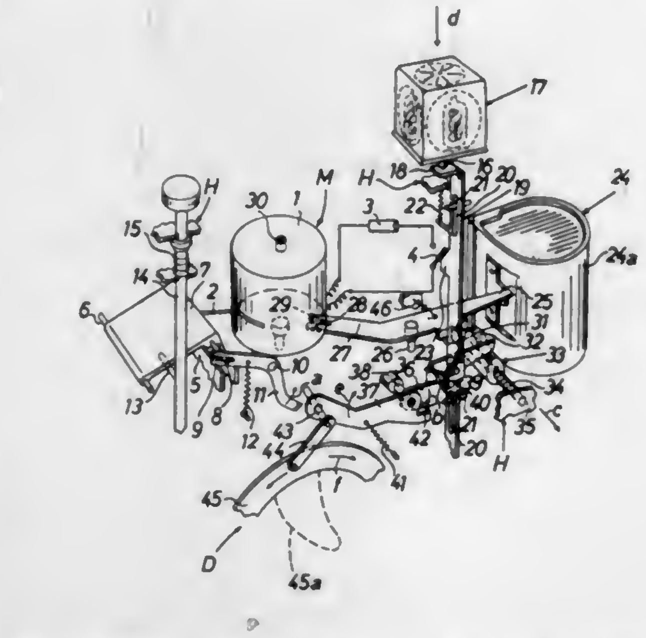
This disclosure depicts an exposure control system for a photographic camera, and more particularly an exposure control system comprising a photometer, adjustable exposure means for controlling two parameters of exposure, and coupling means coupling the photometer to the exposure means, the system being such that appropriate exposure values may be selected for exposing photosensitive materials over a wide range of scene brightness levels.



3,505,936

CAMERA FOR INDOOR AND OUTDOOR PHOTOGRAPHY

Dieter Engelsmann, Unterhaching, near Munich, Hubert Hackenberg, Munich-Solln, and Horst Karl, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed June 26, 1967, Ser. No. 648,724
Claims priority, application Germany, July 2, 1966, A 52,914
Int. Cl. G01j *1/00*
U.S. Cl. 95—10 **18 Claims**

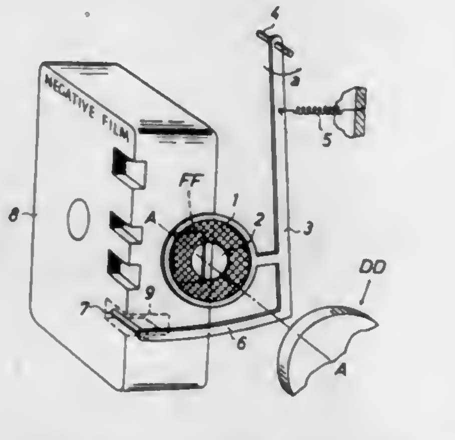


Photographic camera wherein the diaphragm can be adjusted to account for the sensitivity of film and the guide number of a source of artificial illumination. A follower tracks a marker on the film cartridge to assume a position which is a function of the sensitivity of film. A selector which is movable by the source of artificial illumination can place a motion transmitting connection between the follower and the diaphragm into a condition in which the connection adjusts the diaphragm in accordance with the sensitivity of film and as a function of the guide number of the light source. When the light source is disconnected from the camera or is moved to an inoperative position, the selector inactivates the motion transmitting connection so that the size of the diaphragm aperture can be selected by hand or by an automatic exposure meter as a function of the intensity of scene light.

3,505,937

ADJUSTABLE EXPOSURE CONTROL FOR PHOTOGRAPHIC CAMERAS

Joachim V. Albedyll and Erwin V. Wasielewski, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Oct. 23, 1967, Ser. No. 677,425
Claims priority, application Germany, Oct. 27, 1966, A 53,931
Int. Cl. G03b *7/18, 19/18*
U.S. Cl. 95—10 **7 Claims**



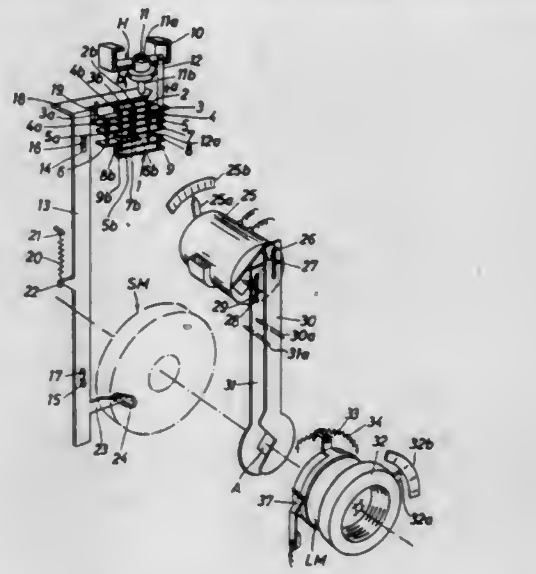
The rate at which the exposure control device of a movie camera or still camera can change the size of the diaphragm aperture and/or the exposure time as a function of changes in the intensity of scene light and as a function of at least one given film speed can be adjusted in dependency on the type of film of the given speed which is being used or which is about to be used in the camera. The adjustment can be made by hand or automatically in response to insertion of magazines provided with markers which indicate the type of film therein. A filter can be moved across the path of incoming light to change the amount of light that reaches the film when a magazine containing a certain type of film (for example, negative film of given speed or reversal film of the same speed) is inserted into the camera. Alternatively, a magazine for movie film can connect a corrective resistor in parallel with the light-sensitive receiver in the electric circuit of an exposure device which includes a moving coil instrument, or a stop for the needle of the moving coil instrument can be adjusted by hand to change the extent of adjustment of the diaphragm and/or shutter in a still camera as a function of the intensity of scene light.

3,505,938

PHOTOGRAPHIC CAMERA WITH BUILT-IN LIGHT METER

Siegfried Zobel and Kurt Zattler, Munich, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Mar. 26, 1968, Ser. No. 716,011
Claims priority, application Germany, Mar. 31, 1967, A 55,313
Int. Cl. G03b *7/16*
U.S. Cl. 95—10 **14 Claims**

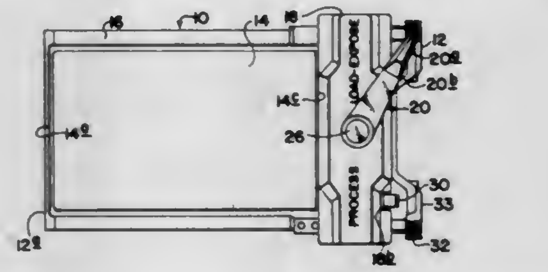
A photographic camera which comprises a built-in exposure control and can be used with electronic flash or with a built-in flash unit. The built-in flash unit comprises a socket which can receive a single flash bulb or a multiple flash bulb holder whereby a pin automatically disconnects a light-sensitive receiver from the light meter of the exposure control. Such disconnection also takes place when the electronic flash is attached to an accessory shoe on the camera housing. The chamber which accommodates the battery contains a set of fixed resistors whose resistances are characteristic of different guide numbers. A selector is movable by hand to connect into the circuit of the exposure control that resistor whose resistance is characteristic of the available electronic flash. A switching unit in the circuit of the exposure control changes its condition in automatic response to attachment of a flash bulb, a multiple flash bulb holder or an electronic flash to thereby allow for adjustment of the light meter independently of the light-sensitive receiver. The aperture size can be varied by the focussing device, by way of the light meter, when the camera is set for operation with flash bulbs or with electronic flash.



3,505,939

PHOTOGRAPHIC FILM HOLDER-PROCESSOR

Yow-Jiun Hu, 47 Cummings St., Medford, Mass. 02155
Filed Dec. 27, 1967, Ser. No. 693,950
Int. Cl. G03b *17/50*
U.S. Cl. 95—13 **12 Claims**



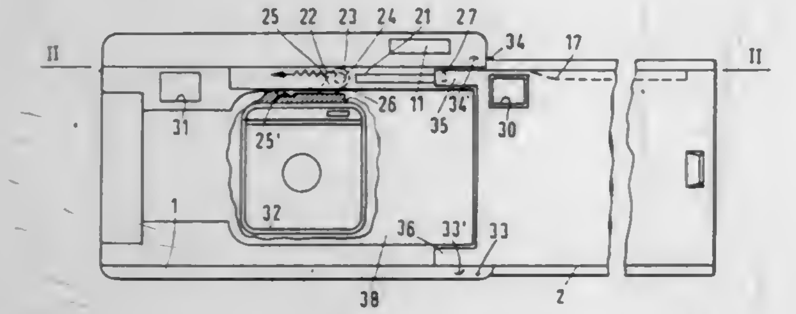
A photographic film holder-processor apparatus having structure for both exposing and processing a film unit of a self-developing type. It is mounted on the back of a conventional camera utilizing complementary mounting structure and the exposure components of the latter. When thus mounted, as for example, in the manner of a standard film holder on a 4 x 5 press or view camera, the subject film holder-processor serves to slidably accept a photographic film unit so as to position a photosensitive surface at the focal plane of the camera for exposure. Furthermore it will permit withdrawl of the film unit between compressive members to facilitate development of the exposed film by the diffusion transfer process. The film unit may be removed from the holder-processor after exposure for subsequent development.

3,505,940

ROLLFILM CAMERA

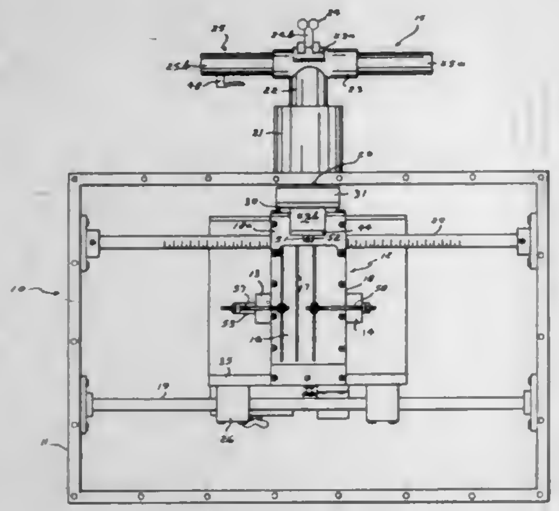
Karl Heinz Lange, Bunde-Ennigloh, Germany, assignor to Balda-Kamerawerk Rudolf Gruter, Kommanditgesellschaft, Bunde, Westphalia, Germany, a German company
Filed Feb. 7, 1967, Ser. No. 614,509
Claims priority, application Germany, Feb. 8, 1966, B 85,702
Int. Cl. G03b *19/04*
U.S. Cl. 95—31 **8 Claims**

A rollfilm camera has a rear sliding cover and a slidable member operatively connected thereto. The member has a pivoted lever which cooperates with a notch in the film cartridge for indicating the sensitivity of the film. The slidable member is moved by the opening of the rear cover to a beginning position and, upon closing of the cover, is pulled by a spring in the opposite direction until the lever falls into the notch on the cartridge. A leaf spring cooperates with a cam on the rear cover to disengage a winding shaft upon opening of the rear cover.



3,505,941
V-STOL DATA CAMERA

John F. McCormick and Louis H. Ormerod, Lancaster, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 2, 1968, Ser. No. 702,613
Int. Cl. G03b *19/02*
U.S. Cl. 95—36 **11 Claims**

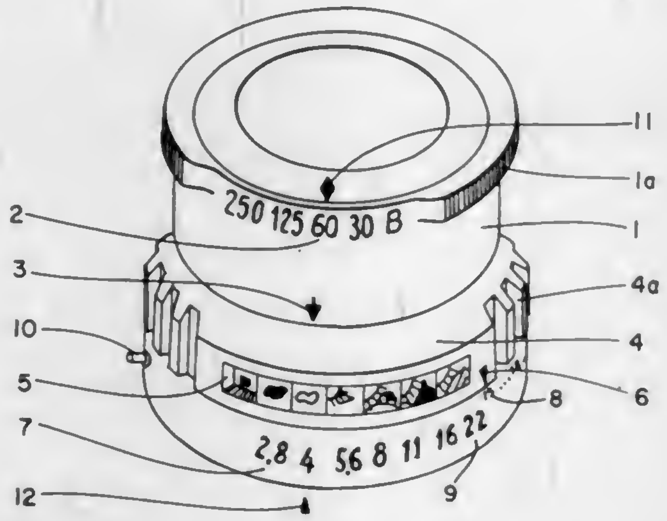


A main tracking shaft member having a pair of horizontal and manually-operable, left and right-hand tracking shaft arm portions is affixed to a main support member that is rotatably and slidably positioned on the top of the enclosure of a V-STOL data camera to thereby permit tracking of a moving vehicle in a horizontal and lateral-traversing direction only, and without requiring any changes in the elevational attitude of the camera. A pair of tracking binoculars are positioned on the top surface of the main tracking shaft member and extend to a location convenient to the operator of the camera. A vertical shaft member is affixed to the bottom of the main support member and interconnects with the camera assembly by a horizontally-disposed, shutter assembly-operating arm member that is revolvably attached to the vertical shaft member. A retractable pawl device is rigidly attached to the vertical shaft member and normally engages with the shutter assembly-operating arm member to thereby transfer through the latter member any movement applied to the main tracking shaft member.

The shutter assembly includes a pair of shutter solenoids for operating the shutter and which are mechanically interconnected with a pair of electrical contacts that are in circuit with, and automatically control operation of, the camera film transport mechanism in timed response to the periodic operation of the shutter during the filming of a moving vehicle such as a V-STOL aircraft.

3,505,942
MANUALLY SET OBJECTIVE FOR A PHOTOGRAPHIC CAMERA

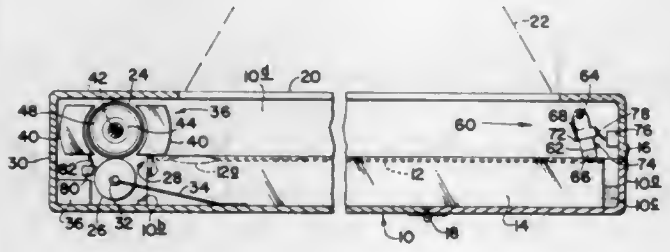
Wolfgang Ort, Stuttgart-Bad Cannstatt, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 28, 1967, Ser. No. 656,862
Int. Cl. G03b *9/02*
U.S. Cl. 95—64 **6 Claims**



An objective for a photographic camera in which the shutter speed setting member, the diaphragm aperture adjusting member and film speed setting member are interconnected for manual settings in relation to a scene brightness scale having visual symbols. When the film speed value is changed by moving the film speed setting members the scene brightness visual symbol changes automatically but the diaphragm aperture remains the same. Thereafter the scene brightness scale and diaphragm aperture bear a fixed relation to one another for any setting of the two relative to a fixed index and to the shutter speed setting member.

3,505,943
PHOTOGRAPHIC APPARATUS

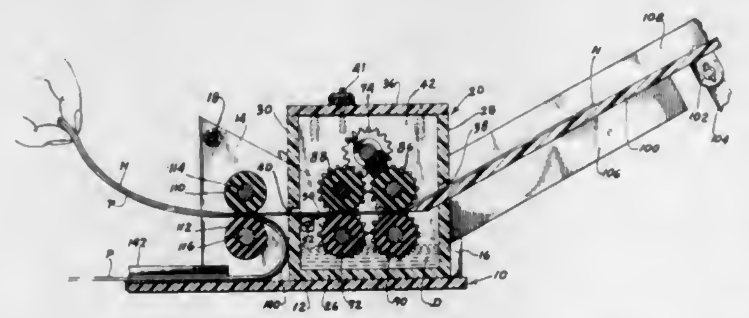
Alfred H. Bellows, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 19, 1967, Ser. No. 654,633
Int. Cl. G03d *3/00;* **G03b** *17/50*
U.S. Cl. 95—89 **21 Claims**



The subject apparatus relates to electrically motor-driven pressure-roll mechanism for compressing a photographically exposed film material carrying a processing liquid to release and spread the liquid between internal layers thereof. A finished print may thus be produced immediately following the exposure by a diffusion transfer process. More particularly, the motor-driven pressure-roll mechanism is intended for incorporation with a photographic exposure and processing chamber such as the back of a hand-held, self-developing camera using a film pack, wherein space is at a premium and compactness is a prime objective. In such a camera and in the interest of space conservation, the hollow interior of one of a pair of pressure rolls thereof may be utilized to advantage for mounting components of the electric drive-motor, provided that the diameter of the roll, thus utilized, is not appreciably increased. The present structure makes possible this objective. It enables housing principal components of a small D.C. electric drive-motor within one cylindrical pressure roll while holding the roll diameter to a minimum. This is achieved by locating drive-shaft, armature, commutator and speed-reduction components therewithin, while positioning two field magnets externally of the pressure roll instead of inside with the other components. Because the magnets are disposed at each side of the pressure roll transversely of the front-to-rear dimension of the camera, the desired thinness thereof is facilitated. The second pressure roll of the pair is not powered but is biased toward the driven roll. Other associated components of the apparatus relate to the advancement and control of units of the film pack between and beyond the pressure rolls.

3,505,944
DIFFUSION TRANSFER REVERSAL PROCESSOR

James E. Holley, Hamburg, N.J., assignor to Anken Chemical & Film Corporation, Newton, N.J.
Filed July 3, 1967, Ser. No. 650,811
Int. Cl. G03d *3/10*
U.S. Cl. 95—89 **1 Claim**

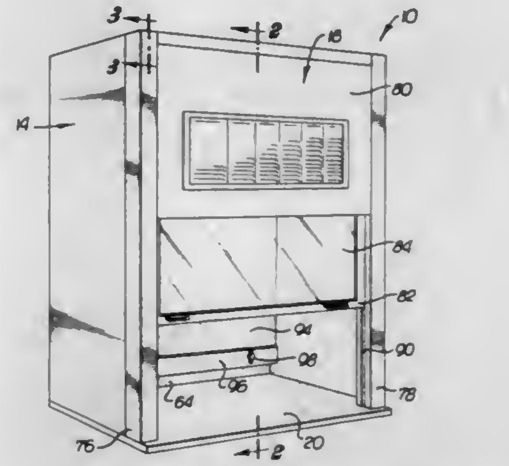


A diffusion transfer reversal processor having roller applicators for surface wetting of the negative, the positive remaining dry except to the extent that it is moistened by contact with the moistened surface of the negative. The processor has a first guide mechanism to introduce the negative into a processing solution tank and transport and applicator rollers to move the negative sheet through the processing solution tank while wetting its emulsion side only. The processor also has a second guide mechanism to guide the negative out of the processing solution tank and into the nip of squeeze rollers and a third guide mechanism to guide the positive sheet into the nip of the squeeze roller to bring the positive and negative into moist contact.

3,505,945
KNOCK-DOWN FUME HOOD

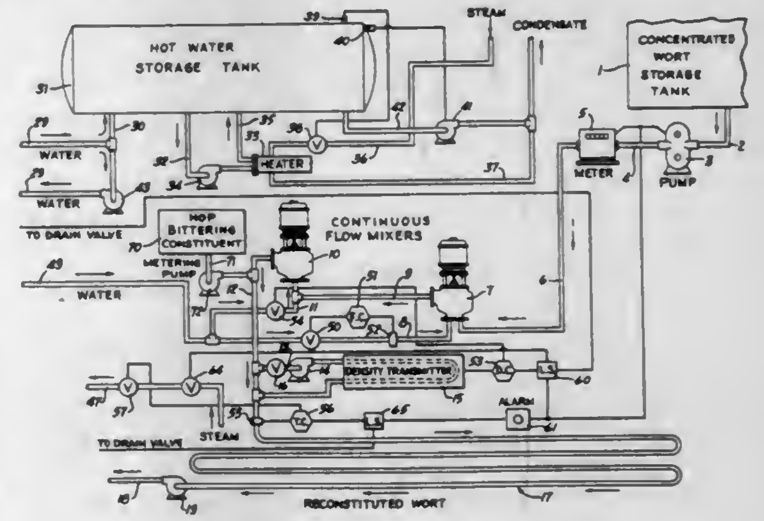
Charles Douglas Greer, Sunland, Calif., assignor to Aerol Company, Inc., Los Angeles, Calif., a corporation of California
Filed June 5, 1968, Ser. No. 734,617
Int. Cl. F23j *11/00*
U.S. Cl. 98—115 **15 Claims**

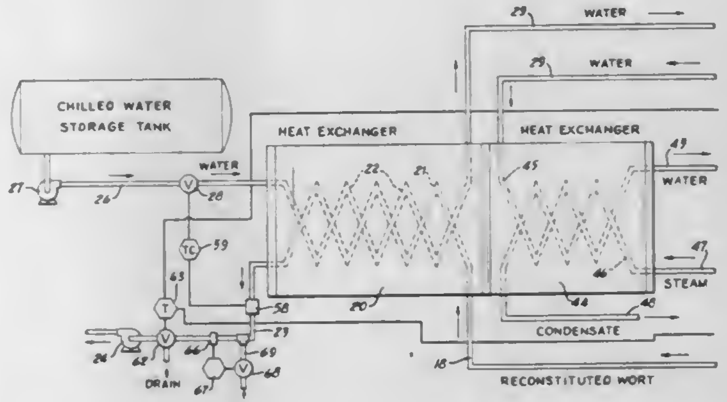
A fume hood comprising top, side and front panels; side, top and rear partitions; and baffle and damper partitions. Interlocking flanges and channels, formed on the top and side panels respectively, provide lateral support and ease of assembly and disassembly of the hood. The front panel has a plurality of finger members adapted for slidably engaging the inner front surfaces of the side panels so as to further increase the convenience of assembly and disassembly. The partitions are constructed from structurally rigid, heat and chemical resistant material and are mounted within the interior of the hood in such a manner to form a double wall structure possessing additional structural rigidity.



3,505,946
APPARATUS FOR RECONSTITUTING CONCENTRATED WORT

Peter D. Bayne, Shorewood, Wis., and John L. Pahlow, Granada Hills, Calif., assignors to Jos. Schlitz Brewing Company, Milwaukee, Wis., a corporation of Wisconsin
Original application Feb. 8, 1965, Ser. No. 438,147, now Patent No. 3,453,114, dated July 1, 1969. Divided and this application Jan. 8, 1969, Ser. No. 789,757
Int. Cl. C12c *7/00*
U.S. Cl. 99—278 **11 Claims**



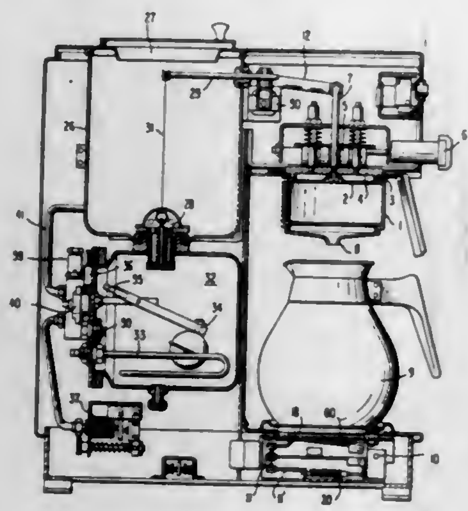


An apparatus for reconstituting concentrated wort. Concentrated wort having a solids content above 78% is passed through a closed system and a stream of water is continuously mixed with the concentrated wort to reconstitute the same. The reconstituted wort is then maintained in the closed flow system at a temperature above 140° F. for a period of time sufficient to sterilize the wort and thereafter immediately chilled to a temperature below 75° F.

3,505,947

DEVICE FOR PREPARING INFUSION EXPRESS COFFEE TO BE COLLECTED IN A JUG

Luigi Bresaola, 6834 Morbio Inferiore, Ticino, Switzerland
Filed Feb. 23, 1968, Ser. No. 707,537
Claims priority, application Switzerland, Jan. 13, 1968, 674/68
Int. Cl. A23f *1/00*
U.S. Cl. 99—283 **6 Claims**

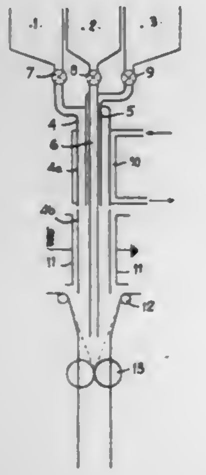


Water flows by gravity through ground coffee in a container that is slidable into the device like a drawer and that has a perforate bottom. A cover for the container hermetically seals with the container and is cam actuated by a lever into sealing relation with the container. Hot water flows toward the container through a conduit having an extended surface, so that the water is somewhat cooled and does not burn the coffee. The coffee flows into a jug with a heater beneath it that is turned on when the weight of the coffee in the jug reaches a predetermined value.

3,505,948

APPARATUS FOR MAKING TUBE-SHAPED FOOD PRODUCTS

Pierre Carre, Pierre Tanguy, and Jean Le Boulbouech, all of 2 Rue Bodelio, 56 Lorient, France
Filed May 20, 1968, Ser. No. 730,237
Claims priority, application France, May 23, 1967, 108,308; May 8, 1968, 150,979
Int. Cl. A47j *29/00*
U.S. Cl. 99—353 **4 Claims**

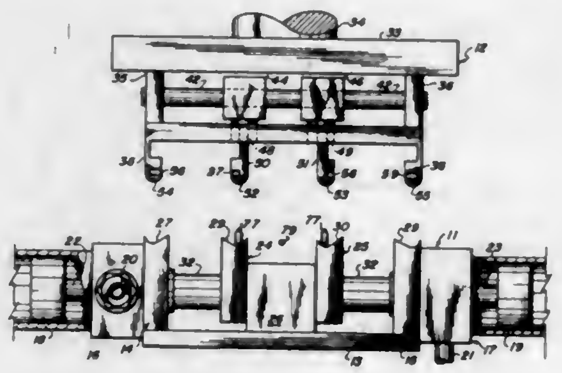


An apparatus for preparing a food product from the major constituents of eggs, such as the white and the yolk, is described. It consists of concentric tubular conduits forming molds in which the separated constituents are passed and heated for coagulation, utilizing convection as well as dielectric heating.

3,505,949

APPARATUS FOR CONTAINER TAPING

Thomas Barnickel, 265 Main St., Ridgefield Park, N.J. 07660
Original application July 27, 1967, Ser. No. 660,863, now Patent No. 3,420,159, dated Jan. 7, 1969. Divided and this application Jan. 6, 1969, Ser. No. 789,152
Int. Cl. B65b *13/18, 13/34*
U.S. Cl. 100—17 **6 Claims**

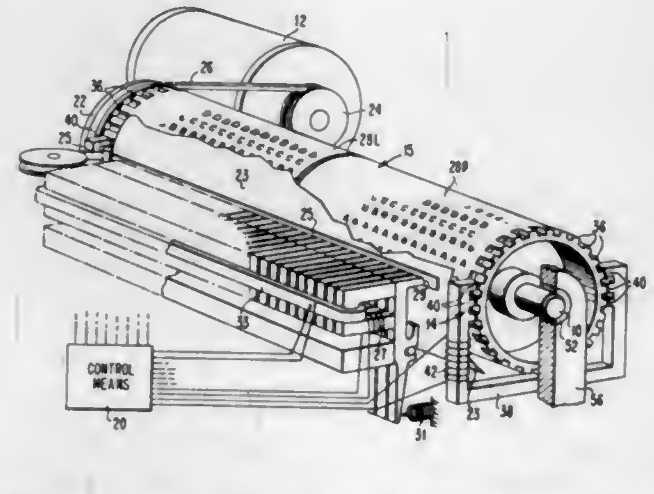


An apparatus for container taping having means for securing together free ends of tape extending from two separate sources, intruding a container between the said free ends, engaging portions of the tape on the opposite side of the container, securing the engaged portions to each other and severing the engaged portions from the source while simultaneously resecuring together the free ends of the tape from the separate source created thereby. This is a division of U.S. patent application 660,863, filed July 27, 1967, now U.S. Letters Patent 3,420,159.

3,505,950

INCREMENTING DRIVE FOR ROTARY PRINT WHEEL IN ON-THE-FLY PRINTERS

Leonard Roy Harper, San Jose, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,662
Int. Cl. B41j *1/34;* **H02k** *49/00*
U.S. Cl. 101—93 **8 Claims**

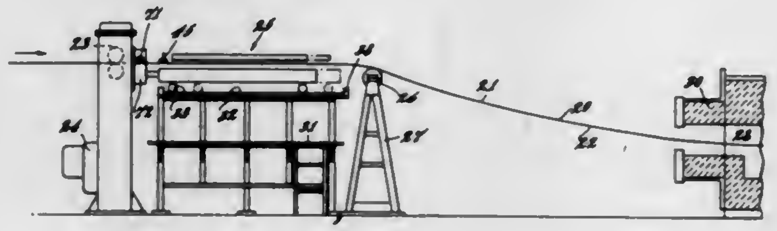


An incrementing drive for a printer comprising two print drums each attached to the end of a torsion shaft. A drive means is provided to continously drive the torsion shaft in the middle. A magnetic detent means is provided at each end of the shaft so that the speed of the print drum is alternately retarded and advanced to accomplish a dwell over a substantial period of time. A plurality of print hammers is selectively actuable at the dwell time to print a character. The current to the magnetic detent means is monitored and a signal generated in response to the current is utilized to control the torque produced by the drive means so that the proper dwell characteristics of the print drums are maintained.

3,505,951

SCREEN-PRINTING ON SHEET

John T. Gartrell, Orwigsburg, Pa., assignor, by mesne assignments, to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,479
Int. Cl. B41f *1/08;* **B41l** *13/00, 27/18*
U.S. Cl. 101—123 **8 Claims**

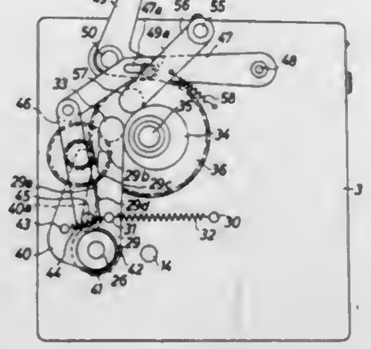


A moving web of steel is screen printed by clamping the web to a table carrying the printing mechanism. The table moves with the web during a portion of the web travel until the printing is completed. The table is then released from the moving web and retracted to a rearward position on the moving web for a repetitive cycle.

3,505,952

WETTING APPARATUS FOR LITHOGRAPHIC PRINTING MACHINES

Guenther Schnall, Munich, Germany, assignor to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany
Filed Apr. 13, 1967, Ser. No. 630,640
Claims priority, application Germany, Apr. 20, 1966, A 52,209
Int. Cl. B41f *31/14*
U.S. Cl. 101—148 **12 Claims**

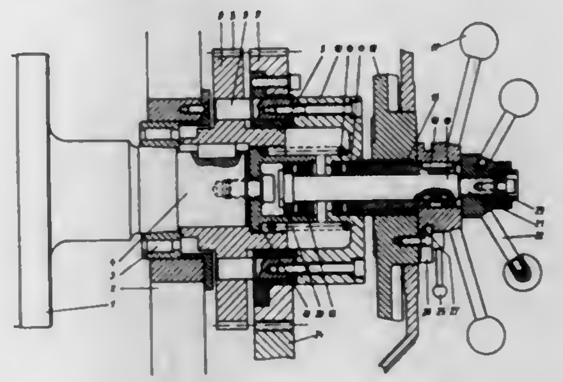


The carriage of the transfer roller which delivers liquid repellent to the master cylinder of a lithographic printing machine is swingable about the axis of a fountain roller and into and from engagement with a distributor roller which transfers the thus received liquid repellent to the master cylinder. The device which swings the carriage comprises a rotary eccentric cam which is tracked by a first follower arm rotatable on a supporting shaft carrying a second follower arm adapted to transmit motion to the carriage. The mutual inclination of the two arms determines the time of engagement between the transfer roller and the distributor roller, and such inclination can be changed by a pin which is inserted between the two arms and is movable substantially radially toward and away from the supporting shaft. The position of the pin may be adjusted by a manually operable selector which is mounted on the frame of the wetting apparatus.

3,505,953

MECHANISM FOR ADJUSTING THE LATERAL AND PERIPHERAL REGISTER OF A ROTARY PRINTING PRESS

Albrecht Germann, Wurzburg, Germany, assignor to Schnellpressenfabrik Koenig & Bauer Aktiengesellschaft, Wurzburg, Germany
Filed Dec. 5, 1967, Ser. No. 688,062
Claims priority, application Germany, Dec. 10, 1966, Sch 39,949
Int. Cl. B41f *13/14*
U.S. Cl. 101—248 **2 Claims**

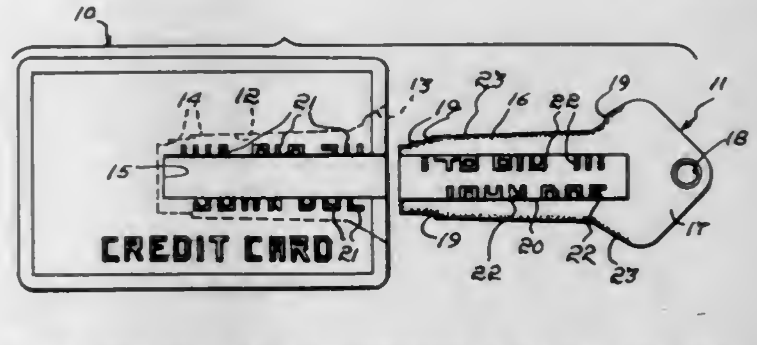


A very simple mechanism for adjusting the lateral and peripheral register of a rotary printing press in which the adjusting means including two handwheels for operating said adjusting means are mounted coaxially to each other and to the plate cylinder.

3,505,954

CREDIT CARD AND THE LIKE

Henry Projansky, 1560 Jefferson Ave., Miami Beach, Fla. 33139
Filed Nov. 8, 1967, Ser. No. 681,432
Int. Cl. B41n *1/12;* **G09f** *3/00*
U.S. Cl. 101—369 **4 Claims**



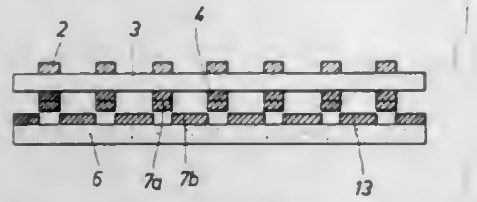
Credit card and the like consisting of a card part having a slideway opening through an edge and a key part slidably entrant of the slideway, the two parts bearing indicia which have a predetermined relationship when the key part is entered into the slideway to a predetermined extent, said relationship establishing that the correct parts are being used together.

3,505,955

METHOD AND ARRANGEMENT FOR PRODUCING PRINTING FORMS

Gerhard Ritzerfeld, Franzenboder Strasse 21, Berlin-Grunewald, Germany
Filed Jan. 10, 1967, Ser. No. 608,398
Claims priority, application Germany, Jan. 17, 1966, R 42,441
Int. Cl. B41m *5/00*
U.S. Cl. 101—463 **13 Claims**

By forming a pressure imprint on one face of a printing form backing sheet while the other face of the backing sheet contacts a pressure sensitive transfer layer including a heat radiation absorbing material, a portion of the transfer layer corresponding to a mirror image of the imprint will be attached to the other face of the backing sheet. The mirror image-carrying face of the backing sheet is then contacted with a transfer layer including a transferable dye. The thus formed assembly is then subjected to heat radiation directed against the imprinted face of the backing sheet so as to selectively heat the mirror image forming portions on the other face thereof and the corresponding contacting portions of the dye-containing transfer sheet to at least their softening points thereby adhering the heated mirror image-forming portions of the dye-containing transfer sheet to the backing sheet and producing a printing form comprising the backing sheet, mirror image-forming portions of the transferable dye-containing transfer layer, and interposed corresponding portions of the heat radiation absorbing material containing layer.



3,505,956
DYE IMBIBITION TRANSFER BLANK

Philip A. Pizzi, Berlin, N.J., assignor of twenty percent to Jack P. Randall, Bronxville, N.Y.

No Drawing. Filed Oct. 1, 1964, Ser. No. 400,885

Int. Cl. B41m *5/00;* **B41n** *3/00*

U.S. Cl. 101—464 **10 Claims**

A photographic transfer blank, a composition for preparing the same, and a photographic dye transfer process utilizing the same wherein said transfer blank comprises a support base with a transfer layer thereon, such transfer layer including a colloidal carrier homogeneously intermixed with a stabilizing material consisting essentially of sodium acetate, sodium citrate and citric acid.

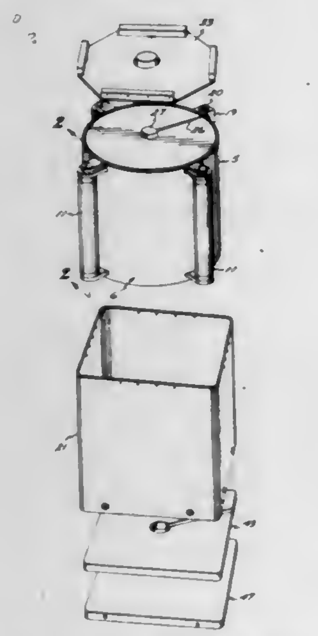
3,505,957
APPARATUS FOR DISSEMINATION OF MATERIALS BY IMPLOSION

Ernest J. Tichauer, Santa Ana, Stanley G. Hughes, Palos Verdes, and Lambertus Coolen, Los Angeles, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Nov. 20, 1967, Ser. No. 684,353

Int. Cl. F42b *25/14*

U.S. Cl. 102—6 **1 Claim**



Wide dispersal of material is effected by detonating simultaneously a pair of spaced explosive charges adjacent to the material, one of the explosive charges being positioned above the material and the other smaller explosive charge being below the material.

3,505,958
DEVICES AND WEAPONS USING DELAYED PRIMING

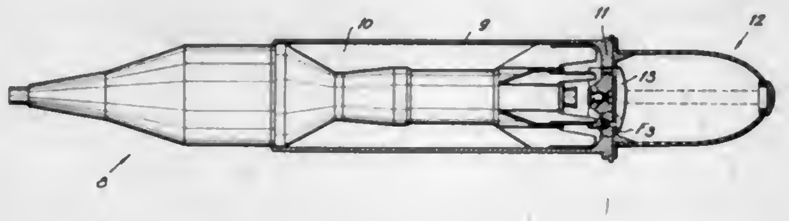
Jean Vilbajo, Brussels, Belgium, assignor to Contigea, Societe Anonyme, Brussels, Belgium, a body corporate of Belgium

Filed Feb. 8, 1968, Ser. No. 704,038

Claims priority, application Belgium, June 27, 1967, 700,545

Int. Cl. F42b *5/02;* **F41f** *3/02*

U.S. Cl. 102—38 **3 Claims**



Apparatus utilizing delayed priming method for priming a charge which is disposed in an enclosure by the combustion of another charge which is disposed in another enclosure contiguous to the first enclosure which comprises the feeding, with expansion, of a small portion of the combustion gas into an intermediate enclosure disposed between the said two enclosures and allowing the pressure within said enclosure to increase progressively to the duly predetermined rupture pressure of one of the walls of the said intermediate enclosure, this structure bringing the said two enclosures into direct communication.

3,505,959
SAFETY DEVICE FOR FUSES

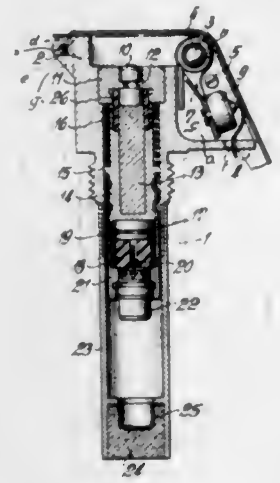
Adalbert Lohnert, Furth, Bavaria, and Hans Bedall, Nuremberg, Germany, assignors to Diehl, Nuremberg, Germany

Filed Apr. 12, 1968, Ser. No. 720,916

Claims priority, application Germany, Apr. 13, 1967, D 52,791

Int. Cl. F42c *9/08, 1/08, 9/10*

U.S. Cl. 102—70 **7 Claims**



A fuse which includes a pyrotechnic charge or preparation and detonator means axially spaced as far as possible from a secondary charge, in which said detonator means is held in its safe or inactive position by safety means adapted to be softened by heat developed by said pyrotechnic charge or preparation in response to an ignition of said pyrotechnic charge or preparation whereby said detonator means is released for action upon said secondary charge.

3,505,960
PROJECTILE FUSE AND PROJECTILES EQUIPPED WITH SAID FUSE

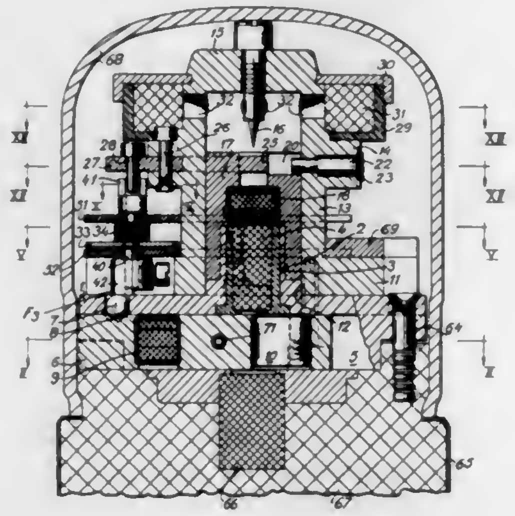
Paul A. Theate, Liege, Belgium, assignor to Fabrique Nationale d'Armes de Guerre, Societe Anonyme, a company

Filed Mar. 25, 1968, Ser. No. 715,847

Claims priority, application Belgium, Mar. 31, 1967, 696,368; Mar. 5, 1968, 711,656

Int. Cl. F42c *15/22*

U.S. Cl. 102—79 **9 Claims**



A projectile fuse comprises a primer-holder sliding in a housing, a locking device for same, retractable under the effect of a centrifugal force, a moving support carrying one element of the pyrotechnic train, means for securing the said support in waiting position and a means for securing the said support when the pyrotechnic element carried thereon is in alignment with the other elements of the pyrotechnic train.

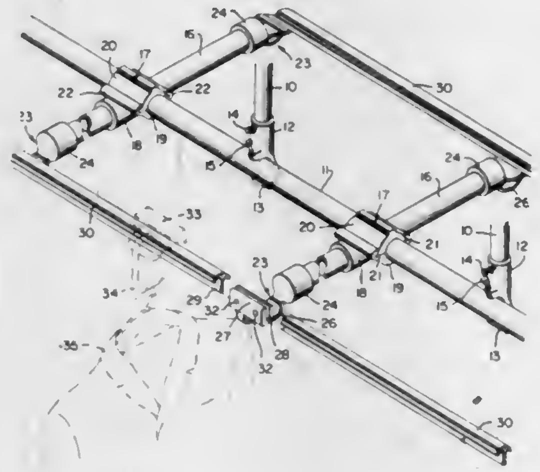
3,505,961
CONVEYOR TRACKS AND SUPPORTING MEANS

John H. McElroy, 14 E. Roosevelt Circle, Red Bank, N.J. 07701

Filed Mar. 22, 1968, Ser. No. 715,405

Int. Cl. E01b *25/22;* **B61b** *3/00*

U.S. Cl. 104—110 **8 Claims**



An economical and simplified trackway system particularly for monorail trolley conveyors and characterized by ease of assembly, strength, interchangeability of parts and lack of necessity for special tools and machining operations at time of assembly. The system includes a supporting bar, a U-shaped bracket with a socket portion and a track member supported by the bracket.

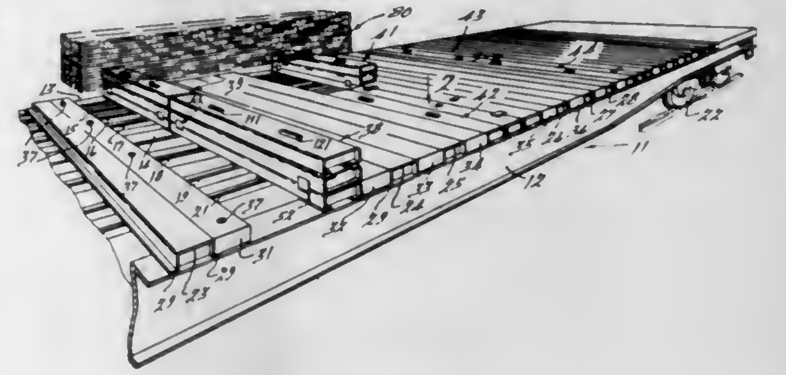
3,505,962
VEHICLE HAVING CONVERTIBLE FLOOR STRUCTURE AND LATCH

Edward S. Cisco, Livonia, Mich., assignor to Evans Products Company, a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,203

Int. Cl. B60p *7/08;* **B61d** *3/04*

U.S. Cl. 105—422 **6 Claims**



A railway flat car embodying a convertible floor structure. The floor structure is made up of spaced units that are movable from a first position wherein they define a substantially planar floor surface along the length of the car to an elevated position wherein they provide spaced elevated supports. One of the units carries a locking structure that is operative to lock the floor structure in at least one of its operatiye positions.

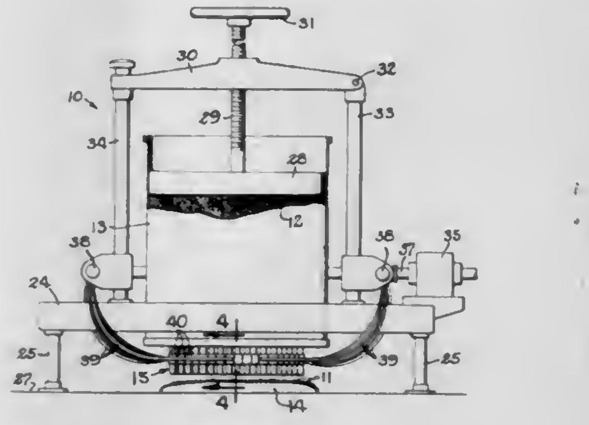
3,505,963
METHOD FOR DISPENSING SAUSAGE AND THE LIKE ONTO PIZZA

Donald E. Westling, 2432 Iva Court, Beloit, Wis. 53511

Original application Apr. 4, 1966, Ser. No. 539,967, now Patent No. 3,403,712. Divided and this application Mar. 4, 1968, Ser. No. 710,267

Int. Cl. B26f *3/00;* **A23p** *1/00*

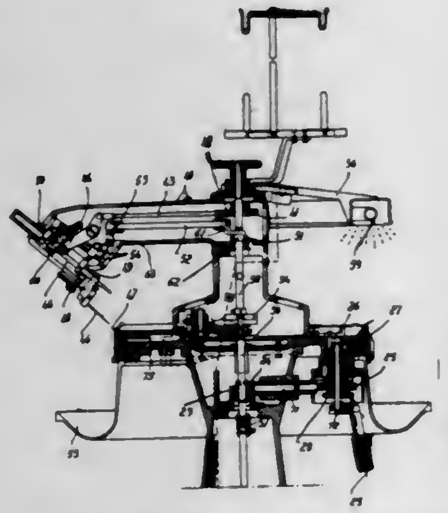
U.S. Cl. 107—54 **1 Claim**



The method of dispensing sausage and the like onto pizzas from a mass supply held in a tub, the sausage being forced into discharge tubes through openings in the bottom of the tub to form a plurality of columns of sausage. Around each tube at a preselected cut-off level is a manifold to which air under pressure is directed into the sausage from several directions above the lower end of the column to sever the end portions and expel them through the lower ends of the tubes toward a pizza. The lower ends of the columns are positioned by restrictions in the tubes in two forms of the machine, while a third form relies only on control of the feeding of the mass supply to position the lower ends. The tubes are arranged in a preselected pattern above the pizza to dispense sausage in the same pattern, having barrels for guiding the severed portions of sausage toward the pizza.

3,505,964
KNITTED GARMENT LINKING MACHINES

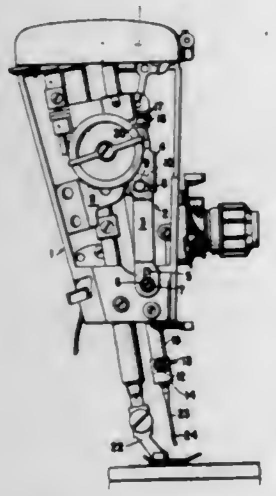
Juan Pruna Flaque, Avenida del Maresme 14,
Mataro, Barcelona, Spain
Filed May 14, 1968, Ser. No. 728,452
Claims priority, application France, Aug. 18, 1967,
118,224
Int. Cl. D05b *7/00*
U.S. Cl. 112—25 6 Claims



A knitted garment linking machine having a fixed base and a gyratory column mounted thereon by means of rollers. The fixed base has a series of fixed electrical contacts mounted on a plate and the column has an assembly of movable contacts held elastically in a vertical direction against the fixed contacts, which fixed contacts constitute concentric crowns formed on the plate. Switch means are connected to the plate for permitting energization of the fixed contacts. A pedal means is mounted on the fixed base and acts through a suitable linkage means so as to be connected to a flange fixed to an electric motor secured within the column with the motor being displaceable by the pedal.

3,505,965
NEEDLE THREADERS

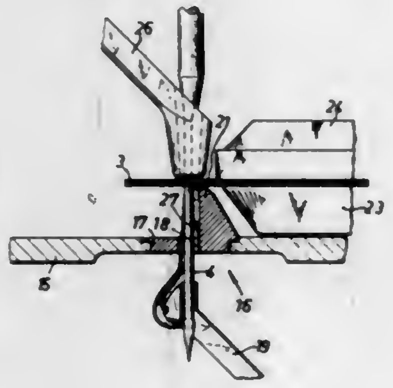
James P. Smith, Rockaway, N.J., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed July 6, 1967, Ser. No. 651,616
Int. Cl. D05b *87/02*
U.S. Cl. 112—225 4 Claims



A needle threader for a sewing machine having an arm mounted for sidewise as well as vertical swinging movement on the machine head and a needle-threading member disposed at the free extremity of the arm adapted to enter the eye of a needle when the arm is swung down into operative position. The needle-threading member is properly aligned with the needle eye by means of a positioning member on the needle bar and a spring clip which straddles the needle.

3,505,966
THROAT PLATE FOR CHAIN STITCH SEWING MACHINES

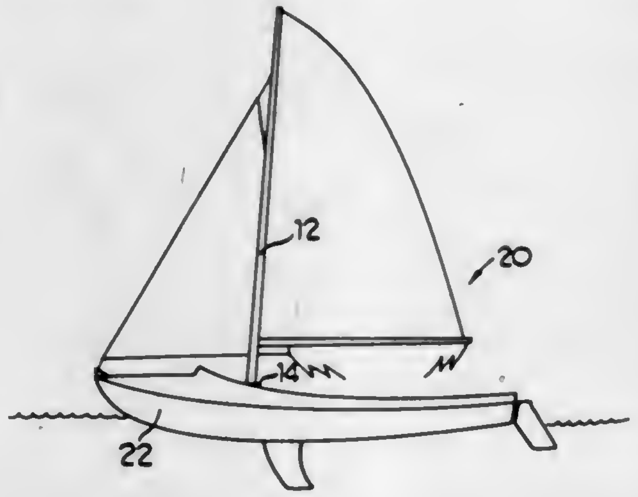
Wilfried Strothmann, Amshausen, near Steinhagen, Germany, assignor to Kochs Aldernahmaschinen Werke AG, Bielefeld, Germany
Filed July 13, 1967, Ser. No. 653,121
Claims priority, application Germany, July 14, 1966,
K 59,761
Int. Cl. D05b *75/00, 21/00*
U.S. Cl. 112—260 4 Claims



An insert for a throat plate adapted for use in a two-thread chain-stitch sewing machine provided with means for forming a seam in every feed direction of a workpiece. This insert is provided essentially with a disc-shaped part having a stitch hole for the passage of the needle, and a sectional part surrounding the stitch hole on a section of its circumference and overtopping the throat plate, thus forming a supporting surface for the workpiece to prevent a downward stripping of the workpiece when pierced by the needle, and providing freedom of movement about the hole for tightening the loose needle thread loops when forming a seam in the area of movement of the workpiece which is clamped between clamping plates of a pattern controlled sewing devcie, the lower clamping plate being in alignment with the supporting surface of the insert.

3,505,967
MASTWELL

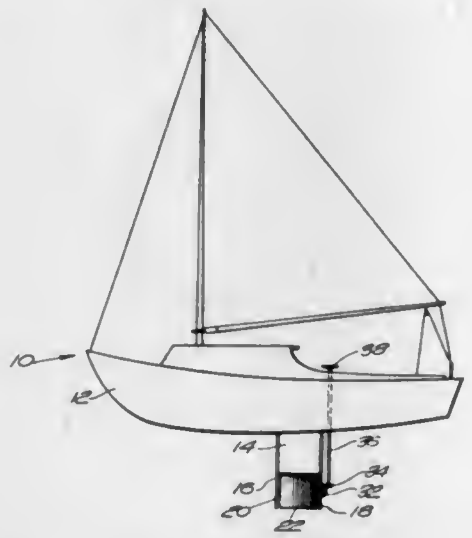
Herbert E. Peterson, 815 W. Northeast Shore Drive,
McHenry, Ill. 60050
Filed Nov. 18, 1968, Ser. No. 776,491
Int. Cl. B63b *15/00*
U.S. Cl. 114—90 4 Claims



A mastwell that will accommodate a plurality of masts of different cross-sectional configuration. The mastwell is tubular, has a flange at the upper end and is received within the deckwell.

3,505,968
BOAT STABILIZER

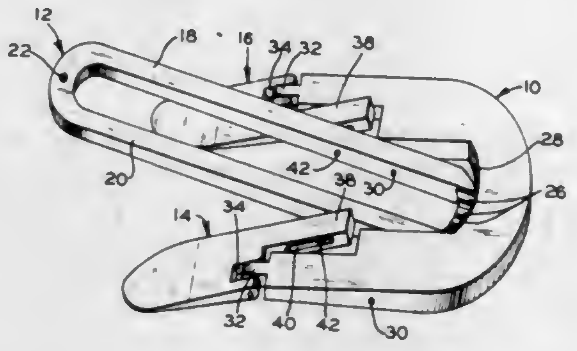
Henry Gorman, P.O. Box 45, Wakefield, R.I. 02883
Filed June 19, 1968, Ser. No. 738,208
Int. Cl. B63b *35/00, 39/06;* B63h *9/00*
U.S. Cl. 114—126 1 Claim



A boat stabilizer comprising a hydrofoil mounted for rotation below the hull of the boat on a substantially horizontal axis in alignment with and spaced below the longitudinal centerline of the boat. The hydrofoil is mounted with its leading edge disposed toward the front or bow of the boat and is rotatable about its axis to a first position wherein the convex surface of the hydrofoil is vertically disposed toward starboard, to a second position wherein the convex surface of the hydrofoil is vertically disposed toward port, and to a third position wherein the convex surface of the hydrofoil is horizontally and upwardly disposed.

3,505,969
ANCHOR

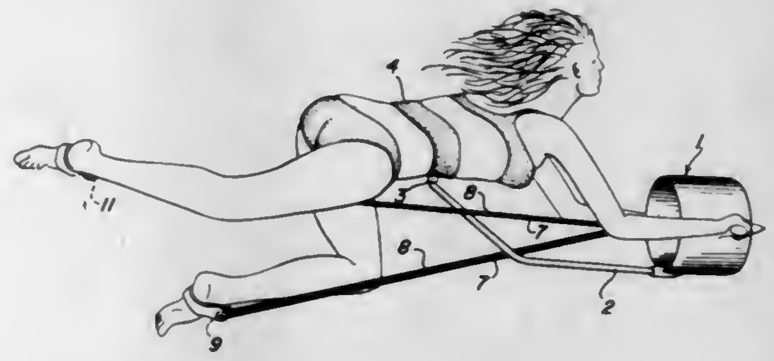
Thomas S. Bowers, Toledo, Ohio
(3366 Mount Diablo Blvd., Lafayette, Calif. 94549)
Filed Oct. 18, 1968, Ser. No. 768,778
Int. Cl. B63b *21/38*
U.S. Cl. 114—208 10 Claims



The disclosure illustrates an anchor for boats and ships which comprises three basic parts: a base, a shank and a pair of flukes. The three basic parts are all pivoted with respect to each other (with a lost motion pivotal connection between two of the parts) so that once the anchor reaches sea bottom and the anchor line lifts one end of the shank, the other end of the shank digs into the sea bottom to restrain movement while the pivotal connection between the shank and the flukes positively forces the flukes downwardly into the sea bottom. The base is U-shaped to receive the shank so that the base sinks somewhat into the hole dug by the shank and the sea bottom dug by the shank is forced against the base to further restrain movement of the anchor.

3,505,970
SWIMMER'S AID

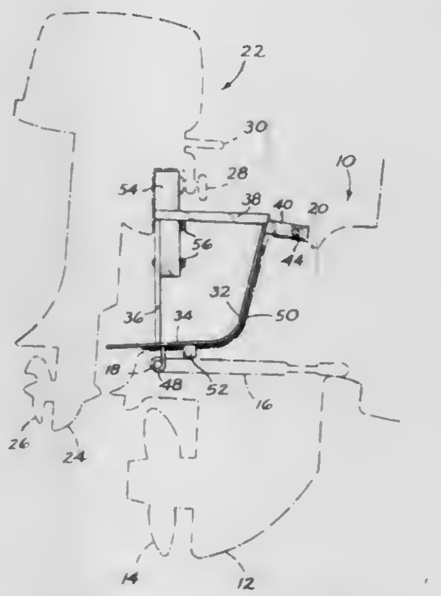
Alexander Sydoriak, 113 Fair St.,
Kingston, N.Y. 12402
Filed June 17, 1968, Ser. No. 737,436
Int. Cl. A63b *35/10*
U.S. Cl. 115—26.3 7 Claims



An apparatus is here taught for increasing the range and mobilty of swimmers. The apparatus includes a hull held in spaced relationship from the swimmer's breast. The hull journals a shaft which has a propeller operatively mounted thereto. Two spools are arranged about the shaft and are each provided with clutches whereby each drives the shaft when rotating thereabout in a like positively defined sense and whereby they slide freely about the shaft in a negative sense. A pair of flexible elements are each wrapped about one of the spools in an opposite sense and each element is connected to one of the feet of the swimmer whereby when the swimmer alternately extends and retracts his feet in a normal stepping motion, he exerts positive pulls alternately on the spools. These positive pulls integrate for continuous driving of the propeller.

3,505,971
OUTBOARD MOTOR MOUNT ATTACHMENT FOR INBOARD-OUTBOARD MOTORS

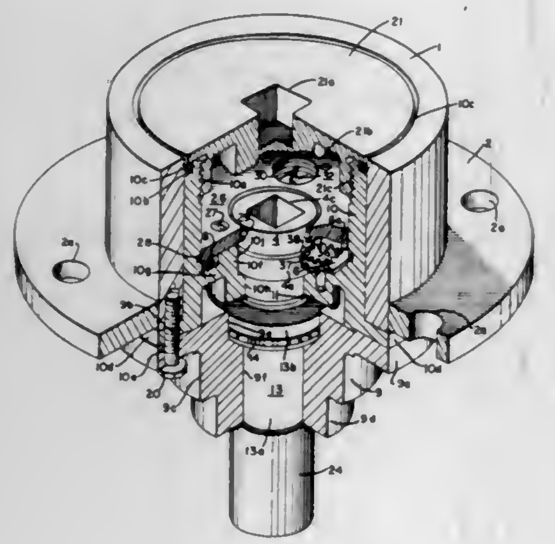
Herbert Dalke, 422 College Drive,
Salem, Oreg. 97304
Filed Aug. 5, 1968, Ser. No. 750,107
Int. Cl. B63h *1/14, 5/06*
U.S. Cl. 115—34 5 Claims



A framework supports at its front end an apertured bracket by which the framework is attached releasably to the hoisting eyelet projecting from the top of an inboard-outboard motor. The framework also supports at its bottom end a pair of laterally-spaced anchor hooks arranged to engage under laterally projecting shock absorber pivot pins on the motor. The framework also supports at its rear end a mounting pad for releasably supporting an outboard motor in pickaback relation to the inboard-outboard motor.

3,505,972
DECK BOX FOR A VALVE OPERATOR

Paul M. Benjamin, Binghamton, N.Y., assignor to Stow Manufacturing Co., Binghamton, N.Y., a corporation of New York
Filed Apr. 30, 1968, Ser. No. 725,401
Int. Cl. F16k *37/00, 5/00*
U.S. Cl. 116—125 **12 Claims**

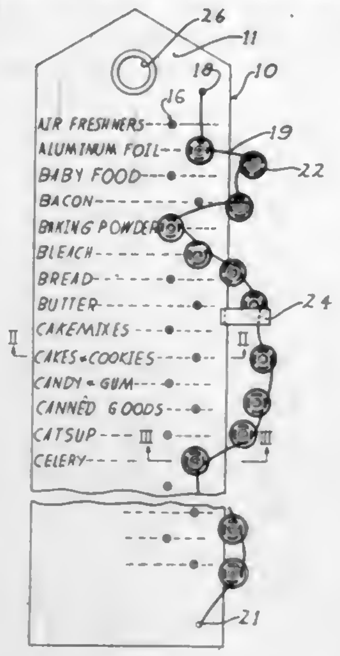


A deck box adapted to be mounted in a deck remote from its related valve, which valve has an operating shaft, to indicate the relative position of the valve between its "open" and "closed" positions, comprising a cylindrical mounting ring in an opening in the deck; a cylindrical deck box housing secured within said ring and having a removable cover; a cylindrical adapter secured to the bottom of the housing and having an axially disposed bore therethrough; a lower spindle rotatably journaled in said bore with its lower end keyed to the operating shaft of said valve; an axially disposed cylindrical support in said housing; an upper deck box spindle rotatably journaled in said support with its lower end engaging a polygonal bore of the lower spindle; a fixed annular plate secured to the top of the support and having an opening adjacent its side covered by a transparent plate having an arrow marked thereon; an internal ring gear below the plate engaging the wall of the housing; a shaft journaled adjacent the support and carrying a spur gear meshing with the teeth of the ring gear and carrying a notched Geneva gear adapted to be engaged by one or more pins on the upper spindle to rotate the ring gear step-by-step a distance equal to the spacing between adjacent notches of the Geneva gear as the spindles revolve; and indicia on the ring gear visible through the transparent plate denoting the relative position of the valve between its "open" and "closed" position.

3,505,973
SHOPPER'S REMINDER

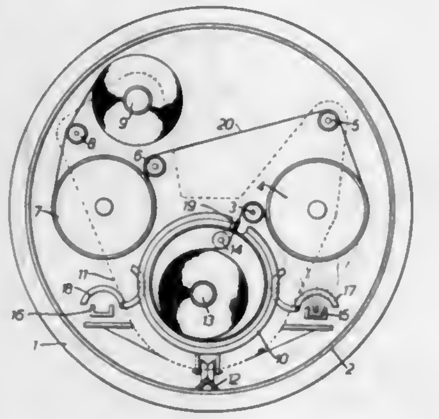
Lily M. Baker, P.O. Box 324, Clayton, Ala. 36016
Filed May 1, 1968, Ser. No. 725,702
Int. Cl. G09f *7/02;* **A44b** *17/00*
U.S. Cl. 116—135 **1 Claim**

A shopper's reminder comprising a strip of flexible material such as fabric on which there may be written a list of items desired from a supermarket. Opposite each named item is secured means to attach a removable marker indicating that such item is desired. A plurality of the markers are slidably arranged on a flexible member such as a piece of string, the flexible member being secured at its end to the strip of material. The entire device may be folded for convenience in carrying.



3,505,974
VACUUM DEPOSITION APPARATUS

Dennis Walter Barker, Crawley, England, assignor to Edwards High Vacuum International Limited, Crawley, England, a British company
Filed Nov. 12, 1968, Ser. No. 775,054
Claims priority, application Great Britain, Nov. 14, 1967, 51,692/67
Int. Cl. C23c *11/00*
U.S. Cl. 118—48 **7 Claims**

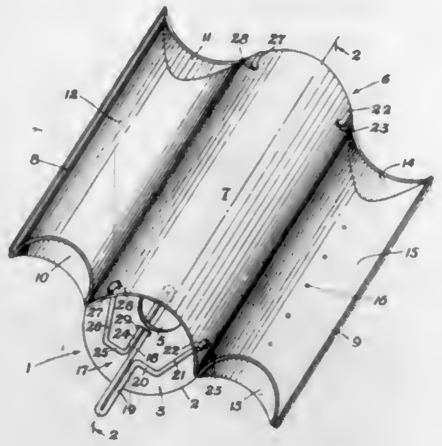


Vacuum deposition apparatus in which the material to be processed passes from an inner vacuum chamber to an outer vacuum chamber in which processing takes place. Said inner vacuum chamber is maintained at a lower pressure than said outer vacuum chamber and an aperture between said chambers through which the material passes maintains during use the pressure differential between said two chambers. Said material may pass from rollers in said outer chamber presenting each side to an evaporation source.

3,505,975
COMBINED BIRD SHELTER AND FEEDER

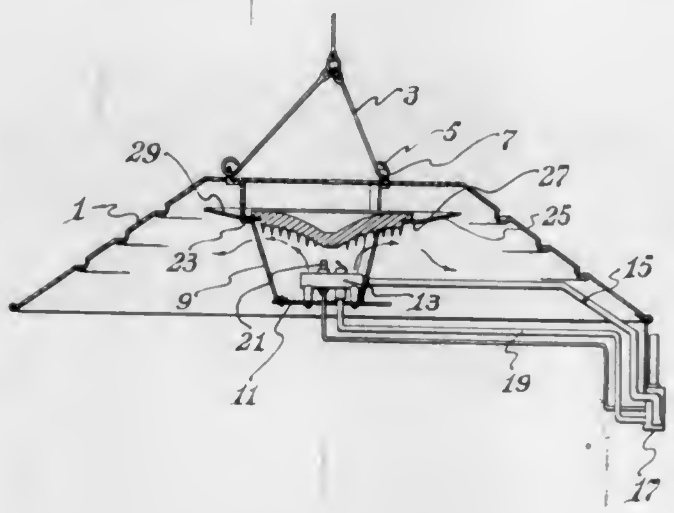
Joseph T. Spencer, Mount Morris, Mich.; Charles Nelson, Jr., 2515 S. Dye Road, Flint, Mich. 48504, administrator of said Joseph T. Spencer, deceased
Continuation-in-part of application Ser. No. 625,093, Mar. 22, 1967. This application Feb. 24, 1969, Ser. No. 805,985
Int. Cl. A01k *31/00*
U.S. Cl. 119—23 **18 Claims**

A combined bird shelter and feeder having a hollow body forming a shelter, a canopy overlying the body and shaped to provide a food receptacle, and including anchor members removably securing the canopy to the body and simultaneously providing a perch. A food reservoir may be mounted atop the canopy to supply food automatically to the food receptacle.



3,505,976
GAS FIRED CHICK BROODER DEVICE

Conrad H. Miller, Rogers, Ark., assignor to Hoyt Corporation, Rogers, Ark.
Filed Nov. 29, 1967, Ser. No. 686,446
Int. Cl. A01k *31/20*
U.S. Cl. 119—32 **8 Claims**

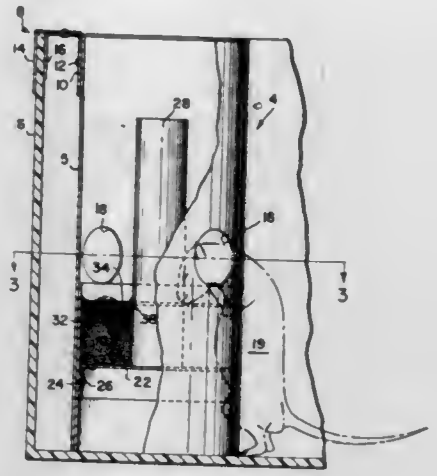


A chick brooder, of the type in which a burner is disposed under a downwardly concave suspended hood, has a fire clay radiant between the burner and the hood. The radiant has an underside which is a figure of revolution about a vertical axis, generated by a downwardly concave line whose radially inner end is below its radially outer end. A plurality of downwardly extending projections are integral with the underside of the radiant.

3,505,977
RODENT FEEDER

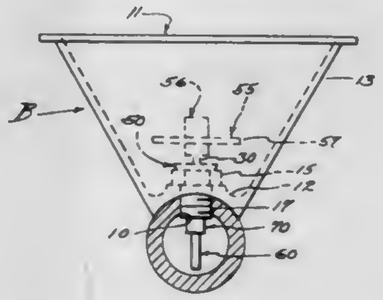
Ralph T. Mancini, Philadelphia, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 16, 1967, Ser. No. 638,974
Int. Cl. A01k *5/00*
U.S. Cl. 119—61 **1 Claim**

A rodent feeder has an upwardly extending body with an open top and restricted openings intermediate the top and bottom to restrict the entry of the rodent. A feed trough within the body and below the restricted openings is provided with an overlying disc having openings providing limited access to the feed. A central obstruction within the body may be employed to restrict the entry of rodents into the body.



3,505,978
POULTRY OPERATED WATERER WITH BACK FLOW CHECK MEANS

Norman P. Nilsen, P.O. Box 33, Phelan, Calif. 92371
Filed Sept. 11, 1967, Ser. No. 666,764
Int. Cl. A01k *7/00*
U.S. Cl. 119—75 **10 Claims**



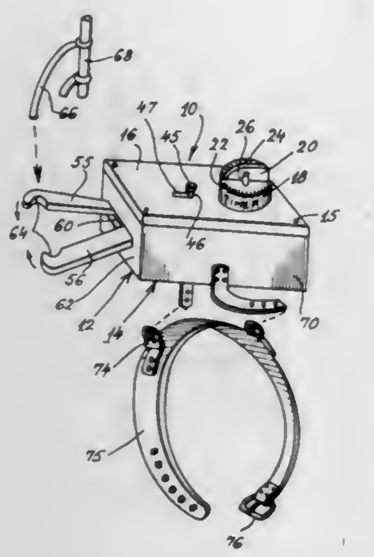
This invention relates to the watering of poultry with a low pressure water supply and provides sanitary functions of filtering waterers supplied directly into the water and to check flow while providing a self-cleaning action and the resonant isolation of each waterer from the manifold from which it is supplied, the structure of this invention being incorporated in a valve body which serves to mount the waterer onto the manifold and to independently accommodate a waterer release valve and a self-cleaning back flow check valve.

3,505,979
DEVICE FOR AUTOMATICALLY RELEASING A CATCH FOR DOG TRAINING

Walter Rosswag, Schwarzwaldstrasse 39, Wilferdingen, Germany
Filed Aug. 11, 1967, Ser. No. 660,099
Int. Cl. A01k *15/00, 29/00*
U.S. Cl. 119—110 **1 Claim**

The disclosure describes a device used in dog training. The device has a catch manually set to engage a line or leash. The catch is released by a rotatable cam. The cam is under control by a mechanical timer or a motor.

The timer or motor can be started by remote control on receipt of a signal which can be an acoustic, optical, supersonic or radio signal. Relay controlled circuitry in the device opens the catch on receipt of the signal.



3,505,980
BOILERS

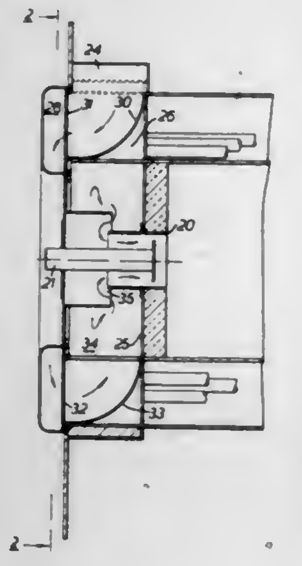
Eric Alexander Magill Burnfield, Annan, Scotland, assignor to Cochran and Company, Annan, Limited, Annan, Scotland

Filed Apr. 24, 1968, Ser. No. 723,761

Claims priority, application Great Britain, Apr. 24, 1967, 18,686/67

Int. Cl. F22b *7/12;* **F23l** *15/00*

U.S. Cl. 122—149 **12 Claims**



A shell type boiler including a casing surrounding the shell and spaced therefrom, whereof the shell has an end adapted to be closed by a door and air ducting in the door through which air is drawn from the casing passing to the burner.

3,505,981
ROTARY ENGINE

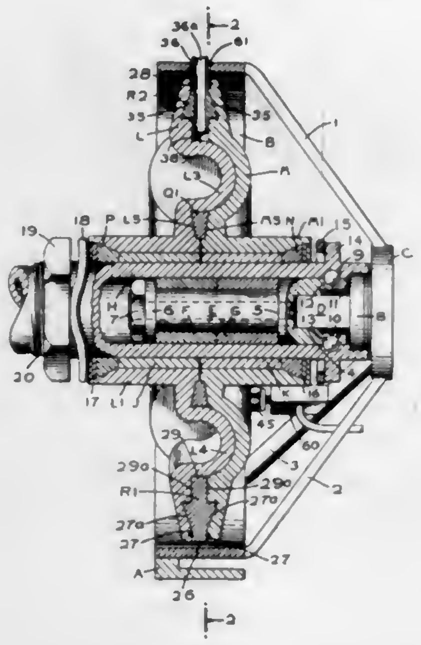
Paul J. Turnbull, 2681 Kelly St., Hayward, Calif. 94544

Filed Dec. 26, 1967, Ser. No. 693,265

Int. Cl. F02b *53/14, 53/12, 55/08*

U.S. Cl. 123—8.47 **11 Claims**

The rotary engine uses suitable fuel and comprises two complemental rotary members that face each other. Each member has a circular groove which is semi-cylindrical in cross section so that the two grooves form a circular cylinder. Also each member has two diametrically opposed pistons that are integral with the member and are slidably received in the adjacent portion of the circular groove in the opposing member. Novel means causes the two rotary members to change their speeds with respect to each other while the members are rotating and this will produce relative rotational movement between the pistons of the two members for causing them to simulate intake, compression, power and exhaust strokes of a four cycle engine. A sealing ring is mounted between the two members and it has intake and exhaust ports that communicate with the circular cylinder.



3,505,982
COOLING SYSTEMS FOR INTERNAL COMBUSTION ENGINES

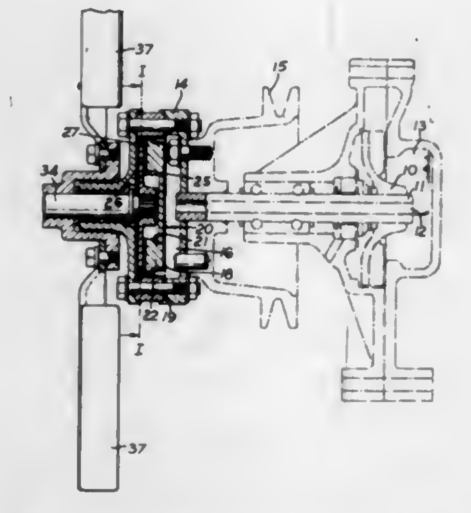
Robert Dennis Walter, Coventry, and William Frederick Pitcher, Birmingham, England, assignors to Concentric Pump Limited, Birmingham, England, a British company

Filed Jan. 23, 1968, Ser. No. 699,901

Claims priority, application Great Britain, Feb. 16, 1967, 7,395/67

Int. Cl. F01p *7/06, 7/08*

U.S. Cl. 123—41.12 **4 Claims**



The invention provides apparatus for rendering the fan in an engine cooling system inoperative upon fall in coolant pressure and hence temperature below a predetermined value, by arranging a diaphragm for the water to operate on, and linkages or clutch means to operate the fan blades.

3,505,983
MULTI-CYLINDER INTERNAL COMBUSTION ENGINE

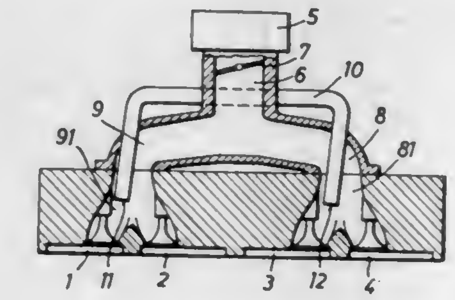
Günter Härtel, Braunschweig, Germany, assignor to Deutsche Vergaser Gesellschaft m.b.H. & Co. KG., Neuss am Rhine, Germany

Filed Oct. 3, 1967, Ser. No. 672,555

Claims priority, application Germany, Oct. 5, 1966, D 51,242; June 9, 1967, D 53,303

Int. Cl. F01l *3/00;* **F02b** *75/18*

U.S. Cl. 123—52 **6 Claims**



A multi-cylinder internal combustion engine which operates on an Otto cycle has one or more carburettors or fuel injection pumps connected to its cylinders by an induction system which has at least two induction pipes or other induction ducts which are interconnected by a bypass connection which is connected at one end to a point near a first-aspirator cylinder and at its other end to a point near a second-aspirator cylinder in order to make more uniform the fuel and air mixture which enters the cylinders and prevents this being enriched by fuel deposited on the walls of the induction pipe or other duct leading to any particular cylinder during the time that cylinder is performing strokes other than an induction stroke and the fuel and air mixture in it is stagnant.

3,505,984
FUEL INJECTION SYSTEMS FOR INTERNAL COMBUSTION ENGINES

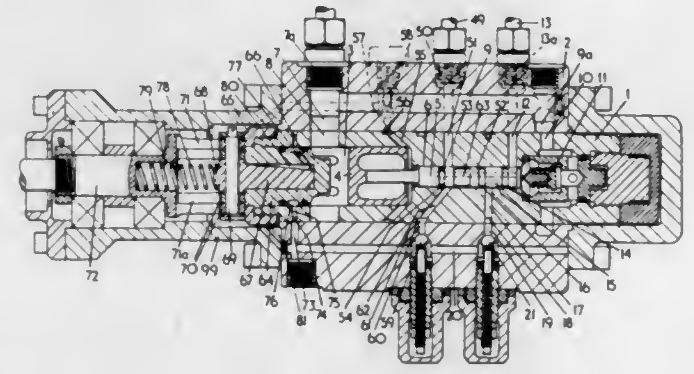
Wilfred Percival Mansfield, Slough, England, assignor to The British Internal Combustion Engine Research Institute Limited, Slough, England, a British company

Filed June 4, 1968, Ser. No. 734,442

Claims priority, application Great Britain, June 5, 1967, 25,879/67

Int. Cl. F02m *41/00*

U.S. Cl. 123—139 **11 Claims**



A fuel injection system for a multi-cylinder internal combustion engine in which the injector nozzles in the cylinders are fed sequentially by fuel under pressure to open the nozzle valve in each, by way of a plunger operating in a bore positioned coaxially within a housing rotatable in a casing, cooperating ports and passages being provided around the axis of the rotatable casing and housing controlling the passage of fuel to the nozzles, the plunger being operated by liquid under pressure from a storage accumulator by means of a servo-piston also co-axial with the bore in the housing, with said servo-piston being of greater diameter than that of the bore for the plunger. The pressure fluid is spilled to a source of lower pressure at the completion of injection into each cylinder.

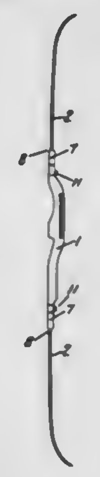
3,505,985
ARCHERY BOWS AND SIGHT DEVICES

James W. Helton, 5994 Waldway Lane, Cincinnati, Ohio 45224

Filed June 19, 1967, Ser. No. 651,083

Int. Cl. F41b *5/00*

U.S. Cl. 124—24 **2 Claims**



An archery bow of sectional construction comprising a handle section, with a pair of flexible limbs detachably secured to the handle section at opposite ends, and a bow string secured to the outer ends of the flexible limbs to complete the bow. The handle section includes adjustment screws which permit the flexible limbs to be adjusted, thereby to vary the tension of the bow string. In addition, the handle section includes an adjustable trajectory scale including a front sight arranged to be adjusted by the user to set the arrow at the proper upward angle to accommodate for target distance and also including a lateral adjustment to accommodate for windage conditions.

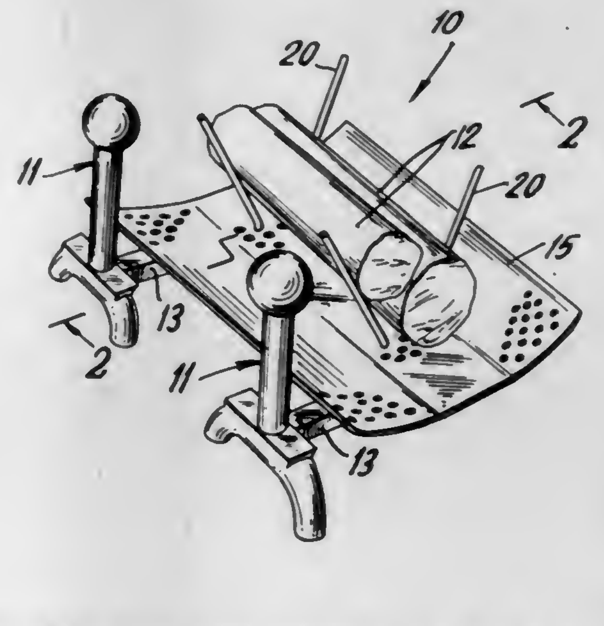
3,505,986
WOOD BURNING GRATE ASSEMBLY FOR FIREPLACE

Lyman P. Wood, Cedar Beach, Charlotte, Vt. 05445

Filed June 11, 1968, Ser. No. 736,118

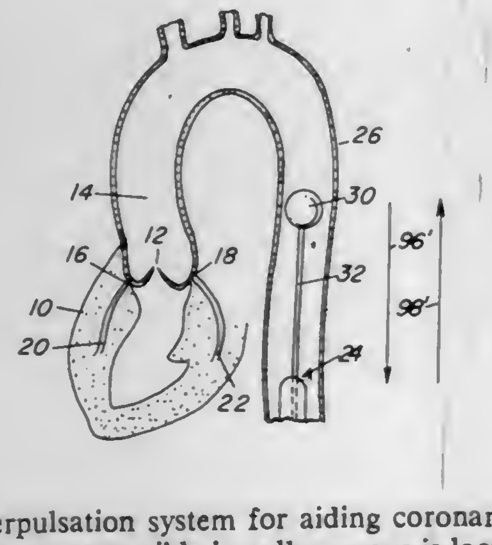
Int. Cl. F23h *13/02*

U.S. Cl. 126—165 **7 Claims**



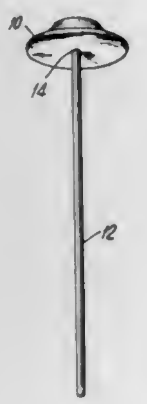
A wood burning grate assembly, for fireplace use, includes a metal grate having a laterally extended log-supported shelf formed with apertures therethrough, and having means supporting the shelf in elevated position. A plurality of relatively elongated metal prongs are insertable into apertures to extend above the shelf to retain logs in a selected pattern. The perforations in the shelf converge downwardly from the upper surface thereof, and the lower ends of the prongs are correspondingly tapered to fit into the tapered apertures. The shelf may be an upwardly concavely curved metal plate set on supporting means such as andirons.

3,505,987
INTRA-AORTIC HEART PUMP
Marlin S. Heilman, Gibsonia, Pa., assignor to Medrad, Incorporated, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 17, 1967, Ser. No. 624,082
Int. Cl. A61b *19/00*
U.S. Cl. 128—1 **35 Claims**



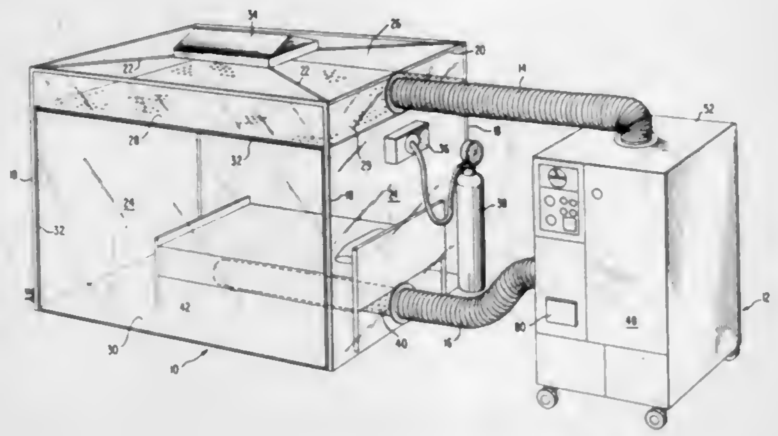
A counterpulsation system for aiding coronary circulation wherein an expansible impeller means is located within the aorta of a patient. Pressure regulating means are provided for expanding and contracting said impeller while simultaneously reciprocating it within the aorta, the motion of said impeller being synchronized with the pumping activity of the heart by means of a variable control circuit to reduce aortic pressure during systole and increase it during diastole.

3,505,988
PROSTHESIS FOR CHRONIC ACCESS TO THE PERITONEUM
Norman Deane, 112 E. 74th St., New York, N.Y. 10021
Filed Apr. 11, 1967, Ser. No. 629,950
Int. Cl. A61b *19/00*
U.S. Cl. 128—1 **3 Claims**



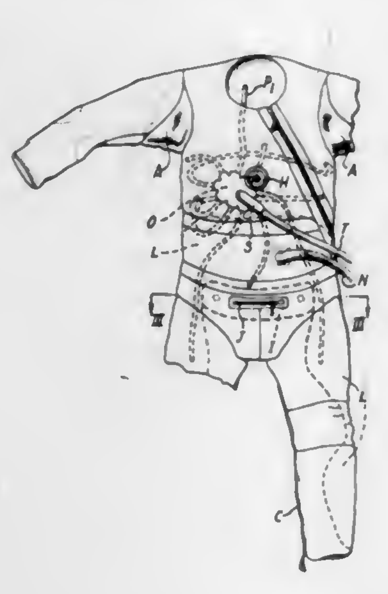
In the technique of peritoneal dialysis, upon the removal of the catheter, a flanged, elongated, flexible member is inserted directly into the wound for chronic access to the peritoneal cavity.

3,505,989
CONTROLLED ENVIRONMENTAL APPARATUS
Andrew Truhan, Somerset, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed May 29, 1967, Ser. No. 641,926
Int. Cl. F24f *7/06*
U.S. Cl. 128—1 **7 Claims**



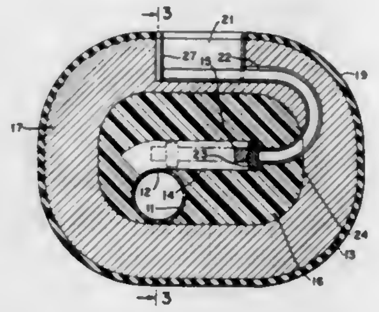
An apparatus for providing a controlled environment in a localized area having an enclosure for isolating an area, an inlet and outlet plenum spaced from one another in the enclosure, a gas treating apparatus for treating and controlling the environmental conditions of gas passed therethrough, and conduiting to provide circulation of the atmosphere in the enclosure from the outlet plenum chamber through the gas treating apparatus to the inlet plenum chamber.

3,505,990
AIR VENTILATION SYSTEM FOR A PARTIAL-PRESSURE SUIT
James M. Hawkins, Lancashire, England, assignor to Frankenstein Group Limited, a British company
Filed Jan. 17, 1968, Ser. No. 698,487
Claims priority, application Great Britain, Feb. 21, 1967, 8,084/67
Int. Cl. A62b *35/00*
U.S. Cl. 128—1 **5 Claims**



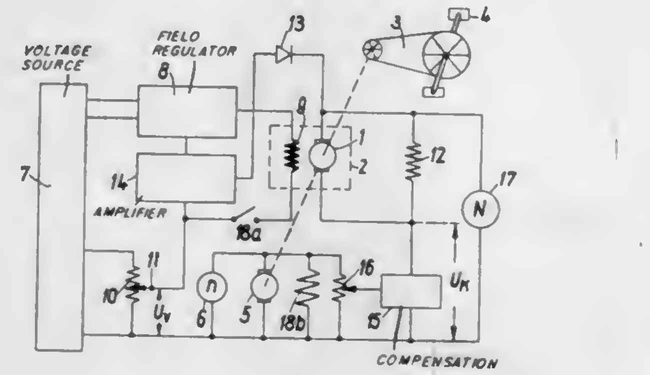
A garment particularly intended for wear by the occupants of high-speed fighter aircraft, having a built-in partial-pressure bladder system inflatable with gaseous medium and arranged internally of its outer covering, is provided with an air-ventilation system comprising a manifold connected to an independent low-pressure air supply and flexible distribution tubes, leading from this manifold to appropriate parts of the garment, said manifold and tubes being arranged between the bladder system and a permeable lining for the garment.

3,505,991
INTRACORPOREAL VASCULAR PROSTHETIC BLOOD IRRADIATOR
Lewis J. Hellerstein and Lloyd W. Johnston, San Antonio, Tex., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 13, 1968, Ser. No. 705,041
Int. Cl. A61b *6/00;* **A61n** *5/01;* **G21h** *5/00*
U.S. Cl. 128—1.1 **5 Claims**



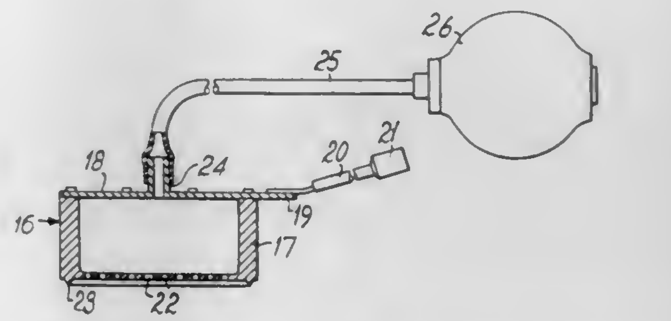
A tube for replacing a segment of vein or artery has a window and passes through a double shield having a hollowed out portion communicating with the window. A radioactive element is disposed in the hollowed out portion and is movable by a positioning means whereby the amount of radiation received by the blood may be varied.

3,505,992
ERGOMETER
Erich Jaeger, 5 Rontgenring, Wurzburg, Germany
Filed Nov. 24, 1965, Ser. No. 509,565
Claims priority, application Germany, Nov. 25, 1964, J 26,980
Int. Cl. A61b *5/10*
U.S. Cl. 128—2 **6 Claims**



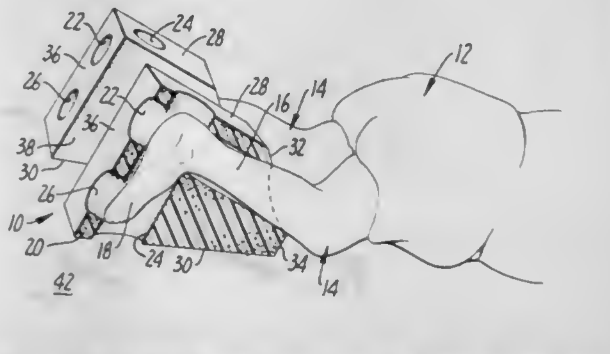
A circuit for an ergometer adapted to be driven by a person includes a generator, driven by a mechanical transmission which has losses; in order to compensate for losses, the generator power supply includes a speed sensitive device such as a tachometer (**5**) the output of which is connected to a compensating circuit (**15**) having a transfer function approximately corresponding to the square root of the speed, the regulating circuit maintaining the sum of the voltage across the load, as derived from the generator, and the voltage proportional to the root of the speed, substantially constant.

3,505,993
ELECTROCARDIOGRAPH ELECTRODES WITH SURFACE CONVEXITIES
David Steel Lewes and Kenneth John Hebblethwaite, Bedford, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Dec. 17, 1965, Ser. No. 514,569
Claims priority, application Great Britain, Dec. 23, 1964, 52,253/64
Int. Cl. A61b *5/04*
U.S. Cl. 128—2.06 **3 Claims**



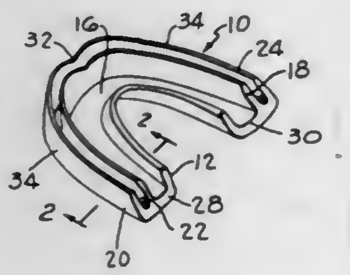
An electrocardiograph electrode having a form such that skin preparation prior to application of the electrode can be dispensed with in most cases. The electrode comprises a rigid metal sheet applied to the skin and making with it a multiplicity of small area contacts by means of points or edges which are distributed uniformly over the area of application and which press into the skin without penetrating beyond the epidermis.

3,505,994
DEVICE FOR PREVENTING THE ORTHOPEDIC DISTORTION OF INFANT'S LEGS
Edward A. Smith, Jr., 2170 Pacific Ave., San Francisco, Calif. 94115
Filed July 12, 1967, Ser. No. 652,799
Int. Cl. A61f *3/00*
U.S. Cl. 128—80 **5 Claims**



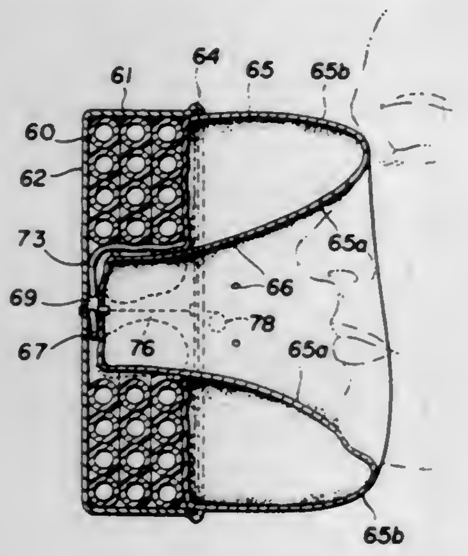
A boot-like device for maintaining the leg of an infant in substantially straight condition during periods of supine or prone relaxation. The device comprises a block of soft elastometric material having a pair of intersecting bores therein adapted, respectively, to snugly receive and retain the calf and foot of an infant. The sides of the block are designed to effect its support in alternative predetermined positions when an infant wearing the block is in relaxed prone or supine position on a substantially flat surface. Normally, a block is applied to each calf and foot of an infant to effect the simultaneous treatment of both of the infant's legs.

3,505,995
MOUTHGUARD WITH COMPRESSIBLE CHAMBER IN OUTER FLANGE
Samuel Greenberg, Philadelphia, Pa. (Stump Road and Commerce Drive, Montgomeryville, Pa. 18936)
Filed Aug. 21, 1967, Ser. No. 662,128
Int. Cl. A61f *5/56*
U.S. Cl. 128—136 **10 Claims**



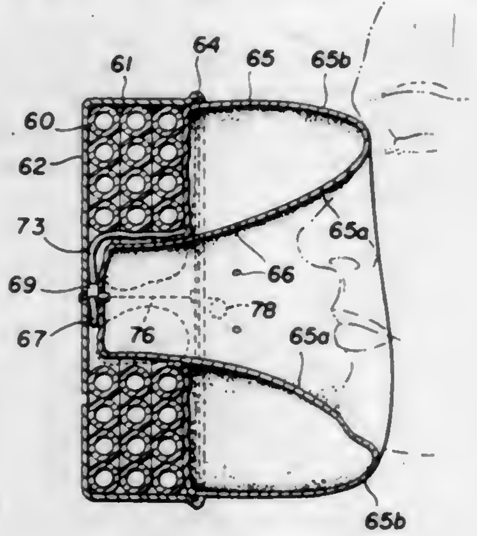
A mouthguard in the form of a substantially U-shaped member of channel cross-section adapted to receive and shield the upper or lower set of teeth with a chamber in the outer flange to render the same compressible so that an impact thereto will be softened before it is transmitted to the teeth and lips.

3,505,996
HIGH PRESSURE GAS STORAGE AND DISCHARGE APPARATUS
John James Cowley, Toronto, Ontario, Canada, assignor, by mesne assignments, to Abbott Laboratories, a corporation of Illinois
Continuation-in-part of application Ser. No. 448,139, Apr. 14, 1965. This application Mar. 31, 1967, Ser. No. 627,455
Int. Cl. A62b *7/00;* **A61m** *15/00;* **B67d** *5/62*
U.S. Cl. 128—145.8 **4 Claims**



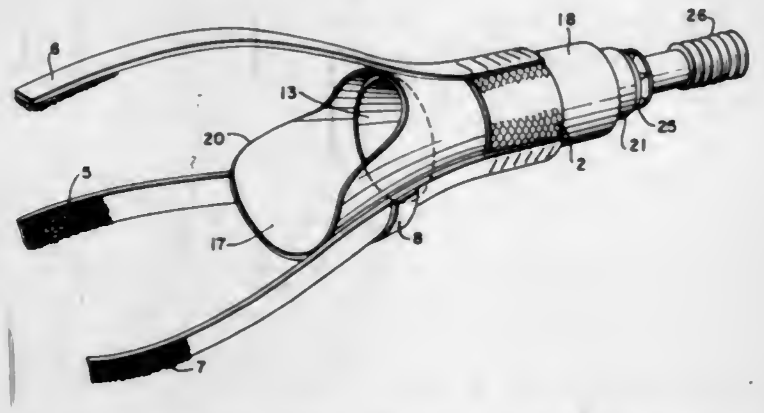
A high pressure gas storage and discharge apparatus for use with oxygen breathing devices having a high pressure gas storage vessel, capillary tube means defining a metered outlet for the pressure vessel for discharging gas from the pressure vessel at a reduced rate, a thermally conductive metallic heat sink means formed by at least part of the capillary tube means defining a tortuous gas flow path contained wholly within the pressure vessel, a portion of the capillary tube means extending from the pressure vessel, manually releasable sealing means on the portion of the capillary tube means extending from the pressure vessel sealing the end of said capillary tube means.

3,505,997
OXYGEN BREATHING APPARATUS
John James Cowley, Toronto, Ontario, Canada, assignor, by mesne assignments, to Abbott Laboratories, a corporation of Illinois
Continuation-in-part of application Ser. No. 448,139, Apr. 14, 1965. This application Mar. 31, 1967, Ser. No. 627,486
Int. Cl. A62b *7/02;* **A61h** *31/00*
U.S. Cl. 128—145.8 **8 Claims**



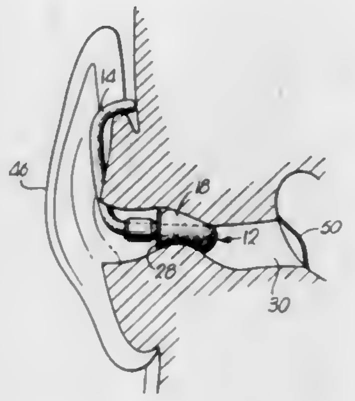
An oxygen breathing device adapted for both inhalator and resuscitator use which is small and readily portable and incorporates a high pressure storage vessel consisting of a tube wound upon itself into a coil, a casing or housing for the tube, having an opening, and a collapsible mask attached around the housing opening, and a cover which maintains the mask in its collapsed condition. A break away seal, or a manually operable valve are provided for release of oxygen from the vessel into the mask, and an accumulator, which may be incorporated in the mask is provided to conserve escaping gas during use.

3,505,998
COMBINED CANINE OXYGEN MASK WITH HARNESS
James R. Halstead, Grandview, Mo., and Richard J. Brown, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 29, 1967, Ser. No. 671,886
Int. Cl. A62b *7/02*
U.S. Cl. 128—146.7 **4 Claims**



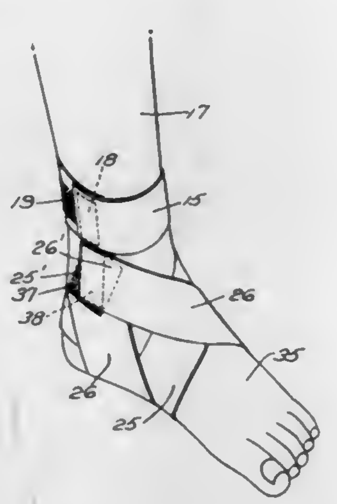
A canine oxygen mask having a configuration to fit over the nose and mouth of a dog receives oxygen through a valve attached to a flexible hose. The mask comprises a rubber shell having a plastic support inserted inside the rubber shell and a harness fitted over the shell to facilitate attaching the mask to the dog. The harness has straps that may use buckles or a material which adheres to itself such as "Velcro," to fasten the individual straps to each other.

3,505,999
EARPLUG
Susan L. Harvey, Kansas City, Mo., and Richard W. Iliff, Shawnee Mission, Kans., assignors to Old Westport Medical Association, Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Aug. 25, 1967, Ser. No. 663,398
Int. Cl. A61f *11/02*
U.S. Cl. 128—152 **9 Claims**



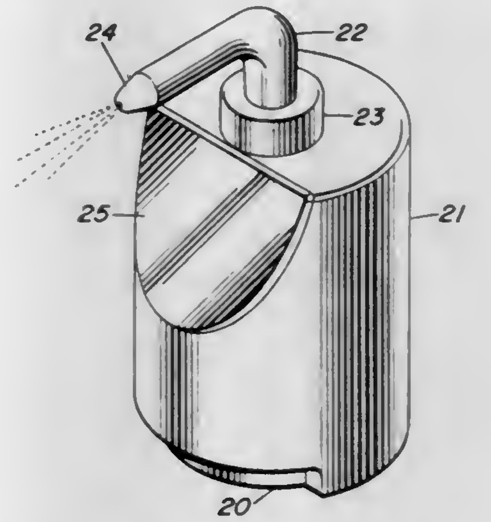
An earplug having a flexible, expandable bag adapted for expansion within the auditory canal of the ear, the bag having a relatively rigid tube extending thereinto for delivering fluid from a pump, in communication therewith, to effect expansion of the bag upon actuation of the pump. The tube, being relatively rigid, aids in insertion of the bag into the auditory canal and a disc-like stop surrounds the tube externally thereof and rearwardly of the bag to limit the extent of insertion of the tube and bag into the ear. A bendable element extends along the tube for shaping the same to fit over the external ear whereby the earplug may be supported by the external ear.

3,506,000
ANKLE SUPPORT
Jack R. Baker, Lincoln, R.I., assignor to Jariba Corporation, a corporation of Delaware
Filed Aug. 19, 1968, Ser. No. 753,386
Int. Cl. A61f *13/05*
U.S. Cl. 128—166 **2 Claims**



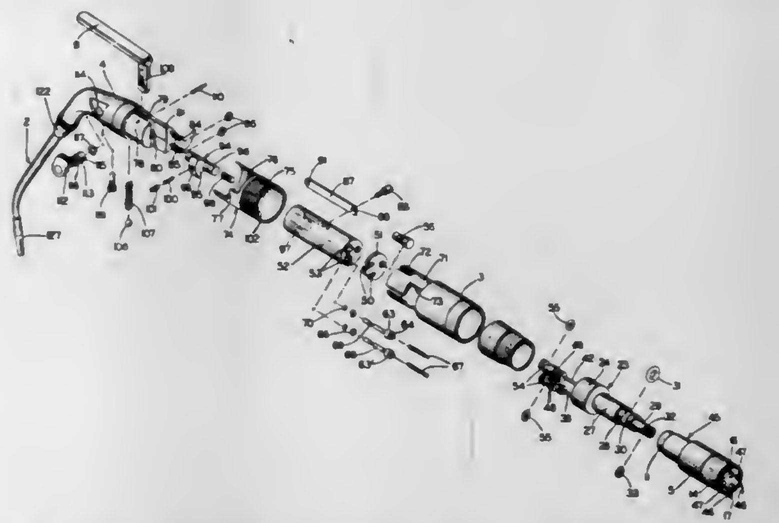
An ankle support comprising a body member to extend about the Achilles tendon at the back of the foot and along the inside and outside of the foot with a band at its upper edge to support it in position and with stretchable straps supported in position to the body member and extending in opposite directions, the straps being of a length to pass under the arch of the foot and over instep in opposite directions one from the other and then about the leg in opposite directions so as to overlap with means to hold them in overlapping position.

3,506,001
EYE-SPRAYING DEVICE HAVING MIRROR
Christopher Hollet Costello, Summit, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,025
Int. Cl. A61m *11/00*
U.S. Cl. 128—173 **1 Claim**



The device disclosed herein includes a container for medicated solutions to be administered to the eye, an outlet member associated with the upper portion of the container serving as a directional sprayer, and a mirror mounted and positioned on the device so that the image of the eye is reflected to the user of the device.

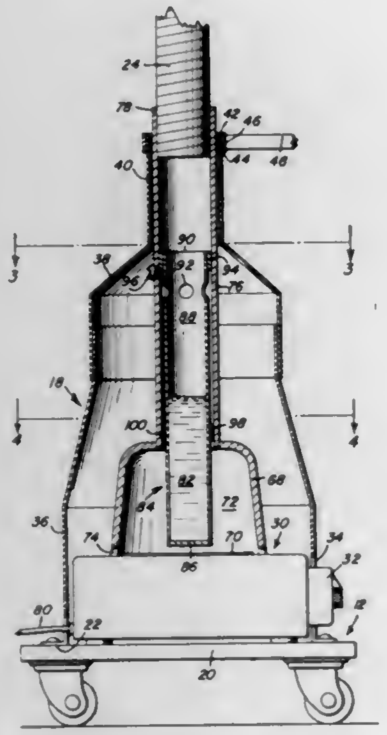
3,506,002
DENTAL SYRINGE CONSTRUCTION
John A. Maurer, Victor R. Ferguson, Kenneth R. Lappin, and Henry C. Ebben, Jr., Canton, Ohio, assignors, by mesne assignments, to The Stern-Web Company, a corporation of Delaware
Filed May 25, 1967, Ser. No. 641,373
Int. Cl. A61c *17/02*
U.S. Cl. 128—173.1 **8 Claims**



A dental syringe construction having a handle portion formed of a tubular housing with a nozzle portion attached to a head at one end and air and water hose connections at the other end. Air and water conduits are located through the tubular housing from the hose connections to the nozzle. Valves, in a valve body connected by a bracket to the head, are located in the air and water conduits with a lever for operating either or both of the valves and a metering valve is provided in the water conduit for regulating the amount of water admitted to the nozzle. An electric heating element surrounds the air and water conduits within the tubular housing but is spaced from the housing to provide an insulating air space therebetween.

3,506,003
HEATED MEDICINAL VAPORIZER

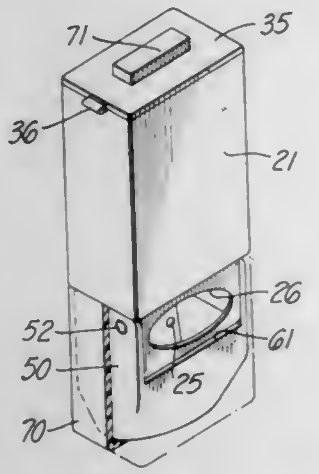
Warren B. Gregory, P.O. Box 184,
Hurtsboro, Ala. 36860
Filed Oct. 11, 1966, Ser. No. 585,922
Int. Cl. A61m *15/00*
U.S. Cl. 128—192 **7 Claims**



Air within a heating chamber is heated in surrounding relation to a body of volatile liquid within a tubular container. The heated air is conducted upwardly through an annular passage formed about the container and enters ports therein for mixing with vapor rising from the body of liquid. The mixture of heated air and vapor is conducted from the conduit to a face mask through flexible tubing supported on a swivelly mounted, extensible arm.

3,506,004
INHALATION DEVICE

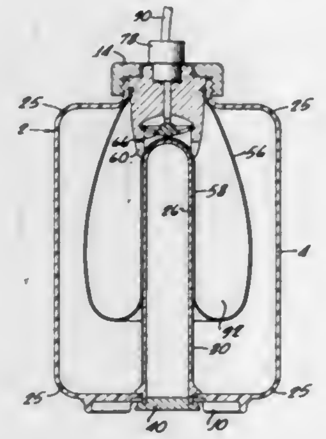
Seymour H. Mann, Northridge, and Marvin H. Margolies, Encino, Calif., assignors to Dart Industries Inc., Los Angeles, Calif., a corporation of Delaware
Filed July 10, 1967, Ser. No. 652,245
Int. Cl. A61m *11/00, 15/00*
U.S. Cl. 128—208 **6 Claims**



An aerosol dispensing device for discharging a metered amount of a medicament containing aerosol into the mouth of a patient during inhalation. A closed housing with a replaceable aerosol container. A molded housing with a unitary cover and actuator and having an output opening which is pivotally mounted to the housing by a square boss in a round opening mouthpiece, and a cap for fully closing the device. The cover is mounted to the housing by an integral flexible hinge.

3,506,005
PRESSURE INFUSION DEVICE FOR MEDICAL USE

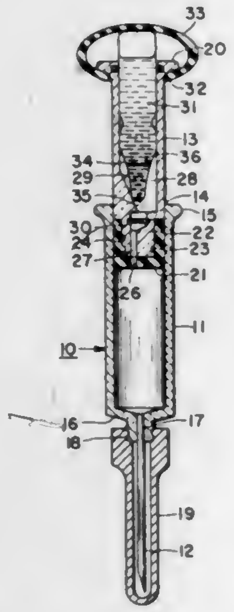
Arthur S. Gilio, 10262 Deerhill, and Norman Gortz, 11151 Coventry Place, both of Santa Ana, Calif. 92705, and Michael B. Maccarone, 17932 Gillman Ave., Irvine, Calif. 92664
Filed Feb. 23, 1967, Ser. No. 618,038
Int. Cl. A61m *5/14;* **B65d** *37/00*
U.S. Cl. 128—214 **24 Claims**



A container for supplying fluid under pressure includes a resilient bladder which is flexible between a contracted position in which there is no fluid in the bladder and an expanded position in which the bladder is full of fluid. The bladder is pre-tensioned, i.e., held in tension in the contracted position, so that the fluid will be dispensed at a pressure above a preselected minimum until the bladder is empty.

3,506,006
HYPODERMIC SYRINGE

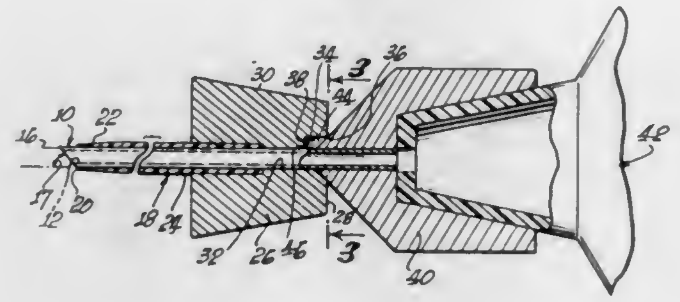
Richard Lange, Jr., Harriman, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 21, 1968, Ser. No. 714,956
Int. Cl. A61m *5/24*
U.S. Cl. 128—220 **6 Claims**



A hypodermic syringe having a fluid-containing ampoule carried in a plunger reciprocable in a barrel. The ampoule is movable in the plunger in a manner permitting the breaking of a frangible tip on the ampoule by contact with a projection on the inner surface of the plunger. Fluid from the ampoule passes through a channel in the base of the plunger. The channel is subsequently closed, and the plunger is used to expel the fluid from the barrel through a needle.

3,506,007
CATHETER-NEEDLE

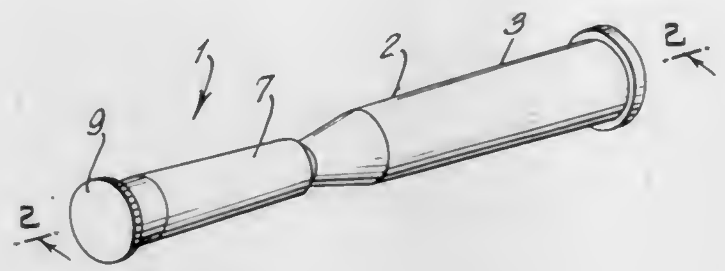
Melvyn L. Henkin, 3326 Sawtelle Blvd.,
Los Angeles, Calif. 90066
Filed July 24, 1967, Ser. No. 655,513
Int. Cl. A61m *5/00*
U.S. Cl. 128—221 **10 Claims**



An improved catheter-needle for injecting and withdrawing fluids from cavities and channels of a subject is disclosed consisting of a hollow needle; a catheter disposed exteriorly of the needle and slidable thereon; and, a releasably interlocking hub assembly interconnecting the needle and the catheter. The interlocking hub assembly is constructed to selectively maintain the needle in a predetermined withdrawn position within the catheter. Alternative catheter constructions are disclosed whereby the catheter may be selectively maintained in a predetermined inserted position.

3,506,008
MEDICAL APPLICATOR

Charles M. Huck, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
Filed Mar. 25, 1968, Ser. No. 715,784
Int. Cl. A61m *35/00*
U.S. Cl. 128—261 **5 Claims**

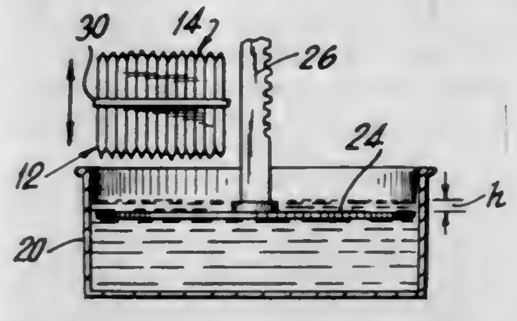


A prefilled syringe type applicator wherein the plunger is hollow and is initially telescopically and disengageably disposed over the ejector tip thus serving to seal and protect the same. A plug capable of doubling as a leader for the plunger is slidably mounted at the open end of the medicament reservoir. The plunger when disengaged from the ejector tip is engageable with the outward facing end of the plug to thus provide an applicator ready for use.

3,506,009
METHOD OF MAKING MEDICAL STICKS

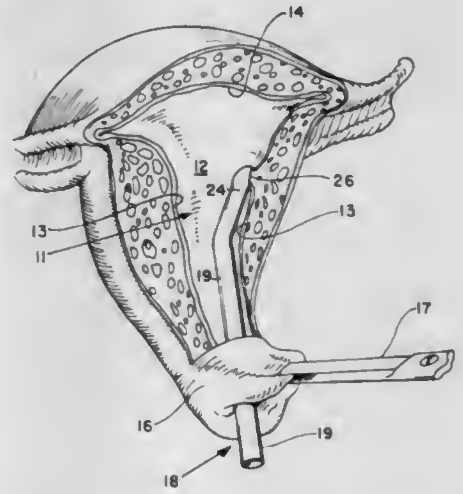
Raffaele Di Pietro, Rome, Italy, assignor to Societa Farmeuropa—Fedip, Rome, Italy
Filed Mar. 3, 1967, Ser. No. 620,355
Int. Cl. A61b *19/00;* **A61j** *3/80;* **A61m** *7/00*
U.S. Cl. 128—267 **6 Claims**

Styptic-tipped sticks, in the form of matchbooks, are formed by heating a medicinal mixture sufficient to fluidize it, homogenizing the mixture by agitating it with an apertured disc reciprocated perpendicularly to the plane of the disc, dipping the sticks a plurality of times in the mixture to form a stratified tip, and then drying the sticks in hot air.



3,506,010
UTERINE EVACUATOR

William C. Murr, Piedmont, Calif., assignor to Berkeley Tonometer Company, Berkeley, Calif.
Filed Jan. 29, 1968, Ser. No. 701,313
Int. Cl. A61m *1/00*
U.S. Cl. 128—276 **9 Claims**

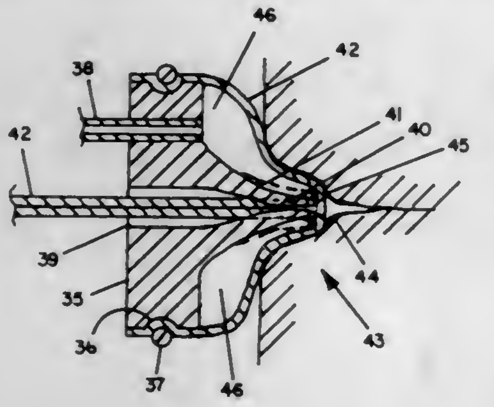


Apparatus for evacuating the walls of the uterus as an alternative to curettage is provided. A tip is inserted through the dilated cervix. The anterior of said tip is disposed at about a 15 degree angle to the proximal. The outer end of the anterior is formed with a flat opening disposed at approximately 23 degrees to the axis of the anterior. The opening in the tip is thus disposed approximately tangent to the anterior, posterior and lateral walls of the uterus for a large portion of its surface area. By rotating the tip about the axis of the proximal portion and gradually withdrawing the tip from its fully projected position, the opening in the tip traverses the surface area described. The extreme end of the tip is curved and is tangent to the axis of the proximal portion. Furthermore, the extreme outer edge of the opening in the tip is curved inwardly and thickened. Accordingly, the danger of puncturing the top of the cavity is reduced. A pump is provided to draw a vacuum through the tip which is sufficiently strong for the purpose intended. Means is provided to trap material evacuated for inspection or for subsequent analysis.

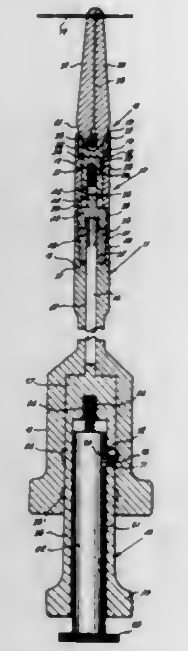
3,506,011
MEDICAL INSTRUMENT FOR EVERTING A THINWALLED FLEXIBLE TUBING

Daniel Silverman, 5969 S. Birmingham,
Tulsa, Okla. 74105
Filed July 15, 1966, Ser. No. 565,556
Int. Cl. A61m *25/00, 29/00;* **B29c** *19/00*
U.S. Cl. 128—348 **28 Claims**

This invention covers a simple disposable apparatus for everting a thinwalled flexible tubing. It involves a length of collapsed thinwalled tubing which is to be everted, a first end is turned back on itself to form a cuff, providing an annular volume between the cuff and the collapsed tubing. Means to seal the cuff to the tubing are provided to close off the annular volume, and means are provided to insert fluid under pressure into the closed-off volume. This pressure causes the volume to expand longitudinally, drawing the collapsed tubing through the seal and causing it to be everted. The cuff is sealed to the tubing by being pressed into sliding sealing contact, or means such as a sealing ring is placed in the annulus. A disc with a central opening can be used with the tubing inserted through the opening, turned back on itself and sealed circumferentially to the disc.

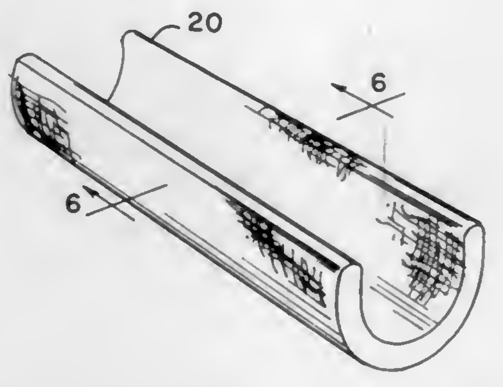


3,506,012
POLYP CLAMP AND APPLIER THEREFOR
Ivan E. Brown, 551 W. Maple Drive,
Hartley, Iowa 51346
Filed Aug. 1, 1967, Ser. No. 657,691
Int. Cl. A61b *17/30*
U.S. Cl. 128—346 **3 Claims**



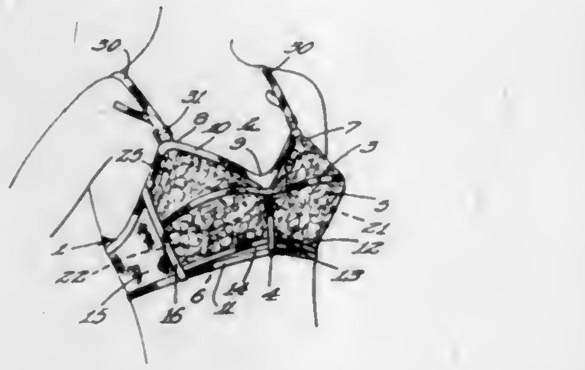
A surgical instrument for the removal of a polyp from within a body cavity which includes a tubular stem member having a clamp unit releasably connected with its front end so as to constitute a forward extension or head portion on the stem member. The clamp unit has a pair of pivoted jaw members movable to open and closed positions relative to the polyp to be removed. Coacting means on the stem member and clamp unit releasably connect the stem member with the clamping unit. An actuating means includes an actuator rod mounted within the stem member for relative longitudinal and rotational movements. Rotation of the actuator rod opens and closes the jaw members and longitudinal movement of the actuator rod operates the coacting means to provide for the connection and disconnection of the clamp unit with the stem member.

3,506,013
METHOD OF MAKING ICED DRESSING
Betty J. Zdenek, 8742 Albany Ave.,
Evergreen Park, Ill. 60642
Filed Oct. 14, 1966, Ser. No. 586,807
Int. Cl. A61f *7/10*
U.S. Cl. 128—402 **1 Claim**



A disposable sterile iced dressing having one or more storage compartments which, at the time of manufacture, are filled with a suitable liquid such as water, hermetically sealed, sterilized and packaged in a protective container. If desired, these bandages can be placed on a form shaped in accordance with a predetermined portion of a patient's body to which they are to be applied and while on said form frozen to provide a preshaped rigid sterile iced dressing.

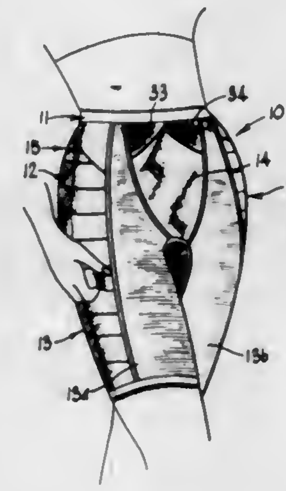
3,506,014
BRASSIERE
James L. Sorenson, Salt Lake City, Utah, assignor to Levoy's Inc., Salt Lake City, Utah, a corporation of Utah
Filed Aug. 11, 1967, Ser. No. 660,075
Int. Cl. A41c *3/00*
U.S. Cl. 128—484 **2 Claims**



A brassiere with floating cup-supplementing breast supporting strip or panel means of which each breast supporting portion is separately adjustable from the central part of the brassiere.

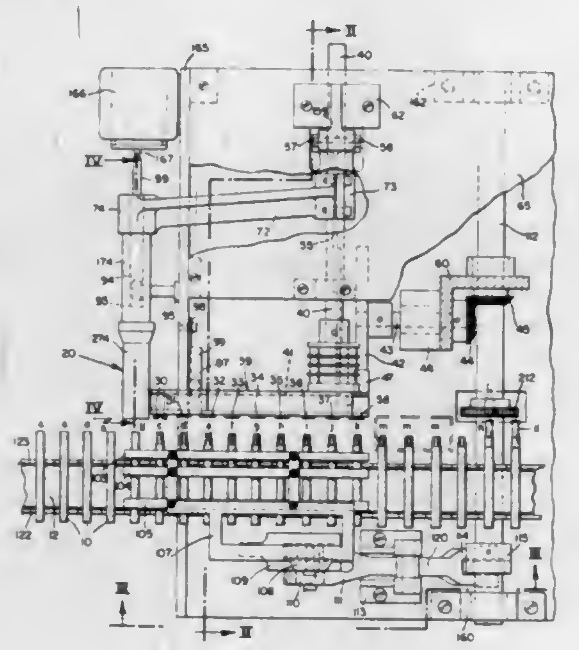
3,506,015
FINGER GRIP MEANS FOR GRIDLES
Gertrude Stacy, 4310 N. Damen Ave.,
Chicago, Ill. 60618
Filed Aug. 28, 1967, Ser. No. 663,727
Int. Cl. A41c *1/00*
U.S. Cl. 128—576 **3 Claims**

Finger grip means for facilitating upward movement of a girdle over the flesh of a wearer and for minimizing stretching of the girdle in pulling it on, and also to strengthen and reinforce the girdle. The finger grip means comprises a pair of sections of fabric material secured on opposite sides of a girdle and pleated to provide vertically displaced generally horizontally extending strips located at points of highest effectiveness, i.e. on the leg-encircling, hip-encircling and waist-encircling portions of the girdle.



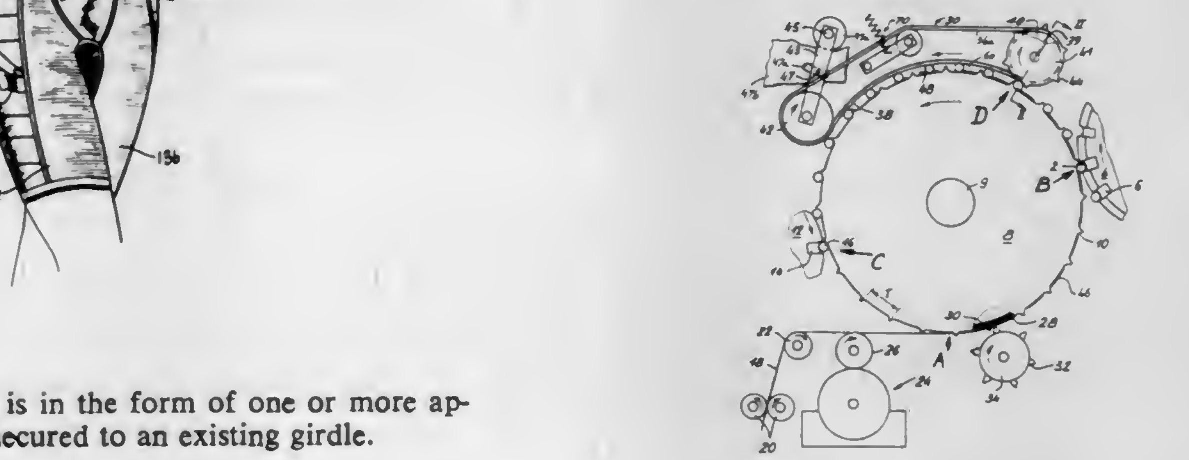
The finger grip means is in the form of one or more appliques adapted to be secured to an existing girdle.

3,506,016
CIGAR HEAD FORMING FOR CIGAR TIPPING
Dale R. Smith, York, Pa., assignor, by mesne assignments, to York Production Engineering Company, Inc., Windsor, Pa., a corporation of Pennsylvania
Filed Feb. 16, 1968, Ser. No. 706,061
Int. Cl. A24c *1/18, 1/32*
U.S. Cl. 131—92 **16 Claims**



An apparatus is disclosed for forming the head of a cigar to receive a plastic tip. The open head of the cigar is first bored on the center axis. However, it may not be necessary to bore where the cigar is loosely packed. A group of pleats is then formed about the head by a heated pleating die. Then the pleated head is progressively heat formed by a series of compression of forming dies to which the cigar head is successively presented. Each successive die has an interior diameter smaller than that of the die immediately preceding it. These dies are moved reciprocally on the longitudinal axis of the cigar at each of the successive forming stations, while the cigar is clamped against the thrust of the die.

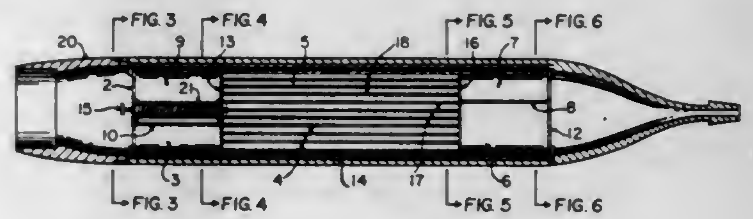
3,506,017
MACHINE FOR WRAPPING UNITING BANDS AROUND ROD-SHAPED ARTICLES
Bernhard Schubert, Neu Bornsen, Germany, assignor to Hauni-Werke, Korber & Co. KG., Hamburg-Bergdorf, Germany
Filed Feb. 21, 1967, Ser. No. 617,601
Claims priority, application Germany, Mar. 7, 1966,
H 58,726
Int. Cl. A24c *5/58*
U.S. Cl. 131—94 **11 Claims**



A filter cigarette or filter cigar machine wherein groups of coaxial rod-shaped articles are united by adhesive-coated bands which are carried by an assembly conveyor. The groups are fed to the traveling assembly conveyor in such positions that their articles are adjacent to the leading or front ends of the respective uniting bands, and the groups are thereupon caused to travel through an elongated wrapping passage defined by the assembly conveyor and a travelling rolling conveyor which comprises endless belts bounding one side of the passage. The belts are driven at a speed which is less than the speed of the assembly conveyor so that, during wrapping, the groups are caused to roll backwards with reference to the assembly conveyor.

The rolling conveyor has aligning teeth which cooperate with successive pairs of ribs on the assembly conveyor at the upstream end of the wrapping passage. The aligning ribs and teeth insure that the articles of each group are placed into exact axial alignment prior to their entry into the passage.

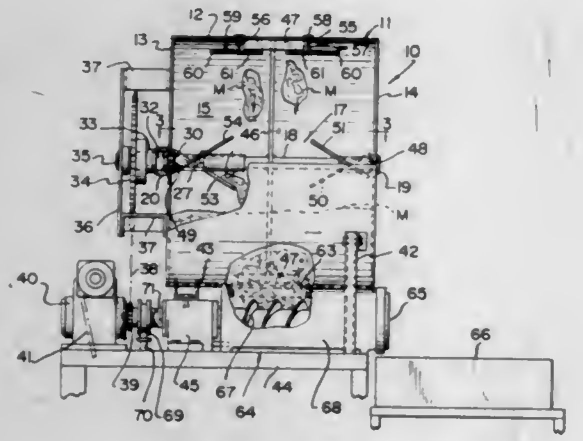
3,506,018
SMOKE COOLING CIGARETTE HOLDER
Gloria H. Petrino, 5 Gaynor Place,
Glen Rock, N.J. 07452
Filed Dec. 27, 1967, Ser. No. 694,783
Int. Cl. A24f *1/16, 13/04*
U.S. Cl. 131—194 **1 Claim**



A cigarette holder having a socket for receiving a cigarette at the inlet end, a mouthpiece at the discharge end and a smoke cooling member between the two. The socket has a screw threaded engagement with the inlet end of the mouthpiece and the smoke treating member adjacent to the socket member. The smoke treating member consists of a plurality of smoke conducting tubes that are mutually spaced and contained within a housing member that is placed in the inlet end of the mouthpiece. The tubes are connected to apertured discs adjacent to the opposite ends of the member and communicate with chambers adjacent to each disc and are so arranged that smoke passing through the holder reverses direction twice before reaching the discharge end of the mouthpiece. A valve is provided in the chamber at the upstream end of the member and is arranged so that a cooling fluid such as liquefied gas may be injected and retained under pressure within the housing in the space surrounding the spaced tubes and between the apertured discs.

3,506,019
SUBDIVIDED MEAT MIXER AND GRINDER

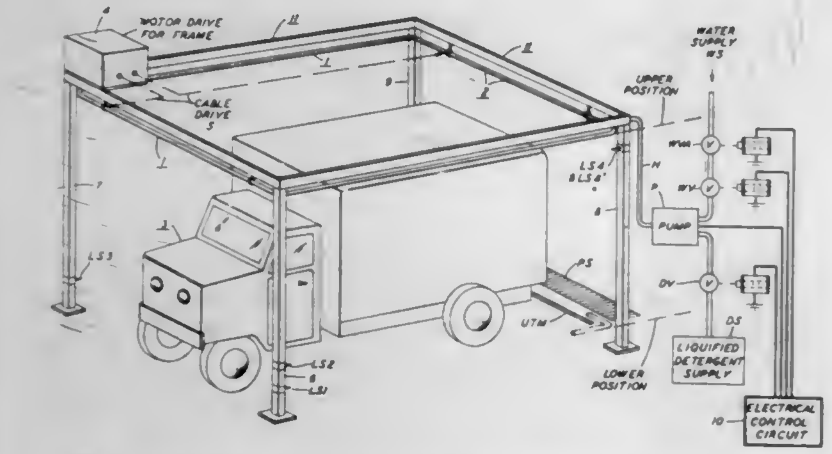
James A. Holly, Olympia Fields, Ill., assignor to Hollymatic Corporation, a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,066
Int. Cl. B01f *7/04*
U.S. Cl. 259—46 15 Claims



An apparatus for mixing subdivided meat comprising a mixing chamber for retaining the meat during mixing, a rotatable shaft means in the chamber above the lower portion of the chamber and a plurality of spaced paddle means on the shaft rotatable in spaced paths with each paddle means including a blade movable through the chamber and having a narrow width to clear a path through the meat during the mixing and in which at least one blade is inclined to its direction of movement in order to mix the meat and simultaneously urge the meat toward another of the plurality of paddle means for thorough mixing.

3,506,020
VEHICLE WASHER EQUIPMENT

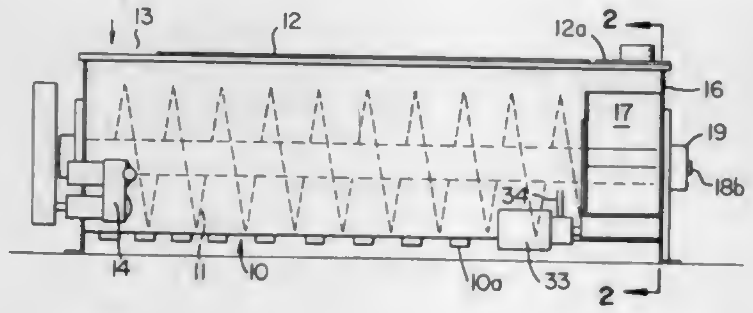
John C. DeNiro, Watchung, N.J., assignor to Raymond W. Palmer, East Orange, N.J.
Filed Jan. 17, 1968, Ser. No. 698,504
Int. Cl. B60s *3/04*
U.S. Cl. 134—45 8 Claims



An automatic drive-in vehicle washing system as disclosed having an under the vehicle washing mechanism and a vertically reciprocating spray frame for spraying water and detergent for washing the sides and top of the vehicle. An electrical control circuit comprising a stepping sequence switch, timers and relays is utilized for controlling all washing operations including the reciprocation of the spray frame and the injection of water and detergent by means of valves and a pump during the frame reciprocation.

3,506,021
DISCHARGE APPARATUS FOR PROCESSING EQUIPMENT

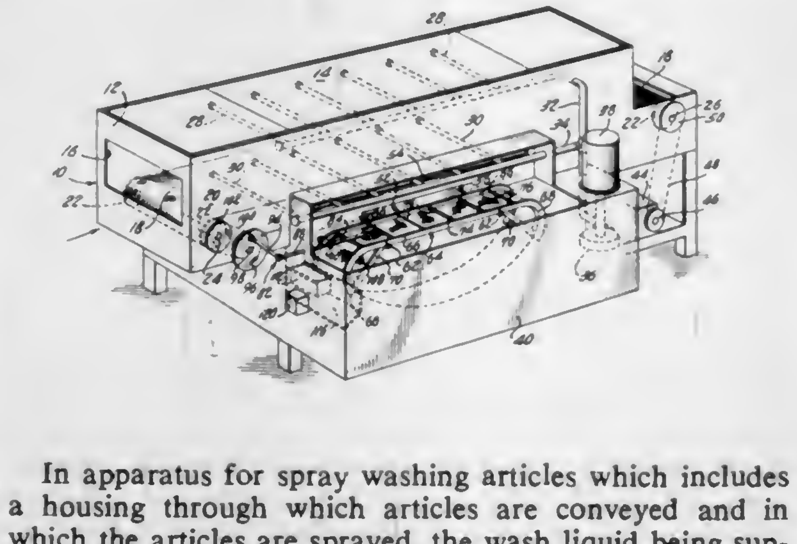
Jesse J. Tapscott, Santa Rosa, Calif., assignor to Rietz Manufacturing Co., Santa Rosa, Calif., a corporation of California
Filed Oct. 10, 1966, Ser. No. 585,447
Int. Cl. B08b *3/00;* **B65g** *33/14*
U.S. Cl. 134—104 1 Claim



A liquid treatment trough-like housing with a feedscrew for advancing solid material to be treated through said housing and a pusher member cooperating with a discharge paddle on the end of said feedscrew to effect positive dislodgement and discharge of solid material through an outlet opening in the side of said housing.

3,506,022
CONVEYOR FILTER APPARATUS FOR ARTICLE WASHING APPARATUS

Robert K. Nolte, Chatham, N.J., assignor to Metalwash Machinery Company, Elizabeth, N.J., a corporation of New Jersey
Continuation of application Ser. No. 609,685, Jan 16, 1967, which is a continuation of application Ser. No. 473,373, July 20, 1965. This application Feb. 19, 1968, Ser. No. 706,702
Int. Cl. B08b *3/02*
U.S. Cl. 134—104 11 Claims

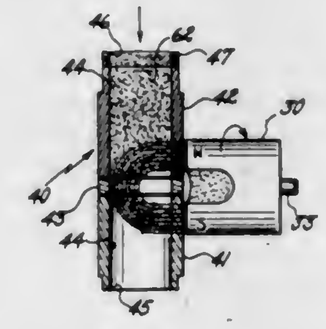


In apparatus for spray washing articles which includes a housing through which articles are conveyed and in which the articles are sprayed, the wash liquid being supplied by pumping the same from a tank positioned to receive the wash liquid after it has washed the articles,

there is provided a filter band assembly entirely contained in the tank and removably hung on support means with the lower run of the band hanging down substantially in a catenary-like form. Means are provided to remove debris adjacent to the end of the upper run of the band and also means for receiving the removed debris to keep the water in the tank substantially free of debris. An access opening in the tank is provided so that the band and its support can be removed when desired.

3,506,023
APPARATUS FOR CONTROLLING THE FLOW OF PARTICLES OF MAGNETIC MATERIAL THROUGH AN ORIFICE

Robert M. Bogart, Arlington, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 8, 1968, Ser. No. 719,336
Int. Cl. F16c *1/04*
U.S. Cl. 137—81.5 11 Claims

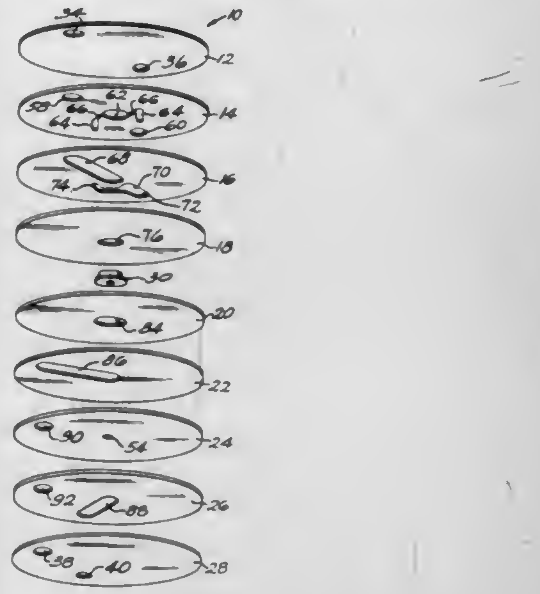


An apparatus for controlling the flow of particles of magnetic material through an orifice. The apparatus has, as principal components, a valve and a hollow conduit. The valve component includes a round horseshoe permanent magnet on a rotatable shaft, a rotary solenoid energized by a power source, linkage to rotate the magnet 90° when the solenoid is energized, and a suitably placed flat coiled spring to urge the counter-rotation, and the return to the original position, of the magnet when the solenoid is de-energized. The hollow conduit includes, as an integral unit, an upper and a lower portion of magnetic material, a spacer of non-magnetic material interposed therebetween, and an orifice at each end of the hollow conduit. The valve and the conduit are in close proximity to each other, with the long axis of the conduit in a vertical position and parallel to the pole face portions of the round horseshoe magnet. When particles of magnetic material are introduced into the hollow conduit through the upper orifice, the rotational position of the horseshoe magnet relative to the conduit allows or prevents, as desired, the flow of the particles through the lower orifice.

3,506,024
VORTEX FLUID AMPLIFIER OF LAMINATED CONSTRUCTION

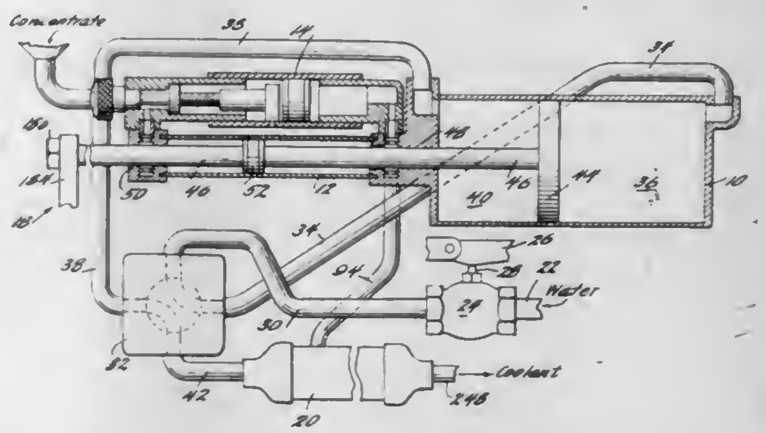
Louis R. Erwin, Livonia, Robert S. Kiwak, Dearborn Heights, and Clarence E. Vos, Dearborn, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Filed May 8, 1968, Ser. No. 727,449
Int. Cl. F15c *1/16*
U.S. Cl. 137—81.5 6 Claims

A vortex amplifier consisting of a plurality of flat laminae secured together so as to form an integral body. The laminae are formed with through openings and cooperate with an integral button member to form, in the body, a vortex chamber, an inlet passage for supply fluid communicating with the chamber, inlet passages for control fluid communicating with the chamber, a pick-off orifice aligned with and spaced axially from an exit passage in the button, a vent passage communicating with the exit passage, and an output passage communicating with the pick-off orifice.



3,506,025
PROPORTIONAL BLENDING APPARATUS

William G. Benjey, Alpena, Mich., assignor to Elastizell Corporation of America, Alpena, Mich., a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 443,862
Int. Cl. B01f *3/08, 5/04*
U.S. Cl. 137—99 15 Claims

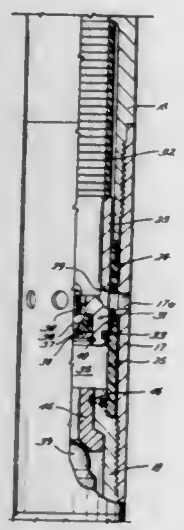


The invention comprises a blending apparatus for blending oil with motive fluid or water for the apparatus and includes two inlet lines, one for water and one for oil, a primary piston and rod driven by water through an alternating four-way valve, and a secondary, slave piston which feeds soluble oil into an exhaust chamber where it is mixed with water. The amount of oil fed into the chamber is controlled through a manually regulated compensating chamber operatively connected to the slave cylinder for the slave piston. A safety trip mechanism is provided having a vacuum line communicating with the oil inlet line, whereupon depletion of oil therein, the safety trip is activated to interrupt flow of water to the apparatus.

3,506,026
VALVES

J. Boyd Fox and Charles Paul Lamb, Garland, Tex., assignors to Merla Tool Corporation, Garland, Tex., a corporation of Texas
Filed Mar. 15, 1967, Ser. No. 623,450
Int. Cl. F04f *1/08*
U.S. Cl. 137—155 7 Claims

A gas lift valve of the pilot operated type wherein a main valve pressure responsive operator is subjected to outlet pressure on both sides when the pilot valve is closed and subjected to inlet pressure on one side and outlet pressure on the other side when the pilot valve is open. The main valve takes the form of a ported cylindrical sleeve cooperating with a ported cylindrical bore in the tubular valve casing.



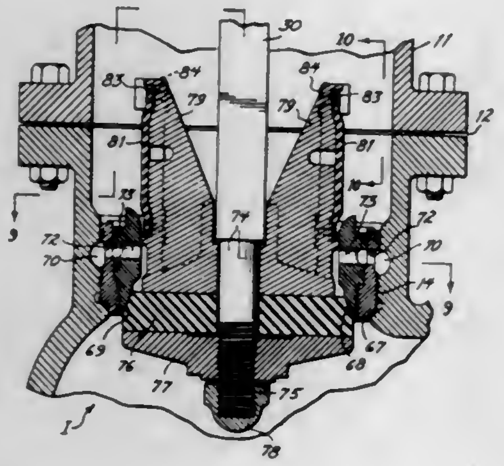
3,506,027
FIRE HYDRANT

John T. Dunton, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Original application Jan. 18, 1965, Ser. No. 421,580. Divided and this application Sept. 20, 1967, Ser. No. 678,139

Int. Cl. E03b *9/14*

U.S. Cl. 137—307 **7 Claims**



A fire hydrant having a drain valve operable to permit casing drainage when the hydrant is closed. Water pressure acting when the hydrant is open urges flexible rubber strips against drain ports to render the drain valve self-sealing in preventing drainage while the hydrant is in use.

3,506,028
VALVE ASSEMBLY

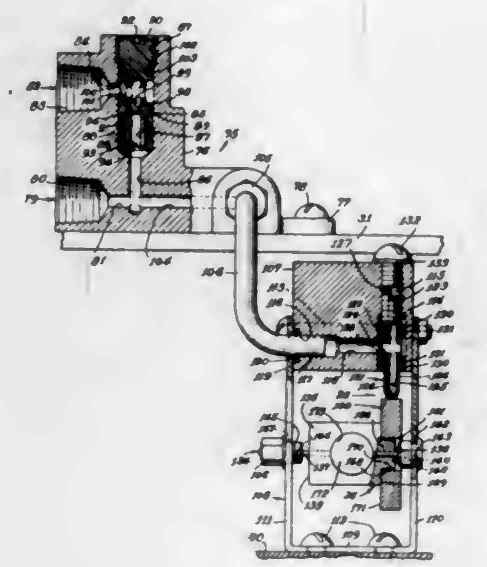
Leopold J. Kmiecik, Lincolnwood, and Elwood H. Stonich, Chicago, Ill., assignors to McDonnell & Miller, Inc., Chicago, Ill., a corporation of Delaware

Filed Oct. 23, 1967, Ser. No. 677,314

Int. Cl. F16k *5/04, 31/34*

U.S. Cl. 137—412 **8 Claims**

A valve assembly comprising port means and rotatable valve or closure means having a peripheral cam-like surface effective for infinitely variably opening and closing the port means upon rotation of the valve means in response to fluid displacement within a fluid-confining vessel such as a float chamber of a boiler.



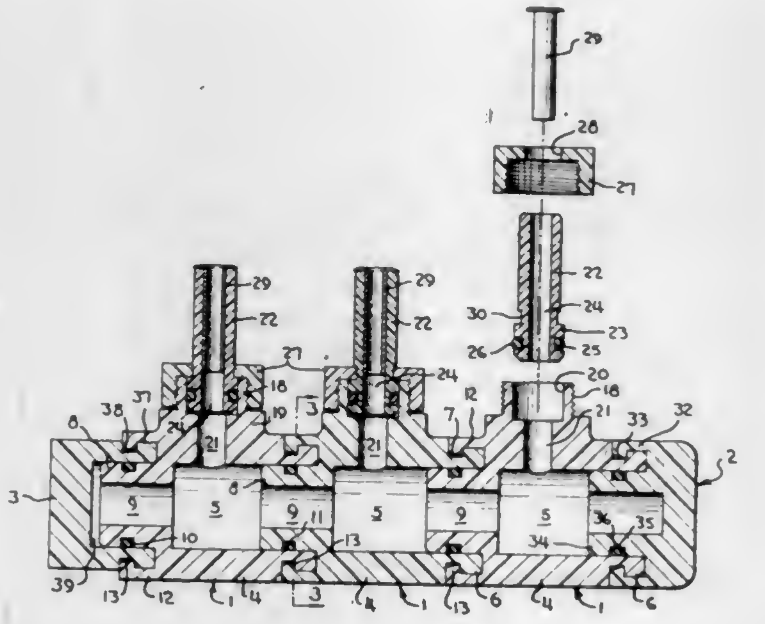
3,506,029
MANIFOLD SECTIONS TO CONSTRUCT A MANIFOLD

Henry William Demler, Sr., Lebanon, and Joseph Willard Hoffman, Liverpool, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Continuation of application Ser. No. 466,337, June 23, 1965. This application June 28, 1968, Ser. No. 751,652

Int. Cl. F15b *1/00;* **A63h** *33/08;* **F16l** *41/00*

U.S. Cl. 137—561 **11 Claims**



A manifold for use with fluid-carrying lines comprises manifold sections each including latch means on each end to maintain the manifold sections together to form a manifold of a desired length, sealing means between each of the manifold sections to provide a fluid-tight seal therebetween, cap means on the outermost ends of in manifold sections, means on one of these manifold sections to connect the manifold sections to a source of fluid supply, and means on the remainder of the manifold sections to connect the manifold sections to fluid-carrying lines.

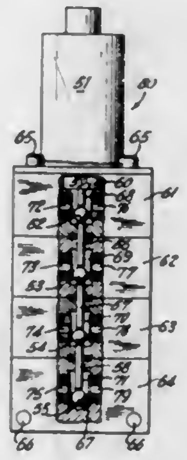
3,506,030
SOLENOID OPERATED BALL VALVE

Robert L. Vesco, Denville, N.J., assignor, by mesne assignments, to International Controls Corp., Fairfield, N.J., a corporation of Florida

Filed Oct. 27, 1966, Ser. No. 590,023

Int. Cl. F16k *31/06, 1/14*

U.S. Cl. 137—595 **4 Claims**



Solenoid operated ball valves in which the ball is rolled or permitted to roll onto an annular inclined seating surface and is rolled off the surface by the armature and the coil is protected by a fluid tight sealing sleeve.

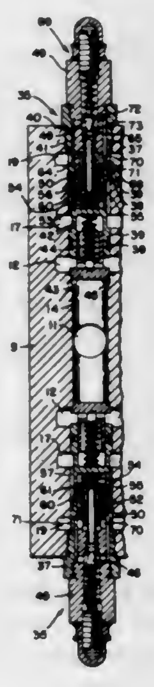
3,506,031
RELIEF-MAKEUP CHECK ASSEMBLY FOR DIRECTIONAL CONTROL VALVES

Hugh J. Stacey, Willoughby, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 6, 1967, Ser. No. 673,419

Int. Cl. F15b *21/00;* **F16k** *17/26, 17/32*

U.S. Cl. 137—596 **10 Claims**



A relief-makeup check assembly for direction control valves including a pilot-operated relief valve member for relieving excess pressures which may develop in hydraulic motors under high shock loads, said relief valve member also operating as a check valve to supply additional fluid to the hydraulic motor when the motor pressure drops below the tank pressures thereby preventing cavitation.

3,506,032
VALVES FOR FLUID LINES

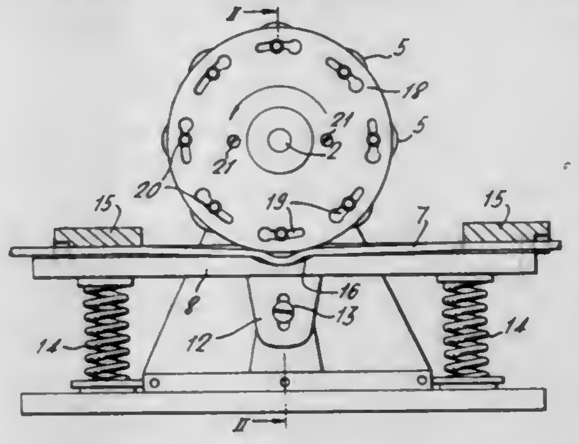
John William Eveleigh, Wantage, and Alan Russell Thomson, Abingdon, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 19, 1966, Ser. No. 602,928

Claims priority, application Great Britain, Mar. 25, 1966, 13,439/66

Int. Cl. E03b *3/00*

U.S. Cl. 137—624.2 **7 Claims**



A programming valve for controlling the flow of fluids through flexible pipes. The valve comprises a rotatable member having a cam defining surface arranged such that when the rotatable member is rotated, the cam defining surface is moved to compress or relieve a pipe associated therewith to regulate the flow of fluid through the pipe. The rotatable member includes means to adjust the position of the cam defining surface relative to the rotating member.

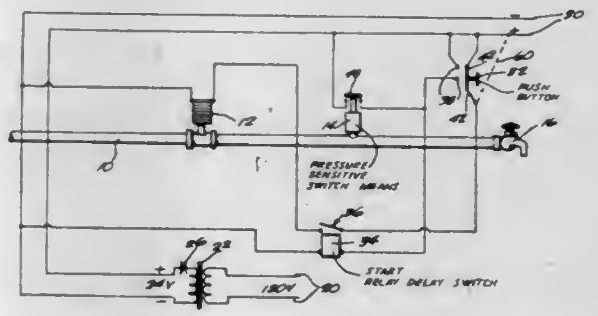
3,506,033
REMOTE CONTROL MEANS FOR SHUT-OFF VALVE

John W. Haney, 19 St. Martin Place,
Marmora, N.J. 08223

Filed Aug. 25, 1966, Ser. No. 575,050

Int. Cl. F16k *31/06, 17/00*

U.S. Cl. 137—624.11 **2 Claims**



A shut-off control system which automatically operates under pressure with a preset device having a normally closed circuit from an electrical source to energize it and which is automatically opened when a water line is subjected to rising pressures due to the closure of a faucet.

3,506,034
APPARATUS FOR INTRODUCING AIR INTO A VACUUM MILKING SYSTEM DURING THE WASHING CYCLE

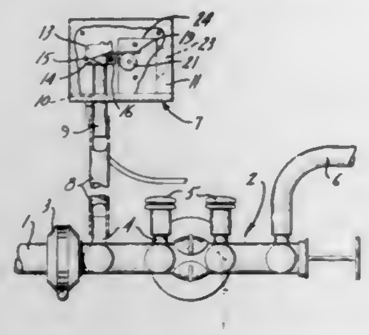
Donald L. Branton, Delavan, Wis., assignor to Sta-Rite Industries, Inc., Delavan, Wis., a corporation of Wisconsin

Filed May 3, 1967, Ser. No. 635,716

Int. Cl. F17d *3/00*

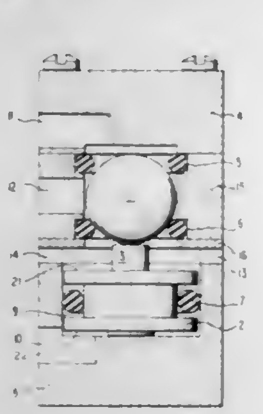
U.S. Cl. 137—624.17 **3 Claims**

The invention relates to an apparatus for introducing air into the pipeline of a vacuum milking system during the washing cycle. The apparatus includes a tubular member having one end connected to the pipeline and the opposite end defines a valve seat which is enclosed by a hinged valve cap. An arm extends outwardly from the valve cap and engages an eccentric. As the eccentric is rotated, the valve cap is raised and lowered to open and close the valve cap and intermittently introduce air into the pipeline. The introduction of air creates turbulence in the washing solution passing through the pipeline to increase the velocity of the solution and thereby increase the cleaning action.



3,506,035
DISTRIBUTOR DEVICE FOR FLUIDS

Henri-Pierre Chabrier, Lyon, France, assignor to SETARAM Societe d'Etudes d'Automatisation de Regulation et d'Appareils de Mesures, Paris, France
Filed Dec. 16, 1966, Ser. No. 602,276
Int. Cl. F15c *3/06*
U.S. Cl. 137—625.48 6 Claims

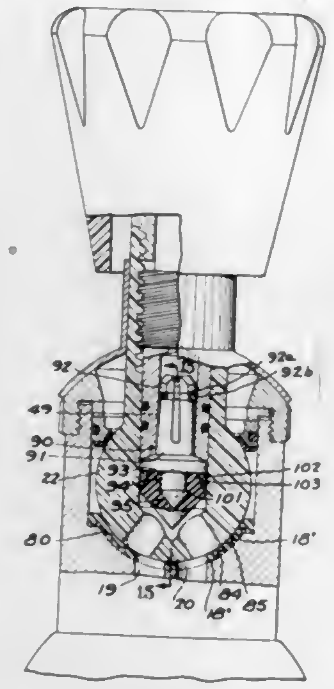


A distributor device for fluids, having two stable positions, and in which the control or actuating pressure acts on one face of a short-stroke piston displaceable in a bore. The bore is sealed off hermetically by a very lightly gripped toroidal flexible joint or seal situated in a wide groove in the piston and engaging the sides of the bore whereby it can be deformed by rolling to accommodate movement of the displaceable piston but without sliding.

3,506,036
SINGLE HANDLE FAUCET VALVE

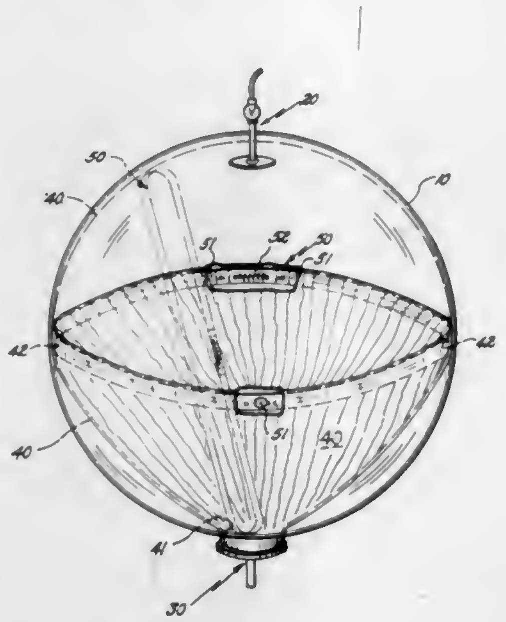
Terence G. Hare, Union Lake, Mich., assignor to Miller Manufacturing Company, Southfield, Mich., a corporation of Michigan
Filed July 10, 1967, Ser. No. 652,051
Int. Cl. F16k *11/02, 19/00, 25/00*
U.S. Cl. 137—636.3 14 Claims

The single handle faucet disclosed herein comprises a faucet body which has a pair of inlets for hot and cold water and a liquid outlet. A valve body is mounted for swinging movement in a single plane within the body and has a spherical surface that is complementary to a similar spherical surface on the faucet body. The valve body has a valve seat therein and passages extend from the spherical surface of the valve body to the valve seat. A valve stem is mounted within the valve body and supports a bib which is movable toward and away from the valve seat. Seals are provided on the valve. In one form of the invention the seals comprise spaced annular sealing members between the valve body and the faucet body. In another form of the invention the seals comprise a first annular sealing member and a spherical seal member interposed between the spherical surfaces of the valve and valve body.



3,506,037
LIQUID PROPELLANT EXPULSION CONTROL MECHANISM

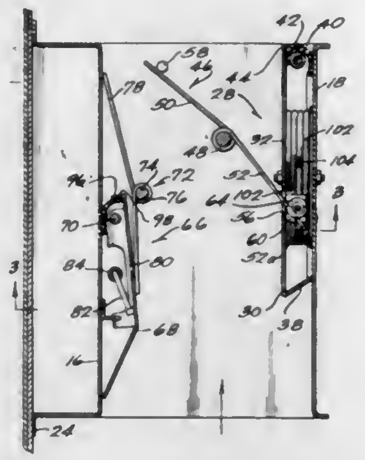
Roddney C. Hanson, Azusa, Clyde E. Teague, Placerville, and Myron G. Urdea, Costa Mesa, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed May 15, 1968, Ser. No. 729,155
Int. Cl. F16l *55/04*
U.S. Cl. 138—30 1 Claim



A self-adjusting locking mechanism, in combination with a circular metal band, for positioning within a flexible bladder inside a pressure vessel to prevent undesirable folding during repetitive changes in configuration of the bladder. The locking mechanism is fitted between, and connected to, the cut ends of the band. The locking mechanism includes a cylindrical helical spring with loop ends. Each loop end is hooked to a retention clip, one of which is connected to one end of the cut band, and the other is connected to a sleeve which, in turn, is connected to the other end of the cut band. The locking mechanism allows the metal band to expand or contract to conform to the bladder configuration, irrespective of the attitude of the pressure vessel.

3,506,038
WIDE RANGE VOLUME CONTROLLER

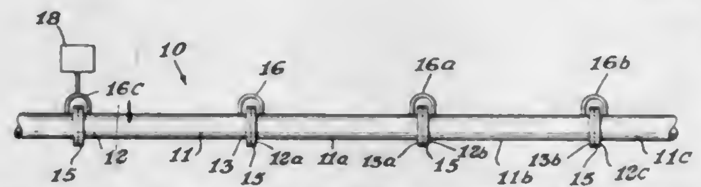
Leo F. Perry, Fort Atkinson, and Joseph W. Spradling, Madison, Wis., assignors to Wehr Corporation, Milwaukee, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 626,847, Mar. 29, 1967. This application Feb. 10, 1969, Ser. No. 806,769
Int. Cl. F15d *1/02;* **F24f** *13/10;* **F16k** *21/04*
U.S. Cl. 138—45 22 Claims



This disclosure is directed to the use of a torsion spring to determine the operating characteristics of the pressure responsive valve mechanism which functions to maintain a relatively constant volume of flow through a terminal control unit. The torsion spring is used to take advantage of its ability to exert an increasing force in opposition to an applied force as the point of application of that force is moved along the projecting arm of the spring nearer the coiled body of the spring so that a single spring can be used to establish usable operating characteristics over a wide range of flow values and encountered pressures. Furthermore, this disclosure is directed to the arrangement of an additional adjusting mechanism in the passage, in which the pressure responsive valve operates, in such a manner that its position in the passage can be adjusted to vary the effective cross sectional area of the passage in which the pressure responsive valve operates to thereby determine a desired volume of flow.

3,506,039
VENTING OF LINED PIPE

Lee Walter Marriott, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 681,829
Int. Cl. F16l *9/18, 7/00*
U.S. Cl. 138—114 8 Claims

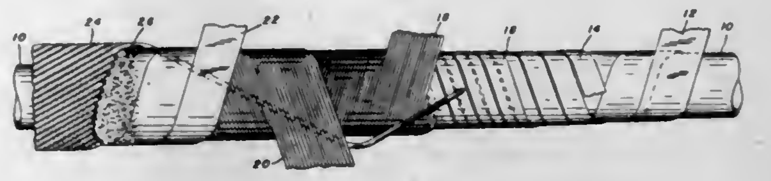


Lined pipe is conveniently and safely vented by providing a plurality of spaces disposed between the lining and the pipe and venting gases at the terminal portions of the pipe section either to another section or to a gas dispersal facility.

3,506,040
ARMORED HOSE

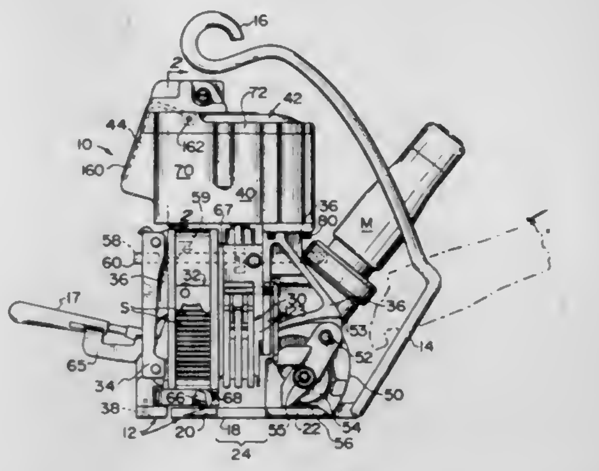
Walter O. Everling, Cleveland, Ohio, and John A. Frey, McCandless Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Nov. 14, 1968, Ser. No. 775,734
Int. Cl. F16l *11/14*
U.S. Cl. 138—130 15 Claims

A flexible, armored hose for high-pressure oil and gas service comprising successive concentric plies wound on a plastic tube. Firstly, two plies of spring-steel strip, wound on the same hand, the outer ply overlapping the spaces between convolutions of the inner ply. Then, at least one ply of wire and, of opposite hand, a ply of armor wire. For severe off-short well service the hose may include a ply of bedding tape between tube and strip, a ply of water-impervious, gas-pervious material between the wire and armor-wire plies and corrosion-resistant protection for the armor wire.



3,506,041
PNEUMATIC SEALING CONTROL SYSTEM FOR STRAPPING MACHINES

Barry R. Angarola, Franklin Park, Ill., assignor to Signode Corporation, Chicago, Ill., a corporation of Delaware
Filed June 3, 1968, Ser. No. 734,138
Int. Cl. B21f *21/00*
U.S. Cl. 140—93.4 18 Claims

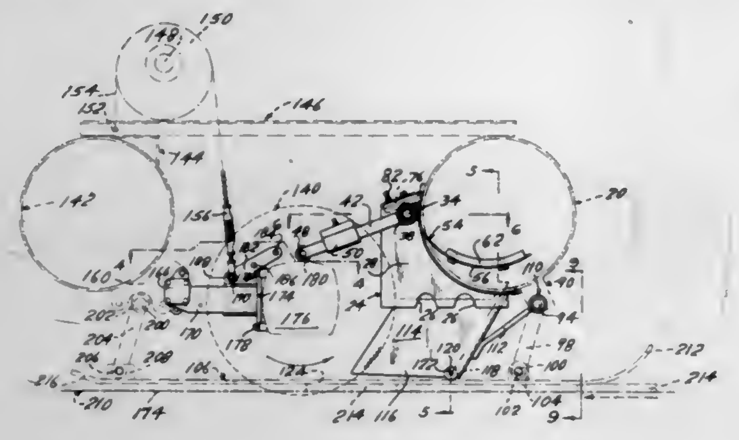


A cyclicly operable pneumatic heavy duty strapping tool for tensioning a loop of steel strapping about an object, applying a seal to the overlapping portions of the strapping, crimping the seal to unite such portions, and severing the loop from the source of strapping, wherein that portion of the cycle which applies the seal, crimps it, and severs the strapping is initiated automatically when a predetermined desired degree of tension in the strapping loop is attained. Depression of a single start button or lever thus initiates the complete tool cycle and no secondary manual operations are required during the remainder of the cycle.

3,506,042
COLLECTOR OF SMALL SOLID PARTICLES

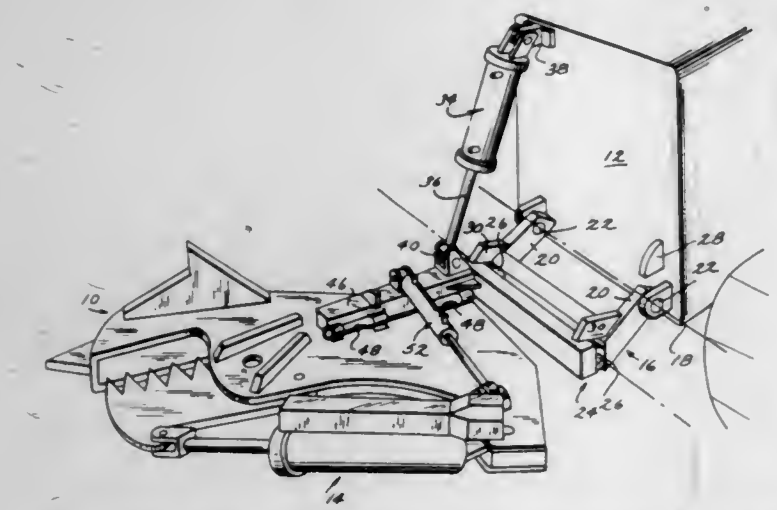
Warren H. Zuercher, Seattle, Wash., assignor to Stetson-Ross Machine Company, Inc., Seattle, Wash., a corporation of Washington
Filed Apr. 17, 1967, Ser. No. 631,375
Int. Cl. B27b *5/34, 5/00, 5/28*
U.S. Cl. 143—37 23 Claims

This invention is for an apparatus and method to collect small solid particles which are produced in the working of a solid such as a plastic, metal or wood. The invention is designed to prevent the accumulation of these small solid particles in the working area so as to not become a hazard for the workers. The invention may be used with one working tool or with a plurality of working tools so as to keep the working area clean.



3,506,043
MOUNTING ARRANGEMENT FOR TIMBER SHEARS

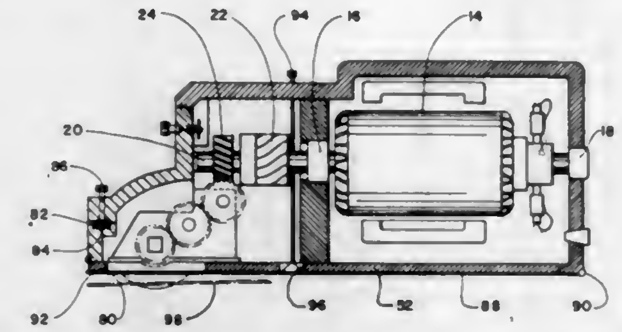
Oscar Thomas Fulghum, Jr., Wadley, Ga., assignor to Fulghum Enterprises, Inc., Wadley, Ga., a corporation of Georgia
Filed June 3, 1968, Ser. No. 733,867
Int. Cl. A01g *23/02*
U.S. Cl. 144—34 **14 Claims**



A timber shear is mounted on a vehicle so as to be easily movable to a series of positions and angles relative to the vehicle. A support frame means is pivotally connected to structure associated with the vehicle so that the support frame means can move up and down about a horizontally disposed axis relative to the vehicle. A stop means may be provided to limit upward travel of the support frame means, and a timber shear is pivotally connected to the support frame means so that the timber shear can be moved up and down relative to the support frame and the vehicle. A second stop means is positioned between the support frame and the timber shear to limit upward travel of the timber shear relative to the support frame. A single power operated means for lifting and lowering the timber shear is connected between the timber shear and a portion of the vehicle at a point which is between the vehicle and the center of gravity of the timber shear. The single power operated means can effect a series of positive movements of the timber shear and the support frame means relative to the vehicle. In addition, the timber shear can be carried by a separate support frame means which permits rotational movement of the timber shear about an axis which is at right angles to the horizontal mounting axis of the support frame to the vehicle.

3,506,044
PORTABLE POWER TOOL

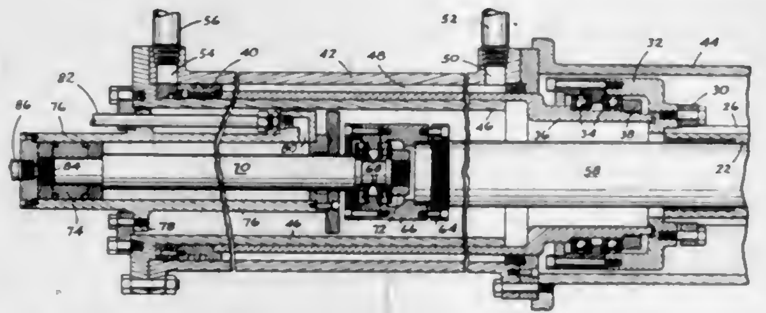
John R. Evans, Pittsburgh, Pa., assignor of fifty percent to Joseph B. Bagley, Pittsburgh, Pa.
Filed July 18, 1967, Ser. No. 654,159
Int. Cl. B27c *9/02;* **B27b** *9/00, 1/10*
U.S. Cl. 144—39 **15 Claims**



A portable power tool is disclosed which is capable of performing various finishing operations including various types of sawing and planing operations. The various finishing heads can be detachably mounted on an output drive shaft which in turn is readily removable from the power tool to facilitate changing heads. The power tool is provided with unique power train and bearing arrangements. In one arrangement, the power tool is modified for use with a quick attach circular saw attachment. The depth of cut of the power tool can be modified without de-energizing the power tool or removing the power tool from the workpiece.

3,506,045
DUAL CHUCK ASSEMBLY FOR VENEER LATHES

Nathaniel Bosco, Portland, Oreg., assignor to Premier Gear & Machine Works, Portland, Oreg., a corporation of Oregon
Filed Nov. 20, 1967, Ser. No. 684,228
Int. Cl. B27c *7/04;* **B27l** *5/02*
U.S. Cl. 144—209 **4 Claims**

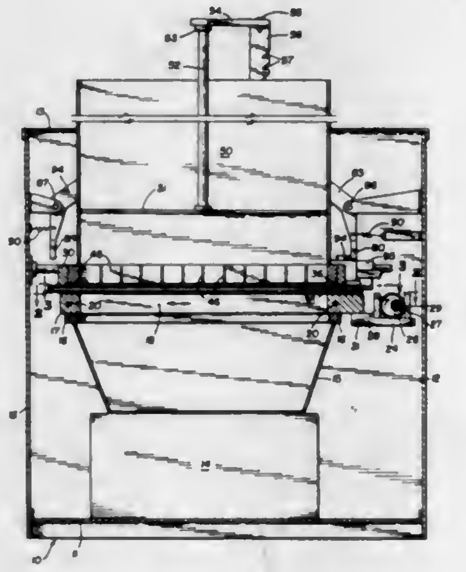


A veneer lathe frame supports at each end a pair of chucks mounted one on each of a pair of concentric spindles which are connected through thrust bearings one to each of a pair of concentric reciprocative hydraulic piston-cylinder drive units.

3,506,046
MEAT CUBING MACHINE

Rodger L. Webb, Englewood, Colo.
(5909 S. Clayton St., Littleton, Colo. 80120)
Filed Oct. 17, 1967, Ser. No. 675,916
Int. Cl. B02c *18/04;* **B26d** *4/02*
U.S. Cl. 146—78 **10 Claims**

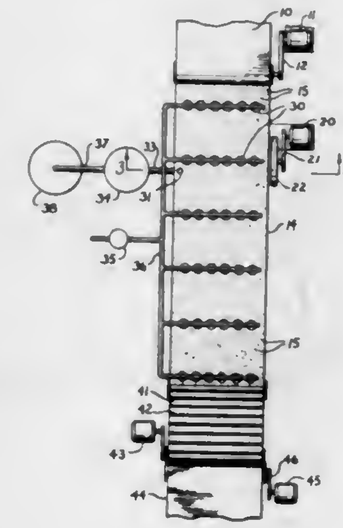
A machine for cubing meat and other material comprising a housing, first and second framed sets of vertically disposed, parallel, transversely spaced apart knife blades having their cutting edges upwardly disposed, the first set above the other, with the blades of one set extending longitudinally at right angles to the blades of the other set and positioned in the housing to support the meat during the cutting. Means for reciprocating the blades in opposite longitudinal directions are operatively detachably connected to each frame. A pressure plate on top of the meat is operatively connected to means intermittently moving said plate. A horizontally disposed double edged knife blade, located beneath one of said framed sets of blades, is operatively connected to said pressure plate and is provided with means for reciprocating the blade longitudinally and with means moving said blade across the housing in a horizontal plane through the meat when the pressure plate has moved downwardly a predetermined distance.



The blades are easily removable from their frames, and the frames are detachable from their reciprocating mechanisms. The frames and blades are compactly arranged in the housing in superposed relationship where the downward movement and cutting of the meat are facilitated by gravity. The meat is supported on the cutting edges of the vertical blades during the cutting operation, and the cubes drop by gravity between the blades into a bin.

3,506,047
APPARATUS FOR EXTRACTING CITRUS OIL FROM CITRUS FRUIT

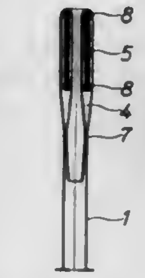
Billie Greenlaw, 1 Snowberry Lane, Orinda, Calif. 94563
Filed Nov. 15, 1967, Ser. No. 683,267
Int. Cl. A23n *15/02*
U.S. Cl. 146—226 **3 Claims**



A process for removing citrus oil from citrus fruit wherein the fruit is vibrated on a bed containing a plurality of pins. The pins are disposed to pierce the oil cells of the fruit, and the liberated oil from the ruptured cells is removed by a water bath.

3,506,048
SHOPPING BAG

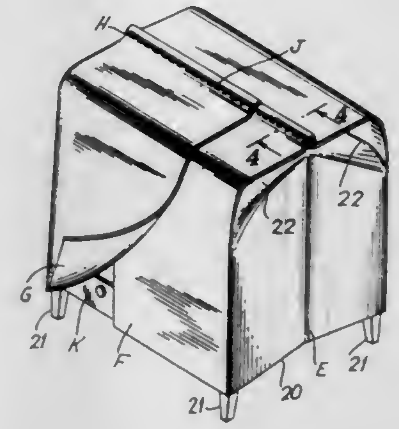
Annikki Jortikka, Murtokatu 3B 62, Jarvenpaa, Finland
Filed July 9, 1968, Ser. No. 743,404
Claims priority, application Finland, Feb. 16, 1968, 412/68
Int. Cl. B65d *33/10*
U.S. Cl. 150—1.7 **4 Claims**



The present invention concerns a shopping bag of plastic foil provided with handles made of plastic ribbon and at the mouth of which a channel has been formed for each of the two handles, in which an opening has been cut so that the handles are exposed for grasping, the ends of the handles having been fixed to the plastic foil by the same welded seam by which the sides of the bag have been closed. The invention is characterized in that the handles have been formed from thin plastic tubing which, while still hot, has been pressed flat so that the walls of the tubing adhere to each other.

3,506,049
BAG-LIKE FURNITURE COVER

George Gerard, Point Pleasant, N.J., assignor to Jiffy Manufacturing Co., Hillside, N.J., a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 674,588
Int. Cl. B65d *77/00*
U.S. Cl. 150—52 **5 Claims**

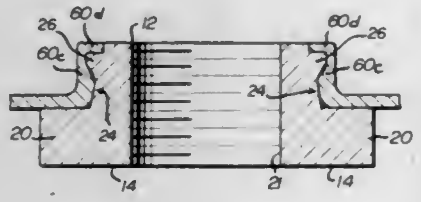


The disclosure sets forth a collapsible laminated enclosure which consists of a plurality of superimposed embossed sheets in turn enclosed in smooth paper covers which are so assembled together that the collapsed enclosure may be opened into a bag-like enclosure and then inserted over a properly sized piece of furniture, whether it be a bureau, chest of drawers, wardrobe or even a couch or lounge. The inverted face of the enclosure is desirably attached together by means of stitching, but it also might be attached together by means of glue, stables or other attachment means. The skirt is generally separable, with one flap extending over the other so that when the flaps are separated it will be possible to inspect the pieces of furniture enclosed without removing the bag.

3,506,050

NUT-PANEL ASSEMBLY AND METHOD OF INSTALLING NUT

Thomas M. Pouch, Farmington, and Kenneth V. York, Royal Oak, Mich., assignors to Multifastener Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 19, 1967, Ser. No. 691,902
Int. Cl. F16b *39/282*
U.S. Cl. 151—41.73 **4 Claims**

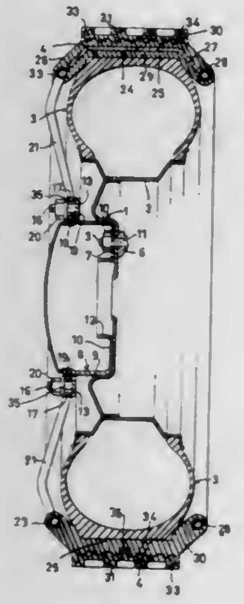


A pierce nut having a pilot portion extending above a face of the nut defined by two flanges disposed on opposite sides of the pilot portion and undercut grooves in the sides between the pilot ends and the respective faces of the flanges. The nut is secured to a panel by using a die button and relative movement of the three parts will initially cause the panel to be deformed to a configuration surrounding at least part of the pilot portion, whereupon the die button will pierce the panel along lines spaced inwardly from the outer edges of the pilot portion to remove a slug slightly smaller than the free end of the pilot portion. Continued relative movement of the die button and the nut will substantially simultaneously force a portion of the panel into the undercut grooves, displace a portion of the pilot portion towards the face defined by the flanges, and bottom the lower surface of the panel on the face defined by the flanges.

3,506,051

TRACTION-INCREASING DEVICE

Arthur C. Mathews, 15 Cordova Court, Portola Valley, Calif. 94025
Filed Nov. 22, 1967, Ser. No. 685,041
Int. Cl. B60c *27/20*
U.S. Cl. 152—216 **5 Claims**

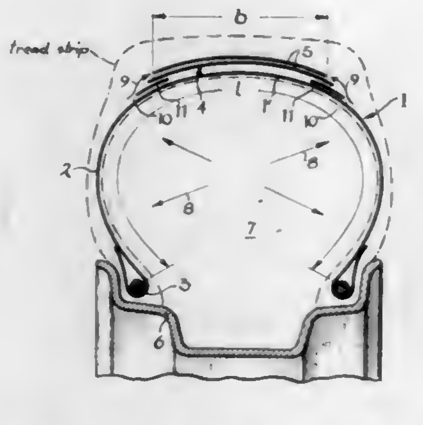


A traction device for releasable securement in a position extending over the tread of a pneumatic tire on a wheel on an automobile, which device is adapted to be positioned on such wheel, and removed therefrom, from the outer side of such wheel relative to the body or chassis of the vehicle.

3,506,052

PNEUMATIC VEHICLE TIRE

Hermann Wittneben, Hannover, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed May 29, 1967, Ser. No. 641,911
Claims priority, application Germany, June 1, 1966, C 39,227
Int. Cl. B60c *9/18*
U.S. Cl. 152—361 **7 Claims**

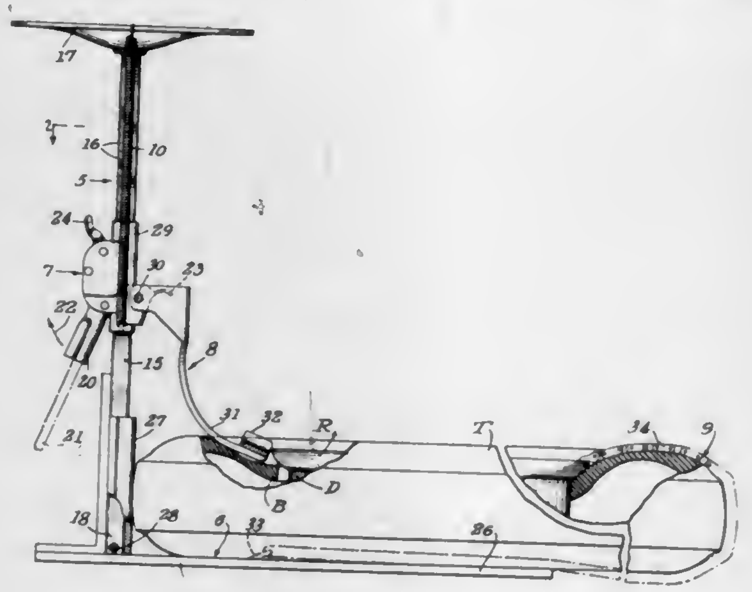


A pneumatic vehicle tire with a pull resistant belt for lateral stabilization of the tire and with a carcass having pull resistant reinforcing inserts extending from bead to bead and being looped therearound while at least approximately extending at a right angle with regard to the circumferential direction of the tire, those sections of said carcass reinforcing inserts which face said belt being free from pulling stresses in the inflated condition of said tire. The tire according to the present invention is characterized primarily in that additional thread shaped reinforcing inserts are located within the marginal areas only of said belt and extend at least approximately at a right angle with regard to the circumferential direction of the tire.

3,506,053

TIRE BEAD BREAKER

Samuel William Ragland, Seeley, and Emma Ragland Walk, Calipatria, Calif. (both of P.O. Box 172, Calipatria, Calif. 92233)
Filed Aug. 15, 1967, Ser. No. 660,669
Int. Cl. B60c *25/06*
U.S. Cl. 157—1.26 **6 Claims**

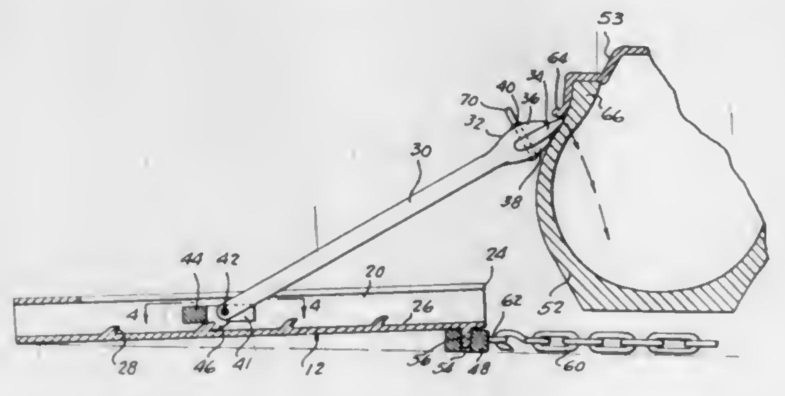


A tire bead breaker that combines a bumper jack disposed upside down and held in said position by a base on which a pneumatic tire is adapted to be placed and releasably held in flat, horizontal position. A pivoted breaker arm is carried by the jack carriage and is lowered under power generated by the step-by-step jack mechanism conventional for bumper jacks. The lower end of the breaker arm, being pivoted, is readily moved to engage the tire bead adjacent the rim that mounts the same, and said power movement of the carriage with the breaker arm, breaks the bead away from the rim.

3,506,054

METHOD AND APPARATUS FOR BREAKING BEADS ON VEHICLE TIRES

Eugene A. Barton, 19805 Winslow Road, Cleveland, Ohio 44122, and Nathaniel W. Drake, Jr., 4129 E. 93rd St., Cleveland, Ohio 44105
Filed Feb. 16, 1968, Ser. No. 706,089
Int. Cl. B60c *25/00, 25/04*
U.S. Cl. 157—1.28 **10 Claims**

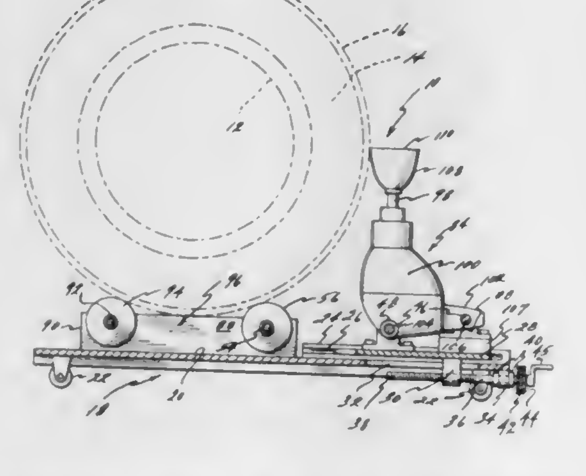


A method and apparatus for pushing a tire bead away from the rim of a vehicle wheel so it can be removed easily from the wheel. After the vehicle is raised, pairs of freely pivotal arms, locked against lateral displacement away from the tire and vehicle wheel, are inserted between the wheel rim and tire bead on opposite sides of the tire and wheel. The vehicle is then lowered and the weight thereof pivots the arms, causing them to push the tire bead away from the wheel rim.

3,506,055

TIRE TRUEING MACHINE

Lawrence L. Bridgewater, 1603 Albany, Cheyenne, Wyo. 82001
Filed Mar. 7, 1968, Ser. No. 711,284
Int. Cl. B29h *21/08*
U.S. Cl. 157—13 **9 Claims**

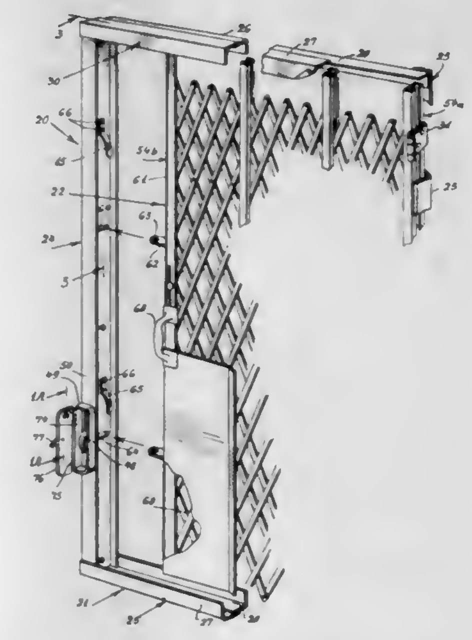


This invention relates to a tire trueing depice characterized by a double-roller drive mounted on a dolly that turns the wheel while it remains mounted on the vehicle. A specially-designed smooth-edged cup-shaped cutter mounted upon an electric drive mechanism traverses the tread on a rotating jackscrew and engages the tread tangentially along a horizontal diameter. The wheel suspension of the vehicle, which only allows vertical movement of the wheel, cooperates with the tangential cutter to prevent the latter from gouging the tread when bumps or uneven places therein pass over the wheel-drive rollers.

3,506,056

BURGLAR PROOF WINDOW GRILLE

Carlos M. Quinones, Bronx, N.Y. (2601 NW. 115th St., Miami, Fla. 33167), Cecil Shackelton, 1154 E. 215th St., Bronx, N.Y. 10469, and Richard H. Williams, New Rochelle, N.Y.; said Williams assignor of six and two-thirds percent to said Quinones and six and two-thirds percent to said Schackelton
Filed May 31, 1967, Ser. No. 642,552
Int. Cl. E06b *3/92*
U.S. Cl. 160—160 **7 Claims**

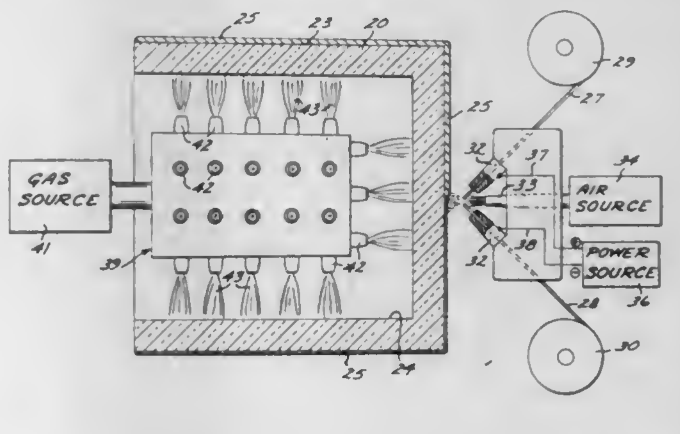


A window grille or ferry gate including a folding metal gate within a frame, the gate being pivotable out of the frame when folded, and the device incorporating a lock which is tamper-proof from one side of the gate but which can be easily opened on the opposite side by simply lifting a latch.

3,506,057

METHOD OF MAKING DIES AND MOLDS

John C. Pennock, Santa Ana, and Roland D. Kremith, Newport Beach, Calif., assignors to Geotel, Inc., Amityville, N.Y., a corporation of Delaware
Filed Apr. 17, 1967, Ser. No. 631,351
Int. Cl. B22d *21/02*
U.S. Cl. 164—19 **15 Claims**



The disclosure describes the manufacturing of a die, mold, or other article by building up on a substrate a spray-deposit of metal, while maintaining the deposited metal in a temperature range sufficiently high that the metal coating will be dense and will not peel away from the substrate. In the case of female dies, etc., the substrate is so constructed that it will be fractured by the metal due to thermal contraction of the latter after heating, thereby preventing the metal from cracking, and facilitating separation of the metal from the substrate, while maintaining the shrinkage of the metal part at a minimum. The spray-deposit is made by arc equipment, in an oxidizing atmosphere.

3,506,058

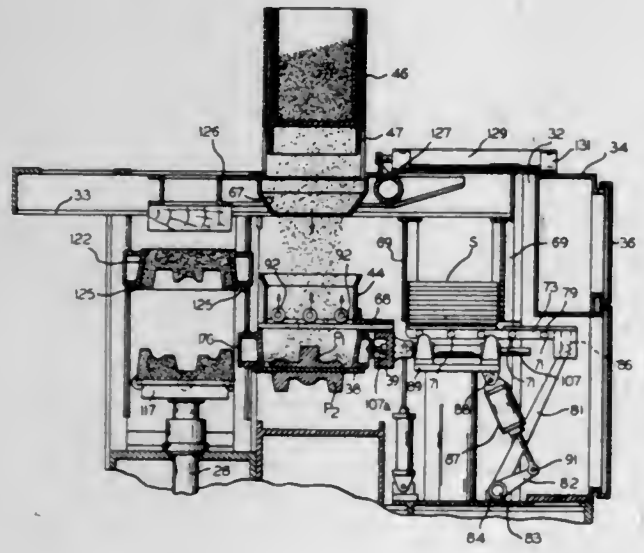
METHOD OF MATCHPLATE MOLDING

William Allan Hunter, Morton Grove, Ill., assignor to Heatherwill Company, Inverness, Palatine, Ill., a partnership

Application Apr. 6, 1967, Ser. No. 633,661, now Patent No. 3,406,738, dated Oct. 22, 1968, which is a continuation of application Ser. No. 411,538, Nov. 16, 1964. Divided and this application June 18, 1968, Ser. No. 744,276

Int. Cl. B22c *15/08, 17/08*

U.S. Cl. 164—37 **12 Claims**



Method for matchplate moulding comprising the steps wherein an inverted drag flask is filled against a matchplate at a first station and closed, subsequently erected and transferred to a second station where the filled and erect drag flask is moved against a cope flask with the matchplate therebetween for filling of the cope flask and compacting the moulding sand within both flasks. The method includes the steps of separating the erect and filled drag flask from the filled cope flask, separating the cope mould and releasing the latter from its cope flask to provide a completed mould.

3,506,059

METHOD OF CONTINUOUS CASTING

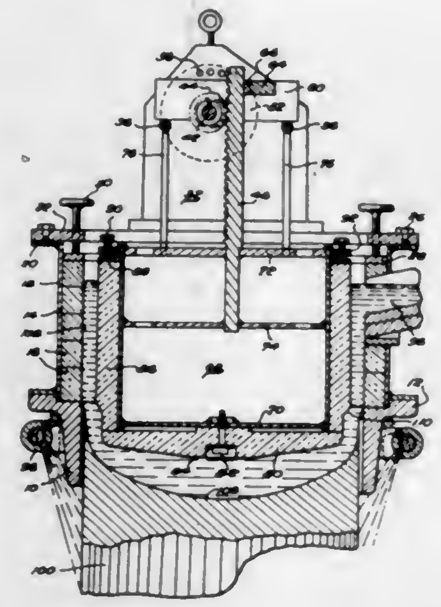
Alan R. Burkart, Shrewsbury, Mass., and John H. Mudge, Parma, Ohio, assignors to Aluminum Company of America, Pittsburgh Pa., a corporation of Pennsylvania

Original application Nov. 6, 1966, Ser. No. 576,768. Divided and this application Nov. 21, 1968, Ser. No. 793,214

Int. Cl. B22d *11/10*

U.S. Cl. 164—82 **3 Claims**

A continuous casting mechanism comprising a chill mold substantially defining the exterior transverse contiguous surface of a body, such as an ingot or billet, to be continuously cast and extracted therefrom; a heat insulating mold in unitary connection and communication in advance of said chill mold; a core or displacer disposable within and in spaced relationship to interior defining walls of both the chill and heat insulating molds; and the core or displacer contactable by molten metal supplied to the chill mold through the heat insulating mold being of heat insulating material. A method of continuous casting employing the aforesaid mechanism in which the heat insulating core or displacer extends into a molten metal crater defined by solidified exterior walls of a continuously cast ingot or billet.



3,506,060

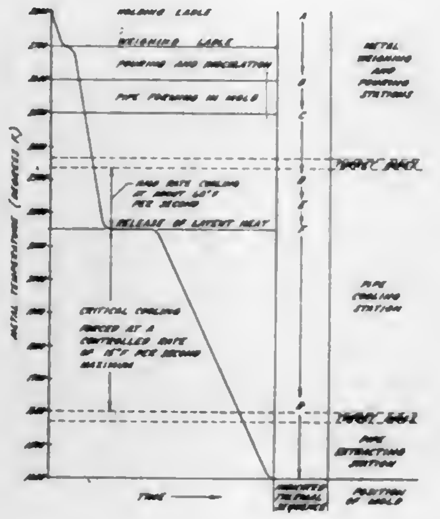
METHOD FOR CONTINUOUS CENTRIFUGAL CASTING OF TUBULAR METAL ARTICLES

Robert S. L. Andrews, 7825 Seville Circle, Bradenton, Fla. 33505

Application May 6, 1966, Ser. No. 548,323, now Patent No. 3,457,986, dated Aug. 5, 1969, which is a continuation-in-part of application Ser. No. 313,389, Oct. 2, 1963. Divided and this application July 5, 1968, Ser. No. 755,482

Int. Cl. B22d *13/02*

U.S. Cl. 164—118 **4 Claims**



A method for the centrifugal casting of tubular articles, such as pipe. The method comprises coating a rotatable mold, measuring out an amount of metal for the cast product, inoculating the metal, pouring the molten metal into the spinning mold, cooling the poured metal rapidly until some of the latent heat of fusion has been given up, then cooling the poured metal at a slower rate, and finally

extracting the cast tube. Apparatus to automatically accomplish the method, consisting of a rotatable turret containing mold is disclosed. By indexing the turret, the mold may be brought to successive stations to carry out the various steps of the method.

3,506,061

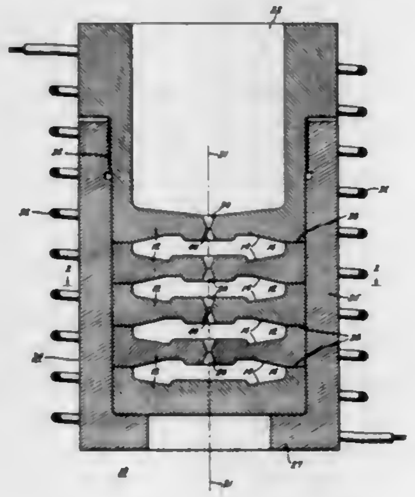
APPARATUS FOR VACUUM-CASTING A PLURALITY OF METAL PARTS IN A SINGLE MOLD

Peter J. Clemm, Malvern, Pa., assignor to General Electric Company, a corporation of New York

Filed June 10, 1965, Ser. No. 462,835

Int. Cl. B22d *27/16;* **B28b** *7/26*

U.S. Cl. 164—254 **6 Claims**



Permanent mold apparatus for vacuum casting a plurality of metal parts. Comprises a stack of separable reusable cores having recesses defining mold cavities between adjacent cores. Gates of small cross-section extending through the cores provide passageways through which molten metal is fed to the cavities. After the metal solidifies, each casting is removed from its adjacent parts by a separating force applied thereto. The metal in the small gate is weak enough to fracture in response to this separating force before stresses produced elsewhere by the force can damage either the casting or the adjacent core.

3,506,062

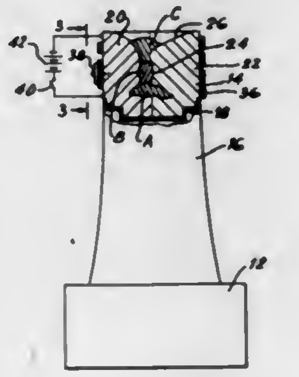
MOLD HAVING HEATING AND VIBRATION MEANS

Robert Hoffman, 17 Copper Beech Place, Merrick, N.Y. 11566

Continuation-in-part of application Ser. No. 405,139, Oct. 24, 1964. This application Mar. 14, 1967, Ser. No. 622,955

Int. Cl. B22d *27/04, 27/08*

U.S. Cl. 164—260 **3 Claims**



An apparatus for ultrasonic casting of metals comprising a mold having a cavity for receiving hot metallic material. An ultrasonic transducer is arranged for imparting ultrasonic vibrations and is connected to the mold. Heating means are disposed about the mold for simultaneously imparting heat to the mold and metallic material in the cavity while the transducer is vibrating the mold means and the metallic material. The heating means include a spiral heating coil formed in half sections which are hingedly secured to each other. Latch means are provided for holding said half sections about the mold. The invention further contemplates methods of casting various materials utilizing ultrasonic vibrations.

3,506,063

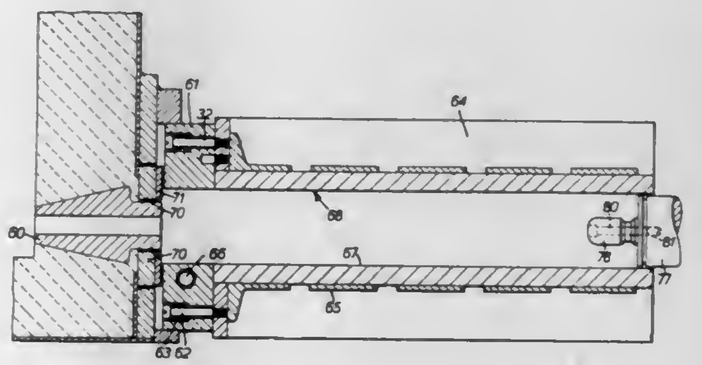
CONTINUOUS CASTING

Richard James Dain, Tonbridge, England, assignor to Ashmore, Benson, Pease & Company Limited, Stockton-on-Tees, England

Filed May 18, 1967, Ser. No. 639,543

Int. Cl. B22d *11/10*

U.S. Cl. 164—281 **1 Claim**



The disclosure is concerned with continuous casting of metals particularly steel and provides a two part mould, the upstream part of which is made of graphite and the major downstream part of which is made of a high conductivity material. The metal being cast is supplied to the mould by a supply means which is reciprocable with the mould so that the meniscus of molten metal is maintained in the graphite part where the molten metal initially starts to freeze onto the mould walls.

3,506,064

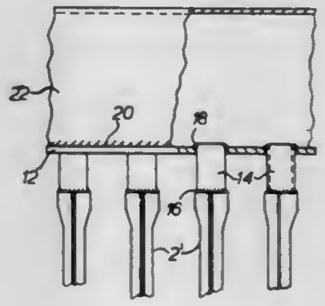
COOLING RADIATOR FOR TRANSFORMERS

Alfred Noel Appleyard, Manchester, and Gregor Fyfe Clark, Cheshire, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed May 17, 1968, Ser. No. 729,986

Int. Cl. F28d *15/00*

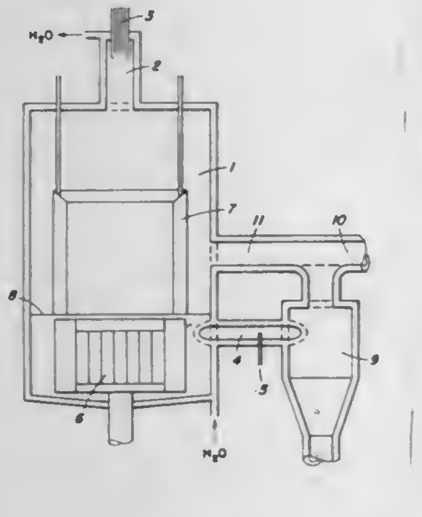
U.S. Cl. 165—106 **4 Claims**



A plate-type radiator, particularly suitable for cooling large oil immersed electrical transformers, having a plurality of radiator elements communicating with a header, and in which the latter is formed from tubular portions extending laterally from the individual elements and fitting one within the other, such an arrangement providing an economical construction with the absence of appreciable air traps.

3,506,065
PROCESS AND APPARATUS FOR COOLING HOT GAS MIXTURES CONTAINING TITANIUM DIOXIDE

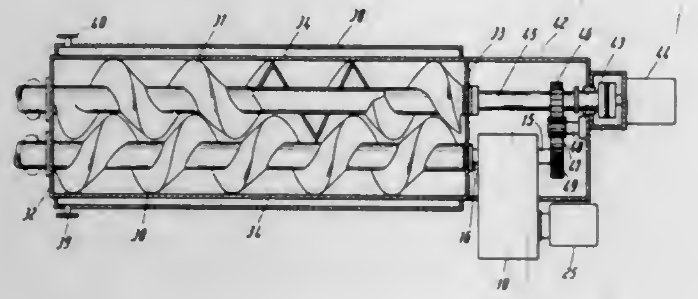
Giovanni Hilgers, Bergisch Gladbach, Achim Kulling, Opladen, Hans Steinbach, Bergisch Gladbach, and Hermann Trub, Opladen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany
Filed Oct. 8, 1968, Ser. No. 765,851
Claims priority, application Germany, Oct. 20, 1967, T 35,066
Int. Cl. F25b *13/00, 29/00;* **F28d** *11/08*
U.S. Cl. 165—2 **15 Claims**



The invention is concerned with a process and apparatus for continuously cooling hot gas mixtures containing titanium dioxide by passing the hot gas mixtures over cooled metal surfaces.

3,506,066
SCREW CONVEYOR

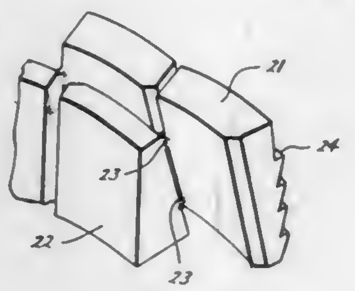
Friedrich Karl Nonnenmacher, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
Filed Dec. 20, 1967, Ser. No. 692,117
Claims priority, application Germany, Dec. 29, 1966, M 72,226
Int. Cl. F28f *5/06*
U.S. Cl. 165—87 **14 Claims**



One of two contrarotating parallel screws in a screw conveyor is rotatable at different speeds from the other screw. This periodically brings the screw threads of one screw into wiping and cleaning engagement with the threads of the other screw.

3,506,067
FRANGIBLE SLIP AND EXPANDER CONE SEGMENTS

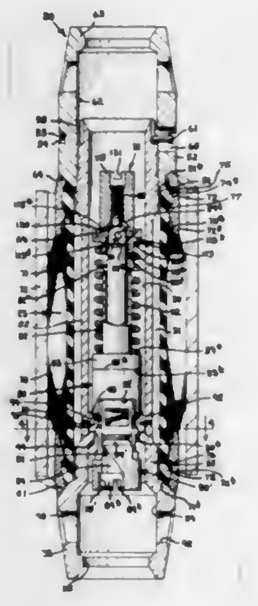
Maurice P. Lebourg, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Oct. 7, 1968, Ser. No. 765,382
Int. Cl. E21b *23/06, 33/129*
U.S. Cl. 166—134 **8 Claims**



Disclosed is an improved anchoring system for use in anchoring well tools in a well bore. The system is comprised of a plurality of arcuately shaped, stagger spaced, integral slip and expander cone segments which are disposed in an overlapping manner about the central mandrel of the well tool. The slip portion of each segment is joined to the staggered expander portion at an adjacent edge by a plurality of frangible bridges or webs. Upon setting, the webs are broken to allow the slip portion to be expanded radially outwardly into engagement with the well casing.

3,506,068
PUMPABLE IMPELLER PISTONS FOR FLOW CONDUCTORS

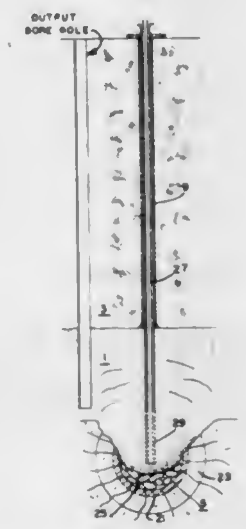
Norman F. Brown and John V. Fredd, Dallas, Tex., assignors to Otis Engineering Corporation, Dallas, Tex., a corporation of Delaware
Filed Apr. 20, 1967, Ser. No. 632,408
Int. Cl. E21b *33/127*
U.S. Cl. 166—153 **38 Claims**



A seal type pumpable tool carrier including an annular seal assembly which is expanded to seal with a conduit wall by fluid pressure in the conduit. The carrier has a mandrel provided with a central bore housing a pressure responsive longitudinally movable valve assembly for communicating the interior of the seal assembly with upstream pressure, for causing the pressure in the interior of the seal assembly to be intermediate the upstream and downstream pressure, and for communicating the interior of the seal assembly with downstream pressure. The valve provides a defined relationship between the expanding force on the seal assembly and the pressure differential applied across the tool carrier in a flow conductor. In one embodiment, a piston unit can be used to transport a flexible pipe through a tubing string.

3,506,069
PROCESS FOR RECOVERING PETROLEUM UTILIZING A NUCLEAR EXPLOSION

Manley L. Natland, Rolling Hills, Calif., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 752,282, July 31, 1958. This application Sept. 23, 1963, Ser. No. 310,717
Int. Cl. E21b *43/00, 43/26, 43/24*
U.S. Cl. 166—247 **7 Claims**



1. In a method for the recovery of petroleum from a subsurface oil-bearing formation, having an adjacent limestone stratum, the steps which comprise establishing a nuclear explosion at a point in proximity to the oil-bearing formation to form a cavity in said limestone stratum and to form calcium oxide and carbon dioxide from said limestone stratum using the heat produced as a result of the nuclear explosion, removing the carbon dioxide, contacting the calcium oxide in the area of the cavity with water to produce heat as a result of the reaction between the water and calcium oxide for further heating the oil-bearing formation, and recovering oil from said oil-bearing formation.

3,506,070
USE OF WATER-EXTERNAL MICELLAR DISPERSIONS IN OIL RECOVERY

Stanley C. Jones, Littleton, Colo., assignor to Marathon Oil Company, Findley, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,099
Int. Cl. E21b *43/16*
U.S. Cl. 166—273 **23 Claims**

Secondary-type crude oil recovery is effected by injecting into a subterranean formation 1–20% formation pore volume of a water-external micellar dispersion of hydrocarbon and surfactant dispersed in water and moving it through the formation to displace crude oil therefrom.

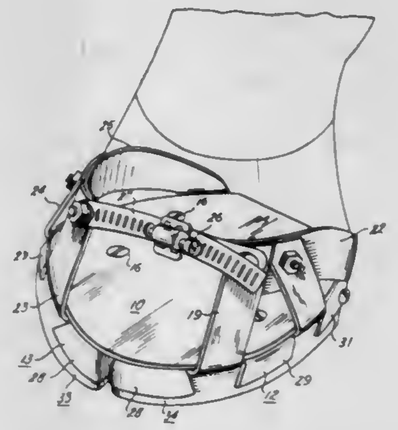
3,506,071
USE OF WATER-EXTERNAL MICELLAR DISPERSIONS IN OIL RECOVERY

Stanley C. Jones, Littleton, Colo., assignor to Marathon Oil Corporation, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,125
Int. Cl. E21b *43/16*
U.S. Cl. 166—273 **23 Claims**

Secondary-type crude oil recovery is effected by injecting into a subterranean formation 1–20% formation pore volume of a water-external micellar dispersion of hydrocarbon and petroleum sulfonate dispersed in water and moving it through the formation to displace crude oil therefrom.

3,506,072
HORSE SHOES

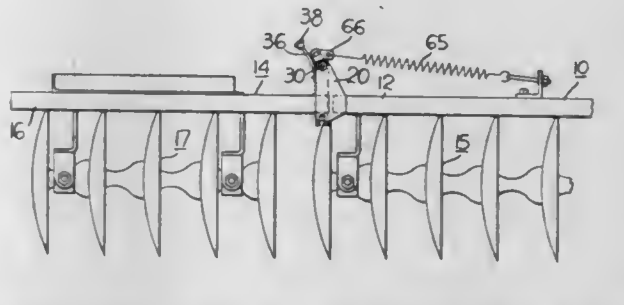
Walter O. McFarland, 1114 May St., Marshalltown, Iowa 50158, and Wilbur Lyle Buschbom, Prairie du Chien, Wis. 53821
Filed Sept. 13, 1967, Ser. No. 667,541
Int. Cl. A01l *7/02*
U.S. Cl. 168—13 **4 Claims**



A lightweight bolt-on horse shoe having a pair of adjustable complementary cup-like members for enclosing the hoof and also forming, on the underside, a receptable for a variety of hoof pads to meet the varying use demands. The device includes a support plate for supporting the weight of the animal and also for joining the cup-like side members. Included is a means for drawing the sides together.

3,506,073
FOLDING GANG LOCK

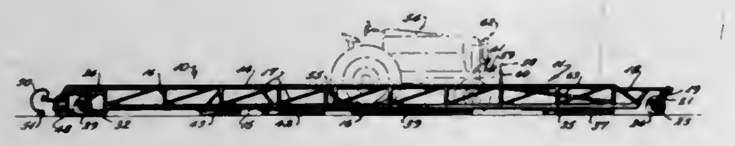
Maynard E. Walberg, Waukesha, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 27, 1967, Ser. No. 634,285
Int. Cl. A01b *23/04, 21/08*
U.S. Cl. 172—776 **1 Claim**



A spring loaded latch with inclined plane for wear compensation and means of rigidly locking a disc harrow gang in a rigid position for field operation, resisting torsional, bending loads and being readily unlockable for quick and easy folding of gangs for narrower transport width or for limiting width for tillage where more weight per blade is desired for good penetration.

3,506,074
TRACTOR MOUNTED LAND PLANE

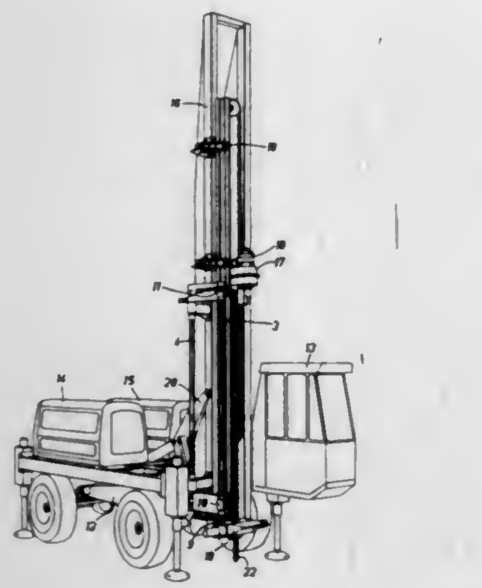
Paul D. Abbott, deceased, late of Blytheville, Ark., by Fannora Abbott, executrix, Blytheville, Ark., assignor to Paul Abbott Co., Inc., Blytheville, Ark.
Filed Aug. 10, 1967, Ser. No. 659,818
Int. Cl. E02f *3/12*
U.S. Cl. 172—780 **4 Claims**



Apparatus for working and leveling the earth by means of a plurality of spaced blades mounted on a frame. The frame is supported by a tractor in such a manner that the tractor is entirely surrounded by the frame.

3,506,075
DRILL STRING ELEMENT TRANSFER MECHANISM

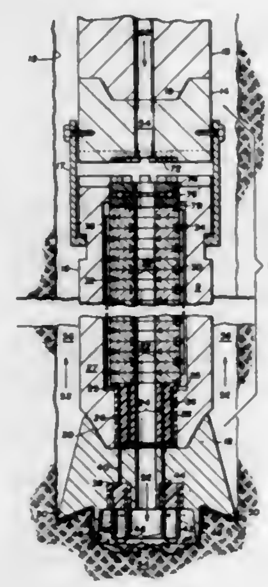
Kurt Anders Gustav Attebo, Barkarby, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Oct. 4, 1967, Ser. No. 672,880
Claims priority, application Sweden, Oct. 7, 1966, 13,594/66
Int. Cl. E21b *19/14*
U.S. Cl. 175—52 **12 Claims**



For facilitating the handling of the drill string elements, such as tubes or rods, of machines especially for quarry drilling and rendering such handling possible with small power of manipulation the invention provides an arrangement comprising at least one gripping arm system, pivotable in a plane perpendicular to the drill string axis, said system comprising two pivotally interconnected arms, viz. an inner arm and an outer arm, said inner arm being pivotally mounted at the drilling machine frame on an axis parallel to the drill string axis, and the outer arm having, at its free end a gripping means for gripping the drill string element, said inner arm being movably actuated by a first actuator means pivotally connected between said inner arm and said drilling machine frame, and said outer arm being pivotally mounted on said inner arm and pivotally actuated in relation to said inner arm by a second actuator means pivotally connected between said inner and outer arms for swinging said outer arm relative to said inner arm.

3,506,076
WELLBORE DRILLING WITH SHOCK WAVES

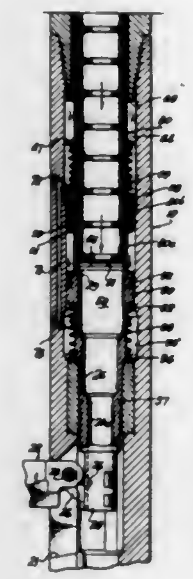
Frank A. Angona, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Dec. 12, 1967, Ser. No. 690,023
Int. Cl. E21b *1/06, 3/10*
U.S. Cl. 175—57 **15 Claims**



This specification discloses a method and apparatus for utilizing shock waves in drilling a wellbore. The shock waves are created by arcing electrical energy between electrodes located in a drill bit. The electrical energy is generated downhole by converting mechanical energy into electrical energy with piezoelectric means.

3,506,077
REVERSE CIRCULATION UNDERREAMER

Clarence H. Leathers, Redondo Beach, and Virgil R. Douglas, Huntington Park, Calif., assignors to Grant Oil Tool Company, Los Angeles, Calif., a corporation of California
Filed Aug. 20, 1968, Ser. No. 754,022
Int. Cl. E21b *9/26*
U.S. Cl. 175—267 **5 Claims**



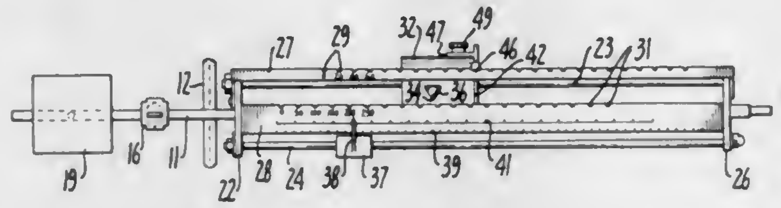
The present invention is a well bore underreamer capable of being opened by forward or reverse circulation of drilling fluid in the bore. Means are provided in the construction of the underreamer to utilize a fluid pressure differential through the tool in either the reverse or forward direction to open the blades of the tool.

ERRATUM

For Class 177—120 see:
Patent No. 3,506,111

3,506,078
BEAM STRUCTURE FOR MULTIPLE WEIGHING SYSTEMS

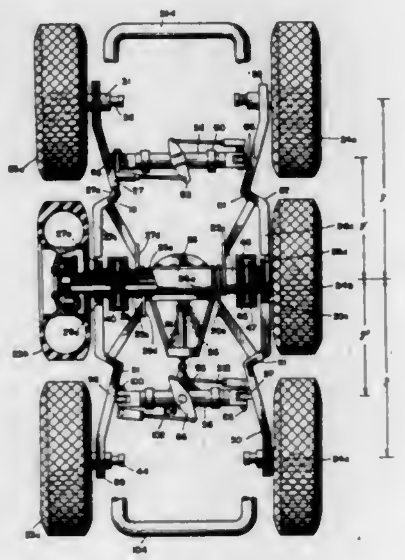
Douglas M. Homs, Hillsborough, Calif. (℅ Douglas Homs Corporation, 1538 Industrial Way, Belmont, Calif. 94002)
Filed Nov. 1, 1968, Ser. No. 772,490
Int. Cl. G01g *1/28*
U.S. Cl. 177—235 **3 Claims**



A main poise for a scale beam engages notches spaced along either of two beams. The spacing of one set of notches corresponds to one system of weights (e.g. avoirdupois) and the other to a different system (e.g. metric). The support for the poise is so constructed that knife edges carried thereby will selectively engage one, and one only, set of notches at a time, thereby eliminating possible incorrect reading of the beam. A fractional poise has a pointer indicating fractions of the main poise readings in both systems.

3,506,079
SIX-WHEELED VEHICLE WITH INDEPENDENT WHEEL SUSPENSION

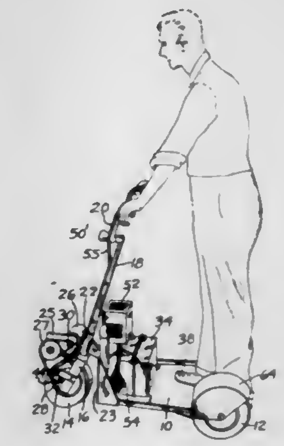
Herman J. Madler, 2938 S. Cicero Ave., and Kenneth I. Doane, Sr., 2812 S. Cicero Ave., both of Cicero, Ill. 60650
Filed Oct. 10, 1968, Ser. No. 766,511
Int. Cl. B62k *61/10*
U.S. Cl. 180—22 **12 Claims**



A six-wheeled vehicle is provided with a unitary body and a split frame which permits each of the six wheels to be raised or lowered independently without transmitting torsional stress to the other wheels or to the body. The frame includes a central wheel-equipped axle and a pair of forwardly and rearwardly extending frame arms, each of which are rotatably connected to the central axle. A pair of front wheels and a pair of rear wheels are carried, respectively, by the forwardly extending frame arms and the rearwardly extending frame arms. Front and rear transverse extendible connecting arms join each pair of forwardly and rearwardly extending frame arms at approximately ⅔ the distance between the central axle and the wheels carried by the arms. Each of the connecting arms includes a pair of bars which are joined for relative sliding movement therebetween, and one end of each of the bars is joined to one of the frame arms. A third bar is also joined to the first two bars for relative sliding movement, and the third bar is maintained centered between the frame arms as the first two bars slide relative to each other by centering connecting arms. A universal joint connects the third bars of each of the connecting arms to the body, and a vertical body post on each frame arm prevents tilting of the body about its longitudinal axis.

3,506,080
ELECTRICALLY OPERATED SCOOTER VEHICLE

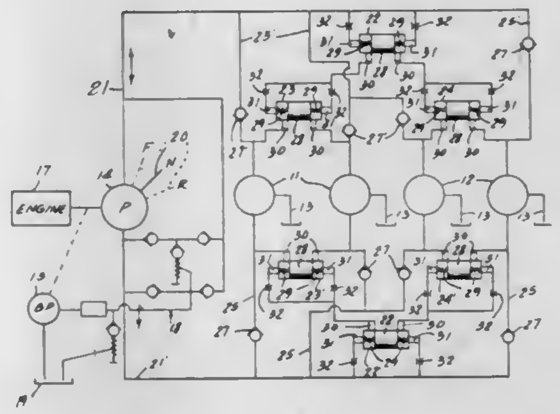
Ion V. K. Hott and Robert J. Haddix, Dayton, Ohio, assignors to The Joyce-Cridland Company, Dayton, Ohio
Filed Dec. 21, 1967, Ser. No. 692,412
Int. Cl. B60k *1/00;* **B62d** *3/00*
U.S. Cl. 180—26 **8 Claims**



Scooter type vehicle having an electric drive motor and a battery to power the motor with a battery charger for charging the battery and also carried by the scooter.

3,506,081
WHEEL DRIVING HYDRAULIC MOTOR CIRCUITS

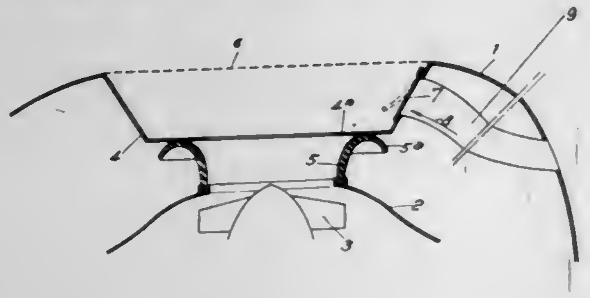
Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries Inc., Buffalo, N.Y., a corporation of Michigan
Filed Dec. 29, 1967, Ser. No. 694,549
Int. Cl. B60k *17/34;* **F15b** *13/06*
U.S. Cl. 180—44 **8 Claims**



Hydraulic circuits for hydraulic driving motors for members such as wheels operating in parallel or in series have control valves automatically operative in response to differential pressure reference from any motor to equalize the speed and driving torque of the motors to maintain substantially equal speed in the member, resulting in equal force of traction in driven wheels. In a parallel motor circuit series related flow splitter valves are used. In a series motor arrangement a pressure compensation valve is employed. In a system in which the motors are selectively in parallel or in series, a combination of the valving is provided for alternative use.

3,506,082
ENGINE COOLING ARRANGEMENTS

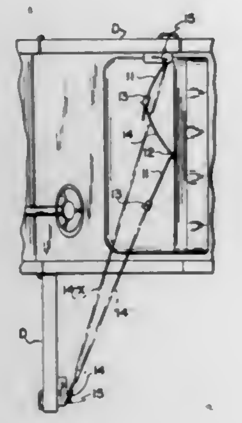
Jean Cadiou, Paris, France, assignor to Societe Anonyme Automobiles Citroen, Paris, France
Filed Jan. 9, 1968, Ser. No. 696,588
Claims priority, application France, Jan. 16, 1967, 3,330
Int. Cl. B60k *7/00*
U.S. Cl. 180—54 **5 Claims**



An arrangement for cooling an automobile engine including a duct leading from atmosphere to the engine fan. The duct is divided into a rigid and a flexible portion, the latter having a lip which abuts against an internal flange of the rigid portion whereby relative movement between the engine and bodywork of the vehicle can be accommodated. If the main intake of the duct should become blocked, air is admitted through an auxiliary duct and an automatic flap valve.

3,506,083
VEHICLE SAFETY SEAT BELT RIGGING

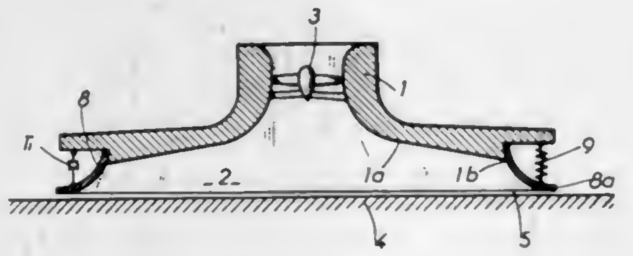
Irlin H. Botnick, 3155 Kersdale Road, Pepper Pike, Ohio 44124; and Philip D. Golrick, Cleveland Heights, and Lewis H. Polster, Cleveland, Ohio; said Golrick and said Polster assignors to said Botnick
Filed Sept. 16, 1966, Ser. No. 580,111
Int. Cl. B60r *21/00;* **A62b** *35/00*
U.S. Cl. 180—82 **30 Claims**



A seat belt or harness type safety rigging, disclosed as semi-permanently rigged in, but displaceable for passenger to and from an automotive vehicle environment, with at least one end of a body-restraining strap reach terminating as a flexible element in a unit providing a reel for the flexible element, a normally released latching device for anchoring the reeled flexible element to prevent unreeling; a reel motor; and a latch actuator in the form of a solenoid or vacuum bellows responsive to an "ignition-on" or engine operating condition to engage the latch and anchor the strap reach end.

3,506,084
CUSHION SEALING DEVICE FOR SURFACE EFFECT MACHINES

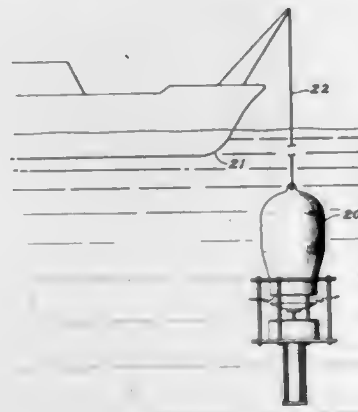
Marc Henri Jean Faure, Saint-Maur-des-Fosses, France, assignor to Bertin & Cie, Plaisir, France
Continuation-in-part of application Ser. No. 498,258, Oct. 20, 1965. This application June 17, 1968, Ser. No. 737,493
Claims priority, application France, May 7, 1965, 16,285
Int. Cl. B60v *1/06, 1/16*
U.S. Cl. 180—116 **5 Claims**



In a ground effect machine movable along a surface against which a pressure fluid cushion is formed, a plenum chamber structure for said cushion comprising a rigid enclosure borne by the machine and extending generally opposite said surface at a hover-height spacing therefrom, said end closure flaring towards said surface with said hover-height decreasing from the inside outwardly and being at a minimum at the periphery of said end closure, and a yieldable skirt extending outwardly from said periphery and flaring towards said surface at a spacing therefrom which decreases from said periphery to a skirt portion closest to said surface and defining therewith a daylight clearance, whereby said plenum chamber structure forms, in cross-sectional outline, with said surface, a convergent passage with an upstream hard wall section and a downstream flexible wall section.

3,506,085
PNEUMATIC ACOUSTIC SOURCE EMPLOYING ELECTROMAGNETIC CONTROLLED VALVE

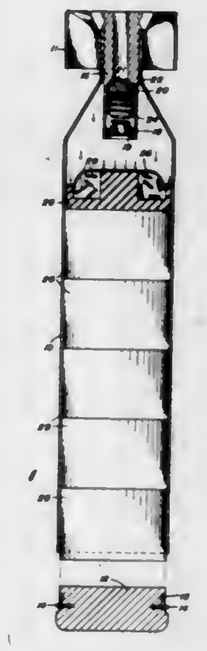
George B. Loper, Duncanville, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 28, 1967, Ser. No. 663,800
Int. Cl. G01v *1/38, 3/00, 1/00*
U.S. Cl. 181—.5 **36 Claims**



The specification discloses a repetitive marine seismic source formed by a rigid chamber for confining high pressure gases and having a controllable valve of magnetic material for rapidly releasing the high pressure gases through an outlet port into the water to generate an acoustic pulse. An electrical coil supported adjacent the outlet port is energized to form a magnetic force for application to the valve for holding the valve in its closed position against the pressure in the chamber. Current to the coil is controlled by a switching arrangement to render the force ineffective to hold the valve closed against the gas pressure thereby allowing the gas pressure within the chamber to move the valve to an open position to release the gas into the water for the generation of an acoustic pulse.

3,506,086
SUBMARINE TARGET SIMULATOR

Elton Y. McGann, Williamsburg, and Robert B. Smoot, Seaford, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 16, 1968, Ser. No. 768,085
Int. Cl. F41h *11/00;* **F41j** *9/04*
U.S. Cl. 181—.5 **7 Claims**

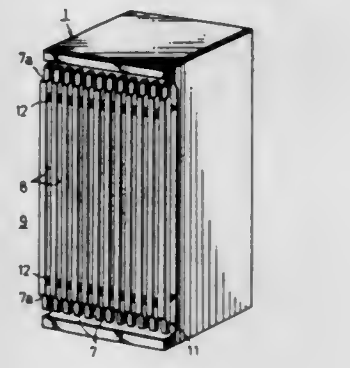


A container capable of being air or hand launched into a water environment to introduce gas bubble producing pellets at varying water depths including a bomb-shaped aluminum charge holder or casing provided with a nose cap and tail fins. A plurality of large pellets of water-reactive, gas-forming material, such as lithium hydride, are contained within the charge holder between the nose cap and an elastomeric piston adjacent the tail fins. A spring loaded valve is mounted in the tail of the charge holder and set to admit water at a predetermined depth to contact small pellets of the same chemical material carried by the piston. The gas generated by reaction between the water and the small pellets forces the valve closed and presses the piston against the large pellets. This action ejects the nose cap and deploys the large pellets to cause generation of a bubble stream simulating a submarine target.

3,506,087
ACOUSTICAL ENCLOSURE

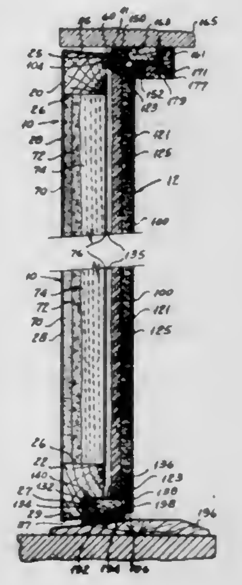
Haruo Ishikawa, 3–314 Matsunoki Jutaku, 1246 Matsunoki-cho, Suginami-ku, Tokyo, Japan
Filed Mar. 27, 1968, Ser. No. 716,597
Claims priority, application Japan, Mar. 31, 1967, 42/26,286; Mar. 12, 1968, 43/18,658
Int. Cl. G10k *13/00*
U.S. Cl. 181—31 **6 Claims**

A decorative grille made up of spaced vertical bars is mounted in spaced relation in front of the front plate of a speaker cabinet by means of spacer sleeves secured to the front plate of the cabinet and pins on the rear side of the grille fitting into axial bores of the sleeves and held in place by set screws.



3,506,088
METAL DUAL PANEL SOUND INSULATING STRUCTURES

Philip E. Sherman, 90–60 Union Turnpike, Glendale, N.Y. 11327
Filed Apr. 2, 1968, Ser. No. 718,039
Int. Cl. E04b *1/86;* **E06b** *5/20*
U.S. Cl. 181—33 **16 Claims**

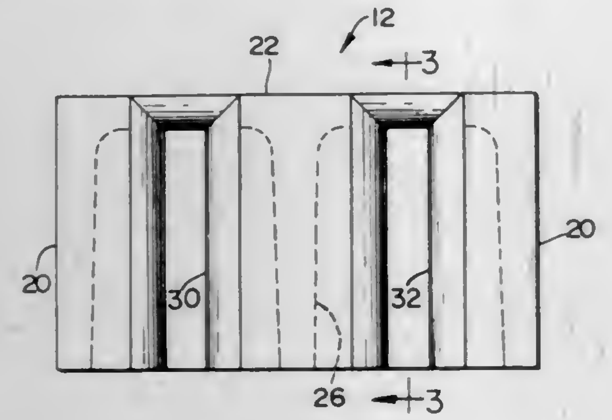


A metal dual panel sound insulating structure comprising a main frame member and a removable floating frame member separated from each other and telescopically fitting together, said main panel frame member having spaced wooden stiles and rails forming a face span of different size and thickness as compared to the face span of the floating frame member, said face spans each being covered with a metal face panel which is turned over the adjacent peripheral side edges thereof, said independent face spans each being covered with layers of different and independent sound insulating materials, said panel members being linked flexibly into an integral sound insulating structure.

3,506,089
SOUND ABSORPTIVE STRUCTURAL BLOCK

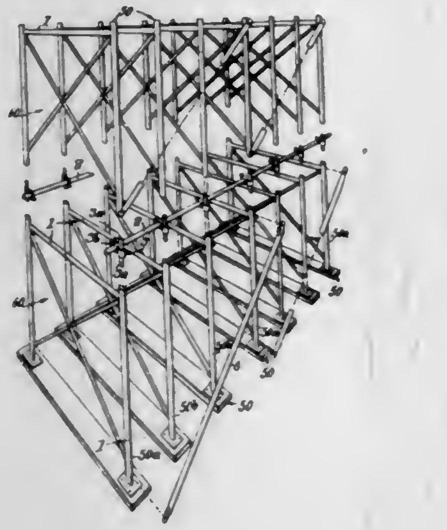
Miguel C. Junger, Belmont, Mass., assignor to Cambridge Acoustical Associates, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Oct. 25, 1968, Ser. No. 770,542
Int. Cl. E04b *1/86, 2/14*
U.S. Cl. 181—33 **3 Claims**

A sound absorptive block of molded structural material has a cavity or cavities in communication with the sound source through an elongated slot or slots flared in width from the cavity toward the outer surface of the block. Within a certain frequency range, the air in the cavity reacts resonantly to impinging sound waves to cause significant air movements within the slot and consequent dissipation of sound energy through turbulence and friction losses. The flare in the slot increases the aperture area exposed to the sound. It also provides an impedance matching effect that increases the transmission of impinging sound energy into the cavity and its dissipation therein at frequencies above the resonant frequency.



3,506,090
SCAFFOLDING MADE OF PREFABRICATED ELEMENTS AND METHODS OF CONSTRUCTING THE SAME

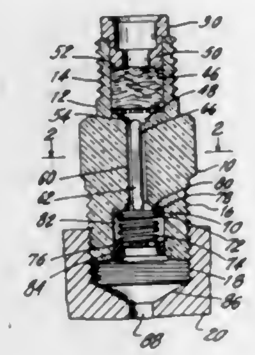
Bernard Beziat, Carrieres-sur-Seine, France, assignor to Societe Nouvelle des Echafaudages Tubulaires Mills, Paris, France
Filed Dec. 21, 1967, Ser. No. 692,580
Claims priority, application France, Dec. 21, 1966, 88,381
Int. Cl. E04g *7/00*
U.S. Cl. 182—178 **12 Claims**



The scaffolding comprises frames assembled to form trusses vertically, and levels horizontally. The principal trusses are interconnected by diagonals of equal length, and all the trusses (principal and intermediate) are interconnected by stringers. The stringers each comprise a plurality of assembling devices at intervals along their lengths, each device being capable of cooperating with the top and/or bottom respectively of two consecutive frames belonging to the same truss.

3,506,091
FLUORINATED SILICONE VALVE METER UNIT

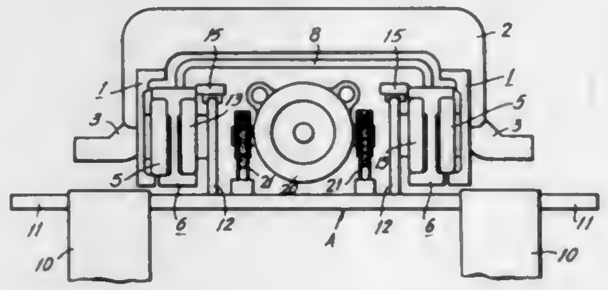
Thomas R. Thomas, deceased, late of Bronx, N.Y., by Ivah M. Thomas, administratrix, Guilford, Conn., assignor to Auto Research Corporation, Boonton, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 624,976, Mar. 20, 1967, which is a continuation-in-part of application Ser. No. 347,525, Feb. 26, 1964. This application Mar. 20, 1968, Ser. No. 714,752
Int. Cl. F16k *51/00;* **F16n** *25/00*
U.S. Cl. 184—7 **5 Claims**



A meter unit used in a centralized lubricating installation which has a central pump and branch conduits leading to a plurality of the meter units, each meter unit being located at a particular bearing or point to be lubricated, each meter unit apportioning the volume of lubricant flow to its respective bearing or point; the meter unit having a check valve with the valve seat thereof being formed of a fluorinated silicone which is a resilient synthetic rubber that does not shrink, harden, swell, soften, lose its resiliency or disintegrate when high or low aniline point lubricants are pumped through the meter unit at elevated or low temperatures.

3,506,092
LIFT TRUCK

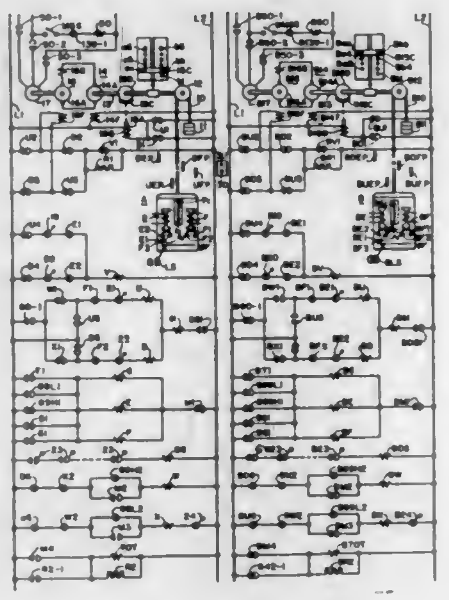
Akibumi Shinoda and Goro Nishi, Chita-gun, Japan, assignors to Toyoda Automatic Loom Works, Ltd., Kariya-shi, Aichi-ken, Japan
Filed June 27, 1968, Ser. No. 740,567
Claims priority, application Japan, July 14, 1967, 42/45,426
Int. Cl. B66b *7/02, 9/20*
U.S. Cl. 187—9 **5 Claims**



A load lifting apparatus having a pair of laterally spaced channel shaped stationary uprights, a pair of laterally spaced I-shaped extensible uprights adapted for longitudinal movement with respect to said stationary uprights and a load carriage adapted for longitudinal movement with respect to said uprights. The longitudinal movement of said extensible uprights and load carriage is guided by rollers mounted thereon. The rearward flanges of the stationary uprights are disposed rearwardly of and overlapping the adjacent rearward flanges of the extensible uprights while the forward flanges of each of the stationary and extensible uprights are shorter than the corresponding rearward flanges. The apparatus may be disassembled by rotating the extensible uprights away from the stationary uprights in a plane perpendicular to the direction of movement of said extensible uprights without removing rollers.

3,506,093
ELEVATOR ZONING CONTROL SYSTEM INCLUDING MEANS TO REDIVIDE THE ZONES UNDER PREDETERMINED TRAFFIC CONDITIONS

John Suozzo, Paramus, and Henry C. Savino, Hackensack, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of applications Ser. No. 94,723, Mar. 10, 1961, Ser. No. 110,464, May 16, 1961, and Ser. No. 220,522, Aug. 30, 1962. This application Sept. 24, 1963, Ser. No. 310,991
Int. Cl. B66b *1/20*
U.S. Cl. 187—29 **19 Claims**

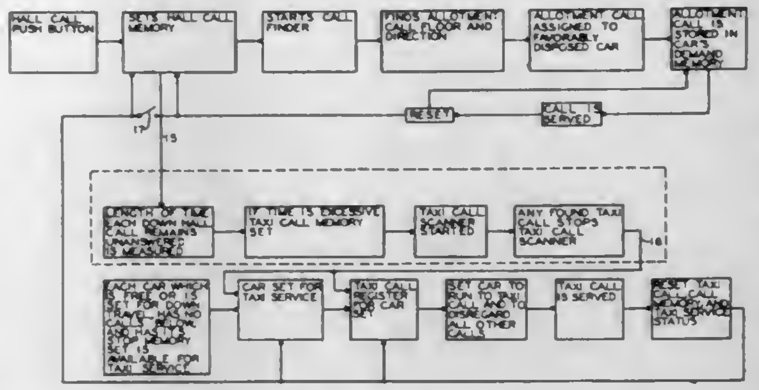


A plural elevator "available car" system which is subject to peak traffic conditions is disclosed. A conventional zoning approach toward solving the peak traffic problem is included which divides the building into a first plurality of zones and assigns each car to serve a zone. However, a situation may arise where a zone is overloaded beyond various predetermined conditions and thus the assigned cars are unable to handle overtime calls within the zone. Further, an adjacent zone which is lightly loaded and has an available car exists. When this situation occurs, the conventional zoning control is modified by redividing the floors into a second plurality of zones whereby the overloaded zone now includes floors served by an available car in the previously adjacent lightly loaded zone and the car is made available for use in the overloaded zone.

3,506,094
ELEVATOR CONTROL PROVIDING PREFERRED SERVICE TO HALL CALLS REGISTERED FOR A LONG TIME

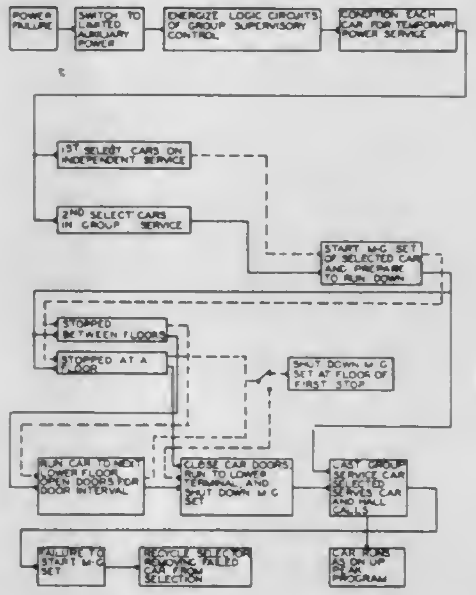
Donivan L. Hall, Toledo, James H. Kuzara, Sylvania, and Orval J. Martin, Toledo, Ohio, assignors to Reliance Electric Company, Toledo, Ohio, a corporation of Delaware
Filed Jan. 20, 1967, Ser. No. 610,576
Int. Cl. B66b *1/22*
U.S. Cl. 187—29 **13 Claims**

A supervisory control for a group of elevators which establishes preferential service to hall calls registered greater than a predetermined interval. Elevator cars are made available for preferential service from any location in their range of travel if set for down travel and if they have no calls to be served at floors below. One embodiment assigns each car as it becomes available to the oldest unassigned call.


HALL CALL PUSH BUTTON
SETS HALL CALL MEMORY
STARTS CALL FINDER
FINDS ALLOTMENT CALL FLOOR AND DIRECTION
ALLOTMENT CALL ASSIGNED TO FAVORABLY DISPOSED CAR
ALLOTMENT CALL IS STORED IN CAR'S DEMAND MEMORY
RESET
CALL IS SERVED
17
15
LENGTH OF TIME EACH DOWN HALL CALL REMAINS UNANSWERED IS MEASURED
IF TIME IS EXCESSIVE TAXI CALL MEMORY SET
TAXI CALL SCANNER STARTED
ANY FOUND TAXI CALL STOPS TAXI CALL SCANNER
16
EACH CAR WHICH IS FREE OR IS SET FOR DOWN TRAVEL HAS NO CALLS BELOW AND HAS NO STOP MEMORY SET IS AVAILABLE FOR TAXI SERVICE
CAR SET FOR TAXI SERVICE
TAXI CALL REGISTER FOR CAR SET
SET CAR TO RUN TO TAXI CALL AND TO DISREGARD ALL OTHER CALLS
TAXI CALL IS SERVED
RESET TAXI CALL CALL MEMORY AND TAXI SERVICE STATUS

3,506,095
GROUP ELEVATOR CONTROL FOR RESTRICTED POWER CONDITIONS

Warren V. Weaver, Toledo, Ohio, assignor to Reliance Electric Company, Toledo, Ohio, a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,153
Int. Cl. B66b *1/24*
U.S. Cl. 187—29 **24 Claims**

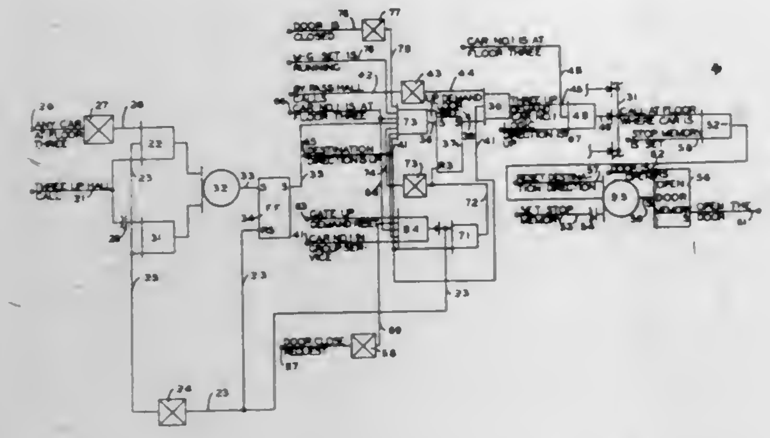

POWER FAILURE
SWITCH TO LIMITED AUXILIARY POWER
ENERGIZE LOGIC CIRCUITS OF GROUP SUPERVISORY CONTROL
CONDITION EACH CAR FOR TEMPORARY POWER SERVICE
1ST SELECT CARS ON INDEPENDENT SERVICE
2ND SELECT CARS IN GROUP SERVICE
START M-G SET OF SELECTED CAR AND PREPARE TO RUN DOWN
STOPPED BETWEEN FLOORS
STOPPED AT A FLOOR
SHUT DOWN M-G SET AT FLOOR OF FIRST STOP
RUN CAR TO NEXT LOWER FLOOR OPEN DOORS FOR DOOR INTERVAL
CLOSE CAR DOORS, RUN TO LOWER TERMINAL AND SHUT DOWN M-G SET
LAST GROUP SERVICE CAR SELECTED SERVES CAR AND HALL CALLS
FAILURE TO START M-G SET
RECYCLE SELECTOR REMOVING FAILED CAR FROM SELECTION
CAR RUNS AS ON UP PEAK PROGRAM

A plural car elevator system control for maintaining reduced service by less than all cars when the primary power to the system is cut off and a limited amount of auxiliary power is provided. The control selects individual cars to be started, insures that they are at a parking floor, and then shuts them down. This sequence is followed for each car until all cars but the cars or car to be maintained in service have been shut down. The car or cars maintained in service can be operated as on a normal up peak program.

3,506,096
MULTIFUNCTION SWITCH CONTROL FOR ELEVATORS

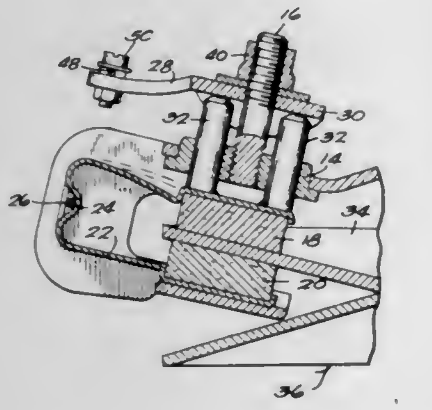
Gerald D. Robaszkiewicz, Toledo, Ohio, assignor to Reliance Electric Company, Euclid, Ohio, a corporation of Delaware
Filed Jan. 4, 1968, Ser. No. 695,754
Int. Cl. B66b *1/24*
U.S. Cl. 187—29 **8 Claims**

A elevator call registering control which is responsive to registration of calls following their cancellation and avoids malfunctions due to a faulty resetting of the call registration. Pulse coupling from the call device to the registering control causes the control to respond only to the initial impulse thereby making the control nonresponsive to a continuously maintained call signal.



3,506,097
DISC BRAKE CALIPER UNIT

Harold S. Hollnagel, Milwaukee, Wis., assignor, by mesne assignments, to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Aug. 12, 1968, Ser. No. 752,036
Int. Cl. F16d *55/00*
U.S. Cl. 188—73 **1 Claim**

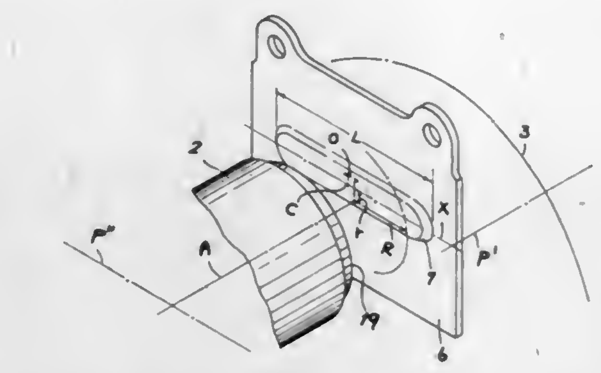


The disc brake pads are carried by a generally U-shaped, resilient mounting member which serves both the support and brake release functions while retaining the pads in the frame unit which is fabricated from a stamped and formed plate completed by a single, short weldment. The actuating arm is rotated to cam the actuating pins against the adjacent portion of the pad mount. The pins are mounted in a guide block riveted in the frame.

3,506,098
ANTINOISE DISK BRAKE

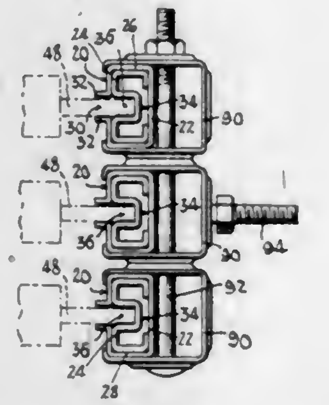
Hans Joachim Anders, Frankfurt am Main, Rodelheim, Germany, assignor to Alfred Teves G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Continuation of application Ser. No. 672,757, Oct. 4, 1967. This application May 5, 1969, Ser. No. 822,059
Claims priority, application Germany, Oct. 6, 1966, T 32,203
Int. Cl. F16d *55/228*
U.S. Cl. 188—73 **7 Claims**

A disk-brake system having noise-suppressing means constituted by a force-transmitting plate with the outline of and coextensive with the backing plate of the brake-shoe. The plate is interposed between a hydraulically shiftable piston of a wheel-brake cylinder and this backing plate. The plate is provided with an elongated embossed ridge turned toward the piston and engageable by a surface thereof parallel to the plates and of a length exceeding the diameter of this surface. The ridge or protuberance is radially offset outwardly from the axis of the wheel-brake cylinder (with reference to the center of the disk) and lies in a horizontal plane parallel to the wheel-brake cylinder axis.



3,506,099
CONDUCTOR BARS FOR TROLLEY SYSTEMS

Alleyne C. Howell, Jr., Fairfield, Conn. (% Howell Corporation, 470 Surf Ave., Stratford, Conn. 06497)
Filed Jan. 18, 1968, Ser. No. 698,793
Int. Cl. B60m *1/34*
U.S. Cl. 191—23 **15 Claims**

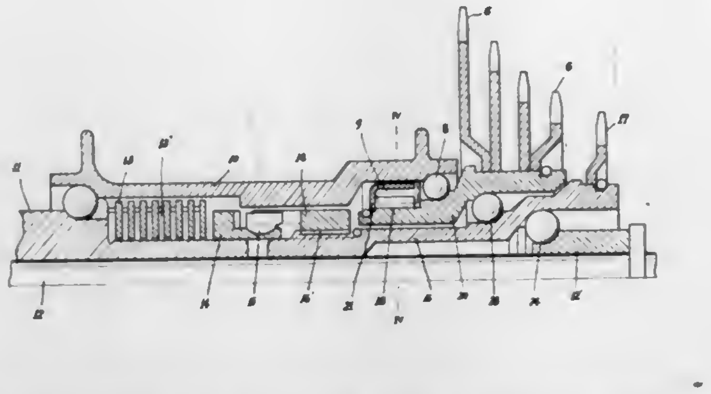


A conductor bar assemblage for carrying electricity to a trolley consisting of a formed sheet metal conductor closely fitting within an insulating jacket. The jacket has a rectangular cross section with a longitudinal slot along one broad side. The conductor has a rectangular groove which concides with the jacket slot and receives a collector shoe.

3,506,100
EXPOSED SPEED CHANGE MECHANISM FOR A BICYCLE EQUIPPED WITH COASTER BRAKE

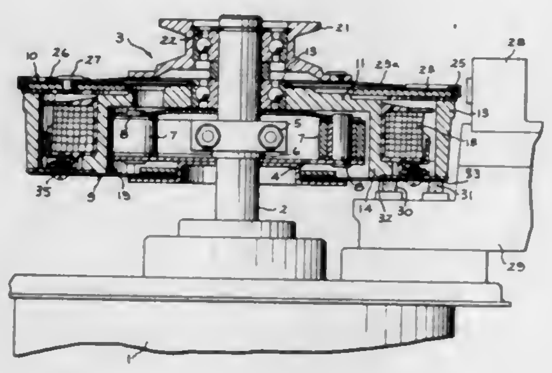
Yoshiaki Tomozawa, Osaka, Japan, assignor to Nankai Tekko Co., Ltd., Osaka, Japan
Filed June 4, 1968, Ser. No. 734,424
Claims priority, application Japan, June 20, 1967, 42/39,498
Int. Cl. F16d *41/30, 67/02, 41/28*
U.S. Cl. 192—6 **1 Claim**

This invention relates to an exposed speed change mechanism for a bicycle equipped with a coaster brake, comprising a multi-stage sprocket wheel assembly consisting of a plurality of sprocket wheels of different diameter, said multi-stage sprocket wheel assembly being mounted on a driving drum rotatably mounted on the rear axle for controlling the coaster brake, which is actuated by back pedalling the crank having a special front sprocket wheel provided in addition to usual front sprocket wheel, in which the brake can be applied by transmission of power from said additional front sprocket wheel through a separate chain and a sprocket wheel rotatably mounted on the rear axle provided solely for braking purpose.



3,506,101
CLUTCH COOLING STRUCTURE

Robert M. Fey, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 22, 1968, Ser. No. 723,087
Int. Cl. F16d *27/04, 13/72*
U.S. Cl. 192—84 **4 Claims**

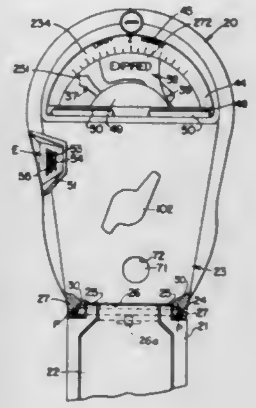


In a clutch having a rotary input structure and a rotary output structure, the input structure includes an inner radially extending wall; with an inner axially extending wall and an outer axially extending wall joined by an outer radially extending wall forming an annular recess outwardly of the inner radially extending wall to receive a clutch actuating coil. The edge of the outer axially extending wall forms a clutching surface. The output structure is provided with an annular strip of friction material for engaging the clutching surface. The strip defines a number of radial slots extending across the clutching surface to provide paths therebetween. The inner radially extending wall includes a plurality of radially extending vanes and a plurality of openings through the wall between adjacent ones of the vanes. Also the inner axially extending wall may provide a contact surface for engagement by a drive structure.

3,506,102
MANUAL PARKING METER

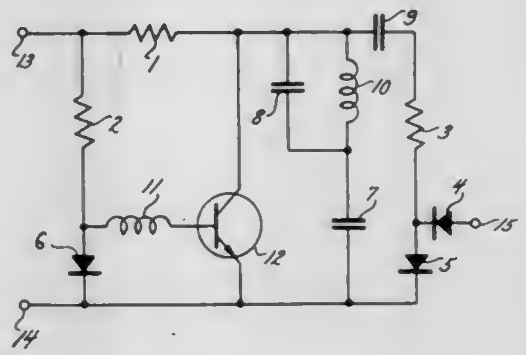
Charles M. Mathison, Indian Lakes Estates, Fla., and John W. Van Horn and Jack A. Prickett, Russellville, Ark., assignors to Rockwell Manufacturing Co., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1967, Ser. No. 691,814
Int. Cl. B65d *43/16, 51/18;* **G07f** *5/00*
U.S. Cl. 194—84 **30 Claims**

A manual wind up parking meter for handling multi-denomination coins and differentiating the purchasing value of each to effect a maximum time setting upon insertion of the highest value coin and pro-rata incremental time settings upon insertion of coins of lesser purchasing value.



3,506,103
COIN TESTER USING ELECTROMAGNETIC RESONANT FREQUENCY

Alexander Kückens, Hamburg, and Wolfgang Niehaus, Hamburg-Neugraben, Germany, assignors to Alexander Kückens, Hamburg, Germany
Continuation-in-part of application Ser. No. 552,501, May 24, 1966. This application June 11, 1968, Ser. No. 736,077
Int. Cl. G07f *3/02*
U.S. Cl. 194—100 **24 Claims**

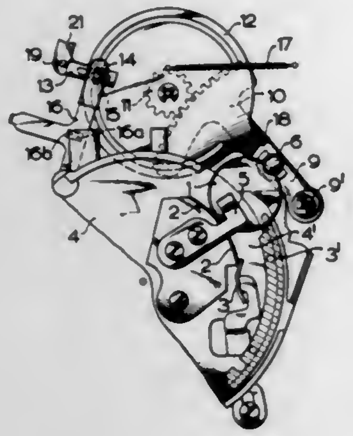


The dimensions of, the mass of, the surface configurations of, and the metallic nature of a coin determine the electromagnetic resonant frequency of that coin. When a coin is caused to resonate at its electromagnetic resonant frequency, that coin can cause an oscillator—which normally oscillates at a frequency displaced from, but relatively close to, the electromagnetic resonant frequency of that coin—to oscillate at the electromagnetic resonant frequency of that coin and thus provide a predetermined change in an electrical parameter of that oscillator.

3,506,104
COIN TESTING ARRANGEMENT FOR VENDING MACHINES

Bernhard Kaiser, Villingen, Black Forest, and Ortwin Woköck, Schwenningen, Germany, assignors to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed July 17, 1968, Ser. No. 745,581
Claims priority, application Germany, July 20, 1967, K 62,886
Int. Cl. G07f *3/02*
U.S. Cl. 194—102 **10 Claims**

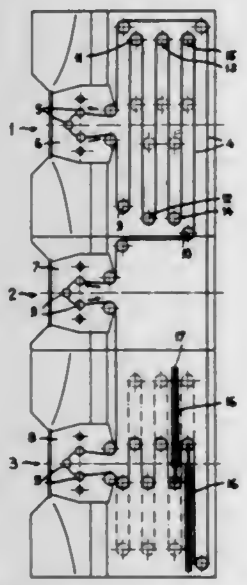
A coin testing arrangement has a guiding structure for guiding transported coins, and including a slanted guide surface for guiding the rim of each coin so that coins of different thickness project different distances toward a sensing means which assumes different positions in accordance with the thickness of tested coins, and starts the vending machine only when sensing a coin of standard thickness.



3,506,105

ASSEMBLY LINE APPARATUS

Ernst Stauber, Lengnau, near Biel, Switzerland, assignor to Langendorf Watch Co., Langendorf, Switzerland, a body corporate of Switzerland
Filed Feb. 27, 1968, Ser. No. 708,683
Claims priority, application Switzerland, Mar. 7, 1967, 3,300/67
Int. Cl. B23q *7/00;* **B65g** *17/32*
U.S. Cl. 198—19 2 Claims



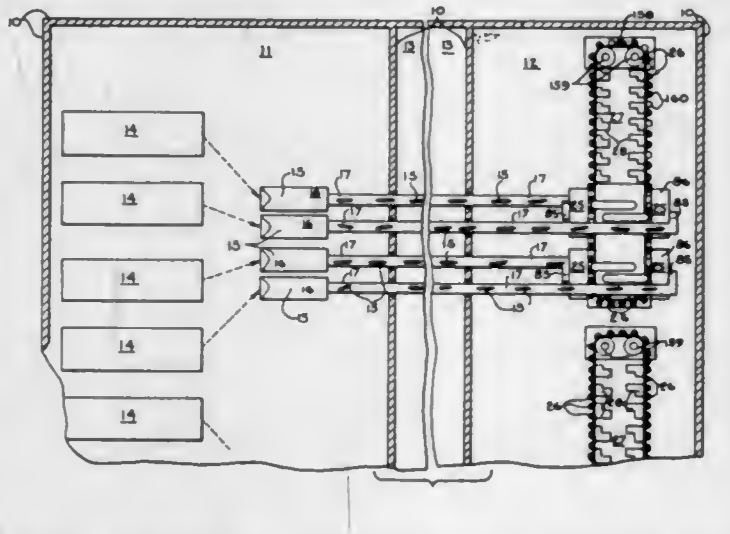
An assembly line apparatus for performing successive operations on a series of like work pieces of small size, for example on watch mechanisms, combining the possibility of manual and completely automatic processing at various working stations. To compensate for temporary working stops at manually operated stations the conveyor conveying loaded work piece holders in steps through the working stations has an excess length guided so as to form a buffer zone before and after such manually operated working stations.

3,506,106

BOBBIN STORAGE AND DELIVERY INSTALLATION

Charles W. Brouwer, East Greenwich, Henry Chain Bucheister, Providence, and Raymond V. Tata, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Sept. 12, 1967, Ser. No. 667,125
Int. Cl. B65g *47/24*
U.S. Cl. 198—33 7 Claims

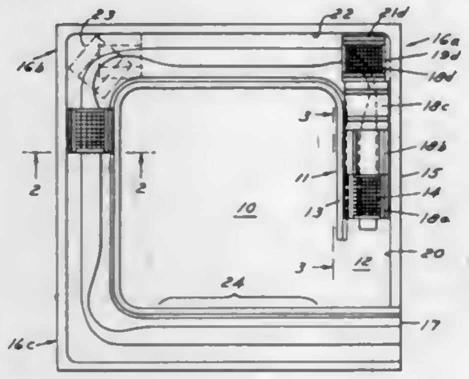
A textile mill installation and apparatus for simultaneously handling various types of filled yarn bobbins. The filled bobbins are stored in a yarn spinning or twisting processing area. Each type of filled bobbin is stored in a jumbled condition in a separate storage bin at the processing area and is automatically conveyed to bobbin orienting equipment at the winding area. The various types of oriented bobbins are selectively distributed to winding stations using a particular one of the types of bobbins to wind the packages. Once the various types of jumbled bobbins have been deposited in their respective storage bins, the entire operation of orienting and distributing the bobbins is automatic. The apparatus includes a storage bin conveyor which cooperates with a delivery conveyor in avoiding scuffing and undesirable interference of the bobbins while conveying the bobbins from the processing area to the orienting equipment which automatically orients both partially and fully filled bobbins. Finally, a distributing system receives the various types of the oriented bobbins and simultaneously and automatically distributes each type of bobbin to winding stations using that type of bobbin.



3,506,107

SQUARE FEEDER BOWL

George M. Tarzian, 1744 Rosehill Drive, Chicago, Ill. 60626
Filed Mar. 27, 1968, Ser. No. 716,542
Int. Cl. B65g *47/24, 27/02*
U.S. Cl. 198—33 9 Claims



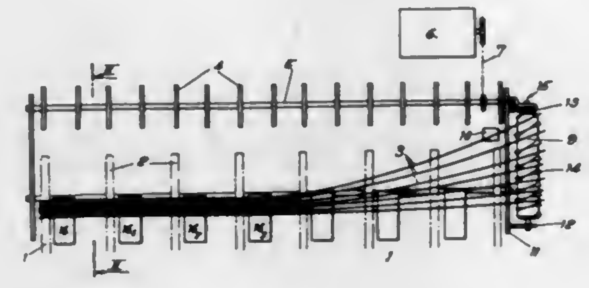
A square feeder bowl for square parts having correct angle orientation requirements including discriminating corner part orientation means adapted to selectively reorient only misoriented parts and thereby increase the useable yield.

3,506,108

BAR SELECTOR

Jean Emile Glasson, Argenteuil, France, assignor to Botalam, Paris, France, a corporation of France
Filed Nov. 24, 1967, Ser. No. 685,609
Claims priority, application France, Dec. 12, 1966, 87,078
Int. Cl. B65g *47/26, 17/46*
U.S. Cl. 198—34 4 Claims

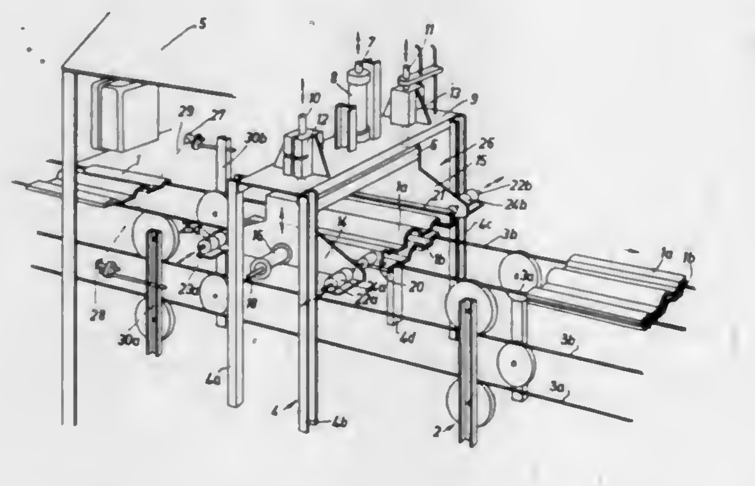
A selector for bars or rods supplied transversely in a continuous or noncontinuous layer, the selector including an accelerator means capable of engaging the head ends of the bars one by one so as to impart thereto a forward movement of increasing velocity. An electromagnet, preferably of increasing power in the direction of rod movement, is provided adjacent the tail end of the bars for controlling the movement of the bar layer.



3,506,109

METHOD OF AND APPARATUS FOR THE PRELIMINARY STACKING OF CONVEYED ARTICLES

Rudolf Heinrich Braas, Bad Hamburg vor der Hohe, Germany, assignor to Braas & Co. G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany
Filed Jan. 12, 1968, Ser. No. 697,430
Claims priority, application Germany, Jan. 12, 1967, 1,506,417
Int. Cl. B65g *57/00*
U.S. Cl. 198—35 9 Claims



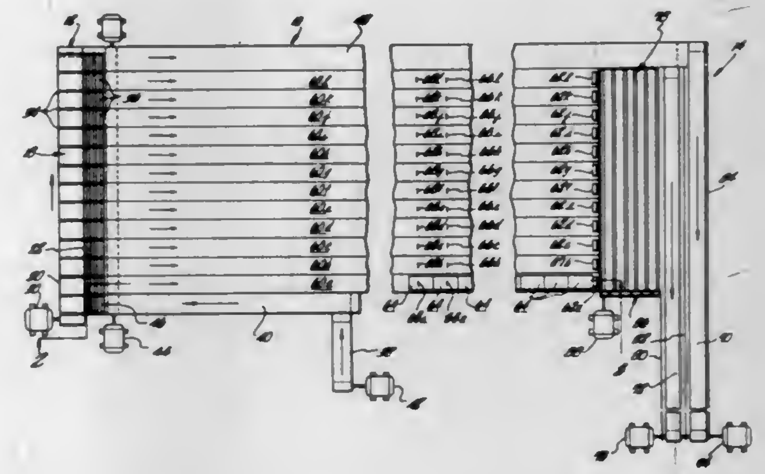
Methods of and apparatus for superimposing or doubling conveyed articles in an automatic operation comprising the following successive steps: (1) arresting the article in its advance by laterally grasping the same by means of clamp rails; (2) lifting the grasped article above the conveying plane by said clamp rails; (3) withdrawing the clamp rails laterally to allow the article to freely fall on the top of the continuousy advanced, immediately following article in exact registry therewith; and (4) lowering the clamp rails into a stand-by position.

3,506,110

ACCUMULATOR

Lowell A. Paul and Loyd Adams, Pasadena, Calif., assignors to Aeroceanic Corporation, a corporation of California
Filed Aug. 7, 1967, Ser. No. 658,790
Int. Cl. B65g *47/44*
U.S. Cl. 198—75 6 Claims

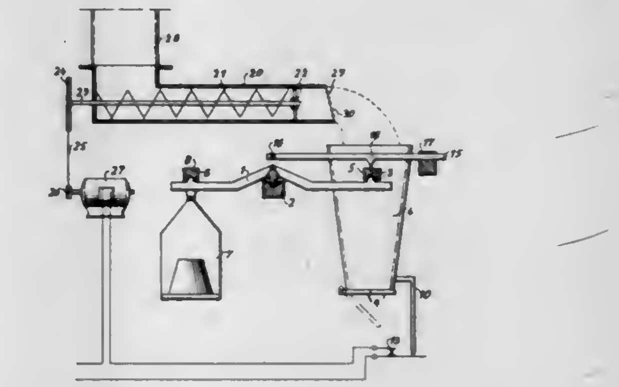
Side-by-side accumulator conveying sections including pairs of spaced-apart roller banks are arranged at a slight slope from a source of articles towards an article distributing point. An endless conveyor is associated with each conveying section to transport articles along the sections. A plurality of spaced-apart drag plates is in turn carried by each of the endless conveyers. These drag plates have the facility to frictionally engage the bottom of articles and thereby transport the articles towards the distributing point. The drag plates are spaced apart such that the frictional engagement of one article will carry leading but unengaged articles.



3,506,111

FEEDING MECHANISM FOR WEIGHING APPARATUS

Paul Eppenberger, Auenhofen, Amriswil, Thurgau, Switzerland, assignor to Gebruder Buhler AG, Uzwil, Switzerland
Continuation-in-part of application Ser. No. 393,134, Aug. 31, 1964. This application Feb. 14, 1968, Ser. No. 707,918
Int. Cl. G01g *13/02*
U.S. Cl. 177—120 15 Claims



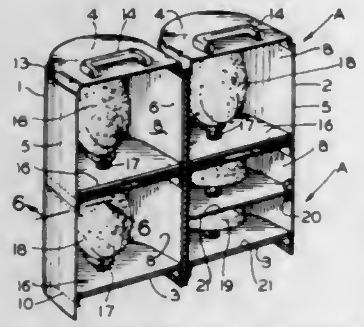
A feeding mechanism includes a feeding trough having an inlet which is oriented at the lower end of a silo and a discharge which is oriented above a container associated with a weighing apparatus. A conveyor worm rotates in the trough and is effective to move material therethrough and discharge it through the discharge end into the weighing container. The discharge opening is provided with a plurality of substantially horizontally disposed and vertically spaced wire choking members or cutting elements which are effective to cut the flow of material off at the discharge when the conveyor worm is stopped in order to insure that no after-feeding occurs. The weighing apparatus operates a control for the worm which shuts off the feed when a selected weight has been obtained.

3,506,112

MULTIPLE COMPARTMENT WIG CASES

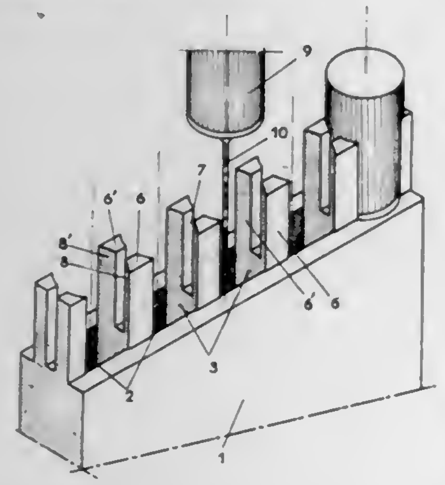
Morton A. Feinberg and Judith L. Feinberg, Olivette, Mo. (both of 20 St. Alfred Road, St. Louis, Mo. 63132)
Filed Sept. 26, 1968, Ser. No. 762,730
Int. Cl. A45c *11/02;* **B65d** *85/18*
U.S. Cl. 206—8 13 Claims

A wig case having an outer housing subdivided into two container halves which are pivoted with respect to each other, and which are capable of being locked with respect to each other. Each container half includes a simulated rigid foam head for supporting a wig or wiglet thereon. A recessable handle is mounted on the top wall of the case. Provided for removable, but nevertheless secure attachment to the lower wall of the above described case is a similar case which also includes a pair of container halves. Each of the container halves includes a rigid foam head form for supporting such wigs or wiglets. Thus it is possible for the user of the cases to simultaneously carry at least two or at least four wigs or similar hairpieces in one housing.



3,506,113
HOLDER FOR SMALL DENTAL INSTRUMENTS

Marcel Garnier, Besancon, France, assignor to Micro-Mega SA, Besancon, France, a company of France
Filed Oct. 18, 1968, Ser. No. 768,688
Claims priority, application France, Oct. 25, 1967, 125,709
Int. Cl. B65d *85/20*
U.S. Cl. 206—16 **3 Claims**

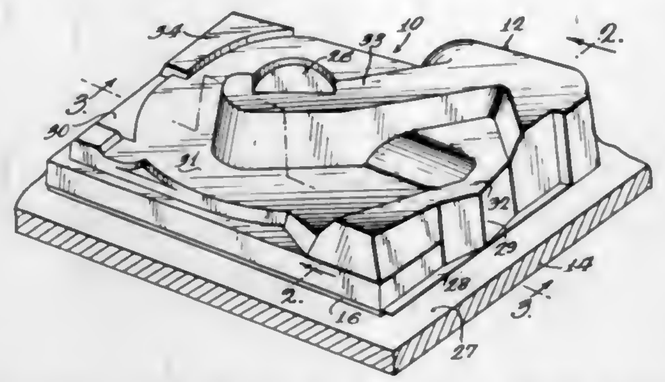


A holder for small dental instruments having a sloping box-shaped structure with vertically-extending posts between which the handles of the instruments are frictionally engaged.

3,506,114
RECORD CHANGER PACKAGE ASSEMBLY

Vernon A. Holmes, Harwood Heights, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Aug. 20, 1968, Ser. No. 754,004
Int. Cl. B65d *85/30*
U.S. Cl. 206—46 **15 Claims**

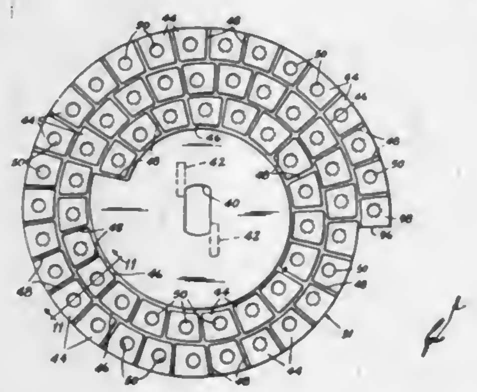
A record changer package assembly comprising a combination of a record changer and an overlay for protectively cushioning the movable and fragile portions of the record changer, as during shipment. The overlay defines a dust cover preventing foreign material from being disposed of the record changer mechanism during such shipment. The overlay is retained in position during such shipment by suitable associated means, such as the superjacent lid where the record changer is provided in a console, or a similar wall portion of the associated structure where the record changer is provided as a portion of a phonograph. The overlay comprises a formed one-piece plastic member. The overlay may be utilized as a conventional dust cover subsequent to installation of the record changer.



The overlay may be further utilized to retain auxiliary equipment, such as adapters and removable spindles, in association with the record changer during shipment.

3,506,115
NAIL HOLDING DISK FOR USE IN NAILING MACHINE

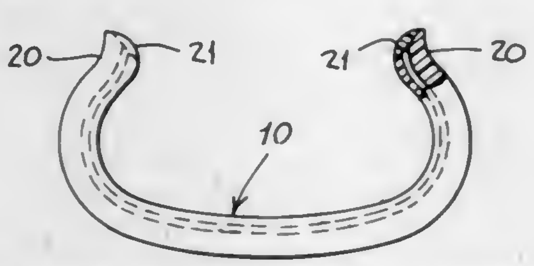
George P. Heilman, New York, N.Y., assignor to General Wire Overseas Corporation, St. Louis, Mo., a corporation of Missouri
Filed Apr. 3, 1967, Ser. No. 627,952
Int. Cl. B25c *1/00;* **B65d** *83/02*
U.S. Cl. 206—56 **7 Claims**



A nailing disk and feed mechanism for pneumatic nailing guns. The nailing disk is provided in the form of a plate with a helical or spiral string of nails inserted through the plate and weakened portions surrounding the nail head in order that the nail and surrounding material may be punched out from the nailing disk in the nailing operation. The feed mechanism supports the nailing disk and feeds the helical string of nails in sequence to a driving tube with means for advancing the nailing disk through a spring housing and ratchet arrangement to provide for automatic feeding and advancement of the next nail after the driving operation.

3,506,116
FULLY INSULATED C RINGS

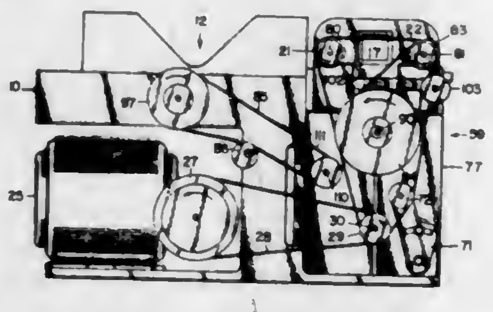
Francis G. Winters, Englishtown, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed Dec. 13, 1968, Ser. No. 783,691
Int. Cl. B65d *83/00*
U.S. Cl. 206—56 **4 Claims**



A coherent strip of adjacently spaced C rings each of which has a steel wire core embedded in a plastic material and is adapted to embrace a plurality of parallel members or wires. The inner surface of each C ring is rib shaped and the ends thereof are reversely curved to povide a smooth lip on its inner surface. Further, the ends of the wire core are recessed within the plastic and contain thereover a plastic covering to provide a fully insulated member.

3,506,117
VARIABLE SPEED DOCUMENT TRANSPORT SYSTEM

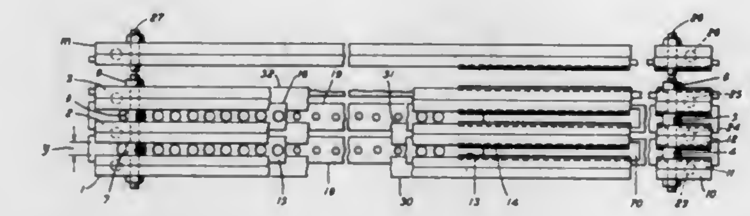
Harvey G. Patterson, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Apr. 29, 1968, Ser. No. 724,753
Int. Cl. B07c *3/06, 5/00*
U.S. Cl. 209—74 **16 Claims**



A pair of drive wheels rotate at a first speed for transporting documents (such as tabulating cards) being processed through a processing station, for example, a card reader. Upon the detection of a predetermined code on the document being processed, further processing is aborted and the card is transported through the station for ejection at an accelerated rate, for example, six times normal transport speed. Simultaneously therewith the next document to be processed is transported toward the processing station. The station includes a code detector for detecting the predetermined code which may be located in predetermined areas on the document being processed. An increase-spaced actuator engages a variable speed drive for increasing the rotational speed of one of the drive wheels. Both drive wheels include one-way clutches for permitting relative speed increases without gearing. Also disclosed is a sorting system for collating cards from a document processor into at least two stacks. First stack is adjacent the exit portion of a processing station and receives cards exiting at the normal processing speed. A second hopper receives those cards exited at accelerated speed. A code on the card is utilized to determine which hopper receives the card.

3,506,118
APPARATUS FOR SIZING AND GRADING ARTICLES

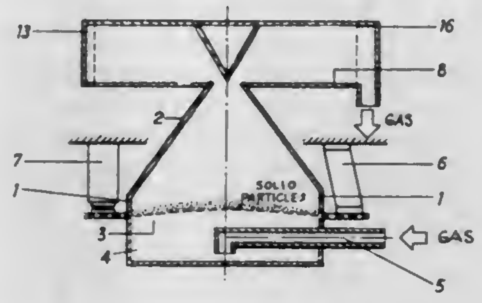
Joseph F. Illuzzi, 109 Highland Ave., Edison Township, Middlesex County, N.J. 08817
Filed July 8, 1968, Ser. No. 743,143
Int. Cl. B07b *13/04*
U.S. Cl. 209—75 **7 Claims**



Sorting equipment is disclosed for sorting medicine tablets as to their thickness as well as their circumference. The equipment comprises a plurality of substantially parallel rails each of which has a sloped surface and pairs of these surfaces form a groove for sorting oversize tablets as to thickness. Rods are imbedded into facing side surfaces of each rail forming an inclined runway for sorting tablets undersize in thickness which fall between the rails. Upper and lower sorting plates are mounted below each of the runways to selectively sort tablets according to circumference which tablets are propelled downwardly by the runway and are caught on the plates.

3,506,119
METHOD AND APPARATUS FOR CLASSIFYING BY GRAVITY A GRANULAR MATERIAL MIXTURE

Hans Rumpf, 12 Hansjacobstrasse, 75 Karlsruhe, Germany; Kurt Leschonski, Forchheim, and Manfred Weilbacher, Karlsruhe, Germany; said Leschonski and said Weilbacher assignors to said Rumpf
Filed Feb. 20, 1968, Ser. No. 706,868
Claims priority, application Germany, Feb. 21, 1967, R 45,341
Int. Cl. B03b *3/00*
U.S. Cl. 209—139 **12 Claims**



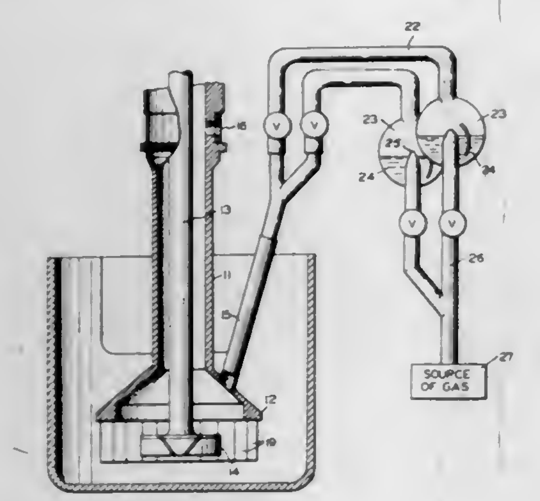
Method of classifying by gravity for the analytic or preparatory separation of a granular material mixture at a grain size split below about 0.15 mm. includes passing a flowing medium upwardly through an inlet, at uniform velocity across the flow cross section of the inlet, which is located in a substantially vertically disposed flow tube containing, in a lower portion thereof, a quantity of the granular mixture so that a finer component of the granular mixture is entrained by the flowing medium and is separated from a coarser component of the granular mixture remaining in the lower portion of the flow tube, and drawing off the flow medium together with the entrained finer component at accelerated speed above the flow tube.

Apparatus for carrying out the foregoing method wherein the flow tube has a constant cross section, is relatively short and has a lower inlet and an upper outlet for the flowing medium, and including a conical tube connected to the flow tube and narrowing away therefrom, and a porous base extending over the cross section of the flow tube at the inlet thereof.

3,506,120
METHOD OF ADDING FLOTATION REAGENTS IN FROTH FLOTATION PROCESSES

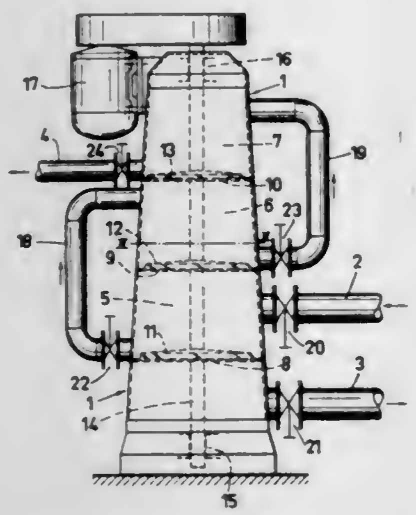
Masayoshi Wada, 62 Niizaka-dori, Sendai, Miyagi Prefecture, Japan; Akira Ohba, 1060 Maeyama Ichinokawa, Higashimatsuyama, Saitama Prefecture, Japan; Goro Ishii, 8 Chiwari Suemae, Taroo-cho, Shimoheigun, Iwate Prefecture, Japan; and Shuzo Kohno, 3–104 Nishinodaira Nagamachi, Sendai, Miyagi Prefecture, Japan
Continuation-in-part of application Ser. No. 608,289, Jan. 10, 1967. This application Nov. 25, 1968, Ser. No. 778,739
Claims priority, application Japan, Jan. 14, 1966, 41/2,046
Int. Cl. B03d *1/02, 1/20;* **B03b** *1/04*
U.S. Cl. 209—166 **1 Claim**

Method of adding flotation reagents in a froth flotation process by feeding the reagents as an Aerosol or in finely divided form into the air or other gas supplied as primary gas through an injecting system into the essential zone of bubble dispersion and bubble-particle contact of the flotation apparatus.



3,506,121
METHOD AND DEVICE FOR SCREENING OF A FIBER SUSPENSION

Gosta E. F. Holm, Fogelmarksgatan 7,
Vastervik, Sweden
Filed May 17, 1968, Ser. No. 730,037
Claims priority, application Sweden, May 17, 1967
6,879/67
Int. Cl. B07b *1/04*
U.S. Cl. 209—273 **9 Claims**

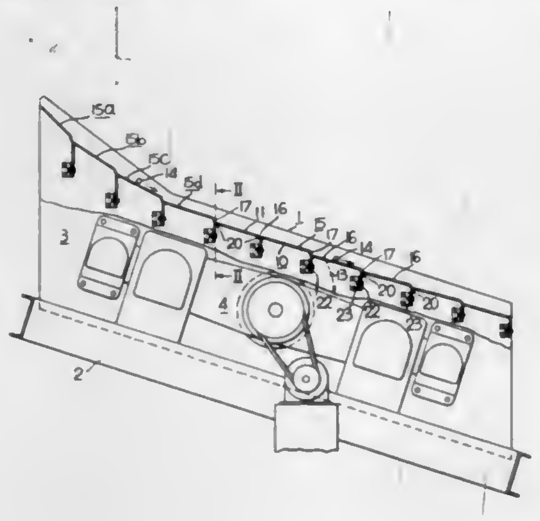


A fractional screening of a fiber suspension at least two screening chambers is achieved by introducing a fiber suspension into a first screening chamber from a second screening chamber, which is connected to the first screening chamber, by introducing the accept portion of the suspension into the second screening chamber from a third screening chamber, and by leading the reject portion in a direction opposite that of the accept portion of the suspension.

The device for fractionated screening has a closed container with a discharge outlet for the reject portion and an outlet for accept portion of the suspension, between which the container is divided into at least two screening chambers by screening plates, one inlet for introducing the fiber suspension initially, means for transport of the reject from each of the screening chambers to another screening chamber in the direction to the reject discharge outlet, except for the screening chamber with the discharge outlet for the reject portion.

3,506,122
STEPPED ROD DECK SCREEN

Peter D. Ranger, Ville la Salle, Quebec, Canada, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 6, 1968, Ser. No. 781,752
Int. Cl. B07b *1/34, 1/12*
U.S. Cl. 209—326 **8 Claims**

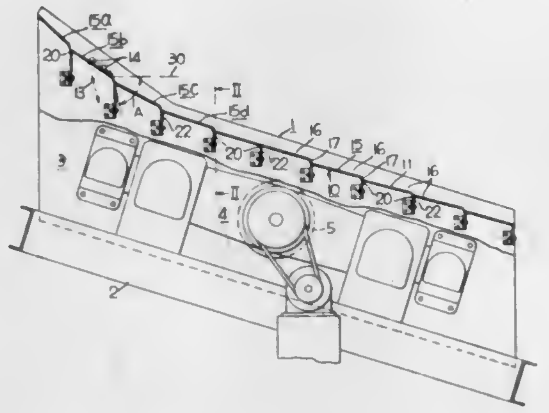


A vibrating screen is disclosed having a deck made up of parallel rods spaced to pass therebetween particles smaller than a predetermined size. Each rod is a continuous piece shaped to define, in operating position, a descending flight of at least several steps each transverse to the rods with each step comprising a tread and a riser. Each riser is shorter than the treads and sloped to define an angle of declination substantially steeper than adjacent treads and the angle of the riser below a horizontal plane through a top portion thereof and toward the lower end of the flight, is at least about 70 degrees. A transverse tie rod is arranged beneath the deck at or close to the upper end of each tread, and preferably the tie rod is not farther from the upper end of the tread than approximately ½ of the vertical drop established by the riser connected to the upper end of the tread. A predetermined number of the steps, comprising less than half of the steps, and beginning with the top step, are provided with a steeper downward slope than the remaining steps of the flight to provide particles descending the deck with an initial velocity and momentum for free flight trajectory over risers and provide a cluster disrupting impact landing of such particles on the upper end of each tread downwardly and beyond the tie rod beneath the upper end of each tread.

3,506,123
ROD DECK SCREEN WITH RESILIENT MATERIAL RECEIVING SECTION

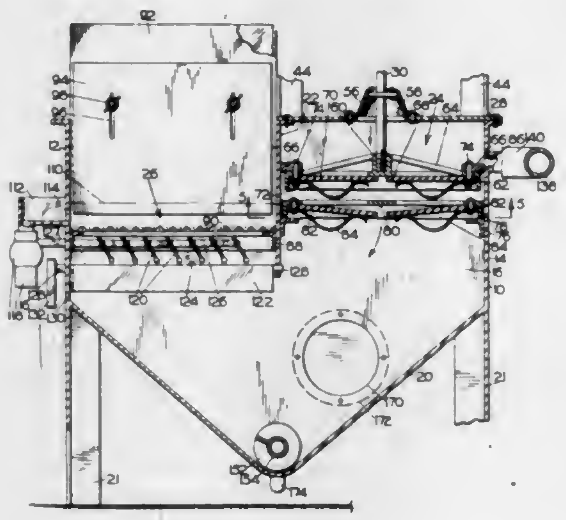
Peter D. Ranger, Ville la Salle, Quebec, Canada, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 6, 1968, Ser. No. 781,811
Int. Cl. B07b *1/12*
U.S. Cl. 209—395 **12 Claims**

A vibrating screen is disclosed having a deck made up of parallel rods spaced to pass therebetween particles smaller than a predetermined size. Each deck rod may be a continuous piece shaped so that the deck defines, in operating position, a descending flight of steps with each step comprising a tread and a riser. Each riser is sloped to define an angle of declination substantially steeper than adjacent treads. A transverse tie rod is arranged beneath the deck at or close to the upper end of each tread and each tie rod is carried on top of one or more vertical slats arranged with flat face portions transverse to the deck rods and having a bottom portion adapted to be connected to a screen frame. A predetermined number of the steps defined by continuous lengths of deck rods, comprising less than half of the steps, and preferably the first three steps, beginning with the top step, are provided with a steeper downward slope than the remaining steps of the flight, and these first few steeper steps are supported by flexible slats which are about 2 to 1¼ times taller than slats downwardly thereof and without support between the bottom portion of the slats and the tie rod on top thereof to provide greater resiliency thereof for flexing of these taller slats in vertical planes parallel to the deck rods to establish a vibrating self-cleaning action for the portion of the deck which receives the complete load of material delivered to the deck for screening and over which passes the greatest quantity of undersize material and fines.



3,506,124
STRATIFIER FOR SEPARATING ORE

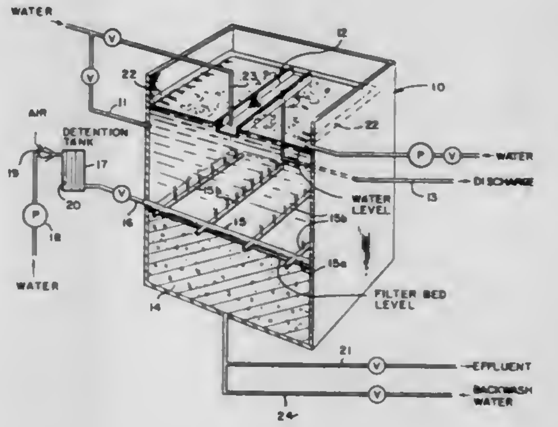
Fletcher De Fisher, Long Beach, Wash.
(Clayton, Idaho 83227)
Filed Mar. 6, 1968, Ser. No. 715,122
Int. Cl. B03b *3/28*
U.S. C. 209—456 **3 Claims**



A stratifier including a tank, a pumping chamber and a separating chamber. The pumping chamber has a motor driven plunger and valve assembly capable of causing a pulsating action in liquid in the separating chamber. Included in the separating chamber is a screen on which ore material is deposited. Baffle plates are used under the screen to control movement of the ore material on the screen. A first valve is disposed above the screen for receiving large particles and the tank has a narrow bottom portion for receiving concentrates passing through the screen. An auger is disposed at the bottom of the tank for discharging the concentrates. Fluid is fed to the pumping chamber by a pump through a valved manifold, and a valved line also leads from the pump to the bottom of the tank for flushing the latter.

3,506,125
WATER TREATMENT PROCESS FOR IMPROVED GRAVITY FILTERING AND BACKWASHING

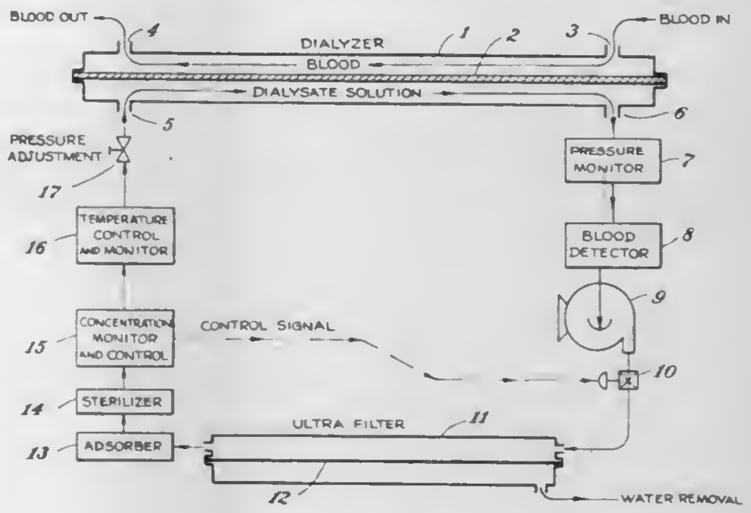
Roderick M. Willis, 2624 W. Crocket St. 98199, and Charles L. Oldfather, 4403 52nd Ave. SW. 98116, both of Seattle, Wash.
Filed Sept. 15, 1967, Ser. No. 672,414
Int. Cl. B01d *37/00*
U.S. Cl. 210—73 **7 Claims**



Pressurized water saturated with air or other gas is ejected into the downflowing water above the filter media of a gravity filter system during the filtering cycle to form minuscule bubbles of air on the filterable particles present and float these particles to the surface for removal. The same procedure is followed during the backwash cycle as respects the upflowing backwash water above the filter media to assist in speedy removal of the filtered particles.

3,506,126
CLOSED RECIRCULATING HEMODIALYSIS SYSTEM

Earl J. Serfass, St. Petersburg, and Vernon H. Troutner and Edward R. Lindsay, Jr., Clearwater, Fla., assignors to Milton Roy Company, St. Petersburg, Fla., a corporation of Pennsylvania
Filed May 3, 1968, Ser. No. 726,345
Int. Cl. B01d *13/00*
U.S. Cl. 210—96 **8 Claims**

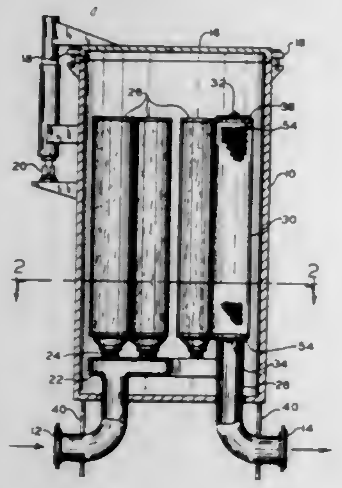


A blood dialysis system with continuous, pumped recirculation of the dialysis fluid is described. The dialyzer has a membrane, blood ports for passage of blood through the dialyzer on one side of the membrane and dialysate ports for passage of dialysis fluid, dialysate, through the dialyzer on the other side of the membrane. The dialysate ports are connected in a closed loop with an ultra filter which removes water from the dialysis fluid during recirculation of the dialysis fluid. An adsorber and a sterilizer are provided in the closed loop for further purification of the dialysis fluid. A monitor automatically maintains the proper dialysis fluid composition.

3,506,127

APPARATUS FOR REMOVING WATER FROM FLUIDS

Howard M. Gammon, Newark, N.J., assignor to Filters, Inc., San Jose, Calif., a corporation of California
Filed Feb. 2, 1968, Ser. No. 702,601
Int. Cl. B01d *29/04, 25/04, 25/02*
U.S. Cl. 210—300 **6 Claims**

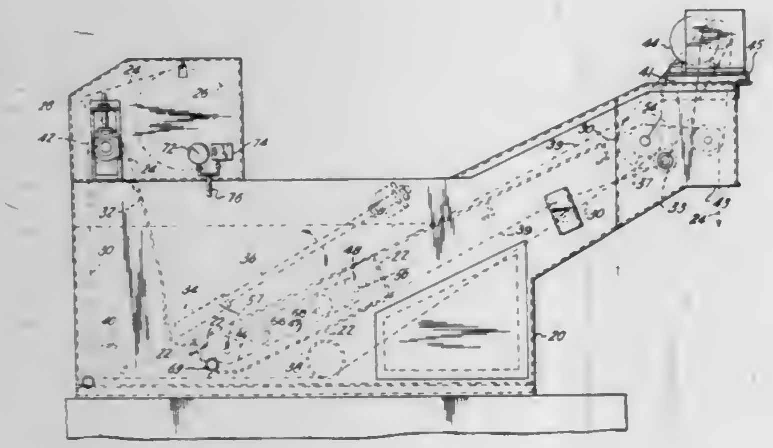


A filter separator assembly employing a separator element for separating water from hydrocarbon liquids wherein the separator element is formed of a material which effects a substantially uniform fluid flow therethrough throughout the length thereof and militates against the passage of water therethrough while allowing for the passage of a hydrocarbon fluid.

3,506,128

FILTER APPARATUS

Sark Pashaian, Monroe, James M. Stewart, Dearborn, and Emil Umbricht, Northville, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Continuation of application Ser. No. 343,335, Feb. 7, 1964. This application Mar. 28, 1967, Ser. No. 626,633
Int. Cl. B01d *33/00, 33/32, 33/40*
U.S. Cl. 210—400 **6 Claims**

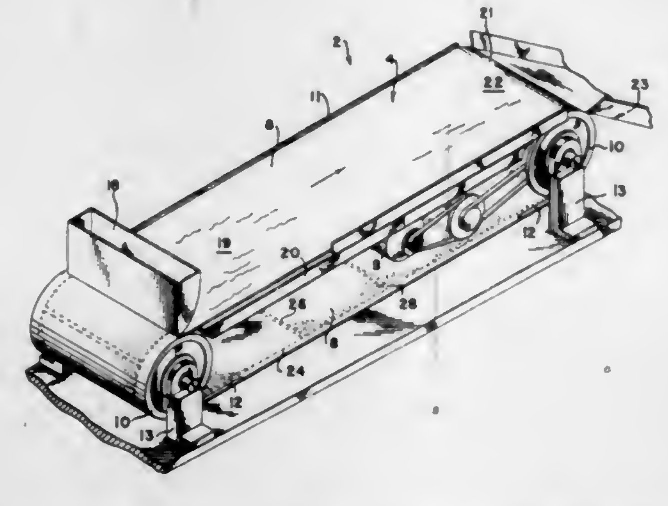


A filtration apparatus with a suction box immersed in the liquid to be filtered and having an open face below the liquid level with spaced narrow bars constituting support means and an endless support belt with rollers positioned to guide the belt and drive it through the liquid and across the open face; a strip of filter medium feeds on to said belt before the suction box and is carried by it across the open face, being of a size such that the open face is covered by said strip, and thence out of the liquid and beyond to a discharge position; and means for removing liquid which passes into the suction box and maintaining suction within said box.

3,506,129

PERFORATED STEEL BELT CONVEYOR

Terence G. Crombie, 1773 California St., Rolling Meadows, Ill. 60008
Filed May 3, 1968, Ser. No. 726,322
Int. Cl. B01d *33/36*
U.S. Cl. 210—401 **11 Claims**

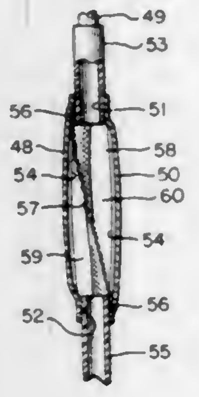


A perforated steel belt conveyor is disclosed. The perforations are small so that the belt can support the solids upon the top surface. Each of the perforations is frustoconical with a small entry opening at the top surface of the belt and flaring side walls so that any particle entering the perforation will pass through it. The edges and transverse strips of the belt are unperforated so as to provide a satisfactory support for the perforated portions.

3,506,130

FILTER ASSEMBLY FOR APPARATUS USED IN PARENTERAL ADMINISTRATION OF LIQUIDS

Nat Shaye, Morton Grove, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,373
Int. Cl. B01d *35/02*
U.S. Cl. 210—436 **8 Claims**

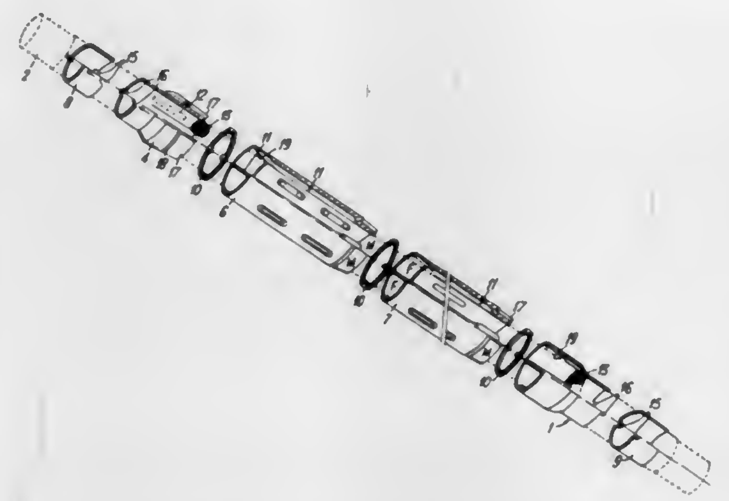


A filter comprising an assembly which extends generally diagonally with a vertical compressible housing in the vertical path of flow of liquid administered by said apparatus and thereby provides upstream and downstream vertical chambers disposed in horizontal association. The housing comprises a pair of opposite vertically disposed compressible housing members, preferably of plastic, each of said housing members being heat sealed about its edges to the other and secured to an opposite end of said filter which is trapped between an associated housing member and a corresponding inlet and outlet duct for said housing.

3,506,131

STRAINERS OR FILTERS FOR TUBE WELLS

Dilip Kumar Banerjee, Plot–N, Jodhpur Park, Calcutta 31, West Bengal, India
Filed May 13, 1968, Ser. No. 728,470
Int. Cl. B01d *29/16*
U.S. Cl. 210—441 **2 Claims**

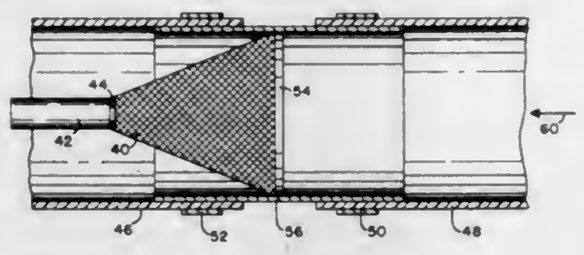


A tube well strainer adapted to prevent the clogging of the screening thereof with particulate material from its surroundings wherein the screened portion of the filter is covered with a longitudinally extending perforate outer shell.

3,506,132

COMBINATION WATER FILTERING AND WATER TREATING DEVICE

James J. Boozer, 326 W. Park Ave., El Cajon, Calif. 92020
Filed May 2, 1968, Ser. No. 726,025
Int. Cl. B01d *29/30*
U.S. Cl. 210—448 **4 Claims**



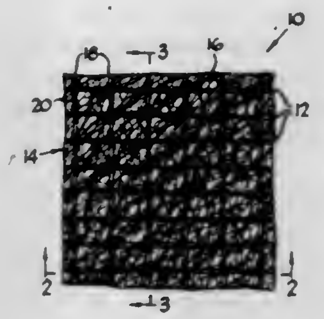
A combination water filtering and water treating device for use in cooling systems in engines used in motor vehicles and comprises a conical shaped filter screen with a rod of anode material secured to the conical screen at its apex.

3,506,133

SEWN FABRIC FILTER MEDIUM AND METHOD OF MANUFACTURE

Charles A. Lee, Knoxville, Tenn., assignor, by mesne assignments, to Appleton Wire Works Corporation, Appleton, Wis., a corporation of Wisconsin
Original application Feb. 8, 1965, Ser. No. 431,030. Divided and this application May 6, 1968, Ser. No. 739,598
Int. Cl. B01d *39/08*
U.S. Cl. 210—491 **6 Claims**

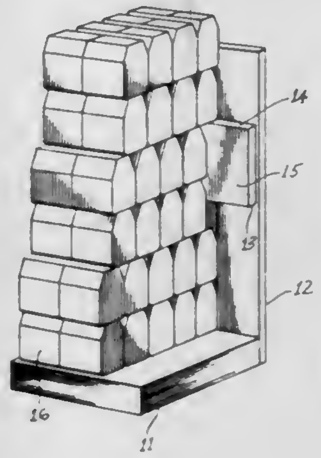
A non-woven filter fabric is formed by sewing a layer of substantially straight and parallel laterally independent rack filaments together by sewn filaments stitched in closely spaced discrete parallel rows transversely across the rack filaments. A non-woven filler is sewn to the rack filaments preferably using different sewn filaments on each side of the filler to provide different qualities for the two sides of the resulting fabric. The rack filaments, sewn filaments and filler are then bonded together, as with a resin. The filler is composed of randomly disposed filler filaments providing a predetermined permeability, porosity and void opening which gives the resulting fabric qualities desirable for its use as a filter medium, the rack filaments providing tensile strength.



3,506,134

PYRAMID DISPLAY UNIT

Russell E. Taber, 510 Dogwood Valley Drive NE., Atlanta, Ga. 30305
Filed July 16, 1968, Ser. No. 745,324
Int. Cl. A47f *7/00*
U.S. Cl. 211—49 **12 Claims**

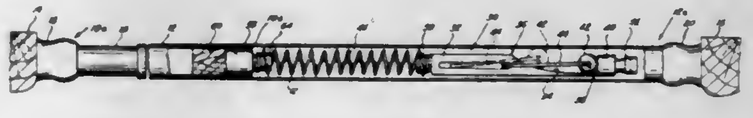


A package display unit for stacking packages for easy removal and characterized by a rear panel with means projecting therefrom, whereby said means are positioned so as to uniformly displace a row of stack packages from an adjacent row, and whose upper surface coincides with the top of a row of said packages.

3,506,135

ADJUSTABLE ROD OR POLE

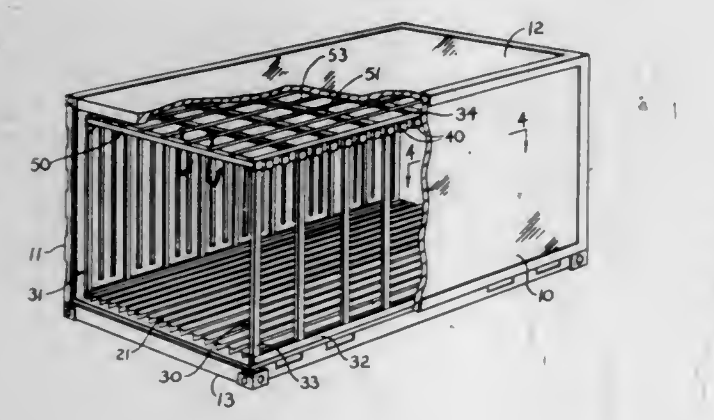
Harold W. Klingaman, Box 496, Primghar, Iowa 51245
Filed Dec. 2, 1968, Ser. No. 780,364
Int. Cl. A47h *1/08*
U.S. Cl. 211—105.6 **7 Claims**



A longitudinally adjustable rod or pole utilizing telescopically related tubes with a cooperating ball and wedge locking means attached to one tube and acting against the other tube to hold the tubes against relative movement at selected length adjustments. When such a rod or pole is desired for use to support curtains, drapes, clothing, laundry or the like, the wedge locking means includes an associated spring arrangement whereby said locking means in one arrangement permits the rod to be frictionally supported by spring compression between two opposed parallel spaced surfaces and in another arrangement permits the rod to be frictionally secured by spring tension to the outer side edges of spaced parallel surfaces such as a window frame.

3,506,136
REMOVABLE RACK FOR CARGO CONTAINERS

Alfred A. Burda, El Sobrante, and Donn E. Brandow, Sacramento, Calif., assignors, by mesne assignments, to Whittaker Corporation, Los Angeles, Calif.
Filed Jan. 25, 1968, Ser. No. 700,558
Int. Cl. A47f *5/10;* **B65d** *81/00*
U.S. Cl. 211—177 8 Claims



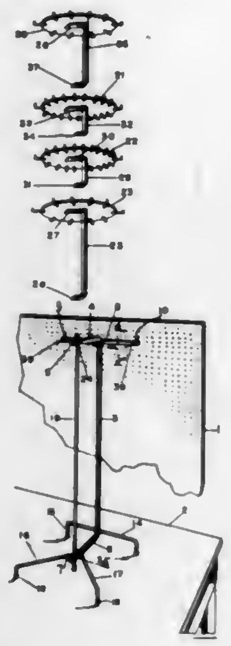
A removable rack for box-like cargo containers of large capacity wherein the cargo hangs from the removable rack. The cargo container includes upwardly extending side and end walls secured between roof and floor structures. The removable rack comprises two side members slidable into the cargo container along the side walls of the container. Each of these side members has a longitudinal channel at its upper end, and a top rack is adapted to slide into the channels and is provided with rods or similar members for receiving hooks from which the cargo is to hang.

3,506,137
DISPLAY FIXTURES

Joseph P. Seme, Walton Hills, and Joseph A. Smetanko, Parma Heights, Ohio, assignors to Sem-Torq, Inc., a corporation of Ohio
Filed Oct. 9, 1967, Ser. No. 673,819
Int. Cl. A47f *5/02, 5/04, 5/05*
U.S. Cl. 211—131 9 Claims

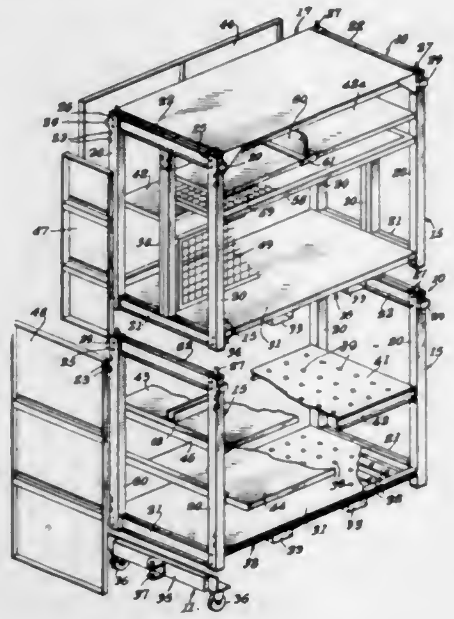
A fixture for displaying articles, such as letters, house numbers, and signs, although it may be utilized to display other merchandise, such as rings, trinkets, pins, Christmas cards or bulbs, or other ornaments which fixture may be suspended from a Peg Board or supported on a table or counter. The fixture includes an upwardly extending rod or bar and a horizontal bar secured as by welding thereto. The horizontal rod or bar in turn has horizontal portions at each end integral therewith or welded thereto which horizontal portions terminate in vertical end portions or which have vertical portions secured to each end. The fixture may be turned to insert the vertical portions formed integral with or secured to the horizontal rod or bar through openings in the Peg Board. The fixture is then released at which time the horizontal portions rest on the Peg Board.

The fixture may be supported on a counter or table and includes in addition to the rear rod or bar, a pair of spaced rods having cushioned shoes resting on a counter or table and an upwardly extending front bar or rod on which a plurality of trays may be supported which trays are spaced from and are independently rotatable relative to each other. The inner end portion of fingers are welded to the lower portion of each tray and have upwardly turned outer end portions for supporting house numbers, letters and signs although the fingers may be utilized for supporting other articles, such as trinkets, rings, or ornaments. Cards, pins, or ornaments may also be supported on each tray.



3,506,138
STORAGE RACK SYSTEM

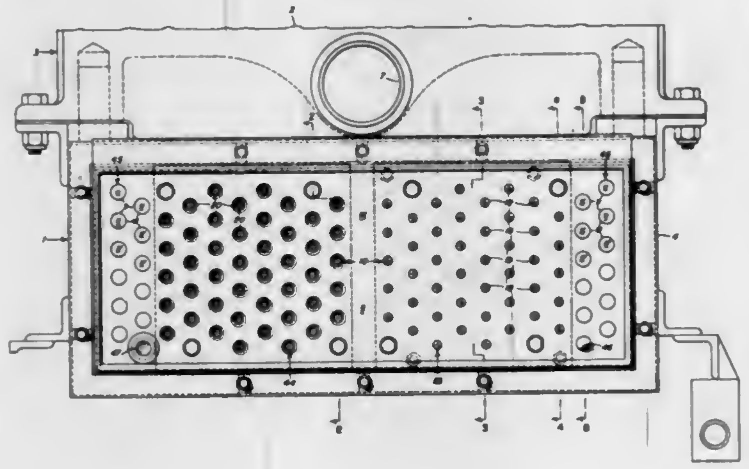
Merton A. Travis, Newport Beach, Calif., assignor to Ray Steel Company, a wholly owned subsidiary of Energy Resources Corporation, Fort Worth, Tex., a corporation of Nevada
Filed Apr. 3, 1968, Ser. No. 718,508
Int. Cl. A47f *5/10*
U.S. Cl. 211—148 8 Claims



A system of storage racks comprising basic rack frame components, supplemental elements assembleable on said components in various ways to form a variety of interior segregated and protective storage areas for items of various sizes and shapes, means to connect such basic rack frame components in stacked relation, and means to form walkways between adjacent stacked components and connecting the stacks of components at different levels thereof to provide accessibility to stored items.

3,506,139
AUTOMATIC ELECTRIC COUPLER

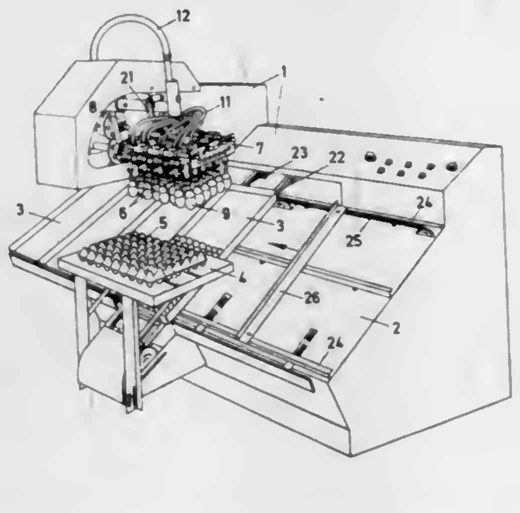
Geoffrey W. Cope, Williamsville, and George C. Skinner, Elma, N.Y., assignors to Dresser Industries, Inc., a corporation of Delaware
Filed Feb. 6, 1968, Ser. No. 703,375
Int. Cl. B61g *5/06;* **H01r** *13/44, 25/00*
U.S. Cl. 213—1.3 10 Claims



An electric coupler mountable on a mechanical railway coupler as part of a coupler assembly for automatically connecting electric lines between cars incident to their mechanical coupling, the coupler combining normally projected end contactable pins for non-arcing amperage lines with hermaphroditic fixed socket and retractable pin contacts for lines carrying arcing amperages, the sockets of which are automatically cleaned on coupling, the several contacts being energizable before coupling without producing external arcing during coupling.

3,506,140
APPARATUS FOR HANDLING EGGS

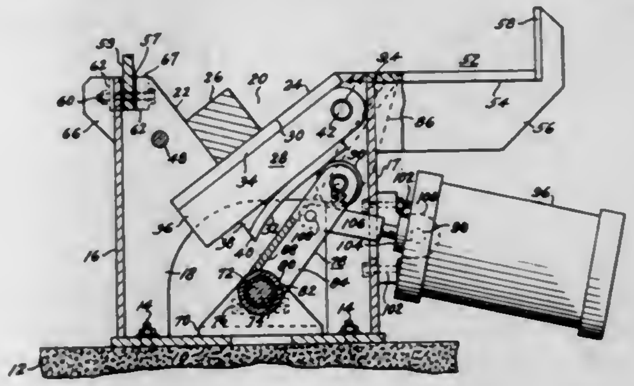
Heinrich Koch, Bad Salzuflen, and Kurt Hermsmeyer, Obernbeck, Germany, assignors, by mesne assignments, to Paul R. Kuhl, Sr., and Henry Y. Kuhl
Filed June 21, 1968, Ser. No. 739,022
Int. Cl. B65b *23/08;* **B66c** *1/02*
U.S. Cl. 214—1 11 Claims



Method and apparatus for removing eggs from a transport container in which the eggs are in mutually perpendicular rows into an incubation tray in which the eggs are tightly packed. The eggs are staggered while they are being transferred from the transport container to the incubation tray, this being done by means of rows of suction cups, alternate rows being displaced so that the field of suction cups can be changed from one wherein the suction cups are in mutually perpendicular rows to a field in which the cups are staggered.

3,506,141
BILLET HANDLING APPARATUS

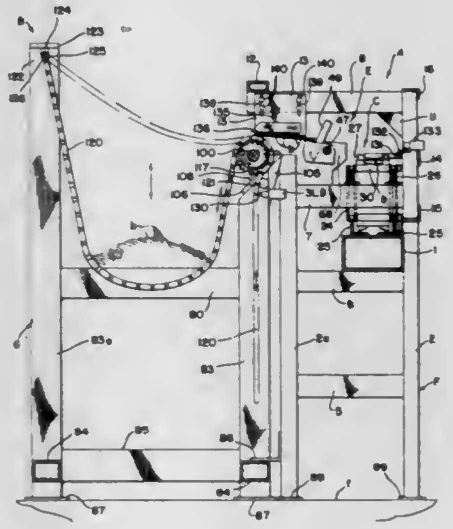
Hulme W. Thomas, Allentown, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
Filed Nov. 12, 1968, Ser. No. 774,723
Int. Cl. B65g *7/00*
U.S. Cl. 214—1 4 Claims



Laterally spaced supporting members are provided with a notch in the upper edges thereof to support a billet therein. A lift arm, having a flat upper surface, initially aligned with one side of the notches, and a cammed lower surface, is pivotally mounted between said supporting members. Means is actuated by a pneumatic cylinder to pivot said lift arm whereby said billet is lifted out of said notches and pushed forward and clamped against a stop. Said means comprises a roller adapted to engage said cammed lower surface and a pair of arms adapted to engage a side of the billet, said roller and said arms being pivotally mounted about a common horizontal axis. In its clamped position, the billet is disposed above turning lands whereby pivoting said lift arm in the opposite direction results in a 90° rotation of said billet in said notches.

3,506,142
BUNDLE UNSCRAMBLER FOR BAR FEEDERS

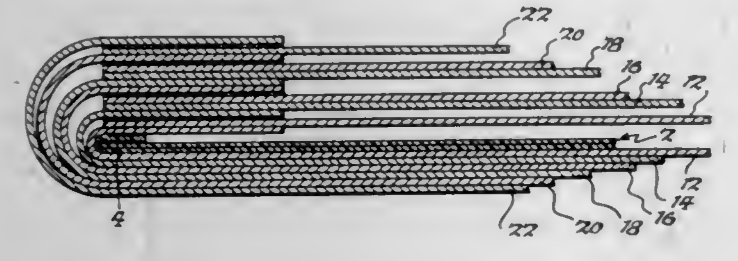
Frank F. White, Shaker Heights, Ohio, assignor to Automation Development Corporation, Mentor, Ohio, a corporation of Ohio
Filed Jan. 22, 1969, Ser. No. 793,005
Int. Cl. B65g *65/02*
U.S. Cl. 214—1 21 Claims



An unscrambling apparatus for loading bars from a bundle to the storage ramp of a bar feeder comprising a rigid frame having legs spaced apart to receive the bundle, a pair of slings for raising and lowering the bundle to orient the bars, guide plates located above the storage ramp to guide the bars onto the ramp so that they form a single row, means responsive to jamming of the disoriented bars for causing lowering and raising of the bundle until the bars are oriented, and means for lowering the slings in response to movement of a bar on the storage ramp. Means may be provided for engaging the bundle when it is lowered to support it and take the load off the supporting slings while causing additional unscrambling movement of the bars in the bundle.

3,506,143
DUNNAGE BAG

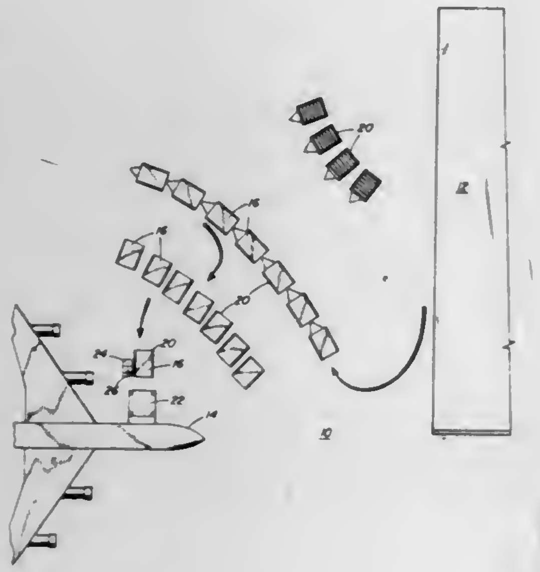
Carlton F. Evans, Ouachita County, Ark., assignor to International Paper Company, New York, N.Y., a corporation of New York
Filed Mar. 13, 1968, Ser. No. 712,858
Int. Cl. B65g *1/14*
U.S. Cl. 214—10.5 **5 Claims**



An inflatable and disposable dunnage bag having an airtight bladder enclosed in a multi-ply container folded along parallel fold lines so that the bag, when not inflated, is flat with a back and front wall, the plies in the front wall of the multi-ply container and the plies in the back wall being joined to each other by flaps extending from the end of the plies in one of the walls and beyond the end of the plies in the other of the walls and being folded over the end of the containr and the airtight bladder and secured to the plies in the other of the container walls.

3,506,144
CARGO HANDLING

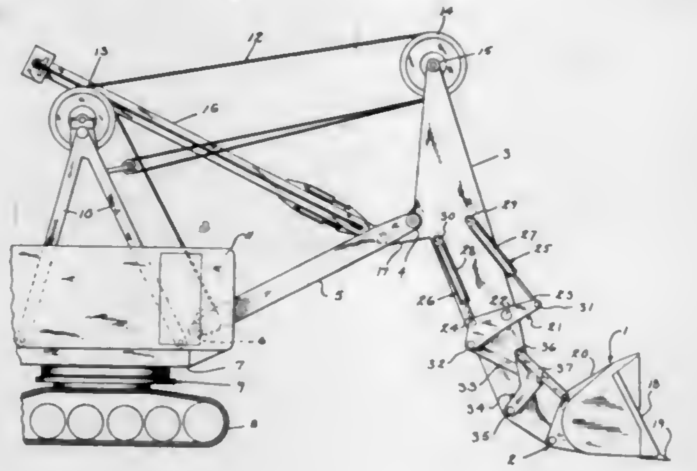
Frank B. Carder, Darien, Warren R. Stumpe, Stamford, Bruno S. Frassetto, Westport and Charles H. Bell, New Canaan, Conn., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed July 21, 1967, Ser. No. 655,227
Int. Cl. B65g *67/10*
U.S. Cl. 214—38 **13 Claims**



An air cargo pallet handling technique utilizing a mobile aircraft loader, pallet dollies having unpowered pallet transfer surfaces, and a dolly-maneuvering tractor having a hitch for side coupling with the dollies, the loader having a powered extractor to operate the transfer surface of a dolly positioned at the loader.

3,506,145
WRIST ACTION MECHANISM FOR A MATERIAL HANDLING IMPLEMENT ON A POWER LOADER

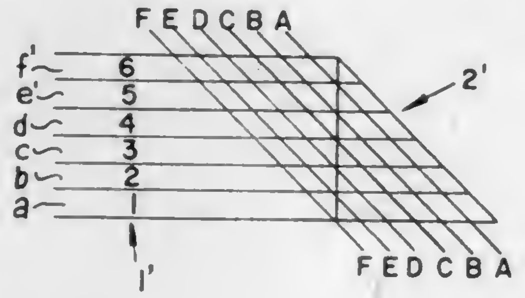
Robert J. Rupert, South Milwaukee, Wis., assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
Continuation-in-part of application Ser. No. 683,174, Nov. 15, 1967. This application Oct. 23, 1968, Ser. No. 770,129
Int. Cl. E02f *3/30, 3/62, 3/75*
U.S. Cl. 214—138 **8 Claims**



A quarry shovel having a boom pivoted on the front of its revolving frame with a bucket handle pivoted on the end of the boom employs the invention to wrist the bucket on the end of the bucket handle. In the wristing mechanism, a compound lever is pivoted about its fulcrum on the bucket handle by a pair of hydraulic cylinders connected between opposite sides of its fulcrum and the bucket handle. A link connects the compound lever to the bent lever mounted on the bucket handle adjacent the bucket, and the bent lever is linked to the bucket.

3,506,146
METHOD OF BUILDING STORAGE PILES

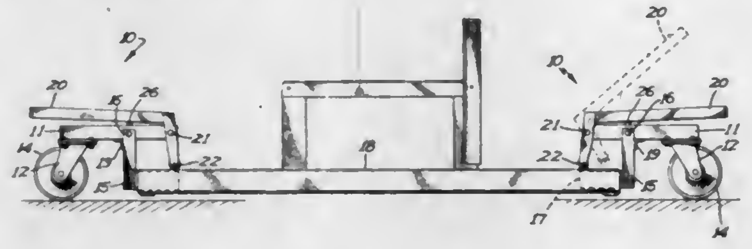
André Parigot, Port Marly, Yvelines, and Christian Cardon, Lille, Nord, France, assignors to Societe Fives Lille-Cail, Paris, France
Filed Nov. 27, 1967, Ser. No. 685,825
Claims priority, application France, Dec. 8, 1966, 86,577
Int. Cl. B65g *3/02*
U.S. Cl. 214—152 **1 Claim**



Mixtures of uniform composition can readily be reclaimed from elongated storage piles built from successively deposited layers of varying composition if each deposited layer is made shorter than the preceding layer at one end of the pile so as to prevent the later-deposited material from sliding downwardly over the preceding layer lengthwise of the pile while making the later-deposited layer longer than the preceding layer at the other end of the pile so that enough of the later material slides lengthwise over the preceding layer to make the ratio of layer thicknesses in the other end portion substantially the same as in the main portion of the pile.

3,506,147
HOIST

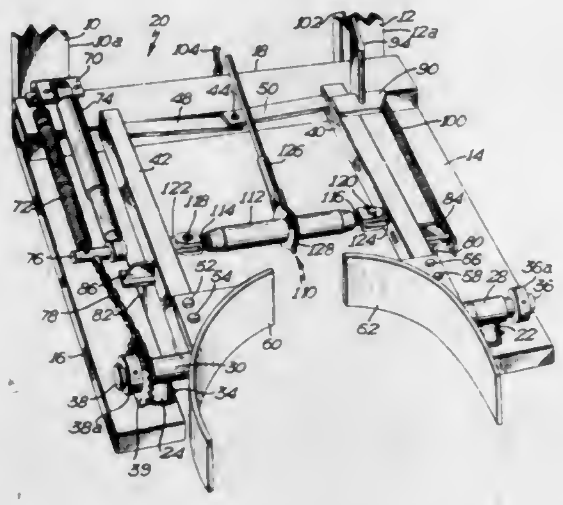
Jerry A. Wenger, Owatonna, and Harvey M. Urch, West Concord, Minn., assignors to Wenger Corporation, Owatonna, Minn., a corporation of Minnesota
Original application Oct. 23, 1965, Ser. No. 503,020. Divided and this application Jan. 2, 1969, Ser. No. 788,555
Int. Cl. B60p *3/00*
U.S. Cl. 214—390 **6 Claims**



A low elevation caster hoist having a wheel secured to one end of a horizontal beam that is pivotally secured near its center to a right angle arm and a bell crank toggle lever pivoted to the other end of the horizontal beam; the right angle arm and bell crank toggle lever cooperating to hoist an object and clamp the caster wheel to it.

3,506,148
GRAVITY ACTUATED SELF-RIGHTING DUMPER

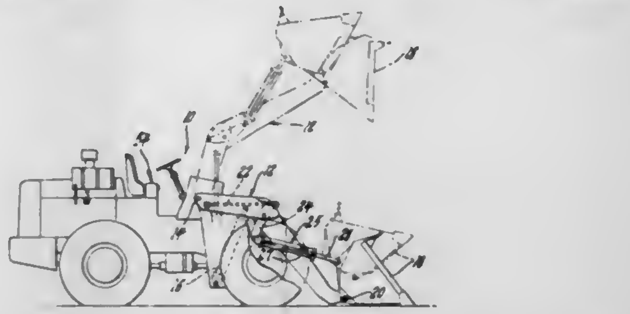
Albam M. Vik, New Brighton, Minn., assignor to Inventors Engineering Inc., Fridley, Minn., a corporation of Minnesota
Filed Apr. 29, 1968, Ser. No. 724,932
Int. Cl. B66f *9/06*
U.S. Cl. 214—620 **10 Claims**



A gravity actuated self-righting dumper for containers such as steel and fiber drums and other open-top shipping containers consisting of a supporting framework, a pair of clamp arms, a pair of jaws on the arms for engaging and supporting the load that is to be dumped, a laterally disposed pivot operatively associated between the clamp arms and the supporting framework in a position with respect to the container when mounted between the jaws such that the weight of the container will cause the clamp arms and the container itself to tip forwardly about the pivot thereby dumping the contents of the container. A spring that is connected between the supporting framework and the jaws returns the container to the upright position. A latch mechanism retains the jaws in a horizontal position until released.

3,506,149
AUTOMATIC BUCKET POSITIONER

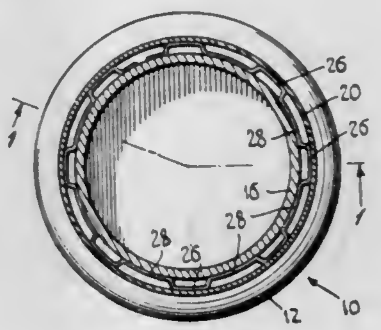
James T. Gray, Painesville, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 24, 1968, Ser. No. 770,224
Int. Cl. E02f *3/70, 3/84*
U.S. Cl. 214—764 **3 Claims**



A control mechanism for automatically positioning a material handling bucket movable by a hydraulic cylinder relative to a supporting boom. The mechanism includes a spring tensioned cable associated with the hydraulic cylinder and movable in response to movement of the bucket. A cam secured to the cable is adapted to activate a remotely located actuator which serves to close a valve supplying pressurized fluid to the hydraulic cylinder when the bucket reaches a predetermined position.

3,506,150
ORNAMENTAL BAND FOR GLASSWARE AND THE LIKE

Martin A. Tristine, Stratford, Conn., assignor to Clark Metal Products, Inc., Fairfield, Conn., a corporation of Connecticut
Filed Feb. 19, 1968, Ser. No. 706,313
Int. Cl. B65d *23/08;* **B44c** *1/18*
U.S. Cl. 215—12 **11 Claims**

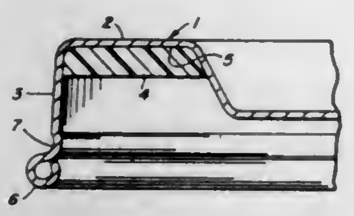


An ornamental rim band applied to the edge or lip portion of hollow glassware. The band is preferably of metal, although certain classes of plastics would be suitable. Considerable clearance exists between the band and the enclosed glass rim, due to the large tolerances needed in the manufacture of glassware. In the clearance space a sinuous expansion ring coated with a heat-activated or a solvent-activated adhesive substance is disposed and compressed, pressing outward against the band and inward against the glass rim. Applied heat or solvent, as by use of a punch or bath surrounding the band, activates the adhesive which then cements the band to the glass.

3,506,151
CRIMPED CAP

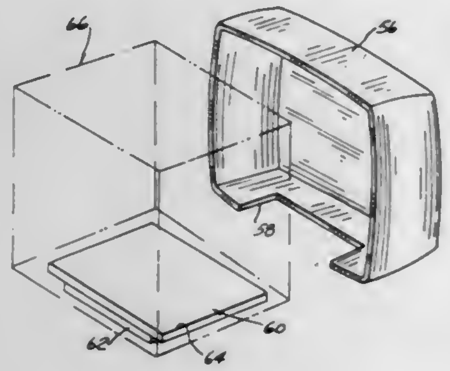
Robert L. La Barge, Pittsburgh, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Original application Nov. 14, 1967, Ser. No. 682,898. Divided and this application Feb. 7, 1969, Ser. No. 797,516
Int. Cl. B65d *41/10*
U.S. Cl. 215—39 **7 Claims**

A method is provided of securing a closure to a container by inward deformation of a circumferential bead of a metallic closure shell skirt through pressure applied simultaneously around the bead to move inwardly a substantially circumferential portion of the skirt of the closure shell located above the bead into secure closure affixation on the container so that such closure affixation is thereafter maintained by the inwardly deformed and constricted closure bead. A closure fitment or closure is also provided that is adapted to be securely affixed to the container by a partially preformed inwardly directed skirt portion in securement relation to a suitable container bead and to be maintained in secure closure affixation on the container by a deformed and constricted lower skirt bead of the closure.



3,506,152
SHIPPING CONTAINER

Irving Stollman, Oak Park, Mich., assignor to Polycon Industries, Inc., River Rouge, Mich.
Filed Aug. 16, 1968, Ser. No. 753,110
Int. Cl. B65d *87/00, 7/00*
U.S. Cl. 220—1.5 **1 Claim**

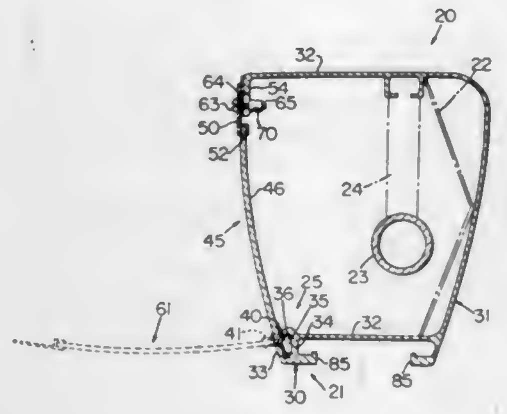


A modular and reusable shipping contained is fabricated of two identical nestable end sections which are removably assembled together. The nestable configuration permits the sections to be nested within each other during the return of the empty container to the origin of shipment, thus saving costly shipping space. One end section can be provided with a door so that the container becomes a walk-in unit for loading and unloading. An additional modular center section can be provided to increase the length of the container when desired.

3,506,153
HINGE CONSTRUCTION AND LIGHTING FIXTURE USING SAME

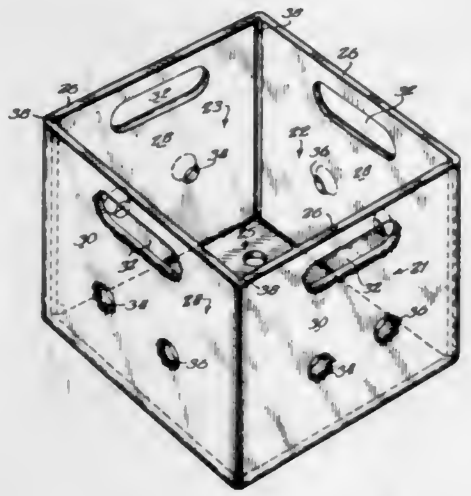
David E. Hatch, Chesterfield County, and George F. Swenck, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,061
Int. Cl. E05d *1/06, 7/10*
U.S. Cl. 220—31 **20 Claims**

A two-part hinge construction comprising a stationary member and a pivotally mounted movable member wherein the stationary member has an upwardly open channel provided therein which is adapted to receive the lower end portion of the movable member therewithin and such lower end portion has an integral hook defining its terminal end. The movable member is normally supported by the stationary member in an upright position and is easily pivoted from its upright position to a substantially horizontal position where the integral hook engages a portion of the stationary member to hold the assembly in such horizontal position. The movable member is readily moved away from the stationary member by lifting such movable member substantially upwardly and from within the channel in the stationary member.



3,506,154
PLASTIC CASE FOR MILK BOTTLES

Tracy W. Barnes, Peoria, Ill., assignor to Laidlaw Corporation, Peoria, Ill., a corporation of Illinois
Filed July 8, 1968, Ser. No. 743,117
Int. Cl. B65d *7/42*
U.S. Cl. 220—83 **6 Claims**



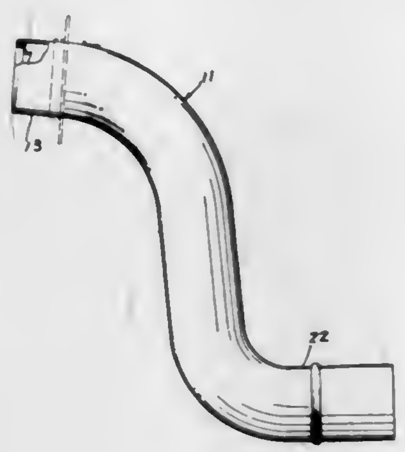
A four sided milk bottle case is molded from a plastic material to form an integral double wall container with an air space between the walls. The air space may be filled with a cellular plastic material. Openings provided for handles in the sides of the case and in the bottom of the case impart rigidity to the structure. The handle openings may include a hard plastic or a metal insert.

3,506,155
FILLER TUBE CONSTRUCTION FOR GASOLINE TANK

Louis J. Auer, 1200 E. Square Lake Road, Bloomfield Hills, Mich. 48013
Filed July 5, 1968, Ser. No. 742,560
Int. Cl. B65b *3/00;* **B67c** *3/00*
U.S. Cl. 220—86 **2 Claims**

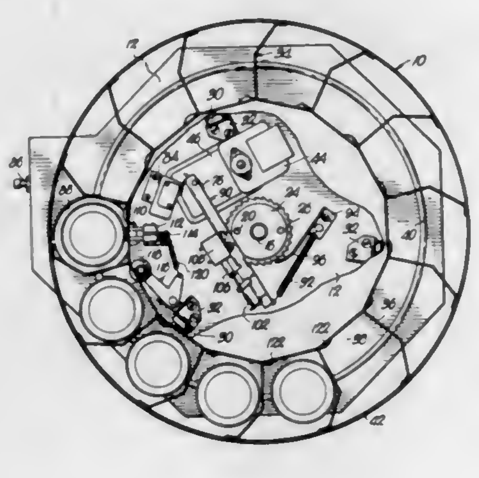
The specification discloses a tank for inflammable liquids, such as a gasoline tank for a motor vehicle, having filler tube including an improved construction of its

upper end receiving the sealing cap. The disclosed construction provides a tight sealing joint between the tube and the cap and eliminates some serious disadvantages of the prior construction. The filler tube end is made in two pieces in order to eliminate the difficulties of producing the desired construction by stamping due to substantial length of the tube. At the same time the disclosed construction eliminates a passage in the juncture of the two pieces leading from the inside of the sealed space within the tube to the outside thereof and some other disadvantages known to have created serious difficulties and having safety implications.



3,506,156
CUP DROPPER WITH AUTOMATIC CONTROL OF REPLACEMENT STACK

Theodore L. Hanson, Kansas City, and Clyde E. Wamsley, Independence, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Apr. 22, 1968, Ser. No. 722,930
Int. Cl. G07f *11/46*
U.S. Cl. 221—11 **7 Claims**

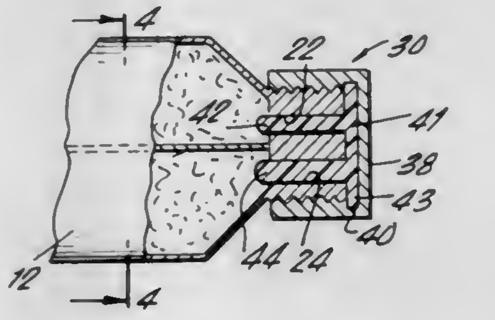


A cup dropper for a dispenser including a rotatable turret having a plurality of vertically extending columns, each adapted to contain a stack of cups for sequential movement into alignment with a device for separating the lowermost cup from an aligned stack thereof. A crank freely rotatable on a fixed axis is pivotaly coupled through an elongated, rigid link to the operating lever of the device upon operating of the dispenser. A motor driven arm mounted for rotation on a common axis with the crank drivingly engages an abutment carried by the crank during a portion of the rotation of said arm and crank about said common axis, and releases said crank for relatively rapid movement by a spring during remainder of said rotation whereby the operating lever is snapped to effectively separate a cup from the stack.

A drive element is coupled to the motor for reciprocation each time the motor is operated, and a circular ratchet is secured to the turret. A pawl carried by the element and normally out of operable engagement with the ratchet is movable into said operable engagement for advancement of the turret upon energization of a solenoid controlled by switch means adjacent the separator to sense depletion of cups to a predetermined extent in a stack aligned with the separator.

3,506,157
PRONGED CLOSURE DEVICE FOR MULTIPLE COMPARTMENT SQUEEZE TUBE

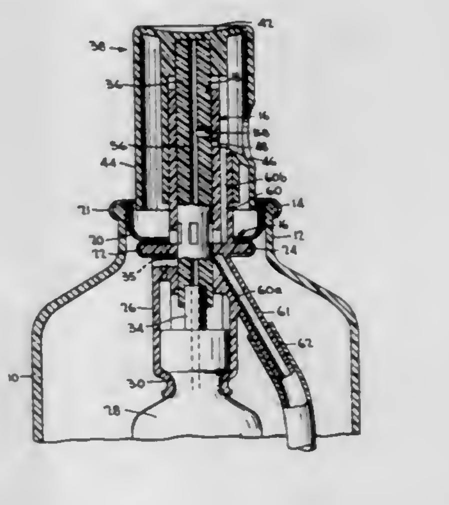
Joseph Dukess, 931 Greacen Point, Mamaroneck, N.Y. 10543
Filed Dec. 11, 1968, Ser. No. 782,959
Int. Cl. B65d *35/22*
U.S. Cl. 222—94 **7 Claims**



A closure device in combination with a squeezable container such as an extruded synthetic plastic tube having an integral divider for forming separate storage compartments. A neck is provided with outlet bores for feeding the material from the compartments. The closure device includes a cap and a rotatable insert having a pair of prongs receivable in the bores for closing the bores.

3,506,158
ASPIRATING TYPE OF DISPENSER

Otto H. Duda, Hacienda Heights, Calif., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware
Filed June 21, 1968, Ser. No. 738,900
Int. Cl. B67d *1/00*
U.S. Cl. 222—108 **8 Claims**

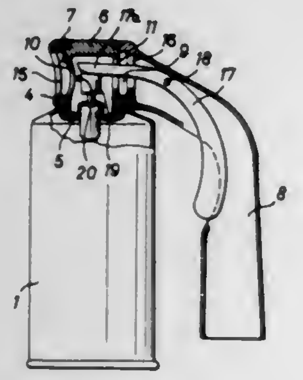


A dispensing device of the type in which a propellant cartridge is housed within the product container, for discharge through a passage in aspirating relation to the product discharge passage, the product discharge and venting passages, and the propellant discharge, being controlled by interconnected and coordinated valve means.

The discharge end of the propellant cartridge is enclosed in a socket which functions to isolate any leaking propellant from the product, and which has a vent passage leading to the atmosphere.

3,506,159
HOLDER FOR SPRAY CANS AND THE LIKE

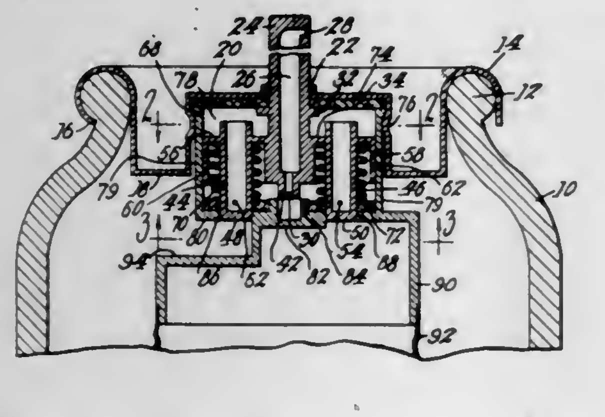
Arthur Müller, Sonnholde 4, Birmensdorf, Switzerland
Filed Feb. 28, 1967, Ser. No. 619,248
Claims priority, application Switzerland, Mar. 7, 1966, 3,216/66
Int. Cl. B65d *83/14*
U.S. Cl. 222—135 **10 Claims**



A holder or handle for spray cans and the like of the type incorporating a handgrip and an actuation lever which is movable with regard to the handgrip. The handgrip is capable of being detachably connected to the upper collar or neck bead portion of the spray can and the actuation lever is designed to bear upon the plunger or push button of the spray can. According to the invention, there is provided at least one hood member having a lower edge or marginal portion which can be clampingly secured to the collar or annular neck bead of the spray can. This hood member has an opening for the efflux of the spraying jet, and furthermore, such hood member cannot be moved relative to the handgrip, and the opening of the hood member is disposed at the side opposite the handgrip.

3,506,160
SELF-VENTING MULTIPLE PRODUCT MIXING VALVE CONSTRUCTION

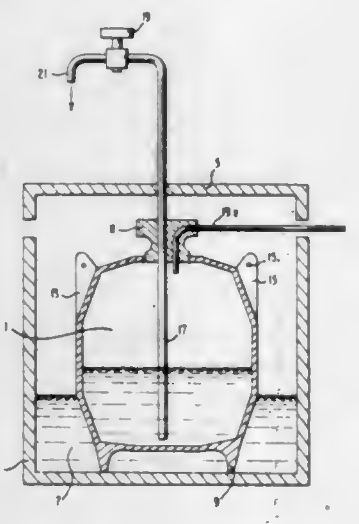
Leo I. Forim, Bloomfield, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed June 3, 1968, Ser. No. 734,110
Int. Cl. B67d *5/60*
U.S. Cl. 222—145 **10 Claims**



A multiple product valve construction for aerosols including a single member depressible valve stem having at least three vertical tubular posts or stems, two simultaneously controlling the exit of separate products into a mixing chamber and the other providing egress of the mixed product to the atmosphere, the latter being in open communication with respect to the atmosphere at least when the first two stems are closed to the container.

3,506,161
APPARATUS FOR DISPENSING CARBONATED BEVERAGES

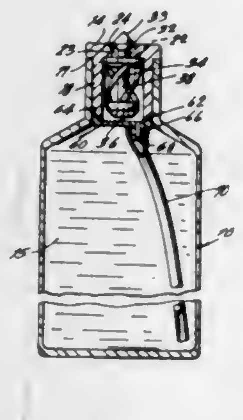
Guy Saint-Dizier, 40 Rue de la Balance, Toulouse, France
Filed Nov. 25, 1966, Ser. No. 596,995
Claims priority, application France, Nov. 24, 1965, Patent 1,457,066
Int. Cl. B67d *1/04*
U.S. Cl. 222—183 **1 Claim**



A metal pressure vessel is disposed in a substantially larger casing and is supported on legs that space it above the bottom of the casing so that a cooling fluid can circulate under the bottom of the vessel. Handling lugs in the form of upright fins are provided at the top of the vessel, and these also serve as heat transfer members. The fins and the legs are alternately spaced so that a plurality of the vessels will nest.

3,506,162
SPRAY APPLICATOR

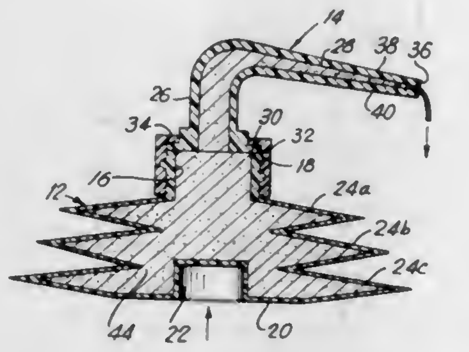
Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y. 10510
Filed Feb. 8, 1968, Ser. No. 704,059
Int. Cl. B65d *1/32;* **B65b** *1/32*
U.S. Cl. 222—207 **7 Claims**



A spray applicator comprising a squeeze container having a retainer ring provided with a fluid delivery opening. The retainer ring is seated in the container neck. A valve member having a conical valve head is provided for closing the opening and includes an outwardly flared resilient valve head and a ring of larger diameter than the opening with engaging the retainer ring so that helical coil springs integrally interconnecting the valve head and ring are continuously maintained under tension normally closing the opening but allowing the valve head to open upon squeezing the container so that fluid under pressure is sprayed in a diverging conical pattern.

3,506,163
ARTICLE FOR HOLDING AND DISPENSING FLOWABLE MATERIALS

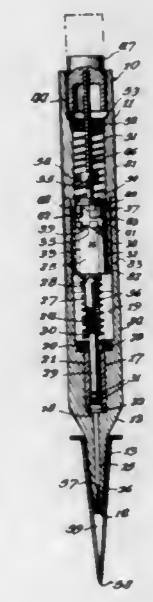
James A. Rauh, 1007 Central Ave., Union City, N.J., 07087, and Milton E. Stanson, 21 E. 10th St., New York, N.Y. 10003
Filed May 22, 1968, Ser. No. 731,202
Int. Cl. B65d *37/00*
U.S. Cl. 222—212 **10 Claims**



An article for holding and dispensing flowable materials such as liquids or semi-solids. The article has a collapsible container means which can be collapsed from an initial expanded position when it is filled with the flowable material toward a collapsed position where the volume of the container means is only a fraction of its initial volume. A normally closed, spout means which opens automatically in response to a pressure increase is connected to and communicates with the interior of the container means for automatically opening in response to a reduction in the volume of the container means to discharge material of the latter. At the end of any given reduction in the volume of a container means, the spout means automatically assumes its closed position, thus maintaining the flowable material within the container means out of contact with the outer atmosphere and also preventing the container means from expanding back toward its initial position.

3,506,164
AUTOMATIC PIPETTE

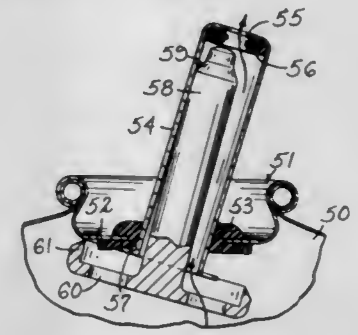
Theodore E. Weichselbaum, Normandy, and Gene Sperry, Bridgeton, Mo., assignors to Sherwood Medical Industries Inc.
Filed May 31, 1968, Ser. No. 733,337
Int. Cl. B67d *5/42*
U.S. Cl. 222—340 **10 Claims**



A pipette adapted to draw a variable predetermined volume of liquid into a reservoir and thereafter completely dispense all traces of said liquid. The pipette comprises a barrel, a piston reciprocal in the barrel, a plunger operable on the piston to cause axial displacement thereof, and automatically operating indexing means responsive to the stroke of the plunger and piston in the barrel providing a relatively shorter positive-stopped intake stroke and a relatively longer positive-stopped dispensing stroke so as to insure that all traces of the liquid drawn into the reservoir on the intake stroke are completely dispensed on the dispensing stroke.

3,506,165
VALVE MECHANISM

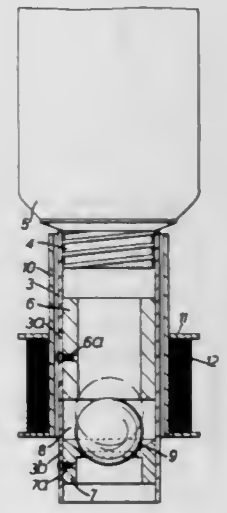
Walter C. Beard, South St., Middlebury, Conn. 06762
Continuation-in-part of application Ser. No. 629,225, Apr. 7, 1967. This application Mar. 27, 1968, Ser. No. 716,415
Int. Cl. B65d *83/14*
U.S. Cl. 222—402.22 **27 Claims**



A fluid dispensing valve structure for use with a pressurized container or the like, comprising a resilient member at an opening of the container, a shell positioned and retained by said resilient member, said shell pivotally movable within said resilient member and said shell having an outlet orifice for dispensing fluid, a plug positioned within said shell and movable therein, said plug forming a seal for said orifice internal of said shell and said plug permitting fluid to discharge from said orifice upon pivoting of said shell within said resilient member.

3,506,166
DETACHABLE, ELECTRICALLY-ACTUATED DISPENSING VALVE

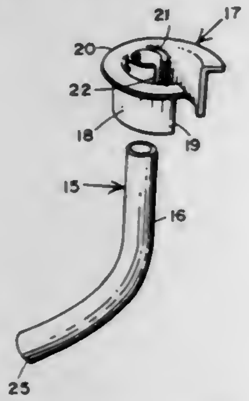
Jack Edward Pooley, Kingswood, England, assignor to British Bevolux Limited
Filed Mar. 11, 1968, Ser. No. 712,044
Claims priority, application Great Britain, Mar. 21, 1967, 13,137/67
Int. Cl. G01f *11/28*
U.S. Cl. 222—439 **3 Claims**



The invention relates to a dispenser, more especially for dispensing measured quantities of liquid, and consists of a device for attachment to a container for the liquid and comprising a chamber formed by two axially spaced members which also form the inlet and outlet of the chamber, a valve body arranged in said chamber so as to be movable, preferably by a solenoid, between said inlet and outlet for selectively opening one whilst closing the other, and means for effecting relative axial adjustment of the two axially spaced members to vary the capacity of the chamber.

3,506,167
VENTING DEVICE FOR WATER BOTTLES

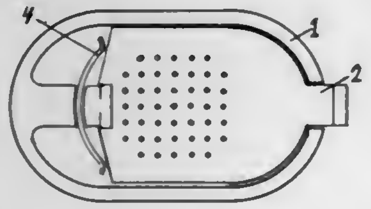
Clair S. Orr, 14740 NW. 11th Ave.,
Miami, Fla. 33168
Filed Apr. 1, 1968, Ser. No. 717,735
Int. Cl. P65d *25/48, 47/32*
U.S. Cl. 222—479 **3 Claims**



A venting device for water bottles having a first collar slotted along one side adapted to fit within the mouth of a conventional water bottle, a flange along the outer edge for engaging the outer surface of the mouth of the bottle, a second split collar mounted axially on the inner surface of the first collar and an arcuate tubing frictionally engaged at one end in the second split collar and the other end extending to the shoulder of the water bottle.

3,506,168
SHAKER WITH COVER AND SPRING BIASSED CLOSURE

Edward J. Dowdy, Jefferson Parish, La. (2104 Benoit Place, Gretna, La. 70053), and Fritz G. Kerrinnes, Jefferson Parish, La. (Rte. 1, Box 743, Slidell, La. 70458)
Filed July 5, 1968, Ser. No. 742,860
Int. Cl. B65d *47/20*
U.S. Cl. 222—511 **1 Claim**

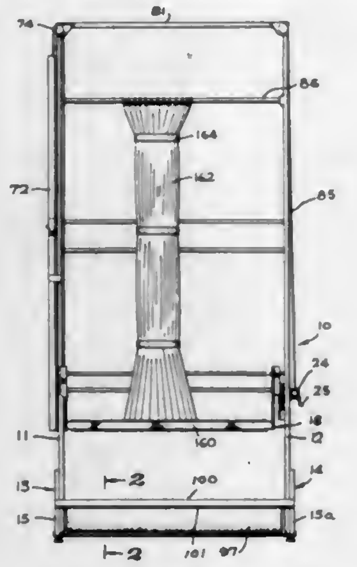


A snap-on cover for a shaker, said cover having holes and a slide having holes slidably mounted in said cover and adapted to slide for said holes to register in one slide position, and a spring transversely mounted between said cover and slide to bias said slide to a position for the holes to be out of register, said spring being wholly contained in said cover.

3,506,169
DRAPERY PLEATING AND FOLDING APPARATUS

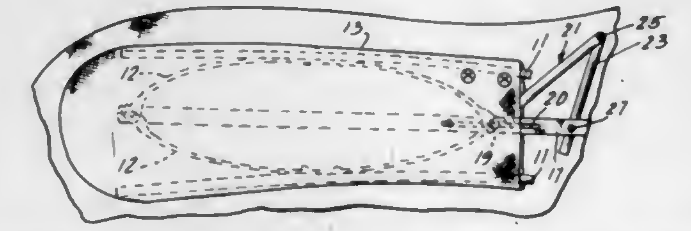
John H. Hales, 255 E. Monterey,
Corona, Calif. 91720
Continuation-in-part of application Ser. No. 630,327, Apr. 12, 1967. This application Aug. 4, 1967, Ser. No. 658,490
Int. Cl. D06j *1/12*
U.S. Cl. 223—32 **19 Claims**

This application describes novel apparatus for pleating and stretching a drapery preparatory to folding and finishing, including novel drapery hanger bar apparatus and a novel counterweighted pleater bar assembly which clampingly engages the lower end of a drapery hung from the hanger bar, when one of a pair of interdigitated pleater bars is moved laterally relative to the other pleater bar to stretch the drapery between the hanger bar and the pleater bar assembly.



3,506,170
COAT SLEEVE SPREADER

Burton L. Rosenthal, 3707 W. North Shore,
Lincolnwood, Ill. 60045
Filed Jan. 22, 1969, Ser. No. 793,074
Int. Cl. D06c *15/00, 5/00*
U.S. Cl. 223—72 **10 Claims**

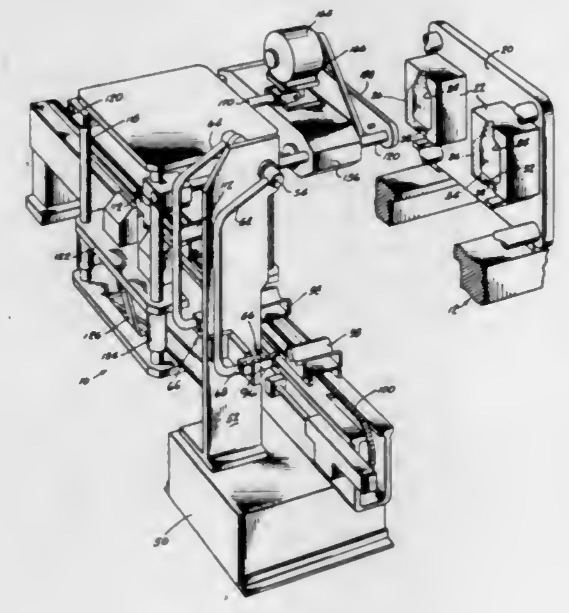


Sleeve shaping device in the form of two elongated sleeve spreader strips of a relatively resilient material which may readily be inserted in and conformed to the sleeve by the stored up energy of two bowed springs. The bowed springs are pivotally connected together at their opposite ends and form mountings for the strips along their convex surfaces. An elongated stretch bar forms a mounting at its inner end for a pivot, pivotally connecting the springs together at one end and forms a slidable mounting for a second pivot connecting the springs together at their opposite ends. A lever pivoted to the stretch bar and to the second pivot elongates the springs and contracts the spreader strips, and is releasable to accomodate the stored up energy of the springs to force the spreader strips into engagement with the sleeve, to shape the sleeve and remove wrinkles from the sleeve upon the application of steam and hot air thereto.

3,506,171
METHOD AND APPARATUS FOR TRIM FINISHING BLOW MOLDED CONTAINERS

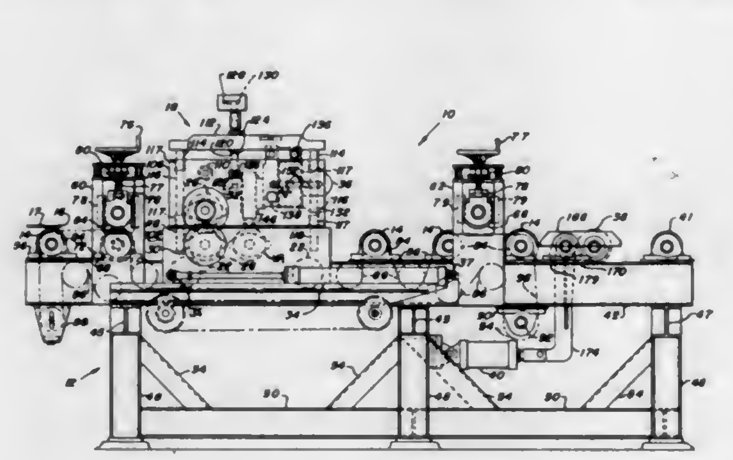
Samuel J. Rupert, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Original application Dec. 9, 1964, Ser. No. 416,991, now Patent No. 3,417,428, dated Dec. 24, 1968. Divided and this application Apr. 26, 1968, Ser. No. 724,395
Int. Cl. B26f *3/02*
U.S. Cl. 225—94 **3 Claims**

Apparatus for use in conjunction with an organic plastic blow molding machine wherein sectional molds are provided for defining a cavity in which an article is to be blow molded. A pivotally supported arm is located adjacent to the sectional molds and has gripping means for gripping the tail of the molded article while the mold sections are still closed. The arm is mounted for reciprocable movement between the position for gripping the tail and another position or loading station wherein the gripping means releases the tail with the article being loaded in a prescribed position on a holder carried by the conveyor. The conveyor has two sets of such holders one of which is movable between the loading station and an article trimming station and the second of which is movable between the trimming station and an unloading station. The trimming station provides a mechanism for elevating articles delivered there for trimming purposes and such mechanism maintains these articles in the elevated trim position at the time the conveyor is returned to the initial position wherein the one set of holders can receive additional articles from the blow molding machine. The trimmed articles at the station will then be deposited in the second set of holders for movement to an unloading station when the conveyor repeats its cycle of operation.



3,506,172
CUTTING APPARATUS

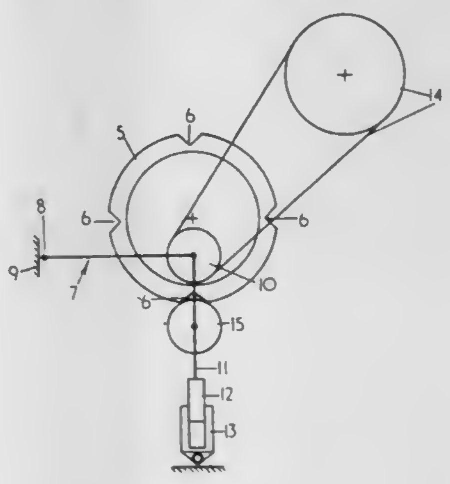
Robert L. Wehr, Harmony, Pa., assignor to Billco, Zelienople, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1967, Ser. No. 692,182
Int. Cl. B26f *3/00;* **B26d** *3/08*
U.S. Cl. 225—96.5 **10 Claims**



An apparatus is disclosed for cutting and separating a moving glass ribbon into predetermined lengths as selected from a programmer. Operation of the apparatus is controlled through a glass length measuring system and a breakout measuring system. The glass length measuring system is capable of accurately detecting glass length, and through a predetermined number of cycles, repeatedly controlling the operation of a movable bridge assembly. The bridge assembly spans the glass ribbon, and has a cutter assembly supported thereon for movement transversely of the ribbon of glass. The bridge assembly further includes a system of clamping or lock-up rolls rotatably supported thereon which in response to a control signal from the glass length measuring system are adapted to frictionally engage or freeze the bridge assembly to the ribbon to thereby effect synchronized movement of bridge with the glass. During this movement, the cutter assembly traverses the ribbon, producing a cut or score line normal to the major axis of the ribbon. At the instant cutting begins, operation of the breakout measuring system is initiated, which, after a predetermined measure, actuates a breaker roller located downstream of the bridge assembly at the precise time the score lines are superimposed over this breaker roller to effect a convex bending moment in the ribbon thus breaking and separating the predetermined lengths of glass from the ribbon.

3,506,173
FILM TRANSPORT MECHANISM

John Albert Bell, Hazlemere 11, Perlercroft Road, Ashurst, England, and Geoffrey Harrison Galley, 7 St. Pauls Road, Sarisbury Green, Southampton, England
Filed May 27, 1968, Ser. No. 732,809
Int. Cl. B65h *17/04*
U.S. Cl. 226—49 **4 Claims**

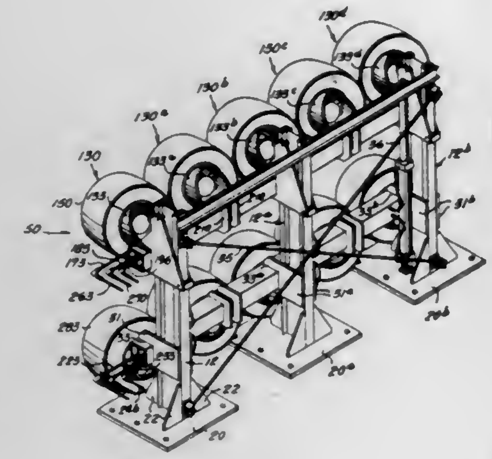


A drive for a film moving sprocket to which is connected a drum with a continuous uninterrupted inner surface and an outer surface formed with angularly spaced grooves, there being a friction driving wheel within the drum and a pinch wheel contiguous with the drum exterior, these wheels being linked so that the driving wheel can contact the drum interior to drive it and this drive will continue until the pinch wheel enters one of the grooves.

3,506,174
APPARATUS FOR HANDLING AN ELONGATE MEMBER

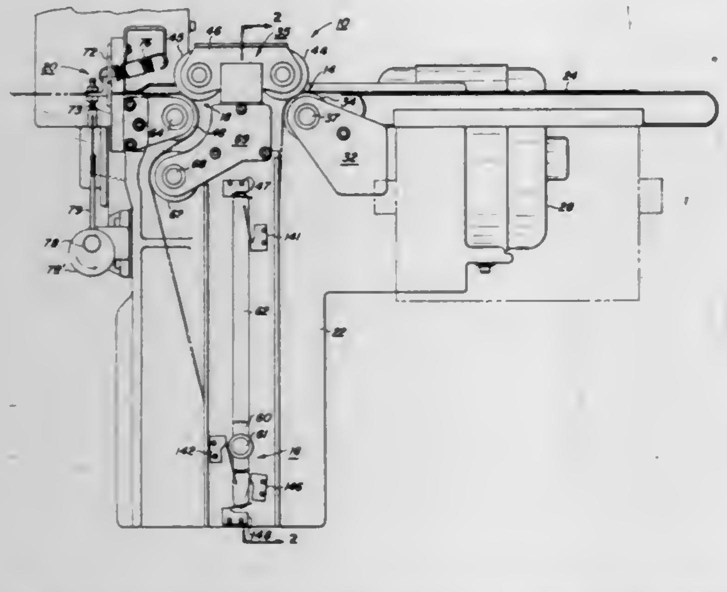
Robert A. Shuey, Jr., 4405 Highland Drive,
Dallas, Tex. 75205
Filed Aug. 24, 1967, Ser. No. 662,999
Int. Cl. B65h *17/20*
U.S. Cl. 226—108 **11 Claims**

An apparatus for moving an elongate member such as pipe or cable onto a vehicle during the laying or taking up of the pipe or cable, with the apparatus having a plurality of pairs of vertically aligned wheels individually



driven by individual motors between and by which the pipe is movable relative to the vehicle.

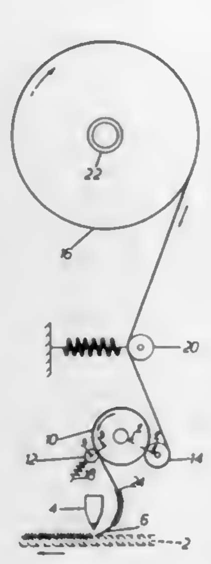
3,506,175
ROLL STOCK CONVERTING APPARATUS
Lyman H. Turner, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 29, 1968, Ser. No. 701,200
Int. Cl. B65h *25/32*
U.S. Cl. 226—135 7 Claims



A roll stock converter incorporating clutch means effective following actuation to disengage the stock metering roll at a predetermined point to assure feed of a preselected stock length, with a stock sizing control including an apertured disc rotatable in unison with the stock metering roll and adapted following feed of said preselected length to actuate the clutch means and stop the metering roll to permit cutting of said preset stock lengh.

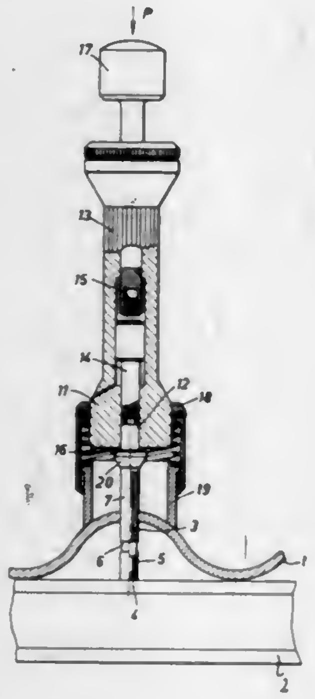
3,506,176
FEEDING OF WIRE IN ELECTRODE WELDING PROCESSES
Kenneth William Brown, Abington, Cambridge, England, assignor to British Welding Research Association, Cambridge, England, a British company
Filed Feb. 6, 1968, Ser. No. 703,281
Claims priority, application Great Britain, Feb. 9, 1967, 6,314/67
Int. Cl. B65h *17/20*
U.S. Cl. 226—183 6 Claims

A tractive roller, having a wedge-shaped groove, and another roller are biased into engagement with one another and cooperate with a fixed roller such that welding



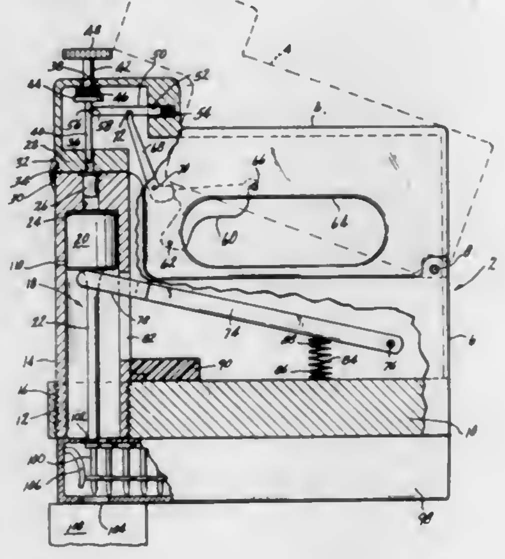
wire extends around an arc of the tractive roller within the groove and is fed by the rollers.

3,506,177
BOLT-SETTING APPARATUS
Artur Fischer, 133 Gruenmettstetterstrasse, 7241 Tumlingen, Kreis, Freudenstadt, Germany
Filed Aug. 21, 1967, Ser. No. 662,096
Claims priority, application Germany, Aug. 25, 1966, F 50,027
Int. Cl. B25c *1/14*
U.S. Cl. 227—10 6 Claims



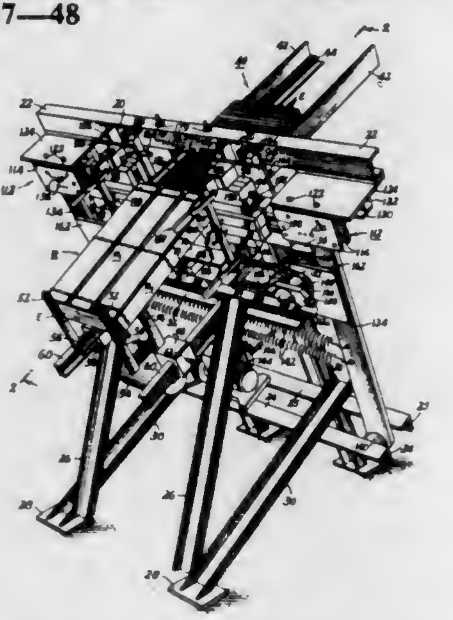
A bolt-setting apparatus includes a barrel having an open end. A plunger is arranged in the barrel for reciprocation between a retracted position and an advanced position closer to the open end. An adapter is provided and comprises a first portion which is receivable in the open end of the barrel so as to extend into the path of movement of the plunger when the same moves to the advanced position, and a second portion which is remote from the first portion and which is provided with a coupling means for connecting the second portion with a projectile which is to be driven into a support when the first portion receives impetus from the plunger during movement of the same toward the advanced position.

3,506,178
SPRING PISTON RETURN
Lawrence J. Brunelle, East Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Dec. 14, 1967, Ser. No. 690,437
Int. Cl. B25c *1/14, 5/02*
U.S. Cl. 227—10 23 Claims



A power actuated piston tool in which a spring-biased lever is operative to return the piston from its driven position to its firing position.

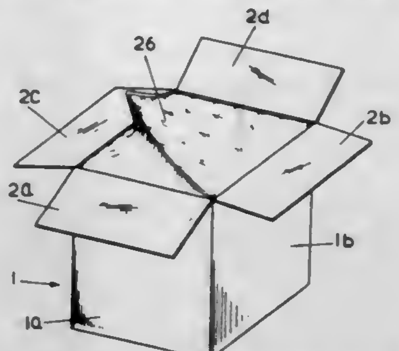
3,506,179
MACHINE FOR MAKING WIREBOUND BOXES
Leroy M. Varga, Dover, N.J., assignor to Stapling Machines Co., Rockaway, N.J.
Filed Nov. 15, 1967, Ser. No. 683,281
Int. Cl. B27f *7/02;* **B25c** *5/08*
U.S. Cl. 227—48 10 Claims



Machine for making wirebound boxes in which a hopper feeds a stack of box ends to a stapling station at which wirebound mats are wrapped around three edges of the box ends and stapling units simultaneously drive staples through the face material of the mat and into two opposed edges of the box end, whereupon the mat is reversed, and its opposite end wrapped around another box end in the stapling station and attached in similar fashion to complete the box.

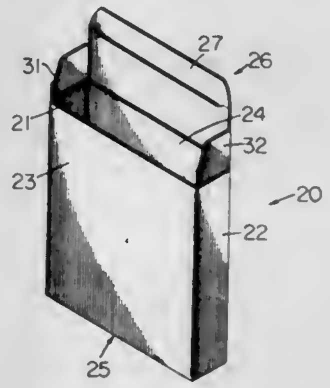
3,506,180
STORAGE AND TRANSPORT CONTAINERS
Ian Robert Forrest, Great Totham, near Maldon, England, assignor to Universal Container (U.K.) Limited, London, England
Filed Oct. 31, 1967, Ser. No. 679,444
Int. Cl. B65d *5/40, 5/56, 5/58, 5/60*
U.S. Cl. 229—14 4 Claims

A container for liquids and substances in granular or paste condition which comprises an outer receptacle, a liner slidably fitting within the outer receptacle, and a



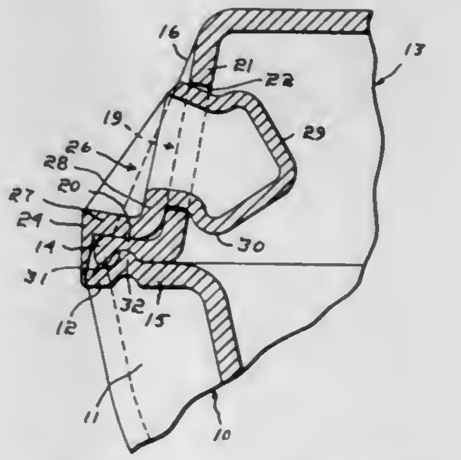
bag of flexible sheet material secured to the inner surface of the walls of said liner.

3,506,181
CARTON AND BLANK FOR MAKING SAME
Melville T. Farquhar, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Mar. 25, 1968, Ser. No. 715,743
Int. Cl. B65d *5/10*
U.S. Cl. 229—39 16 Claims



This disclosure relates to a carton and blank for making same wherein such carton is preglued and shipped and stored in a flattened condition and is easily set up by pushing against opposite edges of the flattened carton. The carton has a bottom wall defined by a plurality of interlocking flaps which are also preglued and constructed and arranged to assure that they will not become unfastened during set up of the carton and after placing a product therewithin.

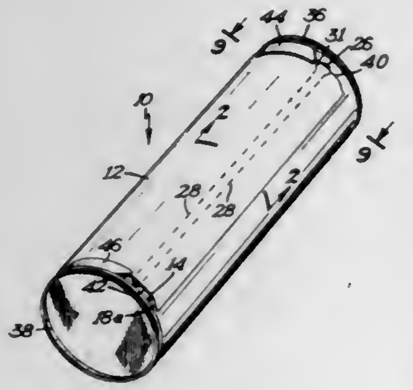
3,506,182
EGG CARTONS
Gerald A. Snow, Cumberland Foreside, and Harold A. Doughty, Cape Elizabeth, Maine, assignors to United Industrial Syndicate, Inc., Portland, Maine, a corporation of New York
Filed Sept. 20, 1968, Ser. No. 761,217
Int. Cl. B65d *1/00, 5/66, 85/32*
U.S. Cl. 229—44 12 Claims



Egg cartons are disclosed in which locking flaps are hinged to fold against the outer surface of the front walls of the covers and provided with locking pins for entry through holes therein, the locking pins preferably serving to prevent flap shoulder structure from moving out of a position locking flap structure at the front of the cover against supporting structure at the front of the bottom.

3,506,183
QUICK OPENING DOUGH CONTAINER

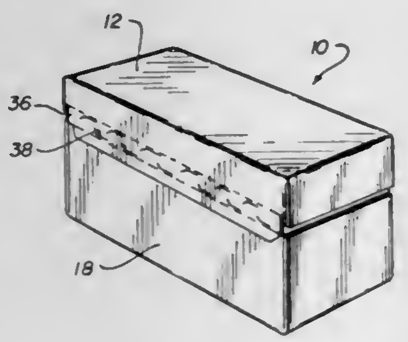
Charles H. Turpin, Louisville, Ky., and James R. Leezer, Jeffersonville, Ind., assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Continuation-in-part of application Ser. No. 687,786, Dec. 4, 1967. This application May 21, 1968, Ser. No. 742,995
Int. Cl. B65d *5/54, 3/00*
U.S. Cl. 229—51 **15 Claims**



A cylindrical dough can including a body wall having a relatively strong longitudinal joint formed by overlapping and bonding together its marginal portions. Within the body wall is an impervious sealing liner having a weak but fluid impervious inner seal isolated from the longitudinal joint. A tearing member such as a tear string is aligned in the overlap area. When pulled, the string penetrates the complete thickness of the body wall thereby severing the strong longitudinal joint. The pressure exerted by the contents then breaks the inner seal.

3,506,184
ICE CREAM CARTONS

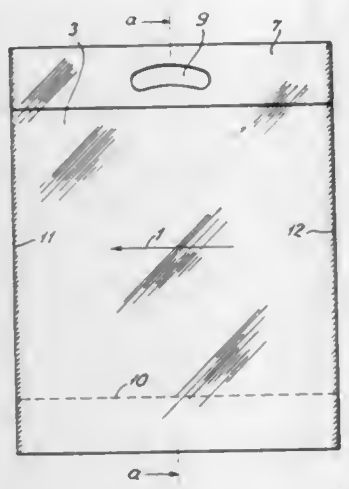
Bayard I. Barnes, Oakland, Calif., assignor to The Finn Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Sept. 20, 1968, Ser. No. 761,172
Int. Cl. B65d *65/14, 5/02*
U.S. Cl. 229—51 **5 Claims**



A carton for ice cream or the like having flaps with bonding areas at opposite ends which lead to improved sealing techniques. The carton is of the type with a reclosable lid, and said carton is substantially coated with a film barrier except for prescribed bonding areas which lead to the improved sealing. The bonding areas allow a continuous line of bonding material on the undersides of top and bottom end flaps to form a seal by an improved procedure.

3,506,185
SHOPPING BAG

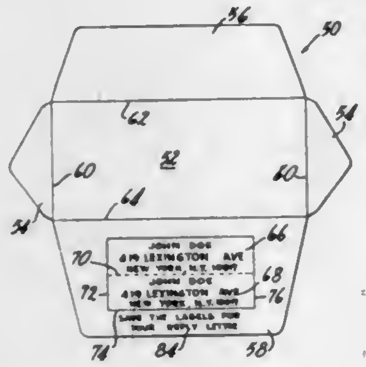
Børge Houman Christensen, Vejen, Denmark, assignor to Rolles Fabriker v./U.J. Christensen, Vejen, Denmark
Filed June 28, 1968, Ser. No. 741,002
Int. Cl. B65d *33/02, 33/08*
U.S. Cl. 229—55 **2 Claims**



A shopping bag of thin plastic foil having a handle at the open end constituted by an opening in the two bag sides, the rim portion including said opening being reinforced by a separate strip which is welded or glued to the bag and has corresponding apertures.

3,506,186
ENVELOPE WITH RETURN LABEL PROTECTED IN TRANSIT

Werner C. Von Clemm, 214 E. 17th St., New York, N.Y. 10003
Filed Apr. 10, 1968, Ser. No. 720,072
Int. Cl. B65d *27/00, 27/06, 27/14*
U.S. Cl. 229—73 **5 Claims**

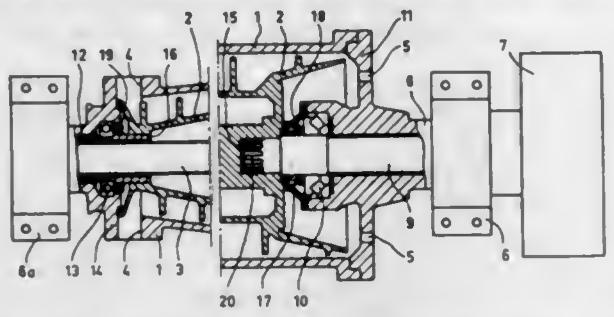


A detachable return address label is formed at one of the flaps of an envelope and is bounded by a tear line to permit easy removal of the label from the flap. During transit of the envelope in the mails, the label is folded away for protection against soiling.

3,506,187
CENTRIFUGAL SEPARATOR

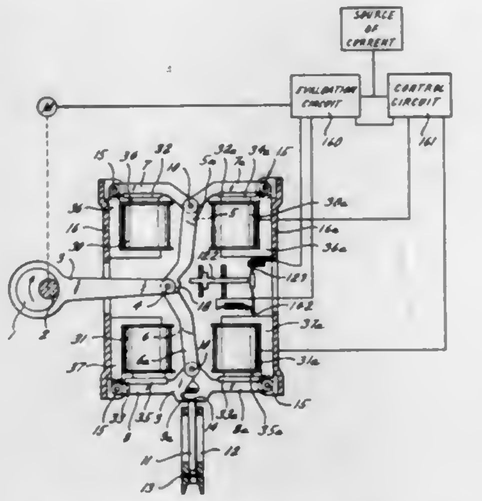
Paul Kompert, Stockholm, and Bengt David Ragnar Larsson, Tumba, Sweden, assignors to Alfa-Laval AB, Tumba, Sweden, a corporation of Sweden
Filed May 16, 1968, Ser. No. 729,797
Claims priority, application Sweden, May 26, 1967, 7,403/67
Int. Cl. B04b *3/04*
U.S. Cl. 233—7 **6 Claims**

The centrifugal rotor contains a conveyor screw operable to discharge sludge, or the like, separated from the feed material supplied to the rotor. At opposite ends of the conveyor screw are shafts detachably coupled to the screw for supporting it in the rotor, and means are provided for journalling these shafts in the rotor. Seals may be located between parts of the rotor and each shaft to shield the bearings of the journalling means against exposure when the separator is disassembled to remove the conveyor screw from the rotor.



3,506,188
RECIPROCATING DRIVE ARRANGEMENT

Herbert Behrens, Neuenburg, and Peter Frerichs, Wilhelmshaven, Germany, assignors to Olympia Werke AG, Wilhelmshaven, Germany
Filed May 27, 1968, Ser. No. 732,364
Claims priority, application Germany, May 29, 1967, 1,549,824; Nov. 22, 1967, 1,549,830
Int. Cl. G06k *1/05, 5/02*
U.S. Cl. 234—34 **18 Claims**

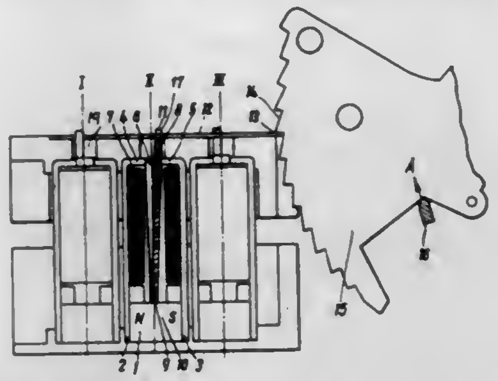


The inner ends of articulated first and second toggle links are reciprocated by a drive means, and the outer ends of the toggle links are guided by first and second guide levers along circular paths. The outer end of the first link is connected with a driven element, such as a punch. When a first blocking means is actuated to block the first guide lever, the punch is not operated, and when a second blocking means is actuated to block the second guide lever, the first link performs a working stroke with the punch.

3,506,189
CONTROL MAGNET ARRANGEMENT

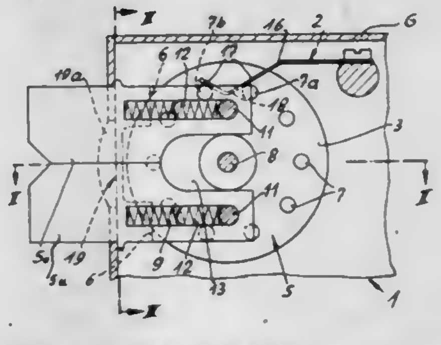
Wilhelm Breitling, Villingen, Black Forest, Germany, assignor, by mesne assignments, to Triumph Werke Nurnberg Aktiengesellschaft, Nuremburg, Germany
Filed Oct. 3, 1967, Ser. No. 672,526
Claims priority, application Germany, Oct. 5, 1966, S 106,374
Int. Cl. B41j *5/08;* **G06c** *11/04;* **H01h** *50/42*
U.S. Cl. 235—58 **10 Claims**

A row of permanent magnets controls the ordinal setting means of a register of a high speed printer for a calculator or accounting machine. Each permanent magnet has an armature movable between two end positions abutting the pole shoes of the permanent magnet. A winding is provided for each permanent magnet to move the armature, which is connected with the locking means of the setting means, out of one end position and beyond an intermediate position so that the magnetic flux of the permanent magnet continues to move the armature and the respective locking means to the other end position in which the setting means is locked in a selected position.



3,506,190
COUNTER

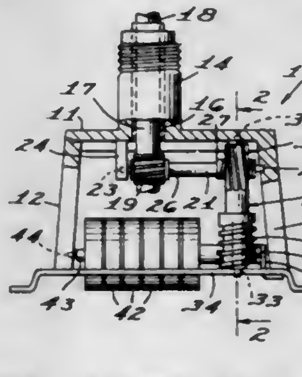
Winfried Fischer, Aldingen, Kreis Tuttlingen, Germany, assignor to J. Hengstler K.G., Aldingen, Kreis Tuttlingen, Germany
Filed Mar. 21, 1968, Ser. No. 714,924
Claims priority, application Germany, Mar. 23, 1967, H 58,454, H 62,232
Int. Cl. G06c *27/00;* **G06m** *1/07, 1/22*
U.S. Cl. 235—82 **5 Claims**



The invention provides a step-by-step counter having a figure roll and a detent for locking each counting step of said figure roll. At least one key is provided for operating the figure roll. The length of travel of said key being shorter than each individual counting step to be effected by the figure roll, said detent is designed and arranged automatically to complete each individual counting step of the figure roll.

3,506,191
SHAFT CONSTRUCTION FOR NON-REVERSIBLE ODOMETER

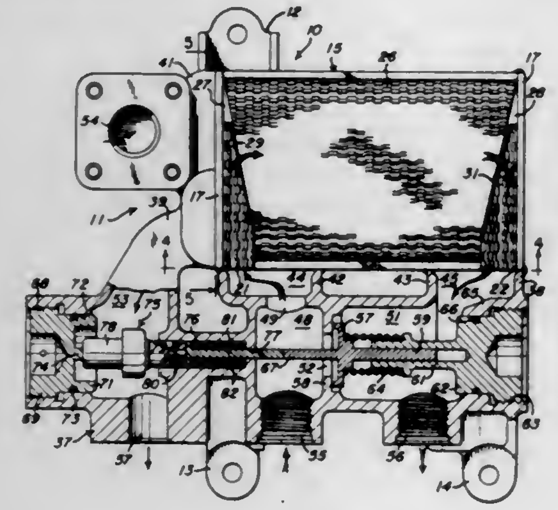
Ivis J. Allen, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 13, 1969, Ser. No. 790,682
Int. Cl. G01c *22/00;* **G06m** *1/08*
U.S. Cl. 235—96 **3 Claims**



A non-reversible odometer for a driven vehicle includes a plurality of driven number wheels which display the total distance traveled by the vehicle. The drive train of the odometer is designed so that an input thereto which increases the total indicated travel of the vehicle is transmitted through the gear train to increase the travel distance displayed on the number wheels. On the other hand, if the input to the odometer is one which would decrease the total displayed travel of the vehicle, the drive between the input shaft and the number wheels is interrupted and no decrease is effective.

3,506,192
HEAT EXCHANGER ASSEMBLY

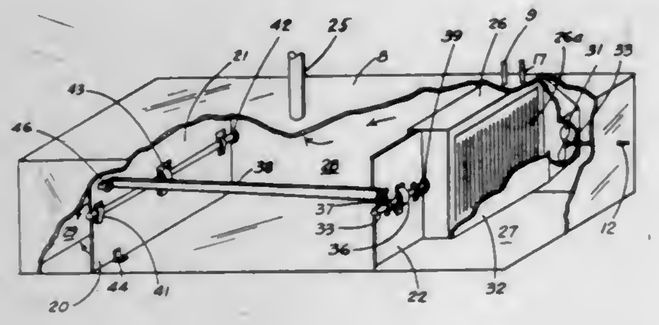
Howard R. Otto, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Original application Nov. 28, 1967, Ser. No. 686,124. Divided and this application Feb. 19, 1969, Ser. No. 816,454
Int. Cl. F28f *13/08*
U.S. Cl. 236—34.5 **3 Claims**



A heat exchanger assembly in which a plate and fin type heat exchanger has uniquely formed plate components for simplified assembly and cooperates with manifolding means mounted to faces of the heat exchanger, the manifolding means including a fluid flow control valve of novel adjustment characteristics.

3,506,193
FLUID FLOW DAMPER ARRANGEMENT

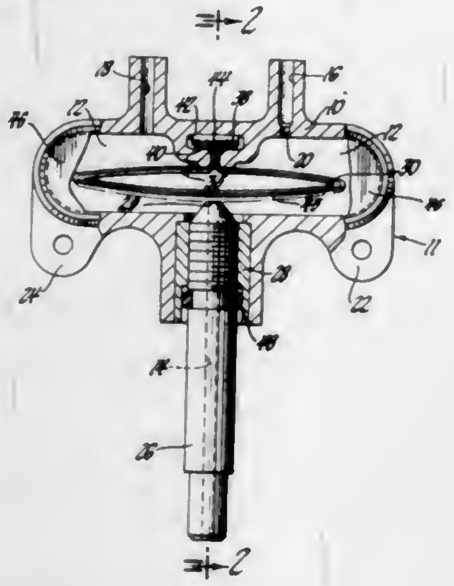
Saxon Cole, Shrewsbury, Mo., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Apr. 18, 1968, Ser. No. 722,480
Int. Cl. G05d *23/08, 23/00*
U.S. Cl. 236—38 **5 Claims**



A damper arrangement for controlling fluid flow which includes damper means rotatably mounted on a shaft for free rotation relative thereto and a temperature responsive element connected to the shaft and the damper so the damper is rotated by rotation of the damper shaft and is likewise rotated, independently of the rotation of the shaft, by the temperature responsive element to compensate for change in temperature of the fluid. The damper shaft can be rotated by selected means and multiple damper assemblies can be interconnected to cooperatively modulate fluid flow through different passages in response to change in the selected conditions.

3,506,194
THERMOSTATIC VACUUM VALVE AND BIMETAL ELEMENT THEREIN

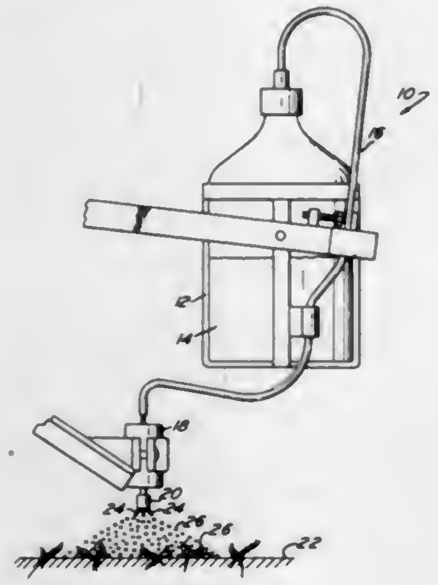
Robert E. Ressegule, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Nov. 14, 1966, Ser. No. 594,135. Divided and this application Jan. 31, 1969, Ser. No. 795,668
Int. Cl. G05d *23/08;* **G01k** *5/62*
U.S. Cl. 236—87 **3 Claims**



A thermostatic vacuum valve having an elongated bimetallic element in elliptical form within an enclosed chamber which forms part of a vacuum flow path. The bimetallic element directly regulates the flow of atmospheric air through a vent outlet in response to air temperature to modify the strength of raw vacuum supplied to the enclosed flow chamber.

3,506,195
LOW VOLUME SPRAY METHOD

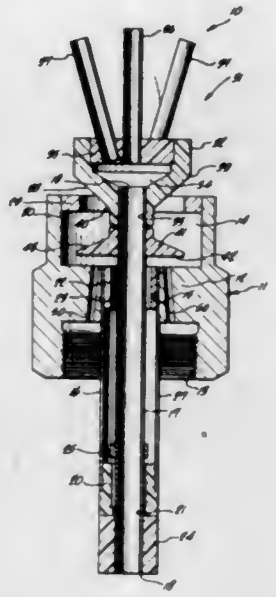
John E. Waldrum, Ambler, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 648,462, June 23, 1967. This application May 15, 1968, Ser. No. 729,238
Int. Cl. B05b *17/04*
U.S. Cl. 239—11 **9 Claims**



A low volume spray method for applying agricultural sprays, preferably concentrated herbicide compositions to an area having undesired vegetation, the method involving spraying the liquid material at a distance from 1 inch to 18 inches above the ground at a very constant rate to produce spray droplets, at least about 95% of which have a diameter greater than 400 microns and less than 2000 microns.

3,506,196
FOUNTAIN

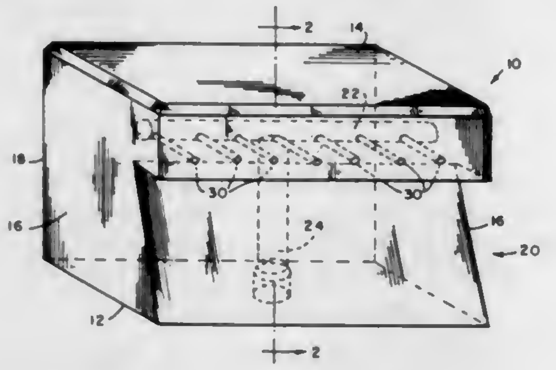
John Eugene Ramsey, Los Angeles, Calif., assignor, by mesne assignments, to Rain Jet Corporation, Burbank, Calif., a corporation of California
Filed Mar. 27, 1968, Ser. No. 716,411
Int. Cl. B05b *17/08*
U.S. Cl. 239—17 **7 Claims**



A multi-tier rotary pendulum fountain head includes a hollow stem, through which water is discharged to define an upper tier of the fountain discharge pattern, mounted for rotation and gyration within a sleeve mounted to a septum defined by a base adapted to be connected to an open end of a water riser pipe so that the septum closes the riser, the sleeve is disposed within the riser, and the stem receives water from the riser. Water flowing out the sleeve through the septum is relied upon to rotate the stem in the sleeve. By-pass water flow means are provided through the septum outwardly of the sleeve into communication with the riser. Water passing from the riser through the by-pass flow means comprises the lowermost tier of the fountain discharge pattern together with water emerging from the sleeve.

3,506,197
FIREPLACE STARTER

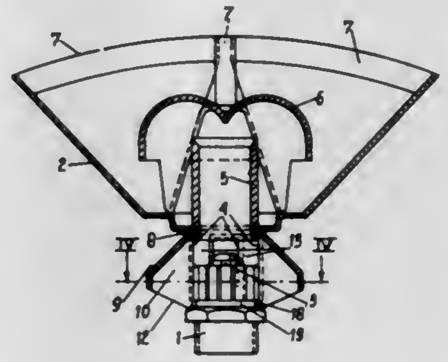
Bernard D. Hensley, 419 E. Oaks St., Skiatook, Okla. 74070
Filed Nov. 29, 1967, Ser. No. 686,480
Int. Cl. F23d *15/00*
U.S. Cl. 239—280 **1 Claim**



This invention relates to a fireplace starter and burner for starting wood in a fireplace having a gas outlet therein, invention including a unitary elongated member of noncombustible and nonmetallic material. The member has a flat bottom on which it sits in a fireplace and includes an internal horizontal gas passageway in the upper portion thereof and a vertical gas inlet opening communicating the horizontal passageway with the exterior member at the bottom whereby gas may be injected into the member. A multiplicity of gas outlet openings communicate with the passageway and open to the front of the member whereby gas is discharged. In the preferred embodiment, the front includes an upper full width ledge forming portion and a lower portion which is inclined towards the upper back of the member and in this preferred arrangement the gas discharge openings communicate with the upper end of the inclined front portion so that gas is discharged beneath the ledge and downwardly.

3,506,198
BUNSEN BURNER

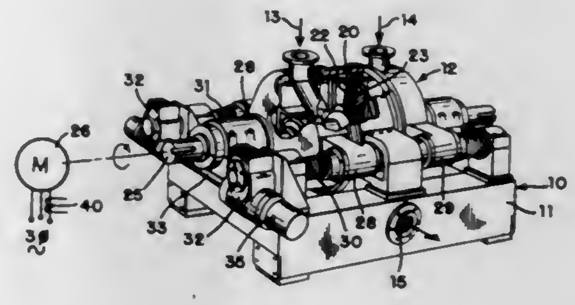
Antonie M. van der Zwaal, Stadhoudersweg 140C, Rotterdam, Netherlands
Filed Feb. 19, 1968, Ser. No. 706,240
Int. Cl. B05b *7/06;* **F23d** *13/40*
U.S. Cl. 239—432 **5 Claims**



A Bunsen burner having a gas-injection member, inlet apertures for primary air, a mixing device for the gas and the air, and a burner nozzle formed with burner apertures, the inlet apertures each having a cap-shaped member which is formed by a boundary wall extending downwardly and outwardly at an inclination from the top edge of the aperture, and by vertical outwardly directly boundary walls, starting from its side edges, which extend downwards to past the bottom edge of the aperture, so that each inlet aperture is adjoined by a downwardly directed groove-shaped passage.

3,506,199
PAPER PULP REFINER CONTROL SYSTEM

Frank Hayward, Romford, England, assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed Jan. 18, 1968, Ser. No. 698,931
Int. Cl. B02c *7/14*
U.S. Cl. 241—37 **9 Claims**

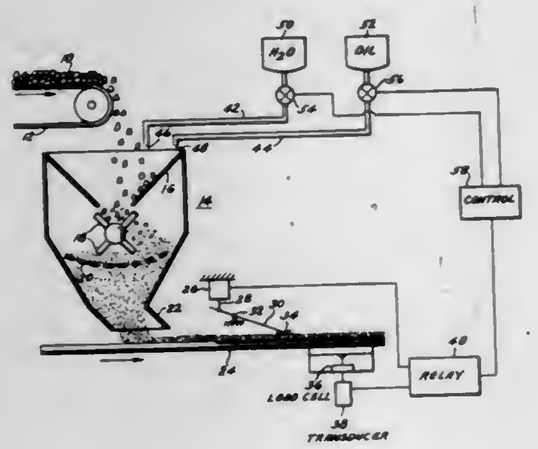


A twin-disk refiner system incorporates an air motor drive for controlling refiner load by controlling the spacing between the refiner elements including a pneumatic control system for the refiner elements positioning motor which measures load on the main refiner drive motor and compares this with a refiner representing a desired refiner load, providing a system in which the increase in load is substantially linear with time.

3,506,200
APPARATUS FOR CONTROLLING THE BULK DENSITY OF COAL

William A. Raudenbush, Hellertown, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware

Filed May 3, 1968, Ser. No. 726,289
Int. Cl. G07b *11/08*
U.S. Cl. 241—41 **5 Claims**

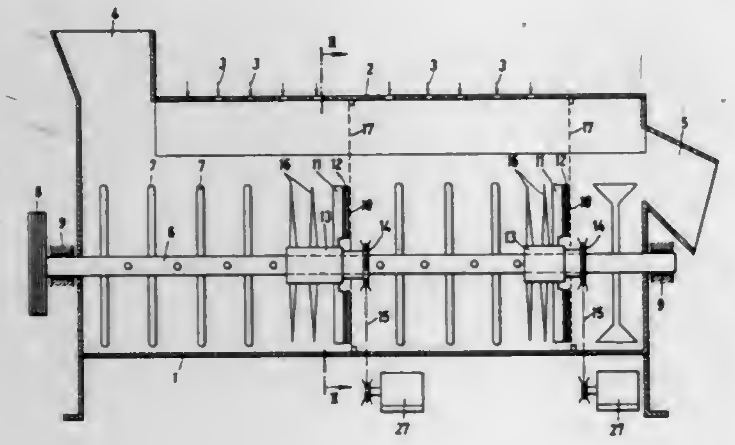


Signals indicative of the height and weight of coal on a predetermined surface area of a conveyor belt are combined to produce an output signal indicative of the bulk density of the coal. The output signal is utilized to control the addition of a bulk density-changing substance to the coal as it enters a hammer mill.

3,506,201
TROUGH MIXER HAVING A DOSING ARRANGEMENT FOR MIXING FIBROUS MATERIALS

Kaspar Engels, Mannheim-Waldhof, and Wilhelm Schneider, Ludwigshafen (Rhine), Germany, assignors to Draiswerke GmbH, Mannheim-Waldhof, Germany, a firm

Filed Dec. 16, 1966, Ser. No. 602,295
Claims priority, application Germany, Dec. 17, 1965, D 48,939
Int. Cl. B02c *13/10*
U.S. Cl. 241—42 **6 Claims**

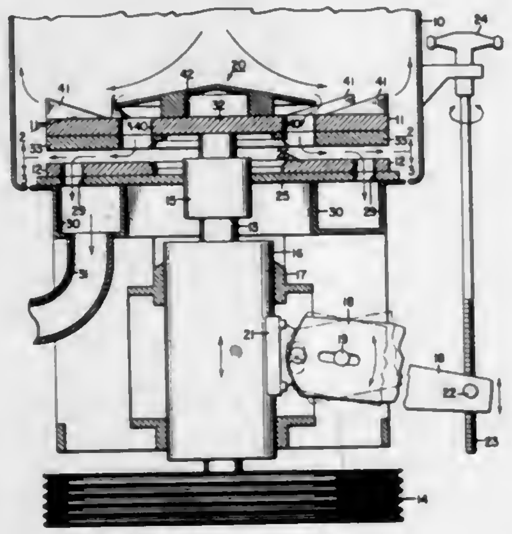


A trough mixer separated by transverse screens into mixing chambers having a shaft extending through the trough and carrying mixing and cutting tools with nozzles for each chamber to blow glue and additives onto fibrous material being mixed with the glue, where the tools adjacent the screens and the screens cooperate to disentangle lumps and balls in the material being mixed and apertures are provided between the chambers to balance the air pressure.

3,506,202
PULPER

Edward H. Cumpston, Jr., 43 Monument Ave., Old Bennington, Vt. 05201

Filed Mar. 31, 1967, Ser. No. 627,506
Int. Cl. B02c *7/08, 7/12, 18/12*
U.S. Cl. 241—97 **26 Claims**



An improved pulper uses a relatively large refiner or defibering unit with ridged confronting faces on its stator and rotor, and the inlet openings to the refining passageway are arranged around the center of the rotor and protected by a shield to admit only clean pulp to the refiner. An outlet opening for refined pulp is arranged around the periphery of the stator. The defibering unit is at least one half the tank diameter to provide a large refining area and considerable pumping force on the pulp material. Vanes mounted on top of the rotor break up and swirl the pulp material to create a centrifugal force augmenting the pumping force of the refiner to drive pulp radially outward away from the refiner and thus speed up circulation through the refiner. Tank walls are smooth and unbaffled to facilitate such swirling, and deflector vanes are mounted on the tank wall just below the working surface to limit the height of the swirl and to turn over the pulp material at its peripheral surface to speed up recirculation of material through the refiner.

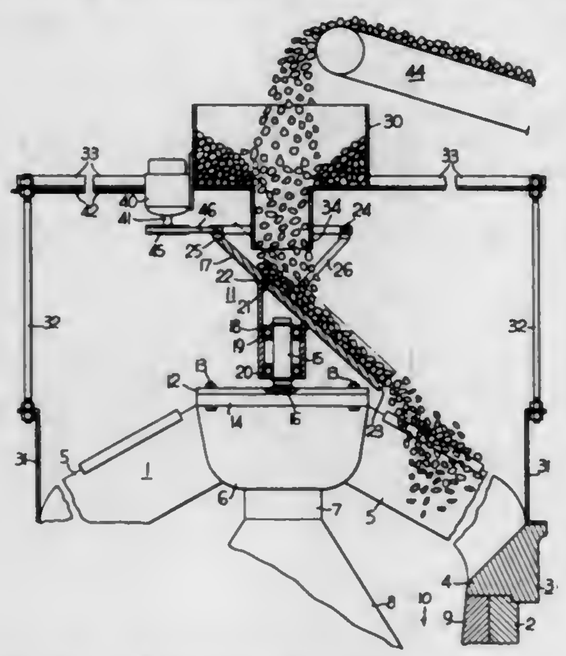
3,506,203
FEED DISTRIBUTOR FOR CRUSHER

Eugene F. Rossi, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 16, 1967, Ser. No. 675,665
Int. Cl. B02c *23/02*
U.S. Cl. 241—202 **3 Claims**

A feed distributor is shown mounted above a cone and annular crushing chamber of a gyratory crusher. The distributor has a feed chute supported for rotation about a vertical axis centrally located with regard to the annular crushing chamber. The chute projects radially outward and downward from a point where the chute intersects the vertical axis about which the chute rotates. A feed hopper is arranged over the chute and the hopper has a discharge opening coaxial with the vertical axis about which the chute rotates. A driving motor is connected to the chute to rotate the chute and turn the lower and

discharge end of the chute in a horizontal annular path above the annular crushing chamber to discharge feed falling through the discharge opening of the hopper

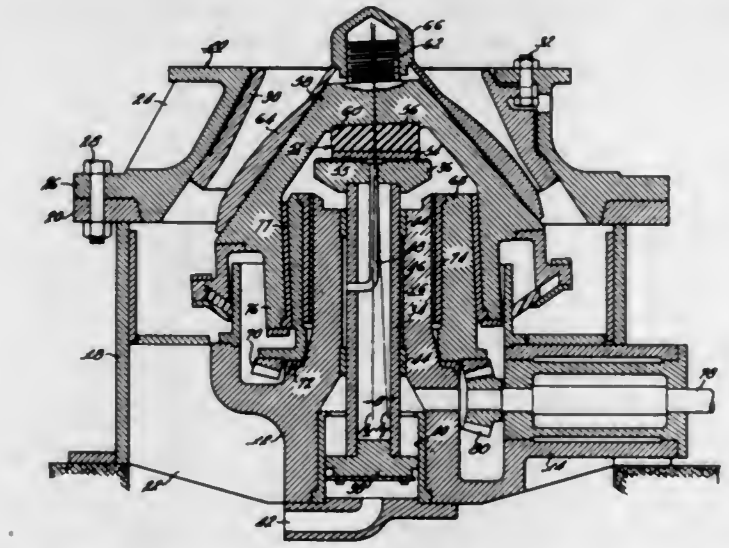


downwardly and outwardly from the lower end of the chute into and around the annular crushing chamber of the crusher.

3,506,204
STEP BEARING FOR GYRATORY CRUSHER

Robert H. Kemnitz, Milwaukee, Wis., and Heinz W. Winter, Salt Lake City, Utah, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 12, 1967, Ser. No. 674,785
Int. Cl. B02c *2/06*
U.S. Cl. 241—208 **4 Claims**



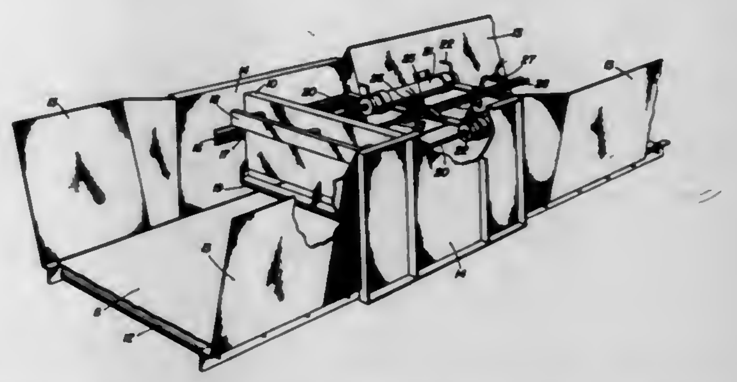
A step bearing for a gyratory crusher head comprising a pad member of elastomeric material, preferably rubber, which is interposed beneath the surface of a gyratory crusher head or of a part in supporting relation thereto in such manner that the elastomeic or rubber pad absorbs shock loads or the like substantially instantaneously.

3,506,205
SPREADER FOR CONVEYOR

Harry J. Champagne, P.O. Box 1827, Mobile, Ala. 36601

Filed Aug. 24, 1967, Ser. No. 663,151
Int. Cl. B02c; B65g
U.S. Cl. 241—283 **9 Claims**

This application discloses apparatus for spreading materials on a conveyor such as would be used in a refuse processing plant. The spreader comprises a reciprocating ram assembly positioned above the conveyor and may include a push bar on the front face of the ram and a roller on the bottom edge of the ram. The ram assembly is located in a walled section, with guides on the walls

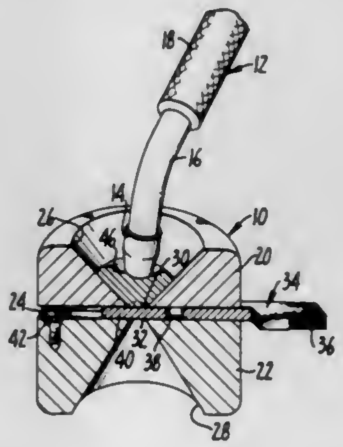


defining the path of reciprocating motion of the assembly. Movement of the ram may be provided by a hydraulic arrangement.

3,506,206
MORTAR FOR AMALGAM AND THE LIKE

Walter E. Tweedie, Jr., 301 Castenada Drive, Millbrae, Calif. 94030

Filed Dec. 8, 1967, Ser. No. 689,047
Int. Cl. A61c *5/06;* **B02c** *19/08*
U.S. Cl. 241—285 **5 Claims**



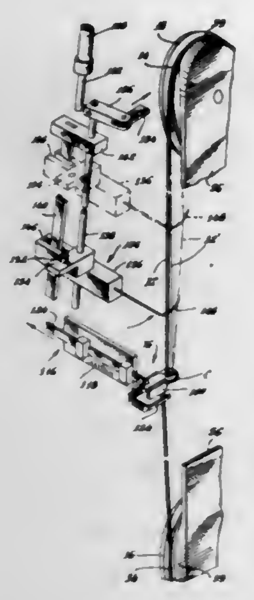
A mortar of generally bowl-shaped configuration having a bottom defined, at least in part, by a panel mounted for selective slidable movement between open and closed positions. When the panel is in the closed position, the mortar may be used for the working of amalgam and the containing of the same for charging into a carrier. When the panel is in the open position, a probing instrument may be directed through the bottom of the mortar to effect the dislodging of material therefrom for cleaning purposes.

3,506,207
TOROIDAL COIL WINDER

Doyle E. Stoppel, Danbury, Conn., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts

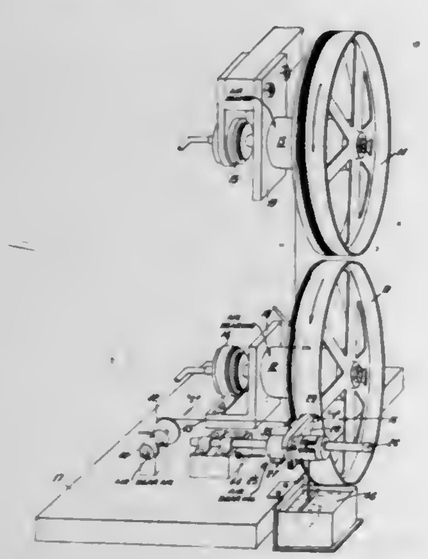
Filed Apr. 15, 1968, Ser. No. 721,449
Int. Cl. B65h *81/02;* **H01f** *41/08*
U.S. Cl. 242—4 **10 Claims**

A toroidal core winding machine uses three pulleys over which wire loops are wound to form a bundle of wires with a leg of the bundle passing through the open center of the toroidal core. As the pulleys are driven to wind wire from the bundle to the core, the slack or available free wire is used up requiring another loop of wire to be freed from the bundle over the end of a pulley. Each time tension in the exhausting loop reaches a predetermined value, it pulls the core and its support upward, actuating a bundle shifting means below the core to displace the bundle toward one edge of the core opening, after which a pick-off finger above the core moves between the taut wire being wound on the core and the wire bundle. The pick-off finger is then shifted toward a pulley to orderly pull the succeeding loop over the end of the pulley. This loop of wire is then wound on the core until it is exhausted and another loop is withdrawn from the wire bundle.



3,506,208
APPARATUS FOR WINDING COHERENT GLASS FIBRE STRIPS

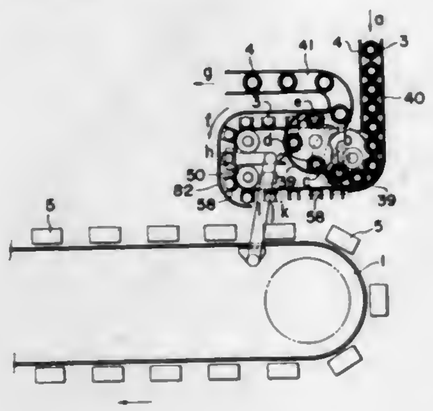
John R. Davy and Oswald J. Houston, Glasgow, Scotland, assignors to Barr and Stroud Limited, Anniesland, Glasgow, Scotland, a British company
Filed Jan. 25, 1968, Ser. No. 700,561
Claims priority, application Great Britain, Apr. 12, 1967, 16,753/67
Int. Cl. B65h *54/02*
U.S. Cl. 242—18 **8 Claims**



Apparatus for winding coherent glass fibre strips includes a first wheel on the peripheral surface of which fibre is wound in random fashion from a fibre producing furnace. A second wheel having a polished peripheral surface receives fibre from the first wheel and a resiliently biased stylus engages the fibre as it is being wound onto the second wheel and presses it into engagement with the preceding fibre turn. A collar on the stylus prevents overlying or twisting of the fibres and the winding speed is controlled by the differential torque produced by air turbines which are coupled to drive the wheels in opposite directions.

3,506,209
AUTOMATIC COP SUPPLYING METHOD AND ITS APPARATUS OF AUTOMATIC WINDING MACHINE

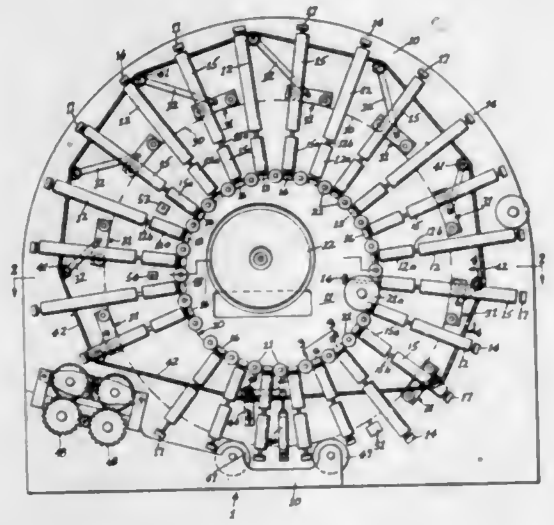
Isamu Matsui, Kyoto-shi, and Hiroshi Uchida, Kyoto-fu, Japan, assignors to Murata Kikai Kabushiki Kaisha, Kyoto-shi, Kyoto, Japan, a company of Japan
Filed Oct. 18, 1966, Ser. No. 587,542
Claims priority, application Japan, Oct. 20, 1965, 40/64,289; Nov. 27, 1965, 40/72,787; Feb. 22, 1966, 41/10,878
Int. Cl. B65h *54/24, 67/00*
U.S. Cl. 242—35.5 **19 Claims**



The present invention relates to an automatic cop supplying method and corresponding apparatus which supplies cops, having a so-called tip bunch without back winding, to the respective winding units of an automatic winding machine automatically, and unites the yarn end of the supply cops with the end of the package of the respective winding units while transferring the cops to the winding units.

3,506,210
COMPACT STRIP ACCUMULATOR

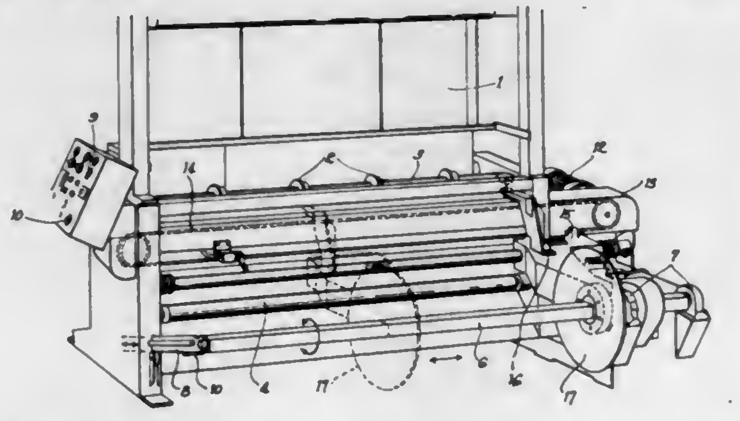
Harry LaTour and George D. Miller, Middletown, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Oct. 20, 1967, Ser. No. 676,808
Int. Cl. B65h *17/48*
U.S. Cl. 242—55 **25 Claims**



This invention relates to a compact and unique system for accumulating a continuous coil of strip material. The system is characterized by the absence of massive drive parts to effect coiling of the strip, and by its versatility and simplicity of operation. The accumulating device capable of practicing the method of this invention comprises a support upon which the strip material is acmulated by being coiled into two substantially concentric sets of convolutions—an outer set and an inner set—connected by a free reverse loop which orbits between the sets of convolutions. The sets of convolutions are distinguished not only by their relative positions, but by their reversed winding which results in the existence of a numerical balance between the convolutions of the respective sets during periods of strip input and/or output from the device. That is, the rate of change in the number of convolutions in each set is the same, their number increasing as the quantity of the accumulated strip increases and decreasing as the quantity decreases. To accommodate such changes without undesirable collapsing and slippage of the strip, the sets of convolutions are formed against expansible roll cages which support and guide the strip, the arrangement also making it possible to operate the system in any position from horizontal to vertical.

3,506,211
APPARATUS FOR CUTTING AND COILING WEBS

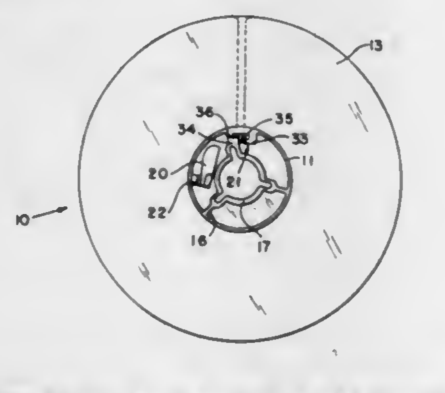
Wilhelm J. Pier, Eddersheimerweg, 6238 Hattersheim am Main, Germany
Filed Feb. 29, 1968, Ser. No. 709,455
Claims priority, application Germany, Mar. 1, 1967, P 41,516
Int. Cl. B65h *35/04, 75/02*
U.S. Cl. 242—55 **6 Claims**



An apparatus for cutting and for coiling webs of paper, corrugated cardboard and the like comprising a coiling bar in the form of a shaft which is actuated at one end and mounted at the other end in a removable bearing which makes use of a mechancal movable arrangement along the winding bar which is operating to slide the reels down the winding bar including a plate displaceable axially along the winding bar, the plate being moved by an angular power transmission portion extending along an adjacent guide bar to effect displacement from the bearing and removal of the reels from the winding bar while being supported.

3,506,212
REEL WITH ATTACHED FILM RETAINING MEANS

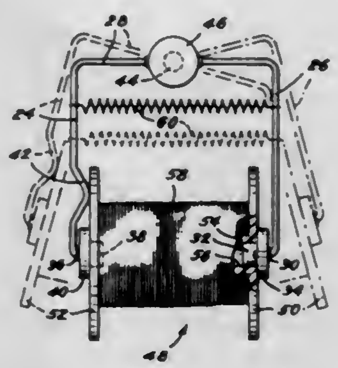
James J. Wenskus, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 685,615, Nov. 24, 1967. This application Feb. 14, 1969, Ser. No. 805,094
Int. Cl. B65h *75/28*
U.S. Cl. 242—74.1 **6 Claims**



An improved pin and socket assembly for releasably securing an elongated web or film to a supply reel or other structure. The pin is especially shaped for optimum retaining characteristics, and may have an extended head portion to prevent improper positioning of the reel in a reel cartridge or other container.

3,506,213
RE-REELING DEVICE

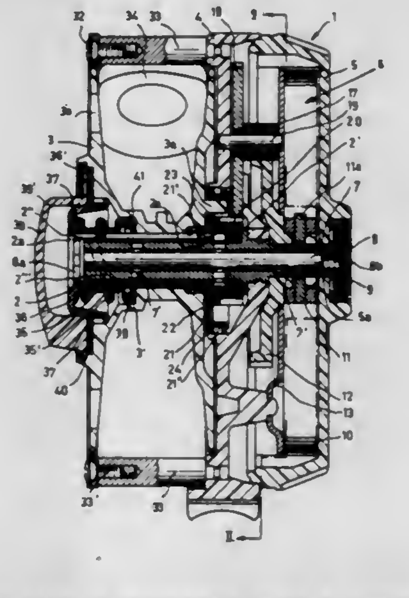
David Young, Main St., Oakland, R.I. 02858
Filed Oct. 7, 1968, Ser. No. 765,577
Int. Cl. A01k *89/00*
U.S. Cl. 242—84.1 **9 Claims**



A fish line re-reeling device comprising a frame on which a fish line supply spool is mounted for rotation, the frame being mountable on a section of a fishing rod located adjacent to the reel thereof and after disconnection of the outer rod sections, the frame and supply spool being mounted for oscillating movement on the fishing rod to provide for oriented transfer of the line from the supply spool to the reel.

3,506,214
SPRING WOUND FISHING REEL

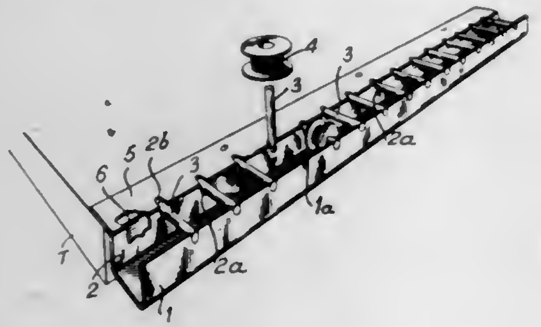
Nicolas Laszlo, Cluses, France, assignor to Ets. Carpano & Pons, Cluses, France, a company of France
Filed Aug. 1, 1967, Ser. No. 657,615
Claims priority, application France, Aug. 11, 1966, 72,880
Int. Cl. A01k *89/02*
U.S. Cl. 242—84.3 **8 Claims**



A fly casting reel is provided with a casing to house a spool and its associated retaining latch, and a spring motor rotatable through connected gearing and a clutch to rotate said spool. Manual pivoting of a brake lever releases a normally applied brake shoe from its associated brake drum slidably coupled to the spool which permits the spool to be rotated by the spring motor. The gear train terminates in a clutch allowing the spool to be removed from its stub shaft by a spring-biased retaining latch without affecting the spring motor. An adjustable guide is provided on the housing.

3,506,215
UNDER-THREAD BOBBIN RACK FOR SEWING MACHINES

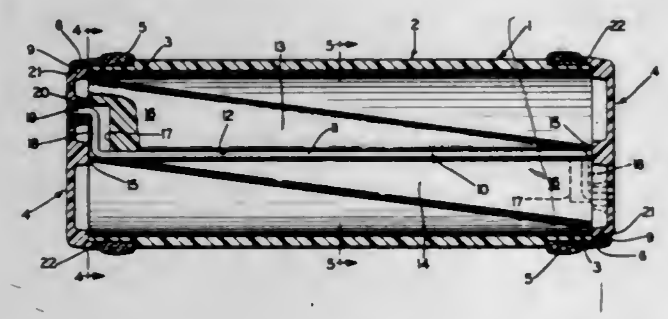
**Hovhannes Krikorian, 10 Rue Chabanais,
Paris, France
Filed Nov. 24, 1967, Ser. No. 685,410
Claims priority, application France, Nov. 25, 1966,
84,998
Int. Cl. B02c** *9/04, 15/00, 19/00*
U.S. Cl. 242—134 4 Claims



This invention relates to a rack for supporting underthread bobbins of sewing machines and more particularly to a rack adapted to receive the bobbins on spindles pivotally mounted on the rack to permit the quick removal of the bobbins therefrom without any risk of entangling the threads.

3,506,216
PNEUMATIC SYSTEM CARRIER CLOSURE CONSTRUCTION

**Charles E. Delamater, Canton, Ohio, assignor to Diebold, Incorporated, Canton, Ohio, a corporation of Ohio
Filed Apr. 4, 1968, Ser. No. 718,773
Int. Cl. B65g** *51/04;* **B65d** *43/16*
U.S. Cl. 243—35 11 Claims

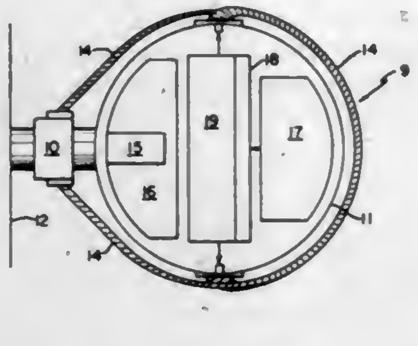


A closure construction and arrangement for an open end of a material-conveying carrier for a pneumatic tube system, particularly adapted for conducting banking transactions. A disc-like member forms the closure and is pivotally mounted for lateral movement across an open end of the carrier between fully closed and fully opened positions. The pivot point is movable and is located on one end of a crank-shaped torsion bar mounted on the carrier body. The torsion bar permits opening and closing movement of the closure member and holds the closure spring-pressed in closed position.

3,506,217
METHOD AND APPARATUS FOR DETERMINING THE TIME AND LOCATION OF OCCURRENCE OF EVENTS OCCURRING IN SPACE

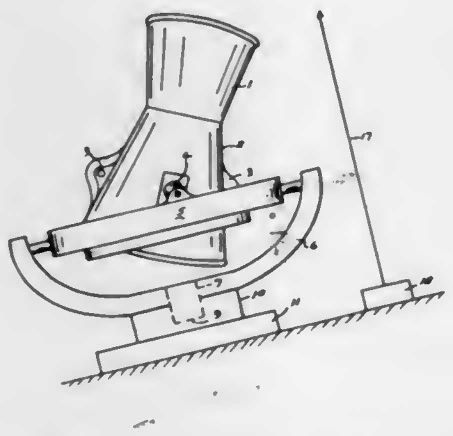
**John P. Dunn, Elbert, and Patrick C. Carroll, Littleton, Colo., assignors to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Continuation of application Ser. No. 466,537, June 24, 1965. This application Dec. 19, 1967, Ser. No. 705,873
Int. Cl. B64g** *1/00*
U.S. Cl. 244—1 9 Claims

The system comprises a beacon transmitting vehicle carried by a spacecraft in a predetermined orbit. Means are provided for launching the beacon vehicle from the spacecraft into the orbit of the spacecraft when the spacecraft leaves the orbit. The launched beacon vehicle begins transmitting encoded signals to ground tracking station indicating the time elapsed since the spacecraft left the orbit. The beacon vehicle continues to transmit signals from the orbit to assure that the ground tracking stations will pick up the transmitted information. This information provides the time and location of the spacecraft when it left the orbit. With this information, the ground tracking stations can, for example, determine the approximate landing location of the spacecraft on earth in the case of an emergency escape.



3,506,218
RESOLUTION CALIBRATION SATELLITE FOR TRACKING CAMERA

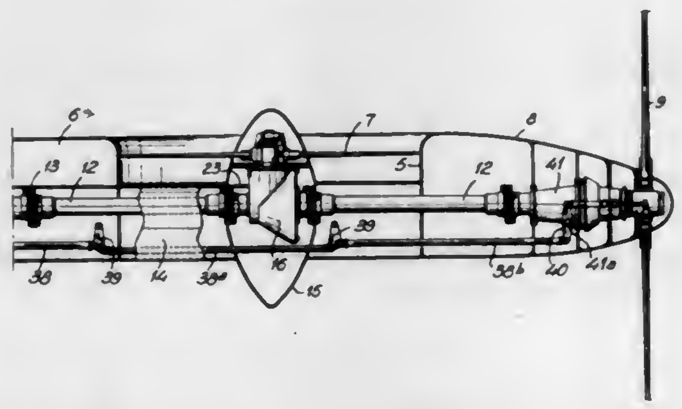
**Kenneth E. Kissell, Dayton, Ohio, assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 6, 1967, Ser. No. 674,065
Int. Cl. B64g** *3/00;* **G01b** *9/06*
U.S. Cl. 244—1 5 Claims



In order to determine the resolution of a satellite tracking camera or a telescope, a special form of satellite is caused to rotate about its center of mass such that it provides sets of very small and very bright points of light at known separations in space and at a known distance from the observer. This special satellite comprises an array of two highly reflective spheres and an array of two reflecting corner prisms. The arrays are placed at known distances apart and at right angles to one another when the satellite is placed in orbit. The spheres continuously reflect images of the sun and the prisms intermittently produce point-like sources of light when intermittently illuminated by a high power laser beam from the ground. The satellite is caused to rotate so that the spheres and prisms will describe elliptical paths as to cause the reflected light spots to change their apparent separation as seen from the camera or telescope when the satellite rotates slowly about its center of gravity. Thus, a target of point-like sources of light of known and varying separation is available on which the camera can be focused to determine the resolution of the camera for the distance for which it is designed to operate.

3,506,219
HELICOPTER STEERING AND PROPELLING DEVICE

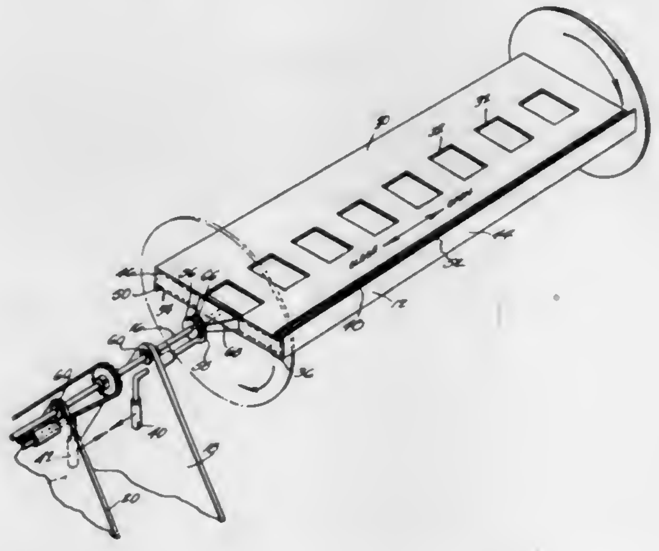
**René Mouille and Gaston Bourquardez, Aix-en-Provence, France, assignors to Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France
Filed Nov. 29, 1967, Ser. No. 686,418
Claims priority, application France, Dec. 13, 1966,
87,149
Int. Cl. B64c** *27/22, 27/82*
U.S. Cl. 244—17.21 5 Claims



A helicopter steering and propelling device comprises a propelling variable and reversible pitch tail air screw mounted aft of a vertical fin formed over part at least of its expanse with an airfoil providing lift laterally, there being a torque countering and steering variable and reversible tail rotor recessed in the thickness of the vertical fin. A direct transmission means couples the output of a power plant and the air screw, and a power takeoff means, interposed in the transmission means proximate the air screw, drives the tail rotor.

3,506,220
HORIZONTAL AXIS, FLAT LIFTING ROTOR AND CONTROL SYSTEM FOR AIRCRAFT

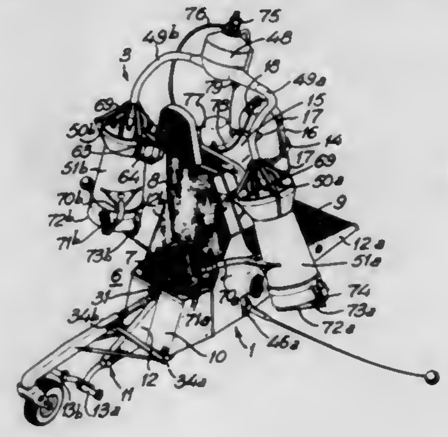
**Anthony Sbrilli, 2 Whitman Place,
Edison, N.J. 08817
Filed Apr. 11, 1968, Ser. No. 720,570
Int. Cl. B64c** *27/32*
U.S. Cl. 244—19 4 Claims



A horizontal axis, flat lifting rotor and control wing for aircraft, similar to helicopters and autogyros, that may be adapted for use as a toy for children, advertising devices, and as a form of a windmill when positioned in a windmill form. The invention includes a hollow wing having slotted recesses on opposite sides, and in which the wing element is rotated from an engine or motor source within the fuselage. It combines the proportion and support means of such aircraft.

3,506,221
ONE-MAN AIRCRAFT WITH JET-POWERED LIFT AND PROPULSION

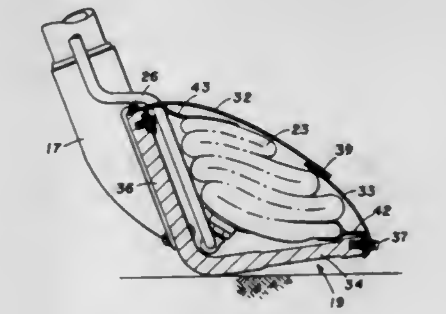
**Georges Edmond Caillette, Tarbes, and Jean Amable Vidal, Paris, France, assignors to Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France
Filed May 13, 1968, Ser. No. 728,533
Claims priority, application France, May 23, 1967,
107,382
Int. Cl. B64c** *29/04*
U.S. Cl. 244—23 7 Claims



A one-man aircraft with jet-powered lift and propulsion, comprises a structure consisting of a seat and a baggage-carrier, a landing gear comprising damper means in both the longitudinal and transverse directions, a jet-drive device rigid with a support articulated on said structure for motion at least in roll and pitch, means for orientating the aircraft and safeguard means for operation of said jet-drive device.

3,506,222
AIRCRAFT SUPPORTING DEVICE

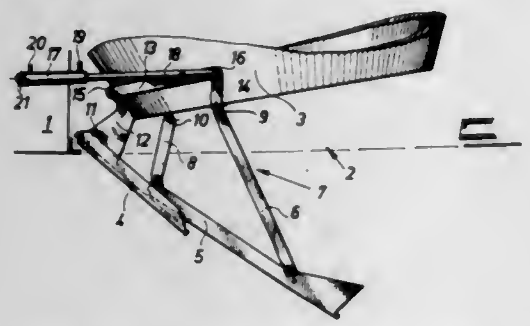
**William P. Anderson, Arlington, Tex., assignor to Bell Aerospace Corporation, Hurst, Tex., a corporation of Delaware
Filed Nov. 24, 1967, Ser. No. 685,580
Int. Cl. B64c** *25/32, 25/56*
U.S. Cl. 244—101 6 Claims



An aircraft landing gear system including a pair of trough-like runners located on each side of the aircraft and attached to strut structures depending therefrom. The trough-like runners consist of two rigid metal plates one of which supports the aircraft with the plane thereof at an acute angle relative to the earth and the second of which is oriented to an obtuse angle relative to the first. An elongated inflatable flotation bag is folded into the interior angle portion of each runner and secured thereto by flexible straps attached to the inner surface of each plate and to the inflatable bag. A two-piece releasable cover is attached to the metal plates and forms an enclosure with the trough-like runner. The flotation bags are deployed in flight through a pressurized gas inflation system contained within the aircraft.

3,506,223
AIRPLANE WITH AT LEAST ONE LIFTER DRIVING MECHANISM

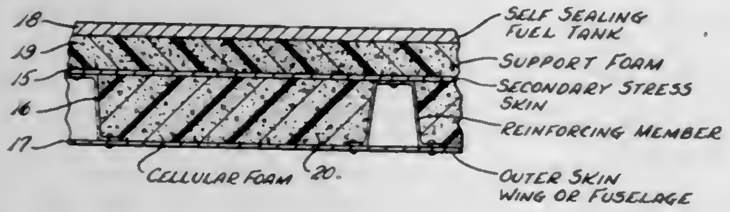
Gyntherr Flemming, Sudweyhe, Germany, assignor to Vereinigte Flugtechnische Werke Gesellschaft mit beschrankter Haftung Fruher "Weser" Flugzeugbau/Focke-Wulf/Heinkel-Flugzeugbau, Bremen, Germany
Filed May 6, 1968, Ser. No. 726,682
Claims priority, application Germany, May 11, 1967, V 33,641
Int. Cl. B64c *1/14*
U.S. Cl. 244—129 **9 Claims**



An airplane with a lifting drive the outlet of which is adapted selectively to be closed and opened by two flaps arranged one behind the other when looking in the flight direction of the plane, the rear flap being movable into overlapping arrangement with the front flap during the opening movement of said flap.

3,506,224
SUPPORTING STRUCTURE FOR A SELF-SEALING FUEL TANK

George B. Harr, Pasadena, and Virgil J. Mattson, Inglewood, Calif., assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Continuation of application Ser. No. 661,721, Aug. 18, 1967, which is a continuation of application Ser. No. 416,096, Dec. 4, 1964. This application Dec. 4, 1968, Ser. No. 785,853
Int. Cl. B64d *37/02;* **B65d** *25/14*
U.S. Cl. 244—135 **2 Claims**

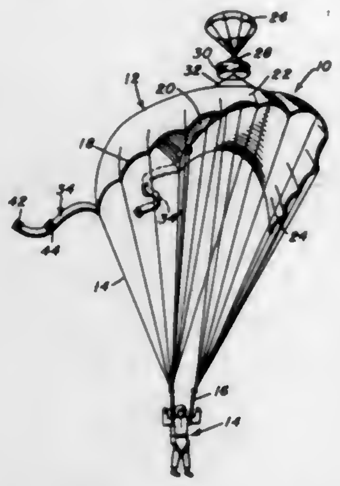


A fuel tank in the wing of an airplane may be supported on stringers with foam in between them or there may be a sheet material on the stringers with the tank supported above it on foam.

3,506,225
OPENING SHOCK INHIBITOR FOR PARACHUTES

Stephen L. Snyder, 331 Cherry Hill Blvd., Cherry Hill, N.J. 08034
Filed Oct. 15, 1968, Ser. No. 767,717
Int. Cl. B64d *17/36*
U.S. Cl. 244—149 **20 Claims**

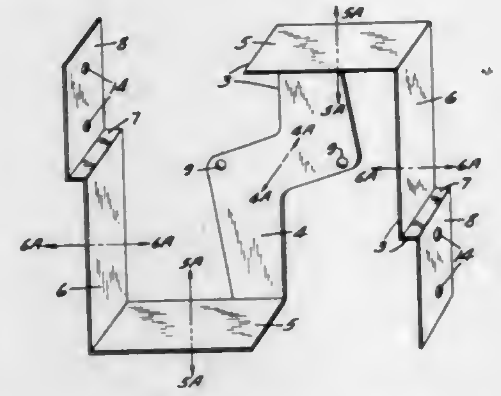
Opening of parachutes made of relatively non-porous material is restricted and delayed in order to reduce shock on the load suspended from the inflating canopy. One or more reefer straps are secured at fixed locations to the canopy and/or the load lines and wrapped thereabout so as to slowly unwind after the canopy is released from its enclosure and the load lines are deployed.



Unwrapping of the reefers delays inflation of the canopy to regulate opening shock.

3,506,226
VIBRATION ISOLATING MOTOR BRACKET

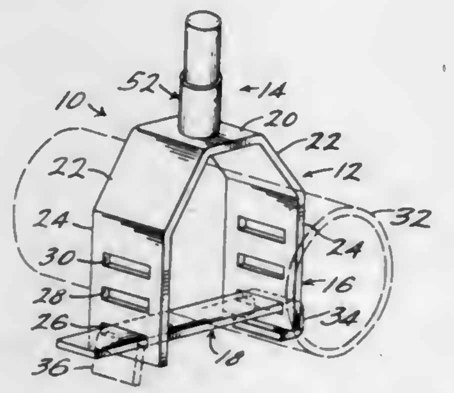
Jack P. Blomgren, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed June 25, 1968, Ser. No. 739,693
Int. Cl. F16f *15/04, 15/00;* **F04d** *29/60*
U.S. Cl. 248—15 **4 Claims**



A vibration isolating motor bracket having strips of flexible material in the three principal planes to isolate from the supporting structure vibration of the motor in any direction.

3,506,227
HANGER FOR ELONGATE MEMBERS

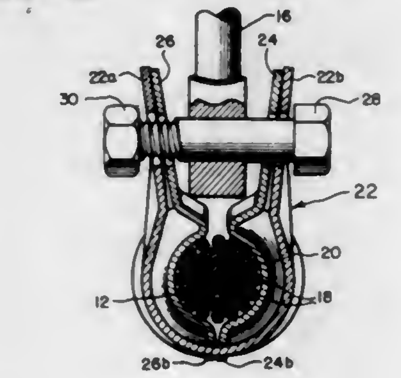
John C. Jenkins, Lorain, Ohio, assignor, by mesne assignments, to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 6, 1967, Ser. No. 680,911
Int. Cl. F16l *3/10, 3/24*
U.S. Cl. 248—59 **6 Claims**



A rugged pipe hanger of simple design is provided. Each hanger is capable of accommodating several different sizes of pipes and the hangers can be made in several sizes to accommodate pipes of almost any desired range of sizes. The hanger includes a generally U-shaped strap which receives a pipe in a locking member which extends through holes in the legs of the strap and holds the pipe securely in the strap.

3,506,228
APPLIANCE FOR LINEAR BODIES

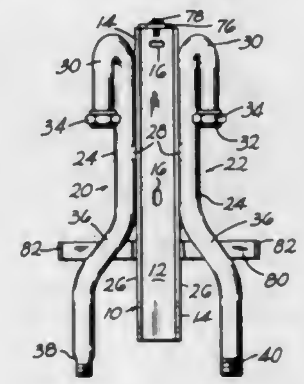
Ernest H. Johnson, Parma, Ohio, assignor to Preformed Line Products Company, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 22, 1967, Ser. No. 693,009
Int. Cl. F16l *3/10*
U.S. Cl. 248—63 **13 Claims**



The disclosed cable support assembly includes three basic components, namely, a generally U-shaped clamping element and suspension of linear bodies, such as electrical cable gripping elements are received intermediate the leg portions of the clamping member in opposed facing relation with their respective lower end portions positively indexing or interlocking within the base of the clamping member and their upper end portions overlying respective interior faces of the leg portions of the U-shaped member. The gripping elements are adapted to firmly hold a cable extending between their opposed faces when the leg portions of the clamping element and the upper end portions of the gripping elements are drawn together in a clamping relation. Preferably, the gripping elements do not directly contact the cable but rather exercise their gripping action through a protective covering, as a rubber-like cushion surrounding the cable. Other features are disclosed.

3,506,229
METER MOUNTING APPARATUS

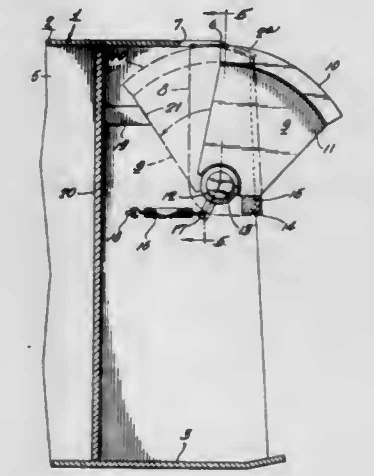
William B. McDowell, Fenton, Mich., assignor to Michigan Tube Benders, Inc., Ypsilanti, Mich., a corporation of Michigan
Filed Nov. 14, 1967, Ser. No. 682,876
Int. Cl. G01f *15/18*
U.S. Cl. 248—68 **6 Claims**



Meter mounting apparatus for use with public utility meter installations adjacent a building wherein the apparatus includes a channel member having conduits directly affixed to the side portions of the channel member, and the conduits include an upper region transversely disposed to the channel member, and the conduits lower regions are offset with respect to the conduit portion affixed to the channel member. Meter housing support means are mounted upon the channel member for permitting attachment of a meter housing thereto and a foundation bracket may be optionally used with the channel bracket.

3,506,230
TRAILER SUPPORT DEVICE WITH CAMMING MEANS

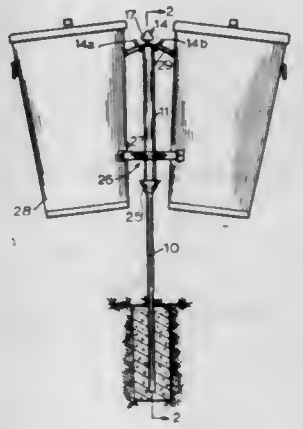
Frank H. Vivian, Franklin, Kans., assignor, by mesne assignments, to Sun Shipbuilding and Dry Dock Company, Chester, Pa., a corporation of Pennsylvania
Filed Oct. 29, 1968, Ser. No. 771,459
Int. Cl. B60p *7/00*
U.S. Cl. 248—119 **6 Claims**



In order to suitably support the forward end of a trailer on the deck of a ship while maintaining the trailer landing gear spaced above the deck, a rigid box-like structure is utilized, this structure being provided with a fixedly-mounted securing means for removably securing the trailer kingpin to the structure. In order to properly couple the support structure to a deposited trailer which is resting on its landing gear, the structure is provided with a camming means which raises the forward end of the trailer as the structure is moved rearwardly with respect thereto, thereby to bring the trailer kingpin into the proper position for cooperation with the kingpin securing means on the structure.

3,506,231
GARBAGE CAN HOLDER

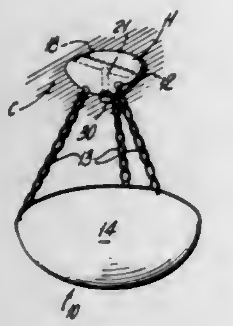
John H. Bonneau, 1250 Alba St., Mobile, Ala. 36605
Filed Oct. 31, 1967, Ser. No. 679,427
Int. Cl. A47f *5/02, 5/04*
U.S. Cl. 248—131 **1 Claim**



An upper post portion of a garbage can holder supports the garbage can handle and is mounted so as to rotate on a lower ground engaging post and when rotating to stir an insecticide fluid which is retained in a container mounted on the lower post.

3,506,232
CANOPY HANGER FOR LIGHTING FIXTURES

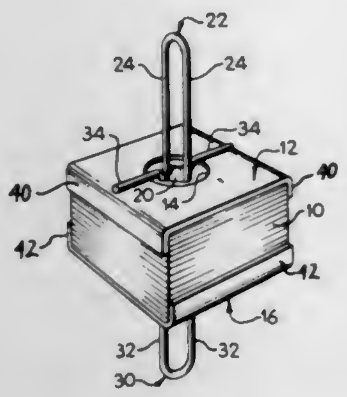
William Wolar, 59 Fremont Road, North Tarrytown, N.Y. 10591, and Stanley Wolar, 45 Shirley Lane, White Plains, N.Y. 10607
Filed Mar. 6, 1968, Ser. No. 711,122
Int. Cl. F21v *3/00, 17/06, 19/00, 21/02*
U.S. Cl. 248—320 **9 Claims**



A canopy hanger for lighting fixtures including means for supporting the canopy and the lighting fixture carried thereby at a distance from the ceiling to facilitate wiring, the canopy including means for securing it to a ceiling supported strap upon completion of the wiring.

3,506,233
SUSPENSION TYPE ISOLATION MOUNT

Wilbur D. Holben, Worthington, and Arthur E. Reams, Columbus, Ohio, assignors to Consolidated Kinetics Corporation, Columbus, Ohio, a corporation of Ohio
Filed Feb. 16, 1968, Ser. No. 706,025
Int. Cl. F16f *1/44, 9/00, 15/04*
U.S. Cl. 248—358 **8 Claims**

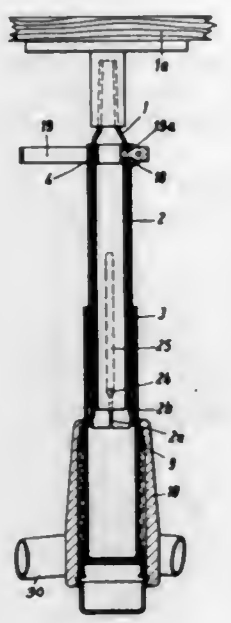


A suspension type isolation mount characterized by an isolator pad provided with a central bore and oppositely extending connectors mounted in guided relationship in the bore of the isolator and including end portions in load transmitting relationship with load plates between which the isolator pad is sandwiched. The apparatus is so arranged to prevent metal-to-metal contact between the connectors.

3,506,234
VERTICALLY ADJUSTABLE COLUMN, PARTICULARLY FOR SWIVEL CHAIRS

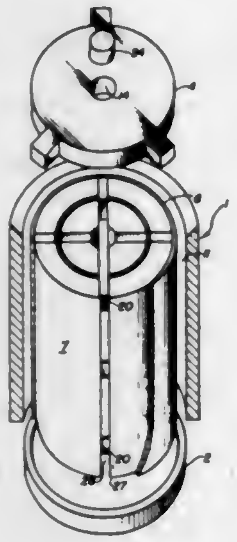
Kurt Röder, Am Schofhof 39, Kronberg/Taunus, Germany, and Albert Zander, Waldstrasse 27, Bergen-Enkheim, Germany
Filed Jan. 31, 1967, Ser. No. 612,943
Claims priority, application Germany, Feb. 8, 1966, 1,296,760
Int. Cl. A47c *3/40;* **F16m** *11/28*
U.S. Cl. 248—412 **5 Claims**

In the column of a chair, a tubular mounting member, bearing the weight of seat and occupant, is provided with a conically tapered end. The faces of this tapered end ride downwards against inwardly protruding indentations on a tubular slide member. The walls of the slide member are longitudinally slotted at the indentations, thereby making the walls outwardly deflectable under the action of the tapered end of the mounting member. The walls of the slide member lock frictionally against the inner walls of a supporting member. Thus, the weight of seat and occupant is borne. A lever is provided to unwedge the tapered end from the indentations, should adjustment of the seat height be required.



3,506,235
FUEL CASTING APPARATUS WITH COLLAPSIBLE CORE

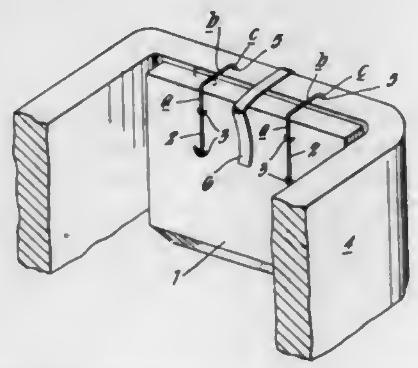
Norman H. Katz, Northridge, and Roger N. Beam, Chatsworth, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 12, 1967, Ser. No. 667,638
Int. Cl. B29c *11/00*
U.S. Cl. 249—82 **3 Claims**



Apparatus disclosure and method for casting annular uranium carbide and other nuclear fuel elements. The mold includes a solid graphite rod within an annular graphite core. The core is designed to collapse upon cooling of the molded fuel, while the graphite rod serves as a heat sink for the mold to prevent premature destruction of the core. The core and rod in one embodiment are separated by an air gap clearance sufficient to permit the molded fuel to contract when cooling without destroying the hollow core. In another embodiment, the solid rod is sectioned and includes graphite spacer rings for permitting expansion and contraction of the rod sections to thereby provide intimate thermal contact between core and rod when the fuel is molten, while permitting contraction of the rod segments as the fuel cools.

3,506,236
LINING SLABS FOR HOT TOPS, INGOT MOULDS AND THE LIKE FOR METAL CASTING

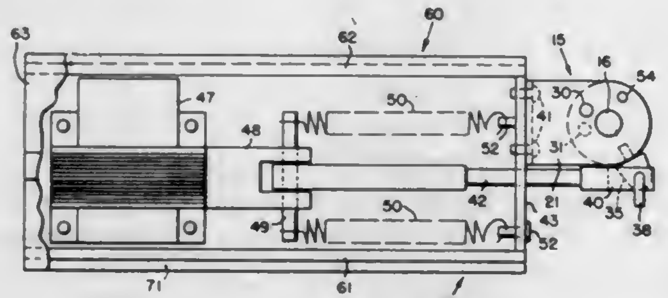
Joseph L. Brawner, 6010 W. Benalex Drive, Toledo, Ohio 43612, and Paul G. Rausch, 8405 Wainstead Drive, Cleveland, Ohio 44129
Filed Jan. 4, 1967, Ser. No. 607,305
Claims priority, application Great Britain, Jan. 4, 1966, 325/66
Int. Cl. B22d *7/10*
U.S. Cl. 249—202 **6 Claims**



Lining slabs for hot tops on ingot moulds generally require fixing rods, braces and the like to secure them in place. A simple rod which is affixed to the slab during manufacture provides a simple and effective anchoring means for the slab. The rod may be so shaped that no substantial protrusions are present while the slab is transported or stored. Efficient transport, storage and use of such slabs is thus attained.

3,506,237
PLASTIC ROTARY VALVE

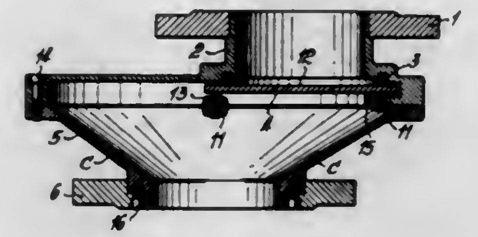
Andrew M. Tometsko, Rochester, N.Y., assignor to Chemtrox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 12, 1968, Ser. No. 751,897
Int. Cl. F16k *11/06, 31/02*
U.S. Cl. 251—138 **4 Claims**



A valve mechanism, particularly useful for dispensing chemicals, is disclosed comprising three "Teflon" discs mounted one above another in contiguous relation. The center disc is rotatable relative to the topmost and lowermost discs to align a hole in this center disc with holes in the other two discs to permit dispensing a fluid or powder through the valve. Rotation of the center disc to open or close the valve can be effected by energizing and deenergizing a solenoid operating against a spring. To nest a plurality of units together, the solenoid housings, which carry the valves may be provided with interfitting tongues and grooves.

3,506,238
FLOW CONTROL FOR FLOWABLE MEDIUMS

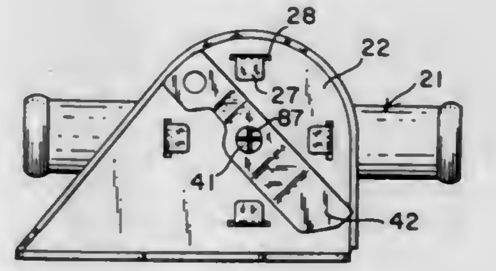
Josef Bertels, Elsdorfer Str. 10, Glesendorf, Germany
Filed Apr. 1, 1968, Ser. No. 717,511
Int. Cl. F16k *3/10*
U.S. Cl. 251—193 **10 Claims**



A flow control for any flowable medium having a plurality of screws for adjusting the pressure between the closure plate and the sealing ring.

3,506,239
VALVE WITH SECTIONAL BODY STRUCTURE AND SEALING MEANS THEREFOR

Jesse R. Johnson, Gowanda, N.Y., assignor, by mesne assignments, to AVM Corporation, Jamestown, N.Y., a corporation of New York
Filed Apr. 24, 1968, Ser. No. 723,864
Int. Cl. F16k *5/04, 5/18*
U.S. Cl. 251—310 **15 Claims**

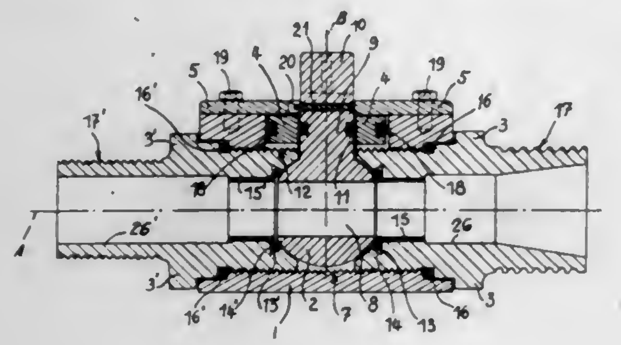


A valve assembly comprises a hollow body having a bottom fluid inlet opening and at least one side outlet opening and contains a hollow plug rotatable between positions where it blocks or permits fluid passage between said openings. A saddle is provided at the outlet opening for mounting an outlet tube in predetermined location, and comprises an integral annular member having radially spaced inner and outer annular arms joined at their outer ends by a bridge, with the radially outer arm being secured to the body around the outlet opening and there being secured to the body around the outlet opening and there being an axially outwardly facing internal shoulder on the inner arm against which abuts the inner end of the outlet tube. A resilient seal annulus is mounted on a frusto-conical inner end section of the inner arm of the saddle and disposed to engage and resiliently conform to the plug surface.

3,506,240
STOPCOCK WITH SPHERICAL VALVE MEMBER

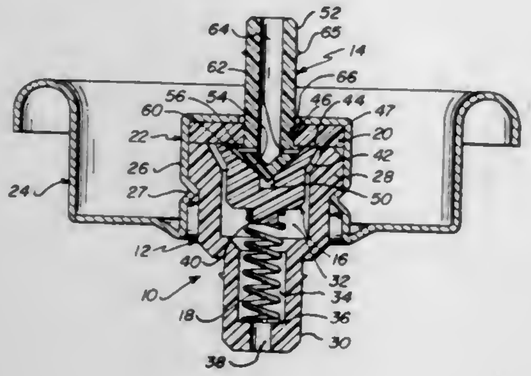
Louis Modrin, St. Etienne, Loire, France
Filed Oct. 22, 1965, Ser. No. 500,557
Claims priority, application France, Nov. 12, 1964, 9,057
Int. Cl. F16k *5/06, 15/04*
U.S. Cl. 251—315 **6 Claims**

Stopcock with a prismatic housing having a throughgoing bore into which two coupling sleeves are threaded from opposite ends, the housing also having a side opening which communicates with the bore and is large enough to admit a spherical valve member rotatable about a transverse axis in fluidtight contact with the confronting sleeve ends; a stem rigid with the valve member projects laterally outwardly through a packing disk held in the side opening by a cover plate removably fastened to the housing across that opening.



3,506,241
TILT VALVE

Ronald F. Ewald, Rolling Meadows, Ill., assignor to Seaquist Valve Company, Division of Pittsburgh Railways, Cary, Ill., a corporation of Pennsylvania
Filed July 6, 1967, Ser. No. 651,622
Int. Cl. F16k *31/524*
U.S. Cl. 251—354 **7 Claims**

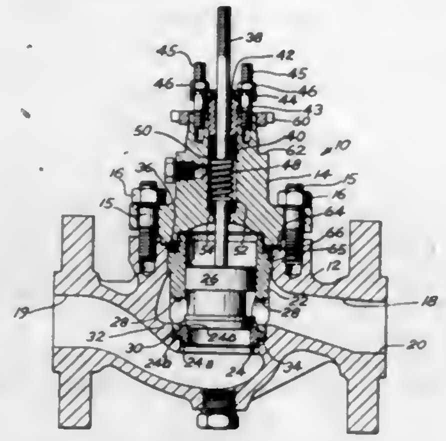


An aerosol valve of the tilt action type, having a valve body, a valve stem, a valve stem sealer, a sealing gasket and valve stem biasing means. The valve stem sealer is reciprocally disposed within the cavity of the valve body and has a valve stem cavity in its top wall which is adapted to receive a specially shaped plug on the inner end of the completely separate valve stem. The peripheral rim of the valve stem sealer is forcibly urged against the sealing gasket, by the valve stem biasing means, to form a seal. The valve stem is operated by tilting and/or depressing it to break this seal to permit the product to be dispensed.

3,506,242
VALVE WITH COMPRESSIBLE SEAL MEANS

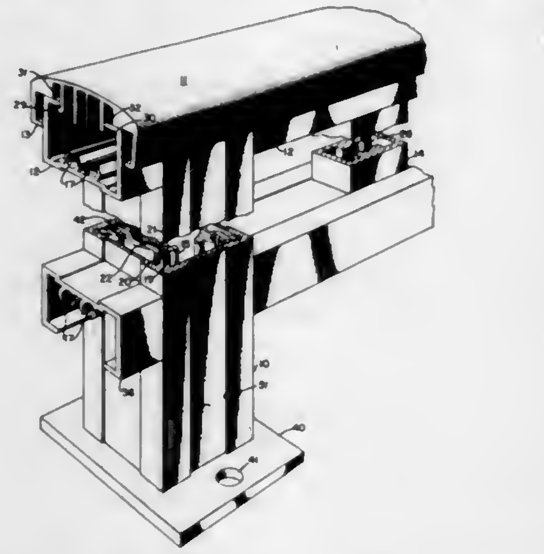
Dale E. Aunspach, Marshalltown, Iowa, assignor to Fisher Governor Company
Filed Sept. 11, 1967, Ser. No. 666,604
Int. Cl. F16k *51/00*
U.S. Cl. 251—361 **1 Claim**

A valve having a valve housing comprised of a valve body and a bonnet, a valve cage in said valve housing engaging a seat ring and compressible seal means remote from the seat ring and between the bonnet and the valve cage. The seal means are comprised of a bonnet gasket, a flat gasket, and a spirally-wound cage gasket, which is made from a relatively rigid strip and a relatively soft compessible filler strip, disposed between the bonnet gasket and flat gasket. The bonnet gasket and flat gasket are made from material having some cold flow to permit extrusion of the material of the bonnet gasket and flat gasket to further compress the filler strip of the cage gasket.



3,506,243
PREFABRICATED RAILING

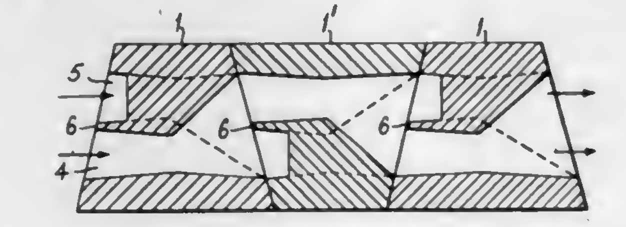
Lawrence Seiler, Cincinnati, Ohio, assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 26, 1968, Ser. No. 779,147
Int. Cl. E04h *17/14*
U.S. Cl. 256—59 **4 Claims**



A railing fabricated from extruded metal sections having a post formed with two identical halves which are cammed together at either a horizontal or a right angle and channels connecting said posts with pickets or panels connecting said channels and said posts.

3,506,244
MIXING APPARATUS

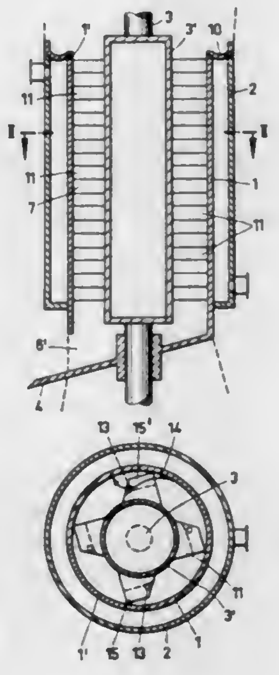
Alastair Strang, Kenilworth, England, assignor to Courtaulds Limited, London, England, a British company
Filed June 26, 1968, Ser. No. 740,216
Claims priority, application Great Britain, June 29, 1967, 30,075/67
Int. Cl. B01f *5/00*
U.S. Cl. 259—4 **7 Claims**



Apparatus for mixing liquids which comprises a plurality of elements arranged end to end, each of which elements has an equal even number of channels passing therethrough, the flow path of the liquid through each of which channels in one element being such that the liquid flow is divided between each of the channels in the next following element, whereby the liquid in the separate channels is mixed, and in each of which elements the faces which cooperate with those of the next preceding and next following elements are oblique to the general direction of liquid flow. Preferably the elements have 2^n channels where *n* is an integer greater than or equal to unity.

3,506,245
MIXING APPARATUS

Rüdiger Noschinski, Frankfurt am Main, and Hans Joachim Tückmantel, Massenheim, Germany, assignors to Maschinenfabrik J. S. Petzholdt, Frankfurt am Main, Germany
Filed Mar. 29, 1968, Ser. No. 717,160
Claims priority, application Germany, Mar. 31, 1967, P 41,765
Int. Cl. B01f *7/20*
U.S. Cl. 259—8 **7 Claims**



A fluid, pasty mass is continuously mixed and homogenized as it descends vertically along a cylindrical wall by successively skimming the mass off the wall, spraying the skimmed mass by centrifugal force back against the wall, and repeating this in many superposed stages.

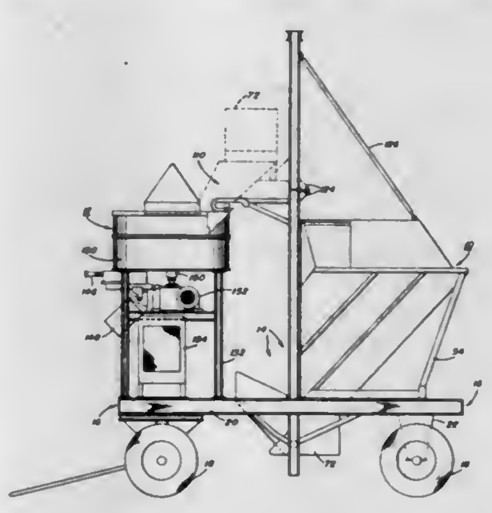
ERRATUM

For Class 259—46 see:
Patent No. 3,506,019

3,506,246
CONCRETE MIXING PLANT

Hans Mordhorst, Cloverdale, British Columbia, Canada, assignor to West Coast Concrete Supply Ltd., New Westminster, British Columbia, Canada
Filed Apr. 25, 1968, Ser. No. 724,152
Claims priority, application Canada, Jan. 15, 1968, 9,856
Int. Cl. B28c *7/04*
U.S. Cl. 259—167 **15 Claims**

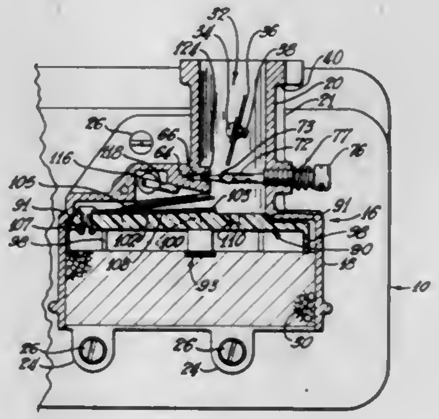
A portable concrete mixing plant including a chassis having a multi-compartment storage bin mounted thereon, the latter being provided with gates whereby aggregates may be selectively released from the bin compartments. A mixing means is mounted on the forward end of the chassis and a skip is provided which travels between a lower position whereat it receives material discharged through said gates to an upper unloading position whereat it discharges its load of aggregates into the mixing means.



The bin, which in its operative position, is substantially wider than the remainder of the mixing plant, is arranged such that it may be rotated 90° about a vertical axis thereby to cause its longest dimension to lie parallel with the longitudinal axis of the chassis of the mixing plant and reducing the overall width of the mixing plant for highway travel.

3,506,247
CHARGE FORMING DEVICE

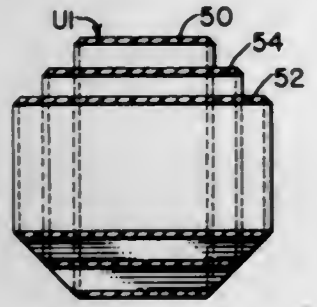
John R. Hanson, Erie, Mich., and Bernard C. Phillips, Toledo, Ohio, assignors to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Continuation of application Ser. No. 399,036, Sept. 24, 1964. This application Mar. 15, 1967, Ser. No. 623,474
Int. Cl. F02m *1/02*
U.S. Cl. 261—56 **6 Claims**



A self-lift carburetor having a flexible reed type air valve at the air inlet region of the mixing passage for controlling admission of air to the passage and an air bypass independent of the reed valve for supplying a restricted amount of air for engine idling purposes. The carburetor includes a body having a mixing passage with the body disposed above a fuel tank. A throttle valve is mounted in the mixing passage down stream of an air inlet. A fuel passage including a manually operable valve is provided in the body. A fitting is disposed in an opening in the upper wall of the fuel tank and a tubular member depends from the fitting into the fuel tank and terminates adjacent the bottom of the fuel tank. A check valve is disposed between the fuel passage and the tubular member. A valve plate is disposed between the air inlet and the mixing passage and is secured to the body. The plate has a pair of elongated ports therein for admitting air from the inlet to the mixing passage. A member having a pair of flexible reed valve portions cooperates with the ports. The plate has a concave surface for engagement with the reed valve portions. A bypass opening is provided in the plate for admitting a restricted amount of air into the mixing passage independently of the relative position of the reed valve portions.

3,506,248
TOWER PACKING UNIT

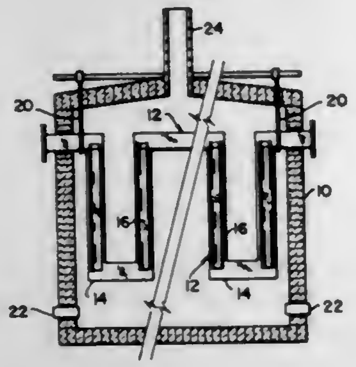
Herman S. Starbuck, Cincinnati, Ohio, and Neal Brooks, Florence, Ky., assignors, by mesne assignments, to United Air Specialists, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 707,204
Int. Cl. B01d *47/14*
U.S. Cl. 261—94 5 Claims



Tower packing units of polyvinylchloride having interconnected, concentric tubular walls are produced by cutting off successive sections from a long tubular extrusion which presents extensive gas-liquid contact surfaces and effective internal reinforcing structure, with a highly desirable reduction in weight of the units.

3,506,249
STRUCTURE AND METHOD FOR HEATING CORROSIVE FLUIDS

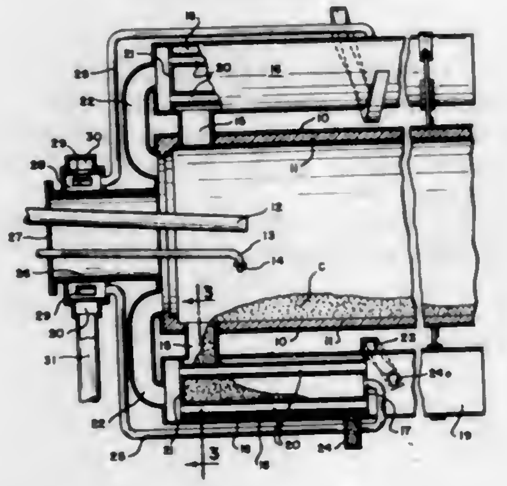
Hal B. H. Cooper, Pasadena, Calif., assignor to The New Jersey Zinc Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 584,488, Oct. 5, 1966. This application Mar. 3, 1969, Ser. No. 822,092
Int. Cl. F23l *15/04*
U.S. Cl. 263—20 2 Claims



In the art of heating a moving stream of a corrosive fluid, it has been found that improved radiation heating effectiveness can be obtained by confining the flow of the fluid steam exposed to such radiation in a fused quartz tube which is substantially transparent to the radiation and by positioning within this tube, in physical contact with the fluid therewithin, an inner axially-extending member formed of a radiation-absorbing material which is also resistant to corrosion by the fluid being heated.

3.506,250
ROTARY KILN AND METHOD FOR MANUFACTURE OF WHITE CEMENT

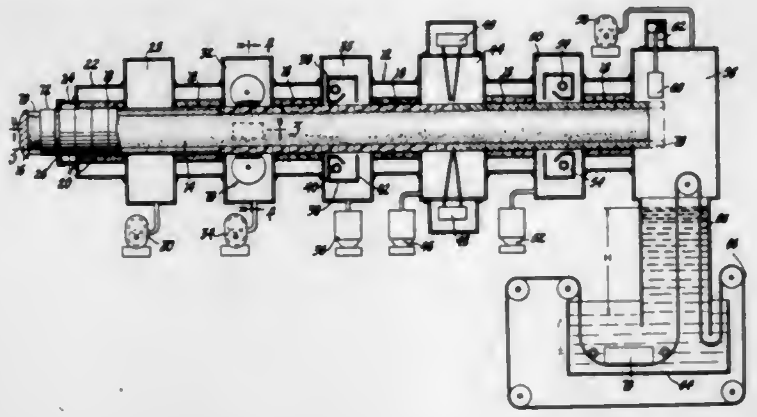
Axel Brix Andersen, Larchmont, N.Y., assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 638,232, May 15, 1967. This application Sept. 23, 1968, Ser. No. 761,664.
Int. Cl. F27b *7/00;* **C04b** *7/50*
U.S. Cl. 263—32 7 Claims



In the manufacture of white cement, clinker material is treated with a reducing agent in a rotary kiln and thereafter is fed into an indirect cooling zone for indirect heat exchange relationship with cooling air to reduce the temperature of the material to below that at which it will oxidize in contact with the cooling air, and then into the direct cooling zone for direct contact with the cooling air; the cooling air is heated in the cooling process and is used as preheated combustion air in the kiln.

3,506,251
APPARATUS FOR THE INTEGRATED WELDING AND HEAT TREATING OF HARDENABLE PARTS

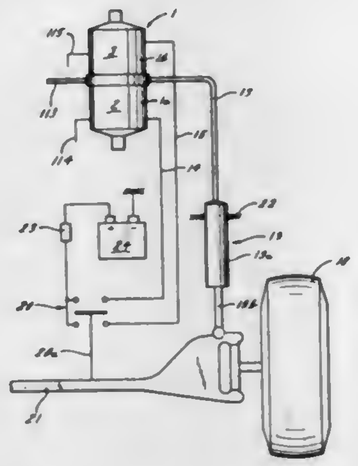
Peter M. Sampatacos, Port Clinton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Sept. 19, 1966, Ser. No. 580,284. Divided and this application June 16, 1969, Ser. No. 833,656
Int. Cl. C21d *1/62, 9/40;* **B23k** *15/00*
U.S. Cl. 266—4 4 Claims



Apparatus is disclosed for welding and for heat treating hardenable metal workpieces which are at least partially annular or ring-like in configuration, such as bearing rings. In a preferred form the apparatus is formed of a cylindrical mandrel, a concentric annular sleeve disposed about the mandrel to define an annular working chamber having a workpiece inlet end and a workpiece outlet end, and a quenching chamber extending downwardly from the working chamber a barometric height into a sump containing a quenching liquid. Suitable means for heating and/or welding the workpieces and for evacuating the working and quenching chambers are provided.

3,506,252
PNEUMATIC SUSPENSION FOR AUTOMOTIVE VEHICLES

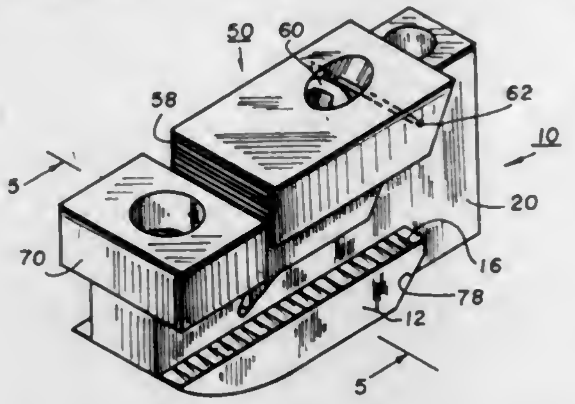
Ernst Wüstenhagen, Gmunder Strasse 124, Durlangen, near Schwabisch Gmund, Germany
Filed June 3, 1968, Ser. No. 733,897
Claims priority, application Germany, June 3, 1967, H 62,918
Int. Cl. B60g *11/26*
U.S. Cl. 267—65 10 Claims



The pressure vessel of a pneumatic suspension arrangement for automotive vehicles comprises two receptacles which define chambers for supplies of highly and less compressed gas and are connected to each other by an anchor which accommodates the piston of a compressor serving to deliver gas from the lower-pressure chamber to the higher-pressure chamber when the gas pressure in the latter chamber drops below a fixed minimum value. Each shock absorber is connected with the pressure vessel by a single conduit and the flow of gases between the chambers and the conduits is regulated by valves which are installed directly in the chambers of the pressure vessel and receive impulses from detectors which respond to changes in the condition of shock absorbers.

3,506,253
T-SLOT JAW-CLAMP WORK HOLDER

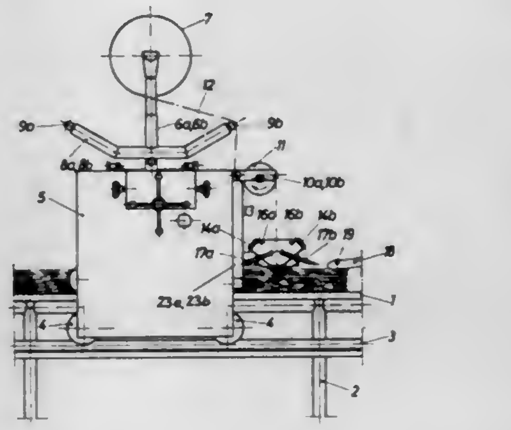
Henry F. Swenson, 22 Homehill Lane, Roseland, N.J. 07068
Filed May 9, 1968, Ser. No. 727,829
Int. Cl. B23q *3/02, 3/06*
U.S. Cl. 269—137 12 Claims



A T-slot jaw-clamp work holder in which a movable jaw or hold-down clamp member is supported by inclined front and rear ramp surfaces which are disposed to slidably engage and retain formed cam surfaces on the jaw as it is moved on and between the cam surfaces. The holder body has integrally formed shoulder members with upwardly extending tooth portions formed thereon, the tooth portions disposed so as to engage the under-surface of a T-slot of a worktable as the clamp is locked in position in the slot by means of jack screws provided in the front and rear portions of the work holder body.

3,506,254
FABRIC LAYING MACHINE WITH SELECTIVE ENGAGEMENT OF CUTTING MEANS OR SPREADING MEANS

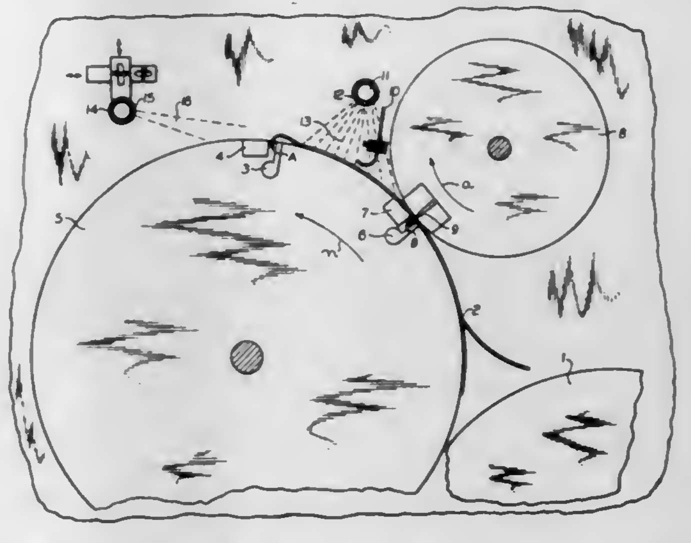
Gunter O. Stumpf, Kreis Munsingen, Germany, assignor to Bullmerwerk Karl Bullmer, Mehrstetten, Kreis Munsingen, Germany
Filed May 7, 1968, Ser. No. 727,173
Claims priority, application Germany, Nov. 29, 1967, B 73,649
Int. Cl. B65h *29/46*
U.S. Cl. 270—31 11 Claims



A fabric spreading machine in which a reciprocally movable carriage supporting a fabric roll and a feed device therefor is adapted for receiving a spreader head or a cutting device which respectively spread fabric on a table in continuous zig-zag layers or in individual stacked layers each extending in the direction of the nap. The cutting device or spreader head are replaceable on the carriage by slidable interlocking and detachment without the use of fasteners.

3,506,255
APPARATUS FOR THE MANUFACTURE OF A SECOND CROSS-FOLD ON FOLDING DEVICES OF ROTARY PRINTING MACHINES

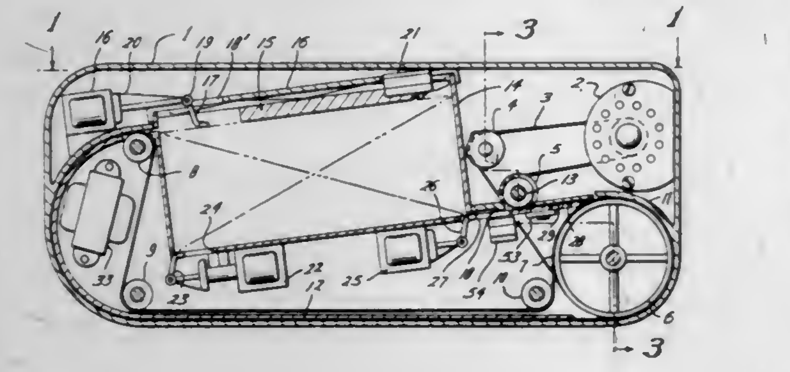
Arthur Jahn and Horst Theer, Bohlitz-Ehrenberg, Germany, assignors to VEB Druckmaschinenwerke Leipzig, Leipzig, Germany, a corporation of Germany
Filed June 7, 1967, Ser. No. 644,366
Int. Cl. B65h *45/16*
U.S. Cl. 270—72 2 Claims



An apparatus for producing a second cross-fold of a web in folding devices of roller-rotation printing machines, in which two-fold-knife-cylinders are coordinated to one fold-flap-cylinder, wherein a product, which has a first cross-fold, is pressed down closely on the fold-flap cylinder by means of wide straying blow-air rays. Then a second cross-fold is formed on the product and the first cross-fold is shortly thereafter released and the front edge of the product is turned by means of a wide air stream.

3,506,256
DATA CARD READER TRANSPORT

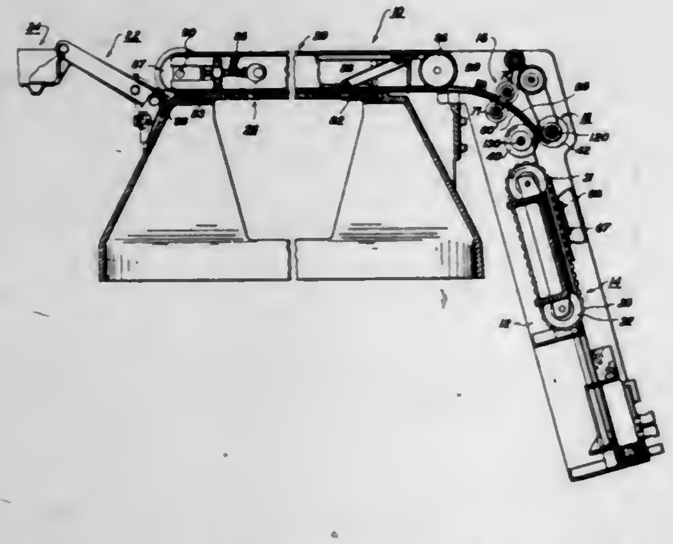
William D. Fairris and Walter S. Richardson, Houston, Tex., assignors to Tronics Research & Development Company
Filed Oct. 2, 1967, Ser. No. 672,257
Int. Cl. B65h *5/22*
U.S. Cl. 271—3 **5 Claims**



A device for moving data cards over a reader head so as to compare each card of a plurality of cards with the indicia of the card being checked, with means for indicating by signal if the card being checked has the identical coded indicia of a card so stored.

3,506,257
DOCUMENT FEEDING APPARATUS

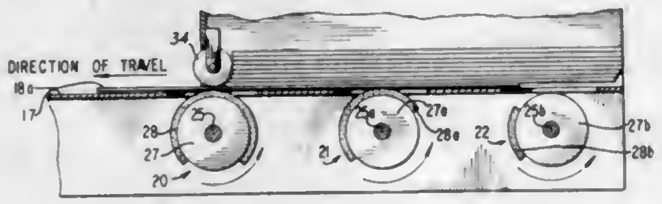
George E. Fackler, Walworth, and Richard C. Schenk, West Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Jan. 17, 1968, Ser. No. 698,559
Int. Cl. B65h *3/04, 5/02*
U.S. Cl. 271—10 **3 Claims**



A document feeding apparatus having downwardly sloping document storing means to promote document separation with document feeding means adapted to frictionally engage the bottommost document in the document storing means, and means downstream of the document feeding means adapted to limit feed to a single document at a time.

3,506,258
DOCUMENT FEEDING MECHANISM

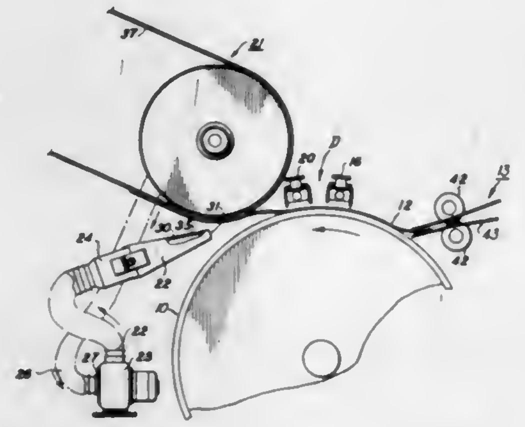
Everet F. Lindquist, Iowa City, Iowa, assignor to Measurement Research Center, Inc., Iowa City, Iowa, a not-for-profit corporation of Iowa
Filed Oct. 6, 1967, Ser. No. 673,455
Int. Cl. B65h *1/06*
U.S. Cl. 271—41 **16 Claims**



A method of and an apparatus for feeding successive documents edgewise along a support surface from the end of a stack of documents supported on the surface by a frictional feeding element extending through the support surface and engaging the document being fed. The extent of contact between the feeding element and the stack of documents is decreased as the end document moves from the stack to thereby reduce the force applied by the friction feeding element.

3,506,259
ELECTROSTATIC SHEET DETACKING APPARATUS

John P. Caldwell, Penfield, and Thomas F. Fisher, Fairport, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 12, 1967, Ser. No. 674,907
Int. Cl. B65h *5/06*
U.S. Cl. 271—51 **9 Claims**

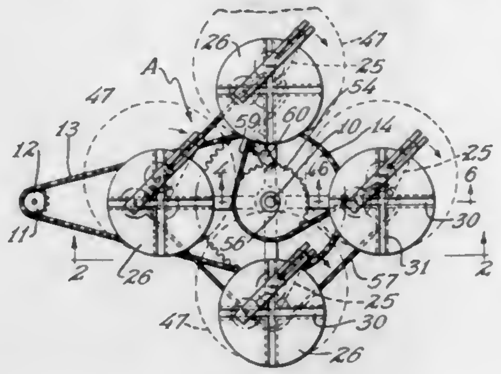


Apparatus for removing and insulating copy sheets from a moving surface to which the sheet is electrostatically tacked. The back side of the sheet is subjected to an A.C. corona discharge of sufficient strength to cause the leading edge of the sheet to be repelled from the surface. The fluid transport is established beneath the repelled portion of the sheet which directs the sheet away from the surface.

3,506,260
PLURAL AXES CARNIVAL RIDE

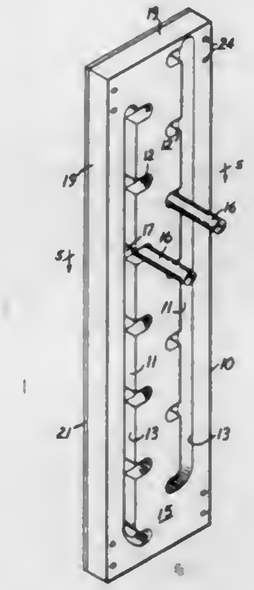
John L. Johnson, 573 St. Clair Ave., St. Paul, Minn. 55102
Filed June 17, 1968, Ser. No. 737,665
Int. Cl. A63g *1/26;* **G09b** *23/00*
U.S. Cl. 272—37 **9 Claims**

The carnival ride includes a supporting base which supports a rotatable support about a vertical axis. The rotatable support includes a plurality of radially extending discs. Each disc includes a pair of grooves arranged to intersect at right angles. A carriage is slidably supported in each groove. A crank arm beneath each disc rotates about the disc axis. A follower arm is supported upon vertical pivots on said carriages, holding the carriages spaced. The crank arm is pivotally and slidably connected to the follower arm beyond the periphery of the disc. Means are provided to rotate the arms about the base and to rotate the crank arm about the axis of the disc, reciprocating the carriages in their grooves. Passenger supports are provided on the vertical points.



3,506,261
PEGBOARD

Jack E. Gregory, Spokane, Wash., assignor to J. E. Gregory Co., Inc., a corporation of Washington
Filed Oct. 10, 1967, Ser. No. 674,181
Int. Cl. A63b *9/00*
U.S. Cl. 272—60 **17 Claims**

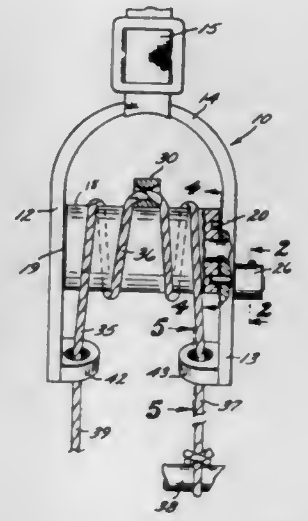


A pegboard for physical exercise, comprising an upright panel of rigid material having a pair of elongated upright slots and communicating branch slots within which a pair of pegs can be located along the length of each upright slot. Each peg extends forwardly from the panel and has an enlarged rear end portion held in place against the panel by a continuous back sheet. The board can be climbed by holding the two pegs and alternately moving one peg above the other into the successive branch slots.

3,506,262
APPARATUS FOR ROPE PULLING ISOMETRIC AND ISOTONIC EXERCISES

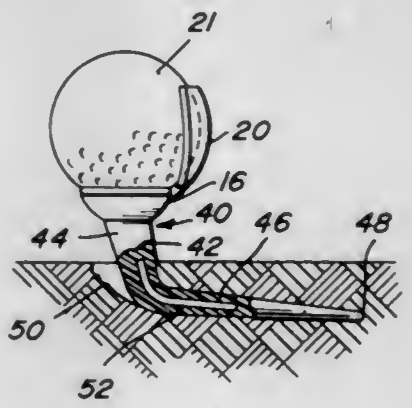
Louis R. Wade, 2724 N. Bristol, Apt. I–4, Santa Ana, Calif. 92706
Filed Aug. 17, 1967, Ser. No. 661,370
Int. Cl. A63b *21/00*
U.S. Cl. 272—79 **8 Claims**

A drum rotatably mounted on a frame, which drum has means near the center of its exterior surface receiving a center portion of a rope and constraining that center portion to cause the rope to be wound around said drum as the drum is rotated relative to the end sections of the rope, and said frame having a pair of guides which lead the ends of the center portion of the rope away from the drum at substantially a right angle to the rotation axis of the drum so that the rope will be wound upon or unwound from the drum depending upon the direction in which the drum is rotated, and a locking mechanism for selectively locking the drum relative to the frame.



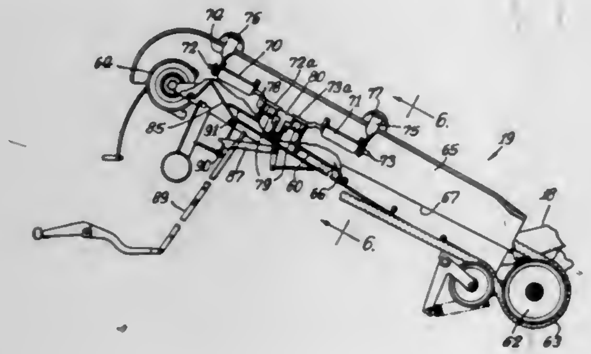
3,506,263
GOLF TEE BALL GUARD AND MODIFIED TEE

George M. Arrington, Ashland, Ky., assignor to The Arridge Company, Ashland, Ky., a corporation of Kentucky
Filed Nov. 30, 1966, Ser. No. 597,922
Int. Cl. A63b *57/00*
U.S. Cl. 273—33 **11 Claims**



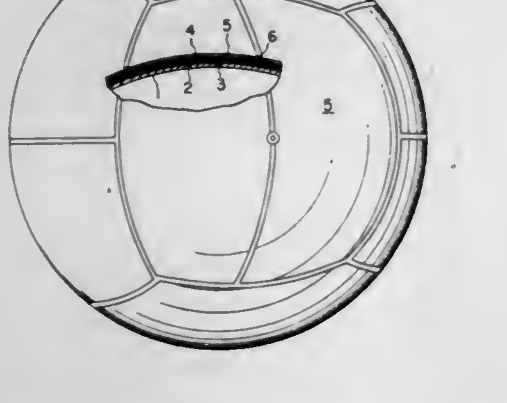
This application discloses a golf tee having a stem with a head portion on the stem and the head portion having a concavity in its upper surface in which a golf ball is adapted to seat and a guard or shield structurally removably associated with the head portion and upstanding therefrom above the concavity and adapted to guard a golf ball seated in the concavity on the golf club head approach portion of the circumference of the ball so that the guard is directly struck by the club head and imparts the impact thereof to the ball to propel the ball off the head portion. The application further discloses an angularly bent stem for easy insertion thereof into hard ground and the provision of metallic reinforcement means for the stem, which metallic means is adapted to cooperate with a magnetic means carried by a nonstriking portion of a golf club head so that the tee can be dislodged and picked up from the ground without the player bending over and manually retrieving the tee.

3,506,264
PIN DETECTION SYSTEM
Michael G. Gautraud and Robert Torresen, Muskegon, and Herbert D. Grosvenor, Whitehall, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Sept. 23, 1968, Ser. No. 761,577
Int. Cl. A63d *5/00, 5/04*
U.S. Cl. 273—43 **16 Claims**



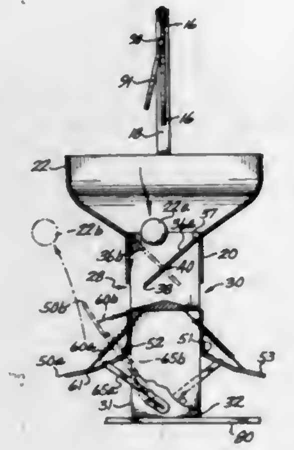
Apparatus for automatically determining pinfall for computing bowling scores for a plurality of players including two pinfall detection systems, one associated with an automatic pinsetter deck and normally operative after each ball to detect pinfall, and the other associated with the pinsetter cross conveyor and operative in event of standing pins outside the range of the deck detection system. The apparatus also includes extension plates disposed at each side of the bowling pin setting deck structure to enlarge the out-of-range detection area of said structure.

3,506,265
MULTIPLE-PLY, INFLATED BALL FOR GAMES
Hiroshi Yugi, Hiroshima-shi, Japan, assignor to Molten Gomu Kogyo Kabushiki Kaisha, Hiroshima-shi, Hiroshima-ken, Japan, a joint-stock company of Japan
Filed Jan. 31, 1968, Ser. No. 701,982
Claims priority, application Japan, Apr. 19, 1967, 42/33,393
Int. Cl. A63b *43/00, 41/10, 45/00*
U.S. Cl. 273—58 **1 Claim**



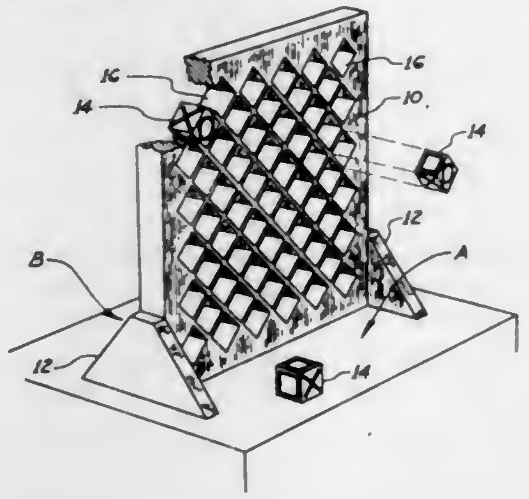
There fabric plies are used between the outer leather cover and bladder of an air-inflated ball, each ply being composed of unit fabric pieces. The innermost and outermost fabric plies are thinly lined over only their outer surfaces with a rubber adhesive, and all unit fabric pieces are bonded to adjacent parts only along their peripheral edges. Therefore, the fabric pieces of the two innermost plies are adhering to each other as an integral sandwich which is free over its inner and outer surfaces except at the edges of the fabric pieces, thereby affording constant bounce and good "feel" of the entire ball structure.

3,506,266
BALL TARGET AND ALTERNATELY OPERATED BALL PROJECTOR
James W. Wintersteen, Box 554, Rossland, British Columbia, Canada
Filed Aug. 18, 1969, Ser. No. 851,034
Int. Cl. A63b *69/40, 65/12*
U.S. Cl. 273—95 **10 Claims**



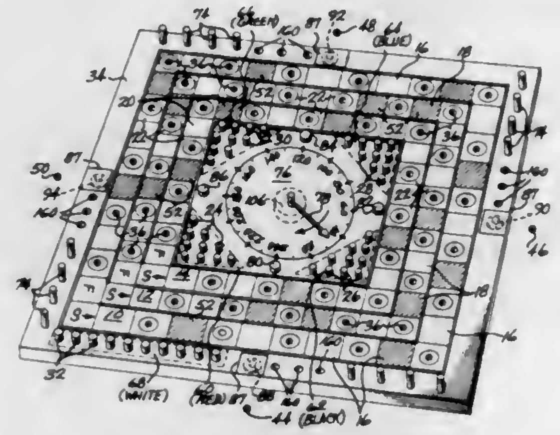
A ball game device having a target supported above a tubular member having an outwardly extending funnel like upper portion to receive a ball directed toward either side of the target. The tubular member receives a ball and passes the ball successively to alternate openings located at the bottom and on opposite sides of the tubular member. When the ball passes from a bottom opening it is then projected outward and upward to be then directed by a player toward the target side opposite to that last played on. The ball may be directed by a paddle toward an aperture in the target larger than the ball diameter thus permitting with skill its passage therethrough for a score.

3,506,267
GAME APPARATUS COMPRISING UPRIGHT BOARD WITH THROUGH OPENINGS FOR CUBICAL PLAYING PIECES
Gordon P. Taillie, 146 Forest Hill Road, Rochester, N.Y. 14622
Filed Mar. 2, 1967, Ser. No. 620,021
Int. Cl. A63f *3/00, 9/04*
U.S. Cl. 273—130 **3 Claims**



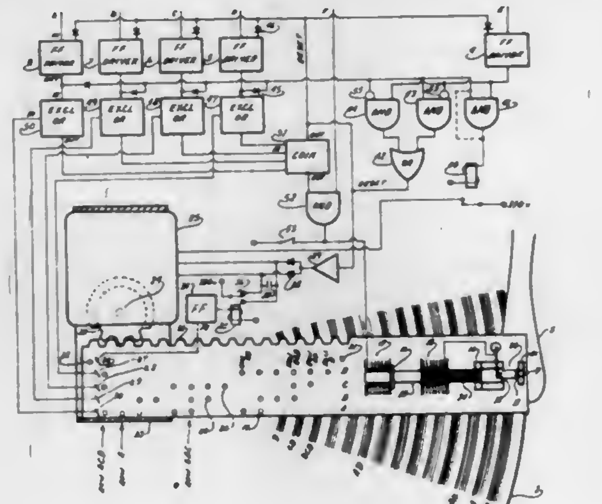
A game apparatus comprising a playing board positioned upright between two playing stations and having a matrix of openings extending through the board between the two playing stations and a series of cube pieces having one of several indicia on each face in a predetermined arrangement which cubes are sized to fit into the openings in the playing board to form patterns of indicia in each playing station which are visible only to that playing station, all cubes bearing the same indicia and each cube having one of three different indicia on each face, opposing faces having different indicia.

3,506,268
BOARD GAME APPARATUS COMPRISING MEANS FOR CONDUCTING PERIODIC AUCTION SALES DURING PLAY
David R. Stadler, 18339 47th Place NE., Seattle, Wash. 98155
Filed Sept. 11, 1967, Ser. No. 666,667
Int. Cl. A63f *3/02*
U.S. Cl. 273—134 **1 Claim**



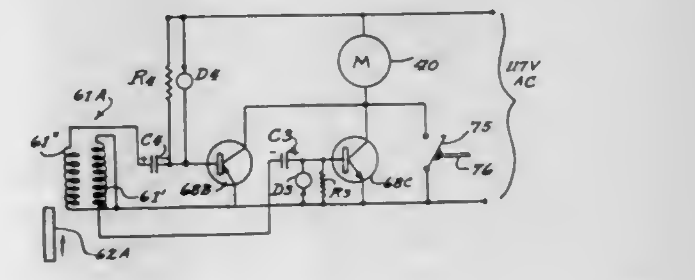
A game board having thereon a plurality of playing paths, each playing path having a variety of playing stations thereon, some of which are subject to proprietary rights of individual players and some of which are bonus or penalty stations. Individual player travel markers are provided to visually indicate the extent of travel determined by chance means operated alternately by the individual players of the game. Individual player proprietary markers are employed to visually indicate the rights of individual players respecting the said proprietary stations. Auction sales of player proprietary markers are held from time to time in accordance with predetermined conditions of play of the game and said auction sales means comprise a dial face having progressively decreasing indicia values thereon, an electrically driven pointer registering with said indicia on said dial face, and an individual electric switch means for each player to stop movement of said pointer and to operate an electric signal lamp.

3,506,269
SOUND TRACK SELECTOR
Jack W. Hannah, 1816 Springmill Road, Mansfield, Ohio 44906
Filed Apr. 11, 1967, Ser. No. 630,067
Int. Cl. G11b *3/78*
U.S. Cl. 274—1 **10 Claims**



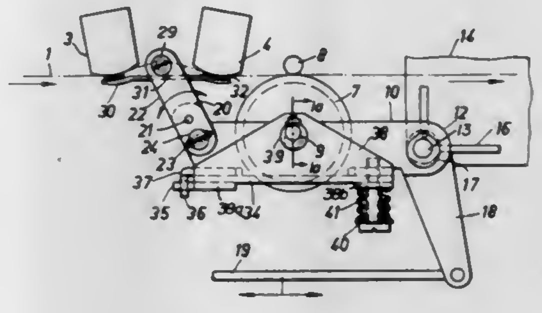
A device for selectively playing a particular passage of a multipassage element in response to an electrical signal comprising a detector to detect signals from the surface of the element, means to convert the signals to sound, means to provide relative movement between the element and detector, input signal means, motor means, a guide bar having a player arm associated therewith and positioned by the motor means, and means to control the player arm in response to the input signal of the input signal means.

3,506,270
ELECTRICAL PHONOGRAPH VELOCITY TRIP MECHANISM
John A. Rankin, St. Joseph, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed May 29, 1967, Ser. No. 641,830
Int. Cl. G11b *17/02, 17/06*
U.S. Cl. 274—1 **1 Claim**



A structure for sensing the end of play of a phonograph record, particularly one which has a spiral leadout groove, and for initiating a tripping function to provide a record changing cycle or shut-off cycle in the phonograph without the necessity of a tripping force being supplied by the tone arm, as is required in the usual mechanical velocity trip devices.

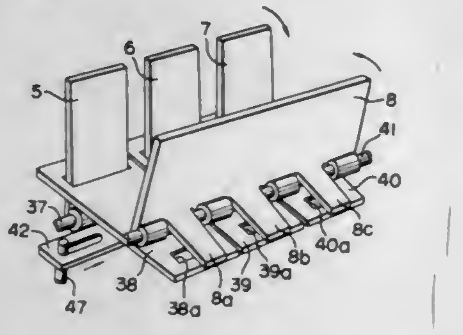
3,506,271
DEVICE FOR GUIDING AND DRIVING LINEAR RECORDING CARRIERS IN APPARATUSES FOR MAGNETIC SIGNAL RECORDING AND REPRODUCING
Karl Heinz Greifenhagen and Dieter Söhnlein, Kronach, Oberfranken, Germany, assignors to Loewe Opta G.m.b.H., Berlin, Germany, a company of Germany
Filed Oct. 22, 1965, Ser. No. 502,678
Claims priority, application Germany, Oct. 31, 1964, L 38,270, Patent 1,910,566
Int. Cl. G11b *5/00*
U.S. Cl. 274—4 **5 Claims**



A U-shaped swivelling lever in a tape recorder is provided in addition to a pressure roller which can be pressed against a tape driving roller, said lever is provided with a carrier arm on each leg; said carrier arms carry between their free ends a tape guide roller and a swivelling pressure lever for pressing the tape against an erase head and a recording/reproducing head.

3,506,272
TAPE RECORDER

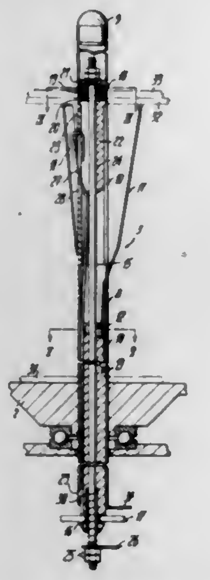
Masato Matsumoto and Yukihide Samejima, Tokyo-to, and Kazunari Watanabe, Kawaguchi-shi, Japan, assignors to Kabushiki Kaisha Tec., Tokyo-to, Japan, a joint-stock company of Japan
Original application Mar. 8, 1965, Ser. No. 437,917, now Patent No. 3,382,931, dated May 14, 1968. Divided and this application Apr. 29, 1968, Ser. No. 724,734
Claims priority, application Japan, Mar. 9, 1964, 39/12,790, 12,791; Mar. 10, 1964 (utility model), 39/18,491
Int. Cl. G11b *5/78*
U.S. Cl. 274—4 **1 Claim**



A switching device for a tape recorder. The device has switching levers respectively for recording, reproducing and rewinding, and corresponding switching bars for recording, reproducing and rewinding engaged by and actuated by said switching levers. A lock lever is engageable with each of said switching bars and locks each of said switching bars in its operational position when engaged therewith. A slide bar is engaged by and caused to slide by the operation of said rewinding switching bar, and obstructing levers are pivoted on said slide bar and obstruct, respectively, the movement of the recording switching bar and reproducing switching bar when the rewinding switching bar is in its operational position.

3,506,273
RECORD-BEARING SPINDLE FOR RECORD-CHANGERS

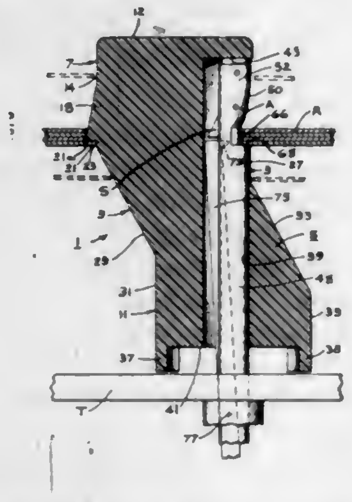
Louis Thevenaz, Les Rasses sur Sainte-Croix, Switzerland, assignor to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a corporation of Switzerland
Filed Mar. 10, 1967, Ser. No. 622,247
Claims priority, application Switzerland, Mar. 15, 1966, 3,731/66
Int. Cl. G11b *17/04*
U.S. Cl. 274—10 **2 Claims**



A record-bearing spindle for an automatic record-changer, has at least three rigid arms for holding a stack of records. The arms project through openings of the spindle, and are retracted into the spindle by a part sliding in the spindle to enable the passage of a record. An elastic device is expandible for holding the next record in the stack and is controlled by a sliding member in the spindle. The upper part of each arm is rectilinear and joined to the lower part through an inclined portion which can slide against the lower edge of a corresponding opening of the spindle to govern the radial displacement of the ends of the arms. A sensing strip projects through a slot in the spindle and yields to the dropping record, so signalling to the record-changer mechanism if a record remains to be played.

3,506,274
PHONOGRAPH SPINDLE ADAPTOR

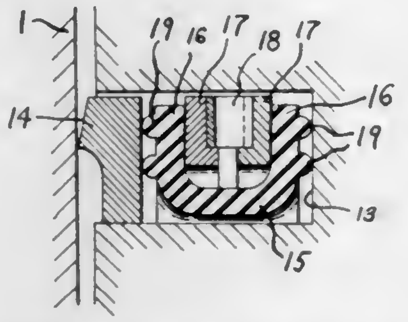
Jack L. Kelly, Decatur, Ill., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 384,953, July 24, 1964. This application Dec. 12, 1967, Ser. No. 701,024
Int. Cl. G11b *17/18*
U.S. Cl. 274—10 **7 Claims**



For use in a phonograph record playing mechanism, a subtantially one-piece molded adaptor which cooperates with a conventional phonograph spindle in such a way that it readily and removably adapts the spindle for operation with 45 r.p.m. records. This adapter also includes an integral structure which helps to preclude the inadvertent concurrent droppage of two or more 45 r.p.m. records onto the turntable.

3,506,275
SEAL CONSTRUCTION FOR ROTARY COMBUSTION ENGINE

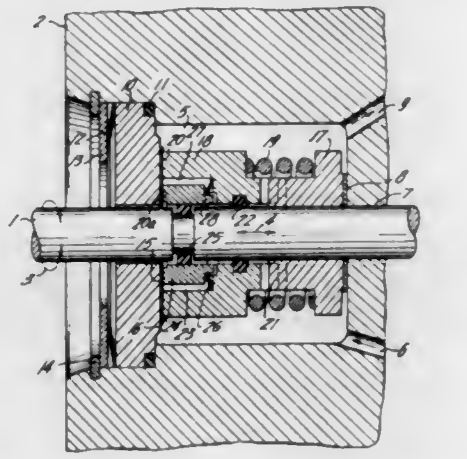
Kazuhiko Moriyama, Hiroshima-ken, Japan, assignor to Toyo Kogyo Company Limited, Hiroshima-ken, Japan
Filed Sept. 25, 1967, Ser. No. 670,327
Claims priority, application Japan, Sept. 26, 1966, 41/63,692
Int. Cl. F02b *53/00;* **F16j** *15/34*
U.S. Cl. 277—81 **4 Claims**



A seal construction for a rotary piston of an internal combustion engine comprising a sealing ring disposed in an annular groove formed on an end face of the piston, an elastic ring having a substantially U-shaped section and disposed behind said sealing ring in the groove and spring means including a special seat disposed between the legs of said U-shaped elastic ring and urging said sealing ring into sealing engagement with the adjacent end wall of the housing through one of the legs of said elastic ring.

3,506,276
ROTARY SEAL, ESPECIALLY FOR OIL PUMPS

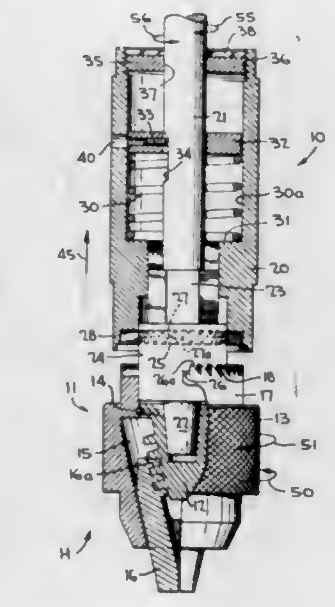
Jorgen Hartvig Petersen, Nordborg, and Leif Viggo Sturlason, Sonderborg, Denmark, assignors to Danfoss A/S, Nordborg, Denmark, a company of Denmark
Filed Feb. 5, 1968, Ser. No. 702,924
Claims priority, application Germany, Feb. 6, 1967, D 52,207
Int. Cl. F16j *15/34, 15/54*
U.S. Cl. 277—91 **11 Claims**



A rotary seal for use on an oil pump having a first seal in a chamber sealing the shaft of the pump against discharge leakage and a second seal defining in conjunction with the first seal an annular space into which leakage from the chamber enters at a reduced pressure and the shaft is sealed from leakage from the annular space exteriorly of the pump. The seals are effected by two coaxial self-aligned seal rings having coplanar radially spaced seal faces or surfaces bearing on a planar surface on a bearing plate. The seal bearing surfaces are all normal to the axis of the shaft and circumferential thereof. Relative rotary motion is imparted to the sealing surfaces. Leakage is returned to the suction side of the pump from the chamber or the annular space.

3,506,277
KEYLESS CHUCK ADAPTER

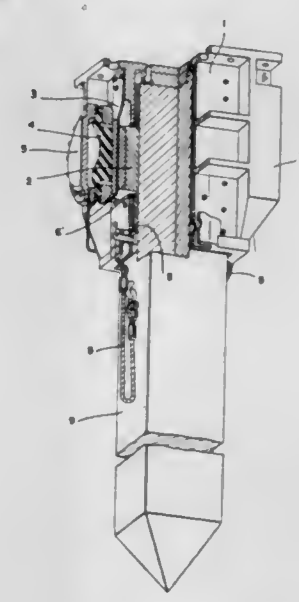
Jack L. Harms, Leesburg, Ind., assignor to Zimmer Manufacturing Company, Warsaw, Ind., a corporation of Indiana
Filed Mar. 3, 1967, Ser. No. 620,530
Int. Cl. B23b *5/22*
U.S. Cl. 279—1 **8 Claims**



A device having an axially shiftable cylinder fixed for rotation with respect to the input shaft of an adjustable chuck and having locking teeth for engaging corresponding teeth on said chuck to provide keyless operation and positive anti-loosening action. The cylinder is spring biased into operative position and the locking teeth include axially extending faces on one side to positively prevent loosening during reverse rotation of the tool and sloping faces on the opposite side to allow rapid tightening by ratchet-like rotative action of the chuck.

3,506,278
PILE CHUCKS FOR VIBRATORY DRIVERS

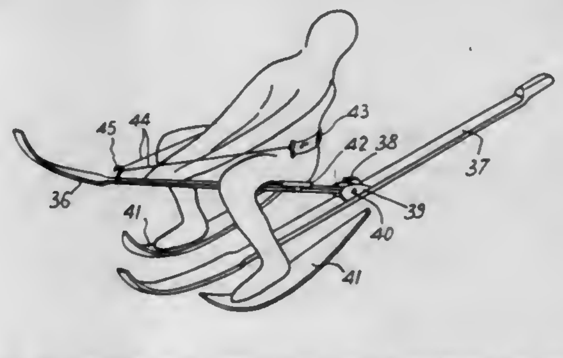
Traian Neculae Găfencu, Bucharest, Rumania, assignor to Ministerul Transporturilor Auto Navale, Si Aeriene, Bucharest, Rumania, a ministry of Rumania
Filed May 24, 1967, Ser. No. 640,943
Claims priority, application Rumania, June 22, 1966, 51,723
Int. Cl. E21b *1/10*
U.S. Cl. 279—4 **3 Claims**



A chuck for a vibratory driver or puller having a downwardly open chamber of prismatic configuration and a clamping element movable on a window in a wall of the chuck for engagement with a pile received therein. The clamping plate is provided with a spring plate lying parallel to this wall and biasing the clamping member into the window against the pressure of a diaphragm of a hydraulic chamber in this wall which is pressurized to drive the clamping member against the pile and hold it against an opposing wall.

3,506,279
EQUIPMENT FOR ACHIEVING RUNS ON ALL TYPES OF SNOW-COVERED GROUND

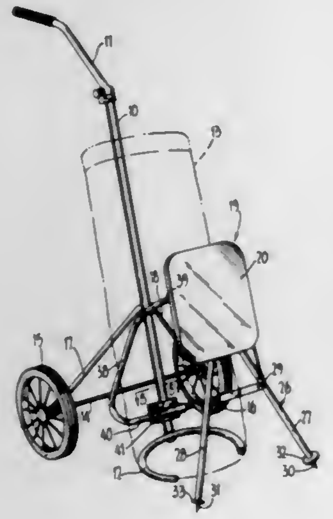
Roger Lambert, 130 Rue Aime Broustant, 33 Gujan-Mestras, France
Filed Feb. 19, 1968, Ser. No. 706,292
Claims priority, application France, Feb. 22, 1967, 96,105; May 12, 1967, 106,404; Jan. 15, 1968, 136,083
Int. Cl. A63c *11/00*
U.S. Cl. 280—11.37 **5 Claims**



A pair of ski poles are provided with means to convert the ski poles to a riding device for use by a person using a pair of specially constructed snow skates. The snow skates each have a short broad flat under surface to which is attached an anti-slip blade having a rearwardly facing saw-tooth profile. Each ski pole has a handle at one end and a snow engaging spatula at the other end with both ski poles having cooperating means for coupling the ski poles together to form the riding device. The cooperating means may take the form of a hook or eyelet on one pole for engaging a stud on the other pole or one of the poles may be provided with an aperture for receiving a portion of the other ski pole.

3,506,280
SEAT FOR A GOLF CART OR THE LIKE

George W. Coupe, 637 Pond Isle,
Alameda, Calif. 94501
Filed July 2, 1968, Ser. No. 741,968
Int. Cl. A63b *55/08*
U.S. Cl. 280—47.19 **14 Claims**

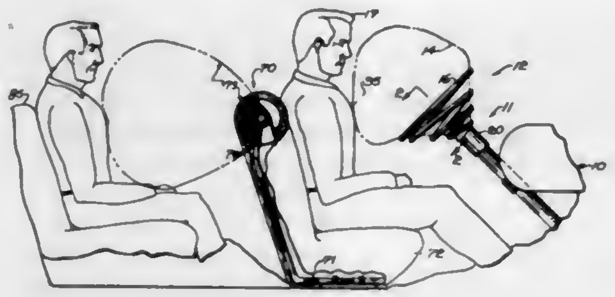


A seat assembly for use with a golf cart or the like. The seat assembly includes a seat-defining platform having leg structure pivotally secured thereto, and it further includes a support arm of generally U-shaped configuration pivotally attached at one end thereof to the platform and at its other end to the frame of a golf cart through a bearing structure mounted thereon. Such pivotal interconnections of the various components enable the seat assembly to be selectively moved between an open or extended position of use and a folded or retracted position in which it lies against and generally in line with a golf bag carried by the cart. The only attachment of the seat assembly to the golf cart is through the U-shaped support arm and bearing structure so that the seat assembly can be completely removed from the golf cart simply by slidably withdrawing the support arm from such bearing support therefor. Since the arm is U-shaped, a golf bag can be mounted upon or removed from the golf cart with the seat assembly attached thereto, and adjustments are provided to enable the seat assembly to be used with different golf carts and to accommodate golf bags of various sizes.

3,506,281
VEHICLE SAFETY APPARATUS

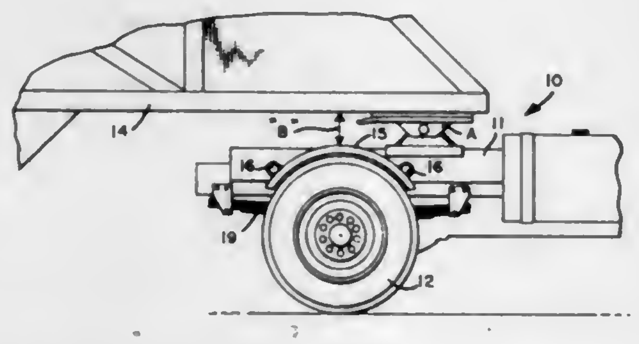
Charles O. Berryman, Madison, Wis., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 6, 1967, Ser. No. 677,470
Int. Cl. B60r *21/00*
U.S. Cl. 280—150 **10 Claims**

A safety apparatus operates to protect an occupant or occupants of a vehicle during a collision. The safety apparatus comprises an inflatable confinement and a reservoir containing a supply of fluid for inflating the confinement in response to a collision condition. The reservoir is of a tubular construction and also comprises a load carrying part of the vehicle, such as the steering wheel or seat support frame.



3,506,282
SPRING MOUNTED FENDER BRACKET

Frank H. Miyanaga, 1726 Mossbrook Ave.,
San Jose, Calif. 95130
Filed Sept. 11, 1968, Ser. No. 758,964
Int. Cl. B62b *9/16*
U.S. Cl. 280—152 **3 Claims**



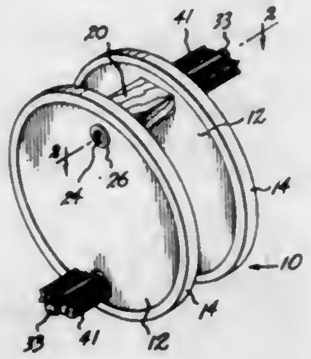
A fender bracket that is mounted on the spring structure of a vehicle so that a fender attached to the bracket can follow the up and down motion of the tires as the vehicle travels over a road or highway. By installing the bracket on the vehicle spring structure, the fenders on a truck tractor, for example, can be mounted so that a minimum of clearance exists between the vehicle tires and the fenders. Such mounting and installation of the fender bracket and fender prevents damage to the fender by eliminating contact between the fender and the underside of a van or flat bed trailer when the van or trailer is in a loaded condition. The fender is attached to the fender bracket in such manner as to allow swinging action of the fender to facilitate removal of the vehicle tires.

3,506,283
PEDAL CONSTRUCTION AND UNICYCLE INCORPORATING SAME

Chun-Yi Tang, 7443 S. 132nd St.,
Seattle, Wash. 98178
Filed Dec. 6. 1967, Ser. No. 694,768
Int. Cl. B62k *1/00*
U.S. Cl. 280—221 **24 Claims**

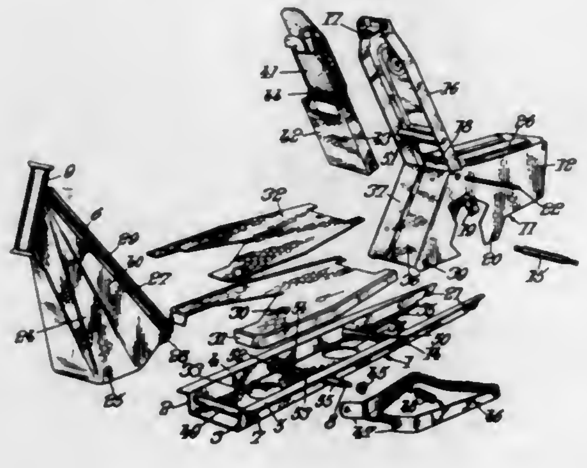
A unicycle having a pair of spaced wheel discs preferably encircled by vinyl or like rims and being spaced from one another and braced by a pair of diametrically opposed blocks of rectangular or circular cross-section. The discs and bracer blocks or circular cross-section. The discs and bracer blocks have aligned ½" diameter bores and tie bolts are positioned in the bores. Each bolt has a

threaded end securely fastened to one of said discs and an outboard end extending laterally outward of a collar engaging the other of said discs. The bolt heads are at remote ends of said bolts and said outboard ends extend outwardly in opposite directions from said discs. The outwardly disposed, spaced bolt head and collar provide the journal limits of a rotatable footrest or pedal, preferably having a cylindrical sleeve in engagement with the bolt. The rotatable footrest is of molded or extruded rubber or plastic, or the like.



3,506,284
MOTOR CYCLE FRAME

Bernard René Mennesson, Neuilly-sur-Seine, France, assignor to Societe d'Appareils de Controle, et d'Equipement des Moteurs S.A.C.E.M., Neuilly-sur-Seine, France, a society of France
Filed May 2, 1968, Ser. No. 726,054
Claims priority, application France, May 11, 1967, 106,105
Int. Cl. B62k *3/02*
U.S. Cl. 280—281 **7 Claims**

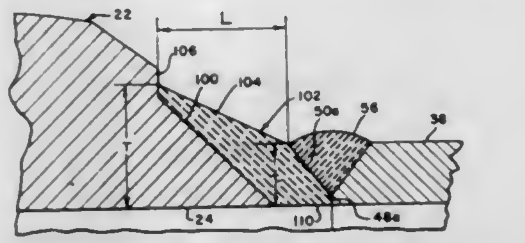


The frame comprises a horizontal girder to which are fastened, at the front, by two parallel transverse rods, a leg formed of sheet metal bent in box-form and supporting a steering sleeve for the front fork, and, at the back, also by two parallel rods, one of which is formed by the axle of the rear wheel, a shell of sheet metal adapted to serve both as a rigid support for the saddle upright and as a mudguard for the rear wheel.

3,506,285
WELD END FITTINGS

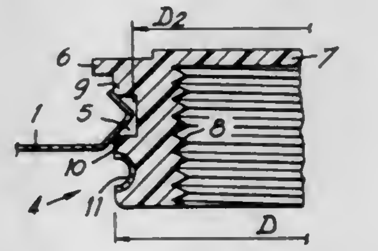
Nicholas F. Coates, Aliquippa, Pa., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 19, 1966, Ser. No. 584,044
Int. Cl. F16l *13/02*
U.S. Cl. 285—173 **21 Claims**

A fitting and method of making same wherein fluid inlet and/or outlet ends of the fitting, which are prepared for butt welding to a conduit or the like, are formed from weld metal and are fused to the cast or forged main body section of the fitting. In one embodiment the weld metal ends peripherally surround the end portions of the cast or forged body section.



3,506,286
PLASTIC COLLAR FOR THE ORIFICE OF A VESSEL

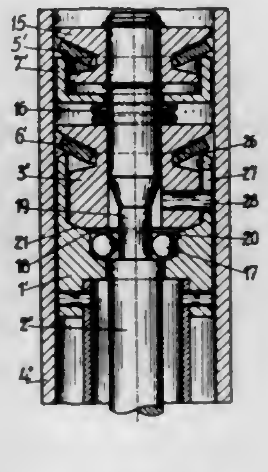
Marcel Defauw, Ghent, Belgium, assignor to Rheem Manufacturing Company, San Francisco, Calif.
Original application Sept. 25, 1964, Ser. No. 399,220. Divided and this application Sept. 11, 1967, Ser. No. 675,731
Claims priority, application Belgium, Sept. 30, 1963, Patent 637,970
Int. Cl. F16l *5/00, 41/00*
U.S. Cl. 285—203 **2 Claims**



A relatively elastic plastic collar for insertion into the orifice of a vessel is formed with peripheral exterior grooves. Material of the vessel is deformed into one of the grooves and an annular reinforcing member into the other groove. A diaphragm integral with the collar is formed across the outer face thereof.

3,506,287
LINEARLY ADJUSTABLE DEVICES

Heinz Lampert, Schuthausstrasse 21,
Buchs, Switzerland
Filed Oct. 16, 1967, Ser. No. 675,631
Claims priority, application Austria, Oct. 20, 1966, A 9,768/66
Int. Cl. E04g *25/04;* **G05g** *5/26*
U.S. Cl. 287—58 **17 Claims**



A linearly adjustable device is fixable by a locking mechanism through friction and comprises a supporting tube slidable in or on a vertical pipe in telescope fashion, there being axially adjustable, concentrically mounted coupling tubes slidable in or on the vertical pipe and being connected to movable locking elements which engage the supporting tube.

3,506,288

BALL JOINTS

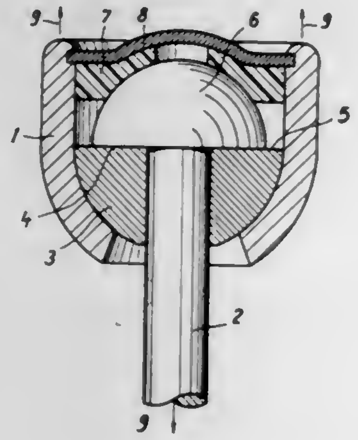
Rudolf Gottschald, Osterath, am Meerbusch, Germany, assignor to A. Ehrenreich & Cie., Dusseldorf-Oberkassel, Germany

Filed Nov. 25, 1966, Ser. No. 596,876

Claims priority, application Germany, Nov. 27, 1965, E 30,545

Int. Cl. F16c *7/00, 11/06*

U.S. Cl. 287—87 **3 Claims**



A ball and socket joint having a universally movable ball member, a portion of said device being made cast iron, spherolite cast iron, aluminum or aluminum bronze, and preferably made by the lost wax process.

3,506,289

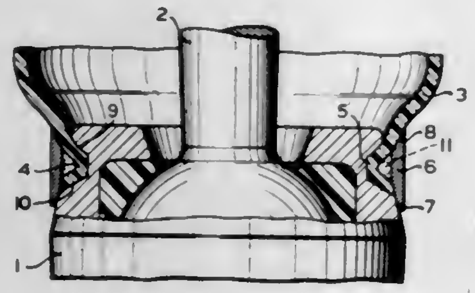
BELLOWS PACKINGS FOR UNIVERSALLY MOVABLE JOINTS, ESPECIALLY FOR BALL JOINTS

Rudolf Gottschald, Osterath, am Meerbusch, Germany, assignor to A. Ehrenreich & Cie., Dusseldorf-Oberkassel, Germany

Filed Dec. 2, 1966, Ser. No. 598,789

Int. Cl. F16c *11/06*

U.S. Cl. 287—87 **1 Claim**



A ball joint having a sealing bellows positioned within a groove in the joint housing, a ring holding the bellows in place, together with an annular strap with inclined edges.

3,506,290

BALL JOINT

Rudolf Gottschald, deceased, late of Osterath, Germany, by Erika Gottschald, heir, Osterath, Germany, assignor to A. Ehrenreich & Cie, a firm of Germany

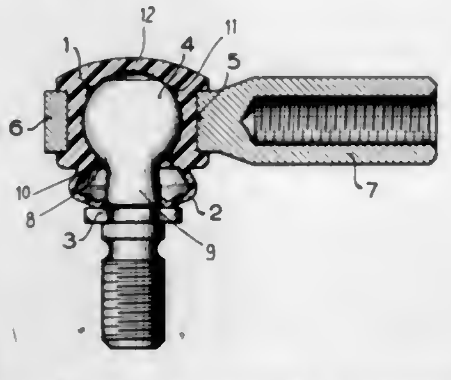
Filed July 22, 1968, Ser. No. 776,291

Claims priority, application Germany, July 21, 1967, E 25,478

(Filed under Rule 47(b) and 35 U.S.C. 118)

Int. Cl. F16c *11/06*

U.S. Cl. 287—87 **4 Claims**



A ball joint of injection moulded polyurethane having a joint case interior which is cylindrical and smaller than the ball head. The case has an integrally formed bellow packing secured to a funnel-shaped opening.

3,506,291

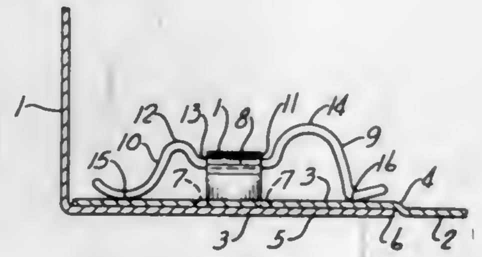
SHEET MATERIAL SEAM LOCK

John J. Mehelich, Page and Fontella Sts., Pittsburgh, Pa. 15233

Filed June 19, 1968, Ser. No. 738,235

Int. Cl. F15b *1/00, 5/00*

U.S. Cl. 287—189.36 **1 Claim**



A sheet material seam lock for connection of overlying marginal edges of adjacent panels wherein an opening is provided in one of the panels and a loop element, which is secured to the other of the panels, projects through the opening and extends therebeyond. A spring retaining clip passes through the extended portion of the loop and rests on the panel which is provided with the opening such that it urges the loop under spring tension in the direction of extension to retain the panels in connected engagement. Where the spring clip engages the underside of the loop element, a recess is provided to prevent accidental lateral dislodgement of the clip.

3,506,292

REFRIGERATOR DOOR LATCH

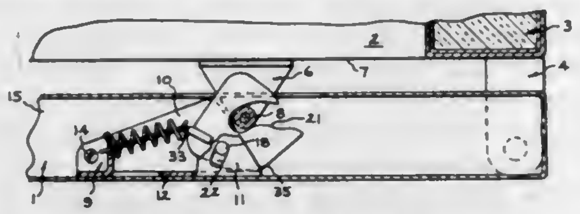
Willem J. Hagendoorn, Louisville, and Howard D. F. True, Jr., Fern Creek, Ky., assignors to General Electric Company, a corporation of New York

Filed June 17, 1968, Ser. No. 737,410

Int. Cl. E05c *19/02*

U.S. Cl. 292—78 **3 Claims**

An over-center latch mechanism for a refrigerator door includes a support and latch bolt pivotally mounted on the support in slots on the support which permit a longitudinal movement of the bolt relative to the support such that during closing of the door, the bolt can engage a cooperating keeper even though the latch has been tripped to its latching position while the door was open.



3,506,293

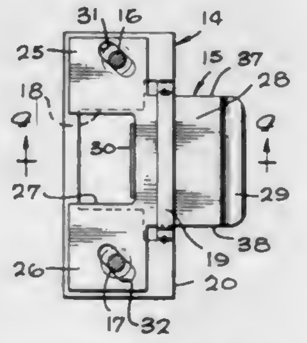
ADJUSTABLE STRIKE

Fred J. Russell, South Gate, Richard L. Armstrong, Santa Fe Springs, and Harold W. Falk, Escondido, Calif., assignors to Norris Industries, Inc., Los Angeles, Calif., a corporation of California

Filed Mar. 1, 1968, Ser. No. 709,705

Int. Cl. E05b *15/02*

U.S. Cl. 292—341.19 **5 Claims**



The invention is embodied in what is commonly designated a strike installed on a door frame against which a latch bolt strikes when the door is closed, the adjustable strike being one built with an opening in it for reception of a latch bolt, thereby to hold the door in closed position. More particularly, the adjustable strike of the disclosure consists of two parts, one of which is a plate adapted to be fastened in fixed position on the door frame, and the other of which is a movable plate which can be shifted slightly to provide for snug engagement with the latch bolt when the door is closed, and tightened in place in a position of adjustment.

3,506,294

BUMPER GUARD ASSEMBLY

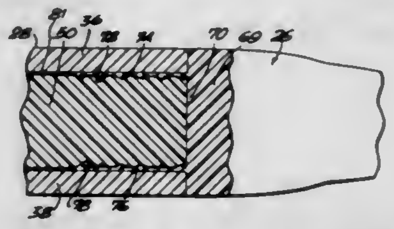
George Newman, Miami, Fla., assignor to Biscayne Manufacturing Corporation, Miami, Fla.

Filed Oct. 24, 1968, Ser. No. 770,304

Int. Cl. B60r *13/04*

U.S. Cl. 293—1 **5 Claims**

An elongate, narrow decorative strip and bumper guard assembly for the outer sidewalls of a motor vehicle proportioned to materially reduce the amount of metal required in the supporting structure without loss of load distribution upon a surface to which the assembly has been applied, such as caused by an impact upon the bumper guard assembly, and while at the same time maintaining an appearance of a materially wider supporting structure when viewed in the direction of an observer as it is normally viewed when assembled on a motor vehicle. The assembly includes: an elongate relatively narrow, decorative channel-type holder having a flat attaching web and sidewalls extending in perpendicular relation from the plane of the web, the sidewalls having substantially parallel outer surfaces and inner surfaces tapering outwardly from the web and terminating in confronting terminal in-turned ledges providing a receiving channel of trapezoidal cross-section for the reception of an elongate yieldable bumper element, the outer surface of the ledges being rounded. The bumper element is provided with a trapezoidally shaped base for reception in the channel of the holder and an enlarged central dome-shaped crown overlying the outer ends of the sidewalls and ledges from approximately the apex of the rounded sidewalls and the inwardly directed ledges and providing an elongate shock-absorbing bumper guard element of rounded contour flanked by narrow decorative retaining walls secured to the vehicle.



3,506,295

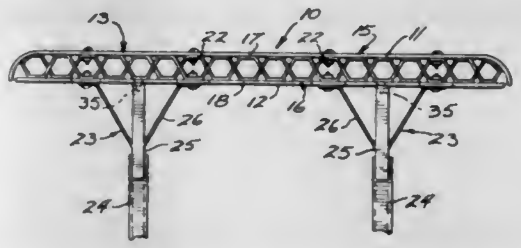
SHOCK ABSORBER BUMPER

Raymond W. Yancey, Libertyville, Ill., assignor to MSL Industries, Inc., a corporation of Minnesota

Filed Oct. 14, 1968, Ser. No. 767,304

Int. Cl. B60r *19/04;* **B61f** *19/04*

U.S. Cl. 293—70 **10 Claims**



A bumper having impact absorbing characteristics, with the bumper including a sheet that is deformed to include spaced parallel ribbons having longitudinally spaced, alternating crests and troughs that are interconnected by webs having a multi-planar torsional deformation. The impact absorbing sheet is preferably sandwiched between inner and outer members, with the impact absorbing sheet being connected to the inner member by means which allow the sheet to expand longitudinally during impact, and with the outer member being connected to the impact absorbing member by means that will readily shear during impact.

3,506,296

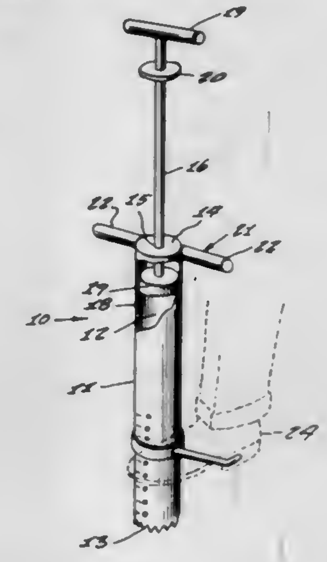
OPTIONAL DIGGER FOR GARDEN AND LAWN

Charles W. Nelson, Rte. 1, Box 199–A, Minden, La. 71055

Filed Feb. 12, 1968, Ser. No. 704,594

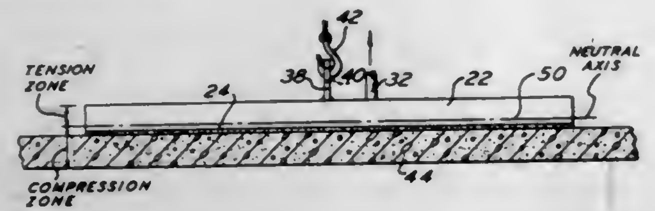
Int. Cl. A01b *1/16*

U.S. Cl. 294—50.7 **1 Claim**



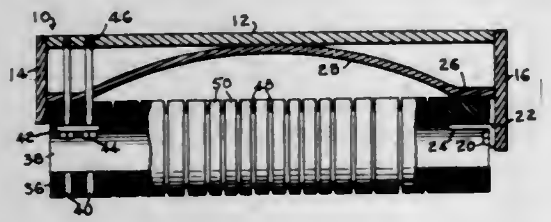
A tubular digging tool for lifting a cylindrical clod of earth, the tool being accordingly adaptable for transplanting seedlings and bulbs and the like.

3,506,297
VACUUM LIFTER WITH PRESTRESSING ACTION
Jacob J. Creskoff, Wynnewood, Pa., assignor to Vacuum Concrete Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 14, 1968, Ser. No. 707,019
Int. Cl. A47b *97/00;* **B66c** *1/02*
U.S. Cl. 294—65 **5 Claims**



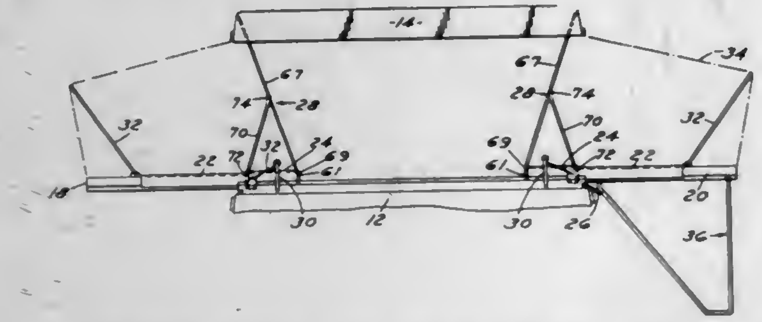
A vacuum lifter which comprises a body member having a deformable work engaging and sealing gasket secured thereto. The sealing gasket defines an open chamber on the bottom surface of the body member. Means defining a port are provided for connecting the open chamber to a source of reduced pressure so that atmospheric pressure secures the vacuum lifter to a work. A lifting member is provided centrally of the body member so that a lifting force applied to the lifter at said lifting member pre-stresses the work as the work is lifted.

3,506,298
TREE SHAKING DEVICE
Jack L. Martin, 5144 Western Ave., Olivehurst, Calif. 95961
Filed Feb. 28, 1968, Ser. No. 708,917
Int. Cl. B25b *11/00;* **B66c** *11/00*
U.S. Cl. 294—103 **8 Claims**



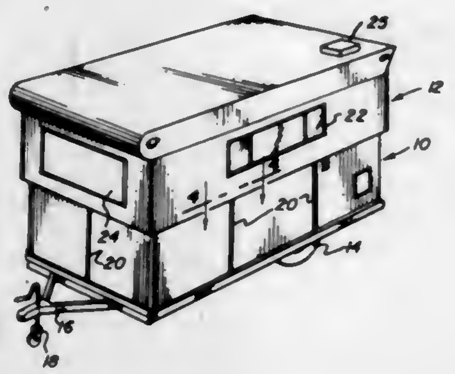
A shaker head, adapted for use with a conventional tree shaking machine used in shaking fruit and nuts from trees, has an elongated resilient shaker element supported solely at its ends by a shaker head, the face of which toward the shaker element is concaved so that when the device is pressed against a tree, its inherent resiliency permits it to be deformed into the concave face of the head for a firm grip against the tree.

3,506,299
CAMPING VEHICLE BODY
Delevan J. Arnold, Columbiaville, and Thomas H. Whitney, Attica, Mich., assignors to Vesely Company, a corporation of Michigan
Filed Aug. 10, 1967, Ser. No. 659,679
Int. Cl. B60p *3/32*
U.S. Cl. 296—23 **6 Claims**



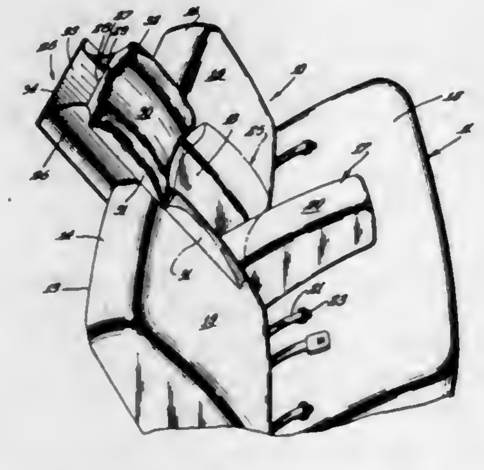
A camping vehicle body having top and bottom body portions and movable bed frames mounted on the bottom portion, wherein the body is convertible from a compact state in which the top forms a closure for the bottom body portion, to an expanded state in which the top forms a roof panel and the bed frames are extended from opposite sides of the body. Mechanism is provided for simultaneously and oppositely moving the bed frames and for transmitting this movement, through extension slides forming part of the bed frame mounting structure, to linkage which supports the top. When unlatched from the bottom, the top is initially raised by lifting arms to a clearance position relative to the bed frames to permit initial movement thereof.

3,506,300
TELESCOPING TRAILER
Harold E. Remmert, Denver, Colo., assignor to Jo Bud, Inc., Denver, Colo., a corporation of Colorado
Filed July 22, 1968, Ser. No. 746,592
Int. Cl. B60p *3/32*
U.S. Cl. 296—23 **8 Claims**



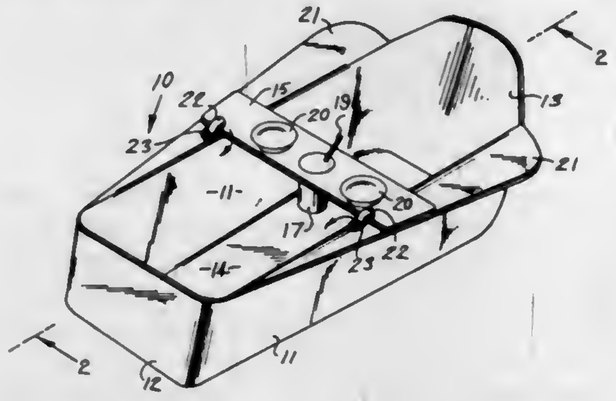
A telescoping house trailer having an upper section which telescopes over a lower section in retracted position for travel tnd into extended position for use, includes a hydraulic cylinder attached to a cable system with cables extending from the cylinder to opposed sides of upper section for uniformly raising and lowering the upper section on the lower section. Sealing means are provided between the upper and lower sections for both extended position and retracted position. Cabinet means internally of the trailer is movable from a position for retracting to an operable position.

3,506,301
VEHICULAR SET ACCESSORY FOR CHILDREN
Albert J. Van Santen, 737-41 Hummingbird Way, North Palm Beach, Fla. 33403
Filed June 14, 1968, Ser. No. 737,105
Int. Cl. A47c *13/00*
U.S. Cl. 297—113 **5 Claims**



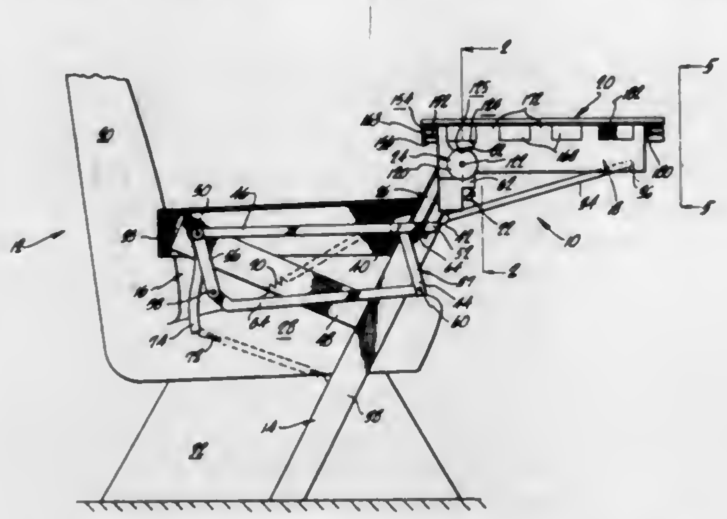
A vehicular seat accessory for children wherein a pivotable armrest is folded to a downward position to form a seat and the accessory part having curvately conforming retainer walls fills the space vacated by the armrest to provide a padded back-supporting surface. Conventional seat belts may be used by the child occupant of the seat. The accessory further provides a storage area which may be uncovered for selective access.

3,506,302
BOX TOY
Linda Lee House, 2430 NE. 215th St., North Miami Beach, Fla. 33160
Filed Apr. 22, 1968, Ser. No. 722,838
Int. Cl. A47c *5/12*
U.S. Cl. 297—148 **3 Claims**



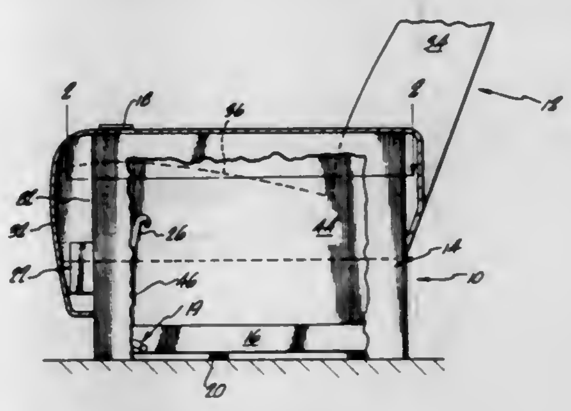
A toy for small children in which they may sit and watch television. This object is box-like in structure and has member supports, a removable beverage cup and play toys and bowl. The horizontal member may also be removed for cleaning by twisting.

3,506,303
TRAY ASSEMBLY FOR AN AIRCRAFT SEAT
Darrell G. Smittie, Malibu, John R. Goodwin, Woodland Hills, and William R. Wiggins, Gardena, Calif., assignors to Hardman Aerospace, Los Angeles, Calif., a corporation of California
Filed Feb. 29, 1968, Ser. No. 709,250
Int. Cl. A47c *7/62*
U.S. Cl. 297—162 **17 Claims**



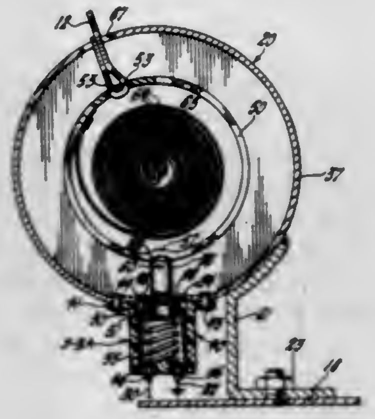
A tray is carried by linkage disposed to one side of an aircraft seat. The linkage is capable of carrying the tray from a stored position beside the seat to an in-use position above the lap of a passenger. The tray is hinged to rotate between a vertical storage position to a horizontal in-use position where it is locked firmly in place. The lock is released when the tray is pivoted to its vertical position. The linkage is counterbalanced such that a very slight upward force exerted by a passenger on the tray raises it to the in-use position. To avoid flexural stresses on the linkage a torque member is provided which transmits the majority of any bending loads applied to the tray to the assembly's support structure. A lock engages the tray to hold it in a vertical position as the tray is lowered.

3,506,304
TRAY ASSEMBLY FOR AN AIRCRAFT SEAT
Darrell G. Smittie, Malibu, John R. Goodwin, Woodland Hills, and William R. Wiggins, Gardena, Calif., assignors to Hardman Aerospace, Los Angeles, Calif., a corporation of California
Filed Feb. 29, 1968, Ser. No. 709,251
Int. Cl. A47c *7/68*
U.S. Cl. 297—162 **14 Claims**



An aircraft tray is normally stored in a lowered stored position in a housing beside an aircraft seat. Upon its release, a tray carriage moves vertically to a tray removal position. When the tray is removed from this latter position, the tray carriage continues vertically upward to close the tray access opening in the housing. During its vertical movement from the tray removal position, the tray carriage engages and elevates a stanchion to present a tray mount. A stanchion lock is activated as it raises to lock the stanchion in place. The tray carriage tracks on a pair of spaced-apart racks through gears. Horizontal tray carriage positioning is assured by a coordinator coupling the gears together.

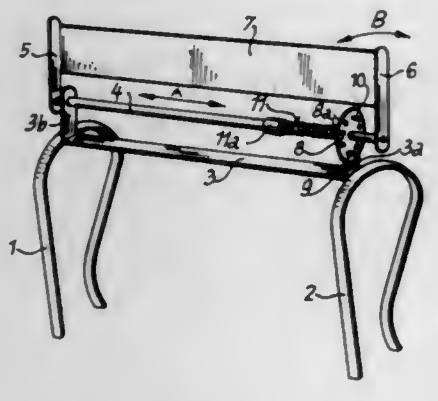
3,506,305
VEHICLE SAFETY BELT WARNING SYSTEMS
Ralph Eineman, Jr., 26,621 W. Davison, Redford, Mich. 48219, and Harold A. Rambow, 21159 Flanders, Farmington, Mich. 48024
Filed Jan. 16, 1967, Ser. No. 609,472
Int. Cl. B60r *21/10;* **A62b** *35/00, 35/02*
U.S. Cl. 297—388 **4 Claims**



A vehicle safety belt warning system is disclosed comprising, in combination, a retractable safety belt of the roll-up type, a retracting mechanism therefor having a reel, said reel having a fully empty position corresponding to the fully extended position of said safety belt, and electrical switch means associated with said retracting mechanism, said switch means open by said reel being empty and closed by movement of said reel from its said fully empty position upon any retraction of said safety belt from its said fully extended position.

3,506,306
ADJUSTABLE HEAD REST FOR VEHICLE SEATS

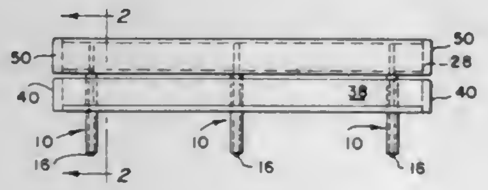
Kurt Herzer, Karlsruhe-Durlach, and Wolfgang Mertens, Karlsruhe, Germany, assignors to Kurt Herzer, Karlsruhe, Germany, a company
Filed Feb. 27, 1968, Ser. No. 708,585
Claims priority, application Germany, Mar. 4, 1967, H 62,024
Int. Cl. A47c *7/38*
U.S. Cl. 297—408 **3 Claims**



An adjustable head rest comprising a lower stationary portion on which there is mounted an upper rotary portion, complementary locking means secured to said portions and urged by spring means into an interlocking engagement to selectively lock said upper rotary portion in a desired angular position with respect to said lower stationary portion. The locking means are adapted to be disengaged by manually laterally shifting said upper portion overcoming the force of said spring means.

3,506,307
FOOTBALL SAFETY BENCH

Keith Hayes Kahle, Fort Worth, Tex., assignor to New Ideas, Inc., Fort Worth, Tex., a corporation of Texas
Filed July 22, 1968, Ser. No. 746,396
Int. Cl. A47c *1/12, 5/00*
U.S. Cl. 297—446 **5 Claims**

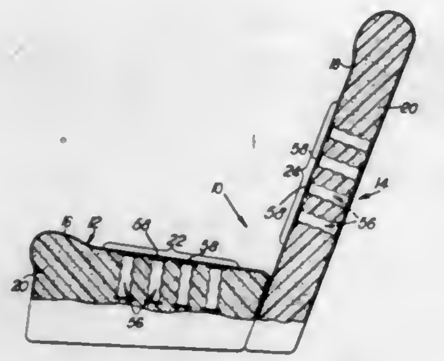


A football squad bench is provided that prevents injury to football players who collide with the bench. The weight of the bench and its occupants is transmitted to the ground by spaced supports that include a closed frame having no sharp projections, and a vertically-extending strut. A seat and a back member are attached to the supports with the back member surrounding the strut. Padding is attached to all surfaces of the seat, back member, and supports that may be subject to impact by a football player who collides with the bench, and an abrasion-resistant covering material can be attached to the padding.

3,506,308
CAR SEATS

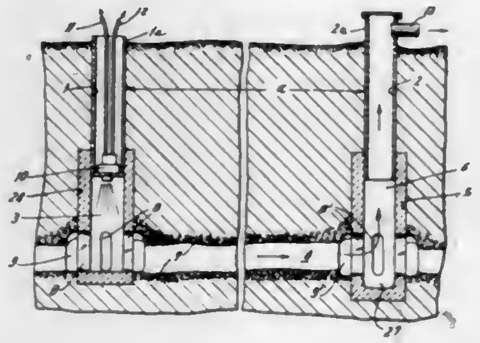
Sidney Desmond Fenton, Lancaster, England, assignor to Storey Brothers and Company Limited, Lancaster, England, a British company
Filed Dec. 7, 1967, Ser. No. 692,624
Claims priority, application Great Britain, Dec. 15, 1966, 56,310/66
Int. Cl. A47c *7/02*
U.S. Cl. 297—453 **2 Claims**

This disclosure relates to a vehicle seat comprising a cover fitted over a resilient filling carried by a rigid frame. The cover is of synthetic plastics material and has small perforations through it, some of which are in communication with small bellows pump devices which force air through the perforations, the pumping action of the device being brought about by vibrations and other similar movements occurring during motion of the vehicle and/or by body movements of a person sitting on the seat.



3,506,309
METHOD AND SYSTEM FOR GASIFYING UNDERGROUND DEPOSITS OF COAL

Hans-Joachim von Hippel, Muhlenkamp 12, Lunen, Germany
Filed May 16, 1968, Ser. No. 729,799
Int. Cl. E21c *43/00*
U.S. Cl. 299—2 **7 Claims**



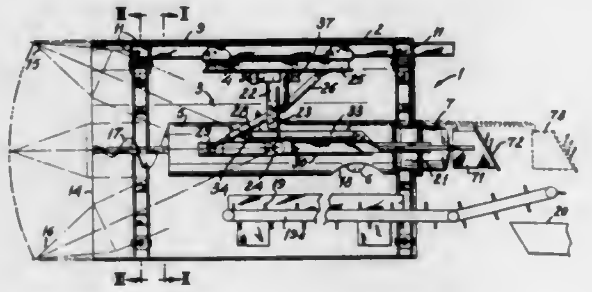
Carbon monoxide gas is produced by conveying hot carbon dioxide gas in a channel which extends through an underground deposit of coal. The hot carbon dioxide gas can be formed by burning a portion of carbon monoxide gas which is withdrawn from the channel in the underground deposit by way of one or more outlet channels. The burner which produces carbon dioxide gas can be installed in or upstream of an inlet channel which discharges hot carbon dioxide gas into the channel in the underground deposit.

3,506,310
BORING MACHINE

Charles Gruere, 21 Rue de Teheran, Paris, France
Filed Dec. 1, 1967, Ser. No. 687,191
Claims priority, application France, Dec. 2, 1966, 85,927
Int. Cl. E21c *1/02, 5/00, 11/00*
U.S. Cl. 299—56 **11 Claims**

A boring machine includes a motor driven helical drill rotatably mounted within and extending outwardly of a tube. The trailing end of the tube includes an opening through which the spoil drops. The tube and drill are supported in trolley framework which is mounted within shuttering for arbored part of the opening or bore. The tube support includes rollers secured to the tube and supported on rails for movement longitudinally of the bore. A vertical shaft is rotatably secured to the rollers for controlled rotation on a vertical axis and the lower end includes a stirrup. Pivot members are

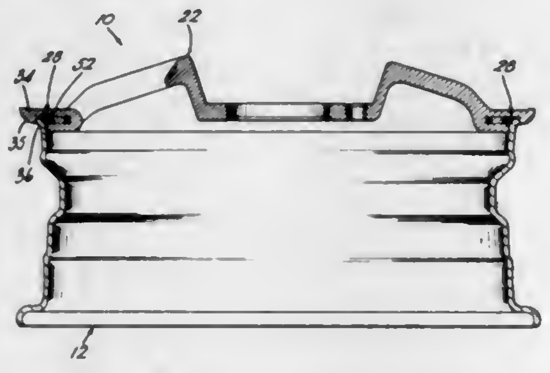
secured on the outer ends of the stirrup and connected to rails on the opposite sides of the tube and which support the tube for longitudinal movement. A plurality of jacks are proivded and interconnected to position the tube and drill with a horizontal swinging movement, vertical pivoting movement and longitudinal sliding movement.



For rectangular bores, a drill and tube are supported on a framework which rides on a pair of rails on the floor of the horizontal bore or gallery. The framework and tube and drill are supported and positioned in the same manner as in the previously described machine and in addition includes a sliding vertical support for translatory motion of the drill and tube.

3,506,311
VEHICLE WHEEL

Edward J. Nobach, Lansing, Mich., assignor to Motor Wheel Corporation, Lansing, Mich., a corporation of Michigan
Filed June 6, 1968, Ser. No. 735,039
Int. Cl. B60b *3/06*
U.S. Cl. 301—63 **7 Claims**

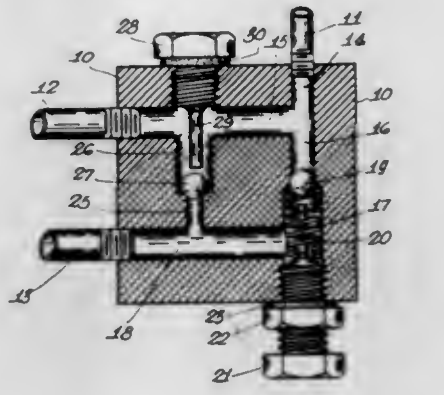


An automotive passenger vehicle wheel comprising a cast aluminum wheel body and a rolled or stamped sheet steel rim rigidly interconnected by a steel ring insert cast into the aluminum body and a continuous welded joint between the steel insert and the rim, the welded joint preferably being formed by a friction or inertial welding process wherein one edge of the rim is rotated against the ring insert.

3,506,312
CONTROL VALVE FOR HYDRAULIC FLUIDS

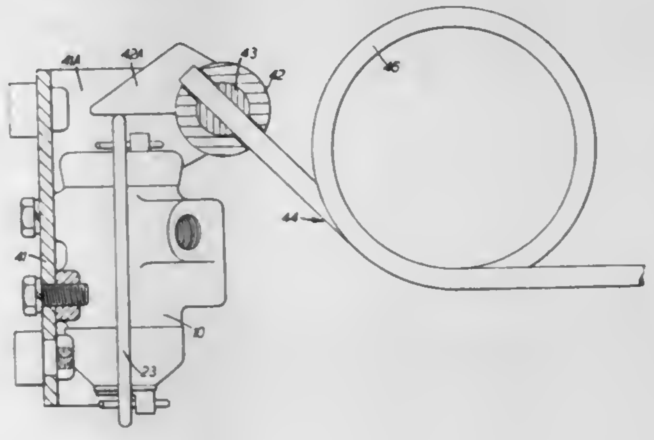
Matthew Siddall, Hyway 39, Macoun, Saskatchewan, Canada
Substituted for abandoned application Ser. No. 642,045, May 29, 1967. This application June 14, 1968, Ser. No. 747,406
Int. Cl. B60t *8/26*
U.S. Cl. 303—6 **4 Claims**

A hydraulic control valve for regulating, and controlling, the pressure fluid supply from a supply source, for initial application to a first pressure fluid operated installation, and subsequently to a second pressure fluid operated installation, on the pressure to the first installation reaching a predetermined value.



3,506,313
VEHICLE BRAKE PRESSURE CONTROL MEANS

Thomas G. Lawson, Birmingham, England, assignor to Girling Limited
Filed Sept. 12, 1968, Ser. No. 759,325
Claims priority, application Great Britain, Sept. 14, 1967, 41,914/67
Int. Cl. B60t *8/18*
U.S. Cl. 303—22 **8 Claims**



Brake pressure control valve structure for use with a brake pressure control valve having a movable operating member, comprising a sleeve rotatable about a fixed axis and adapted to act upon the said valve member, a pin passing axially through the sleeve and a brake control spring having one of its ends attached to the sleeve for applying a resilient rotary force thereto, wherein the sleeve and pin have axially aligned radial apertures therethrough to receive the end of the control spring, and the pin and sleeve can be moved axially to clamp the spring end by a clamping device (such as a screw).

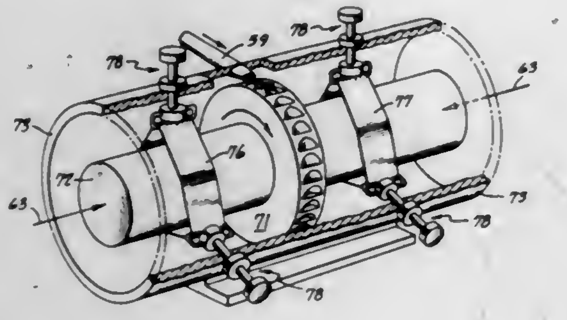
3,506,314
FLUID BEARING

William A. Gross, Los Altos Hills, and Manfred Wildmann, Menlo Park, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Aug. 7, 1964, Ser. No. 388,072
Int. Cl. F16c *17/16*
U.S. Cl. 308—9 **9 Claims**

1. A fluid bearing comprising:
a rotatable shaft;

a flexible foil element having a plurality of segments concentrically wrapped about corresponding peripheral zones of said shaft, the ends of said segments being coupled to a base; and

rigid means coupled to said foil for applying predetermined tension thereto;



whereby a fluid bearing is established between said shaft and foil element upon rotation of said shaft with respect to said foil element, and said foil and fluid bearing alone absorb the radial operational excursions of said shaft.

3,506,315

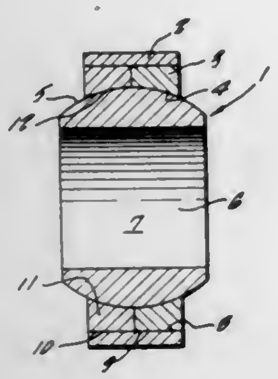
SELF-ALIGNING BEARING AND PROCESS FOR ITS FABRICATION

Roy W. Young, Jr., 4749 Rosebank Drive, La Canada, Calif. 91011

Continuation-in-part of application Ser. No. 559,241, June 21, 1966. This application June 13, 1967, Ser. No. 654,295

Int. Cl. F16c *9/06, 23/00*

U.S. Cl. 308—72 5 Claims



A self-aligning bearing having a member with a spherical bearing surface is mounted in a pair of race elements having complementary spherical race surfaces and held together by a retaining member disposed about cylindrical, outer surfaces of the race elements. A high bonding force acts throughout the interface between the retaining member and the race elements to hold the assembled bearing together. The bearing is assembled by placing the two race elements over the bearing member's spherical surface with their races in bearing relationship with the bearing surface of the bearing member. The retaining member is then secured to the outer cylindrical surfaces of the race elements at the interface between the retaining member and the elements. Bearing lubrication is provided by a solid lubricant material disposed at the interface of the bearing member and the race elements or, alternately, by wet lubricant maintained under pressure in a reservoir by a spring or elastic diaphragm.

3,506,316

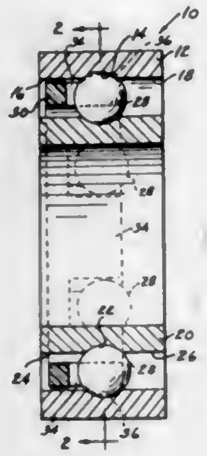
BALL BEARING CAGE

Lewis W. McKee, Brookfield, Conn., assignor to The Barden Corporation, Danbury, Conn., a corporation of Connecticut

Filed Apr. 16, 1968, Ser. No. 721,669

Int. Cl. F16c *19/06, 33/38*

U.S. Cl. 308—193 4 Claims



A simple side assembled cage for a deep groove bearing in which the cage is an annular body having axially extending open-ended ball-receiving slots defining ball separators having radially extending bosses adapted to snap into the raceway of one of the bearing rings when the cage is pushed into the bearing from the side thereof to hold the cage in assembled ball-separating position.

3,506,317

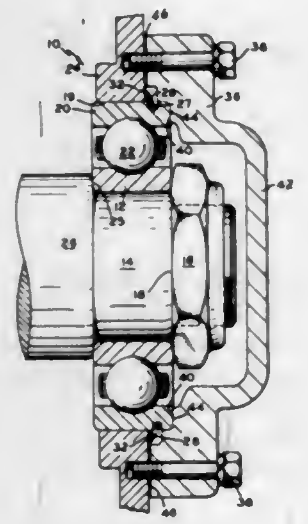
ANTIFRICTION BEARING

Christopher de Angeli, Ridgefield, Conn., assignor to Norma Fag Bearing Corporation, Joplin, Mo., a corporation of Delaware

Filed Sept. 20, 1968, Ser. No. 761,081

Int. Cl. F16c *35/06*

U.S. Cl. 308—236 7 Claims



This invention contemplates the use of a belleville spring washer which is either a continuous ring or which has a radial cut to enable its insertion into a groove in the outer periphery of the outer ring of an antifriction bearing. The bearing is assembled in the usual manner upon a shaft and slip-fitted into a housing. The housing is so proportioned relative to the outer ring as to permit the ring to project from the housing and in this manner the ring groove is spaced from the end of the housing. This will permit the conical spring washer to become biased against the end of the housing by securing a ring or end cap to the housing which presses against the outer ring of the bearing. The resistance caused thereby restrains outer ring rotation or creep which otherwise would result in wear.

3,506,318

PHONOGRAPH RECORD SELECTOR

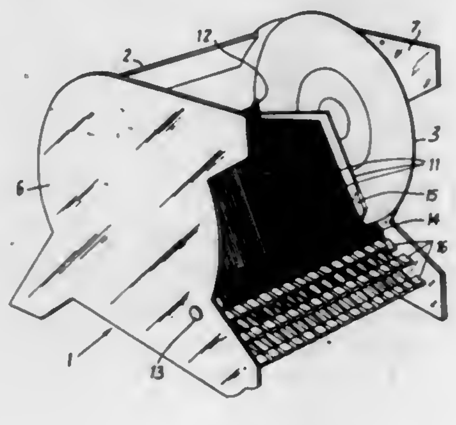
Henri Vincent Neyroud, 55 Avenue de la Court de France, Juvisy-sur-Orge 91, Essonne, France

Filed Apr. 4, 1968, Ser. No. 718,868

Claims priority, application France, May 9, 1968, 101,502

Int. Cl. A47f *1/12;* **A47b** *81/06*

U.S. Cl. 312—15 10 Claims



A phonograph record selector device in which a plurality of records are stored in a juxtaposed aligned vertical position, the selector comprises a plurality of arms arranged in an aligned horizontal series and spaced so that a record can be placed between each adjacent arm; each arm has at both ends arcuate cradle elements to support said record by engaging circumferential portions thereof; the forward portion of each arm is linked to a manually operable key which when depressed causes the selected arm to be displaced upwardly parallel to itself and thus bring the selected disc out of alignment of the other stored records, and a plurality of means to ensure a precise guidance of each arm during its displacement.

3,506,319

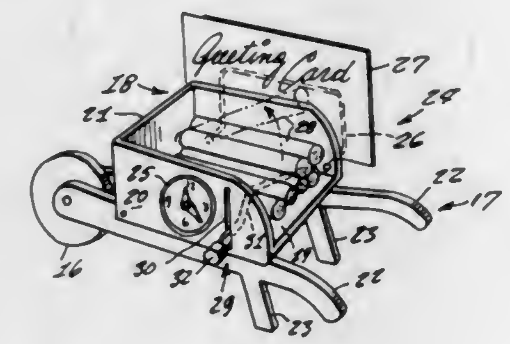
PACKAGE AND MANUFACTURE OF SMALL WHEELBARROWS

Robert W. Tunnell, 113 W. Center St., London, Ohio 43140

Filed May 31, 1968, Ser. No. 733,445

Int. Cl. A47f *3/02;* **B65g** *1/04*

U.S. Cl. 312—35 1 Claim



A kit for assembling a miniature wheelbarrow, the kit including all the components comprising the wheelbarrow frame, body and wheel, together with appropriate nails or the like.

3,506,320

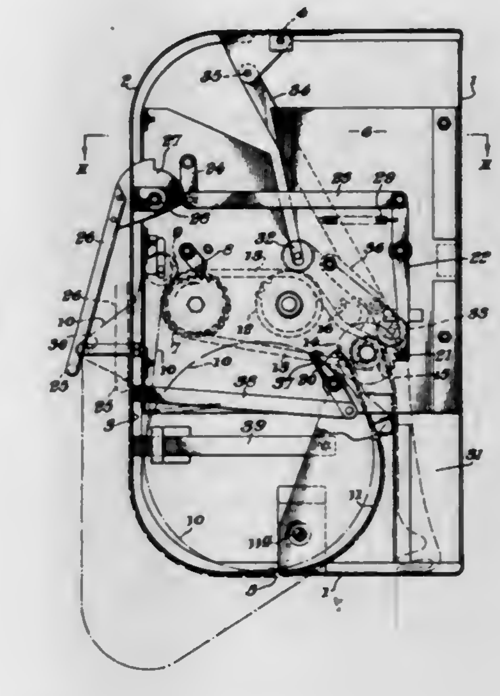
APPARATUS FOR DISPENSING TOWELLING

Edward John Howlett, 16 Hillway, Highgate, London N 6, England

Filed July 18, 1968, Ser. No. 745,719

Int. Cl. B65h *19/00*

U.S. Cl. 312—38 5 Claims



Cabinet for dispensing towelling from a storage roll as a loop, which automatically returns the soiled towelling to the cabinet, when pulled by a user, via an assembly of parallel rollers, within the cabinet including a delivery roller, a take-up roller, and a spring-driven retraction roller, the latter being energised as and when the delivery roller is rotated, and held against rotation by ratchet-and-pawl which is releasable as and when the towelling loop is pulled.

3,506,321

INTERCONNECTED DETACHABLE BOXES

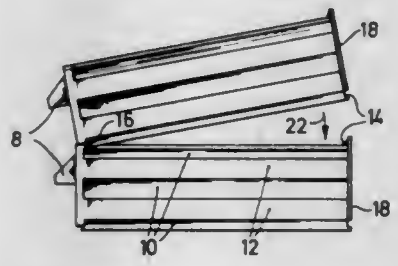
Heinz Hampel, Blumenstrasse, 7071 Lindach, Germany

Filed May 6, 1968, Ser. No. 726,985

Claims priority, application Germany, May 8, 1967, H 58,948

Int. Cl. A47b *87/00*

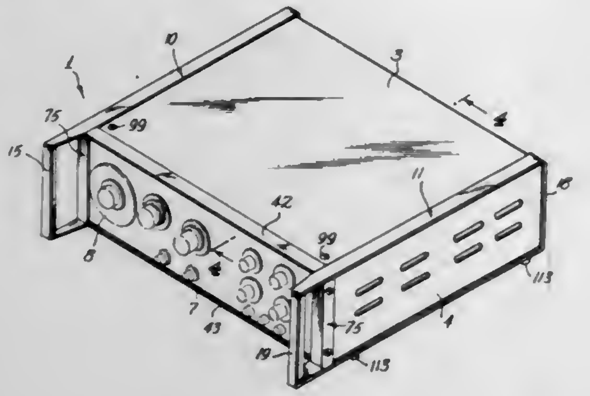
U.S. Cl. 312—107 9 Claims



A box for multiple interlocking engagement of similar boxes having longitudinal profiles in its side walls and an elastic plate secured to its back wall so as to permit additional boxes having corresponding profiles to be engaged against the walls of the box. The elastic back plate also includes a notched cutout for engaging a corresponding cut out in a similar box so that when the boxes are stacked one above the other, the cutouts become interlocked to hold the boxes in rigid alignment.

3,506,322
FABRICATED FRAME AND HOUSING

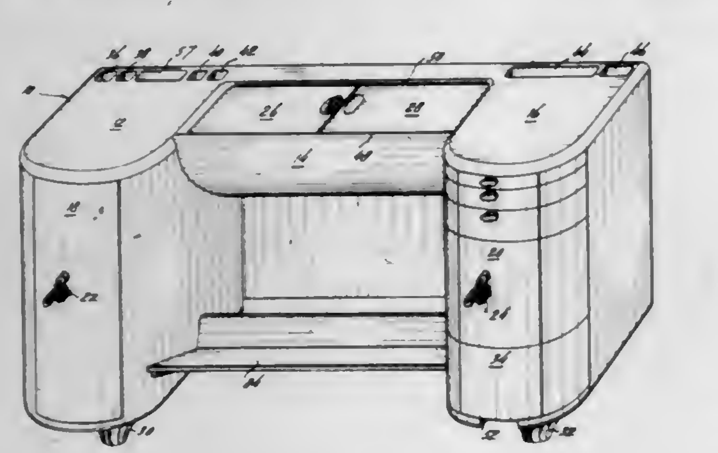
William Richards, Medway, Mass., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Oct. 31, 1967, Ser. No. 679,469
Int. Cl. A47b *87/02;* **H05k** *7/18*
U.S. Cl. 312—108 **11 Claims**



A fabricated instrument housing formed from a pair of upright spaced apart rectangular loops which are connected together by a pair of horizontal spaced apart loops which are welded respectively to the upper and lower horizontal legs of the upright loops. The horizontal loops have undulating or corrugated sides which provide beam strength to resist bending as a result of vertical loads from equipment mounted in the housing. The upright loops have vertical front legs which extend forwardly of the front panel of the housing and provide handles. A unique interlocking arrangement between top, bottom, rear and side panels eliminates many fasteners previously required. An upright brace and bracket at the front corners of the horizontal loops connect the front edges of the side panels and front cover panel to the housing. The brace and bracket also provides additional vertical strength to resist deformation of the housing due to vertical loads created when instruments are stacked one on the other.

3,506,323
BEAUTICIAN'S ASEPTIZING STAND

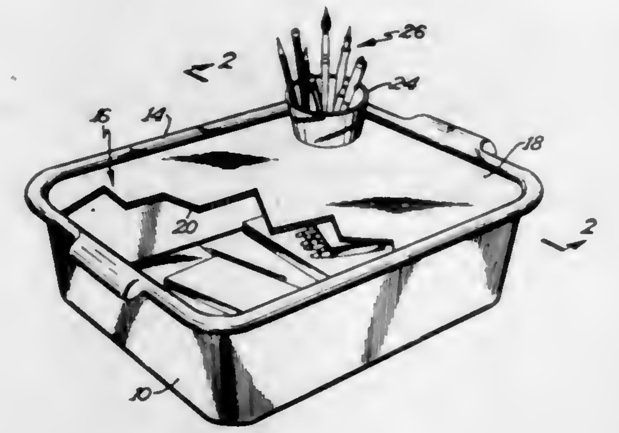
Bernard Leprince, 5921 Onondaga Road, Bethesda, Md. 20016
Filed May 29, 1968, Ser. No. 732,963
Int. Cl. A61l *7/00*
U.S. Cl. 312—209 **9 Claims**



A beautician's aseptizing stand of the type used in beauty salons and including a cabinet having a top work area and a plurality of mesh-like shelves supported within the cabinet, the shelves being individually accessible by a plurality of chutes extending from the cabinet top for storage of beautician's supplies, and one or more ultraviolet lamps supported in said cabinet for radiation through said shelves to aseptize combs, curlers, clips, scissors and other beautician's supplies supported thereon.

3,506,324
DRAWING BOARD DEVICE

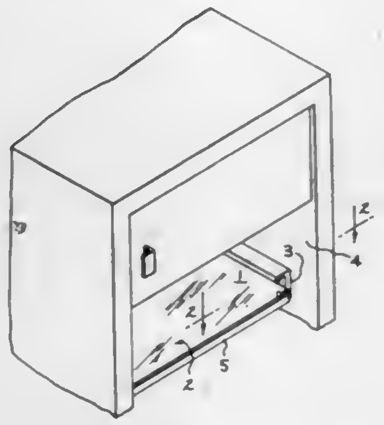
Paul M. Fristedt, 7760 48th Ave. N, Minneapolis, Minn. 55428
Filed Dec. 20, 1967, Ser. No. 692,106
Int. Cl. A47b *27/00;* **B43k** *31/00*
U.S. Cl. 312—231 **10 Claims**



A drawing board device comprised of a relatively deep tray including an internal rim. A drawing board is adapted to fit inside the tray but is held away from the bottom of the tray by the rim. The drawing board has at least one side prepared as a slate board for chalk and may have the other side as a slate board or as a wax board for crayons. A receptacle is removably attached to the drawing board to hold chalk and crayons.

3,506,325
REFRIGERATOR INCLUDING ILLUMINATED CABINET SHELF

Julius B. Horvay, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed July 25, 1968, Ser. No. 747,648
Int. Cl. A47b *77/08*
U.S. Cl. 312—223 **7 Claims**

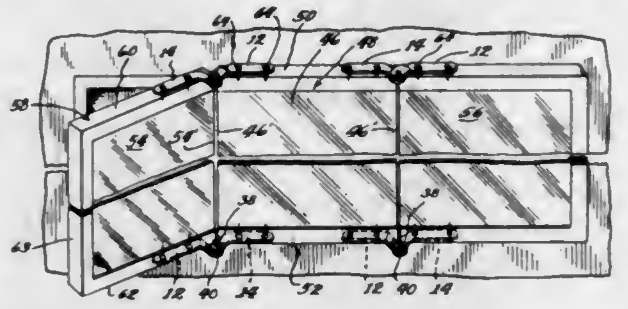


A refrigerator comprising a storage compartment includes at least one shelf carrying an electroluminescent coating for illuminating the interior of the compartment.

3,506,326
HINGE MEANS

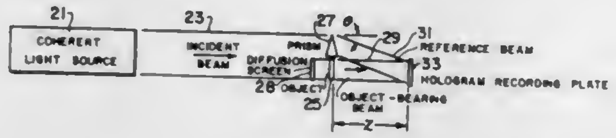
Alfred V. Tantillo, Arlington Heights, Ill., assignor to General Bathroom Products Corp., Elk Grove Village, Ill.
Filed Jan. 18, 1968, Ser. No. 698,956
Int. Cl. A47b *67/02;* **E05d** *7/02*
U.S. Cl. 312—227 **1 Claim**

Hinge means for medicine cabinets and the like to provide a pivotal or hinging movement of one mirror or section or panel with respect to another, wherein the hinge means are mounted at the top and bottom and permit the inner sides of the adjacent mirrors to contact each other when in alinement, thereby eliminating the spacing between the mirrors and providing a continuous mirror surface.



3,506,327
WAVEFRONT RECONSTRUCTION USING A COHERENT REFERENCE BEAM

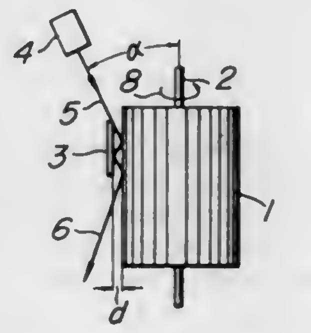
Emmett N. Leith, Plymouth, and Juris Upatnieks, Ann Arbor, Mich., assignors, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Ohio
Filed Apr. 23, 1964, Ser. No. 361,977
Int. Cl. G02b *5/08*
U.S. Cl. 350—3.5 **24 Claims**



The method of and apparatus for constructing and reconstructing holograms of the off-axis type wherein coherent radiation is directed onto an object to provide an object-bearing beam in the path of which is positioned a detector sensitive to the coherent radiation. Radiation coherent with the first-named coherent radiation is directed as a reference beam onto the detector at a finite angle with respect to the object-bearing beam to produce therewith a pattern of interference fringes on the detector in the form of a hologram. The pattern is illuminated with coherent radiation as an illuminating beam, thereby producing an image of the object, and the image is detected along an axis angularly displaced from the illuminating beam.

3,506,328
LIGHT DEFLECTION DEVICE

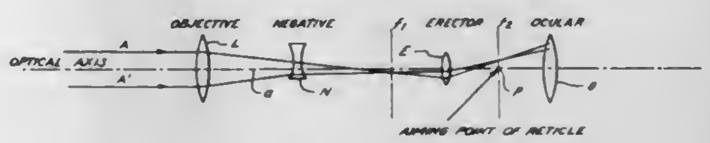
Takeo Seki, Kokubunji-shi, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 17, 1967, Ser. No. 683,884
Claims priority, application Japan, Dec. 26, 1966, 41/76,885
Int. Cl. G02b *17/00*
U.S. Cl. 350—7 **2 Claims**



A rotatable prismatic reflecting mirror assembled with a plurality of plane reflecting mirrors is opposingly provided to a fixed plane reflecting mirror. A light beam to be reflected is introduced between the fixed plane reflecting mirror and one of the plane reflecting mirrors of the rotatable prismatic reflecting mirror opposite to the fixed mirror so as to be reflected at least twice by the one of the rotating plane reflecting mirrors and at least once by the fixed plane reflecting mirror for deflection thereof.

3,506,329
TELESCOPIC SIGHT WITH ADJUSTABLE NEGATIVE AND ERECTOR LENSES

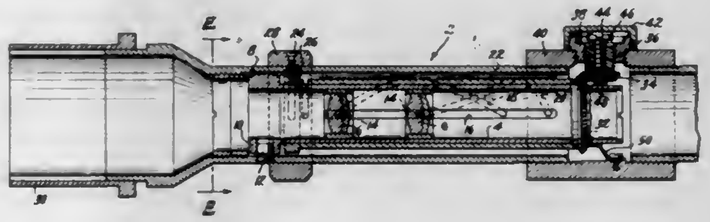
William R. Weaver, El Paso, Tex., assignor to W. R. Weaver Company, El Paso, Tex., a corporation of Texas
Filed Feb. 23, 1967, Ser. No. 618,122
Int. Cl. G02b *27/32*
U.S. Cl. 350—10 **4 Claims**



An optical instrument, particularly a telescope sight for firearms, employing a negative lens system arranged between the objective and the first image plane and coupled to the erector lens system in a manner to increase the range of image movement in the second image plane in response to movement of the erector lens system transversely of the optical axis of the instrument.

3,506,330
TELESCOPIC RANGEFINDING GUNSIGHT AUTOMATIC ELEVATION ADJUSTMENT

Ralph G. Allen, 310 Rilla Vista Drive, San Antonio, Tex. 78216
Filed July 18, 1967, Ser. No. 654,244
Int. Cl. G02b *27/32*
U.S. Cl. 350—10 **5 Claims**

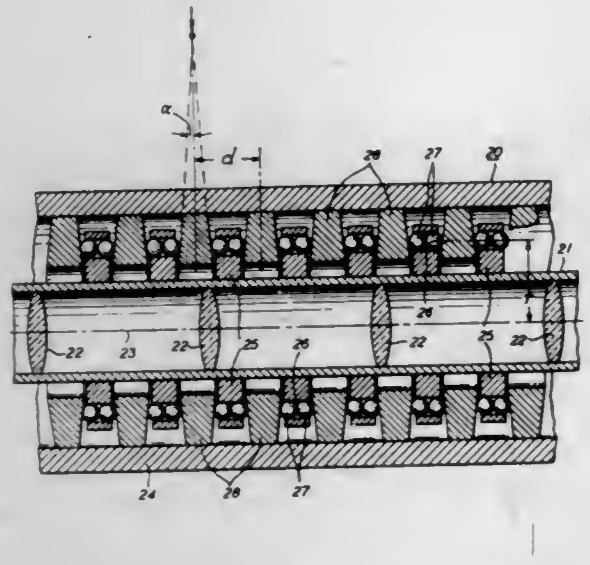


A telescopic gunsight having rotatable means for changing its magnification and a reference reticle such that adjustment of magnification so that the image of a target of known size bears a preset relation to the reticle is indicative of the distance to the target, and means actuated by the rotatable means for simultaneously changing the elevation of the line of sight relative to the gun.

3,506,331
OPTICAL WAVEGUIDE

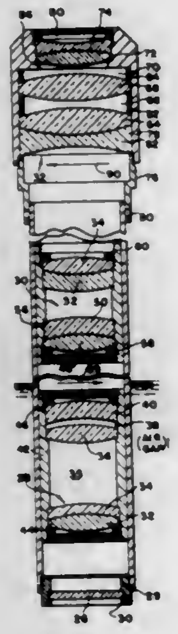
Rudolf Kompfner, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 3, 1967, Ser. No. 672,535
3,506,331
U.S. Cl. 350—45 **4 Claims**

Optical frequency wave propagation apparatus in which an inner guide containing energy focusing means is mounted within an outer guide having a mechnaical linkage which displaces the inner guide toward the center of curvature of deformations of the outer guide.



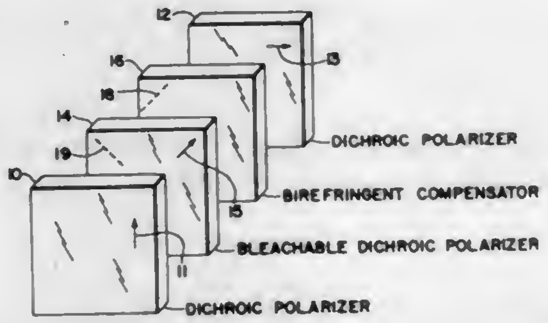
Compensation of supporting guide deformations permits the guided optical beam to remain on the outer guide axis.

3,506,332
AIR TO WATER VIEWING DEVICE
Davis R. Dewey, Jr., 1 Old Winter St., Lincoln, Mass. 01773, and Robert B. Gallipeau, Groton, Mass.; said Gallipeau assignor to said Dewey
Filed Aug. 15, 1966, Ser. No. 572,273
Int. Cl. G02b *21/00, 23/00*
U.S. Cl. 350—54 **4 Claims**



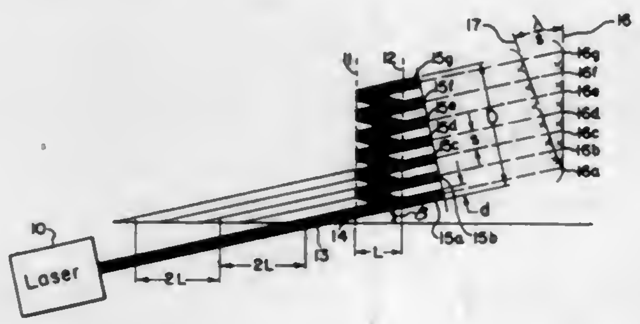
An air to water viewing device comprises a water-tight elongated tubular casing having a forward end and a rearward end, field lens means within the casing at the forward end, eye lens means within the casting at the rearward end, relay lens means within the casing medially between the forward end and the rearward end, the average density of the device being less than 1.0, the center of gravity of the device being positioned between the forward end and a point midway between the forward end and a point midway between the forward end and the rearward end, the device being such as to provide an observer of an underwater scene with a wide angle viewer that tends to retain its stability during manipulation and that precludes inadvertent loss by floating following inadvertent release.

3,506,333
PROTECTIVE FILTER COMBINATION FOR INTENSE LIGHT FLASHES
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass, a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,382
Int. Cl. G02b *5/30*
U.S. Cl. 350—157 **12 Claims**



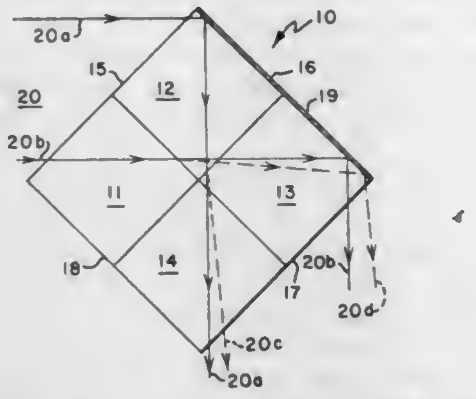
A variable density filter which darkens in response to an intense flash of light incorporates a series of three dichroic polarizers arranged on a common optical path. The first and third polarizers are positioned with their axes orthogonal such that, without the interposition of the second polarizer between them, they would exhibit a high optical density. The second or intermediate polarizer with its axis at some angle other than 90° to those of the other polarizers causes the combination to be transmissive. The second polarizer, unlike the other polarizers, is readily bleached by the absorption of high radiant energies. A flash of light of sufficient intensity to bleach the second polarizer and thereby to destroy its dichroic properties causes an increased opacity or density to be exhibited by the filter combination.

3,506,334
PHASED ARRAY-TYPE BEAM SCANNING
Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 17, 1966, Ser. No. 528,217
Int. Cl. G02f *1/28, 1/36*
U.S. Cl. 350—160 **18 Claims**



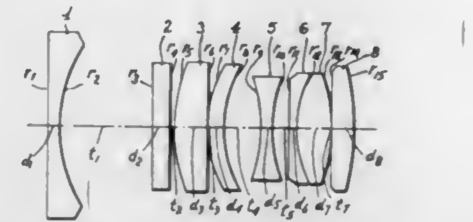
Efficient scanning of a coherent light beam is obtained with a system in which the beam is introduced at an acute angle of incidence between a pair of mutually facing reflective surfaces. One surface is partially transmissive to allow a phrased array of parallel beams to emerge and eventually form a resultant spot in the far field. The phase difference between these beams is made to vary by causing changes in the effective optical path length between the surfaces, or changes in frequency of the primary beam. The resultant will then form at different angular positions in the far field corresponding to the difference in phase which is introduced. Thus, scanning of the coherent light beam through a substantial angular range is obtained.

3,506,335
LIGHT DEFLECTING DEVICE
James D. Zook, Burnsville, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Mar. 29, 1968, Ser. No. 717,322
Int. Cl. G02f *1/16, 1/34*
U.S. Cl. 350—160 **12 Claims**



An electro-optic (E-O) light beam deflector having four adjacent light transparent regions. The index of refraction of at least one of the regions is varied by application of an electric field. Light directing means are provided to direct the light beam along a predetermined path within the deflector, whereby an incident light beam is deflected whenever it passes between two regions having different indices of refraction. An array of deflectors to achieve cumulative deflection is also disclosed.

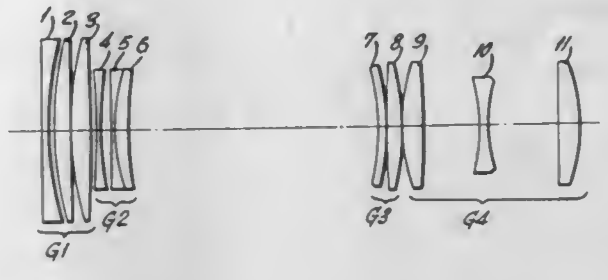
3,506,336
WIDE ANGLE LENS SYSTEM
Yasuo Takahashi, Itabashi-ku, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan
Filed Sept. 27, 1967, Ser. No. 671,069
Claims priority, application Japan, Sept. 30, 1966, 41/64,565
Int. Cl. G02b *9/64*
U.S. Cl. 350—176 **1 Claim**



A bright, wide angle lens system comprises eight lenses constituting seven groups, the first lens being negative, the second and third lenses being positive, the fourth lens being positive, or negative or powerless, the fifth and sixth lenses being negative, and the seventh and eighth lenses being positive. The first lens is of negative meniscus type with the surface of larger curvature directed to the image side; the fourth lens is positive, or negative, or powerless, with the convex surface directed to the object side; the fifth lens is of double concave type; and the sixth and the seventh lens are a cemented unit.

3,506,337
VARIABLE FOCAL LENGTH LENS SYSTEM SUITABLE FOR 35 MM. CAMERAS
Yasuo Takahashi, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan
Filed Sept. 6, 1967, Ser. No. 665,831
Claims priority, application Japan, Sept. 14, 1966, 41/60,692
Int. Cl. G02b *15/16, 11/34*
U.S. Cl. 350—184 **1 Claim**

A simple zoom lens system of good optical characteristics includes successively a stationary first lens group of three successive negative, positive and positive lenses, an axially movable second lens group of three successive negative, negative and positive lenses the latter two lenses forming a cemented unit, a third lens group of two successive negative and positive lenses, the negative lens being axially movable, and a fourth stationary triplet lens groups of three successive positive, negative and positive lenses, the lens system satisfying the following conditions:



$$0.5F_1<|r_7|<\infty,\ r_7<0$$

$$0.5<|r_{12}|/|r_{15}|<2$$

$$F_1/6<|r_{12}|<F_1/2,\ r_{12}<0$$

$$F_1/3.5<f_9<F_1/2.5$$

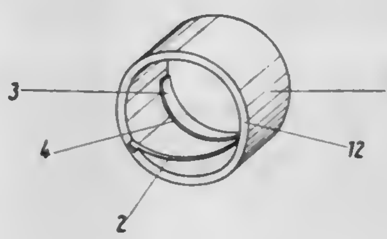
$$F_1<|f_{9.10}|<F_1/0.3,\ f_{9.10}<0$$

$$15<\frac{\nu_2+\nu_3}{2}-\nu_1<35$$

wherein,

F_1 is the resultant length of the first three lenses;
f_9 is the focal length of the ninth lens;
$f_{9.10}$ is the resultant focal length of the ninth and tenth lenses;
r_7, r_{12} and r_{15} are the radii of curvatures respectively of the front face of the fourth lens, the front face of the seventh lens, and the rear face of the eighth lens; and
ν_1, ν_2 and ν_3 are the Abbé values of the first second and third lenses respectively.

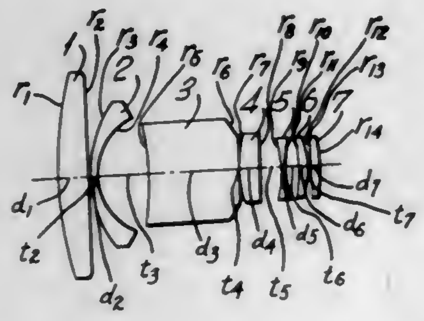
3,506,338
CAMMING CYLINDER FOR OPTICAL COMPONENTS AND METHOD OF MAKING SAME
Karl-Heinz Holderbaum, Bad Kreuznach, Germany, assignor to Jos. Schneider & Co. Optische Werke, Bad Kreuznach, Germany, a corporation of Germany
Filed Mar. 27, 1967, Ser. No. 632,137
Claims priority, application Germany, Apr. 19, 1966, Sch 38,843
Int. Cl. G02b *15/00, 7/04, 7/06*
U.S. Cl. 350—187 **2 Claims**



Camming cylinder rotatable about axis of objective system with two components axially displaceable at different rates, the cylinder having a helical guide curve on its inner periphery for the displacement of the first component and a curvilinear terminal shoulder for the concurrent displacement of the second component; the cylinder is cast in one piece in a mold with a core having a helical ridge and a terminal peripheral recess for the formation of the guide curve and the shoulder, respectively, the core being separable from the cast cylinder by unthreading along the helical ridge in a direction away from the terminal shoulder of the cylinder.

3,506,339
COMPACT RETROFOCUS WIDE ANGLE OBJECTIVE LENS SYSTEM

Tomokazu Kazamaki, Tokyo-to, Japan, assignor to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan
Filed Sept. 8, 1967, Ser. No. 666,327
Claims priority, application Japan, Sept. 10, 1966, 41/59,723
Int. Cl. G02b *9/00*
U.S. Cl. 350—214 **1 Claim**



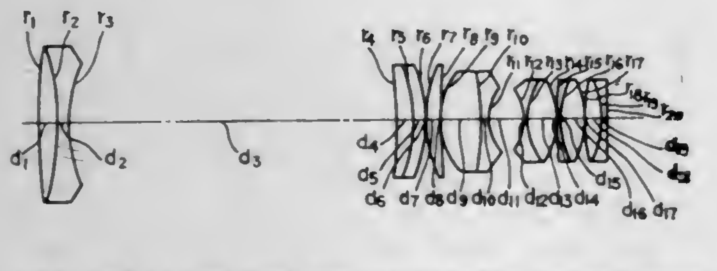
A compact retrofocus wide angle objective lens system possessing low astigmatism and highly acceptable distortion characteristics comprises seven lenses, the first, fourth, sixth and seventh lenses being positive, the second and fifth lenses being negative and the third lens being a thick low power lens either positive, negative or of zero power. The lens system satisfies the following conditions:

$$|F_{1.2}| \geqq F/0.75,\ F_{1.2} < 0$$
$$\infty \geqq |r_5| \geqq 0.7F,\ r_5 < 0$$
$$d_3 \geqq 0.3F$$
$$1.5F \geqq t_2 + d_3 + t_3 \geqq 0.5F$$
$$F/1.5 \leqq |F_{1.2.3.4.5}| \leqq F/0.5$$
$$F_{1.2.3.4.5} < 0$$
$$0.5F < r_{10} < 2F$$

wherein F is the resultant focal length of the full lens system; $F_{1.2\ .\ .\ .\ i}$ is the resultant focal length of the first to the *i*th lens; r_5 and r_{10} are the radii of curvature of the front face of the third lens and the rear face of the fifth lens respectively; t_2 and t_3 are the distances between the first and second lenses and the second and third lenses respectively; and d_3 is the thickness of the third lens.

3,506,340
OBJECTIVE FOR TAKING AND PROJECTING PICTURES

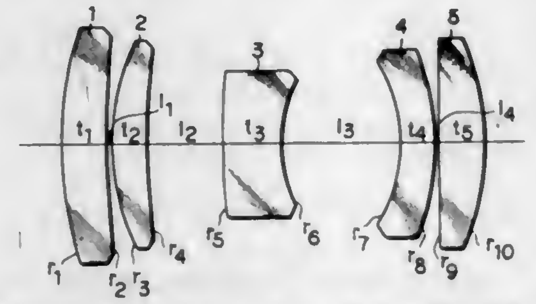
Saburo Kinoshita, Akishima-shi, Tokyo, Japan, assignor to Konishiroku Photo Industry Co., Ltd., Tokyo, Japan
Filed Dec. 6, 1967, Ser. No. 688,516
Claims priority, application Japan, Dec. 6, 1966, 41/79,674
Int. Cl. G02b *9/00, 11/34*
U.S. Cl. 350—214 **3 Claims**



An optical objective for use in taking or projecting pictures in which various oberrations are highly corrected and which permits a reduction ratio of 1/100 or less. The objective comprises a first group consisting of a negative cemented meniscus lens component, a second group consisting of two positive lens components, of which one component is a cemented positive lens component, third and fourth groups each consisting of a negative cemented meniscus lens component, the meniscus lens components of the third and fourth groups having their concave surfaces spaced apart by an air space and opposed to each other, and a fifth group consisting of more than one positive lens components, of which at least one component is a cemented positive lens component, all of the groups being in optical alignment with each other and arranged in turn as they are numbered from the front of the objective.

3,506,341
LONG FOCAL LENGTH LENS SYSTEM

Tomokazu Kazamaki and Yasuo Takahashi, Tokyo-to, Japan, assignors to Asahi Kogaku Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a corporation of Japan
Filed Apr. 11, 1967, Ser. No. 629,976
Claims priority, application Japan, Apr. 15, 1966, 41/23,573
Int. Cl. G02b *9/60*
U.S. Cl. 350—218 **2 Claims**



A highly corrected long focal length objective lens system includes five spaced single element lenses. The first and second lenses are positive meniscus types, the third and fourth lenses are negative meniscus types and the fifth lens is positive with its rear face of greater curvature than its front face. The lens system satisfies the following conditions:

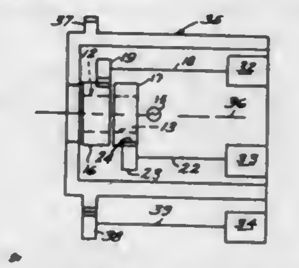
$$\nu_1,\ \nu_2 \geqq 56$$
$$25 < \nu_3 < 29$$
$$F/2.2 < F_{1.2} < F/1.8$$
$$0.08F < l_2 < 0.12F$$
$$0.2F \leqq r_6 \leqq 0.3F$$
$$0.18F \leqq |r_7| \leqq 0.32F$$
$$2F \leqq r_9$$
$$1.68 < n_3$$
$$1.52 < n_4 < 1.6$$
$$1.7 < n_5 < 1.8$$

wherein the lenses are successively designated as 1 to 5 and the lens faces are successively designated 1 to 10 and ν_1 is the Abbe number of the *i*-th lens, n_1 is the *d*-line refractive index of the *i*-th lens, F is the resultant focal length of the lens system, $F_{1.2}$ is the resultant focal length of the first two lenses, r_j is the radius of curvature of the *j*-th face, and l_k is the spacing between the *k*-th lens and the next successive lens.

3,506,342
INSTRUMENT FOR THE MEASUREMENT OF VISUAL ACUITY AND THE ASTIGMATIC AXIS

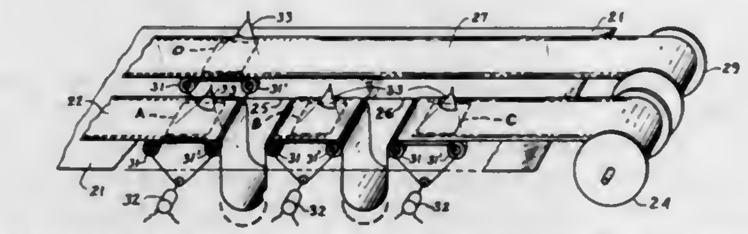
Robert E. Van Patten and Paul W. Lappin, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 5, 1967, Ser. No. 673,230
Int. Cl. A61b *3/02*
U.S. Cl. 351—34 **4 Claims**

A pair of transparent optical glass elements inscribed with a series of spaced-apart, parallel opaque lines, and adjustable both in rotation relative to each other to a first, relative angular position therebetween representing a measure of the viewer's visual acuity, and being further adjustable together to a second, common angular position about a central axis and representing a measure of the viewer's astigmatic axis.



3,506,343
METHOD AND APPARATUS FOR MAKING ANIMATED CARTOONS

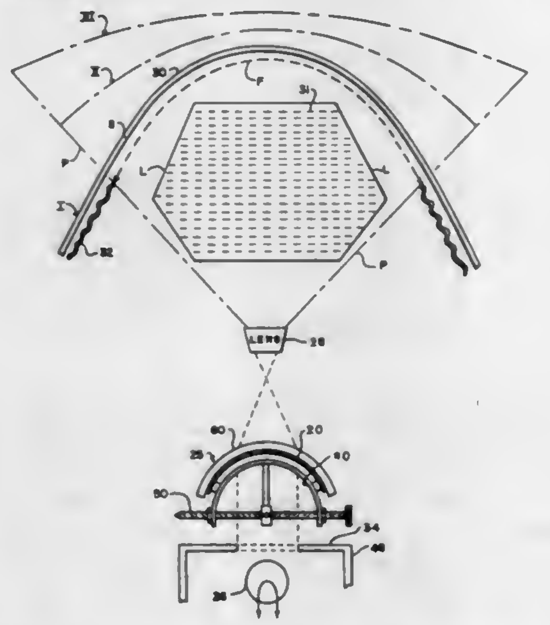
Jean Veran Dejoux, Paris, France, assignor, by mesne assignments, to Optical Systems Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,903
Int. Cl. G03b *19/18, 21/32*
U.S. Cl. 352—50 **12 Claims**



A method and apparatus for making animated cartoons in which the images of two pictures of a sequence may be projected in superposed relation at one or more of a plurality of drawing surfaces where a third picture, derived from the superposed projected images, may be drawn. The pictures are drawn on one or more film strips of suitable drawing material which are mounted for movement across said drawing surfaces. The portion of any strip located at any drawing surface may be moved forwardly or backwardly with respect to that surface independently of other portions of the strips located at any other drawing surface.

3,506,344
OPTICAL PROJECTION SYSTEM

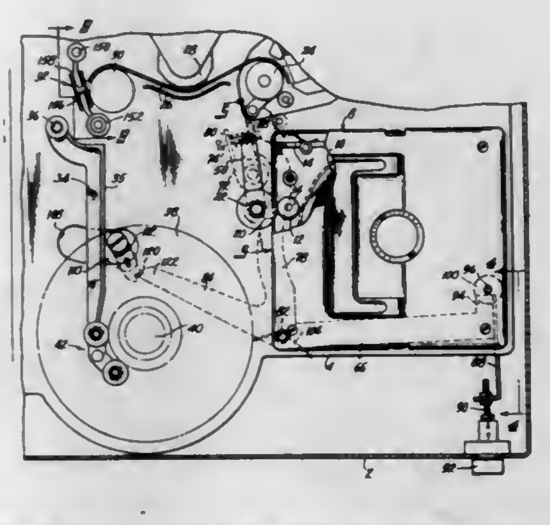
Joseph T. Petit, Jr., N. Bernstein Blvd., P.O. Box 1244, Center Moriches, N.Y. 11934
Substituted for abandoned application Ser. No. 483,236. This application July 8, 1968, Ser. No. 767,009
Int. Cl. G03b *21/32, 37/00*
U.S. Cl. 352—69 **7 Claims**



The system includes a wide screen generally cylindrically curved. A curved film gate which is adjustable as to curvature, is provided for supporting the film in a cylindrically curved configuration corresponding to the curvature of the screen. A projection lens is interposed between the film and screen in an optical path for projecting the picture on the screen, said lens being anamorphotic if the film was photographed with anamorphotic apparatus.

3,506,345
SELF-THREADING MOTION PICTURE PROJECTOR

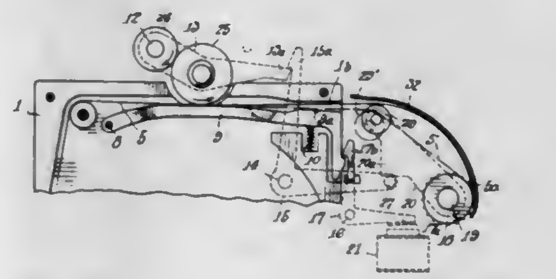
Leon W. Wells, Closter, N.J., assignor to Panopix Research Inc., New York, N.Y., a corporation of New York
Filed Apr. 14, 1967, Ser. No. 631,058
Int. Cl. G03b *23/02*
U.S. Cl. 352—72 **15 Claims**



A projection machine having a driven friction drive roller movable into engagement with film in a cartridge to effect automatic threading of the film in the projector. A sensing mechanism detects the diameter of film on the take-up reel and when a predetermined diameter is reached the drive roller is retracted from the film cartridge, to run idly during the remainder of the projection cycle. The drive roller is initially engaged with the film by manual operation and is normally blocked against such actuation. The drive roller is released by placing a cartridge of film on the projector.

3,506,346
MOTION PICTURE FILM CARTRIDGE

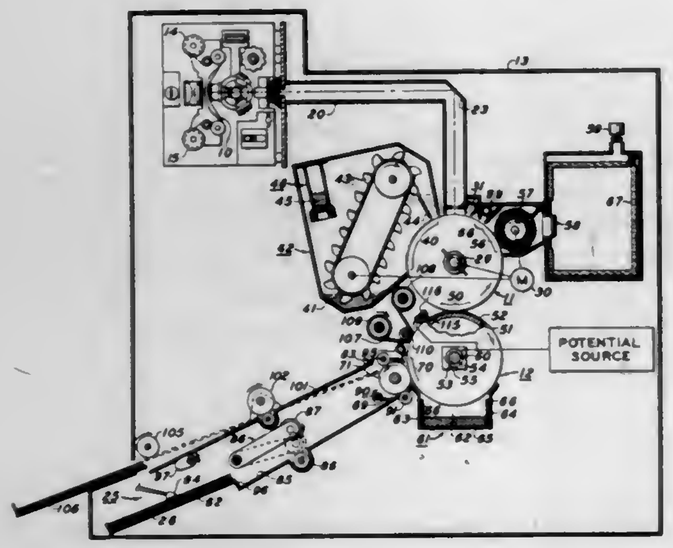
Ikuji Kato, Tokyo, Japan, assignor to Ricoh Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Apr. 21, 1967, Ser. No. 632,677
Claims priority, application Japan, Apr. 25, 1966, 41/26,215
Int. Cl. G03b *23/02*
U.S. Cl. 352—72 **5 Claims**



A film cartridge having a film loading shaft is connectable with a film rewinding shaft of a motion picture projector. A stopper member holds the leading edge of the film within the film path in the cartridge body. A notch is provided through which a portion of the film lying in the above path is exposed to the outside of the cartridge body. A hook is employed for holding the stopper member in film released position when pressed by a friction drive wheel entering the notch. The film is advanced by the wheel toward a rotatable film sprocket wheel which engages the film and withdraws more film from the cartridge.

3,506,347
DUPLEX XEROGRAPHIC REPRODUCTION APPARATUS

Chester F. Carlson, Pittsford, N.Y., assignor, by mesne assignments to Xerox Corporation, Rochester, N.Y., a corporation of New York
Continuation of application Ser. No. 335,536, Jan. 3, 1964. This application Oct. 19, 1967, Ser. No. 676,653
Int. Cl. G03g *15/22*
U.S. Cl. 355—3 **20 Claims**

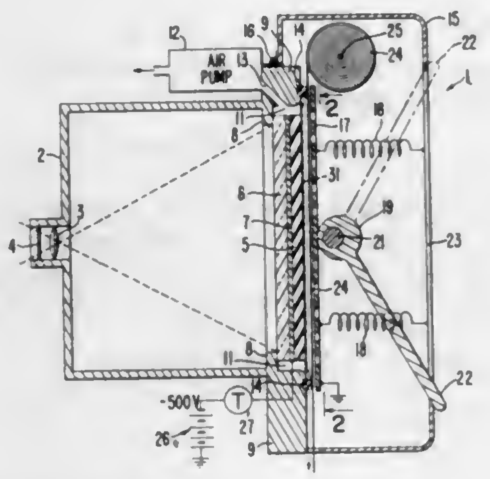


Method and apparatus for forming xerographic reproductions on both sides of a copy sheet in which a first tackifiable xerographic powder image is formed on a support, the powder image on the support is subjected to solvent vapors rendering the powder image tackified, the tackified image is transferred to the first side of a copy sheet, a second tackifiable xerographic powder image is formed on the support, the powder image on the support is subjected to solvent vapors rendering the powder image tackified, and the second tackified image is transferred to the second side of the copy sheet.

3,506,348
ELECTROPHOTOGRAPHIC APPARATUS EMPLOYING ATMOSPHERIC PRESSURE TO HOLD THE FILM IN CONTACT WITH THE PHOTOCONDUCTOR

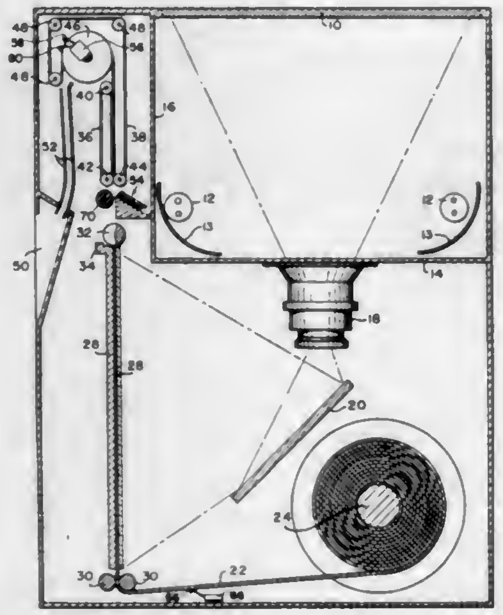
Ivor Brodie, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 10, 1967, Ser. No. 615,134
Int. Cl. G03b *27/20, 29/00;* **G03g** *15/00*
U.S. Cl. 355—16 **2 Claims**

In electrophotographic apparatuses, with a photoconductive plate illuminated by a photon image, a vacuum member is positioned to hold the recording medium against the plate. The electrographic recording paper having a charge retentive surface and a conductive backing is placed against the photoconductive plate with the charge retentive surface adjacent the photoconductor. A potential as of 500 v. is applied across the photoconductor and the electrographic paper for a short time during which the photoconductor is illuminated by the photon image to be reproduced. The photoconductor becomes conductive in the regions which are illuminated, thereby causing an electric charge image, corresponding to the image being reproduced or photographed, to be deposited upon the charge retentive surface of the electrographic paper. The charge image is subsequently developed by conventional electrographic toner development methods. During the time the charge image is being deposited on the electrographic paper, the paper is held in nominal contact with the photoconductive plate by drawing a partial vacuum between the photoconductive plate and the electrographic paper such that atmospheric pressure holds the paper against the photoconductor. A groove around the marginal edge of the photoconductive plate is connected to the suction side of an air pump for drawing the partial vacuum between the photoconductive plate and the electrographic paper. A rubber O-ring encircles the groove and a perforated pressure plate clamps the paper against the O-ring to seal the outside marginal edges of the groove to the paper.



3,506,349
PHOTOGRAPHIC APPARATUS

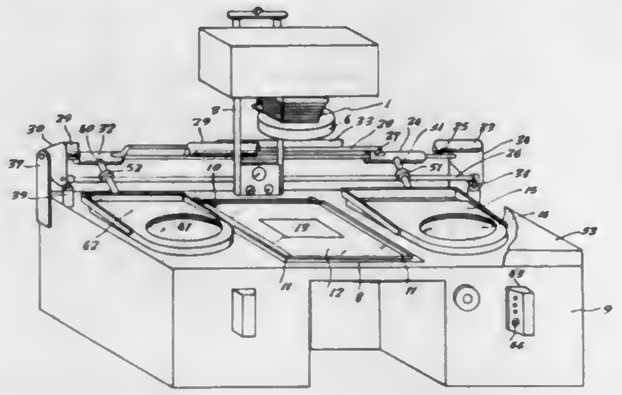
Richard J. Chen, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 6, 1967, Ser. No. 651,553
Int. Cl. G03b *27/70, 29/00*
U.S. Cl. 355—29 **14 Claims**



Photographic apparatus for processing sections of a photosensitive sheet. The apparatus includes rolls for advancing a section of photosensitive sheet subsequent to exposure, a blade for severing the exposed section from the remainder of the sheet and a liquid applicator for applying a processing liquid to the exposed section. Control means are provided for preventing the premature severing of a section of the sheet until a previous section has moved a predetermined distance through the apparatus and for indicating a sheet reloading condition.

3,506,350
PHOTOGRAPHIC ENLARGER FOR HALF-TONE COLOR PRINTING

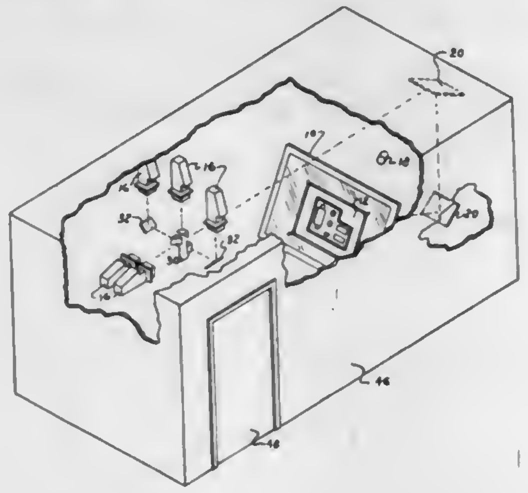
James R. Denner, Shepton Mallet, England, assignor to W. H. Howson Limited, Leeds, England, a company of Great Britain
Filed Mar. 21, 1967, Ser. No. 624,772
Claims priority, application Great Britain, Mar. 24, 1966, 12,946/66
Int. Cl. G03b *27/66*
U.S. Cl. 355—40 **6 Claims**



A photographic enlarger for preparing colour separation records for half-tone printing has a half-tone screen which is moved by an air cylinder and piston to and from the easel of the enlarger, and is set rotationally, before being brought to the easel, by an automatically operating turntable. The interaction of the screen mount and the turntable is caused by lowering the screen mount onto the turntable as the half-tone screen is returned to its rest (out of use) position. This is performed by tilting the carriage on which the frame is supported for its movements. A clear screen is also movable to and from the easel by power means. The operation of all these power means (and of an automatic filter changer and presensitizing controls for light-value determining probes) may be controlled by the operation of a single multi-gang switch, either manually or automatically.

3,506,351
DRAFTING MACHINE

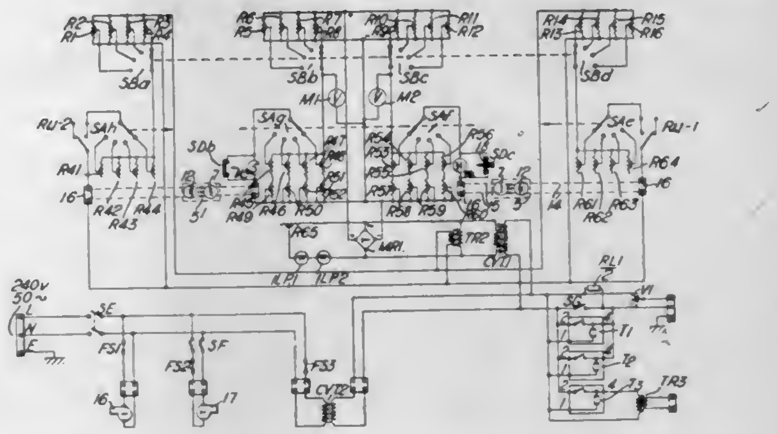
Robert C. Geitz, 7 Hoplea Road, Simsbury, Conn. 06070
Filed July 26, 1967, Ser. No. 656,272
Int. Cl. G03b *27/70*
U.S. Cl. 355—43 **5 Claims**



An apparatus and method for producing engineering drawings and the like wherein an image of a drawing is produced on a light collecting member by projection from the rear of the member and this image is modified either by drafting techniques applied from the front of the member or by light projecting techniques including superimposing on this image one or more additional images. Photographs are taken of the thus produced and modified image at any desired stage of its development with the photographs rendering additional images that may be stored, projected or reproduced as desired.

3,506,352
PHOTOGRAPHIC APPARATUS AND THEIR CALIBRATION

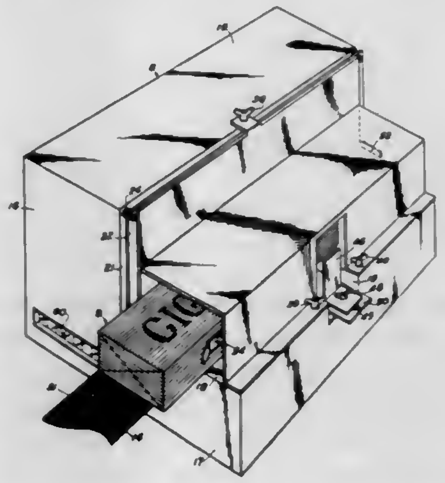
James Railton Denner, Somerset, England, assignor to W. H. Howson, Limited, Leeds, England, a company of Great Britain
Filed Sept. 19, 1967, Ser. No. 668,773
Claims priority, application Great Britain, Sept. 23, 1966, 42,488/66
Int. Cl. G03b *27/76;* **G05d** *25/00*
U.S. Cl. 355—68 **10 Claims**



In photographic apparatus an image is projected and exposed on photographic material on a support surface by a first light source of adjustable intensity. A light-sensitive photo-resistive electric cell, removably placed on the support for receiving light from the first source, has a current sensitive instrument in circuit with it to indicate the intensity of light received by it, and means is provided to vary the resistance of the latter circuit for calibrating the current sensitive element. A second light source of adjustable intensity is adapted to direct light to the cell, when the first light source is shut off, for use in calibrating the current sensitive instrument.

3,506,353
APPARATUS FOR MARKING COVERED ITEMS

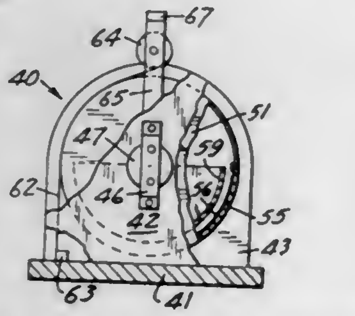
James M. Gilchrist, Jr., Box 15066, Atlanta, Ga. 30333
Original application Mar. 13, 1967, Ser. No. 622,626. Divided and this application Apr. 26, 1968, Ser. No. 724,567
Int. Cl. G03b *27/06*
U.S. Cl. 355—102 **11 Claims**



Apparatus for marking a surface through a barrier, wherein the surface is coated, soaked or otherwise treated with a solution that is sensitive to heat, light or other forms of energy, and will change color or texture when subjected to the energy source. This surface is enclosed in a protective barrier, such as glass, cellophane, cardboard, or any substance, transparent or opaque, through which the energy may be transmitted, and the coated surface and its protective barrier are subjected to the source of energy with a stencil or similar pattern forming device interposed therebetween so that portions of the coated surface will change color or texture and a pattern will be formed thereon.

3,506,354
COPIER

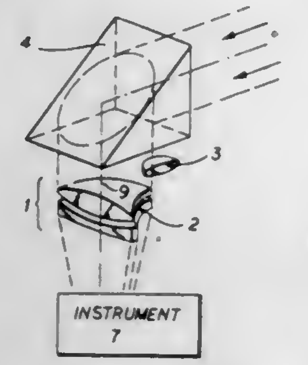
La Vern L. Linse, White Bear Township, Ramsey County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 693,010
Int. Cl. G03b *27/22, 27/30*
U.S. Cl. 355—106 **5 Claims**



Copying apparatus for making copies of graphic originals by a process involving light exposure and heat development. A source of light is suspended adjacent a reflector and between an exposure station and a developing station. The reflector is moveably positioned for reflecting light rays alternately toward the exposure station and the developing station respectively.

3,506,355
COMPACT ARRANGEMENT OF TWO OPTICAL OBJECTIVES FOR TRANSMITTING AND RECEIVING RADIATION

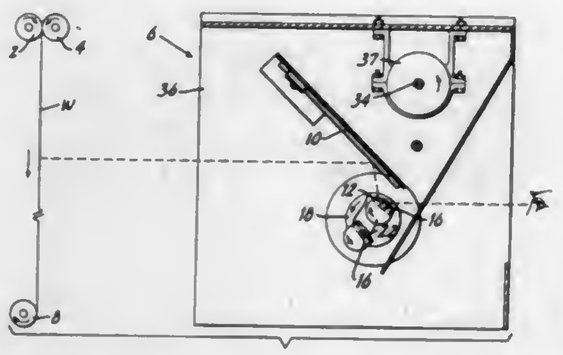
Heinrich Nagel, Karlsruhe, Germany, assignor to Eltro GmbH & Co., Heidelberg, Germany
Filed Nov. 8, 1965, Ser. No. 506,625
Claims priority, application Germany, Nov. 14, 1964, E 28,137
Int. Cl. G01c *3/08;* **G02b** *17/00*
U.S. Cl. 356—4 **1 Claim**



An optical system for transmitting and receiving an electromagnetic radiation consisting of a lens arrangement having a circular cross-sectional surface divided into two zones, the one zone being intended for transmitting radiation and being constituted by a circular edge zone inside the said circular cross-sectional surface and being spaced from the center axis of the said optical system, the other zone being intended for reception of radiation and being constituted by the balance of the said circular cross-sectional surface, the diameter of the said zone intended for transmission being smaller than the diameter of the said zone intended for reception.

3,506,356
METHOD AND DEVICE FOR PRODUCING A SUBSTANTIALLY STATIONARY IMAGE OF SUCCESSIVE SIMILAR AREAS ON A RUNNING WEB

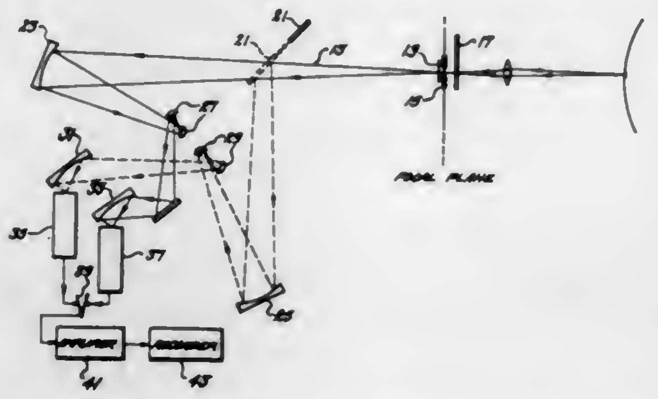
Horace C. Stringfield, Pompton Lakes, N.J., assignor to National Laboratories & Manufacturing Corporation, a corporation of New Jersey
Continuation-in-part of application Ser. No. 175,138, Feb. 23, 1962. This application Aug. 11, 1966, Ser. No. 571,916
Int. Cl. G01p *3/40*
U.S. Cl. 356—24 **11 Claims**



A method for inspecting running webs by presenting a succession of apparently stationary images to an observer. In one form an apparatus is utilized having a frame with a plurality and preferably two mirrors or reflective surfaces mounted on a drum within the frame. The mirrors on the drum rotate with the drum so that the mirrors are adapted to be successively positioned in optical alignment between the observer and the web. The mirrors are individually mounted on the drum on their own axis. The apparatus includes a mechanism for rotating and then positioning the mirrors so that at least one mirror is always optically aligned between the web and the observer. The mirror which is in optical alignment between the observer and the web is rotated about its own axis in timed relation to the running web to present to the observer an apparently stationary image. A method of scanning a running web of material wherein a plurality of individual mirrors are revolved and positioned successively so that at least one is always optically aligned between the observer and the web. The mirror which is so optically aligned is rotated about its own axis in timed relation to the web to present a stationary image to the observer.

3,506,357
RAPID REMOTE SENSING BY SPECTRAL MATCHING

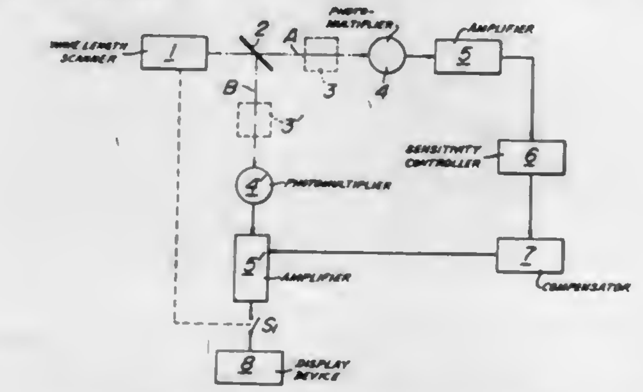
Graham R. Hunt, Winchester, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 27, 1967, Ser. No. 626,675
Int. Cl. G01n *2/22;* **G01j** *3/42*
U.S. Cl. 356—51 **3 Claims**



A technique for determining the composition, temperature, and surface condition of a low energy level remotely located target material by infrared spectral matching in which the reflection spectra of a set of polished samples of different compositions is instrumentally compared with the emission spectrum from the source, the data being obtained almost instantaneously to prevent any variation of the intervening attenuator from affecting the spectral information data leaving the target area.

3,506,358
RAPID SCANNING SPECTROPHOTOMETER OF DOUBLE BEAM MODE

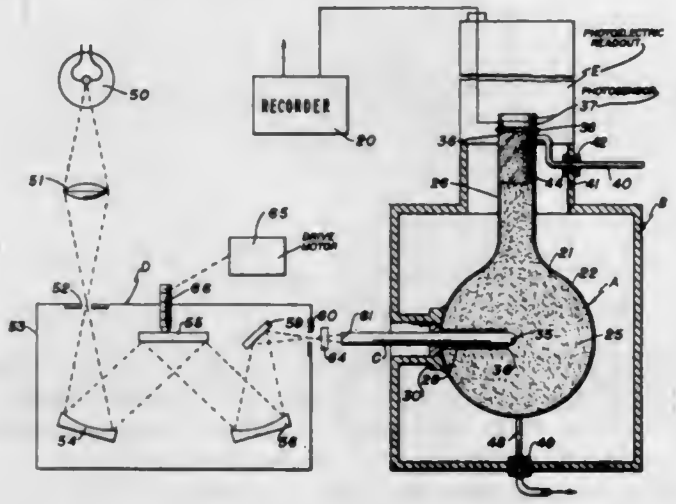
Hiroaki Baba and Yoshio Shindo, Sapporo-shi, Japan, assignors to The Research Development Corporation of Japan, Minato-ku, Tokyo, Japan
Filed May 14, 1964, Ser. No. 367,459
Claims priority, application Japan, May 17, 1963, 38/26,155
Int. Cl. G01j *3/42*
U.S. Cl. 356—88 **3 Claims**



A rapid scanning spectrophotometer of the double beam mode type wherein a photoelectric detector is provided in each of the light paths, a supply voltage for the detector is controlled so that the output of the detector is always at a constant level for all wave lengths, this controlled voltage is also supplied to the detector for the sample to control it, thereby compensating for the variations of the intensity of light from the source, efficiency of the monochromator, sensitivity of the detector and transmission of light for the solvent, the absorption spectrum of the sample is readily indicated on a display device using the output of the detector for the sample.

3,506,359
APPARATUS FOR MEASURING LIGHT ABSORPTION OF A SAMPLE

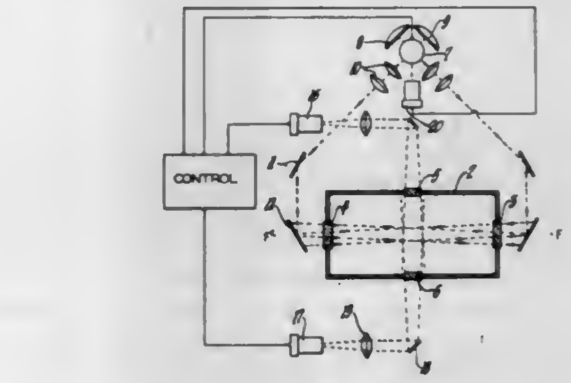
James J. Burke, Jr., Mountain View, and Dominic J. Ruggieri, Fremont, Calif., assignors to Optics Technology, Inc., Palo Alto, Calif.
Filed Nov. 7, 1966, Ser. No. 592,499
Int. Cl. G01j *3/42;* **G01n** *1/10, 21/22*
U.S. Cl. 356—93 **10 Claims**



A sample is placed within a vessel and subjected to light from a light source placed at the center of the sample and directing light to the vessel. The intensity of the light reaching the vessel is a function of the light absorption of the sample. Light striking the interior surface of the vessel is collected and its intensity is measured to determine the light absorption of the sample.

3,506,360
TURBIDITY INDICATOR USING SUPERIMPOSED CONVERGING LIGHT BEAMS

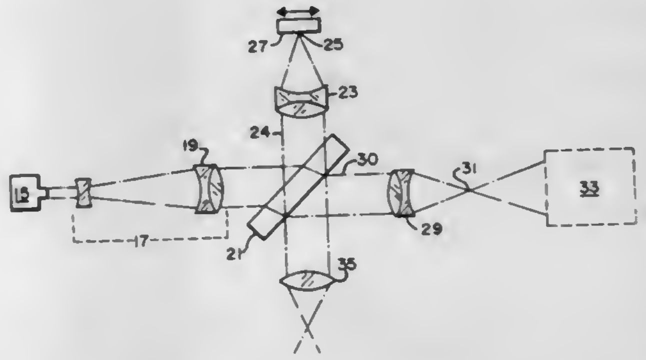
Paul McHenry Albert, Ann Arbor, Mich., assignor, by mesne assignments, to Gamrad, Inc., Dearborn Heights, Mich., a corporation of Michigan
Continuation of application Ser. No. 312,431, Sept. 30, 1963. This application Oct. 30, 1967, Ser. No. 683,077
Int. Cl. G01n *21/00, 21/06, 21/26*
U.S. Cl. 356—103 **6 Claims**



A device for providing an indication of the turbidity level of a fluid using a light system and the Tyndall effect.

3,506,361
OPTICS TESTING INTERFEROMETER

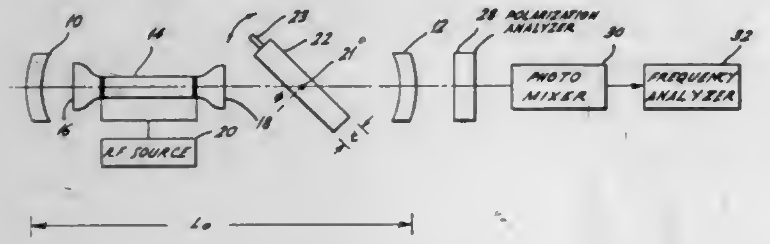
Kent E. Erickson, Ridgewood, N.J., assignor to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Dec. 13, 1966, Ser. No. 601,364
Int. Cl. G01b *9/02*
U.S. Cl. 356—106 **6 Claims**



The reference and test beams formed by the beam splitter of an interferometer are separately passed through respective optical elements which image the beams to diffraction limited points. A variable reflectance surface is located at the image point of the reference beam thereby providing means for varying the intensity of the reference beam without distortion of the plane wave front of the reference beam. The testing beam is directed from the image focus point into an optical system under test. An element of the tested system comprises a reflector in order that the test beam double pass the optical system and returns to the image point of the outgoing beam. An eyepiece is provided to view the recombined interfering reference and test beam in order to observe the characteristic fringe patterns normally associated with optical aberrations common to the optical system under test.

3,506,362
LASER SYSTEM WHICH INDICATES THE ANGULAR POSITION OF AN OPTICALLY ANISOTROPIC ELEMENT

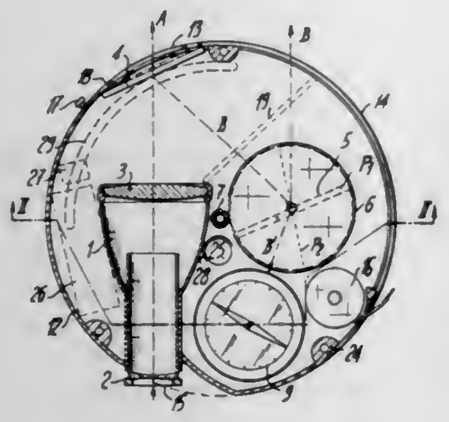
Walter M. Doyle, Laguna Beach, and Matthew B. White, Newport Beach, Calif., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 18, 1966, Ser. No. 595,404
Int. Cl. G01b *9/02;* **H01s** *3/00*
U.S. Cl. 356—111 **9 Claims**



A laser system adapted to produce a signal the frequency of which is indicative of the angular position with respect to the laser beam incident thereon of a birefringent, optically transmissive device disposed within the laser cavity. The laser cavity has disposed therein a discharge tube shaped so as not to favor a particular oscillation mode of polarization, and a rotatable optically transmissive device which, by introducing into the laser cavity an optical anisotropy, restricts laser oscillation modes so that only two orthogonally polarized light beams exit the laser cavity. Rotation of the optically transmissive device changes the difference between the respective oscillation frequencies of said orthogonally polarized light beams by changing the respective effective path lengths, within the laser cavity, of the two beams. That frequency difference is detected by a photomixer disposed externally of the laser cavity.

3,506,363
ANGLE MEASURING AND SIGHTING INSTRUMENT INCLUDING MEANS TO SELECTIVELY VIEW A COMPASS

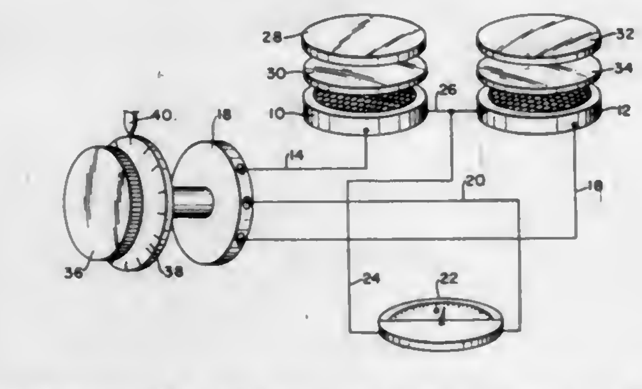
André Marcel Rosfelder, La Jolla, Calif., assignor, by mesne assignments, to Tetra Tech, Inc., La Jolla, Calif.
Filed May 23, 1966, Ser. No. 552,017
Claims priority, application Switzerland, June 4, 1965, 7,863/65
Int. Cl. G01c *17/10*
U.S. Cl. 356—147 **5 Claims**



A sighting instrument is provided in which a sighting member observes in a fixed plate one object viewed directly through the plate and an image of another object reflected from a movable mirror which also reflects the image of a compass mounted on the base, the movable mirror being driven from a manual control member through a reducer, the control member carrying an arm which passes on a scale to indicate the angle between the lines of sights to the objects while the reducer acts on a multiplying gear arrangement which controls readings on a second scale to provide minutes of angle.

3,506,364
COLOR RENDITION INDEX METER

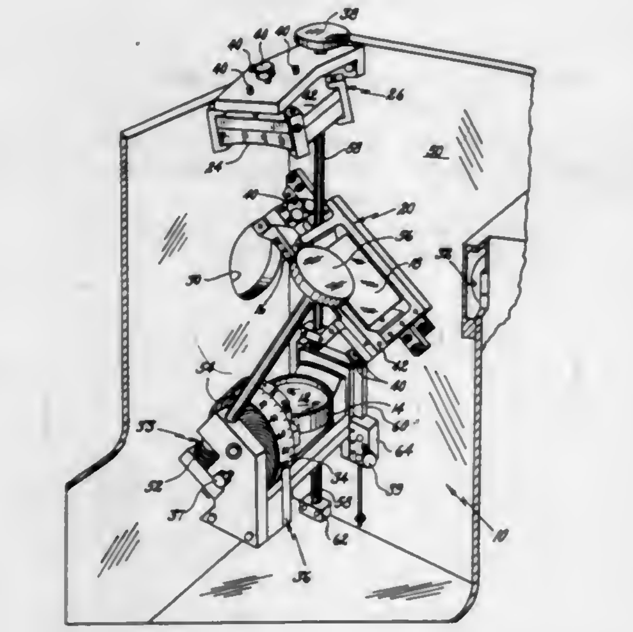
Joel Shurgan, Washington Township, Bergen County, and Luke Thorington, Berkeley Heights, N.J., assignors to Duro-Test Corporation, North Bergen, N.J., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,167
Int. Cl. G01j *3/46, 1/42, 1/44*
U.S. Cl. 356—173 **14 Claims**



Apparatus for determining the C.I.E. color rendering index of "white" type fluorescent sources in which the ratio of the irradiance to the illuminance of the light is measured.

3,506,365
BIDIRECTIONAL REFLECTION ATTACHMENT FOR A DOUBLE BEAM SPECTROPHOTOMETER

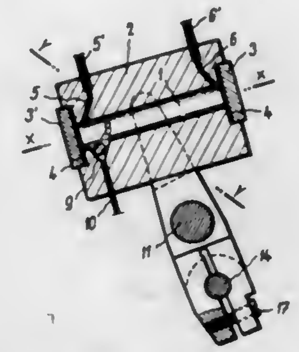
Graham R. Hunt, Winchester, Mass., and Howard P. Ross, Salt Lake City, Utah, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 31, 1968, Ser. No. 702,126
Int. Cl. G01n *21/48*
U.S. Cl. 356—244 **4 Claims**



A bidirectional reflection attachment for a double beam spectrophotometer which allows accurate measurements to be taken while the sample is illuminated from above. The attachment having a plurality of mirrors for focusing the beam emanating from a spectrophotometer upon the sample examined. The sample holder is adjustable so that it can be tilted ±45° from the horizontal and can be raised or lowered so that the upper surface of the sample may be conveniently brought to a focus point.

3,506,366
HYDRODYNAMIC CELL

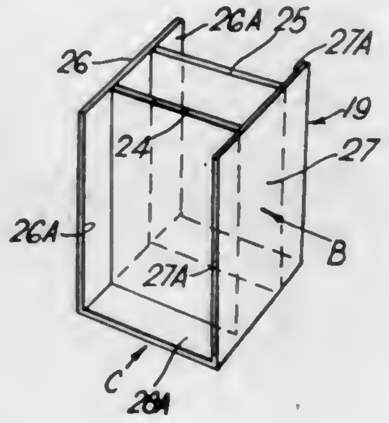
Jiři Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia
Filed June 1, 1966, Ser. No. 554,590
Claims priority, application Czechoslovakia, June 3, 1965, 3,596/65
Int. Cl. G01n *1/10*
U.S. Cl. 356—246 **7 Claims**



A photometric cell having a fluid measuring chamber with transparent end covers, a magnetizable stirrer and a shunting cavity in the lowest portion of the chamber for housing the stirrer during the measuring operation.

3,506,367
SPECTROPHOTOMETER CELLS

William J. Ross, 55 Arden St., Edinburgh 9, Scotland, and Stanley G. Watson, 27 Castallan Ave., Gideapark, Romford, England
Filed July 20, 1966, Ser. No. 566,559
Claims priority, application Great Britain, Dec. 28, 1965, 54,990/65
Int. Cl. G01n *21/00, 21/26*
U.S. Cl. 356—246 **1 Claim**

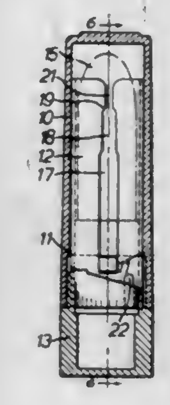


A spectrophotometer cell of rectangular cross section internally and externally and fitting neatly widthwise into a square compartment of a cell carrier, has all its walls transparent, and is provided with external flanges on at least one of its minor walls, so that the cell may be withdrawn and turned through 90°, and then be fitted neatly into the compartment in order to provide a different length of light path.

3,506,368
CONTAINER FOR LIPSTICK AND OTHER COSMETICS

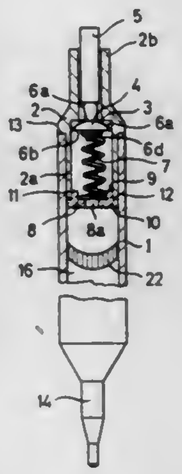
Ronald B. White, Bournemouth, England, assignor to Edward Webster Limited, Bournemouth, England, a British company
Filed July 22, 1968, Ser. No. 746,535
Claims priority, application Great Britain, Aug. 11, 1967, 36,951/67
Int. Cl. B43k *21/06, 23/00*
U.S. Cl. 401—82 **3 Claims**

In a lipstick container in which the lipstick is held in a godet which slides axially in a cylindrical body and carries a radially projecting pip guided in a longitudinal slot in the body and adapted for engagement by a finger to move the godet and lipstick axially, the pip is made of a radial dimension only slightly greater than the wall thickness of the body and a cover for the body has an internal shoulder which, when the cover is fitted to the body overlies the pip and holds the godet and lipstick in their fully retracted position.



3,506,369
BALLPOINT FOUNTAIN PEN HAVING A BALLPOINT REFILL

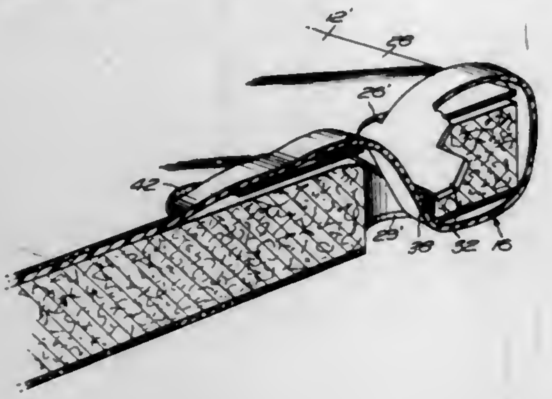
Adolf Otto Berglein, 49 Widenmayerstreet, Munich, Germany
Continuation-in-part of application Ser. No. 546,940, Sept. 19, 1966, which is a continuation-in-part of application Ser. No. 362,528, Apr. 23, 1964. This application July 15, 1968, Ser. No. 745,043
Int. Cl. B43k *7/02*
U.S. Cl. 401—217 **4 Claims**



A ballpoint fountain pen has a casing, a tubular refill in this casing, and a closure means at the rear end of the refill. The refill comprises in combination a tubular valve casing having a first section axially extensive with the rearward refill end and a second section having a smaller cross-section than the first section and defining a sharply edged annular valve seat for a valve member axially movable in the valve casing and having a first section with substantially spherical face opposite the sharp edged valve seat and a second section being received and guided with narrow space for air passage through the second valve casing section and projecting rearwardly from the second valve casing section, annular abutment means in the first valve casing section at a predetermined distance from the first section of the valve member, and a spring axially between the first section of the valve member and the annular abutment means in the first valve casing section urging the first valve member section against the sharp-edged valve seat.

3,506,370
LOOSELEAF NOTEBOOK BINDER

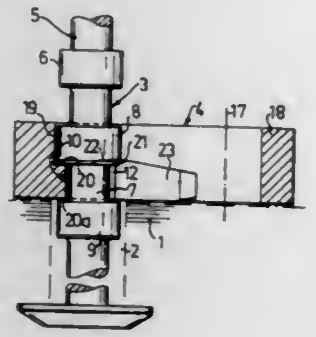
Thomas R. Smith, 27A Brushy Hill Road,
Newtown, Conn. 06470
Continuation of application Ser. No. 588,684, Oct. 20, 1966. This application May 26, 1969, Ser. No. 831,260
Int. Cl. B42f *3/04*
U.S. Cl. 402—8 **1 Claim**



A looseleaf notebook binder assembly for retaining a plurality of perforated sheets between cover members in looseleaf relation and including a plurality of binding members for retaining the sheets between the cover members, each of the binding members being formed with an elongated flexible plastic strip on one end of which a transversely positioned enlarged head portion is formed. Each of the binding members extends through aligned openings formed in the sheets and the cover members, the enlarged head portion of each binding member preventing withdrawal of the binding member through the openings, a loop being defined by each strip around the marginal edges of the sheets and cover members that is located exteriorly thereof, and the binding members being locked in the exterior looped position thereof to provide for movement of the sheets and cover members as required.

3,506,371
DEVICE FOR HOLDING TOGETHER A BUNDLE OF PAPER SHEETS

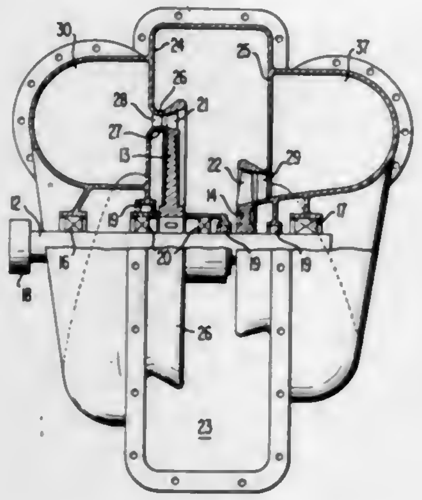
Per Sigurd Nes, Akerbyvagen 308, Taby, Sweden
Filed Dec. 4, 1968, Ser. No. 781,129
Claims priority, application Sweden, Dec. 5, 1967, 16,694/67
Int. Cl. B42f *13/36*
U.S. Cl. 402—63 **3 Claims**



As shown in FIG. 2 in the enclosed drawing the stem portion **7** of the pin **3** has been snapped through opening **11** between the ends of the slit ring member **10** of the clip **4** into the locking position shown. Simultaneously, the annular collar **8** has been passed over two abutment portions **22** at the ends of the legs of the slit ring member **10**. When the pin **3** is inserted through registering holes in a bundle of paper sheets **1**, the pressure from the bundle against the clip will hold the collar **8** against the end surface **20** of the ring **10** and in this position the abutment portions **22** will form auxiliary stop means for retaining the clip in locking position.

3,506,372
GAS TURBINES FOR THE DRIVE OF VEHICLES

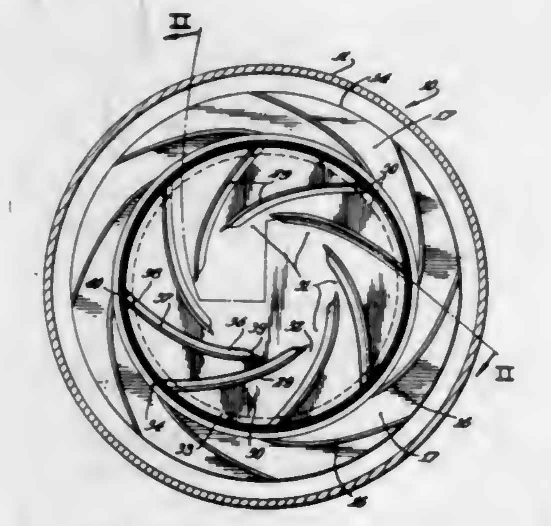
Oswald Conrad, Schmiden, Wurttemberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Mar. 7, 1968, Ser. No. 711,441
Claims priority, application Germany, Mar. 9, 1967, D 52,482
Int. Cl. F01d *1/00, 3/00;* **F02c** *7/26*
U.S. Cl. 415—61 **11 Claims**



A gas turbine for driving vehicles which includes two coaxially arranged rotors, one of the two rotors constituting a starting rotor having a high stationary moment and being connected with the turbine shaft by a one-way device while the other rotor forms an operating rotor having a low stationary torque and being securely connected with the turbine shaft; the outlet sides of the two rotors terminate in a common annular discharge space arranged centrally while the inlet sides thereof are connected with inlet spirals that are adapted to be selectively connected with a common inlet channel which, in turn, is adapted to be connected with a gas producer.

3,506,373
HYDRODYNAMICALLY BALANCED CENTRIFUGAL IMPELLER

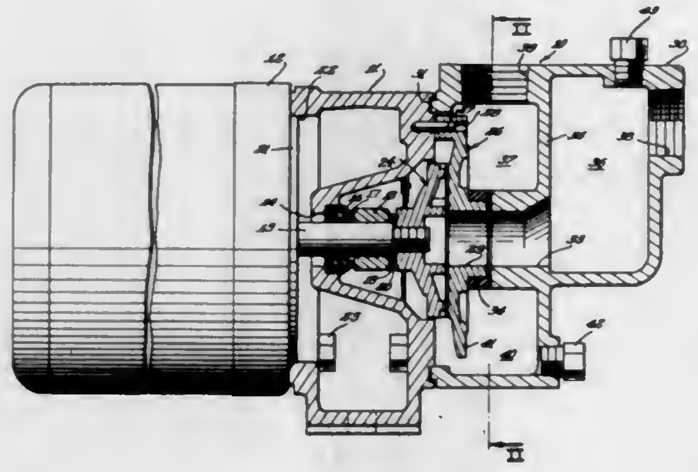
Otto J. Danker and Paul Cooper, Cleveland Heights, Ohio, assignors to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Feb. 28, 1968, Ser. No. 709,097
Int. Cl. F04d *29/66*
U.S. Cl. 415—106 **9 Claims**



A rotatable centrifugal impeller having hydrodynamic balancing means in the form of slots formed in the impeller disc and opening out of the outer peripheral wall of the disc to act as a portion of the radial impeller pumping channels.

3,506,374
SELF-PRIMING PUMP

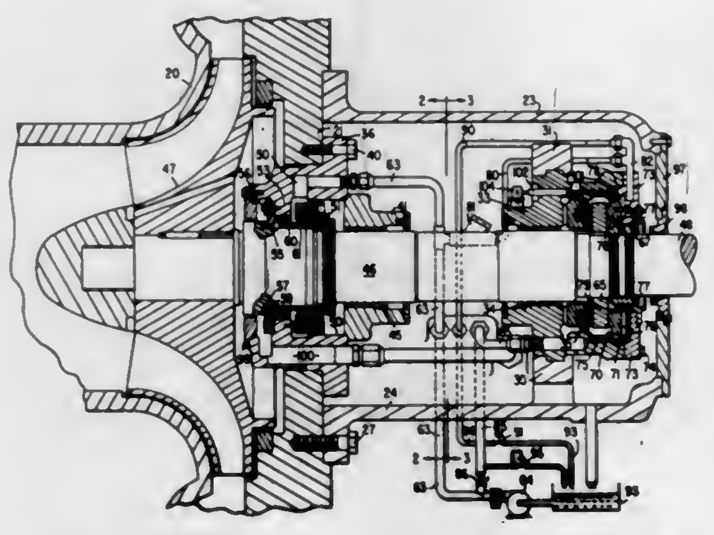
William K. Kaebich, Decatur, Ill., assignor to Decatur Pump Company, Decatur, Ill., a corporation of Illinois
Filed June 4, 1968, Ser. No. 734,334
Int. Cl. F04d *9/02*
U.S. Cl. 415—210 **13 Claims**



A self-priming centrifugal pump which includes a diffuser disc and impeller rotatably positioned adjacent the diffuser disc. The diffuser disc includes a plurality of vanes spiraling radially outwardly and the impeller is rotatably positioned adjacent the diffuser disc radially inwardly of the vanes. The spacing between the vanes is greater than the spacing between the remaining vanes. A directional lip is formed on the diffuser disc and extends radially outwardly therefrom and positioned within the spacing of greater diameter.

3,506,375
COMPRESSOR SEALING SYSTEM

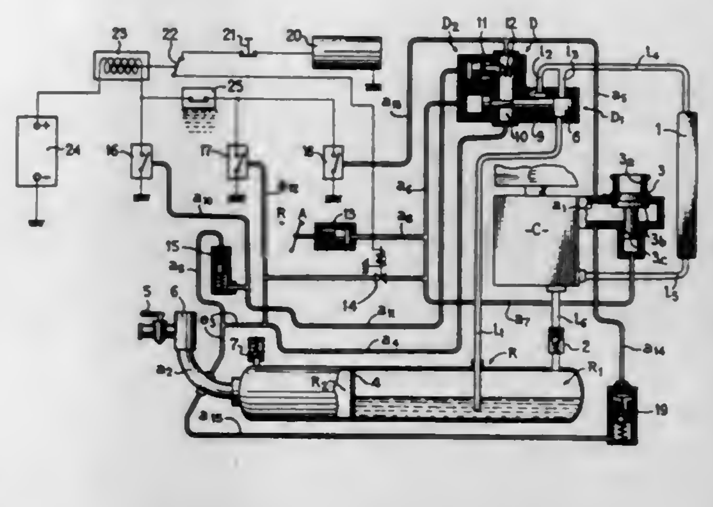
James W. Endress, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 31, 1968, Ser. No. 749,119
Int. Cl. F04b *49/02;* **F04d** *29/00;* **F02f** *11/00*
U.S. Cl. 417—13 **5 Claims**



A fluid compressor structure is provided with an automatic shut down seal to prevent loss of pressure in the compressor housing. An impeller housing and the bearing housing for the impeller shaft are separated by a partition wall. The partition wall is provided with an annular face seal confronting the compressor housing, and the shaft is formed with a shoulder which, upon counter thrust movement of the shaft, is moved into sealing engagement with the face seal. The usual running seal is provided to inhibit the flow of fluid from the impeller housing into the bearing housing during operation of the machine. During operation of the compressor, a counter thrust bearing is maintained in position to prevent counter thrust movement of the impeller shaft and engagement of the shoulder thereon with the fixed face seal. Subsequent to shut down of the compressor, fluid pressure employed to maintain the counter thrust bearing in the position described is relieved from behind the counter thrust bearing, permitting movement of the counter thrust bearing and accordingly, counter thrust axial movement of the impeller shaft so that the shoulder and the face seal may engage and effectively seal the compressor housing from the bearing housing. Movement of the counter thrust bearing operates a switch in the compressor motor circuit, whereby the same cannot be restarted until the fluid pressure is again established behind the counter thrust bearing.

3,506,376
METHOD AND APPARATUS FOR REGULATING A COMPRESSED GAS PRODUCER

Marcel Dangauthier, Paris, France, assignor to Automobiles Peugeot, Paris, France, a French body corporate
Filed Nov. 1, 1967, Ser. No. 679,792
Claims priority, application France, Nov. 10, 1966, 83,339
Int. Cl. F04b *49/00;* **F04c** *29/02;* **F04d** *29/06*
U.S. Cl. 230—14 **11 Claims**

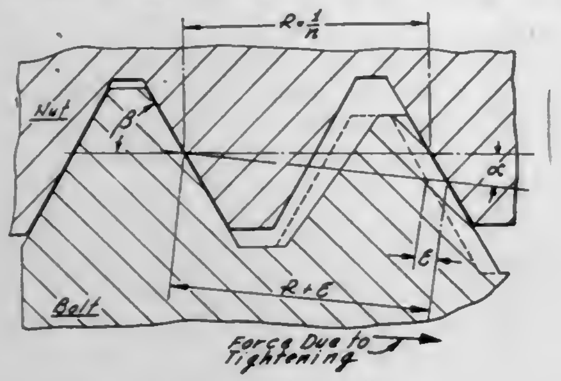


A method for automatically regulating and installation for supplying a compressed gas to a utilization circuit, said method comprising regulating the pressure of the gas in the installation at the outlet of the compressor and at given stages of said regulation, recycling the air compressed in the compressor and regulating, in synchronism with said recycling, the flow of gas admitted through the normal suction aperture of the compressor, regulating the injection flow of said liquid at the inlet of the compressor and regulating the speed of the engine.

3,506,377
BOLT CONSTRUCTION

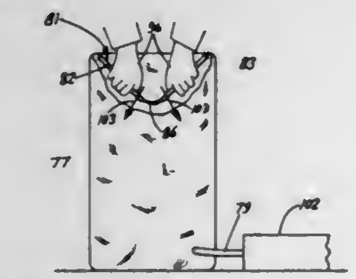
James D. Thackrey, 13852 Dall Lane,
Santa Ana, Calif. 92705
Filed Feb. 23, 1968, Ser. No. 707,766
Int. Cl. F16b *33/00, 35/00*
U.S. Cl. 85—1 **3 Claims**

An improved type of bolt is described in the following specification. The bolt to be described has a screw thread formed on a conical surface, so that the pitch line is slightly inclined with respect to the longitudinal axis of the bolt. This results in a bolt which, in use, has more resilience and longer fatigue life than the usual prior art bolt, and less tendency to loosen in the presence of vibrations.



3,506,378
METHOD AND APPARATUS FOR MOVING FLUIDS

Robert M. L. Lindquist, 7912 NE. 6th St.,
Minneapolis, Minn. 55432
Continuation-in-part of application Ser. No. 680,237, Nov. 2, 1967. This application May 2, 1969, Ser. No. 821,228
Int. Cl. F04b *45/00*
U.S. Cl. 417—53 **14 Claims**

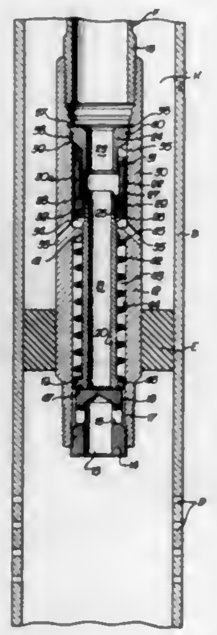


A method and bag pump apparatus providing a supply of fluid, as air, for inflating purposes. The apparatus comprises a collapsible bag having closure members comprising a pair of rods attached to opposite sides of the mouth end of the bag. One or more outlet nipples are secured to the bottom of the bag. The rods function as handles used to hold the mouth of the bag open and as rollers in closing and reducing the volume of the bag to make the bag taut. Attached to the closure rods is a lock arm which cooperates with a loop secured to the side of the bag to hold the closure rods in a rolled closed position. The method of supplying the fluid, as air, is commenced by filling the bag with fluid. When the bag is full of fluid the mouth is closed in flat side-by-side relation to trap the fluid in the bag. The air is driven from the bag by reducing the volume of the bag to increase the pressure of the fluid in the bag. The volume of the bag is first reduced by longitudinally rolling the mouth end of the bag and then applying force to the bag. One form of apparatus has closure members which permit the rolled end of the bag to be turned into a V-shape so that the rolled end can be telescoped into the bag to drive fluid from the bag. The rolled mouth of the bag is folded to form a piston and then forced axially in telescope relation into the bag to force fluid out through the outlet nipples.

3,506,379
DIFFERENTIAL PRESSURE LIQUID LEVEL CONTROL APPARATUS

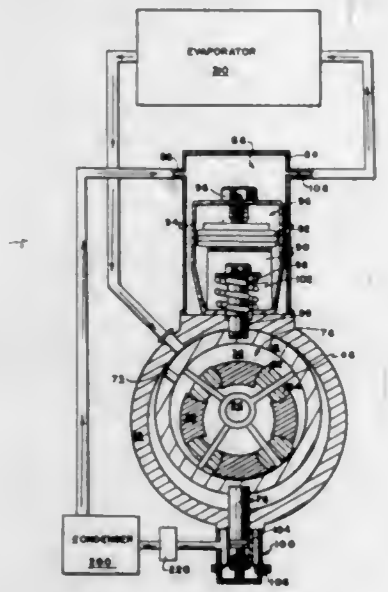
David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Sept. 19, 1968, Ser. No. 760,883
Int. Cl. F04f *1/00*
U.S. Cl. 417—116 **26 Claims**

Level of the formation liquid in a well bore tubing string is controlled by causing gas pressure in the casing to exert an opening force on a subsurface differential valve, the pressure in the tubing string exerting a closing force on the valve aided by a spring. The valve is balanced with respect to the pressure of the formation fluid tending to enter the tubing string through the valve, so that formation pressure has no effect on opening and closing of the valve.



3,506,380
SELF-REGULATING, AUTOMATIC ROTARY VANE DEVICE AND SYSTEM

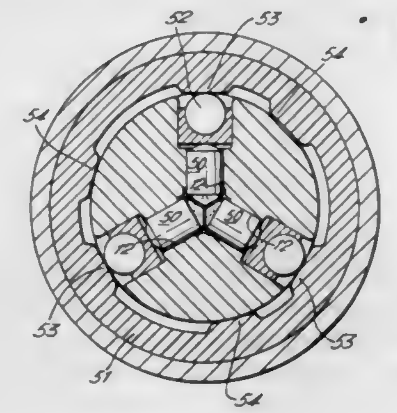
Howard H. Powell, Fort Worth, Tex.
(1206 John Reagan, Benbrook, Tex. 76126)
Continuation-in-part of application Ser. No. 606,686, Jan. 3, 1967. This application Aug. 22, 1968, Ser. No. 767,880
Int. Cl. F04c *17/00, 29/08*
U.S. Cl. 417—220 **5 Claims**



A system for a pump of the progressive geometric movement rotary vane type, the pump having vanes radiating from the center of the vane race, the rotor being moveably positioned eccentrically in the casing bore and having provisions for the vanes extending therethrough to progressively vary their angular relationship to the rotor and to each other so that the compression ratio is controlled by the movement of the casing, the rotor displacement or eccentricity is controlled by either the pressure buildup or temperature of the refrigerant through a preset tensioning means, so that no clutch or re-cycling valve is required. The construction is applicable to high speed, high pressure pneumatic devices.

3,506,381
LIQUID FUEL PUMPING APPARATUS FOR SUPPLYING FUEL TO INTERNAL COMBUSTION ENGINES

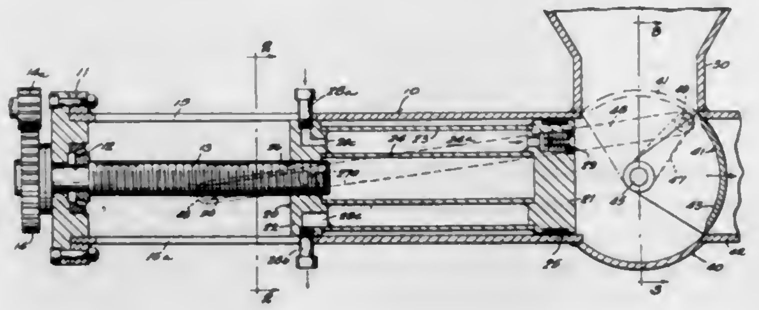
Kenneth Albert Walters Kemp, Ealing, London, England, assignor to C.A.V. Limited, London, England
Filed May 20, 1968, Ser. No. 730,362
Claims priority, application Great Britain, May 23, 1967, 23,884/67
Int. Cl. F04b *13/00, 1/00;* **F02m** *39/00*
U.S. Cl. 417—485 **1 Claim**



A fuel pumping apparatus for supplying liquid fuel to a six cylinder internal combustion engine and comprising three pumping plungers located within respective bores formed in a rotary distributor member and a cam ring surrounding the distributor member, the cam ring having two sets of cam lobes each set comprising three lobes which are equi-angularly spaced about the axis of rotation of the distributor, the two sets of cam lobes being angularly spaced so that successive injections strokes of the pumping apparatus occur at the desired intervals.

3,506,382
CONCRETE PUMP

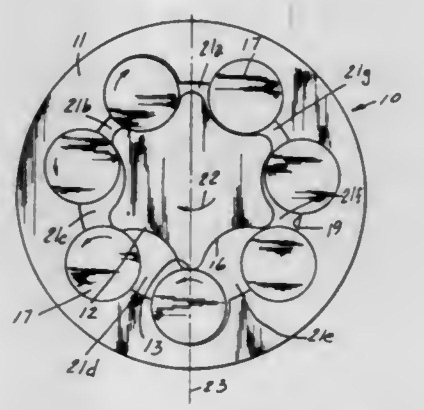
Nikola O. Zurich, Milwaukee, Wis., assignor to Zurcon Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed May 21, 1968, Ser. No. 730,794
Int. Cl. F04b *19/22, 21/02;* **F16b** *25/12*
U.S. Cl. 417—519 **8 Claims**



A piston type cement pump is operated by means of a screw having a coarse thread. Means are provided for lubricating the screw without disassembly and for water flushing either the piston alone or the passage for the concrete. An oscillating gate valve in the concrete passage operates in timed relation to the movement of the piston through a lost motion connection.

3,506,383
LOW FRICTION GEAR SETS FOR PUMPS AND MOTORS

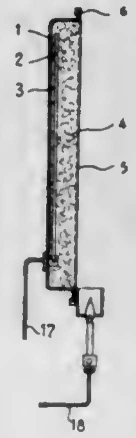
Leonard J. Ewalt, Lafayette, Ind., assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 29, 1968, Ser. No. 756,255
Int. Cl. F04b *21/08;* **F04c** *1/00, 3/00*
U.S. Cl. 418—178 **6 Claims**



A rotor-stator gear set for a fluid pressure device which can be used either as a motor or as a pump, the stator including an internally toothed gear composed of a compacted powdered ferrous metal ring having a plurality of equally circumferentially spaced recesses formed therein, and an externally toothed gear member located within the ring and arranged to mesh with the internally toothed gear member or with roller vanes located thereon, one or both of the engaging surfaces having a thin coating of electroless nickel thereon providing low friction, longer wear life surfaces.

3,506,384
CATALYTIC HEATERS

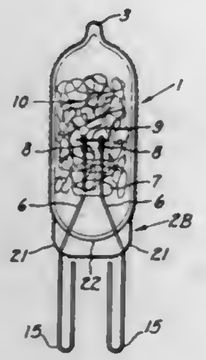
Claude J. Moufflet, Paris, France, assignor of one-half to AUER, Societe Francaise d'Incandescence Par le Gaz, Paris, France, a company of France
Filed Feb. 19, 1968, Ser. No. 706,409
Int. Cl. F23q *9/08*
U.S. Cl. 431—53 **8 Claims**



A catalytic heater which provides, along the lower edge of the catalytic screen through which the gas passes, a gas-collector. In the lowest part of this collector a pilot flame is alight so that as soon as some gas has passed through the screen and into the collector, it blazes up, beginning to warm the screen. The conflagrations follow one another until the screen has reached a temperature where the catalytic reaction may occur.

3,506,385
PHOTOFLASH LAMP

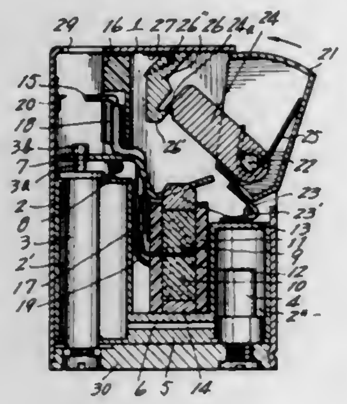
Kurt H. Weber, Pepper Pike, and George W. Cressman, Chagrin Falls, Ohio, assignors to General Electric Company, a corporation of New York
Filed Feb. 23, 1968, Ser. No. 707,672
Int. Cl. F21k *5/02*
U.S. Cl. 431—95 **11 Claims**



A miniature photoflash lamp is provided with certain borosilicate glasses, which seal well to iron-nickel-cobalt alloy electrical inlead materials used for the lamp envelope. Such lamps can be made practically with a light output of at least about 12,500 lumen-seconds per cubic centimeter of internal lamp volume. Compared to the prior art, these glasses permit greater loading of the lamp with combustible material and oxidizer, resulting in greater light output per unit volume of the lamp with at least as good containment of the lamp upon flashing. A beneficial fracture mechanism of the glass is observed.

3,506,386
ELECTRIC GAS LIGHTER WITH A MANUALLY OPERABLE PIEZOELECTRIC IGNITION DEVICE

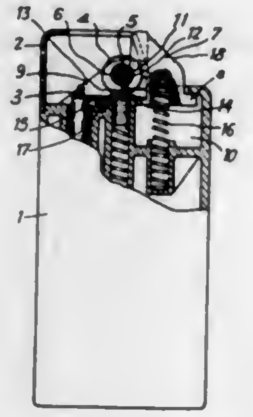
Kenjiro Goto, Tokyo, Japan, assignor to Mansei Kogyo Kabushiki Kaisha, Kawaguchi Saitama Prefecture, Japan, a company of Japan
Filed Feb. 9, 1968, Ser. No. 704,472
Claims priority, application Japan, Aug. 28, 1967, 42/73,543
Int. Cl. F23g *3/01, 2/28*
U.S. Cl. 431—255 **15 Claims**



A liquefied gas-fueled smoking lighter utilizing piezoelectric elements as high voltage generating means comprising a casing and a liquefied gas fuel reservoir disposed within said casing and including a fuel spouting valve and a fuel injection valve which are in a fuel transfer relation to each other. A high voltage generating device disposed outside of the fuel reservoir between the fuel valves and including a pair of piezo-electric elements therein; a pair of electrodes connected to said piezo-electric elements; an impact device; and an actuating device for said impact device.

3,506,387
SPARK-WHEEL DRIVE MECHANISM FOR AUTOMATIC GAS LIGHTER

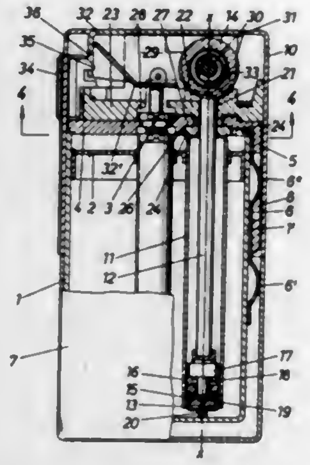
André Pierre François Tissot Dupont, Paris, France, assignor to S. T. Dupont (Societe Anonyme), Paris, France, a French corporation
Filed Aug. 1, 1968, Ser. No. 749,426
Claims priority, application France, Aug. 1, 1967, 116,516
Int. Cl. F23q *2/16*
U.S. Cl. 431—275 **2 Claims**



A drive mechanism for the spark-wheel of an automatic gas lighter in which a push button drive member is urged against a grooved wheel integral with the spark-wheel for rotating the same when pressed and sliding past the wheel when released; guiding means being provided to allow the drive member to be shifted laterally during its return travel.

3,506,388
GAS LIGHTER

Karl-Erich Wieden, Solingen-Merscheid, Germany, assignor to Karl Wieden Komm. Ges., Solingen-Ohligs, Germany
Filed Aug. 12, 1968, Ser. No. 751,857
Claims priority, application Germany, Aug. 12, 1967, W 44,459
Int. Cl. F23q *1/02*
U.S. Cl. 431—276 **4 Claims**



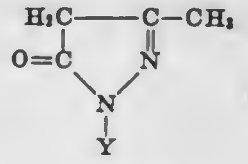
A gas lighter which comprises a flint subjected to gas pressure and includes a top cap and a bottom cap, both caps forming a housing. A tank is disposed in the housing and a tank cover is arranged within the tank. An intermediate wall is disposed above the tank cover and below the top cap maintained by spring action in closed position and having bayonet joint slots. A flint engaging wheel is operatively connected with the lighter and is mounted on bearings for an axle carrying the wheel. A plurality of bayonet joint cams is disposed on the bearing of said flint engaging wheel and projects through the bayonet slots. The bayonet joint cams are disposed below the intermediate wall upon passing through the slots and rotation thereof.

CHEMICAL

3,506,389
HAIR DYEING WITH COUPLERS AND A 1-AMINO-4-SUBSTITUTED-ALKYLAMINOBENZENE

Roger Charle, Soisy-sous-Montmorency, and Gregoire Kalopissis and Jean Gascon, Paris, France, assignors to Societe Anonyme dite: L'Oreal
No Drawing. Filed July 20, 1964, Ser. No. 383,937
Claims priority, application France, Aug. 1, 1963, 943,485
Int. Cl. A61k *7/12*
U.S. Cl. 8—10.2 **10 Claims**

The invention relates to dyeing hair with a 1-amino-4-substituted alkyl amino benzene and a coupler selected from the group consisting of substituted phenols, $R_5COCH_2COR_6$, $R_7—CO—CH_2—CO—R_8$ and



wherein R_5 is methyl; R_6 is selected from the group consisting of methyl and ethoxy; R_7 is phenyl; R_8 is selected from the group consisting of p-carboxyphenylamino and m-carboxyphenylamino; and Y is selected from the group consisting of phenyl, p-sulfophenyl, m-sulfophenyl and 2-chloro-5- sulfophenyl.

3,506,390
PROCESS OF REACTING CELLULOSIC FIBERS WITH SULTONES AND OPTIONALLY WITH OTHER CREASEPROOFING AGENTS AND RESULTING PRODUCTS

Marguerite Naps, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 12, 1963, Ser. No. 323,090
Int. Cl. D06m *9/00*
U.S. Cl. 8—115.7 **15 Claims**

1. A process for improving the properties of cellulosic fibers which comprises impregnating cellulosic fibers with an aqueous caustic solution and then treating the resulting fibers with a hydrocarbon sultone or mixtures of hydrocarbon sultones selected from the group consisting of lower alkyl hydrocarbon sultones, benzyl sultone, tolyl sultone and mixtures thereof in an inert solvent solution and reacting said fibers with said sultones while said fibers are wet with said caustic and sultone solutions.

3,506,391
CROSS-LINKING CELLULOSICS WITH EPICHLOROHYDRIN VAPORS

Dmitry M. Gagarine and William L. Mauldin, Spartanburg, Fred L. McDowell, Jr., Greenwood, and Edgar H. Pittman, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
No Drawing. Filed Feb. 15, 1962, Ser. No. 173,329
Int. Cl. D06m *13/10, 13/16*
U.S. Cl. 8—120 **9 Claims**

This invention relates to a novel process for the rapid wet cross-linking of cellulosic materials to impart wet configurational memory thereto, more particularly to the strong base catalyzed cross-linking of cellulosic materials in a continuous manner with hot epichlorohydrin vapors.

3,506,392
MODIFICATION OF CELLULOSE WITH VAPOROUS EPIHALOHYDRIN USING TWO DISTINCT STEPS OF REACTION CATALYSIS

Gerald R. Ferrante, Metuchen, N.J., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 30, 1964, Ser. No. 422,430
Int. Cl. D06m *13/00, 13/10, 13/54*
U.S. Cl. 8—120 **9 Claims**

The disclosure describes a process for treating textiles and the like to impart increased wet and dry crease recovery which includes treating the material with an epihalohydrin such as epichlorohydrin in the presence of an acid catalyst such as zinc fluoborate and treating the resulting product with an alkaline material such as sodium hydroxide. The material may then be cured by heat treatment.

3,506,393
PURIFICATION OF LITHIUM ALUMINATES

Charles K. Bon and Robert J. Moolenaar, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 619,594, Mar. 1, 1967. This application Sept. 26, 1968, Ser. No. 763,019
Int. Cl. C01f *7/04, 7/02;* **B07b** *13/00*
U.S. Cl. 23—52 **1 Claim**

A method for removing chlorine from chloride containing lithium aluminate complex compositions produced from chloride brines and other aqueous solutions which comprises contacting such compositions with water vapor at an elevated temperature sufficient to hydrolyze the chlorine to hydrogen chloride and thereby remove the chlorine contained therein.

Admixing a small amount of silica with the chloride containing lithium aluminate compositions results in optimum removal of chlorine.

3,506,394
METHOD FOR PRODUCING SODIUM SILICOFLUORIDE FROM WET PROCESS PHOSPHORIC ACID

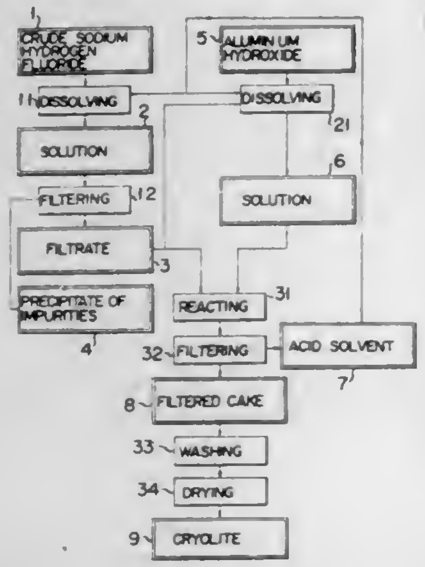
Shuta Okamura, Tsunehiko Omoto, Masanao Ezaki, and Yoshiaki Nakamura, Shimonoseki, Japan, assignors to Mitsui Toatsu Chemicals Incorporated, Tokyo, Japan
No Drawing. Filed Dec. 8, 1967, Ser. No. 688,991
Claims priority, application Japan, Feb. 7, 1967, 42/7,446
Int. Cl. C01b *9/08;* **C01d** *3/02;* **C01f** *7/50*
U.S. Cl. 23—88 **4 Claims**

A method for producing sodium silicofluoride of a high purity from wet process phosphoric acid comprising reacting a sodium compound with hydrofluosilicic acid contained in wet process phosphoric acid in the presence of sodium fluoride, sodium bifluoride or a mixture thereof.

3,506,395
PROCESS OF PREPARING HIGH QUALITY ARTIFICIAL CRYOLITE

Taro Yamaguchi and Hirokazu Satoh, Tokyo, Japan, assignors to Onoda Cement Co., Ltd., Yamaguchi, Japan, a corporation of Japan
Filed Jan. 3, 1968, Ser. No. 695,423
Int. Cl. C01f *7/54;* **C01b** *9/08;* **C01d** *3/02*
U.S. Cl. 23—88 **9 Claims**

A process of preparing artificial cryolite which comprises dissolving crude sodium bifluoride in a part of diluted mineral acid to separate the precipitated impurities contained in the raw material, dissolving aluminum hydroxide of gibbsite type consisting of coarse crystals, e.g., Bayer process material, in another part of diluted mineral acid, mixing the two solutions to react sodium bifluoride with aluminum hydroxide to precipitate synthesized cryolite in accordance with the reaction, and separating out the precipitate from the acidic mother liquor to be washed and dried. It is preferable to re-use the mother liquor as a circulating solvent for the two raw materials respectively.



3,506,396
NITRIC ACID PRODUCTION

Christiaan P. van Dijk, Westfield, N.J., and Robert Kaiser, Cambridge, Mass., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 11, 1966, Ser. No. 564,345
Int. Cl. C01b *21/44*
U.S. Cl. 23—160 **5 Claims**

This invention relates to a process for preparing nitric acid in concentrations of up to about 98% or higher. More particularly, this invention relates to a process as aforesaid wherein a first gas stream containing NO_2 is contacted by a first liquid stream containing water and at least about 67 weight percent H_2SO_4 to produce a second gas stream containing HNO_3 as part of said second gas stream.

The HNO_3 is received from the second gas stream. A third gas stream which contains NO and NO_2 is recovered from a second liquid stream containing water and $HNSO_5$. The second liquid stream is also a product of the reaction between NO_2 and at least 67% H_2SO_4. A third liquid stream containing water and H_2SO_4 is recovered from the second liquid stream. At least a portion of the third gas stream is oxidized to produced a fourth gas stream enriched in NO_2. At least a part of said fourth gas stream and at least a part of the third liquid stream are each separately recycled to provide at least part of the first gas stream and the first liquid stream respectively.

3,506,397
PHOSPHORIC ACID RECOVERY FROM SPENT PLASTIC CONDITIONER SOLUTION

William R. Vincent, Birmingham, James J. Christie, Rochester, and John L. Griffin, Romeo, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,668
Int. Cl. C01b *25/18*
U.S. Cl. 23—165 **3 Claims**

Prior to electrodeposition of metal on an acrylonitrile-butadiene-styrene resin, it is necessary to condition the resin surface. A phosphoric acid-potassium permanganate solution is suitable for this conditioning operation. When the conditioning solution is spent, phosphoric acid is recovered by adding oxalic acid to the solution until it is substantially colorless and subsequently filtering off all solid matter.

3,506,398
PURIFICATION OF PHOSPHATE VALUES WITH RESPECT TO IRON

David C. Taylor, Glendale, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Nov. 6, 1968, Ser. No. 773,963
Int. Cl. C01b *25/18*
U.S. Cl. 23—165 **3 Claims**

In processes where iron impurities are precipitated from aqueous solutions containing such impurities and phosphate values by adjusting the pH of the solution to greater than 5 and maintaining the temperature of the solution above 90° C. for a period of time sufficient to effect precipitation of iron impurities, the rate of precipitation of impurities is significantly increased by conducting the precipitation in the presence of titanic ions.

3,506,399
RECLAMATION OF SPENT SULFURIC ACID

Steven L. Estes, Jr., Mobile, Ala., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 27, 1968, Ser. No. 716,343
Int. Cl. C01b *17/90*
U.S. Cl. 23—172 **9 Claims**

A method is provided for the purification of sulfuric acid contaminated with organic impurities by contacting the acid with carbon bisulfide. This process is particularly suitable for purifying sulfuric acid used for drying chlorine gas. An aeration step can be optionally employed if desired.

3,506,400
HIGH SILICA CRYSTALLINE ZEOLITES AND PROCESS FOR THEIR PREPARATION

Paul Earl Eberly, Jr. Baton Rouge, Sebastian Marc Laurent, Greenwell Springs, and Harry Edwin Robson, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed May 25, 1966, Ser. No. 552,911
Int. Cl. C01b *33/28*
U.S. Cl. 23—182 **11 Claims**

Crystalline aluminosilicate zeolites having silica to alumina mole ratios substantially higher than prior art zeolites are prepared by a process wherein a conventional crystalline aluminosilicate zeolite is contacted with water at an elevated temperature and then treated to remove alumina from the crystal lattice. The water treatment can be accomplished by contacting the crystalline aluminosilicate zeolite with a gas containing at least 2% water at a temperature between 800 and 1500° F. Higher concentrations of water are preferred, and, in accordance with the disclosure, pure steam may be used. In a preferred embodiment, the water treatment is accomplished in two steps; viz, by first treating the crystalline zeolite with a gas containing at least 2% water, followed by treatment with pure steam. Following the water treatment, amorphous alumina is removed from the zeolite material by contacting with a dilute mineral acid or an organic acid chelating agent.

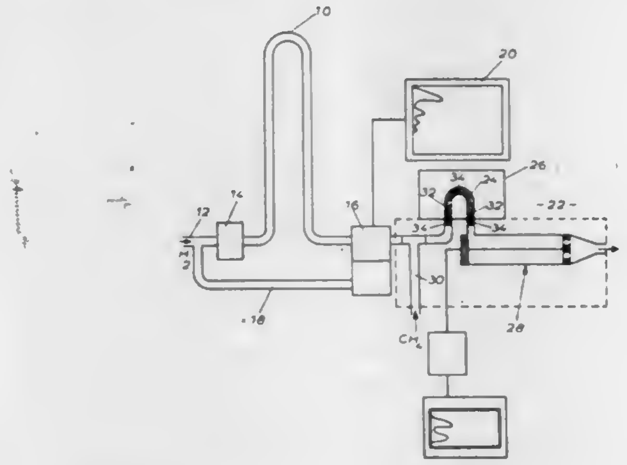
3,506,401
PRODUCTION OF NITROGEN-HALOGEN COMPOUNDS

Mervin D. Marshall, Fombell, Pa., assignor to Mine Safety Appliance Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed July 7, 1960, Ser. No. 41,443
Int. Cl. C01c *1/00*
U.S. Cl. 23—205 **4 Claims**

1. A method of producing dinitrogen tetrafluoride, N_2F_4, and chlorodifluoramine, $ClNF_2$, which comprises reacting chlorine with difluoramine, HNF_2, and recovering the chlorodifluoramine and dinitrogen tetrafluoride thus produced.

3,506,402
METHOD AND DEVICE FOR MEASURING THE RADIOACTIVITY OF ^{14}C- AND/OR ^3H-MARKED COMPOUNDS

Helmut F. Simon, Munich, Germany, assignor of one-half each to Prof. Dr. Berthold, Wildbad, and Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Uberlingen am Bodensee, Germany
Filed June 11, 1965, Ser. No. 463,277
Claims priority, application Germany, June 12, 1964, S 91,489
Int. Cl. G01n *31/00*
U.S. Cl. 23—230 **13 Claims**



Technique for analysis of organic compounds of the type in which the compounds are marked or labeled with either radioactive carbon (^{14}C) or tritium (^3H) includes, for example: passing the mixture to be analyzed over a heated catalyst of zinc and nickel (preferably having temperature zones varying from about 350° C. to about 620° C.) as a continuous gas stream, before passing the resulting gaseous reaction products through a flow-through radioactive detector, which measures the radioactivity of the reaction products and therefore of the original compounds. The nickel catalyst causes hydrogenating cracking of the higher molecular weight compounds into simpler volatile compounds, thereby preventing condensation in the radioactivity detector, while the conversion of aromatic compounds avoids false radioactivity measurements caused by the beta rays readily admitted by such compounds. Other disturbing constituents, such as the halogens, oxygen and sulfur chemically combine with the zinc, thereby removing these constituents from the organic compounds; organic compounds containing these and similar constituents may cause a "quenching" effect on the actual radioactivity by absorbing the emitted beta particles (electrons). The reaction chamber may include (downstream of the zinc-nickel catalyst) a silver reactant (preferably in the form of silver wool) to remove any halogen hydrides which may be formed (from the zinc halides). Preferably the original compounds are separated prior to introduction to the catalytic reaction chamber, for example by means of an otherwise conventional gas chromatograph (utilizing a, say, thermal conductivity detector and a hydrogen carrier gas) before the now separated compounds reach the catalyst. In this manner both the quantity of individual components in the sample mixture and the radioactivity of each of those components which have been radioactively "marked" are measured, thereby yielding complete analytical data on the amounts and radioactivity of the various components of the original mixture.

3,506,403
COLORIMETRIC METHOD FOR DETERMINING IRON IN FLUIDS

Rodney Ian Fryer, North Caldwell, and Bernard Zigmund Senkowski, Bloomfield, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 19, 1967, Ser. No. 691,693
Int. Cl. G01n *31/22*
U.S. Cl. 23—230 **8 Claims**

A colorimetric method for quantitatively determining the iron content of aqueous solutions prepared from iron-containing materials wherein the iron is present in its water-soluble ferrous state by treating the ferrous ions with 5 - (2 - pyridyl)-2H-1,4-benzodiazepines and water-soluble salts thereof to produce a brilliant purple colored solution which can be quantitated by standard colorimetric means.

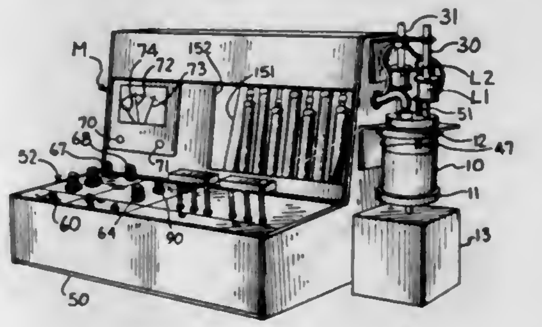
3,506,404
COLORIMETRIC METHOD FOR DETERMINING IRON IN BLOOD

George Evans, Hopatcong, and Ronald Searcy, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 19, 1967, Ser. No. 691,703
Int. Cl. G01n *31/22*
U.S. Cl. 23—230 **14 Claims**

A colorimetric method for quantitatively determining the iron content of whole blood and serum by extracting the iron from the whole blood or serum in a water soluble ferrous state and treating the ferrous ions with 5-(2-pyridyl)-2H-1,4-benzodiazepines and water soluble salts thereof to produce a brilliant purple colored solution which can be quantitated by standard colorimetric means.

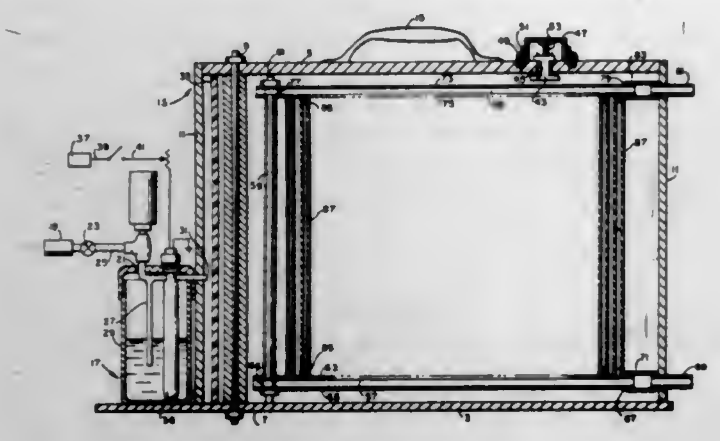
3,506,405
AUTOMATIC TITRATION INSTRUMENT

Theodore Christie and Peter Juodikis, Chicago, Ill., assignors, by mesne assignments, to Precision Scientific Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 27, 1965, Ser. No. 483,044
Int. Cl. G01n *29/02, 31/00, 31/16*
U.S. Cl. 23—253 **12 Claims**



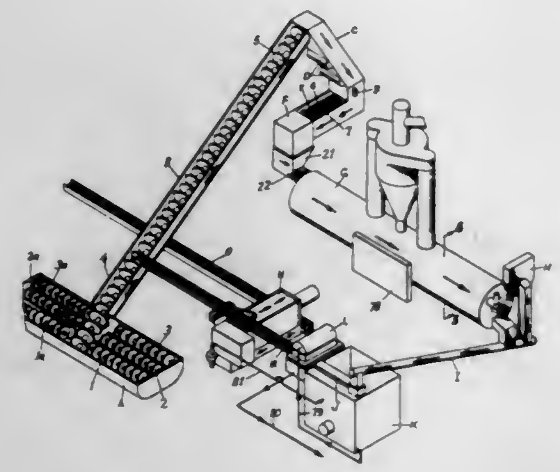
An automatic titration instrument for carrying out a conductometric, moisture determination titration. The instrument includes a flow control device including an electromagnetic valve for controlling the feed rate of reagent added to the solution, and an electrode pair immersed in the solution with a potential applied across the electrode pair for detecting changes in the apparent electrical resistance of the solution. A pulse generator opens and closes the electro magnetic valve to provide an intermittent flow of reagent. The pulse width and rate are adjusted to provide the desired reagent feed rate, and the control circuit includes means for shunting the pulse generator to maintain the valve open to provide a continuous reagent feed up to a selected changeover point, after which the pulse generator is actuated to provide the intermittent reagent feed to a preselected endpoint. The reagent feed is terminated upon arrival at the endpoint.

3,506,406
PORTABLE MEMBRANE BLOOD OXYGENATOR
Alexander A. Birch, Jr., 111 E. Valleybrook Road,
Cherry Hill, N.J. 08034
Filed June 20, 1967, Ser. No. 648,191
Int. Cl. A61m *1/03*
U.S. Cl. 23—258.5 **6 Claims**



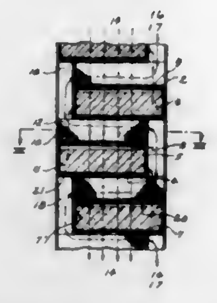
An improved blood oxygenator in which a fresh supply of oxygen is diffused through a plurality of tubular silastic membranes into contact with the extracorporeal blood circulating system. The oxygen supply means includes a nebulizing device to form an oxygen-water vapor environment which is brought into contact with the membranes; which device acts to control the temperature of the oxygenation environment and, thereby, improve the transfer of oxygen to the blood.

3,506,407
SIMPLIFIED CONTINUOUS RENDERING SYSTEM
Jack G. Keith, Los Angeles, Calif., assignor to Duke, Inc.,
Germantown, Ohio, a corporation of Ohio
Filed Oct. 12, 1966, Ser. No. 586,292
Int. Cl. C11b *1/12;* **B01d** *43/00, 59/06*
U.S. Cl. 23—280 **16 Claims**



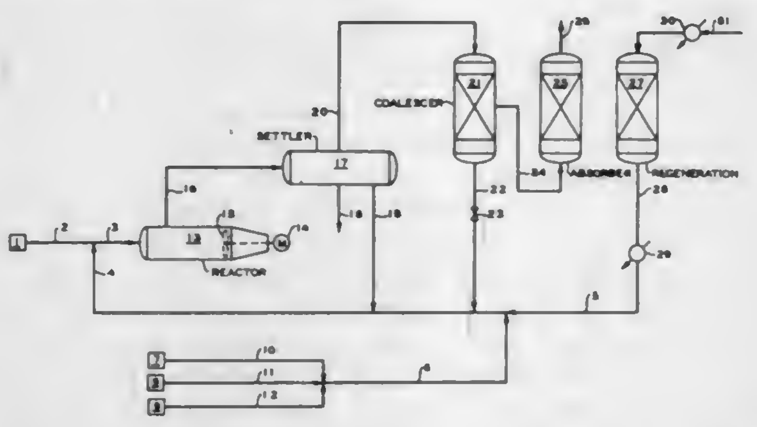
A dry rendering system wherein the raw materials are cooked in an elongated cooking vessel provided with internal heating means arranged to uniformly and evenly cook the raw materials, the vessel being provided with internal means effective to retard the flow of the raw materials and hence retain them in the cooking vessel for a residence time sufficient to breakdown the protein cells and free the fats which are to be recovered, the system including hogger means in advance of the cooking vessel to reduce the raw materials to a mean particle size for cooking, including conveyor means interconnecting the hogger and the cooking vessel, together with discharge means effective to remove cooked material from the vessel at a variable rate of flow and deliver it to processing means for separating the fats from the cooked material.

3,506,408
CONTINUOUS REACTION APPARATUS CONTAINING A SOLID GRANULAR CATALYST
Osamu Kageyama, Akira Kawano, Hiroshi Yokoo, and Yasushi Ohmori, Saitama, Japan, assignors to Daicel Ltd., Higashi-ku, Osaka, Japan, a corporation of Japan
Filed Feb. 13, 1967, Ser. No. 617,010
Claims priority, application Japan, May 24, 1966,
41/33,123
Int. Cl. B01j *9/04*
U.S. Cl. 23—288 **6 Claims**



A continuous multistage reaction apparatus for carrying out a liquid-liquid phase reversible reaction and having a plurality of vertically arranged reaction zones, each zone having a lower catalyst layer and an upper heat exchange and mass transfer layer, and vapor passageways extending between the upper layers of the reaction zones so that the lower boiling point products of the reaction can be vaporized and removed from the apparatus without passing through the catalyst layers in the higher reaction zones.

3,506,409
REMOVING METAL HALIDES FROM ALKYLATION REACTION PRODUCTS
Tom Hutson, Jr., and Cecil O. Carter, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 22, 1966, Ser. No. 574,040
Int. Cl. B01d *15/08*
U.S. Cl. 23—312 **7 Claims**

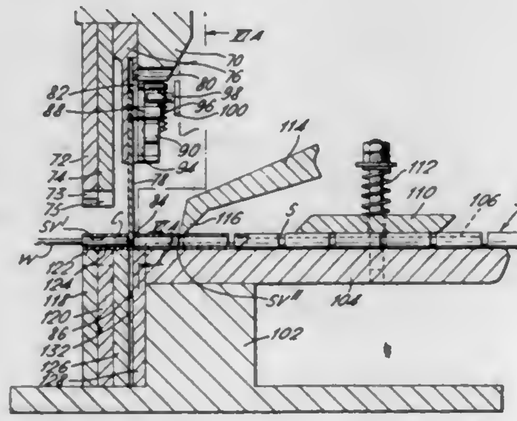


Process for removing residual amounts of metal halides from alkylate streams by passing the alkylate through a first saturated coalescing zone and then through an active adsorption zone while the third zone is being regenerated, after which the several zones are cycled to allow the regeneration of the saturated zone and the use of the regeneration zone as the active adsorber.

3,506,410
SYNTHESIS OF NEW URANIUM COMPOUNDS
Fritz Hulliger, Zurich, Switzerland, assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Apr. 9, 1968, Ser. No. 719,858
Int. Cl. C01g *1/00*
U.S. Cl. 23—346 **10 Claims**

New uranium compounds of the formula UXZ, where X=S, Se, or Te and Z=P, As, Sb, or Bi. The compounds can be produced in large plate-like single crystals by the vapor transport method using the uranium halide UHal$_4$, where Hal=Cl, Br, or I, or the halogens in elemental form. The compounds are ferromagnetic at low temperatures.

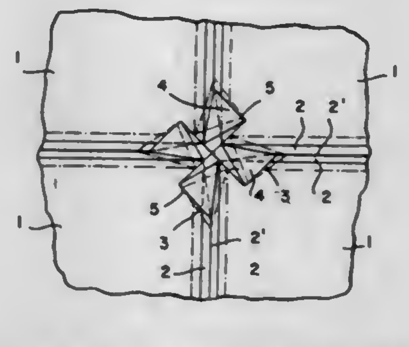
3,506,411
COLD CRIMPED SLEEVE APPLICATOR
Ray M. Robins, Auburn, New South Wales, Australia, assignor to AMP Incorporated, Harrisburg, Pa.
Filed Nov. 6, 1967, Ser. No. 680,687
Claims priority, application Australia, Nov. 16, 1966,
13,988/66
Int. Cl. B23p *19/04;* **H01r** *43/04;* **H01b** *19/00*
U.S. Cl. 29—203 **3 Claims**



Electrical connectors are post insulated by cold-forming thereon dielectric sleeves which are connected together in end-to-end strip form as a series of sleeves and this strip of sleeves is fed to a crimping station so that the leading sleeve of the strip is cold-formed over an electrical connector at the crimping station. The strip of sleeves may be made by cutting transverse slots in a plastic tube such as, for example, a tube of polyvinyl chloride.

3,506,412
YIELDABLE WALL ASSEMBLY FOR CONTAINERS FOR THE TRANSPORTATION OF LOW-TEMPERATURE FLUIDS
Rüdiger von Saldern, Buchenhain, Germany, assignor to Linde Aktiengesellschaft, a corporation of Germany
Filed May 14, 1968, Ser. No. 729,049
Claims priority, application Germany May 24, 1967,
L 56,581
Int. Cl. B21b; B65d *25/18*
U.S. Cl. 29—183.5 **6 Claims**

A yieldable wall assembly adapted to be mounted via load-supporting insulation and thermally insulating bolt constructions upon the rigid wall of a tankship or the like in which the wall is formed by laterally and longitudinally contiguous coplanar sheet-metal plates having upwardly turned flanges welded together to form flange seams provided at the junction of mutual orthogonal flange seams with gussets whereby the corners of the plates are welded together. The gussets are formed by bending the flanges of the plates alternately inwardly and outwardly of that weld-seam plane which is perpendicular to the plane of the yieldable wall.



3,506,413
SURFACE TREATED STEEL SHEET SUITABLE FOR FORMING
Hiromu Uchida, Toshio Herai, Yasuyuki Taniguchi, and Hideshi Sato, Himeji-shi, Japan, assignors to Fuji Iron & Steel Co., Ltd., Tokyo, Japan
Filed Oct. 2, 1967, Ser. No. 704,496
Claims priority, application Japan, Sept. 30, 1966, 41/64,574; Oct. 26, 1966, 41/70,511; Aug. 18, 1967, 42/52,997
Int. Cl. B32b *15/04;* **B21c** *23/32*
U.S. Cl. 29—195 **7 Claims**

Surface treated steel sheet suitable for forming which comprises a steel sheet having a metallic coating of zinc, lead, a zinc base alloy or a lead base alloy thereon, and a layer of a higher carboxylic acid or a higher carboxylic acid containing an amine coated on to said metallic coating. The coatings provide lubricity for forming operations, act as rust inhibitors and have advantageous properties as compared to oils or metallic soap based lubricants previously used on steel sheets in forming operations.

3,506,414
DOMESTIC REFUSE AND GARBAGE DISPOSAL SYSTEM
Lawrence Skendrovic, 402 Glenco Drive,
West Mifflin, Pa. 15122
Filed Sept. 15, 1967, Ser. No. 668,005
Int. Cl. C10l; F23g *3/00*
U.S. Cl. 44—1 **9 Claims**

A system for transforming municipal domestic refuse and garbage into a low-grade fuel. Refuse and garbage are collected and placed in a feed hopper which distributes it through a separator-disintegrator. The separator-disintegrator reduces the top size of the refuse and garbage and simultaneously dewaters the refuse and garbage. From the separator-disintegrator, the refuse and garbage passes through a magnetic separator to remove ferrous metals therefrom. The refuse and garbage is then passed between compressive rollers to exert a compressive force thereon and squeeze water from the disintegrated refuse and garbage.

Water is removed from the refuse and garbage until the material contains no more than 25% by weight water and it is then placed in an extruder to form fuel blocks therefrom. In some instances, instead of the refuse and garbage going into the extruder, the dewatered refuse and garbage coming out of compressive rollers in a sheet form may be disintegrated into a pulverulent material to provide for burning in a finely divided state.

The separator-disintegrator is formed from a rotating slinger and a counter-rotating conical basket, the internal wall of which is serrated and provided with bore holes so that water may escape therefrom. The slinger and counter-rotating basket cause quick disintegration of material dropped into the separator-disintegrator.

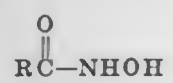
The compressive rolls of the system are placed within a tank which permits water to escape around the walls and which permits adjustment of the rollers depending upon the dewatering pressures required in the processing system.

3,506,415
FUEL LOG PRODUCING APPARATUS
Patrick P. Paladino, 1932 Key Blvd.,
El Cerrito, Calif. 92269
Filed Feb. 27, 1967, Ser. No. 618,761
Int. Cl. C10l *5/22;* **B30b** *11/00*
U.S. Cl. 44—13 **8 Claims**

In the production of fuel logs by compressing a mixture of cellulose material in finely divided form and a flowable binder (wax), the mixture is advanced through a barrel by a screw having, at its discharge end, a lobe extending radially out beyond the screw core throughout only a part of the core circumference and projecting forwardly beyond the end of the core, for beating and mixing and causing it to fill the otherwise hollow core at the center as the compacted, solid log is forced forwardly.

3,506,416
GASOLINE COMPOSITION
Seymour H. Patinkin, Chicago, and Daniel B. Eickemeyer, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y. a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 399,353 and Ser. No. 399,354, both Sept. 25, 1964, and a continuation of application Ser. No. 675,041, Oct. 13, 1967. This application Mar. 4, 1969, Ser. No. 809,459
Int. Cl. C10l *1/22*
U.S. Cl. 44—69 **25 Claims**

A gasoline composition comprising hydrocarbon gasolines, an antiknock quantity of tetra-lower-alkyl lead compound, and a gasoline soluble metal salt of a hydroxamic acid having the formula:



$$R\overset{O}{\overset{\|}{C}}—NHOH$$

wherein R is a hydrocarbon radical of up to 30 carbon atoms. The metal is selected from the group consisting of Groups I*a*, II*a*, III*a*, V*a*, I*b*, II*b*, III*b*, IV*b*, V*b*, VI*b*, VII*b*, VIII and tin and a sufficient amount of the salt is added to provide 0.002 to 0.8 milligram atom of metal per gallon of gasoline.

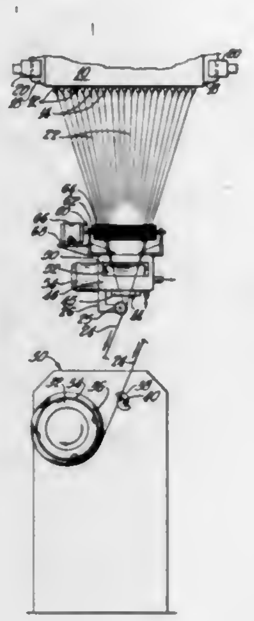
3,506,417
HYDROCARBON REFORMING
Harold J. Hepp and E. O. Box, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 13, 1966, Ser. No. 549,799
Int. Cl. C10g *11/02, 11/04*
U.S. Cl. 48—197 **4 Claims**

Gases containing in excess of 70 percent methane fungible with natural gas are produced by contacting hydrocarbon feedstocks and steam at temperatures below 1000° F. with a catalyst selected from (a) silica supported nickel or (b) a supported platinum group metal, both being promoted with an alkali metal or alkaline earth metal.

3,506,418
HYDROCARBON STEAM REFORMING
William G. Billings, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 2, 1968, Ser. No. 694,845
Int. Cl. C01b *2/16;* **C10k** *3/00;* **B01j** *11/32*
U.S. Cl. 48—214 **7 Claims**

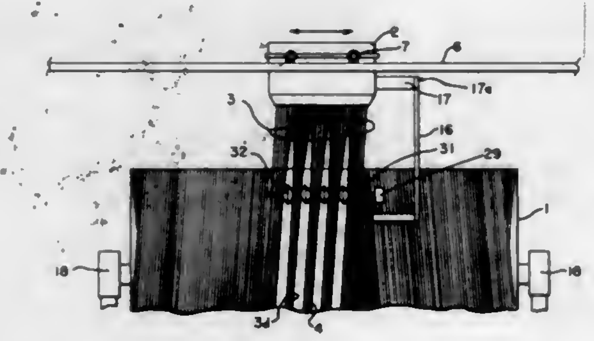
Hydrocarbons are steam reformed to synthesis gas or to a gaseous product rich in methane fungible with natural gas by contacting with a transition metal steam reforming catalyst such as cobalt molybdate treated with a barium salt of an organic acid.

3,506,419
METHOD AND APPARATUS FOR FORMING AND PROCESSING CONTINUOUS FILAMENTS
Roy E. Smith, Toledo, and Hellmut I. Glaser, Newark, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,975
Int. Cl. C03c *25/02*
U.S. Cl. 65—3 **12 Claims**



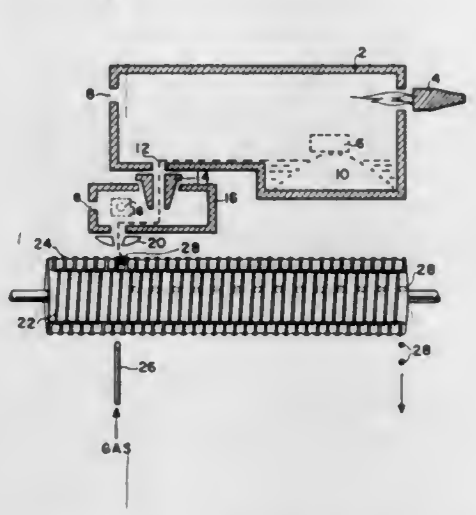
The invention relates to a method of and apparatus for processing continuous filaments of glass or other materials and particularly for applying a coating or size to the filaments. The invention embraces a method of and apparatus for orienting filaments attenuated from streams of heat-softened material by a guide surface or member to converge the filaments into a plane and applying a coating or size to the filaments moving in the plane to assure uniform size or coating on all of the filaments.

3,506,420
METHOD AND APPARATUS FOR MAKING FILAMENTOUS PRODUCTS
Robert L. Jackson, Jr., and Louis A. Kovreg, Louisville, Ky., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,762
Int. Cl. C03c *33/06, 37/10*
U.S. Cl. 65—4 **13 Claims**



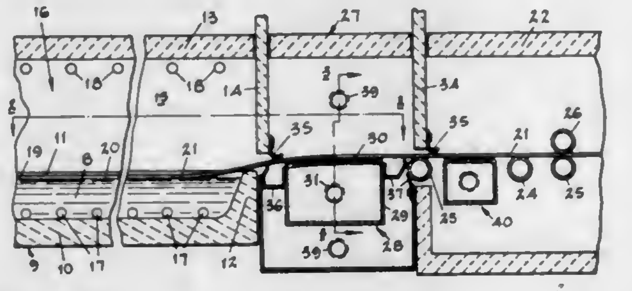
A method and apparatus for winding a curtain of separated filaments onto a rotating drum which provides collector means to urge filaments of selected portions of the filament curtain to mutually contiguous relation to form groups of filaments or multifilament strands which are wound on the rotating drum. The collector means include tapered sections to facilitate inserting the collector means into the filament curtain at selected times to form the filament groups. Also, the collector means can be rotated at selected speed so the peripheral speed of the surface is different than the linear speed at which filaments are drawn over the surface.

3,506,421
METHOD OF PRODUCING GLASS SPHERES
Anton B. Weber, Montclair, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 9, 1967, Ser. No. 673,841
Int. Cl. C03b *19/10*
U.S. Cl. 65—21 **3 Claims**



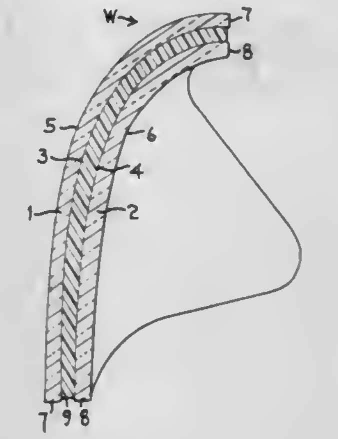
Glass spheres are produced by continuously flowing a glass melt directly onto a pair of parallel, axially-spaced, rotating cylinders, each having a continuous, helical groove in its surface. The rims of the helical grooves sever the melt into glass gobs, and the gobs are rotated within the helical grooves of the rotating cylinders to form the glass spheres. A fluid barrier, produced by passing a gas stream upwardly, is maintained between the two cylinders to prevent substantial amounts of glass melt from falling through the space between the cylinders.

3,506,422
METHOD AND APPARATUS FOR FORMING FLAT GLASS ON A FLUID SUPPORT BED
Emmett L. Walters, Toledo, Ohio, assignor to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 366,313, May 11, 1964. This application Oct. 23, 1967, Ser. No. 681,049
Int. Cl. C03b *18/02, 35/00*
U.S. Cl. 65—25 **14 Claims**



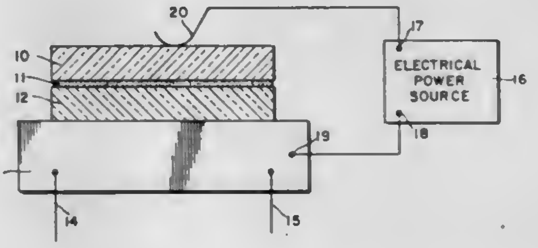
Continuously lifting a ribbon of glass from a supporting molten metal bath on which it is formed onto a gaseous cushion and conveying and conditioning the ribbon on the gaseous cushion out of direct contact with mechanical supporting and conveying means into an annealing lehr so as to avoid damage to its soft undersurface.

3,506,423
GLASS STRENGTHENING BY ION EXCHANGE
John W. Morris, Tarentum, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 730,088, May 17, 1968, which is a continuation-in-part of application Ser. No. 557,594, May 19, 1966. This application May 28, 1969, Ser. No. 830,923
Int. Cl. C03c *21/00*
U.S. Cl. 65—30 **4 Claims**



This invention pertains to a method of strengthening alkali metal containing flat glass articles by exchange of an alkali metal ion of larger atomic diameter from an external source for an alkali metal ion of smaller atomic diameter of the glass while maintaining the glass at an elevated temperature below its strain point. This invention particularly relates to conducting at least a portion of the ion exchange while the glass is supported upon a partial or total gas support of the type described in U.S. Patent No. 3,233,501, the description therein being incorporated herein by reference.

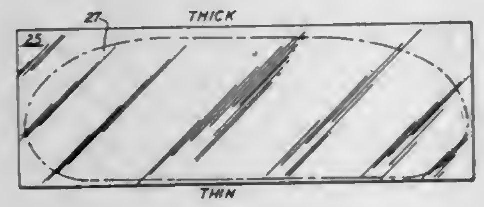
3,506,424
BONDING AN INSULATOR TO AN INSULATOR
Daniel I. Pomerantz, Lexington, Mass., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Continuation-in-part of application Ser. No. 583,907, Oct. 3, 1966, which is a continuation-in-part of application Ser. No. 511,771, Dec. 6, 1965, which in turn is a continuation-in-part of application Ser. No. 453,600, May 6, 1965. This application May 3, 1967, Ser. No. 635,883
Int. Cl. C03b *29/04*
U.S. Cl. 65—40 **11 Claims**



An inorganic electrical insulator material is bonded to another inorganic insulator material by placing the materials in close contact and applying a potential across the unit producing a low current through the composite, the insulator materials being heated to increase their electrical conductivity. One of the insulator materials particularly useful in the operation and article produced is a layer of silicon oxide which is bonded by the method to the other insulator. The silicon oxide may be performed on a substrate whereby the substrate remains permanently attached and forms part of the final unit. The process provides means for encapsulating electrical circuitry within the unit with feed-through electrical connections to the exterior.

3,506,425
METHOD OF MANUFACTURING AUTOMOTIVE GLASS THICKER AT THE TOP THAN AT THE BOTTOM THEREOF

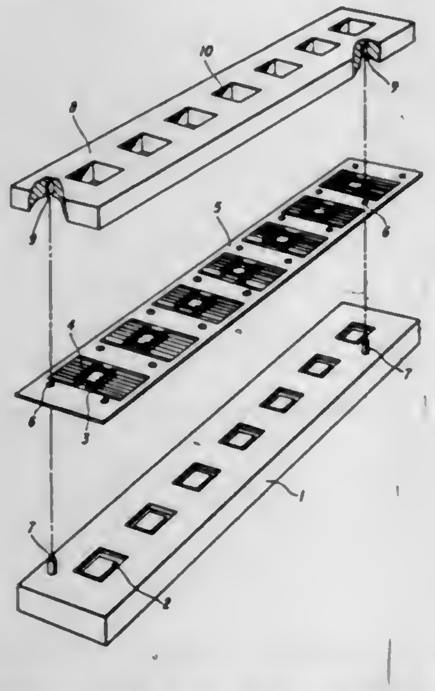
Robert M. Currie, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 243,330, Dec. 10, 1962. This application Aug. 25, 1967, Ser. No. 663,275
Int. Cl. C03b *33/00;* **C03c** *1/00*
U.S. Cl. 65—62 **2 Claims**



A plurality of bent, automotive windows having a substantially reduced double vision characteristic are manufactured by the following steps. A plurality of glass brackets are formed in such a manner that each bracket has a substantially uniform taper from one edge thereof to an opposing edge thereof. The glass brackets are cut so that the thicker edge of each of the brackets forms the top of the window. Each of the cut brackets is then bent so that the window produced thereby is thicker at the top than at the bottom thereof.

3,506,426
MULTI-LAYER TYPE FUSING BOAT

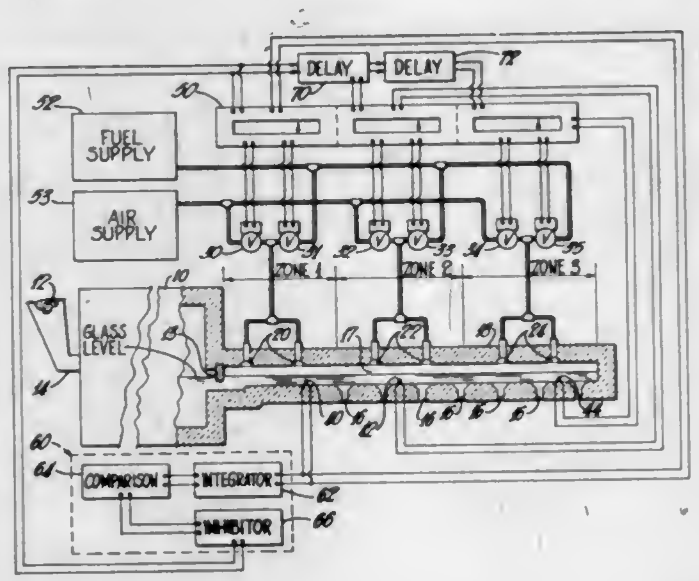
Chan H. Wang, Mountain View, Calif., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 31, 1966, Ser. No. 590,985
Int. Cl. C03b *23/20*
U.S. Cl. 65—156 **3 Claims**



The multi-layer fusion boat comprising a bottom plate with cavities for each element to be assembled and an aligned lead holding plate with geometrically shaped peripheral elements enclosing groups of leads in specific relationship and an aligned cover plate with glass port delivering means for the assembly.

3,506,427
METHOD AND APPARATUS FOR HEAT CONTROL AND SENSING

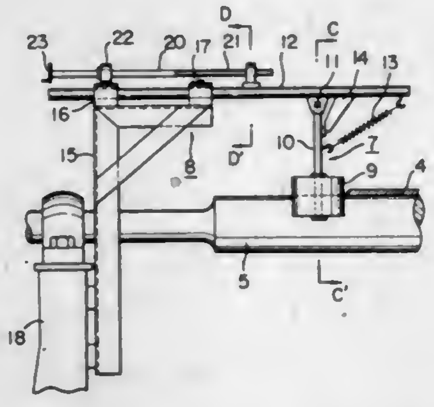
Paul D. Griem, Jr., Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Mar. 31, 1967, Ser. No. 627,401
Int. Cl. C03b *25/02;* **G12b** *1/00*
U.S. Cl. 65—162 **15 Claims**



Apparatus for heat treating material, such as a glass melting furnace having a forehearth for receiving material from a melting tank of the furnace, which includes a device for sensing a portion of the received material which has a substantially different temperature than the remainder of the received material, e.g. an unmelted mass. Control elements regulate the heat normally supplied in the forehearth. The sensing device modifies the regulating effect of the control elements when an unmelted mass is sensed.

3,506,428
APPARATUS FOR REGULATING POSITION OF A GLASS RIBBON

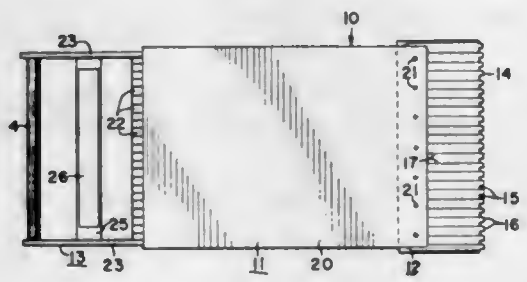
Kiyoshi Itakura, Kobe, Japan, assignor to Nippon Sheet Glass Co., Ltd., Higashi-ku, Osaka, Japan
Filed Jan. 27, 1967, Ser. No. 612,248
Claims priority, application Japan, Feb. 1, 1966, 41/5,367
Int. Cl. C03b *18/00*
U.S. Cl. 65—182 **6 Claims**



Apparatus for regulating lateral position of glass ribbon proceeding atop molten metal bath. A glass-guiding, rod-mounted, contact member is pivotally mounted to and hangs from a supporting member at opposite sides of the glass ribbon. Each contact member includes a contact element having a cylindrical surface and is rotatably mounted around the rod. When the glass ribbon deviates to one side or the other, the cylindrical contact element on the end of the rod tends to be laterally displaced around its pivotal mounting by said progressing ribbon. A spring interconnecting each rod and its supporting member acts to limit and regulate said glass ribbon deviation and displacement; and a stop abutment limits opposite displacement of the rod-mounted contact element as it is biased back by the spring.

3,506,429
APPARATUS FOR IMPROVING THICKNESS UNIFORMITY IN DOWN DRAWN GLASS SHEET

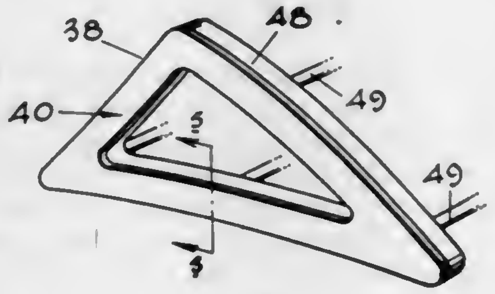
Kenneth T. Overman, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 3, 1967, Ser. No. 606,870
Int. Cl. C03b *17/00*
U.S. Cl. 65—203 **5 Claims**



Electrically powered apparatus for providing uniform thickness across the width of downwardly-drawn glass sheet. One or more independently controlled electric heater elements are positioned within close proximity to the downwardly-drawn glass sheet, adjacent the point of draw, to obtain a desired temperature profile and thereby provide a uniform glass thickness.

3,506,430
GLASS SHEET BENDING MOLD

Waldemar W. Oelke, Rossford, Glen J. Lehr, Oregon, and Richard A. Herrington, Toledo, Ohio, assignors to Libbey-Owens-Ford Company, Toledo, Ohio, a corporation of Ohio
Filed Aug. 18, 1966, Ser. No. 573,354
Int. Cl. C03b *23/02*
U.S. Cl. 65—287 **3 Claims**

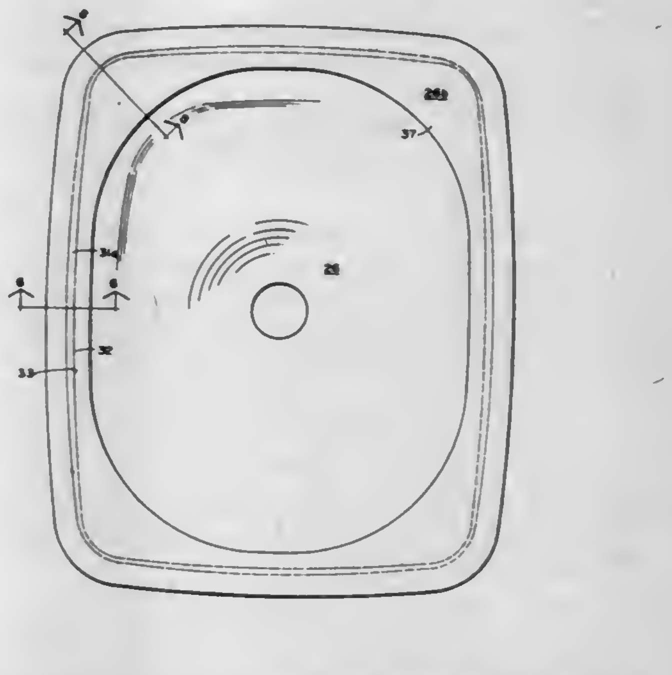


A glass sheet bending mold with a metal body having a curved shaping surface. A porous insulating layer of felted and sintered randomly interlocked metal fibers covers the shaping surface to protect the glass sheet from chill cracking.

3,506,431
MOLD FOR THE CENTRIFUGAL FORMING OF MOLTEN GLASS

Wendell S. Blanding, Painted Post, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed May 24, 1965, Ser. No. 458,127
Int. Cl. C03b *19/04*
U.S. Cl. 65—302 **8 Claims**

A centrifugal forming mold for forming glass funnel members for television picture tube envelopes, such mold including a mold cavity having an inverted generally rectangular frusto-pyramidical configuration and provided with an abruptly flared region adjacent, below and extending horizontally parallel with the peripheral trimming line of funnel members formed therein, such flared region diminishing in depth from the centers of the sidewalls of the mold toward the corners thereof.



3,506,432
METHOD OF PRODUCING SODIUM BICARBONATE AND A FERTILIZER OF AMMONIUM AND POTASSIUM COMPOUNDS

Hideo Arita, Tokyo, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan
No Drawing. Filed Apr. 19, 1966, Ser. No. 543,556
Claims priority, application Japan, Apr. 28, 1965, 40/24,723; Feb. 26, 1966, 41/11,474
Int. Cl. C05c *3/00;* **C05d** *1/02;* **C01d** *7/18*
U.S. Cl. 71—61 **2 Claims**

Sodium bicarbonate and a fertilizer mixture of ammonium chloride with a potassium salt are produced by adding to a solution of sodium chloride and potassium chloride or sulfate at least 0.67 mol of ammonia per mol of sodium in the solution but less than the molar equivalent of the sodium. The solution is then saturated with carbon dioxide, attaining a pH of 6.0 to 8.5 and forming sodium bicarbonate at a temperature of 30° C.–60° C. The solution is cooled, and the precipitated sodium bicarbonate is separated at a temperature of 25° C. to 40° C. The resultant filtrate is then adjusted to a pH within the range of 8–9.5, and mixed crystals of sodium chloride and potassium chloride or potassium sulfate are added thereto. The filtrate is then cooled to precipitate the fertilizer mixture, which is separated at a temperature within the range of 5° C. to 20° C.

3,506,433
PLANT GROWTH CONTROL

Walter W. Abramitis, Downers Grove, and Richard A. Reck, Hinsdale, Ill., assignors, by mesne assignments, to Armour Industrial Chemical Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 206,196, June 29, 1962. This application Oct. 20, 1965, Ser. No. 499,032
The portion of the term of the patent subsequent to Dec. 14, 1982, has been disclaimed
Int. Cl. A01n *5/00, 9/20*
U.S. Cl. 71—78 **42 Claims**

The control of undesirable secondary growth in plants with certain primary, secondary or tertiary amine salts.

3,506,434

AGENTS FOR COMBATING UNDESIRABLE PLANT GROWTH

Ernst Jacobi, Dietrich Erdmann, Gunther Mohr, Sigmund Lust, and Gerhart Schneider, Darmstadt, and Konrad Niethammer, Traisa, Germany, assignors to E. Merck AG, Darmstadt, Germany

No Drawing. Continuation-in-part of application Ser. No. 310,118, Sept. 19, 1963. This application June 14, 1968, Ser. No. 736,954

Claims priority, application Germany, Sept. 22, 1962, M 54,289

Int. Cl. A01n *9/12, 9/22, 9/24*

U.S. Cl. 71—89 **45 Claims**

For controlling undesirable plant growth, a composition comprising at least one fluorene derivative, e.g., n-butyl-9-fluorenol-9-carboxylate in synergistic combination with a herbicide or plant growth regulator, e.g., 2-ethylhexyl-(2-methyl-4-chloro-phenoxy)-acetate.

3,506,435

LIQUID-LIQUID EXTRACTION OF REVERBERATORY AND CONVERTER SLAGS BY IRON SULPHIDE SOLUTIONS

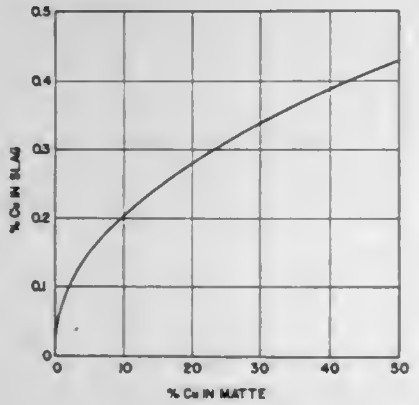
Nickolas J. Themelis, Beaconsfield, Quebec, Paul Spira, Montreal, Quebec, and Frank Ajersch, Ville d'Anjou, Quebec, Canada, assignors to Noranda Mines Limited, Toronto, Ontario, Canada

Filed Apr. 3, 1967, Ser. No. 627,778

Claims priority, application Great Britain, Apr. 15, 1966, 16,590/66

Int. Cl. C21b *3/04;* **C22b** *15/00, 23/00*

U.S. Cl. 75—24 **15 Claims**



A process for recovering copper from copper containing iron silicate slags which involves introducing into the slag molten material which has a metal content lower than an equilibrium value between the metal content of the slag and the molten material, agitating the molten material and the slag and allowing them to settle into separate layers and then reducing the metal content in the slag to the equilibrium value and discharging the depleted slag and recovering the non-ferrous metal from said material.

3,506,436

ENVIRONMENTAL CONTROL PROCESS FOR GASEOUSLY REMOVING CARBON FROM LIQUID METALS

Norman A. D. Parlee, Los Altos Hills, and William E. Mahin, Oakland, Calif., assignors to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

No Drawing. Filed Nov. 25, 1966, Ser. No. 596,782

Int. Cl. C21c *7/00, 7/04, 39/14*

U.S. Cl. 75—59 **5 Claims**

This invention relates to a process for removing carbon from a liquid metal containing an easily oxidizable element other than carbon without seriously oxidizing that other element. This is accomplished by maintaining the oxygen reactivity in the melt at such a level that it will have a definite oxidizing potential for the carbon without significantly oxidizing the other element. This is accomplished as shall be explained herein by utilizing the relationship between the following two reactions:

$$\text{(1)} \qquad H_2O\ (g) \rightleftharpoons H_2(g) + \underline{O}$$

$$\upharpoonleft\downharpoonright$$

$$\text{(2)} \qquad C + \underline{O} \rightleftharpoons CO\ (g)$$

3,506,437

METHOD FOR MAKING SILVER/CADMIUM OXIDE CONTACT MATERIALS

Childress B. Gwyn, Jr., Wethersfield, Conn., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware

No Drawing. Filed Nov. 7, 1967, Ser. No. 681,097

Int. Cl. C22c *5/00, 1/00;* **H01b** *1/02*

U.S. Cl. 75—206 **5 Claims**

A method for the manufacture of silver/cadmium oxide electrical contact materials, in which a silver/cadmium alloy material is reduced to discrete flat particles having thicknesses not more than about 5 microns. The discrete particles are then oxidized to form a substantially homogeneous silver/cadmium oxide material.

3,506,438

METHOD OF PRODUCING BERYLLIUM COMPOSITES BY LIQUID PHASE SINTERING

Richard H. Krock, Peabody, and Clintford R. Jones, Arlington, Mass., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Continuation-in-part of application Ser. No. 526,746, Feb. 11, 1966. This application July 24, 1967, Ser. No. 655,661

Int. Cl. B22f *7/00*

U.S. Cl. 75—208 **22 Claims**

The present invention relates to prime composites of particles of beryllium in a deformable metal matrix and methods of providing such composites through liquid phase sintering. Beryllium powder is mixed with powder of deformable metal constituents and of a minor quantity of fluxing agent selected from the group consisting of alkali and alkaline earth metal halogenides as the essential ingredients of the resulting powdered mixture. The beryllium powder constitutes about 50% to 90%, by weight, of the powdered mixture. The fluxing agent may be powder of lithium fluoride or a powdered mixture of lithium fluoride and lithium chloride, in an amount constituting from about 0.5% to 2.0% by weight, of all of the metal additions to the beryllium. The ratio of the amounts of the ingredients of the lithium fluoride-lithium chloride fluxing agent may vary but preferably is about 1:1. The deformable metal constituent may be either aluminum; or silver; or alloys of aluminum, or of silver or of both. Specifically, the deformable metal constituent may be Al, or Ag, or an alloy of Al-Ag, or an alloy of Ag-Cu, or an alloy of Al-Mg. The powdered mixture is compacted and the resulting green compact is sintered in a non-oxidizing environment, such as argon, at a temperature between about 800° C. and about 1250° C. to substantial elimination of the fluxing agent content by vaporization.

3,506,439

REGULATING THE FEEDING OF METAL PARTICLES TO THE ROLL GAP OF A ROLLING MILL

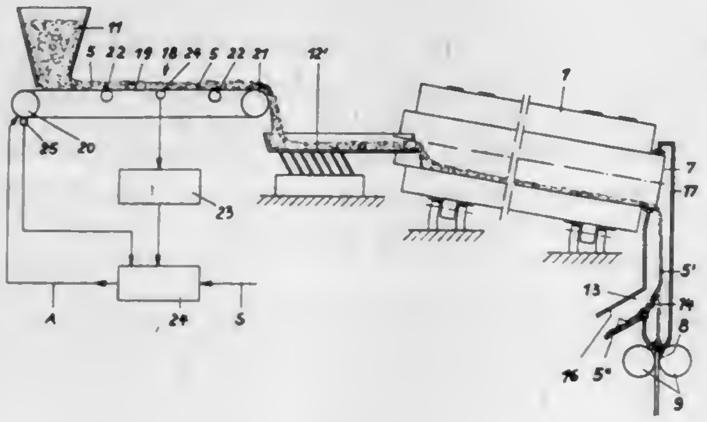
Kurt Claus, Metzkausen, Eckard Gehring, Dusseldorf-Kaiserswerth, Ulf Geier, Osterath-Bovert, and Werner Marx, Dusseldorf, Germany, assignors to Schloemann Aktiengesellschaft, Dusseldorf, Germany, a company of Germany

Filed May 11, 1966, Ser. No. 549,392

Claims priority, application Germany, Dec. 15, 1965, Sch 38,185

Int. Cl. B22f *1/00*

U.S. Cl. 75—226 **8 Claims**



A process for regulating the feeding of metal particles to the roll gap of a rolling mill, which metal particles have been heated to the rolling temperature by a furnace. The height of the metal particles in a container directly above and exiting to the roll gap is sensed, this sensed height is compared to a predetermined height which will give the metal particles a residence time in the container which is approximately constant and short enough to insure that the metal particles do not cool unevenly, and then the predetermined height is maintained by controlling the rate of supply and output of the particles to and from the roll gap in dependence upon variation from the predetermined height of the metal particles in the container. Furthermore, the predetermined height can be maintained by discharging metal particles into the container at a rate greater than the rolling mill throughput, and deflecting the excess portion of the particles before they reach the container.

3,506,440

METHOD OF REINFORCING PHOTOSENSITIVE RESISTS FORMED ON PHOTOENGRAVING PLATES

Eiju Sugimoto, Tokyo, Japan, assignor to Mitsui Mining & Smelting Co., Ltd.

Filed Mar. 21, 1966, Ser. No. 536,244

Claims priority, application Japan, Mar. 22, 1965, 40/16,636

Int. Cl. G03c *5/00*

U.S. Cl. 96—36 **2 Claims**

The method of reinforcing photosensitive resists which are formed on photosensitive plates and which contain polyvinyl cinnamate as the principal component.

More specifically, a method of reinforcing photosensitive coatings formed on the surfaces of photoengraving plates, after being sensitized and subsequently being developed with an organic solvent, by subjecting the developed resists to light rays containing ultraviolet rays having a wave length ranging from 2200 A. to 3400 A.

3,506,441

DOUBLE PHOTORESIST PROCESSING

William A. Gottfried, Philadelphia, Pa., assignor to RCA Corporation, a corporation of Delaware

Filed June 2, 1967, Ser. No. 643,139

Int. Cl. G03c *5/00*

U.S. Cl. 96—36.2 **5 Claims**

There is disclosed a method for producing printed circuit substrates having closely spaced, fine line circuitry devoid of pinholes. Any imperfection formed during the application, exposure, or development of an initial layer of photosensitive material upon a circuit substrate, which would result in a pinhole within the desired circuitry upon the exposure of the substrate to an etchant, is corrected by the application of an additional layer of photoresist which is subsequently exposed and developed.

3,506,442

PHOTOMASK MODIFICATION AND REGISTRATION TEST METHODS

Robert E. Kerwin, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

No Drawing. Filed Sept. 27, 1968, Ser. No. 763,348

Int. Cl. G03c *5/04*

U.S. Cl. 96—41 **4 Claims**

A technique for recording the registration of a sequence of photomasks involves introducing and physically developing separate successive images on a single substrate. The image area of a photomask may also be modified by a similar reiterative technique of sensitizing and physically developing.

3,506,443

COLOR PHOTOGRAPHIC ELEMENTS AND PROCESS

Robert F. Motter, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 18, 1965, Ser. No. 508,596

Int. Cl. G03c *1/14*

U.S. Cl. 96—55 **12 Claims**

Silver halide emulsions, particularly those containing an incorporated color-forming coupler, are advantageously green-sensitized with a supersensitizing combination of (1) certain oxacarbocyanine dyes that have no more than one phenyl substituent and (2) certain benzimidazolocarbocyanine dyes and further sensitized by processing them in the presence of certain silver halide thioether sensitizers that are incorporated in the immediate green-sensitized emulsion layer, another layer in the photographic element containing the green-sensitized emulsion layer or incorporated in a color developing solution containing a p-phenylenediamine used to process the immediate emulsion, provided the thioether is present in the emulsion during color development. The immediate supersensitized emulsions containing the thioether sensitizer are especially advantageous when processed in a color developer solution containing a dialkylamino-p-phenylenediamine color developing agent because of synergistic increases in green speed of up to about 336%.

3,506,444

DRY STABILIZATION OF PHOTOGRAPHIC IMAGES

Grant M. Haist and Donald M. Burness, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 27, 1967, Ser. No. 612,080

Int. Cl. G03c *5/38*

U.S. Cl. 96—61 **10 Claims**

Method of stabilizing a photographic silver halide element with certain isothiourea derivative stabilizer precursors, such as 3-S-thiuronium propane sulfonate, which are activated with the aid of heat.

3,506,445

SYNTHETIC FILM MATERIALS

Terence A. Abbott, Margaret L. Clachan, Basil R. Shephard, and David R. Kennedy, Brantham, Manningtree, England, assignors to Bexford Limited, Brantham, Manningtree, England, a British company

No Drawing. Filed Dec. 6, 1965, Ser. No. 511,980

Claims priority, application Great Britain, Dec. 9, 1964, 50,118/64

Int. Cl. G03c *1/78*

U.S. Cl. 96—87 **14 Claims**

A film base material consisting of a film of synthetic linear polyester or polycarbonate of highly hydrophobic character having superimposed thereon a layer adherent to said film, which consists predominantly of a polymeric substance selected from the class consisting of the homopolymers of vinyl halogenoester and vinyl cyanoester and the copolymers thereof with alpha-beta unsaturated carboxylic acids, benzylacetate and vinyl alcohol. A process for making the film base material is also disclosed.

ERRATA

For Classes 96—94 thru 96—101 see:
Patent Nos. 3,506,449 thru 3,506,451

3,506,446

PROCESS FOR CONDITIONING FRESHLY ROASTED COFFEE

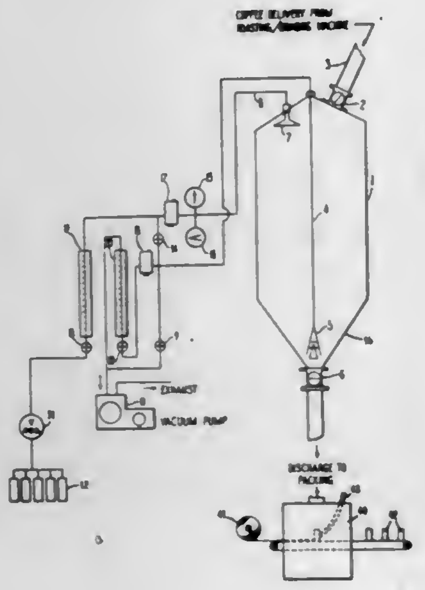
Ronald Cheyney Champion, Crawley, Sussex, England, assignor to Kenco Coffee Company Limited, London, England, a British company

Filed Oct. 14, 1968, Ser. No. 767,443

Claims priority, application Great Britain, Oct. 16, 1967, 47,058/67

Int. Cl. A23f *1/02*

U.S. Cl. 99—68 **14 Claims**



A process for conditioning freshly roasted coffee to remove CO_2 therefrom. To accelerate evolution of the CO_2 from the cells of the coffee, the coffee is confined in a space evacuated to a sub-atmospheric pressure level, but a pressure level which is in a range above the vapor pressures of at least the majority of the volatile constituents of the coffee, the coffee being maintained in said space until sufficient CO_2 has evolved from the coffee cells to allow final packaging of the coffee in sealed containers.

3,506,447

METHOD FOR PREPARING A FRUIT CEREAL PRODUCT

Fred W. Billerbeck, Francisco S. Hing, and Vincent J. Kelly, Fremont, Mich., assignors to Gerber Products Company, Fremont, Mich.

No Drawing. Filed July 21, 1965, Ser. No. 473,832

Int. Cl. A23l *1/10*

U.S. Cl. 99—83 **8 Claims**

A process for obtaining a dehydrated reconstitutable fruit-cereal by incorporating an ester-containing organic releasing agent in a fruit/cereal slurry prior to dehydration of the slurry on a drying surface.

3,506,448

BREAD IMPROVING COMPOSITION AND METHOD

Albert W. Kleinschmidt, Park Forest, and Sigurd T. Viren, La Grange Park, Ill., assignors to J. R. Short Milling Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Sept. 27, 1967, Ser. No. 671,109

Int. Cl. A21d *2/00*

U.S. Cl. 99—91 **4 Claims**

Bread improver compositions containing both an enzyme-peroxidizable fat and an active lipoxidase-containing material such as soy flour are improved by employing, as a carrier for the fat, a powdery material predominantly comprising sugars and proteins. Of such materials, dairy whey solids are superior. Inclusion of such powdery materials renders the compositions less oily and more free flowing despite high fat contents, allows quicker and better dispersion of the composition in aqueous media, and provides a greater improvement in body and flavor of bread made with the aid of the composition.

3,506,449

GELATIN COATING COMPOSITIONS WITH N-TALLOW-β-IMINODIPROPIONIC ACID

William J. Knox, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 20, 1962, Ser. No. 225,108

Int. Cl. G03c *1/02;* **C09d** *3/04*

U.S. Cl. 96—94 **9 Claims**

This invention relates to proteinaceous coating compositions and photographic elements containing the same wherein said coating composition comprises the salt of N-tallow-β-iminodipropionic acid.

3,506,450

PHOTOGRAPHIC MATERIAL FOR THE SILVER-DYE-BLEACH PROCESS

Horst Nickel and Fritz Suckfüll, Leverkusen, Bernhard Seidel, Cologne-Mulheim, and Erich Böckly, Leverkusen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 13, 1966, Ser. No. 556,848

Claims priority, application Germany, July 1, 1965, A 49,620

Int. Cl. G03c *1/10*

U.S. Cl. 96—99 **5 Claims**

Silver-dye-bleach photographic material in which the dye is a sulfonated amino naphthol azo dye.

3,506,451

DIRECT POSITIVE PHOTOGRAPHIC MATERIALS

Nobuo Soma, Junichi Nakazawa, Yoshio Sato, and Yoshimi Kuwabara, Tokyo, and Hidehiko Ishikawa, Odawara-shi, Japan, assignors to Sankyo Co., Ltd., and Konishiroku Photo Industry Co., Ltd., both of Tokyo, Japan, both corporations of Japan

No Drawing. Filed Mar. 13, 1967, Ser. No. 622,437

Claims priority, application Japan, Mar. 19, 1966, 41/17,041

Int. Cl. G03c *1/36*

U.S. Cl. 96—101 **11 Claims**

A direct positive photographic element comprising a fog silver halide emulsion containing as a deep sensitizer 1,3 substituted-2,3-dihydro-2 oxocycloheptimidazolium salts.

3,506,452

PHOTOCHEMICAL PROCESS FOR DETOXIFICATION OF FUNGAL METABOLITES

Jett C. Arthur, Jr., Metairie, and James A. Robertson, Jr., New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Apr. 28, 1966, Ser. No. 545,845

Int. Cl. A23j *1/14*

U.S. Cl. 99—17 **5 Claims**

Aflatoxin B_1 was detoxified by irradiating with a mercury, short-arc, point-source, high-pressure lamp (100 watts) for about from 60 to 120 minutes, thereby destroying the fluorescent properties and consequently its toxic properties.

3,506,453

AGGLOMERATED FUMARIC ACID COMPOSITION

Fred H. McCarron, Minneapolis, Minn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Filed Nov. 14, 1966, Ser. No. 594,222

Int. Cl. A23l *1/00*

U.S. Cl. 99—78 **17 Claims**

Cold water-soluble, low caloric aggregates suitable for use in fruit flavored beverages are provided by agglomerating citric acid particles, synthetic sweetener and fumaric acid particles. The fumaric acid particles utilized in preparing the aggregates have a particle size of less than 75 microns and are coated with a dialkyl ester of sodium sulfosuccinate.

3,506,454

PROCESS FOR PRODUCING PUFFED DOUGH PIECES

Stanley H. Reesman, Battle Creek, Mich., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 18, 1966, Ser. No. 573,221

Int. Cl. A23l *1/10*

U.S. Cl. 99—81 **6 Claims**

Puffed dough pieces are prepared by cooking a starch-containing dough, shaping the dough into pieces, partially drying the dough pieces to below 10% moisture under slow evaporation conditions, and then rapidly evaporating the remaining moisture and thereby puff the product to more than 3 times its volume in the partially dried state.

3,506,455

PROCESS OF IMPREGNATING MEAT

Jack Palmer Savage, Biddenham, and Raymond Chenneour, Sharnbrook, England, assignors to Unilever Limited, Birkenhead, England, a company of Great Britain

No Drawing. Continuation-in-part of application Ser. No. 385,046, July 24, 1964. This application Oct. 9, 1967, Ser. No. 673,955

Int. Cl. A23l *1/31, 1/315, 1/325*

U.S. Cl. 99—107 **4 Claims**

Impregnation of raw meat with uncooked starch grains by injection. The starch binds the meat fluids produced on cooking.

The loss of fluids from meat during cooking is reduced by impregnating the meat with a starch having the capacity to bind meat fluids.

3,506,456

COTTAGE CHEESE CREAMING MIXTURE

Burton J. Flick, St. Paul, Minn., and Joseph P. Pisani, Mount Prospect, Ill., assignors to Kraftco Corporation, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 429,158, Jan. 29, 1965. This application May 24, 1968, Ser. No. 731,724

Int. Cl. A23c *19/00*

U.S. Cl. 99—115 **11 Claims**

An improved cottage cheese creaming mixture is prepared by blending comminuted cottage cheese curd with a cottage cheese creaming mixture.

3,506,457

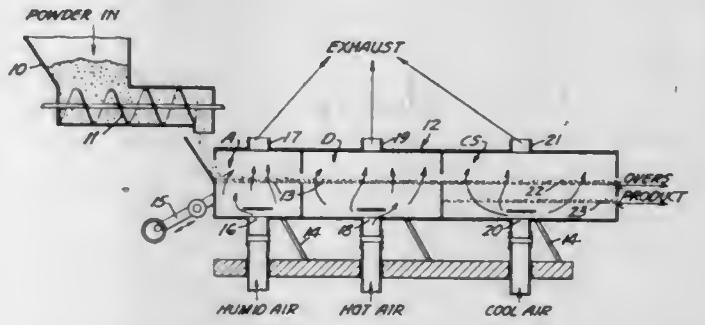
AGGLOMERATED SUGAR PRODUCTS AND METHOD

Rolf G. Gidlow, North St. Paul, Jolyon A. Stein, Minneapolis, and Warren L. Ganske, Osseo, Minn., and Alexander M. Zenzes, Frankfurt am Main, Germany, assignors to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware

Continuation-in-part of application Ser. No. 100,210, Apr. 3, 1961. This application Feb. 25, 1965, Ser. No. 440,992

Int. Cl. A23l *1/22, 1/26*

U.S. Cl. 99—141 **9 Claims**



Brown sugar and fondant (mixtures of extremely fine crystalline sucrose and non-crystallizing sugars) are hygroscopic and tend to cake severely when stored for long periods of time. As a result they are difficult to remove from containers and are not readily dispersed in liquids. These problems are overcome by forming a mixture of fractured sugar crystals of less than 150 microns in diameter. The syrup is distributed upon and coats substantially the entire surface area of the fractured sugar crystals. The weight ratio of the syrup to fractured sugar crystals is greater than the sugar crystals could accommodate and yet be free-flowing but no greater than the fractured sugar crystals could accommodate and be free-flowing. Less than 6% moisture is added to this material to increase the tackiness of the surfaces and induce the particles to form agglomerates. The agglomerates are then dried.

3,506,458

POTATO STORAGE METHOD

Robert T. Martin, 1708 East 4800 South, Salt Lake City, Utah 48107

No Drawing. Continuation-in-part of application Ser. No. 591,300, Nov. 1, 1966. This application Dec. 26, 1967, Ser. No. 693,092

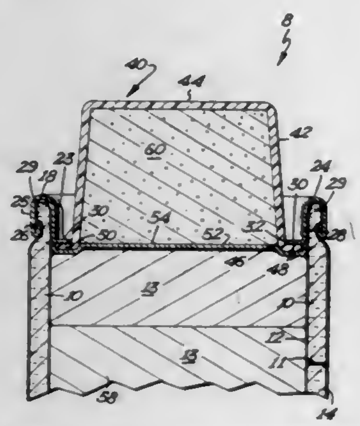
Int. Cl. A23b *7/00*

U.S. Cl. 99—154 **6 Claims**

A storage method which comprises storing crops in an environment having a relative humidity greater than 50 percent which is provided by spraying an aqueous solution of 0.5 to 20 weight percent hydrogen peroxide into an air stream, maintained at a temperature of 32 to 80 degrees Fahrenheit, which is circulated around the stored crops. The crops can also be dipped in an aqueous hydrogen peroxide bath and stored in a humid environment after removal from said bath.

3,506,459
TAMPER-PROOF MULTIPLE COMPARTMENT PACKAGE

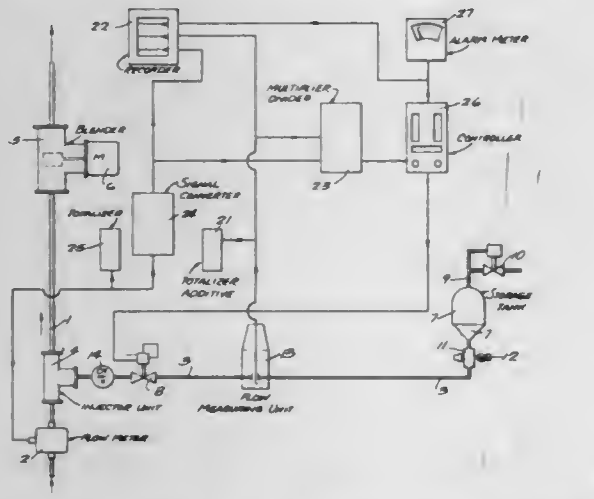
A. Kenneth Parlour, New Albany, Ind., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed July 11, 1967, Ser. No. 652,616
Int. Cl. B65b *25/16*
U.S. Cl. 99—172 **4 Claims**



Tamper-proof multiple compartment container or can composed of a tubular wall, first and second end closure plates crimped to the ends of the tubular wall. One of the end closures consists of an imperforate disc, the other is provided with an opening in its center to define a centrally extending circular flange. A cup having a laterally extending circular flange is mounted at the end of the container with its flange in contact with the inside surface of the lip. A dividing disc is positioned between the cup and the interior of the tubular container.

3,506,460
CONTROL SYSTEM FOR COLD STERILIZATION PROCESS

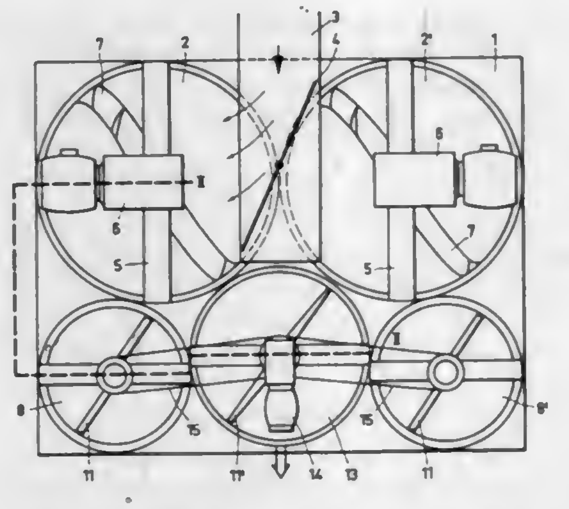
Peter D. Bayne, Shorewood, Wis., assignor to Jos. Schlitz Brewing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 20, 1968, Ser. No. 706,898
Int. Cl. A23l *3/34*
U.S. Cl. 99—211 **8 Claims**



The invention relates to a continuous process for blending small amounts of a relatively insoluble additive into a liquid flow stream, and particularly to a process of blending a sterilizing agent into the flow stream of a perishable material prior to packaging the material. The sterilizing agent is maintained at a pressure greater than the pressure of the perishable material and is introduced into the flow stream in the form of finely divided mist or droplets which are subsequently blended into the perishable material by an in-line agitator or mixer.

3,506,461
APPARATUS FOR CONTINUOUSLY REFINING COCOA NIBS AND LIKE MATERIAL

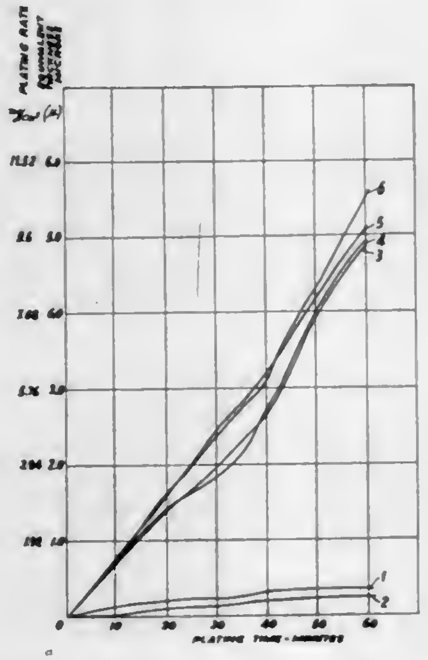
Rüdiger Noschinski, Frankfurt am Main, and Joachim Tuckmantel, Massenheim, Germany, assignors to Maschinenfabrik J. S. Petzholdt, Frankfurt am Main, Germany
Filed Feb. 13, 1968, Ser. No. 705,168
Claims priority, application Germany, Feb. 15, 1967, M 72,775
Int. Cl. A23g *1/06*
U.S. Cl. 99—236 **7 Claims**



A refining apparatus for cocoa nibs comprises two liquefying containers alternately receiving dry cocoa nibs and the liquefied material is continuously pumped to an adjacent refining container, a stream of refined material being continuously removed from the apparatus.

3,506,462
ELECTROLESS GOLD PLATING SOLUTIONS

Toshiya Oda and Kazutami Hayashi, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo-to, Japan
Filed Oct. 24, 1967, Ser. No. 677,582
Claims priority, application Japan, Oct. 29, 1966, 41/71,246
Int. Cl. C23c *3/00*
U.S. Cl. 106—1 **4 Claims**



The plating rate from electroless gold plating cyanide baths is improved by using a particular combination of a catalyzer, such as cobalt chloride, and a complexing agent, such as thiourea.

3,506,463
MOLD RELEASE AGENT

Rudolph J. Holzinger, Haddonfield, N.J., assignor to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Jan. 4, 1967, Ser. No. 607,159
Int. Cl. B28b *7/38;* **C10m** *5/12, 1/24*
U.S. Cl. 106—38.24 **9 Claims**

A mold release agent, for use in metal casting operations, which comprises a major proportion of an oil of lubricating viscosity and minor proportions of a carboxylic acid having a molecular weight of at least about 200 and a dispersant for products which are formed during the casting operation.

3,506,464
OPAL GLASS COMPOSITIONS

Nils Tryggve E. A. Baak, Ridgefield, Conn., and Charles F. Rapp, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed June 17, 1966, Ser. No. 558,265
Int. Cl. C03c *3/08*
U.S. Cl. 106—54 **7 Claims**

An opal glass composition wherein the glass consists essentially of 78 to 85 mole percent SiO_2, 7 to 11 mole percent B_2O_3, 0 to 6 mole percent Al_2O_3, 3 to 6 mole percent Na_2O, and 1 to 6 mole percent P_2O_5. The glass has a coefficient of thermal expansion within the range of 25 to $40\times10^{-7}/0°$ C. (0–300° C.).

3,506,465
METHOD OF FORMING MAGNESIUM OXYSULFATE

Daniel F. Popielinski, Orchard Park, and Joseph A. Keller, Williamsville, N.Y., assignors to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware
Filed Jan. 19, 1967, Ser. No. 610,258
Int. Cl. C04b *9/04*
U.S. Cl. 106—105 **7 Claims**

A method of forming magnesium oxysulfate by subjecting sulfated magnesium hydroxide to steam vapors. Magnesium oxide is mixed with a dilute aqueous solution of magnesium sulfate to form sulfated magnesium hydroxide, and this product exposed to steam, at either atmospheric or superatmospheric pressures, to form magnesium oxysulfate. The oxysulfate thus formed is suitable for use as a cementitious binder in a number of products.

3,506,466
TITANIUM DIOXIDE PIGMENT HAVING IMPROVED PIGMENTARY PROPERTIES

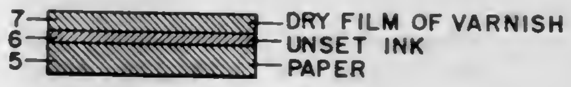
Karl-Juergen Bramekamp, Leverkusen, Hans-Hermann Luginsland, Opladen, and Ingo Stolz, Leverkusen, Germany, assignors to Titangesellschaft m.b.H., Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Apr. 13, 1967, Ser. No. 630,506
Int. Cl. C09c *1/36*
U.S. Cl. 106—300 **6 Claims**

A TiO_2 pigment of either anatase or rutile modification with or without a coating of inorganic substances, is treated with a salt of a water-soluble alkanol amine and an oxycarboxylic acid and milled in a fluid energy mill.

3,506,467
APPLYING A PROTECTIVE FILM TO UNSET PRINTING INK ON BACKING MATERIAL

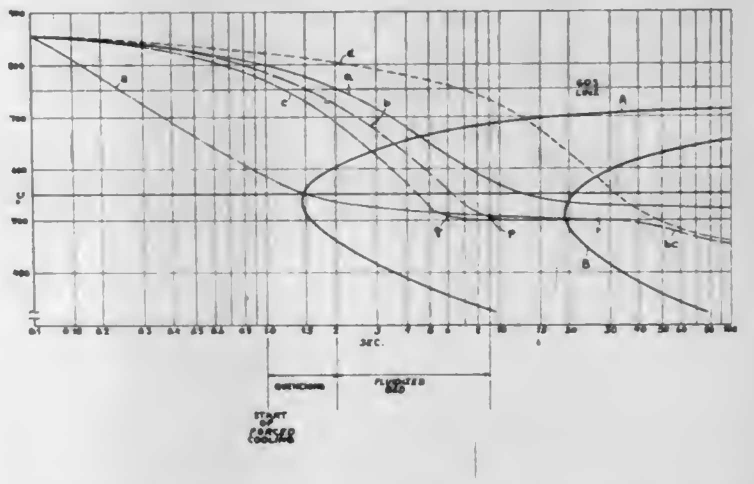
Francis S. Ulrich, 2200 Carmelita Drive, San Carlos, Calif. 94070
Filed Dec. 12, 1966, Ser. No. 600,981
Int. Cl. B44d *1/50*
U.S. Cl. 117—15 **10 Claims**

An aqueous solution of a film-forming material (synthetic resin varnish) is applied to laminar backing material (paper) which was freshly printed with a hydrophobic ink the vehicle of which dries by essentially non-evaporative oxidation and/or polymerization, and the material is immediately subjected to microwaves of 0.3 to 3000 gHz., preferably 1 to 150 gHz., to evaporate the water and form a dry protective film without significant damage to the backing material; the ink, which is not completely set by the microwaves, thereafter sets slowly, e.g., after further handling of the printed material.



3,506,468
METHOD OF PATENTING STEEL WIRE

Hans Geipel and Eckenhardt Forster, Oberhausen, and Wilfried Heinemann, Duisburg, Germany, assignors to Huttenwerk Oberhausen AG., Oberhausen, Rhineland, Germany, a corporation of Germany
Continuation-in-part of application Ser. No. 675,522, Oct. 16, 1967. This application Aug. 6, 1968, Ser. No. 750,642
Claims priority, application Germany, Aug. 7, 1967, 1,583,365, 1,583,366
Int. Cl. C21d *1/62, 7/14, 9/52*
U.S. Cl. 148—12.4 **7 Claims**



Austenitic steel wire with a carbon content between about 0.3 and 0.9% rolled at a temperature above the transformation point Ac_3, is cooled at a rate of at least 20° C. per second immediately after coming from the last stage of a hot-rolling mill, the first phase of the cooling past the GOS line being carried out by quenching while the final cooling, down to a level between 480° and 580° C., takes place in a fluidized bed.

3,506,469
PARTICULATE INK SYSTEMS

Witold Titow, Surrey, England, assignor to Molins Machine Company Limited, London, England
No Drawing. Filed Sept. 11, 1967, Ser. No. 666,985
Claims priority, application Great Britain, Sept. 13, 1966, 40,795/66
Int. Cl. B44d *1/094;* **B41m** *1/22*
U.S. Cl. 117—21 **6 Claims**

A particulate ink system comprises two components, an epoxy resin and a curing agent therefor, one or both components also containing colourant. The printing process in which the ink is used comprises an ink transfer step followed by a print fixing step, and the two components of the ink are maintained separate until said fixing step. The transfer of the two components may be effected simultaneously or sequentially, and either or both components may contain finely divided fillers.

3,506,470
PHOTOPRINTS COATED WITH POLYMERIC ULTRAVIOLET LIGHT BARRIER COATINGS

Raymond H. Young, Jr., East Longmeadow, Saul M. Cohen, Springfield, Albert H. Markhart, Wilbraham, and Irving Serlin, Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application July 8, 1965, Ser. No. 470,572, now Patent No. 3,444,129, dated May 13, 1969. Divided and this application Nov. 20, 1968, Ser. No. 777,508

Int. Cl. C08g *17/02;* **G03c** *11/10*

U.S. Cl. 117—33.3 12 Claims

Disclosed herein are photoprints which are coated with rearrangeable polyesters which are the polymeric reaction product of (1) an aromatic dihydric compound such as the ester derivatives of 4,4-bis(4′-hydroxyphenyl)pentanoic acid wherein there is at least one unsubstituted position ortho to the aromatic hydroxyl groups and (2) an aromatic dicarboxyl compound. The outer exposed surface of the polyester coating rearranges under the influence of ultraviolet light to afford excellent ultraviolet light protection to the coated photoprints.

3,506,471
PRESSURE-SENSITIVE FLUORANE DERIVATIVE CONTAINING COPYING PAPER

Shiro Kimura, Teruo Kobayashi, and Sadao Shige, Kanagawa, Shizio Katayama, Shizuoka, and Isao Hirano and Toshiyuki Nita, Tokyo, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa, Japan

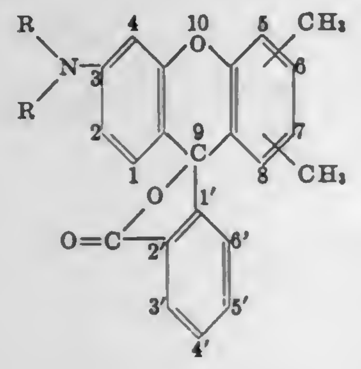
No Drawing. Filed Nov. 14, 1967, Ser. No. 682,983

Claims priority, application Japan, Nov. 14, 1966, 41/74,794

Int. Cl. B41c *1/06*

U.S. Cl. 117—36.2 4 Claims

A pressure-sensitive copy, transferring sheet containing a fluorane derivative of the following formula:



wherein R is a lower alkyl group having from 1 to 4 carbon atoms.

3,506,472
PATTERN COATING METHOD

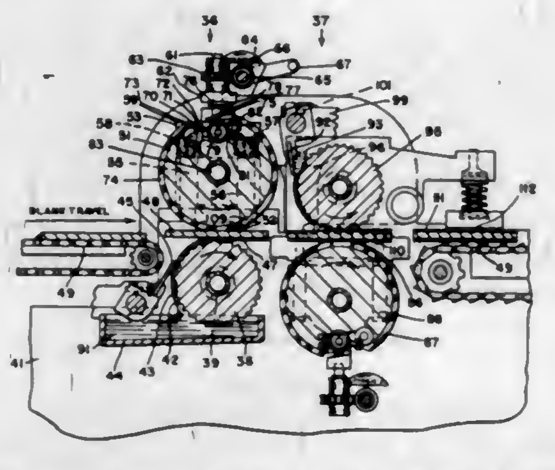
Raymond A. Labombarde, Nashua, N.H., and Ernest J. Dewhurst, Toronto, Ontario, Canada, assignors, by direct and mesne assignments, to The International Paper Box Machine Company, Nashua, N.H., a corporation of New Hampshire

Original application Jan. 3, 1964, Ser. No. 335,603, now Patent No. 3,313,270, dated Apr. 11, 1967. Divided and this application Mar. 10, 1967, Ser. No. 641,077

Int. Cl. B44d *1/09, 5/00*

U.S. Cl. 117—38 3 Claims

A method for pattern, or spot, coating of a plurality of sheets advancing individually and successively, in timed relation along a path, in which the coating is applied in a roll nip formed by a gravure type applicator roll opposed by a resilient faced backing roll, the latter having relieved areas where no coating is desired to be applied. The resilient face with is relieved areas is preferably a low cost, detachable, rubber blanket, which remains cool to avoid deterioration and may be discarded after each run of blanks.



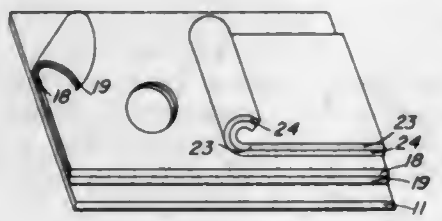
3,506,473
METHOD OF TRANSFERRING GLASS FRIT IMAGE FROM TRANSFER SHEET

Kitty S. Ettre, Stamford, Conn., assignor, by mesne assignments, to Vitta Corporation, a corporation of Connecticut

Continuation of application Ser. No. 377,998, June 25, 1964. This application Apr. 24, 1968, Ser. No. 725,586

Int. Cl. B41m *3/12*

U.S. Cl. 117—38 7 Claims



A uniform layer of glass-glazing frit suspended in a mixture of organic film forming polymer, a plasticizer and a solvent is cast under a doctor blade onto a carrier film. The film is then dried and the two-layer tape may be stored in roll form. The frit layer may be transferred to a substrate solely under pressure without the application of heat, vibratory energy, solvents, or wetting agents, and the carrier layer then stripped away, or the layer may be transferred solely under pressure as a self-supporting layer after being removed from the carrier film. An adhesive layer may be cast under a doctor blade on top of the frit layer. Specific polymers, plasticizers, solvents, and adhesives are disclosed, all of which substantially completely decompose when the frit layer is fired on the substrate. Formulas are disclosed for casting layers thinner than 1 mil and thicker than 10 mils and for casting layers to be transferred to large area and small area substrates.

3,506,474
WRINKLE COATING COMPOSITIONS COMPRISING PARTICULATE THERMOPLASTIC RESIN DISPERSED THEREIN AND METHODS

Theodore A. Neuhaus, Lakewood, and Andrew Marcis, Cleveland, Ohio, assignors to SCM Corporation, Cleveland, Ohio, a corporation of New York

No Drawing. Filed July 17, 1968, Ser. No. 745,419

Int. Cl. C09d *3/66, 3/76, 5/28*

U.S. Cl. 117—41 11 Claims

Methods and compositions for consistently forming deep, distinctive wrinkle finish coatings are disclosed. A small amount of a solid particulate thermoplastic resin is incorporated into normally wrinkling coating compositions to serve as nucleation sites or "seeds" for the development of wrinkle patterns, when the coating is applied to and cured on a substrate.

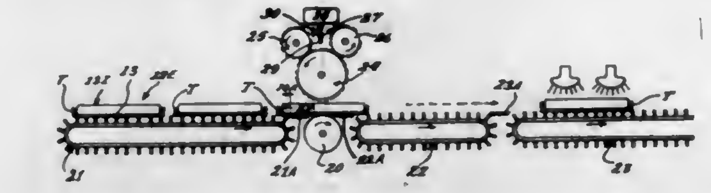
3,506,475
METHOD FOR MAKING PLEATED FILTER WITH STIFFENED PEAKS

Robert W. MacDonnell, Crete, Ill., assignor to Allied Filter Engineering, Inc., Chicago, Ill., a corporation of Illinois

Continuation-in-part of application Ser. No. 448,427, Apr. 15, 1965. This application Aug. 16, 1968, Ser. No. 753,300

Int. Cl. B01d *27/06;* **D21h** *1/10, 5/00*

U.S. Cl. 117—44 5 Claims



Method for depositing a reinforcement bead on a pleated filter sheet by conveying a pleated sheet in a direction along the pleats, rotating an applicator roll with adhesive film thereon above the pleats and transverse the pleats, the applicator roll being spaced from the tops of the pleats so that the adhesive film is in contact with all the pleat tops to deposit the adhesive simultaneously thereon.

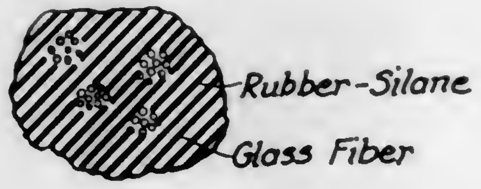
3,506,476
GLASS FIBER-ELASTOMERIC PRODUCTS AND METHOD

Alfred Marzocchi, Cumberland, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,307

Int. Cl. C03c *25/00;* **B44d** *1/14*

U.S. Cl. 117—72 4 Claims



Glass fiber reinforced elastomeric products in which the bonding relationship between the glass fibers and the elastomeric material is achieved by pretreatment of the glass fibers to coat the fibers or to impregnate bundles of glass fibers with a resorcinol formaldehyde/rubber system and in which the continuous phase elastomer is in the form of a silanized elastomer, preferably formed with an amino or glycidyl silane.

3,506,477
LAMINATE HAVING A LOW PERMEABILITY TO GASES

Charles W. Desaulniers, Franklin, and Stephen A. Splitz, Scituate, Mass., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Continuation-in-part of application Ser. No. 601,656, Dec. 14, 1966. This application Feb. 11, 1969, Ser. No. 798,430

Int. Cl. B44d *1/16;* **B32b** *19/02*

U.S. Cl. 117—76 18 Claims

(1) A self-supporting laminate having a permeability to gases of less than about 2 cc.

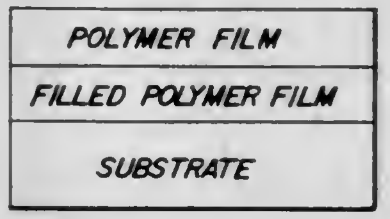
$$\text{(STP)}\times\text{mil/atm.}\times\text{m.}^2\times\text{day}$$

at about 35° C., said laminate consisting essentially of: (a) a substrate; and (b) a filled polymer film, the film consisting essentially of a film-forming polymer filled with an organic-modified clay-like mineral filler, bonded to said substrate;

(2) A self-supporting laminate having a permeability to gases of less than about 2 cc.

$$\text{(STP)}\times\text{mil/atm.}\times\text{m.}^2\times\text{day}$$

at about 35° C., said laminate consisting essentially of: (a) a substrate; (b) a filled polymer filled with an organic-modified clay-like mineral filler, bonded to said substrate; and (c) an unfilled polymer film consisting essentially of a film-forming polymer, bonded to the filled polymer film; and



(3) A self-supporting laminate having a permeability to gases of less than about 2 cc.

$$\text{(STP)}\times\text{mil/atm.}\times\text{m.}^2\times\text{day}$$

at about 35° C., said laminate consisting essentially of: (a) a substrate; (b) a first film consisting essentially of an organic-modified clay-like mineral filler, bonded to the substrate; and (c) a second film consisting essentially of a film-forming polymer, bonded to the first film.

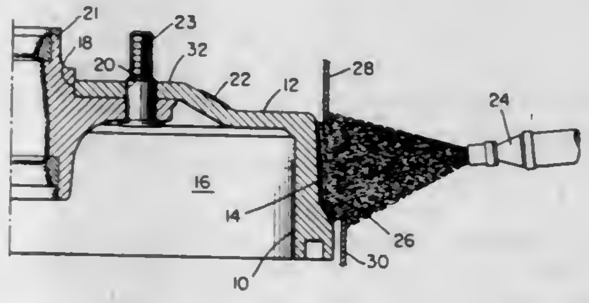
3,506,478
METHOD OF BALANCING A BRAKE DRUM

Eugene V. Hudson, Detroit, John F. Miller, Fraser, and Harold C. Ruska, Warren, Mich., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Aug. 29, 1968, Ser. No. 756,267

Int. Cl. C23c *7/00*

U.S. Cl. 117—105 3 Claims



A method of balancing a brake drum for a vehicle consisting of determining the point of unbalanced and the amount of weight required to balance the drum and then applying a sufficient amount of metal spray for the balancing of the drum.

3,506,479
RESIN TREATED PILE FLOOR COVERINGS

Leon Frank Haddon Breens, Allestree, and William Charles Garratt, Kenilworth, England, assignors to Courtaulds Limited, London, England, a British company

No Drawing. Filed Dec. 28, 1965, Ser. No. 517,098

Claims priority, application Great Britain, Jan. 6, 1965, 532/65; Oct. 18, 1965, 44,011/65

Int. Cl. D03d *27/00;* **B44d** *1/20*

U.S. Cl. 117—161 4 Claims

A pile fabric floor covering is treated with a liquid resin for example as a solution or dispersion and the resin is solidified so as to bond the fibres in the pile together. The amount of resin deposited on the pile is at least 5 percent by weight based on the weight of the pile fabric.

3,506,480

OIL FILTER PAPER AND PROCESS OF PREPARING SAME

Lowell E. Peterson, Minneapolis, and Lyle F. Elmquist, North St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 603,743, Dec. 22, 1966. This application Feb. 24, 1969, Ser. No. 801,860
Int. Cl. B21h *1/28, 1/34*
U.S. Cl. 117—155 **13 Claims**

Oil filter paper is prepared by impregnating the paper with both a thermosetting phenol-formaldehyde resin and a polyisocyanate or combination of a polyisocyanate and a polyamine, such polyisocyanate having the formula

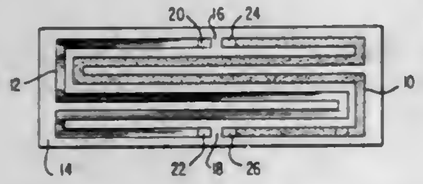
$$\left[R'\right]\!-\!\left[(CH_2)_yNCO\right]_x$$

where y is 0 or 1, x is an integer of 2 to about 4 and R′ is the hydrocarbon group of polymeric fat acids. The impregnated paper is cured.

3,506,481

CLOSELY MATCHED SINUSOIDAL SHAPED RESISTOR ELEMENTS AND METHOD OF MAKING

Ronald L. Koepp, Creve Coeur, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Oct. 13, 1965, Ser. No. 495,520
Int. Cl. B44d *1/18, 1/52;* **H01h** *37/36*
U.S. Cl. 117—212 **2 Claims**

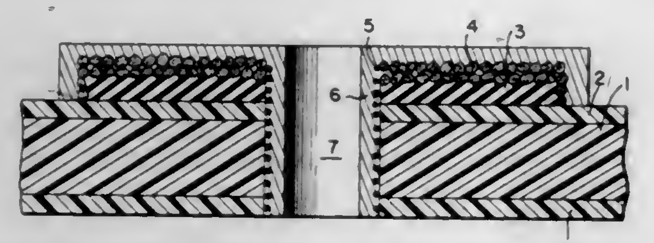


A pair of closely matched thin film resistors are produced by vapor disposition through a mask defining two interfitting complementary sine wave shaped spaces. By being so interdigitally positioned, the two resistors are equally affected by variations in the deposition process and are equally affected by the same ambient conditions during operation.

3,506,482

METHOD OF MAKING PRINTED CIRCUITS

Hyogo Hirohata, Neyagawa-shi, and Tsuneshi Nakamura, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Apr. 25, 1967, Ser. No. 633,567
The portion of the term of the patent subsequent to July 9, 1985, has been disclaimed
Int. Cl. B44d *1/18;* **B41m** *3/08;* **H05k** *3/12*
U.S. Cl. 117—212 **9 Claims**

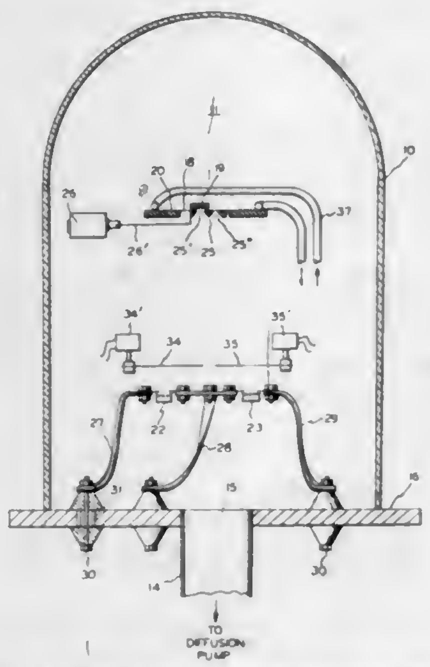


A method for forming printed circuits which comprises printing a curable adhesive ink in a predetermined pattern onto an insulating base, applying metal powder onto the printed insulating base whereby discrete particles of said metal powder are retained on the printed adhesive ink only, curing said adhesive ink so as to fix said discrete particles of metal powder thereon, holing said insulating base at predetermined positions, immersing said holed insulating base successively into an aqueous solution of stannous chloride and an aqueous solution of palladium chloride for producing an activating agent thereon, brushing and washing the two surfaces of said base so that said two surfaces are free from said activating agent while the hole walls retain said activating agent, and treating the resulting base with an electroless metal deposition bath to adherently deposit electroless metal directly on said hole walls as well as on said cured adhesive including fixed metal powder so as to form a conducting pattern provided with plated-through holes.

3,506,483

CONCURRENT DEPOSITION OF SUPERCONDUCTOR AND DIELECTRIC

William M. Flook, Jr., Greenville, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 603,028
Int. Cl. B44d *1/02;* **C23c** *11/02*
U.S. Cl. 117—227 **2 Claims**

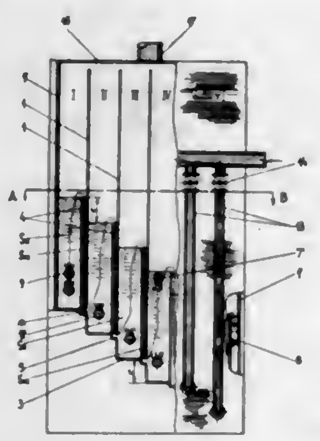


The method of manufacturing an improved structured superconductor by the concurrent deposition of a superconductive material with a dielectric material.

3,506,484

APPARATUS FOR THE CONTINUOUS TREATMENT OF SUGAR INDUSTRY JUICES WITH CARBON DIOXIDE

Flavius N. Domsa, 1 Str. Nuferilor, Bucharest, Rumania
Filed June 23, 1966, Ser. No. 559,765
Int. Cl. C13d *3/00*
U.S. Cl. 127—12 **6 Claims**

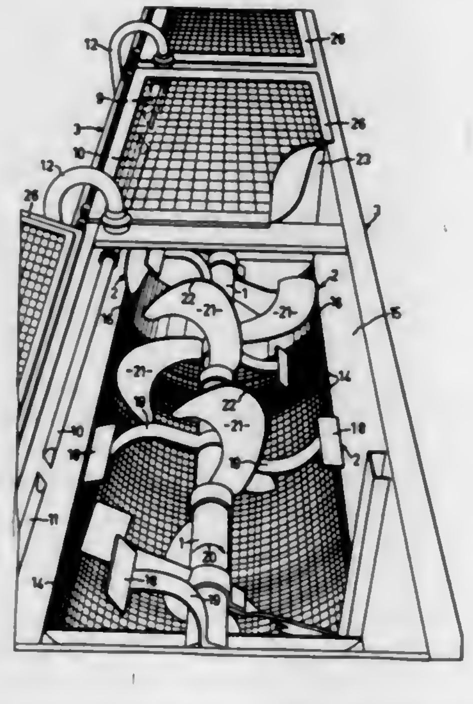


Apparatus for the continuous treatment (with carbon dioxide) of sugar-industry juices for their purification. The treatment chamber is subdivided into a series of deep and relatively narrow compartments with rectangular horizontal cross section arranged in cascade, with free-fall juice flow through the compartment series. In each portion wall between adjacent compartments and over all its width, a narrow opening is provided near the bottom. Each compartment has an inner vertical wall, nearer the dividing wall of the following compartment to act as a weir and the level of the liquid in the compartment while dividing the liquid space into a main zone for saturation with carbonation gases bubbled through the liquid from a distributor located in the lower part and into an auxiliary zone, in which the juices pass in the opposite direction to the saturation zone of the next compartment.

3,506,485

APPARATUS FOR EXTRACTING STARCH AND GLUTEN FROM A DOUGH OF WHEAT FLOUR

Erik Plavén, Scheelegatan 1,
Stockholm, Sweden
Filed July 30, 1965, Ser. No. 476,128
Claims priority, application Sweden, Aug. 4, 1964, 9,412/64
Int. Cl. B03b *3/00, 11/00;* **C13l** *1/00*
U.S. Cl. 127—25 **7 Claims**



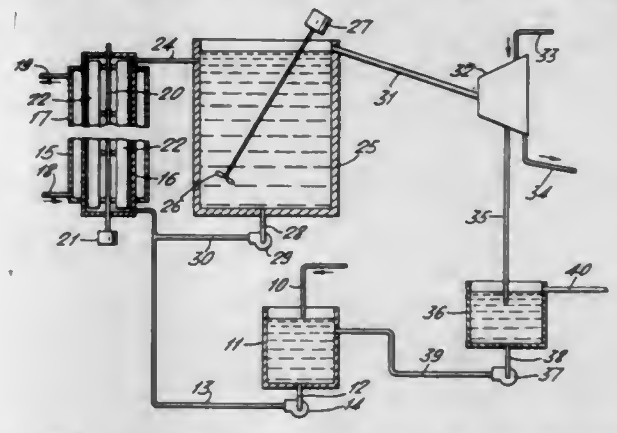
An apparatus for separating starch from gluten in a wheat flour dough comprising means for collecting the gluten in a treating zone, said means repeatedly catching and pushing the gluten in the zone, lifting the lumps of collected gluten out of the zone, and dropping the lumps of gluten back to the treatment zone in an optionally repeated series.

3,506,486

CONTINUOUS CRYSTALLIZATION

Neophytos Ganiaris, Riverdale, N.Y., assignor to Struthers Scientific and International Corporation, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,083
Claims priority, application Great Britain, Dec. 30, 1966, 58,299/66
Int. Cl. C13f *1/02*
U.S. Cl. 127—58 **4 Claims**

Dextrose is continuously crystallized from a massecuite in a crystal slurry which is continuously recycled between a hold-up tank and a tubular crystallizer and which has a mother liquor from a crystal separating centrifuge recycled to the crystallizer to control the percentage of crystals in the crystllization zone.



3,506,487

PROCESS FOR THE REMOVAL OF SCALE FROM VERY SCALY METAL SURFACES

Arnold Lenz, Cologne-Stammheim, and Walter Rogler, Ranzel, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany, a corporation of Germany
No Drawing. Filed Dec. 11, 1967, Ser. No. 689,280
Claims priority, application Germany, Dec. 13, 1966, D 51,764
Int. Cl. B08b *7/02;* **C23g** *1/28*
U.S. Cl. 134—2 **4 Claims**

Process of removing scale from metal surfaces by contacting the surfaces with a molten alkali bath containing from 0.3 to 5% of an alkali metal hydride at a temperature of at least 185° C. under conditions controlled so that the alkali does not completely penetrate the layer of scale, but only to the extent of 50 to 80% penetration. The articles are then chilled by immersion in a water bath down to room temperature, washed to remove any remaining alkali and subjected to a mechanical aftertreatment for removal of the loosely adhering scale.

3,506,488

METHOD OF REMOVING MANGANESE CONTAINING DEPOSITS

Joseph P. Kleinman, Royal Oak, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 24, 1967, Ser. No. 655,283
Int. Cl. C23g *1/02;* **C09k** *3/00*
U.S. Cl. 134—3 **7 Claims**

A method of removing manganese containing deposits formed on the surfaces of jet engines from burning fuel containing a cyclopentadienyl manganese tricarbonyl as a smoke reducer, by treating the deposit coated surfaces with an aqueous solution of an acidic nitrogen containing chelating compound.

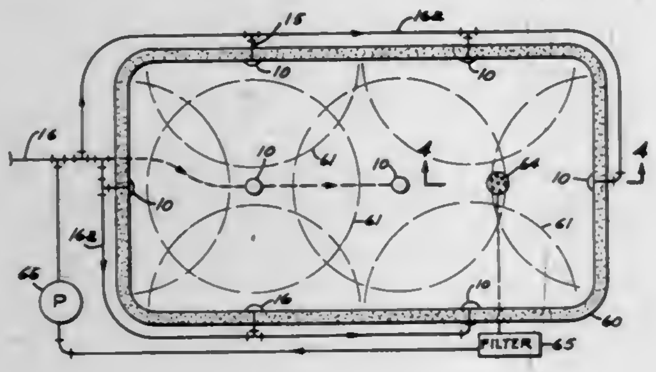
Ethylene diamine tetraacetic acid (EDTA), nitrilotriacetic acid (NTA), and the disodium salt of EDTA are useful chelating compounds.

3,506,489

METHOD AND APPARATUS OF CLEANING A POOL

William O. Baker, West Covina, Calif., assignor to Swimquip, Inc., El Monte, Calif., a corporation of California
Continuation-in-part of application Ser. No. 637,608, May 10, 1967, which is a continuation-in-part of application Ser. No. 507,607, Oct. 22, 1965, which in turn is a continuation-in-part of application Ser. No. 291,885, July 1, 1963. This application Aug. 26, 1968, Ser. No. 770,133
Int. Cl. B08b *7/04*
U.S. Cl. 134—10 **13 Claims**

Individual ones of a plurality of jet streams of liquid are successively and intermittently maintained in different fixed angular directions from a position at an interior wall surface of a pool to sweep and agitate dirt settling at or near said surface, and to move it and keep it in suspension in the pool liquid. The pool liquid is filtered thereby removing dirt from the pool. According to another



aspect of this invention, a plurality of jet streams is maintained at different positions, and the jet streams are intermittently and successively operated so that at least one of the jet streams is maintained on while another is maintained off.

3,506,490
SOLID ELECTROLYTE BATTERY HAVING LITHIUM OR LITHIUM ALLOY ANODE

Edward S. Buzzelli, Solon, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed May 8, 1968, Ser. No. 727,405
Int. Cl. H01m *11/00, 43/00, 43/06*
U.S. Cl. 136—6 **7 Claims**

A secondary electrical energy storage battery consisting of a lithium or a lithium alloy anode, a tungsten or a molybdenum cathode, and a mixed electrolyte of lithium sulfate and lithium halide salts. The preferred embodiment exploits the solid state feature of the electrolyte. Capacity of this battery is in excess of 100 watt-hours per pound.

3,506,491
SOLID ELECTROLYTE BATTERY HAVING LITHIUM OR LITHIUM ALLOY ANODE

Edward S. Buzzelli, Solon, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed May 8, 1968, Ser. No. 727,551
Int. Cl. H01m *43/06, 43/00, 11/00*
U.S. Cl. 136—6 **5 Claims**

A secondary electrical energy storage battery consisting of a lithium or a lithium alloy anode; a metal cathode such as antimony, bismuth, or tellurium; and a solid lithium sulfate electrolyte. This battery is operable above the temperature at which lithium sulfate undergoes a transition from a non-conductor to a conductor, and up to its melting point of 860° C. This battery can also be operated above the melting point of the electrolyte, but the advantages of the solid state electrolyte will not inhere. The capacity of this solid electrolyte battery is in excess of 100 watt-hours per pound.

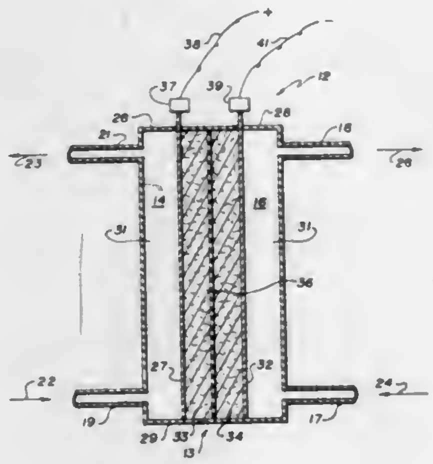
3,506,492
SOLID ELECTROLYTE BATTERY HAVING LITHIUM OR LITHIUM ALLOY ANODE

Edward S. Buzzelli, Solon, and Robert A. Rightmire, Northfield, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed May 8, 1968, Ser. No. 727,552
Int. Cl. H01m *43/06, 43/00, 11/00*
U.S. Cl. 136—6 **8 Claims**

A secondary electrical energy storage battery consisting of a lithium or a lithium alloy anode, an insulating metal oxide cathode, and a lithium sulfate electrolyte. This battery is operable above the temperature at which lithium sulfate undergoes a transition from a non-conductor to a conductor, and up to its melting point of 860° C. This battery can also be operated above the melting temperature of the electrolyte, but the advantages of the solid state electrolyte will not inhere. The preferred embodiment of the battery exploits the solid state feature of the lithium sulfate electrolyte. The temperature of operation can be lowered by doping lithium sulfate with alkali halide salts. Capacity of this battery is in excess of 100 watt-hours per pound.

3,506,493
ELECTROCHEMICAL CELL HAVING BARRIER WITH MICROPOROUS OPENINGS

Morris Eisenberg, Palo Alto, Calif., assignor to Electrochimica Corporation, Menlo Park, Calif.
Filed Aug. 5, 1964, Ser. No. 387,602
Int. Cl. H01m *27/02, 27/06, 27/12*
U.S. Cl. 136—86 **8 Claims**



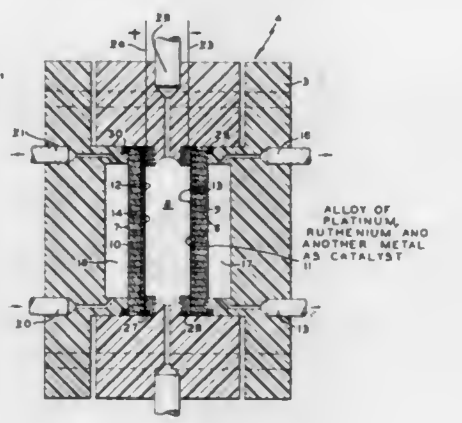
An electrochemical cell having an improved matrix barrier for interposition between the electrodes of the cell, particularly those of the type known as fuel cells, wherein such barrier includes at least one relatively dense layer having microporous openings in the size range of .25 to 30 microns disposed between layers of bibulous material carrying an appropriate electrolyte and further confined at the outer faces thereof by the anode and cathode structures of said electrodes. The dense barrier having microporous openings in the size range of .25 to 30 microns maintains the two electrodes in conducting condition but blocks trans-migration of the greater portion of non-ionic reactants or products of reaction while at the same time permitting the passage of ions through such dense barrier from one electrode to the other without reliance upon ion-exchange mechanisms and affording a relatively low internal cell resistance.

3,506,494
PROCESS FOR PRODUCING ELECTRICAL ENERGY UTILIZING PLATINUM-CONTAINING CATALYSTS

Otto J. Adlhart, Newark, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 295,772, July 17, 1963. This application Dec. 22, 1966, Ser. No. 603,947
Int. Cl. H01m *27/04;* **B01j** *11/06*
U.S. Cl. 136—86 **6 Claims**

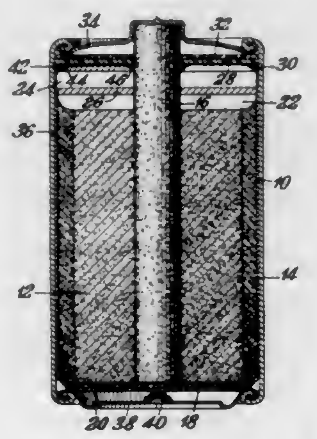
Electrical energy is produced in a fuel cell which utilizes a carbon containing fuel and which has as the anode catalyst a ternary alloy consisting essentially of 30–90%

platinum, 5–40% ruthenium, and 5–30% of a third different metal, e.g. gold, rhenium, tantalum, tungsten, molybdenum, or rhodium. Such fuel cells have improved power output, which is attributable to the anode catalysts.



3,506,495
PRIMARY DRY CELL

Thomas A. Reilly, Bay Village, and William Bemer, North Olmsted, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,958
Int. Cl. H01m *21/06, 1/02*
U.S. Cl. 136—107 **6 Claims**



A primary dry cell of the type utilizing a non-corrodible jacket which is impermeable to liquid and having a metallic top and bottom closure locked thereto, is provided with a novel seal arrangement for retaining liquid exudate formed on discharge while at the same time providing a continuous venting path for venting gas from within the cell, the novel seal arrangement being characterized in that it occupies a minimum amount of space within the cell.

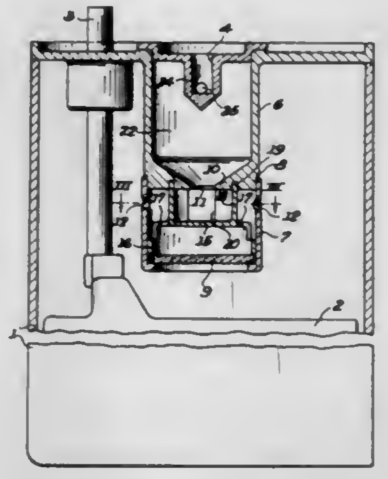
3,506,496
ALKALINE ELECTROCHEMICAL CELLS AND METHOD OF MAKING

Howard Eugene Hoyt and Helmuth Louis Pfluger, Huntingdon Valley, Pa., assignors to Borden, Inc., a corporation of New Jersey
No Drawing. Filed Aug. 8, 1967, Ser. No. 658,999
Int. Cl. H01m *3/00*
U.S. Cl. 136—148 **10 Claims**

This invention relates to equilibrated cellulose ether membranes of increased electrolytic conductivity for use as separators in concentrated alkaline electrochemical cells and to the method of making such membranes by equilibration to the degree desired in an aqueous alkali solution maintained at a temperature below about 10° C.

3,506,497
WET CELL BATTERY WITH IMPROVED VENT

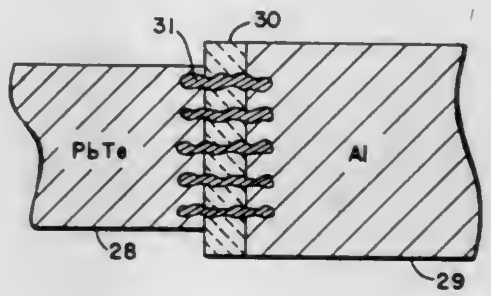
Donald E. Bell, Wilkinsburg, Pa., and John F. Dauster, deceased, late of Penn Hills Township, Pa., by Grace Elle Dauster, executrix, Penn Hills Township, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1967, Ser. No. 689,749
Int. Cl. H01m *1/06*
U.S. Cl. 136—177 **5 Claims**



A wet cell battery case is provided internally with tubular means extending downwardly from the top of the case around a vent and provided with an internal annular ledge. A porous disc spaced below the ledge closes an opening in the lower end of the tubular means. Baffle means are disposed in the tubular means below the ledge to form tortuous passages extending from the disc and a port in the side of the tubular means to a central opening encircled by the ledge.

3,506,498
THERMOELECTRIC DEVICE INCLUDING CONDUCTIVE GRANULES FOR OBTAINING LOW RESISTANCE BONDS

Kasimir Langrod, Sherman Oaks, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Original application Oct. 28, 1963, Ser. No. 319,300, now Patent No. 3,372,469, dated Mar. 12, 1968. Divided and this application Sept. 27, 1967, Ser. No. 687,938
Int. Cl. H01v *1/18*
U.S. Cl. 136—237 **6 Claims**



A thermoelectric device for generating electric current including a telluride thermoelectric body bonded to a conductive body of material. A barrier layer is disposed between the two bodies, and conductive granules penetrate this barrier to bond together the two bodies and form low-resistance conductive paths between them through the barrier layer.

3,506,499
METHOD OF SURFACE-TREATING ZINC, ALUMINUM AND THEIR ALLOYS

Hideya Okada and Hideo Tamura, Tokyo, Japan, assignors to Yawata Iron & Steel Co., Ltd., Marunouchl, Chiyoda-ku, Tokyo, Japan
No Drawing. Filed Mar. 10, 1965, Ser. No. 438,718
Claims priority, application Japan, Mar. 16, 1964, 39/14,504
Int. Cl. C23c *7/10;* **C23f** *7/26*
U.S. Cl. 148—6.2 **14 Claims**

A method is provided for treating the surfaces of zinc, aluminum, and their alloys to obtain a product having excellent corrosion resistance, paint adhesion properties and appearance. In accordance with the process an article having a surface of zinc, aluminum or an alloy thereof is treated with an aqueous solution of chromic acid and colloidal silica.

ERRATUM

For Class 148—12.4 see:
Patent No. 3,506,468

3,506,500
PRODUCTION OF FORCE-APPLYING TOOLS

Charles Robert Talmage, New Canaan, Conn., assignor to New Britain Machinery Company, New Britain, Conn., a corporation of Connecticut
Filed May 10, 1967, Ser. No. 637,391
Int. Cl. C21d *1/02*
U.S. Cl. 148—126 **3 Claims**

Force-applying hand tools, such as wrench sockets, are disclosed produced by powder metallurgy. The working portion of the tool comprises a porous sintered body of heat treatable steel composition of high strength having an average density of at least 85% of true density and having an adherent plating of a protective metal coating on the surface thereof.

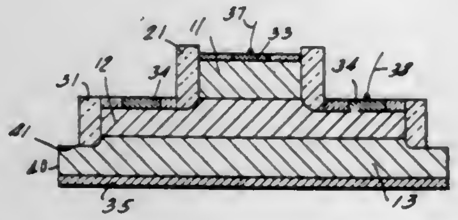
3,506,501
DIE-QUENCHED CRANKSHAFT

Raymond H. Hays, Peoria, Jack E. Sansom, Eureka, and Kenneth D. Gladden, Washington, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 26, 1966, Ser. No. 553,142
Int. Cl. C21d *1/00, 1/62*
U.S. Cl. 148—131 **4 Claims**

A multi-throw crankshaft is produced by a novel heat treating method which results in a finished crankshaft having a carbon content of .24–.40% case hardened to a substantially martensitic case over substantially its entire outer surface to a surface hardness of Rockwell C 44–54; and having a depth of hardness of .060–.200 inch.

3,506,502
METHOD OF MAKING A GLASS PASSIVATED MESA SEMICONDUCTOR DEVICE

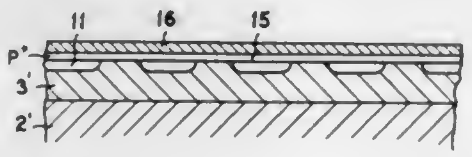
Keiichi Nakamura, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed June 5, 1967, Ser. No. 652,645
Int. Cl. H01l *7/46*
U.S. Cl. 148—174 **7 Claims**



A passivated semiconductor device having two glassy layers in a double mesa configuration surrounding P-N junctions. The glassy layers are produced by diffusing a glass former into the semiconductor under oxidizing conditions at a temperature below the melting point of the semiconductor material.

3,506,503
METHOD OF CONTACTING A MULTISHORT-CIRCUITED EMITTER ZONE OF pnpn SEMICONDUCTOR STRUCTURE

Edouard Eugster, Windisch, and Dieter Spickenreuther, Baden, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Sept. 29, 1967, Ser. No. 671,640
Claims priority, application Switzerland, Dec. 29, 1966, 18,757/66
Int. Cl. H01l *7/46*
U.S. Cl. 148—179 **11 Claims**



A method for contacting a multishort-circuited emitter zone of a pnpn controllable semiconductor valve made from a slice of semiconductor material such as silicon comprises the step of alloying to the face of the semiconductor slice disposed towards the emitter zone a layer of metal containing doping atoms in sufficiently high concentration for a surface zone to be formed after the metallic layer has been alloyed-on to those regions of the control zone and the emitter zone which extend as far as the surface of such face. This surface zone exhibits a conduction of a type opposite to that of the emitter zone and forms together with the latter a degenerated p-n junction.

3,506,504
METHOD OF MAKING SHALLOW-DIFFUSED SEMICONDUCTOR REGIONS

Robert L. Luce, North Wales, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,597
Int. Cl. H01l *7/36, 7/44*
U.S. Cl. 148—187 **6 Claims**

A process for making shallow-diffused semiconductor regions in which impurity diffsion is preceded by three separate impurity deposition steps, each deposition step being followed by an etch that removes any glass formed during the prior deposition step.

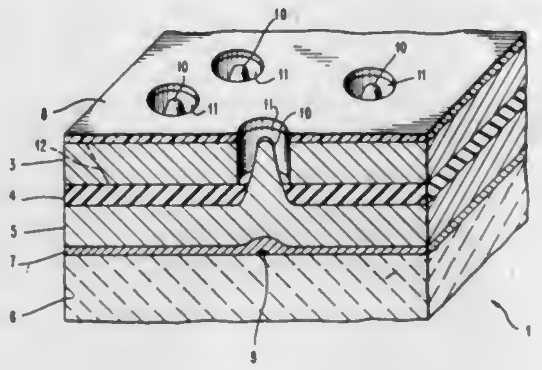
3,506,505
NITROCELLULOSE BASE PROPELLANT COATED WITH GRAPHITE, PLASTICIZER, AND INORGANIC PIGMENT

Hermann Herzog, deceased, late of Kaufbeuren, Germany, by Johanna Herzog, heir, Kaufbeuren, and Hubert Frey, Steyerberg, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
No Drawing. Filed Dec. 1, 1967, Ser. No. 689,746
Int. Cl. C06b *19/02*
U.S. Cl. 149—11 **16 Claims**

The present disclosure relates a a propellant charge powder having a nitrocellulose base wherein the grains of the powder are coated with a plasticizer, graphite, and at least one inorganic pigment. Particular advantages are gained with an inorganic pigment from the group consisting of metal oxides and metal sulfides, with specifically advantageous examples being iron oxide, molybdenum sulfide, titanium dioxide, or zinc oxide, within the range of 0.1 to 1.0 percent by weight of the charge.

3,506,506
CAPACITOR DEFECT ISOLATION

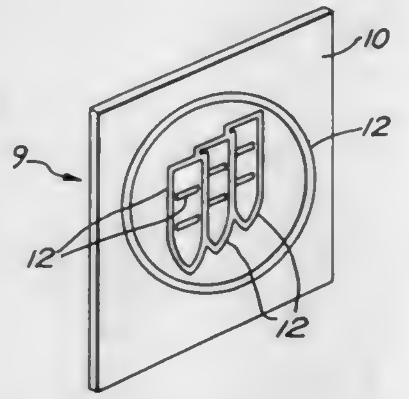
William B. Pennebaker, Jr., Putnam Valley, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 14, 1967, Ser. No. 653,394
Int. Cl. C23f *1/02*
U.S. Cl. 156—3 **8 Claims**



A process for isolating short-circuiting defects between dielectrically spaced metallic layers of a capacitive device, for example, which is accomplished by applying an etch resistant medium to the surface of one of the metallic layers to replicate the defect in the medium and then immersing the device in an etchant for the metallic layer for a time sufficient to remove the metal in the region of the defect. Media which replicate the defects include such materials as photoresists which have utility in the further processing of devices. Etchants, of course, depend upon the metal being utilized and well-known etchants may be used.

3,506,507
METHOD OF MAKING A METAL FOIL PATTERN BY ETCHING

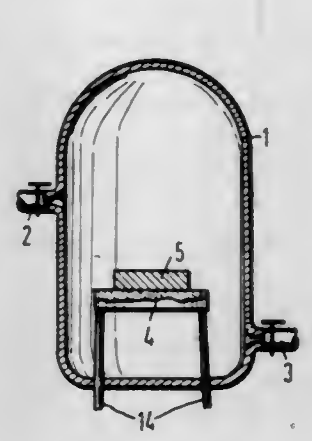
Adrian P. Brietzke, Sparta, Wis., assignor to Northern Engraving Company
Continuation-in-part of application Ser. No. 609,389, Jan. 16, 1967. This application Nov. 22, 1967, Ser. No. 685,058
Int. Cl. B32b *31/14;* **C23b** *3/02*
U.S. Cl. 156—3 **4 Claims**



A process for providing a design pattern in thin metal foil for application to a background support having the steps of (1) temporarily affixing a thin metal foil to a temporary carrier, (2) defining the desired pattern on the metal foil with an etch resistant adhesive, and (3) removing that portion of the metal foil not defining the pattern. This assembly may be attached to a background support to provide a decorative or useful finished product.

3,506,508
USE OF GAS ETCHING UNDER VACUUM PRESSURE FOR PURIFYING SILICON

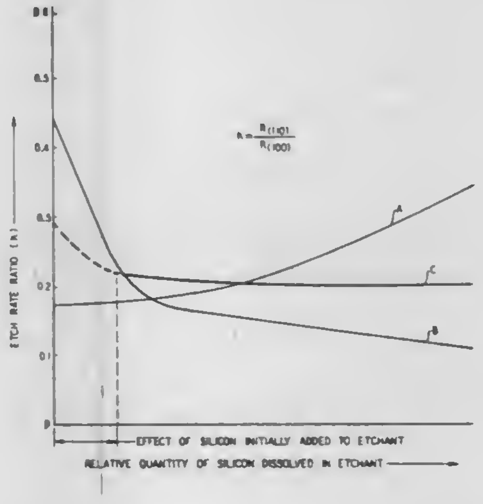
Julius Nickl, Neukeferloh, Germany, assignor to Siemens Aktiengesellschaft, a German corporation
Filed Feb. 25, 1965, Ser. No. 435,239
Claims priority, application Germany, Feb. 26, 1964, S 89,690
Int. Cl. H01l *7/00*
U.S. Cl. 156—17 **6 Claims**



An etching process in a method of producing a silicon semiconductor device which avoids contamination of the device by foreign substances includes contacting the surface of a member composed of semiconductor material with a gaseous etchant chemically reactive with the semiconductor material under given reaction conditions of temperature and pressure so as to disintegrate the surface of the semiconductor member by forming a volatile oxide, and adjusting the reaction conditions so that volatile reaction products formed by the gaseous etchant and the semiconductor material are removed.

3,506,509
ETCHANT FOR PRECISION ETCHING OF SEMICONDUCTORS

Roger C. Kragness, Bethlehem, and Herbert A. Waggener, Allentown, Pa., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Continuation-in-part of application Ser. No. 603,292, Dec. 20, 1966. This application Nov. 1, 1967, Ser. No. 679,818
Int. Cl. H01l *7/00*
U.S. Cl. 156—17 **3 Claims**



A crystallographically preferential etchant for anisotropic etching of semiconductor single crystal material which includes two different alcohols. Hydroxide etchants containing a single alcohol have been proposed previously for anisotropic etching. These etchants attack, at a high rate, one of the three major crystallographic orientations typical of semiconducor crystals, another of the planes at a low or substantially zero rate and a third plane at an intermediate rate. The two alcohol etchant provides a more uniform rate of attack with respect to the plane having the intermediate etch rate, being less sensitive to potential efferts and the disturbing effects of etching by-product build-up.

3,506,510
METHOD OF SONIC WELDING

Walter J. Berleyoung, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation-in-part of application Ser. No. 643,716, June 5, 1967. This application Sept. 18, 1967, Ser. No. 668,508
Int. Cl. B32b *31/16;* **B29c** *27/02*
U.S. Cl. 156—73 4 Claims

The application discloses an apparatus and method for sonically welding a plurality of thermoplastic members or flat plates. A sonic signal producing element or horn presses and imparts welding sonic signals to one of the thermoplastic members. A holding fixture holds one or more of such thermoplastic members. A base plate supports the holding fixture, and fluid action supporting means are provided between the holding fixture and the base plate. Such fluid action supporting means may include a plurality of fluid actuated plungers to support said fixture. This construction equally distributes the main part of the force of the horn over the entire surface of the parts of the thermoplastic members to be welded together.

3,506,511
METHOD OF SONIC WELDING

Walter J. Berleyoung, Goshen, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,716
Int. Cl. B29c *27/08*
U.S. Cl. 156—73 12 Claims

This application discloses an apparatus and method for sonically welding a plurality of thermoplastic relatively flat members or plates. A sonic signal producing element or horn presses and imparts welding sonic signals to one of the flat members. A holding fixture holds one or more of such flat members. A base supports the holding fixture, and universal supporting joint means are provided between the holding fixture and the base. Such universal supporting joint means may include a relatively large spherical ball which is received in recesses in the holding fixture and in the base. This construction equally distributes the main part of the force of the horn over the entire surface of the parts to be welded together between the flat members or plates.

3,506,512
BONDING AND DYEING OF THERMOPLASTIC SYNTHETIC MATERIALS

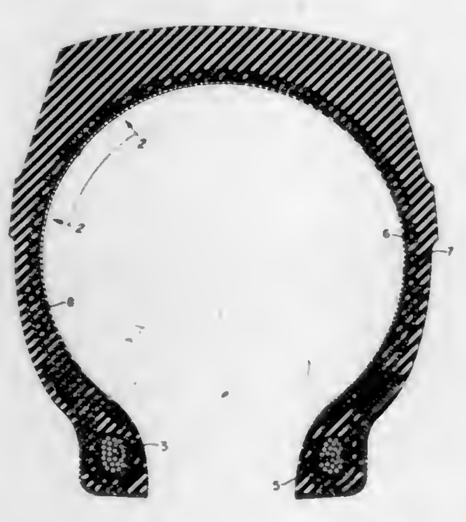
Ronald S. Goy, Sutton Coldfield, England, assignor to The Dunlop Company Limited, London, England, a British company
No Drawing. Filed Feb. 6, 1967, Ser. No. 613,991
Claims priority, application Great Britain, Feb. 1, 1966, 4,287/66
Int. Cl. B29h *9/10;* **D06m** *13/02*
U.S. Cl. 156—110 4 Claims

A process to render the surface of thermoplastic synthetic materials amenable to bonding to vulcanizable elastomeric compositions, in which the material is treated at normal temperatures with a liquid which is not a solvent for the material at normal temperatures but is a solvent at elevated temperatures.

The liquid, while on the surface of the material, is heated to a temperature at which it is a solvent for the material but at which the material does not melt, and left in contact with the material until the surface of the material, when viewed in the absence of the liquid, has a matt appearance.

3,506,513
METHOD OF MAKING A TIRE

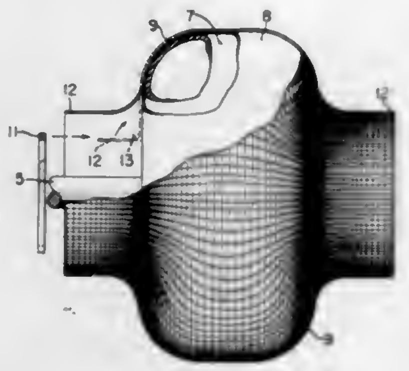
Crandall R. Kline, Jr., Akron, Ohio, assignor to The Goodyear Tire and Rubber Company, Akron, Ohio, a corporation of Ohio
Application Mar. 27, 1967, Ser. No. 626,262, now Patent No. 3,452,800, dated July 1, 1969, which is a continuation of application Ser. No. 330,314, Dec. 13, 1963. Divided and this application Jan. 23, 1969, Ser. No. 793,379
Int. Cl. B29h *17/02*
U.S. Cl. 156—110 13 Claims



Rubber will extrude through the spaces at the tread and shoulders of the carcass of a pneumatic tire made of giant cords, when the tire is inflated for curing. This is prevented by providing a retainer formed of smaller cords inside of the ply or plies of larger cords and, if desired, between plies of giant cords or both between plies of giant cords and inside of the inner ply of giant cords. The tire is then cured in a mold with an airbag or bladder in the usual manner.

3,506,514
METHOD OF BUILDING PLIES AND TIRES

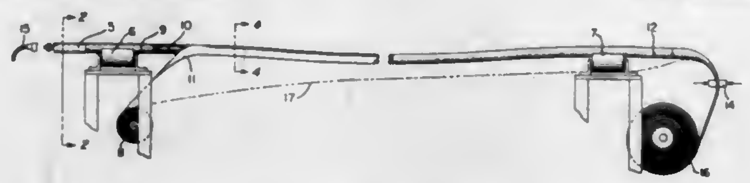
Faust S. D'Avello, Akron, and Donald J. Eves, Mogadore, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Continuation of application Ser. No. 332,657, Dec. 23, 1963. This application July 25, 1968, Ser. No. 754,158
Int. Cl. B29h *17/38, 17/24;* **B32b** *27/40*
U.S. Cl. 156—132 8 Claims



A method of building a pneumatic tire containing fabric reinforcement by applying a liquid material reactable to give a coating on a tire building form, placing a fabric member thereon to give a tubular member, applying at least one other coat of liquid material reactable to give a cured elastomer, placing bead rings on the building form and inflating the building form to give the tire the desired shape when it is cured, the preferred liquid material reactable to give a cured elastomer being a polyurethane reaction mixture.

3,506,515
METHOD OF PREPARING CONTINUOUS LENGTH OF HOSE

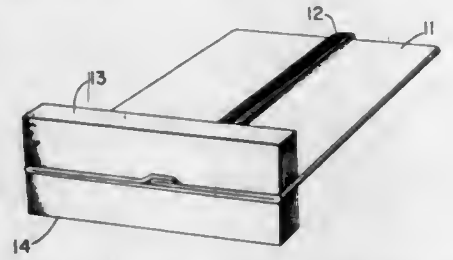
Keith D. Robinson, Mogadore, and Harold G. Hornor, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Sept. 19, 1966, Ser. No. 580,396
Int. Cl. B29h *7/14*
U.S. Cl. 156—173 5 Claims



A method of preparing a length of hose having a continuous extension comprising building a first length of fabric reinforced cured polyurethane hose over a mandrel, moving the said first length of hose axially along the mandrel, and building over the said mandrel and onto the said first length of hose at least one additional length of fabric reinforced cured polyurethane hose to form a continuous extension of the said first length of hose.

3,506,516
METHOD FOR IMPROVING END SEAMS IN CONTAINERS WITH A FIN-TYPE BACK SEAM BY DOUBLE HEAT SEALING

Carl G. Baumann, Dayton, Ky., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 20, 1966, Ser. No. 603,298
Int. Cl. B31f *1/00*
U.S. Cl. 156—226 3 Claims

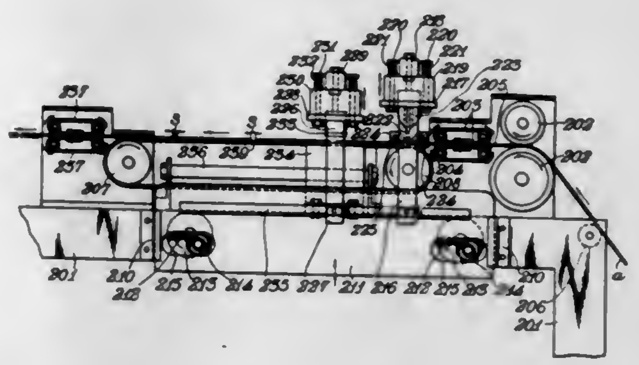


A method for forming a liquid tight end seam on containers having a protruding fin-type back seam by sealing the end seam with one face of the fin-type seam against the end seam, and then, repositioning the fin-type seam 180° so that the other face lies against the end seam and re-sealing the end seam.

3,506,517
METHOD AND APPARATUS FOR MANUFACTURING SYNTHETIC RESIN BAGS HAVING OCCLUDENT MEANS IN THE INSIDE SURFACE THEREOF

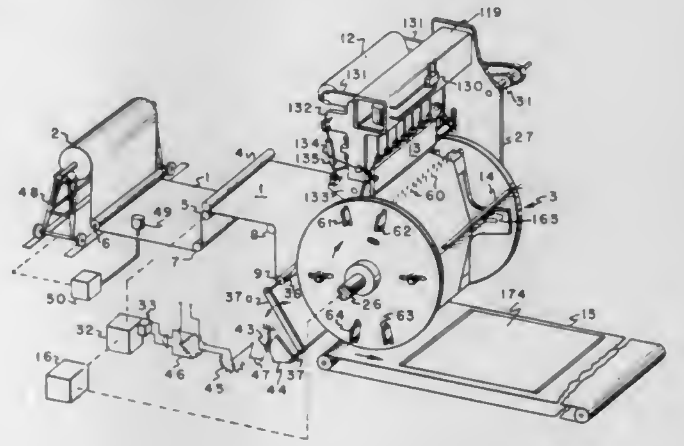
Kakuji Naito, Kawasaki-shi, Kanagawa-ken, Japan, assignor to Kabushiki Kaisha Seisan Nihon Sha, Tokyo, Japan, a corporation of Japan
Original application Feb. 15, 1961, Ser. No. 89,540. Divided and this application Dec. 2, 1966, Ser. No. 641,387
Int. Cl. B32b *31/02*
U.S. Cl. 156—251 5 Claims

1. An apparatus for manufacturing synthetic resin bags provided with occludent means, said apparatus being provided with cutting and heat sealing means, comprising a machine frame, delivery rolls at one end of said frame for delivery forth a tubular bag body material provided with occludent means and of flat and belt-like shape, an endless conveyor belt mounted forward of said delivery rolls, the travel of said conveyor belt being at a greater speed than the peripheral speed of said delivery rolls, an electrothermic type blade capable of making up-and-down movements in cycles disposed above that section at which said bag body material is transferred to said conveyor belt and in succession to said blade a pressure plate provided to make similar up-and-down movements as said blade.



3,506,518
METHOD AND APPARATUS FOR MAKING A SELVAGE

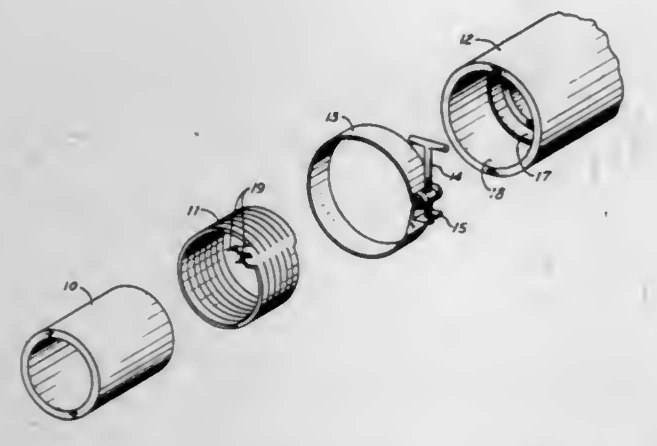
Norman E. Klein, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,591
Int. Cl. B32b *31/04, 31/20*
U.S. Cl. 156—269 50 Claims



1. The method of converting a running length of fabric into shorter segments with sealed edges comprising the steps of passing a running sheet of fabric through an arcuate path, placing a strip of thermoplastic film material into contact with said fabric at a narrow transverse edge to edge zone, heating and pressuring said strip of thermoplastic film to said fabric during passage of said fabric and thermoplastic material through said arcuate path to form an integral sealed zone of fabric and thermoplastic material, severing said fabric along said sealed zone during passage through said arcuate path by commencing severing on one edge of said fabric and continuing the severing in sequential incremental fashion from said one side to the other side as said fabric passes through said arcuate path, and releasing the severed segment from said arcuate path.

3,506,519
METHOD OF MAKING INTERLOCKED WELDED CONNECTIONS BETWEEN THERMOPLASTIC ARTICLES

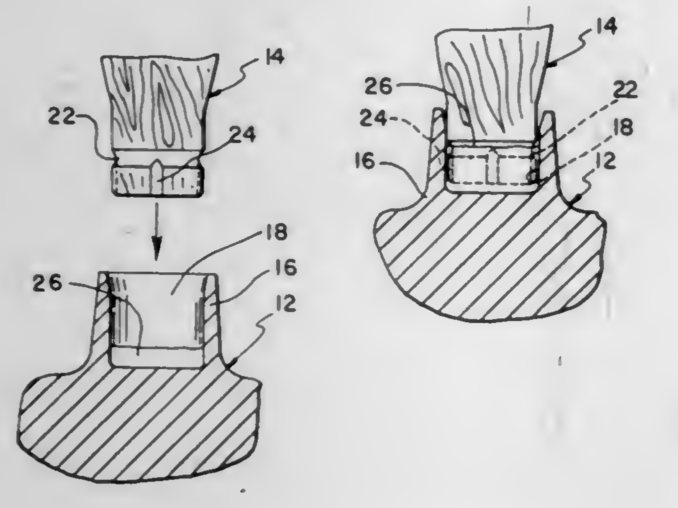
James J. Blumenkranz, Hollywood, Calif., assignor to The Susquehanna Corporation, a corporation of Delaware
Filed Jan. 13, 1967, Ser. No. 609,237
Int. Cl. B29c *27/02*
U.S. Cl. 156—275 **4 Claims**



Interlocking thermoplastic articles are joined by electrical welding. A welding sleeve having electrical heating coils embedded therein is interposed between the interlocked articles. All three elements are then clamped together and current applied to the coil to effect the weld.

3,506,520
METHOD OF MAKING AND ASSEMBLING A PERCUSSION HEAD AND HANDLE JOINT

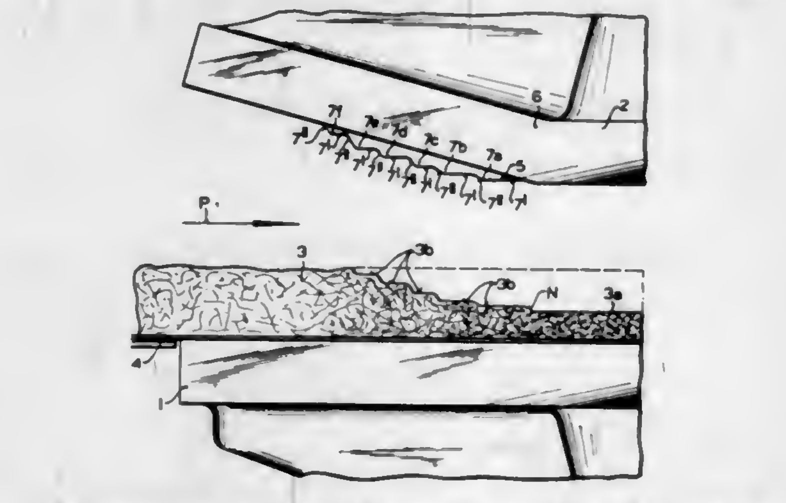
John C. Norcross, Bushnell, Ill., assignor to Vaughan & Bushnell Mfg. Co., Chicago, Ill., a corporation of Illinois
Original application Nov. 26, 1965, Ser. No. 509,811. Divided and this application Aug. 24, 1967, Ser. No. 662,944
Int. Cl. B29c *27/16*
U.S. Cl. 156—293 **2 Claims**



A method of permanently affixing the metal head of an impact tool to a non-metallic handle wherein a smooth-walled socket is formed in the head and an annular external groove is formed in the handle, the handle is inserted endwise in the groove so that a quantity of epoxy resin which is previously placed in the socket flows into the groove and, when hardened, establishes a generally D-shaped locking ring. One or more longitudinal grooves extend inwardly from the end of the handle and communicate with the groove so as to enhance the flow of the resin into the groove when the insertion is made.

3,506,521
PRESS FOR CHIP PANELS HAVING A PLURALITY OF STEPS ALONG THE WEDGE EDGE OF THE PRESS

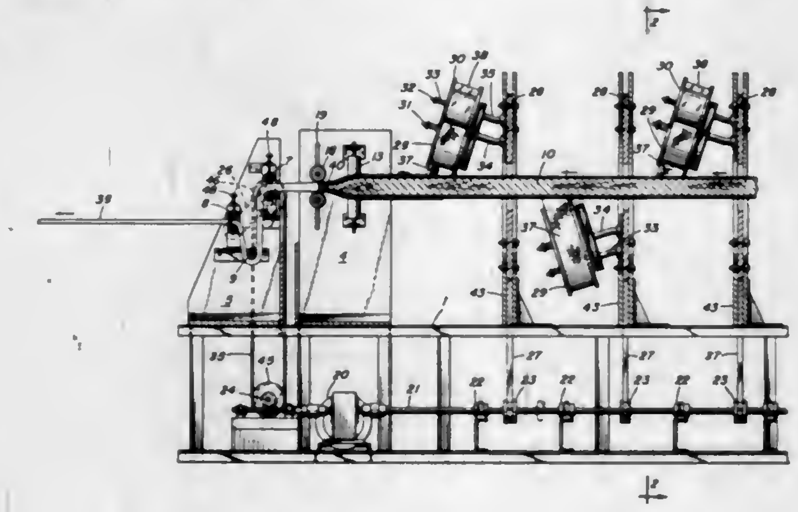
Kurt van Hüllen and Herbert Nopper, Krefeld, Germany, and Hans Grefen, Waregem, Belgium, assignors to Niederrheinsche Maschinenfabrik Becker & Van Hullen, Krefeld, Germany
Filed Jan. 17, 1966, Ser. No. 521,035
Int. Cl. B29j *5/08;* **B30b** *15/06*
U.S. Cl. 156—369 **2 Claims**



The invention relates to a press for making chip boards. The press die is constructed in a wedge-shaped form at the entrance of the conveying means, with the wedge form being stepped to prevent lateral displacements of the chip fleece.

3,506,522
FLOATING MANDREL PIPE MACHINE

Michael John Onifer, Jr., Elkton, Robert Thomas Hull, Havre de Grace, and Edward John Ardolino, Baltimore. Md., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Oct. 7, 1966, Ser. No. 585,161
Int. Cl. B31c *13/00*
U.S. Cl. 156—432 **5 Claims**

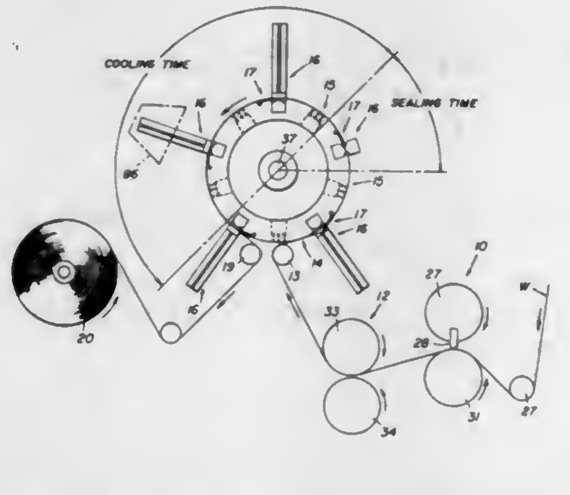


This invention relates to an apparatus for the continuous production of composite plastic pipe in which a floating, relatively rigid, mandrel having one rounded end and the other end flattened in the form of a duck bill projection is used.

3,506,523
MACHINE FOR FORMING BAGS FROM THERMOPLASTIC TUBING

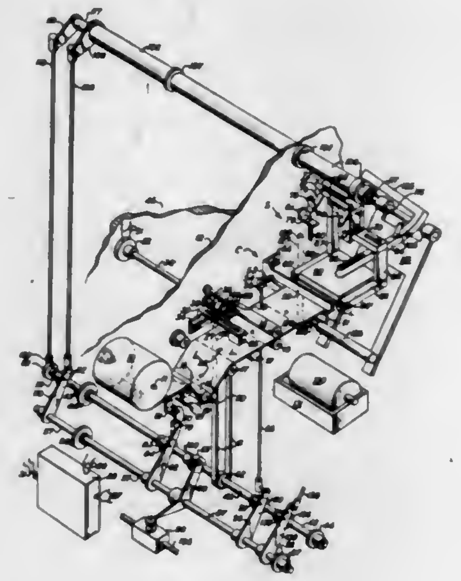
Roy B. Cook, Newark, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 27, 1967, Ser. No. 618,703
Int. Cl. B12l *31/08*
U.S. Cl. 156—436 **16 Claims**

A bag fabricating method and machine which is characterized by a rotatably mounted drum for supporting a plastic tubing in flattened continuous web form and having vacuum means for gripping the web at points spaced circumferentially about the drum, with transverse sealing members and associated members for shifting a portion of the web between the gripping points so as to provide web areas which are free of tension and in which transverse seals are formed and for subsequently holding the sealed areas away from the sealing members while advancing through a cooling zone after which the sealed web is delivered from the drum.



3,506,524
LABELING MACHINES

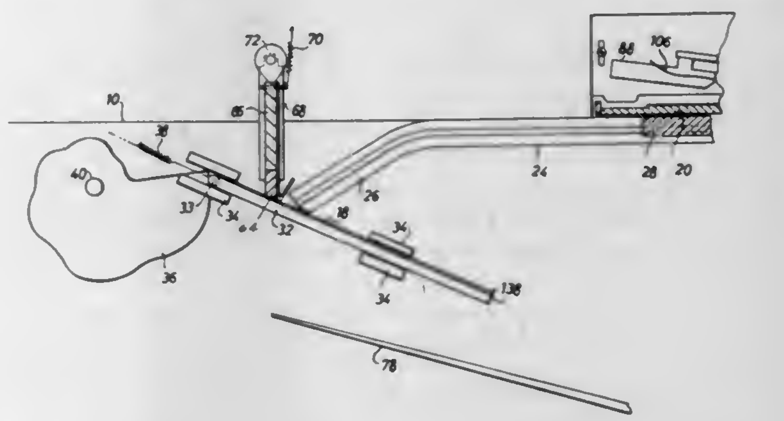
George W. von Hofe, Millington, and Edwin K. Wolff, Stockholm, N.J., assignors to New Jersey Machine Corporation, Hoboken, N.J., a corporation of New Jersey
Filed Apr. 15, 1966, Ser. No. 542,817
Int. Cl. B32b *31/20*
U.S. Cl. 156—517 **10 Claims**



The terminal label of a continuous label web, in non-adhesive condition, is registered on supporting means at a transfer station, and then secured in such registered and non-adhesive condition while it is being severed from the web, by a suction device which is movable into engagement with the terminal label after its registry at the transfer station. The secured label is then detached from the suction device and applied to an article by means comprising a transfer member which picks the label from such device and carries it toward the article. The label is rendered adhesive after it has been severed from the web and before it is applied to the article.

3,506,525
APPARATUS FOR MOUNTING ARTICLES ON A DISPLAY CARD

Arthur John Freemantle, 453 Grimsby Road, Lincolnshire, Cleethorpes, England
Filed July 7, 1967, Ser. No. 651,718
Claims priority, application Great Britain, July 7, 1966, 30,616/66
Int. Cl. B32b *31/04*
U.S. Cl. 156—561 **11 Claims**



In the mounting of articles on a display card, individual articles are fed from a supply station to and collated at, a transfer station, into a group presenting projecting edge regions, after which the group is transferred to an article mounting station with the projecting edge regions in contact with a card previously positioned at the mounting station. The card contacting portion of each article is then secured to the card and the latter is advanced to displace at least the portion thereof having the articles secured to it away from the mounting station. Separate display cards may be used in which case each card is removed from the article mounting station when it becomes full and is replaced by a separate, empty card. Alternatively a continuous web of card may be employed, which is thereafter cut at predetermined intervals to form individual, filled cards.

3,506,526
TRANSPARENT PANEL STRUCTURE HAVING METAL FILAMENTS EMBEDDED THEREIN

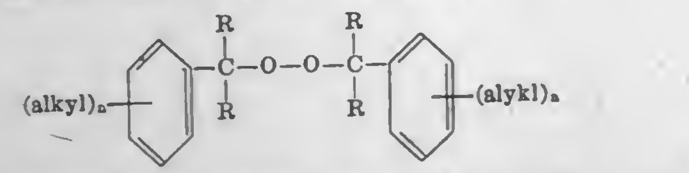
Tadao Toyooka, Toyonaka-shi, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Aug. 29, 1966, Ser. No. 575,846
Claims priority, application Japan, Sept. 3, 1965, 40/54,321, 40/54,322, 40/54,323; Sept. 16, 1965, 40/57,580, 40/57,581; Dec. 30, 1965, 41/65
Int. Cl. B44f *1/06*
U.S. Cl. 161—5 **17 Claims**

A transparent panel structure comprising a woven fabric of glass and metal filaments. The structure is formed by wetting the fabric with a liquid material which is reactive with the material into which the fabric is subsequently embedded.

3,506,527
LAMINATES CONTAINING TRANS-POLYBUTADIENE

Charles R. Wilder and Henry E. Railsback, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Continuation of abandoned application Ser. No. 49,438, Aug. 15, 1960. This application Apr. 30, 1965, Ser. No. 452,395
Int. Cl. B32b *3/16;* **C08f** *1/28*
U.S. Cl. 161—38 **7 Claims**

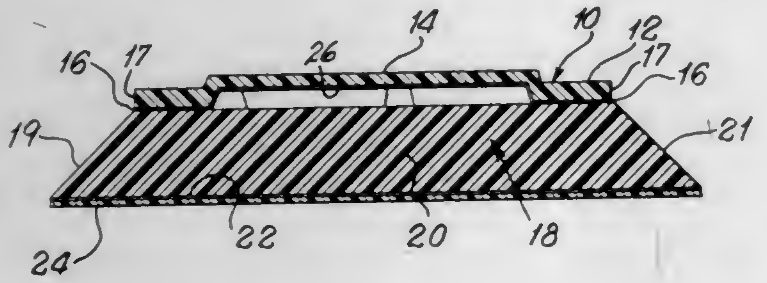
A laminated structure comprises a lamina of a normally solid polymer of at least one aliphatic mono-1-olefin in contact with and bonded to a lamina of a cured polybutadiene, said polybutadiene being characterized by having from 70 to 100 percent of the C_4 units in the 1,4-trans-configuration, and by having been produced by contacting 1,3-butadiene under polymerization conditions in a hydrocarbon solvent with a catalyst comprising (a) a complex aluminum hydride corresponding to the formula $MAlH_4$, wherein M is selected from the group consisting of lithium, sodium, potassium, rubidium, and cesium and (b) titanium tetraiodide. The polybutadiene is cured with either surfur or a peroxide of the formula



wherein each R is individually selected from the group consisting of alkyl groups containing 1 to 4 carbon atoms and wherein the total number of carbon atoms in said R groups does not exceed 10, where *n* is 0 to 4 and alkyl is an alkyl group containing 1 to 4 carbon atoms, the total number of carbon atoms in said alkyl groups on each phenyl group not exceeding 4, by heating the polybutadiene lamina containing the curing agent while in contact with the olefin polymer at a temperature within the range of 275° to 500° F. for from 3 minutes to 2 hours.

3,506,528
COMPOSITE CONTRAST COLOR EMBOSSED DISPLAYS

John I. Dean, San Francisco, Calif., assignor to Dymo Industries, Inc., Emeryville, Calif., a corporation of California
Filed Feb. 1, 1965, Ser. No. 429,487
Int. Cl. B32b *3/02*
U.S. Cl. 161—44 **4 Claims**

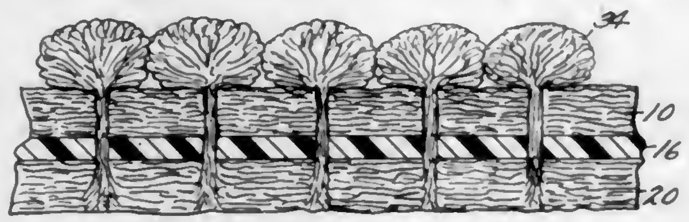


A backing strip for a composite contrast color embossed display, the backing strip comprising a plastic sheet of predetermined width and thickness and indeterminate length, the sheet having first and second surfaces and a substantially uniform color throughout the thickness thereof. Beveled margins are provided along edges defining the width of the strip. Each of the surfaces is treated so as to enable a pressure sensitive adhesive to be attached thereto. A layer of pressure sensitive adhesive is attached to one of the surfaces and a detachable protective backing is removably adhered to the exposed surface of the adhesive layer. The plastic sheet is preferably fabricated of a low density polyethylene.

3,506,529
NEEDLED FABRICS AND PROCESS FOR MAKING THEM

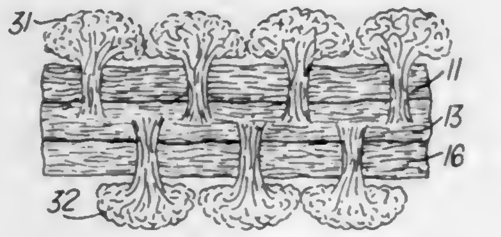
Arthur Joseph Sanders, Llanyravon, England, assignor to British Nylon Spinner Limited, Pontypool, England
Filed Aug. 2, 1965, Ser. No. 476,677
Claims priority, application Great Britain, Aug. 19, 1964, 33,872/64
Int. Cl. D04h *11/08*
U.S. Cl. 161—67 **10 Claims**

A fabric suitable for upholstery or cold-weather apparel is made by interposing a layer of flexible foam material between two fibrous layers, needle punching at least one side of the laminate, then bonding. The fibers which project beyond the outer face of the fibrous layer are subject to a crimping treatment, forming mushroom-shaped protuberances which press against the outer face. Preferably the fibres, particularly the needle-punched fibres, are composite fibres which are potentially crimpable and which include a potentially crimpable component so that the bonding step may be effected by activating the crimp and the adhesive component.



3,506,530
REVERSIBLE NON-WOVEN NEEDLED FABRICS AND METHODS OF MAKING THEM

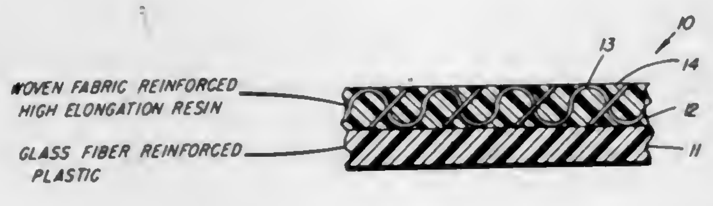
David Winston Crosby, Pontypool, England, assignor to ICI Fibres Limited, Pontypool, England, a corporation of Great Britain
Filed Mar. 16, 1966, Ser. No. 534,838
Claims priority, application Great Britain, Apr. 3, 1965, 14,233/65
Int. Cl. D04h *11/08*
U.S. Cl. 161—67 **11 Claims**



A reversible nonwoven fabric is made by interposing a fibrous interlay between two pre-bonded fibrous webs, needling through one fibrous web to orient some of the interlay fibres through the opposite web in the form of tufts without appreciable orientation of the fibres in said web, repeating the needling from the other side of the three-layer structure, and then bonding the fibres of the interlay.

3,506,531
EROSION RESISTANT REINFORCED PLASTIC CONSTRUCTION

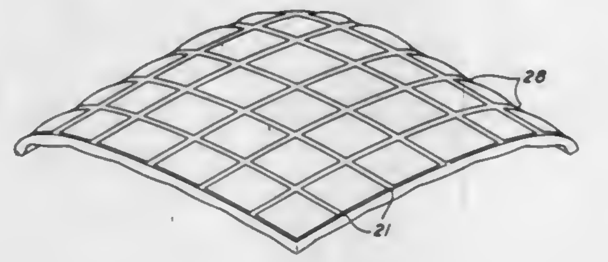
Maxwell Stander, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 26, 1967, Ser. No. 612,300
Int. Cl. B32b *5/02*
U.S. Cl. 161—82 **1 Claim**


WOVEN FABRIC REINFORCED HIGH ELONGATION RESIN
GLASS FIBER REINFORCED PLASTIC
13
10
14
12
11

A technique for rendering reinforced plastic constructions effectively immune to erosion caused by impinging rain drops, dust particles, sleet, sand, etc. An outer protective reinforced plastic layer, consisting of a woven nylon or Dacron fabric reinforced, high elongation resin (epoxy-polyamide or epoxy-polysulfide, for example), is applied to the plastic construction.

3,506,532
DECORATIVE LAMINATED PANEL

Herman F. Bock, Robert C. Graham, and Jay J. Uber, South Hadley, Mass., assignors to The Plastic Coating Corporation
Filed Feb. 15, 1963, Ser. No. 258,857
The portion of the term of the patent subsequent to Apr. 14, 1985, has been disclaimed
Int. Cl. B32b *3/12*
U.S. Cl. 161—121 **14 Claims**



1. A laminated panel having a compound curvature, comprising;

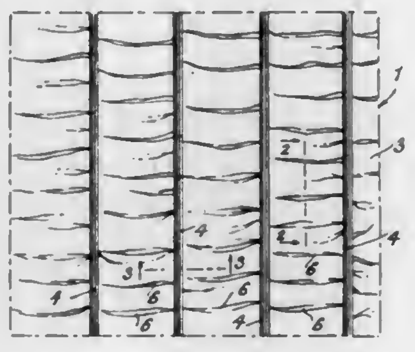
a core of a foamed-plastic material which is in the form of a sheet, which is compressible without rupture, which is flexible, which is permanently deformed to a compound curvature and which has an elastic memory which causes it to return to said compound curvature after being flexed therefrom;

said sheet of foamed-plastic material having a layer of sheet material adhered to each of its surfaces so as to form a laminate, one of which layers forms the front surface of the panel;

said laminate having two sets of parallel creases on each surface thereof, the lines of each set of which are approximately equidistant, and the sets of which on each surface are positioned at approximately right angles to each other, with each set of the creases on one surface offset by approximately half the distance between them from those on the reverse surface.

3,506,533
POROUS PRODUCTS OF FOAMED POLYMERIC MATERIALS AND METHOD OF PRODUCING SAME

Erling Berner, New Castle, Pa., assignor to Berner Industries, Inc., New Castle, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 223,740, Sept. 14, 1962. This application Oct. 21, 1965, Ser. No. 499,749
Int. Cl. B32b *3/02*
U.S. Cl. 161—123 **11 Claims**



A laminated product comprising a base sheet of expanded, cellular polymeric plastic material and a relatively thin, flexible facing material bonded to at least one face of the sheet. The base sheet, by compression and reexpansion to a thickness of less than its original thickness, has a cell structure of reduced dynamic stiffness as compared with the stiffness of the cells as originally formed by the initial expansion of the polymeric material, the cell walls being springy and resilient without being crushed. The facing material is depressed into the base sheet in the form of spaced groves and has wrinkling located in the material between the groves, which wrinkling extends in a direction generally transversely of the grooves. The product so formed has a substantial and unique flexibility, so that it may be bent or shaped to the contour of a surface to which it is applied without fracture. The disclosure further involves a method of making the laminated product from a raw base sheet of relatively stiff polymeric cellular plastic material and a facing sheet. The sheets are superposed and introduced into a zone between an embossing means and an opposed pressure support, heat and pressure acting on the sheets to provide the desired compression and reexpansion of the base sheet, while at the same time adhering the sheets and forming the grooves and wrinkles in the facing sheet.

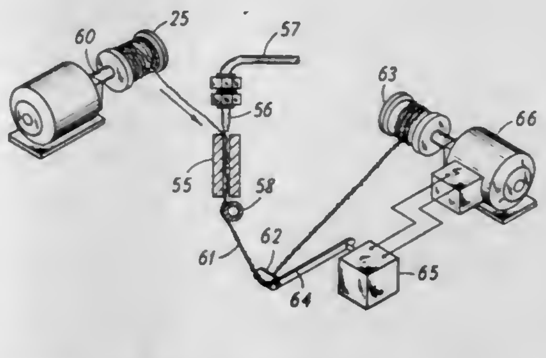
3,506,534
SURFACE TEXTURED GLASS LAMINATION AND PROCESS OF PRODUCING THE SAME

Peggy D. Finan, 9 Gainsborough Close, Cambridgeshire, Cambridge, England
No Drawing. Filed Aug. 2, 1967, Ser. No. 657,752
Claims priority, application Great Britain, Aug. 8, 1966, 35,425/66
Int. Cl. B32b *3/26, 5/18*
U.S. Cl. 161—159 **3 Claims**

A method of producing a decorative glass laminate having at least one textured surface by sandwiching between two sheets of glass a glaze base which generates a gas when heated and heating said sheets to a temperature sufficient to soften them and cause the glaze base to fuse the sheets together while generating a gas which forms bubbles in at least one of the softened sheets, these bubbles having external surfaces which protrude from and texturize the surface of at least one softened sheet.

3,506,535
METHOD OF FIBRILLATION AND PRODUCT

Dusan C. Prevorsek, George E. R. Lamb, and Hendrikus J. Oswald, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Nov. 6, 1967, Ser. No. 680,678
Int. Cl. D02g *3/06*
U.S. Cl. 161—177 **9 Claims**



The invention comprises a method of producing a yarn having a plurality of fibers from a relatively heavy unitary strand, strip or monofilament, referred to as a monofil. The monofil is mechanically pretreated to introduce fissures therein, i.e. to substantially increase the surface to volume ratio. Thereafter, the fibrillation of the pretreated monofil is completed to separate the fibrils and produce a relatively high bulk yarn by subjecting it to a flagellating action of a gas stream or jet. The product yarn may be corded, spun and woven substantially similarly to yarns spun from natural staple fibers.

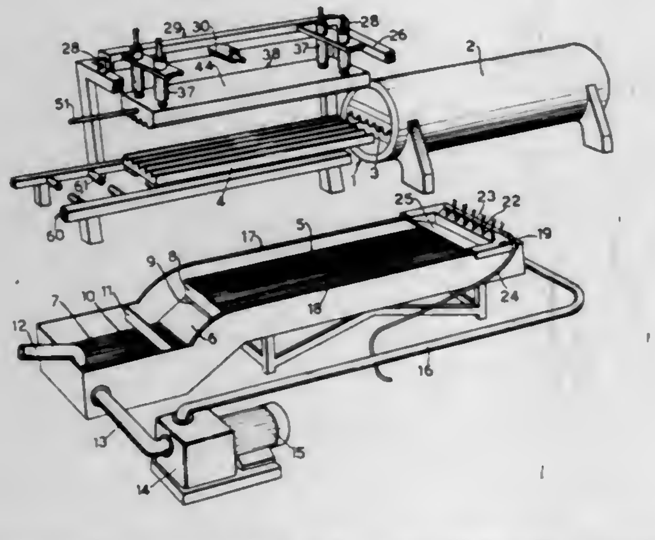
3,506,536
METHOD OF TREATING SUSPENSIONS OF FIBRES TO FORM AGGREGATES

Guy Jacquelin, Grenoble, Isere, France, assignor, by mesne assignments, to Societe d'Exploitation des Brevets Granofibre, Paris, France
Continuation-in-part of application Ser. No. 427,040, Jan. 21, 1965. This application June 13, 1966, Ser. No. 557,036
Claims priority, application France, Jan. 21, 1964, 960,962; June 14, 1965, 20,695
Int. Cl. D21b; D01c; D01d *3/00*
U.S. Cl. 162—1 **13 Claims**

A method of treating a suspension of fibres to form aggregates which comprises subjecting a suspension of the fibres in a liquid to rotational agitation to establish a speed gradient between points in the suspension causing the formation of eddys, which result in the fibres moving together into groups. The grouped fibres cling to one another to form aggregates, the concentration by weight of the fibres in the suspension at the beginning of the treatment being relatively low.

3,506,537
PROCESS AND APPARATUS FOR THE MANUFACTURE OF FIBROUS-CEMENT SLABS, PARTICULARLY OF ASBESTOS-CEMENT SLABS

Giorgio Marchioli, Via G. B. Morgagni 22, Milan, Italy
Filed Oct. 10, 1966, Ser. No. 585,690
Claims priority, application Italy, Oct. 14, 1965, 10,125/65
Int. Cl. C04b *15/16*
U.S. Cl. 162—154 **11 Claims**

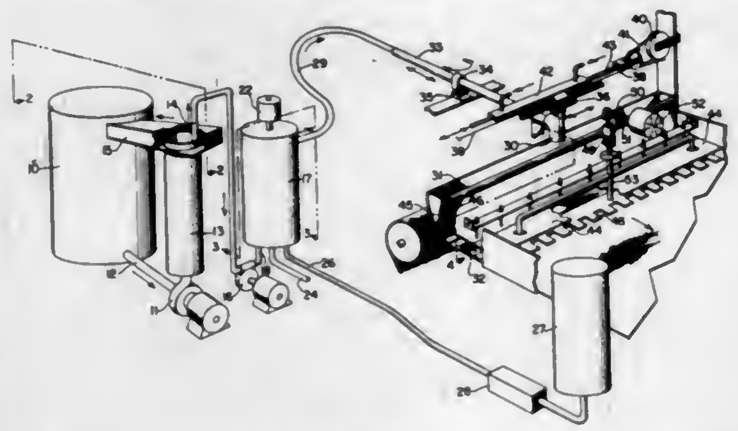


In making fibrous-cement slabs, a shaped surface matching the desired shape and outline of the slab to be made is lowered into a tub containing a fibrous-cement slurry. Vacuum applied to the shaped surface draws on the slurry to form a layer of fibrous-cement paste on said shaped surface. The fibrous-cement layer is subsequently removed from the slurry tub and subjected to a scraping action, whereupon the layer is transferred onto a mold and carried to a press means for dehydration, thereby to form a slab.

3,506,538
APPARATUS FOR PRODUCING A HOMOGENEOUS FOAM

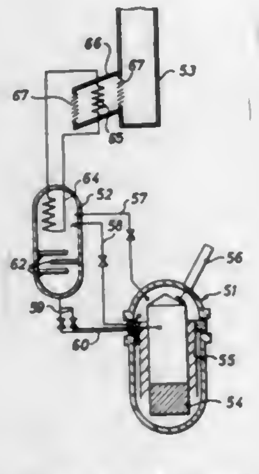
Norman D. Friedberg, Cincinnati, and James P. Hutchins, Springfield Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 21, 1966, Ser. No. 603,548
Int. Cl. D21f *1/02*
U.S. Cl. 162—341 **4 Claims**

An apparatus is disclosed for producing a homogeneous stable foam from a fibrous slurry and thereafter depositing the foam on the moving wire of a fourdrinier. The apparatus includes a slurry feed tank and means for continuously recirculating the slurry. A fraction of the recirculating slurry is continuously introduced in a foaming vessel. Air is beat into the slurry to produce a fine bubbled homogeneous foam. The foam is continuously deposited in a metering trough by means of an oscillating nozzle located over the moving wire of a fourdrinier.



3,506,539
NUCLEAR REACTORS

Shepherd Rigg, Warrington, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed July 27, 1967, Ser. No. 656,560
Claims priority, application Great Britain, Aug. 8, 1966, 35,472/66; Jan. 27, 1967, 4,140/67
Int. Cl. G21c *15/18, 15/00, 19/28*
U.S. Cl. 176—51 **6 Claims**

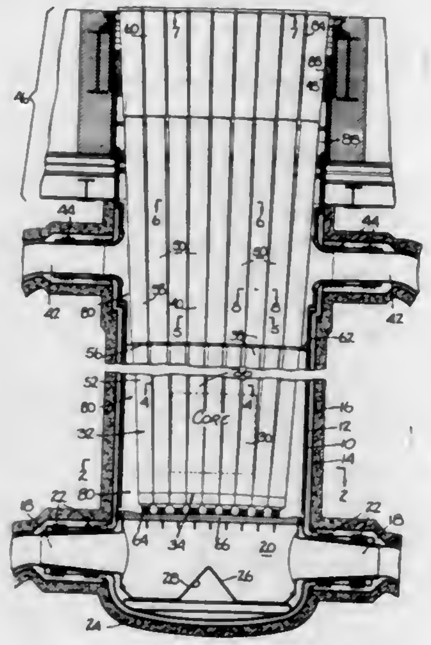


A nuclear reactor has a pressuriser in which there is disposed a heat exchanger coil for decay heat removal. If normal coolant circulation fails, an auxiliary coolant is caused to flow through the coil by inducting say a convection flow by means of a normally baffled radiator disposed in a chimney. This auxiliary coolant condenses steam in the pressuriser and the condensate is returned to the reactor core for coolant purposes. In one embodiment the condensate is collected in a drip-tray-like funnel which is normally valved off. In another embodiment a convection path is established from the pressuriser to the pressure vessel by electrically held valves which open up the path when the electricity is cut off.

3,506,540
NUCLEAR REACTOR SYSTEM

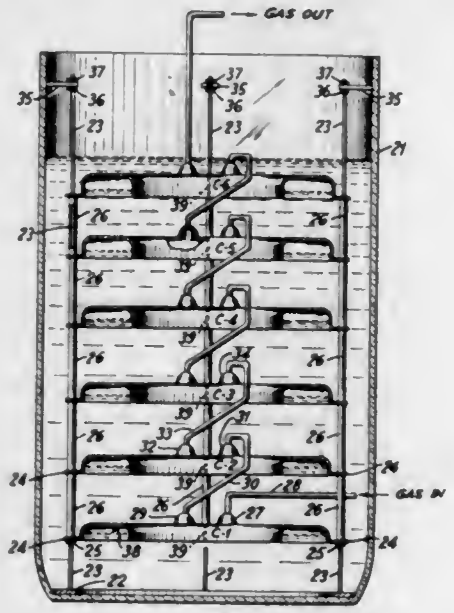
John G. Yevick, Rockville, Md., and Edward F. Brill, Oconomowoc, Wis., assignors, by mesne assignments, to Atomic Power Development Associates, Incorporated, Detroit, Mich., a corporation of New York
Original application Jan. 7, 1966, Ser. No. 519,235. Divided and this application Oct. 30, 1967, Ser. No. 708,449
Int. Cl. G21c *13/00*
U.S. Cl. 176—87 **2 Claims**

A nuclear reactor having a main plug for the reactor vessel which is in the shape of a section of a hollow square. The outside surface has hemispherical guide holes for locating the subassembly handling equipment. The plug has a plurality of penetrations to provide access to the liners inside the reactor vessel. Small plugs with locking means are provided for the penetrations. The main plug is adapted to receive subassembly handling equipment in sealed relationship and in alignment with the penetrations.



3,506,541
APPARATUS AND METHOD FOR CULTIVATING CELLS, TISSUES AND THE LIKE

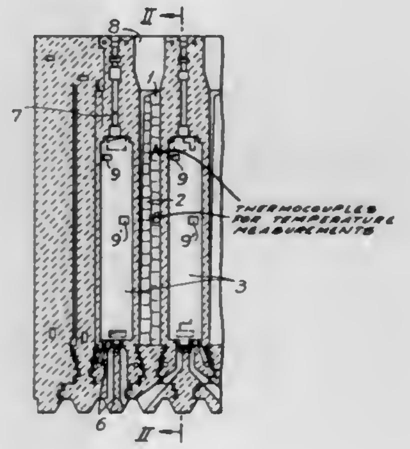
Charles D. Snelling, Allentown, Pa., assignor to New Brunswick Scientific Co., Inc., New Brunswick, N.J., a corporation of New Jersey
Filed May 20, 1966, Ser. No. 551,633
Int. Cl. C12b *1/14*
U.S. Cl. 195—109 **4 Claims**



A method and apparatus are disclosed for carrying out gas-liquid reactions in which a container containing a liquid is provided with a plurality of intercommunicating levels one above the other through which a gas is passed while in intimate contact with the liquid at each of said levels.

3,506,542
METHOD FOR CONTROLLING THE READINESS OF THE COKE MASS IN THE CHAMBER OF A HORIZONTAL COKE OVEN

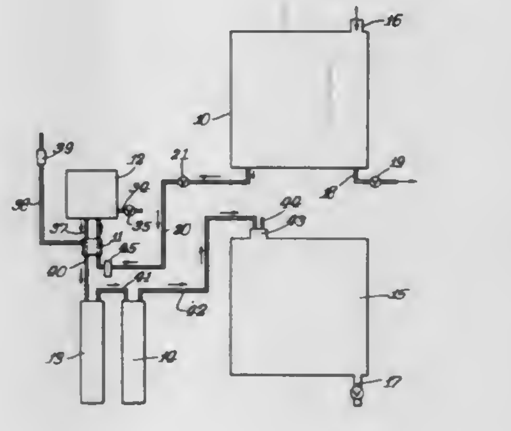
Nikolai Konstantinovich Kulakov, Ulitsa Danilevskogo 14, kv. 21, Kharkov, U.S.S.R.
Filed Dec. 13, 1967, Ser. No. 690,241
Claims priority, application Union of Soviet Socialist Republics, Dec. 17, 1966, 1,117,020
Int. Cl. C10b *21/10*
U.S. Cl. 201—1 **2 Claims**



A method for controlling the readiness of a coke mass in chambers of horizontal coke ovens comprises measuring the temperature of the coke mass at a plurality of levels while also measuring the temperature of dividing partitions separating the chambers, thereafter establishing a temperature difference, at each of the levels, between the coke mass and the partitions and subsequently determining the temperature of the coke mass under changing control conditions solely by measuring the temperature of the partitions at the above-mentioned levels and correcting for the established temperature difference heretofore determined.

3,506,543
URINE RECOVERY PROCESS BY THERMOELECTRIC DISTILLATION AND FILTRATION

Lawrence W. Hayes and John T. Cross, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,150
Int. Cl. B01d *3/00*
U.S. Cl. 203—10 **1 Claim**



A method of providing potable water from human urine under the conditions found in space travel. A thermoelectric means is provided for heating and cooling the different fluids in the system. The urine is heated in a boiler to form steam, which steam is then cooled to form a condensate and noncondensed gases which are subsequently separated from the condensate. The condensate is further flowed through a charcoal filter and an ion exchange filter. Ammonia is removed from the urine as a function of the boiling at the relatively low pressures found in space travel or alternatively by conventional ammonia removing methods.

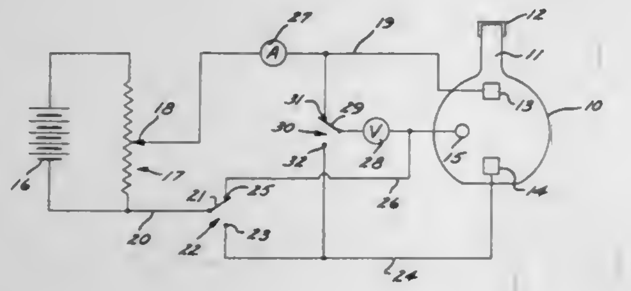
3,506,544
METHOD OF DETERMINING MICROBIAL POPULATIONS, ENZYME ACTIVITIES, AND SUBSTRATE CONCENTRATIONS BY ELECTROCHEMICAL ANALYSIS

Herbert P. Silverman, Orange, and Jon M. Brake, Anaheim, Calif., assignors to Magna Corporation, Anaheim, Calif., a corporation of California

Filed Oct. 9, 1964, Ser. No. 402,788

Int. Cl. B01k *3/00;* **C12k** *1/04*

U.S. Cl. 204—1 **11 Claims**



A method of analysis for one of the components of an enzyme-catalyzed reaction. An enzyme and first and second substrates are provided in a suitable conductive medium, the first substrate being a redox couple and the second substrate being adapted to react chemically and change the oxidation state of the redox couple. Electrodes are then employed to effect a chemical reaction changing the oxidation state of the redox couple, and the resulting change is electrochemically determined by amperometric or amperostatic analysis.

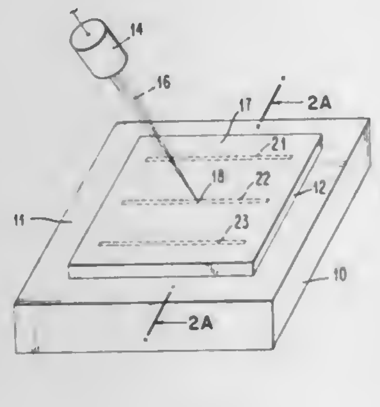
3,506,545
METHOD FOR PLATING CONDUCTIVE PATTERNS WITH HIGH RESOLUTION

Richard L. Garwin and Arthur S. Nowick, Scarsdale, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Feb. 14, 1967, Ser. No. 616,094

Int. Cl. C23b *5/48*

U.S. Cl. 204—15 **8 Claims**



A solid state material is used as an electroplate substrate which has both amorphous and crystalline states possible at ambient temperature. By heating the amorphous substrate locally via a focused and programmed electron beam or laser beam, a line of demarcation is obtained in the substrate between regions which remain in the amorphous state and regions which are transformed to the crystalline state with higher conductivity. The transformation of contiguous regions permits preferentially electroplating of metallic conductive patterns on the higher conductivity region which effectively short circuits the underlying electroplate substrate.

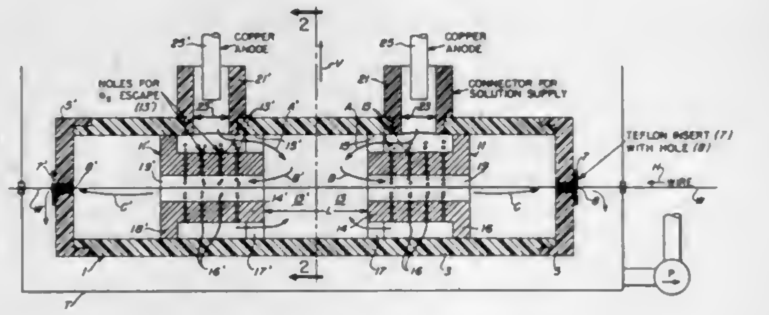
3,506,546
COPPER COATING

Peter P. Semienko, Roslindale, and Emil Toledo, Brighton, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Jan. 3, 1966, Ser. No. 518,184

Int. Cl. C23b *5/58, 5/68*

U.S. Cl. 204—28 **3 Claims**


2
COPPER ANODE
COPPER ANODE
25'
25
21'
21
HOLES FOR O_2 ESCAPE (13')
CONNECTOR FOR SOLUTION SUPPLY
TEFLON INSERT (7) WITH HOLE (8)
WIRE
23
15'
15
19'
19
14'
12'
12
14
18'
16
16'
17'
17
3
5
1
2
P

Apparatus for electroplating copper onto a wire substrate at very high speeds and continuously, and associated copper electrolytes and plating methods. An essentially hollow cylinder is provided as a plating cell through which the wire can be advanced and along which recirculated electrolytes can be passed. Recirculation inlets are provided to communicate with the central passage and are arranged to ionize the fluid uniformly and inject it into the passage so as to be distributed uniformly about the passing wire and to be directed symmetrically and radially against the wire and then diverted symmetrically and with agitation along the wire toward an exit port. Novel associated electroplating methods and electrolytes, such as copper cyanide and copper sulfate, are also described. The result is to plate copper very quickly, yet uniformly, onto the wire to provide a substrate of controlled surface configuration for subsequent plating of thin magnetic films.

3,506,547
NICKEL-IRON ELECTROLYTES CONTAINING HYDROLYZING METAL IONS AND PROCESS OF ELECTRO-DEPOSITING FERROMAGNETIC FILMS

Alphonse Ambrosia, Mahopac, and Harald Dahms, Ossining, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 18, 1967, Ser. No. 668,561

Int. Cl. C23b *5/32*

U.S. Cl. 204—43 **13 Claims**

The method is one for electroplating magnetic films of nickel iron alloys using conventional plating baths in which there is added metallic ions having hydrolysis constants in a pH range of from pH 2 to pH 7. The method involves the preparing of an electrolytic bath comprising a nickel salt, an iron salt, an electrolyte and metal ions selected from the group consisting of aluminum, magnesium, and a rare earth metal. The substrate to be plated is immersed in the above bath and subjected to an electrolytic action. The plated film has uniform proportions of nickel and iron throughout the film thickness. Additionally, the plating bath is stable over a wide range of temperatures.

3,506,548
ELECTRODEPOSITION OF NICKEL

Joseph R. Duchene, Southfield, Mich., assignor to Allied Research Products, Incorporated, Baltimore, Md., a corporation of Maryland

No Drawing. Filed Sept. 23, 1966, Ser. No. 581,461

Int. Cl. C23b *5/46, 5/08;* **C22d** *1/14*

U.S. Cl. 204—49 **5 Claims**

An aqueous acidic bath solution for electroplating nickel which includes at least one nickel salt as a source of nickel and a saturated aliphatic sulfonic acid in amounts sufficient to produce a bright nickel electrodeposit. The sulfonic acid has the structural formula $R_1—(CH_2)_2—SO_3—R_2$ wherein R_1 is hydroxy or hydroxy lower alkyl and R_2 is hydrogen, ammonium, alkali metal or alkaline earth metal.

3,506,549
ELECTROLYTIC REDUCTION OF CYCLOPENTANOPHENANTHRENE DERIVATIVES

Lewis J. Throop, Los Altos, Calif., and Alexander D. Cross, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Continuation-in-part of application Ser. No. 560,831, June 27, 1966. This application July 5, 1967, Ser. No. 651,151

Int. Cl. B01k *1/00*

U.S. Cl. 204—75 **11 Claims**

Electrochemical reduction of an isolated steroidal ketone or isolated steroidal aldehyde at a cathode of high hydrogen over-voltage in an electrolytic medium comprising mineral acid electrolyte, water and water-miscible, inert organic solvent.

3,506,550
ELECTROLYTIC PROCESS OF RECOVERING NICKEL AND CADMIUM FROM SPENT BATTERY PLATES

John R. Knapp, Jr., Beaver, Pa., assignor to St. Joseph Lead Company, New York, N.Y., a corporation of New York

Filed Oct. 24, 1966, Ser. No. 588,800

Int. Cl. C22d *1/14, 1/22*

U.S. Cl. 204—112 **6 Claims**

Nickel and cadmium are recovered from scrap material, such as battery plates, by dissolving the nickel and cadmium content of the scrap in sulfuric acid and subjecting the solution so obtained to electrolysis below eight volts to deposit metallic cadmium and then above eight volts to deposit metallic nickel. The residual solution is used in the dissolution of further nickel and cadmium scrap.

3,506,551
2,4,5-TRICHLOROPYRIMIDINE AND 2,4,5,6-TETRACHLOROPYRIMIDINE

Gunter Beck and Hans Holtschmidt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

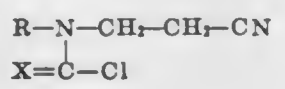
No Drawing. Filed Oct. 31, 1967, Ser. No. 679,553

Claims priority, application Germany, June 8, 1967, F 52,633

Int. Cl. B01j *1/10;* **C07d** *51/36*

U.S. Cl. 204—158 **4 Claims**

2,4,5 - trichloropyrimidine and 2,4,5,6-tetrachloropyrimidine are formed by the reaction of chlorine with a compound of the formula:



$$\begin{array}{l} R—N—CH_2—CH_2—CN \\ \quad\ \ | \\ X{=}C—Cl \end{array}$$

3,506,552
PREPARATION OF VINYL CHLORIDE FROM ETHANE USING CHLORINE WITH ACTINIC LIGHT

James P. Russell, Berkeley Heights, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1967, Ser. No. 627,294

Int. Cl. B01j *1/10;* **C07c** *21/06, 17/00*

U.S. Cl. 204—163 **9 Claims**

Vinyl chloride is prepared by the photochemical chlorination of ethane with chlorine at 250° to 400° C. with a contact time of 2 to 20 seconds.

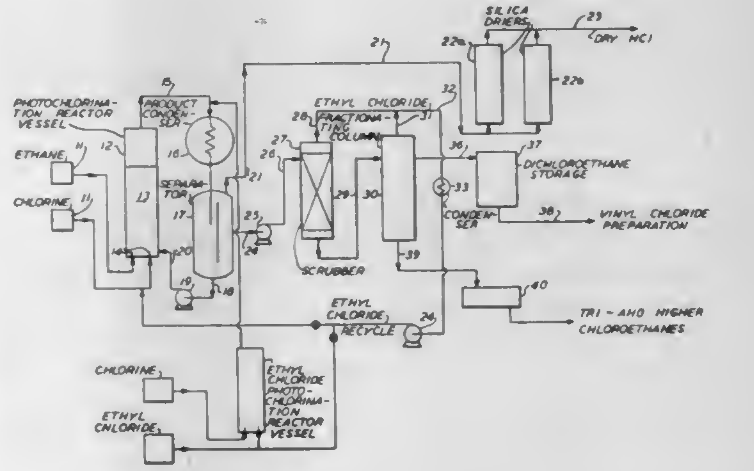
3,506,553
PROCESS FOR PRODUCING CHLORINATED HYDROCARBONS

Henry O. Mottern, Far Hills, and James P. Russell, Berkeley Heights, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 31, 1967, Ser. No. 627,446

Int. Cl. B01j *1/10;* **C07c** *17/00*

U.S. Cl. 204—163 **10 Claims**



Dichlorethanes are produced by photochlorinating ethane alone or in combination with ethyl chloride by means of chlorine, reactants being dispersed in a reaction liquid maintained at about 20° to 70° C.

3,506,554
APPARATUS FOR SEPARATING ELECTROPHORETICALLY ACTIVE SUBSTANCES

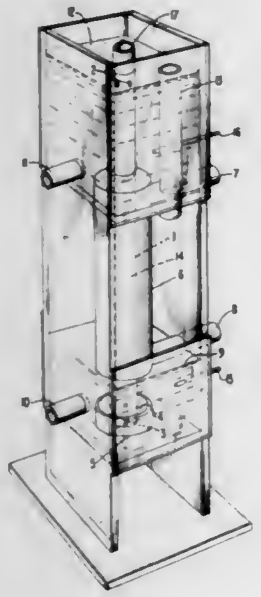
John Broome, Philadelphia, Pa., assignor to Samuel Raymond, Philadelphia, Pa.

Continuation-in-part of application Ser. No. 546,102, Apr. 28, 1966. This application Mar. 15, 1968, Ser. No. 715,485

Int. Cl. B01k *5/00*

U.S. Cl. 204—180 **5 Claims**

A process and apparatus for separating electrophoretically active substances utilizes a continuously flowing stream of buffer to carry the substances through a zone having an inert material which is permeable to either the electrophoretically active material or small buffer ions. An electric field is applied first in one direction and then in a changed direction so that at least some of the electrophoretically migrating components migrate into the inert material leaving other components in the stream, and when the direction of the electric field is changed, the electrophoretically migrating components migrate back into the stream so that at least electrophoretically active components are separated first. The cycle of reversing the direction of the electric field is repeated many times. Preferably the inert immobile material is in the form of a matrix having interstices through which the buffer flows, although it could be a gel slab at one side of the buffer stream. Preferably the reversing field is applied from any direction although it could, with the gel slab arrangement, be applied from opposite sides of the fixed gel slab.



3,506,555

ELECTRODEPOSITION OF POLYTETRAFLUOROETHYLENE ON METALS

Friedrich Stadler, Altotting, and Herbert Fitz, Burgkirchen (Alz), Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Oct. 10, 1967, Ser. No. 674,088

Claims priority, application Germany, Oct. 17, 1966, F 50,459; Nov. 24, 1966, F 50,752

Int. Cl. C23b *13/00;* **B01k** *5/02*

U.S. Cl. 204—181 **12 Claims**

Process for providing metal surfaces with a coating of polytetrafluoroethylene which is free from water and, therefore, need not be dried prior to sintering, the coating being applied by electrodeposition of polytetrafluoroethylene from an aqueous dispersion to which low amounts of fluorinated surfactants, such as perfluorocaprylic acid, have been added.

3,506,556

SPUTTERING OF METAL OXIDE FILMS IN THE PRESENCE OF HYDROGEN AND OXYGEN

Frank H. Gillery, Allison Park, and Jean P. Pressau, Evans City, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania

Filed Feb. 28, 1968, Ser. No. 709,055

Int. Cl. C23c *15/00*

U.S. Cl. 204—192 **10 Claims**

This invention relates to a novel method of producing conductive metal oxide films by cathodic sputtering. It especially pertains to cathodic sputtering of metal oxide films from a metal having an atomic number of between 48 and 51, particularly indium, in an atmosphere containing oxygen and hydrogen. It especially pertains to the production of doped metal oxide films, by sputtering in an atmosphere containing hydrogen and oxygen from a cathode possessing two metals, one being an element of a different valent state from the dominant metal or from oxygen.

3,506,557

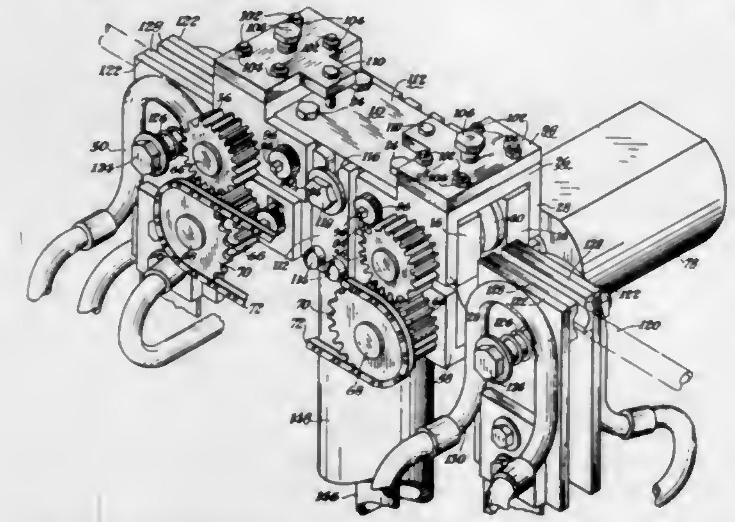
ELECTROCHEMICAL MACHINING CELL

Joseph M. Wentzell, Remsen, N.Y. assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Filed Feb. 1, 1967, Ser. No. 613,151

Int. Cl. B01k *3/00;* **C23b** *5/68*

U.S. Cl. 204—206 **6 Claims**



An electrochemical machining cell having axially aligned entrance and exit ends communicating with a central fluid-tight cavity in which is positioned an annular electrode, the entrance and exit end each having a mating pair of rollers with grooved-out portions about the peripheries thereof, the grooved-out portions mating to form an aperture for the passage of the workpiece therethrough, the aperture having substantially the same configuration as the cross section of the workpiece. The four rollers are synchronized with the speed of the workpiece which travels through the annular electrode, the workpiece itself having the opposite polarity to the annular electrode, and the electrolytic fluid is transmitted into the cavity and about the workpiece to electrochemically machine the surface thereof. Adjusting means and sealing means are provided to cooperate with the rollers to maintain a substantially fluid-tight cavity while the workpiece extends therethrough.

3,506,558

ELECTROLYTIC ROTARY HONING TOOLS

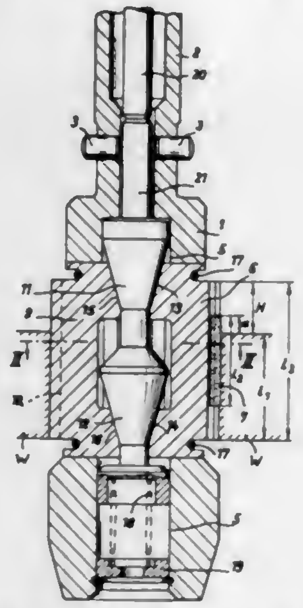
Peter Nagel, Hindenburgstrasse 56, Nurtingen, Wurttemberg, Germany; Gerhard Haasis, Rotestrasse, Zizlhausen, Wurttemberg, Germany; and Michael Schweizer, Aspergstrasse 21a, Stuttgart, Germany

Filed Oct. 6, 1965, Ser. No. 493,524

Claims priority, application Germany, Oct. 7, 1964, N 25,654

Int. Cl. B23p *1/12, 1/16*

U.S. Cl. 204—212 **4 Claims**



A rotary honing tool for removing material by an electrolytic honing process; honing bit carriers and segmental cathode pieces between the bit carriers in the rotary tool which both can be radially adjusted simultaneously, and an electrolyte continuously flowing through the gaps between the body of the tool and the surface of the workpiece.

3,506,559

APPARATUS FOR ELECTRICAL MACHINERY OF CURRENT CONDUCTIVE WORKPIECES

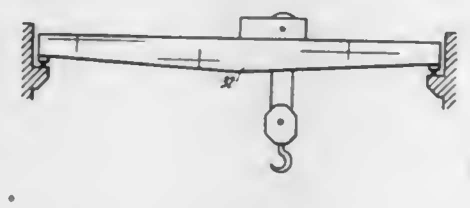
Benno Ibo Bonga, Onex, Geneva, Switzerland, assignor to Ateliers des Charmilles S.A., Geneva, Switzerland, a corporation of Switzerland

Filed Sept. 11, 1967, Ser. No. 666,636

Claims priority, application Switzerland, Sept. 13, 1966, 13,229/66

Int. Cl. B23p *1/14;* **B01k** *3/00*

U.S. Cl. 204—224 **6 Claims**



Apparatus for the electrical machining of substantially large and bulky workpieces having a removable assembly mechanically interconnecting the electrode tool and the workpiece, although electrically insulated from one or the other, or both, including servo controlled jack means for advancing the electrode tool and the workpiece relatively to each other and a synchro system for operating all the jacks in synchronism.

3,506,560

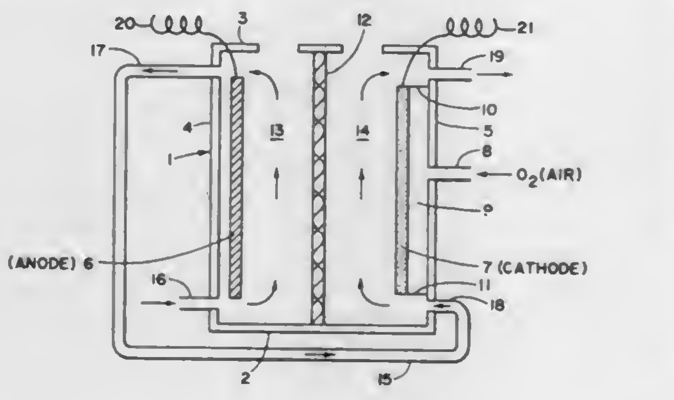
ELECTROLYTIC CELL HAVING NOVEL ELECTROLYTE FLOW PATH MEANS

Donald H. Grangaard, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Jan. 30, 1967, Ser. No. 612,469

Int. Cl. C01b *15/00;* **C22d** *1/02;* **C23b** *5/68*

U.S. Cl. 204—263 **1 Claim**



An electrolytic cell for the production of alkaline peroxides. The alkalinity of the peroxide is controlled at a low value commensurate with the alkalinity of the electrolyte fed to the cell by providing cell electrolyte flow paths in which the electrolyte first passes through the cell anode compartment and then the cathode compartment where the peroxide is generated.

3,506,561

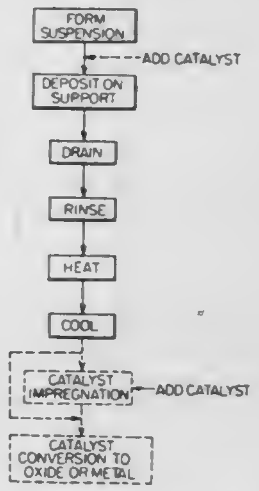
METHOD FOR MAKING ELECTRODES

Philip D. Caesar, Princeton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

Application Nov. 16, 1964, Ser. No. 411,204, now Patent No. 3,377,265, dated Apr. 9, 1968, which is a continuation-in-part of application Ser. No. 146,411, Oct. 20, 1961. Divided and this application Sept. 28, 1967, Ser. No. 704,187

Int. Cl. B01k *3/02, 3/06*

U.S. Cl. 204—290 **11 Claims**



A method is described for preparing improved electrodes by deposition of a film of fibrous alumina on a conductive support and incorporating an electrochemical catalyst in the fibrous alumina.

3,506,562

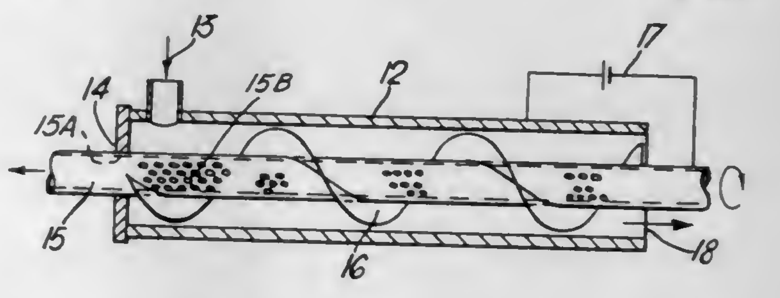
DEWATERING OF SLUDGE

Peter Coackley, Buxworth, England, assignor to The Motherwell Bridge and Engineering Company Limited, Motherwell, England, a British company

Filed Dec. 5, 1966, Ser. No. 599,165

Int. Cl. B01c *35/06;* **B01d** *35/06;* **B01k** *5/00*

U.S. Cl. 204—300 **6 Claims**



Apparatus for use in continuously dewatering sludge by means of electro-osmosis consists of an anodic casing, a rotary perforated cathode wall extending within the casing, and blading on the rotary wall to be driven by the wall, so that the sludge is continuously propelled through the casing from an inlet to an outlet in the casing, and the water flows electro-osmotically to the perforated rotary wall for continuous discharge through the perforations thereof.

3,506,563

CATALYTIC CONVERSION PROCESS TO PRODUCE HIGHLY PARAFFINIC WAXES AND HIGHLY AROMATIC OIL

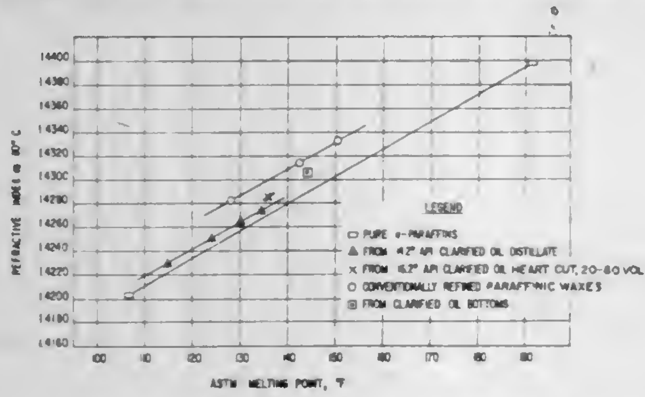
Eugene M. Fauber, Hammond, and Maurice K. Rausch, Homewood, Ill., assignors to Sinclair Research, Inc.

Continuation-in-part of application Ser. No. 621,937, Mar. 9, 1967. This application Jan. 11, 1968, Ser. No. 697,159

Int. Cl. C10g *37/00, 43/04*

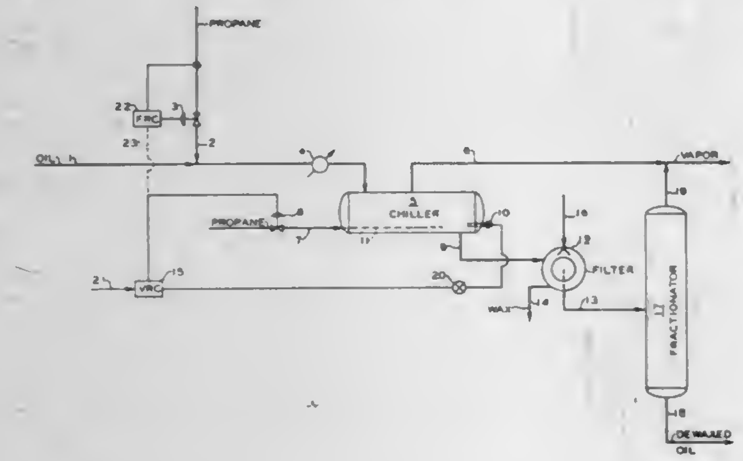
U.S. Cl. 208—24 **7 Claims**

Gas oils may be profitably treated to produce a combination of highly paraffinic waxes suitable for packaging and like uses, and highly aromatic oil suited for use as heat transfer media and the like. Gas oil is catalytically cracked to produce distillate fractions and the resulting bottoms, known as clarified oil, are distilled to obtain a heart cut boiling in the range of about 650 to 850° F. The clarified oil heart cut is dewaxed to provide a superior heat transfer oil and a slack wax, which upon solvent deoiling and percolation through an absorbent medium, produces a highly n-paraffinic wax. A high desirable wax with n-paraffins approaching 100% may be obtained by selecting a narrower boiling point range cut of the clarified oil.



3,506,564
VISCOSITY CONTROL IN LIQUID-SOLIDS SYSTEMS

Roy T. Cone, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1966, Ser. No. 575,823
Int. Cl. C10g *43/08*
U.S. Cl. 208—33 4 Claims



The viscosity of liquid-solid mixtures to be separated is controlled by continuously determining the non-compensated viscosity at operating conditions and controlling the rate of solvent addition in response thereto.

3,506,565
PROCESS FOR THE PRODUCTION OF HIGH VISCOSITY INDEX LUBRICATING OILS

Robert J. White, Pinole, and Clark J. Egan, Piedmont, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
No Drawing. Filed July 31, 1968, Ser. No. 748,978
Int. Cl. C10g *13/04, 31/14*
U.S. Cl. 208—59 5 Claims

A process for the production of a wide range of high viscosity index lubricating oils by hydrocracking a first feed, separating a light oil fraction from the hydrocrackate, hydrocracking a second feed and the light oil fraction together, and recovering high viscosity index lubricating oils, including a 100–150 neutral oil with a viscosity index of at least 100 and an 800+ neutral oil with a viscosity index of at least 95. The second feed is no heavier than the first feed, and preferably is lighter. Reaction conditions and oil cut points are specified. Stabilization and dewaxing may follow the two hydrocracking steps.

3,506,566
CONVERSION OF CLARIFIED HYDROCARBON OIL TO DISTILLATE HYDROCARBON FUEL OIL OF LOW POUR POINT IN TWO CATALYTIC STAGES

Stanley C. Haney, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 20, 1968, Ser. No. 730,659
Int. Cl. C10g *13/00*
U.S. Cl. 208—60 7 Claims

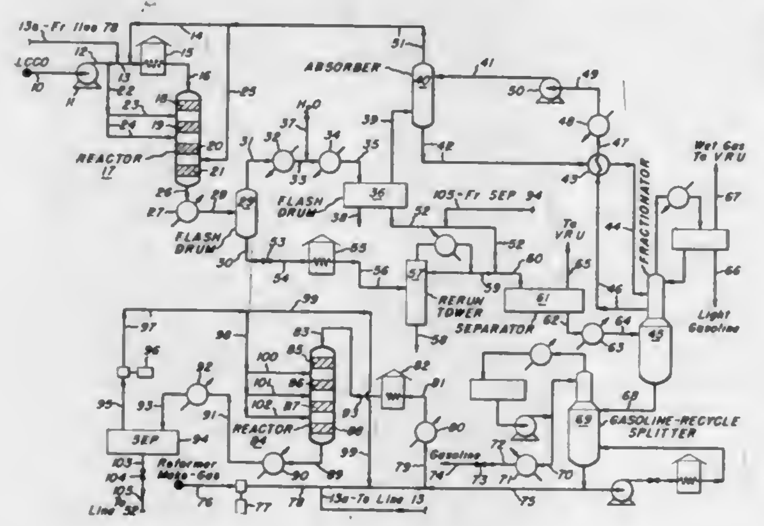
Clarified or decant oil, from a catalytic cracking unit, which boils primarily above 650° F., is converted to distillate fuels, such as diesel or No. 2 fuel oil, of low sulfur content, low cloud point and low pour point by a two-stage catalytic hydrocracking-hydroisomerization process. In the first stage the clarified oil is contacted with hydrogen and a sulfur-resistant, non-precious metal hydrogenation catalyst, such as nickel-molybdenum or cobalt-molybdenum or an alumina or silica-almuina base catalyst, under hydrogenation or mild hydrocracking conditions at a temperature in the range of about 500 to 900° F. The product form the first stage is separated, such as by fractionation, to give a material boiling in the approximate 400–650° F. range which is contacted in a second stage with hydrogen and a platinum group metal-containing catalyst, such as a platinum on alumina-crystalline aluminosilicate catalyst, under hydroisomerization conditions at a temperature of about 450 to 800° F. It is preferable that the severity of the hydrocracking reaction be minimized and the hydroisomerization reaction be maximized in the second stage, such as by operating at a lower temperature in the second stage than in the first stage, to give a highly desirable distillate fuel oil product with enhanced low temperature flow characteristics.

In either or both stages, the oil and hydrogen can be passed over the catalysts in fixed beds or slurried with the catalysts to improve contact under reaction conditions. The first stage can be operated to give a yield of the fraction boiling in the approximate 400–650° F. range of at least 50 volume percent based on the clarified oil feed. Excellent yields of the desirable diesel or No. 2 fuel oil boiling about 400–650° F. with enhanced low temperature flow characteristics can be obtained, in up to 97% or more yields based on the feed to the second stage. The pour point of the 400–650° F. range fraction is lowered in the second stage by at least about 20 or 25° F., often to 0° F. and below. Diesel or No. 2 fuel oils can be obtained with cloud points as low as —15° F. and pour points as low as —20° F. and with sulfur content as low as .05 weight percent.

3,506,567
TWO-STAGE CONVERSION OF NITROGEN CONTAMINATED FEEDSTOCKS

Bion D. Barger, Jr., Chicago, Ill., and Robert J. Hengstebeck, Valparaiso, Thomas M. Moore, Crown Point, and Leonard W. Russum, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Aug. 4, 1966, Ser. No. 570,350
Int. Cl. C10g *23/100*
U.S. Cl. 208—89 20 Claims

The process comprises a hydrofining stage and a hydrocracking stage, wherein dual quenching media are used to quench the hydrogen-hydrocarbon mixture passing through the hydrofining stage, part of the liquid petroleum feed serving as the quenching stream to the inlet portion of the hydrofining stage and recycled hydrogen-containing gas serving as the quenching stream to the outlet portion of the hydrofining stage; hydrogen-containing gas is used to quench the hydrogen-hydrocarbon mixture passing through the hydrocracking stage; effluent from the feed-preparation stage is subjected to limited cooling, followed by separation of a small amount of condensed material from the vapor at a high pressure, followed by cooling of the resulting vapor and separation of the cooled vapor into a hydrogen-containing gas and a liquid stream; and a hydrogen-containing gas is enriched prior to recycle.



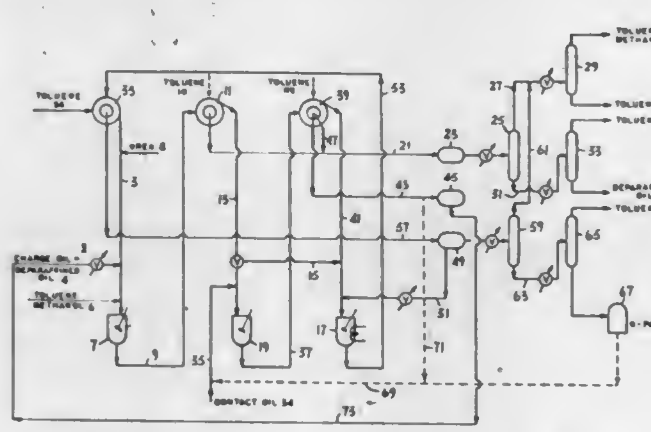
3,506,568
PROCESS OF HYDROFINING HIGH NITROGEN HYDROCARBONS FOLLOWED BY CATALYTIC CRACKING WITH ZEOLITIC ALUMINOSILICATES

Richard J. Annesser and Heinz P. Weber, Berkeley, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Continuation of application Ser. No. 553,115, Apr. 26, 1966. This application Jan. 10, 1969, Ser. No. 790,357
Int. Cl. C10g *23/02*
U.S. Cl. 208—89 3 Claims

Hydrofining a high boiling hydrocarbon feed containing substantial amounts of organic nitrogen to reduce the organic nitrogen content prior to catalytic cracking of the feed with a crystalline zeolitic aluminosilicate in a catalytic cracking zone.

3,506,569
PROCESS FOR PRODUCTION OF NORMAL PARAFFINS FROM MIDDLE DISTILLATE BY UREA ADDUCTION

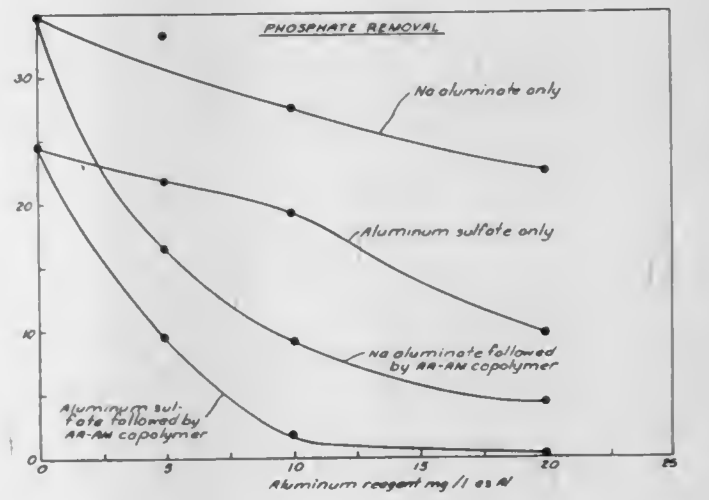
Naoki Yata and Shozo Fujimoto, Kurashiki, Japan, assignors to Nippon Mining Co., Ltd., a company
Filed Dec. 26, 1967, Ser. No. 693,516
Claims priority, application Japan, Dec. 24, 1966, 41/84,246
Int. Cl. C07b *21/00*
U.S. Cl. 208—308 10 Claims



A process for the separation of n-paraffins from hydrocarbon distillate by means of powdered urea is provided, wherein hydrocarbon distillate is treated in the presence of an activator solvent of methanol and aromatic hydrocarbon together with powdered urea, and then resulting urea adduct is separated from the liquid part of the reaction mixture. The adduct is then washed with aromatic hydrocarbon, and decomposed by heating in a decomposition medium consisting of 5 to 30 percent by volume of n-paraffins and 70 to 95 percent by volume of aromatic hydrocarbons. The thus obtained urea is then separated from the n-paraffin product, and is recycled into the process.

3,506,570
CLARIFICATION OF AND PHOSPHATE REMOVAL FROM SEWAGE

Ronald F. Wukasch, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 8, 1968, Ser. No. 727,462
Int. Cl. B01d *21/01*
U.S. Cl. 210—49 5 Claims



The total phosphate content of municipal or industrial waste streams is efficiently reduced by incorporating from about 10 to 30 parts per million by weight of trivalent aluminum ion into the waste followed by the application of a particular acrylamide-acrylic copolymer under flocculating conditions with intervening mixing for at least about 3 minutes. The preferred copolymer is a compound of from about 80 to 50 weight percent acrylamide or methacrylamide interpolymerized with from about 20 to 50 percent acrylic or methacrylic acid or the alkali and ammonium salts thereof and is further characterized by a molecular weight of at least about 2 million.

3,506,571
FIRE EXTINGUISHING AGENT FOR COMBATING METAL FIRES

Herbert Jenkner, Cologne-Deutz, Germany, assignor to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,223
Claims priority, application Germany, Mar. 5, 1966, C 38,410
Int. Cl. A62c; A62d *1/00*
U.S. Cl. 252—2 6 Claims

Fire extinguishing composition of the composition $P(OR)_3 \cdot XP_2O_5$ or $P(OR)_3 \cdot XP_2O_3$ wherein R is an aliphatic hydrocarbon or halogen substituted aliphatic hydrocarbon of 1 to 8 carbon atoms and X is about 0.1 to 2.5 and one of the R's can also be hydrogen.

3,506,572

DRILLING MUD COMPOSITION AND PROCESS

Orien W. Van Dyke and Keith L. Wagner, Houston, Tex., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,700

Int. Cl. E21b *21/04;* **E21c** *41/10;* **C09k** *3/00*

U.S. Cl. 252—8.5 **1 Claim**

Fluids for drilling, workover, and completion of wells are treated for hydrogen sulfide contamination by the addition of at least one of copper carbonate and hydrogen peroxide.

3,506,573

GREASES CONTAINING A HYDROGENATED OLEFIN POLYMER VEHICLE, ORGANOPHILIC CLAY THICKENER AND CALCIUM ACETATE DISPERSION

Richard A. Butcosk, Westmont, and John J. Giammaria, Woodbury, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 449,634, Apr. 20, 1965. This application May 29, 1968, Ser. No. 732,841

Int. Cl. C10m *7/10, 7/22, 7/30*

U.S. Cl. 252—21 **12 Claims**

Improved greases, having wide temperature utility, good oxidation stability, extreme pressure and anti-wear properties, are provided comprising a hydrogenated olefin polymer vehicle, a grease-forming quantity of a thickening agent comprising an organophilic clay, calcium acetate and a N-acyl-substituted sarcosine as a dispersing agent for the calcium acetate.

3,506,574

LUBRICATING OILS AND FUELS CONTAINING GRAFT COPOLYMERS

Robert L. Stambaugh, Hatboro, and Ronald D. Bakule, Willow Grove, Pa., assignors to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,158

Int. Cl. C10m *1/32;* **C10l** *1/22*

U.S. Cl. 252—51.5 **3 Claims**

This invention concerns a method for preparing graft copolymers by grafting N-vinyl pyrrolidone onto a backbone containing a polymeric alkyl acrylate and/or alkyl methacrylate under polymerizing conditions and in the presence of an organic or inorganic free radical initiator. The invention further concerns lubricating oil compositions and hydrocarbon fuel compositions containing the graft copolymers. Imparted to lubricating and fuel compositions by the graft copolymers of this invention are such beneficial properties as dispersancy, improvements in viscosity, viscosity-temperature relationships, and pour point depressing action.

3,506,575

METHOD FOR MAKING SEMICONDUCTIVE PIEZOELECTRIC CERAMIC TRANSDUCERS

Yoshihiro Matsuo, Hitoshi Matsumoto, Eisuke Kurokawa, Hiromu Sasaki, and Shigeru Hayakawa, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Jan. 12, 1968, Ser. No. 697,462

Claims priority, application Japan, Mar. 14, 1967, 42/16,821; Mar. 23, 1967, 42/18,574

Int. Cl. C04b *35/00*

U.S. Cl. 252—62.9 **4 Claims**

Semiconductive material which is characterized by low specific resistivity and superior electromechanical transducing properties is made by firing PbO, MgO, Nb_2O_5, TiO_2 and ZrO_2 in an inert or reducing atmosphere and corresponds to the formula

$$Pb(Mg_{1/3}Nb_{2/3})_xTi_yZr_zO_3$$

$x+y+z$ being equal to 1. NiO is optionally included. The material is useful in making e.g. a phonograph pick-up for a transistorized amplifier with low input-impedance.

3,506,576

METAL CLEANING SOLUTION OF CHELATING AGENT AND WATER-SOLUBLE SULFIDE

Fred N. Teumac, Orlando, Fla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 20, 1967, Ser. No. 647,338

Int. Cl. C02b *5/06, 5/00;* **C23g** *1/20*

U.S. Cl. 252—82 **12 Claims**

In cleaning a ferrous based metal surface to remove surface deposits therefrom, from about 0.001 to about 0.1 percent by weight of a water-soluble sulfide capable of releasing sulfide ions in aqueous medium is added to the aqueous cleaner comprising aqueous alkaline solution of an alkylene polyamine polyacetic acid chelating agent.

3,506,577

NOVEL ANTIMICROBIAL LAUNDERING COMPOSITIONS

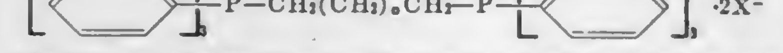
Herman Berenson, Trenton, N.J., Albert Carl Dornbush, Pearl River, N.Y., and Donald Clifford Wehner, Fairfield, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Aug. 23, 1965, Ser. No. 481,941, now Patent No. 3,364,107, dated Jan. 16, 1968. Divided and this application July 27, 1967, Ser. No. 676,666

Int. Cl. C11d *3/48, 3/36*

U.S. Cl. 252—106 **3 Claims**

The invention is directed to a novel antimicrobial laundering composition comprising a major amount of a synthetic detergent and a minor amount, toxic to microbial growth, of a compound of the formula:



wherein X represents an anion and where *n* is an integer of from 6 to 14.

3,506,578

METHOD OF USING BACTERIOSTATIC TRIPHENYLTIN COMPOUNDS

Kenneth S. Karsten, Westport, and Wilbur S. Taylor, Nor-Walk, Conn., assignors to R. T. Vanderbilt Company, Inc., New York N.Y., a corporation of New York

No Drawing. Filed June 10, 1966, Ser. No. 556,582

Int. Cl. C11d *9/50*

U.S. Cl. 252—107 **12 Claims**

Triphenyltin derivatives of the class consisting of triphenyltin hydroxide, triphenyltin 4-acetamidobenzoate, triphenyltin N,N-dimethyldithiocarbamate, triphenylvinyltin, triphenyltin acetate, and triphenyltin oxide are incorporated in skin soaps and shampoos in bacteriostatically effective amounts, generally from about 0.2 to 5% by weight of the total composition. These derivatives maintain their activity in soaps and shampoos and are substantive to the human skin in such formulations.

3,506,579

ANTIBACTERIAL COMPOSITIONS CONTAINING AMINOPHOSPHINIC ACIDS AND SALTS

Andrew T. Guttmann, Maple Heights, Ohio, and Eric Jungermann, Chicago, and Warner M. Linfield, Evanston, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 90,240, Feb. 21, 1961, and a division of application Ser. No. 655,313, July 24, 1967. This application Aug. 26, 1968, Ser. No. 755,381

Int. Cl. C11d *9/50;* **A61l** *23/00*

U.S. Cl. 252—107 **6 Claims**

Alpha-(arylamino)-benzylphosphinic acids, alkylamino methylphosphinic acids, and alpha-(alkylamino)-benzylphosphinic acids and the alkali metal or ammonium salts thereof are disclosed as bateriostatic agents. The activity of the alpha-(arylamino)-benzylphosphonic acids are enhanced in alkaline media, such as the water-soluble soaps.

3,506,580

HEAT-TREATMENT OF SULFONATED OLEFIN PRODUCTS

Joseph Rubinfeld, Brooklyn, N.Y., and Willem Bian Gwan Ouw, Jersey City, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 10, 1966, Ser. No. 548,826

Int. Cl. C11d *1/12, 1/14;* **C07c** *139/00*

U.S. Cl. 252—138 **12 Claims**

Heat treating an aqueous olefin sulfonate reaction product at substantially atmospheric pressure by contact with a heat transfer material (e.g. a hot gas or hot solid surface) having a temperature of at least about 260° F. to raise the temperature of the reaction product to at least about 230° F. while driving off water vapor to give a product of 1–12% water content. The aqueous olefin sulfonate reaction product is a material made by sulfonating higher alpha-olefins with dilute SO_3 and neutralizing the sulfonated material to produce a material containing an anionically active neutralized higher olefin sulfonic acid detergent and anionically inactive material insoluble in aqueous ethanol and soluble in pentane. The heat treatment is effective to decrease the content of said anionically inactive insoluble organic material.

3,506,581

CORROSION INHIBITOR FOR AQUEOUS ACID

Clare H. Kucera, Tulsa, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 21, 1964, Ser. No. 346,396

Int. Cl. C23g *1/06;* **C23f** *11/04*

U.S. Cl. 252—146 **3 Claims**

Liquid hydrocarbons are employed in conjunction with acetylenic alcohol corrosion inhibitors to enhance the effectiveness of said inhibitors for inhibiting corrosive action of aqueous non-oxidizing acids such as hydrochloric on metal surfaces.

3,506,582

DRAIN CLEANER COMPOSITION AND PROCESS

Donald Paul Gertzman, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of applications Ser. No. 382,406, July 13, 1964, and Ser. No. 506,003, Nov. 1, 1965. This application Nov. 10, 1966, Ser. No. 593,303

Int. Cl. C11d *7/10, 7/22, 7/42*

U.S. Cl. 252—157 **7 Claims**

An improved enzymatic drain cleaner composition is provided which includes a mixture of glucono-delta-lactone and a metal salt of carbonic acid. When this composition is mixed with water, the glucono-delta-lactone forms gluconic acid which reacts with the above metal salt to liberate carbon dioxide. The resulting effervescent action enables the active enzymes to more effectively penetrate deposits in the drain being cleaned. The ingredients of this composition are previously individually coated with a mixture of gum arabic and polyvinylpyrrolidone to prevent interaction prior to mixture with water.

3,506,583

MONOMERIC, SOLID STATE SOLUTIONS OF CERTAIN AROMATIC DIAMINES IN DERIVATIVES OF BENZOPHENONETETRACARBOXYLIC ACID

William R. Boram and Luis Acle, Jr., San Diego, Calif., assignors to International Harvester Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Mar. 14, 1968, Ser. No. 712,908

Int. Cl. C08g *20/32, 20/02;* **C09k** *3/00*

U.S. Cl. 252—188.3 **4 Claims**

Monomeric, resinoid, solid state solutions of certain aromatic diamines in derivatives of benzophenonetetracarboxylic acid. Processes for prepariing such solutions and for converting them to polyimides and to polyamic acid precursors.

3,506,584

RARE EARTH CONTAINING CRYSTALLINE MATERIAL

Kalman M. Held, Jericho, N.Y., James G. Beckerley, Cohasset, Mass., and Henry B. W. Sadowski, Plainview, N.Y., assignors to Optical Materials, Inc., Plainview, N.Y., a corporation of New York

No Drawing. Filed July 14, 1966, Ser. No. 565,066

Int. Cl. C09k *1/06*

U.S. Cl. 252—301.4 **21 Claims**

The invention provides a process for producing solid materials containing small amounts of rare earth element in the divalent state. A melt of a host material which solidifies and which is compatible with divalent rare earth elements in the solid state is established. A rare earth element in the trivalent state and halide salt selected from the group consisting of iodide and bromide salts of a metallic element component of the melt are added. The iodide or bromide salt then reduces the trivalent rare earth element to the divalent state while concomitantly oxidizing the halide ion to the elemental state. The invention also includes novel materials containing specified amounts of specified rare earth elements in the divalent state.

3,506,585

METHOD FOR RECLAIMING RARE EARTH FLUORESCENT SUBSTANCES

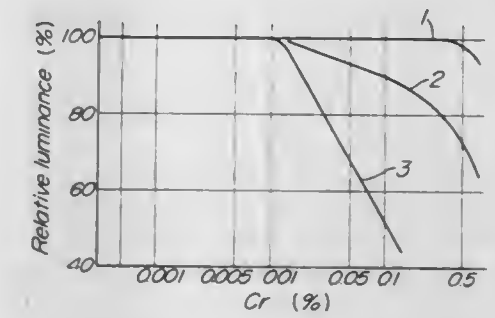
Shigeru Otsuka, Kyoto, and Yoichi Okabayashi, Takatsuki-shi, Japan, assignors to Matsushita Electronics Corporation, Kadoma-shi, Osaka, Japan, a corporation of Japan

Filed Dec. 27, 1966, Ser. No. 604,816

Claims priority, application Japan, Dec. 28, 1965, 41/306

Int. Cl. C09k *1/04*

U.S. Cl. 252—301.4 **3 Claims**



A method is disclosed for recovering a rare earth oxide phosphor having a low chromium content comprising a member selected from the group consisting of europium activated yttrium oxide, gadolinium oxide and their solid solution from a slurry for forming a fluorescent screen which contains said phosphor, chromates and an organic binder, the method comprising filtering out solid substances containing said phosphor from said slurry, adding nitric acid to said solid substances to dissolve a main component of said solid substances to form a nitrate solution, adding an oxalic acid solution to said nitrate solution to form a precipitate having a low chromium content, and firing said precipitate at a temperature of 1000°–1400° C.

3,506,586
PROCESS FOR HYDRATING PENTASODIUM TRIPOLYPHOSPHATE FORM I

Ralph James Baskerville, Jr., Springfield Township, Hamilton County, and David Denzil Whyte, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Apr. 3, 1967, Ser. No. 627,987
Int. Cl. B01j *13/00*
U.S. Cl. 252—309 5 Claims

The process of hydrating pentasodium tripolyphosphate Form I by mixing anhydrous pentasodium tripolyphosphate Form I with ethylene glycol, propylene glycol or glycerol; adding thereto about 6 moles of water per mole of pentasodium tripolyphosphate Form I and from about 0.5 mole to about 1.5 moles of water per mole of glycol or glycerol; and maintaining the resultant mixture at temperatures ranging from about 40° F. to about 150° F.

3,506,587
PHOTOLUMINESCENT GLASSES

Warren H. Tuner, Toledo, Ohio, and Marvin J. Albinak, Wheeling, W. Va., assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 604,642, Dec. 27, 1966. This application Apr. 21, 1967, Ser. No. 632,533
Int. Cl. C09k *1/54, 1/68;* **C03c** *3/28*
U.S. Cl. 252—301.4 10 Claims

High intensity photoluminescent glasses, comprising aluminosilicates and aluminoborosilicates, containing alkaline earth metal oxides, but being substantially free of alkali metal oxides, and containing a small effective amount of a luminescent activator to convert incident ultraviolet into usable visible illumination, the luminescent activator consisting essentially of at least two members selected from tin oxide, copper oxide, and samarium oxide. The glasses are particularly resistant to devitrification at high temperatures, and are resistant to thermal shock.

3,506,588
EMULSIFIER COMPOSITIONS

Edgar Selz, Evanston, Ill., assignor to Witco Chemical Corporation, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 324,251, Nov. 18, 1963. This application Apr. 24, 1968, Ser. No. 723,870
Int. Cl. A01m *21/00;* **A01n** *17/00;* **B01f** *17/00*
U.S. Cl. 252—355 8 Claims

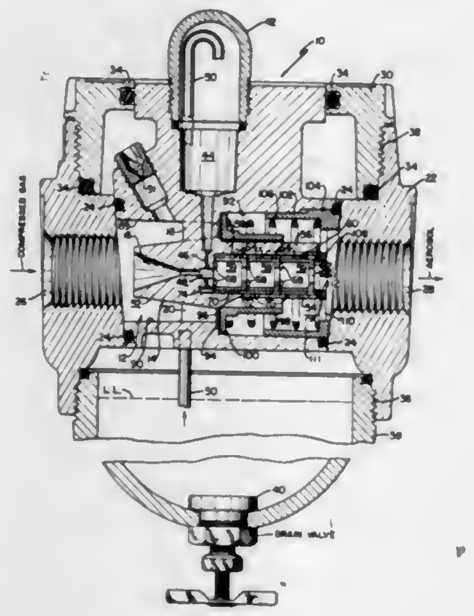
Emulsifier compositions, having particular utility for use in toxicant concentrates, said emulsifier compositions comprising essentially clear liquids at room temperature and containing an acetonitrile-soluble and water-soluble to readily water-dispersible nonionic emulsifier of the type which includes in its molecule a hydrophobic group and at least 8 oxyethylene groups, said compositions containing acetonitrile in proportions of from 1 to 20%, by weight, of the emulsifier composition.

3,506,589
AEROSOL GENERATOR

Robert K. Hoffman, Littleton, and Arthur R. Dolegowski, Denver, Colo., assignors to C. A. Norgren Co., Littleton, Colo., a corporation of Colorado

Filed Dec. 22, 1967, Ser. No. 692,942
Int. Cl. B01f *5/00*
U.S. Cl. 252—359 17 Claims

An aerosol generator has an elongate mixer section with a longitudinal passage. An induction zone in the upstream end is connected to liquid supply to aspirate liquid. Barriers in classifying zone at the downstream end form a series of classifying cells to reject larger liquid droplets. Central apertures in the barriers provide a flow path for a mixture stream. A flow path from the cells back upstream to the inlet end of classifying zone is provided whereby the mixture aspirates rejected liquid to increase fog concentration in the mixture stream. A mixer body surrounds the mixer section to form an annular flow path for additional gas, and is controlled by an annular valve. An adjacent outlet insures intimate mixing of annular and central flows.



3,506,590
MANUFACTURE OF SYNTHESIS-, HYDROGENATING-, OR REDUCTION-GAS

Gerd Nasham, Oberhausen-Sterkrade, Germany, assignor to Huttenwerk Oberhausen Aktiengesellschaft, Oberhausen, Rhineland, Germany, a German company

No Drawing. Filed Mar. 11, 1968, Ser. No. 711,919
Claims priority, application Germany, Mar. 11, 1967, H 62,106
Int. Cl. C01b *2/02;* **C10b** *47/00;* **C10j** *3/02*
U.S. Cl. 252—373 2 Claims

The invention is concerned with the production of a crude gas from readily available coal which crude gas by simple purification is suitable for the manufacture of synthesis-, hydrogenating-, or reduction-gas used in the chemical, petrochemical and metallurgical industries, the said crude gas being obtained by coking coal at high temperature and coking speed, e.g. more than 1450° C. and 15 mm./hr. respectively.

3,506,591
PREPARATION OF A POLYMERIZATION CATALYST COMPONENT

Louise D. Hague, Lancashire, Wilmington, Habet M. Khelghatian, Springfield, and James L. Jezl and John A. Price, Swarthmore, Pa. (all % Avisun Corporation, Marcus Hook, Pa. 19061)

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,566
Int. Cl. C08f *3/02*
U.S. Cl. 252—429 1 Claim

A catalyst for the polymerization of olefins is prepared by reducing titanium tetrachloride with an excess of an alkyl aluminum dihalide, aging at 50–100° C., cooling, reacting with from 0.6 to 0.8 mol of a dialkyl aluminum halide per mol of Ti at 120–140° C., and complexing with from 0.15 to 0.5 mol of ethyl orthosilicate per mol of aluminum.

3,506,592
POLYALKYLENE OXIDE POLYMERIZATION CATALYST

Nissim Calderon, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Original application Aug. 26, 1964, Ser. No. 392,188, now Patent No. 3,422,034, dated Jan. 14, 1969. Divided and this application Dec. 26, 1967, Ser. No. 721,895
Int. Cl. C08g *23/14*
U.S. Cl. 252—431 5 Claims

A catalyst system for alkylene oxides and alkylene sulfides polymerization, comprised of dialkylzinc and hydrazine, results in semicrystalline elastomeric polymers. The poly(propylene oxide) obtained by the described catalyst exhibits solubility and swelling characteristics in acetone, which indicate a broad distribution of the crystalline sequences among the polymer chains. The activity of the dialkylzinc-hydrazine catalyst depends on the molar ratio of hydrazine to dialkylzinc. Best results are achieved when the hydrazine/dialkylzinc ratio is in the range 0.6–0.8. By using hydrazine/water combinations as the secondary component with dialkylzinc, it is possible to prepare poly(propylene oxides) with varying acetone solubility and swelling characteristics.

3,506,593
STABILIZED ZEOLITE COMPOSITION AND PROCESS FOR PREPARING SAME

Charles R. Allenbach, Williamsville, N.Y., and Francis M. O'Connor, Akron, Ohio, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Feb. 5, 1968, Ser. No. 702,803
Int. Cl. B01j *11/40;* **C01b** *33/28*
U.S. Cl. 252—455 5 Claims

A novel zeolitic molecular sieve is provided having the crystalline structure of zeolite A and being highly stable toward structural degradation and pore closure under commercially encountered hydrothermal abuse in adsorption processes, said zeolite being prepared from sodium zeolite A by a controlled exchange of a portion of the sodium cation for potassium cations and at least one species of alkaline earth cation followed by steaming to accomplish a finite degree of pore closure.

3,506,594
MICROSPHERICAL ZEOLITIC MOLECULAR SIEVE COMPOSITE CATALYST AND PREPARATION THEREOF

Walter L. Haden, Jr., Metuchen, and Frank J. Dzierzanowski, Somerset, N.J., assignors to Engelhard Minerals & Chemicals Corporation, Township of Woodbridge, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 416,925, Dec. 8, 1964, and Ser. No. 698,400, Jan. 17, 1968. This application June 20, 1968, Ser. No. 738,384
Int. Cl. B01j *11/40;* **C01b** *33/28*
U.S. Cl. 252—455 9 Claims

Raw kaolin clay, calcined kaolin clay or a mixture thereof is mixed with water to form a slurry which is spray dried. The resulting microspheres are calcined at about 1800° F. and the calcined microspheres are slurried in an aqueous sodium hydroxide solution of predetermined composition. The slurry is heated and agitated until a faujasite-type zeolitic molecular sieve crystallizes. After crystallization, the microspheres are separated from the mother liquor (a sodium silicate solution), ion-exchanged and heat-activated.

3,506,595
PHOTOCONDUCTIVE INSULATING MATERIAL

Katsuo Makino and Iwao Sawato, Odawara-shi, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Kanagawa, Japan

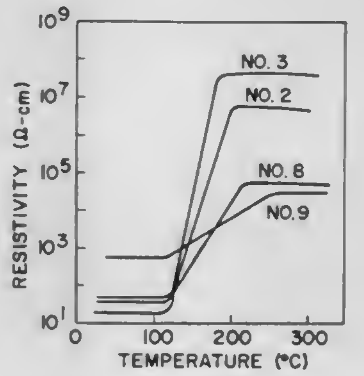
Filed Oct. 31, 1966, Ser. No. 590,800
Claims priority, application Japan, Oct. 30, 1965, 40/66,529
Int. Cl. G03g *5/00, 5/08*
U.S. Cl. 252—501 3 Claims

A photoconductive insulating material comprising cadmium sulfide and cadmium carbonate photoconductive powder having metal iodide incorporated therewith, the molar ratio of the metal iodide to the cadmium sulfide and cadmium carbonate being approximately 0.01 to 0.1. The powder is dispersed through an electrically insulating binder.

3,506,596
SEMICONDUCTING CERAMIC COMPOSITIONS WITH POSITIVE TEMPERATURE COEFFICIENT OF RESISTANCE

Yoshihiro Matsuo, Masanori Fujimura, Hiromu Sasaki, and Shigeru Hayakawa, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan

Filed Oct. 11, 1967, Ser. No. 674,455
Int. Cl. C04b *33/00;* **H01b** *1/06*
U.S. Cl. 252—520 12 Claims



Semiconducting ceramic compositions with positive temperature coefficient of electrical resistance (PTC) over certain temperature ranges comprise essentially 0.99 to 1.05 mole(s) of titanium dioxide, titanium stannum oxide or titanium zirconium oxide and 0.007 to 0.27 mole of boron oxide-germanium dioxide or boron oxide-silicon dioxide or aluminum oxide-germanium oxide per mole of barum oxide or barium strontium oxide or barium lead oxide. The boron oxide can be replaced by Al_2O_3, the GeO_2 by SiO_2 in specified amounts.

3,506,597
POLYMERIZATION OF OLEFIN OXIDES

Harumi Asai, Tokyo, Histaka Komai, Yokohama, and Ryuichiro Yoda, Tokyo, Japan, assignors to The Japanese Geon Company, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 27, 1966, Ser. No. 560,879
Claims priority, application Japan, July 7, 1965, 40/40,309
Int. Cl. C08g *23/14*
U.S. Cl. 260—2 7 Claims

Method for the production of an olefin oxide polymer using a catalytic system composed of either (1) an organo-aluminum compound respresented by formula AlX_nR_{3-n} and a chelate compound of a metal of Groups I to III of the Periodic Table, or (2) an organo-aluminum compound represented by the formula AlX_nR_{3-n}, a chelate compound of a metal of Group I to III of the Periodic Table and water.

3,506,598

THERMO-CURING COATING POWDER COMPOSITION

Gaylord L. Groff, North St. Paul, Minn., and John L. Ridihalgh, Ames, Iowa, assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 478,427, Aug. 9, 1965. This application Jan. 22, 1968, Ser. No. 699,364

Int. Cl. C08g *30/14*

U.S. Cl. 260—2 **6 Claims**

Solid, powdered, fusible, thermosetting compositions used to form tough, well-bonded, flexible, impact-resistant, protective coatings by suspension or spray coating procedures. These coating compositions include an epoxy resin, aromatic polyamine-hardener and a co-catalyst combination of a metal salt and carboxylic compound. The metal salt can be tin, zinc or lead carboxylates. The co-catalyst can be aliphatic or aromatic carboxylic acids and anhydrides.

3,506,599

FOAMING ACID-CURABLE PLASTICS

Robert B. Dean, Bainbridge, N.Y., assignor to Borden, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed July 24, 1963, Ser. No. 297,202

Int. Cl. C08f *47/10;* **C08j** *1/24*

U.S. Cl. 260—2.5 **3 Claims**

The invention relates to foaming amine aldehyde resins or phenol aldehyde resins using ammonium fluosilicate and aluminum coated aluminum flakes as the foaming agent.

3,506,600

CRUSH-BEFORE-CURING PROCESS FOR PRODUCING DENSIFIED POLYURETHANE FOAM

Natale C. Zocco, East Haven, and Stanley I. Cohen, Orange, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Continuation-in-part of abandoned application Ser. No. 708,524, Feb. 27, 1968. This application Nov. 29, 1968, Ser. No. 780,247

Int. Cl. C08g *53/08*

U.S. Cl. 260—2.5 **26 Claims**

A process for preparing a selected, flexible, densified polyurethane foam is disclosed which comprises allowing a polyurethane foam-forming reaction mixture to rise, thereby forming a partially cured cellular material; maintaining the partially cured cellular material for a critical period of time at a critical environmental temperature and applying a compressive force to the partially cured cellular material to reduce its volume by a specified amount. These flexible, densified polyurethane foams are particularly useful for such applications as cushioning and rug padding.

3,506,601

ELECTRODEPOSITION OF THERMOSETTING COATINGS FROM AQUEOUS MEDIUM UTILIZING COPOLYMERS CONTAINING INSUFFICIENT CARBOXYLIC ACID FOR EFFECTIVE DISPERSION IN WATER IN THE ABSENCE OF AN HYDROXY COMPONENT IN THE COPOLYMER

Kazys Sekmakas, Chicago, Ill., assignor to DeSoto, Inc., a corporation of Delaware

No Drawing. Filed Oct. 6, 1966, Ser. No. 584,654

Int. Cl. C08f *21/04*

U.S. Cl. 260—21 **14 Claims**

An aqueous dispersion particularly adapted for electrodeposition of coatings is provided by dispersing in the water a salt of a base with a solution copolymer containing a small proportion of monoethylenically unsaturated carboxylic acid, a proportion of unsaturated hydroxy-terminated condensation resin containing esters of polyhydric alcohols with fatty acid and a proportion of unsaturated monomer providing a primary or secondary hydroxy group. The proportion of acid is insufficient to effectively disperse the copolymer through salt formation in the absence of the hydroxy-containing component of the copolymer.

3,506,602

EMULSION POLYMERIZATION PROCESS

John C. Floros, Lunenburg, Mass., and Chung Hwei Wei, Budd Lake, N.J., assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 22, 1968, Ser. No. 699,346

Int. Cl. C08d *9/12*

U.S. Cl. 260—27 **5 Claims**

The production of polymers of conjugated diolefins with or without monovinyl aromatic compounds in an emulsion polymerization system has been found to be enhanced by the use of shellac as an emulsifying agent. The shellac is polymerized with the monomer components and becomes a part of the final resin latex. To insure statistical reliability of the process, it has been found that incremental addition of the shellac to the polymerization system during the course of polymerization in a manner to maintain the pH drift of the reaction mixture to a maximum of about 0.2 pH points will provide a statistically reliable process insuring a high conversion of a monomer to interpolymer and the avoidance of build-up on the reactor walls. The resulting latex is quite stable.

3,506,603

WAXES

Irvin Baker and Charles Robins, Baltimore, Md., assignors to The Cello Chemical Company, Baltimore, Md., a corporation of Maryland

No Drawing. Filed Mar. 25, 1965, Ser. No. 442,822

Int. Cl. C09g *1/10*

U.S. Cl. 260—28 **16 Claims**

This invention relates to waxes and the method of producing the same by reacting a reactive epoxy resin with a reactive wax.

3,506,604

METHOD OF MAKING LARGE PARTICLE SIZE CARBOXYLATED LATEX AND THE PRODUCTS OBTAINED

Harwell E. Benjamin, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Oct. 12, 1966, Ser. No. 586,046

Int. Cl. C08d *1/09, 7/00*

U.S. Cl. 260—29.7 **9 Claims**

A method of preparation of improved large particle size latexes of inherently curable carboxylated interpolymers by continuous charging of emulsifiers during the reaction period with rate of emulsifier input based on monitoring of latex emulsion surface tension.

3,506,605

HEAT-SENSITIVE SYNTHETIC LATICES

Heinz Hornig, Cologne, Gert Jennes, Cologne-Flittard, and Gustav Sinn, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,567

Claims priority, application Germany, Mar. 9, 1966, F 48,616

Int. Cl. C08d *7/18*

U.S. Cl. 260—29.7 **2 Claims**

Improved heat sensitizing of a synthetic rubber latex by the use of a three component emulsifier system comprising a water-soluble alkali sulphonate or sulphate of at least one C_{12}–C_{18} hydrocarbon, a non-ionic emulsifier with a turbidity point higher than 75° C. and a non-ionic emulsifier with a turbidity point below 75° C.

3,506,606

4-HALOTETRAHYDROPYRANS AS PLASTICIZER AND EXTRUSION AIDS FOR POLYVINYL FLUORIDE

Harold Wayne Hill, Jr., and Paul R. Stapp, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed July 17, 1967, Ser. No. 653,650

Int. Cl. C08f *45/34*

U.S. Cl. 260—30.4 **13 Claims**

4-halotetrahydropyrans are employed as plasticizers and extrusion aids for polyvinyl fluoride.

3,506,607

ABLATIVE COMPOSITIONS

William J. Bobear, Latham, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 9, 1965, Ser. No. 470,892

Int. Cl. C08g *51/04;* **C08k** *1/02*

U.S. Cl. 260—37 **3 Claims**

Ablative compositions are provided comprising an organopolysiloxane polymer, a silica filler, and a finely divided metal or metalloid, such as silicon. The ablative compositions can provide for protective coatings on the surface of rockets and re-entry vehicles.

3,506,608

STABILIZING POLYMERS

Harry Braus, Springdale, and Fred D. Waas, Columbus, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation of application Ser. No. 523,253, Jan. 27, 1966. This application May 2, 1968, Ser. No. 726,255

Int. Cl. C08f *45/58*

U.S. Cl. 260—45.7 **1 Claim**

Polymers of aliphatic olefins having two to eight carbon atoms per molecule are stabilized against degradation with α,α′-bis(alkylthio)xylene compounds.

3,506,609

STABILIZED OLEFIN POLYMERS

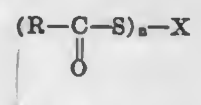
Walter Stamm, Tarrytown, N.Y., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 10, 1968, Ser. No. 728,359

Int. Cl. C08f *45/58*

U.S. Cl. 260—45.7 **15 Claims**

High molecular weight olefin polymer compositions exhibiting a high degree of stability containing a stabilizing amount of a stabilizing compound having the formula



$$(\mathrm{R}-\underset{\substack{\| \\ \mathrm{O}}}{\mathrm{C}}-\mathrm{S})_n-\mathrm{X}$$

wherein R is a hydrocarbyl group containing from 3 to about 21 carbon atoms, *n* is an integer having a value of from 1 to 2, X is selected from the group consisting of hydrogen, alkali metal, alkaline earth metal, and acyl moieties having a hydrocarbyl essentially hydrocarbon residue and containing from about 1 to about 17 carbon atoms inclusive. These stabilizers have proven to be particularly effective in the olefin polymers resin compositions. Included among the preferred stabilizers is thiollauric anhydride, thiololeic anhydride, thiolbenzoic anhydride and thiolstearic anhydride.

3,506,610

BENZOPHENONE ULTRAVIOLET LIGHT AND OXIDATION STABILIZERS FOR PLASTIC MATERIALS

Hans Dressler, Pitcairn, and Kenneth G. Reabe, Delmont, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Original application Oct. 23, 1965, Ser. No. 504,095. Divided and this application Mar. 1, 1968, Ser. No. 709,821

Int. Cl. C08f *45/58;* **C08g** *51/58*

U.S. Cl. 260—45.95 **6 Claims**

Plastic compositions such as polyethylene, polypropylene, polyvinyl acetate, polyvinyl chloride, copolymers of vinylidene chloride and vinyl chloride, nitrocellulose, ethylcellulose, cellulose acetate, and polyester resins are stabilized against oxidation and ultraviolet light degradation by 4-benzoyl - 6 - (dialkyl - hydroxybenzyl)resorcinal compounds. The compounds are usually added in an amount of from about 0.01 to 5 percent by weight of the polymer.

3,506,611

AGE RESISTERS FOR OXIDIZABLE POLYMERS

Ronald B. Spacht, Hudson, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 21, 1964, Ser. No. 420,177, now Patent No. 3,428,691, dated Feb. 18, 1969. Divided and this application July 9, 1968, Ser. No. 743,316

Int. Cl. C08f *45/58;* **C08c** *7/10*

U.S. Cl. 260—45.95 **16 Claims**

Oxidizable polymers containing phenolic age resisters, the phenolic compounds being phenolic substituted diphenyl oxides which may be prepared, for example, by reacting a phenolic compound with a halomethylated diphenyl oxide.

3,506,612

DIEPOXY POLYARYL MONOMERS AND POLYMERS AND METHOD FOR MAKING SAME

Roy G. Neville, Seattle, Wash., assignor to North American Rockwell Corporation, a corporation of Delaware

No Drawing. Filed May 10, 1967, Ser. No. 637,346

Int. Cl. C08f *7/00;* **C07d** *1/00*

U.S. Cl. 260—47 **3 Claims**

A method and composition for making a family of homologous bis-epoxy monomeric compounds containing no alkylaryl ether bonds, and of polymerizing the same. The invention comprises the synthesis of soluble difunctional epoxy monomers which may be polymerized in place to produce polymers having long chains and low cross-link density without simultaneous liberation of small molecules. Examples of the monomers are 1,4-bis[4(1-methyl,1,2-epoxyethyl)phenoxy]benzene and bis{4[4(1-methyl-1,2-epoxyethyl)phenoxy]phenyl}ether.

3,506,613

NOVEL POLYMERS PREPARED FROM ALIPHATIC DIKETONES AND ALIPHATIC DIAMINES

John W. Bayer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 472,058, July 14, 1965. This application Jan. 15, 1969, Ser. No. 791,523

Int. Cl. C08g *15/00*

U.S. Cl. 260—65 **2 Claims**

There is disclosed the novel preparation of novel polymers that exhibit fluorescence when subjected to selected activation energy. The preparation comprises reacting an aliphatic or aromatic substituted aliphatic diketone and an aliphatic diamine such that there results a linear, non-cross-conjugated polymer exhibiting fluorescence under appropriate energy excitation, said polymer having no chromophore groups in its structure which will internally absorb the fluorescence emission of the polymer.

3,506,614
PREPARATION OF OXYMETHYLENE AND METHYLENE SULFIDE POLYMERS

Catherine S. H. Chen, Berkeley Heights, and Anthony Baylis, Union, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 8, 1968, Ser. No. 696,130
Int. Cl. C08g *1/20, 1/14, 23/00*
U.S. Cl. 260—67 14 Claims

A method for producing oxymethylene and methylene sulfide polymers by polymerizing a source of recurring oxymethylene moieties, or a source of recurring methylene sulfide moieties, in the presence of a catalytic amount of a novel transition metal catalyst. The novel catalysts are the hydrates of the halides of metal of the 2nd and 3rd transition series of Group VIII*b* of the Periodic Table of the Elements.

3,506,615
POLYMERIZATION OF OXYMETHYLENE AND METHYLENE SULFIDE FORMING MONOMERS BY METAL ACETYLACETONATES

Catherine S. H. Chen, Berkeley Heights, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 17, 1968, Ser. No. 698,435
Int. Cl. C08g *1/20, 23/00*
U.S. Cl. 260—67 9 Claims

A method for producing oxymethylene and methylene sulfide polymers by polymerizing such monomers as trioxane and trithiane in the presence of a catalytic amount of a novel metal chelate catalyst. The novel catalysts are a combination of titanyl acetylacetonate and an acetylacetonate selected from the group consisting of ferrous acetylacetonate, ferric acetylacetonate and mixtures thereof.

3,506,616
POLYOXYMETHYLENE INTERPOLYMERS

Calvin N. Wolf, Princeton, N.J., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Continuation-in-part of application Ser. No. 428,245, Jan. 26, 1965. This application Apr. 25, 1967, Ser. No. 633,400
Int. Cl. C08g *1/18, 1/20, 1/22*
U.S. Cl. 260—73 8 Claims

A composition of matter which comprises an interpolymer of (1) a formaldehyde and (2) an alpha-monoolefinic monomer having the formula $H_2C{=}CHR$ wherein R is an alkyl group having 2–4 carbon atoms. The alpha-monoolefinic monomer is combined intermittently at random in the polyoxymethylene chain in an amount ranging from 0.1 to about 20 mole percent. The resultant interpolymers have an inherent viscosity of from about 0.3–5.0 and a polymer melt temperature from 140° C. to 190° C. Thermal stability is vastly improved by "end-capping" the present interpolymers with materials such as: (a) an organic acid anhydride, (b) an etherification agent, such as, orthoesters, vinyl ethers, or epoxides, and (c) aliphatic or cyclic isocyanates. Included in the invention are methods for making the compositions, which include "capped" and "uncapped" polymeric compositions.

3,506,617
POLYURETHANES FROM POLYADIPATES, BIS-(4-ISOCYANATOCYCLOHEXYL) - METHANE, AND 1,2-DIAMINOPROPANE

Georges Collardeau, Saint-Fons, and Jean Robin, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France
No Drawing. Filed July 26, 1966, Ser. No. 567,832
Claims priority, application France, July 28, 1965, 26,342; June 22, 1966, 66,489
Int. Cl. C08g *22/04, 22/24*
U.S. Cl. 260—75 2 Claims

The invention provides novel polyurethans obtained by reacting a diphydroxy polyester with bis(4-isocyanatocyclohexyl)-methane to produce a polymer containing terminal isocyanate groups, and then reacting the latter polymer with 1,2-diaminopropane. The polyurethanes so made have valuable mechanical properties and good resistance to light and chemical agents.

3,506,618
HEXAFLUOROSILICATE ADDITIVES IN POLYESTER PREPARATION

Mary E. Carter, Philadelphia, and John A. Price, Swarthmore, Pa., and Robert P. Mervine, Claymont, Del., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 14, 1966, Ser. No. 593,671
Int. Cl. C08f *17/013*
U.S. Cl. 260—75 6 Claims

Process of preparing polyethylene terephthalate comprising carrying out a direct esterification reaction between terephthalic acid and ethylene glycol in the presence of a suitable hexafluorosilicate and then polycondensing the resulting product.

3,506,619
METAL FLUORIDES AS POLYCONDENSATION CATALYSTS

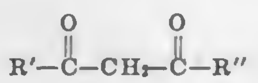
Mary J. Stewart, Riddlewood, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Jan. 20, 1967, Ser. No. 610,489
Int. Cl. C08g *17/015*
U.S. Cl. 260—75 5 Claims

Process of preparing polyethylene terephthalate comprising carrying out an ester-interchange reaction between ethylene glycol and dimethyl terephthalate or carrying out a direct esterification reaction between ethylene glycol and terephthalic acid and polycondensing the reaction product thereof in the presence of a metal salt of hydrofluoric acid.

3,506,620
ADDITIVES USEFUL IN PREPARING SPINNING DOPES OF SPANDEX TYPE POLYMERS

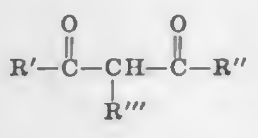
Burns Davis and David L. Nealy, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 28, 1967, Ser. No. 656,770
Int. Cl. C08g *22/04*
U.S. Cl. 260—75 14 Claims

An extrudable dope for preparing spandex articles, such as fibers, comprising a solution of a spandex type polymer containing a β-diketone, the β-diketone functioning to inhibit undesirable side reactions during preparation of the dope, during storage of the dope and while extruding fibers, films, or the like, from the dope. Suitable β-diketones have the formulas:



$$R'-\overset{\overset{O}{\|}}{C}-CH_2-\overset{\overset{O}{\|}}{C}-R''$$

and



$$R'-\overset{\overset{O}{\|}}{C}-\underset{\underset{R'''}{|}}{CH}-\overset{\overset{O}{\|}}{C}-R''$$

wherein —R′, —R″, and —R‴ comprise organic radicals of between 1 and 25 carbon atoms consisting essentially of carbon and hydrogen atoms or such atoms in combination with from 1 to 6 hetero —S— or —O— atoms separated from carbonyl in the formulas by at least one intervening carbon atom.

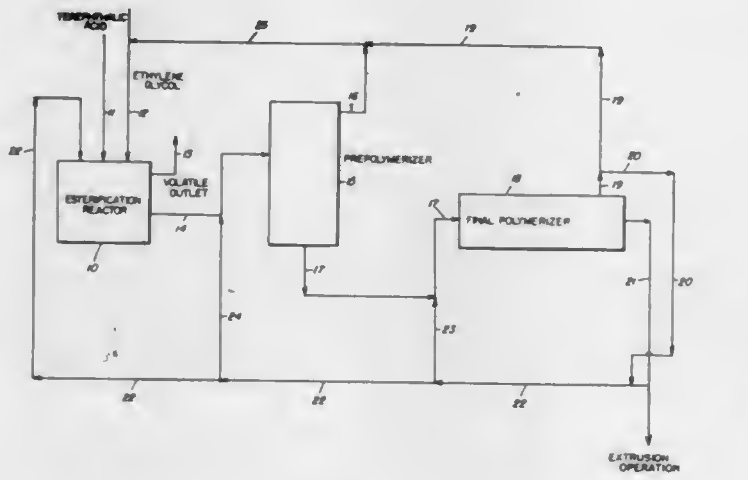
3,506,621
PROCESS FOR THE PREPARATION OF ALKYD RESINS

Saburo Fukushima, Sakai-shi, Keiichi Takiyama, Suita-shi, and Masao Nikki, Ibaragi-shi, Japan, assignors to Nippon Shokubai Kagaku Kogyo Co., Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Mar. 5, 1968, Ser. No. 710,659
Claims priority, application Japan, Mar. 6, 1967, 42/13,773; Aug. 8, 1967, 42/50,495
Int. Cl. C08g *17/10, 37/34*
U.S. Cl. 260—75 6 Claims

Process for the preparation of alkyd resins with excellent coating characteristics which comprises reacting monoolefins containing 6 to 20 carbon atoms with at least one polycarboxylic anhydride and hydrogen peroxide at a molar ratio of 1:1–3:1–10 at temperatures ranging from 20° C. to 120° C., and subjecting the resultant reaction mixture to an esterification reaction with polyhydric alcohols at temperatures ranging from 150° C. to 270° C., until the acid value of the product is reduced to below 60.

3,506,622
CONTINUOUS POLYETHYLENE TEREPHTHALATE PROCESS

Thomas C. Higgins, Shelby, N.C., assignor to Fiber Industries, Inc., a corporation of Delaware
Continuation of application Ser. No. 371,260, June 1, 1964. This application Dec. 13, 1968, Ser. No. 785,059
Int. Cl. C08g *17/01*
U.S. Cl. 260—75 6 Claims



In a continuous process for the production of polyethylene terphthalate constant equilibrium conditions are maintained in the polymerization stages. Prior to the extrusion stage, excess polymer is removed and treated with ethylene glycol to produce the polymer precursor which is then added to the polymerization reaction at the point of corresponding intrinsic viscosity. The process obviates the necessity for the addition of solid scrap polymer in the final polymerization.

3,506,623
PROCESS FOR PRODUCING HIGH MOLECULAR WEIGHT (CYCLO) ALIPHATIC POLYESTERS OF CARBONIC ACID WITH (CYCLO) GLYCOLS

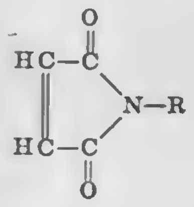
Wolfgang Seeliger, Marl, Germany, assignor to Chemische Werke Huels A.G., Marl, Germany
No Drawing. Continuation-in-part of application Ser. No. 385,495, July 27, 1964. This application Oct. 30, 1967, Ser. No. 679,182
The portion of the term of the patent subsequent to Dec. 19, 1984, has been disclaimed
Int. Cl. C08g *17/13*
U.S. Cl. 260—77.5 6 Claims

The process of producing high molecular weight polyesters of carbonic acid by reacting a primary alcohol with 1.0–1.3 mols of a chloroformic acid of an aliphatic univalent alcohol at 70–300° C. to produce an initial reaction product containing 1.0 to 2.0 alkyl carbonate groups per free hydroxyl group, and then effecting polycondensation at 100–300° C.

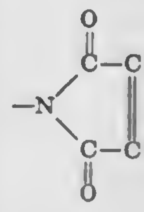
3,506,624
ELASTOMER COMPOSITIONS VULCANIZED WITH SULFUR, A SALT OF AN ORGANIC ACID, AND A MALEIMIDE COMPOUND

Rudolf Adolf Behrens, 215 Springbrook Trail, Sparta, N.J. 07871
No Drawing. Filed Mar. 11, 1968, Ser. No. 711,874
Int. Cl. C08d *13/28;* **C08f** *27/04, 27/07*
U.S. Cl. 260—78.4 10 Claims

Vulcanizable compositions comprising a mixture of a synthetic, vulcanizable elastomeric polymer, sulfur, an alkali metal salt, an organic carboxylic acid, and an N-substituted mono- or bis-maleimide of the formula:



where R is a monovalent hydrocarbon radical or a divalent hydrocarbon radical having as a substituent on a terminal carbon atom a radical of the formula:



Typical of the elastomeric polymers are halogen-containing acrylate polymers, chloroprene polymers and epoxy-containing acrylate polymers. The new composition provides improved balance of vulcanization cure rate and processing safety (scorch time).

3,506,625
OIL-SOLUBLE METAL SALTS OF PARTIAL IMIDES OF MONOVINYL MONOMER - MALEIC ANHYDRIDE COPOLYMERS

Seymour H. Patinkin, Chicago, Joseph A. Verdol, Dolton, and Donald J. Carrow, Riverdale, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Dec. 1, 1967, Ser. No. 687,143, now Patent No. 3,450,513, dated June 17, 1969. Divided and this application Aug. 16, 1968, Ser. No. 772,878
Int. Cl. C08f *27/08;* **C10l** *1/22*
U.S. Cl. 260—78.5 10 Claims

Oil-soluble metal salts of partial imide polymer resins are described which are the reaction product of mono-amines or polyamines with a polymer resin of maleic anhydride and a monovinyl monomer of 2 to 12 carbon atoms, such as styrene. Also diesel oil fuel compositions are disclosed containing these oil-soluble metal salts of partial imide polymer resins in a small amount, effective to improve combustion properties of the diesel oil fuel. These metal salts of the partial imides are effective additives in small amounts of, for instance, about .001 to 0.5% by weight, in diesel oil fuels to prevent or reduce the formation of deleterious deposits and to prevent or reduce the production of exhaust smoke on combustion in diesel engines.

3,506,626

PREPARATION OF ORGANIC SULFUR POLYMERS

Paul F. Warner, Phillips, Tex., and Merlin E. Bentley, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 593,300, Nov. 10, 1966. This application May 12, 1967, Ser. No. 637,919

Int. Cl. C08g *23/00*

U.S. Cl. 260—79 **1 Claim**

Thiol-terminated polymers are formed by contacting at least one diolefin with at least one cycloaliphatic dimercaptan in the presence of a catalyst. Suitable catalysts include hydrogen peroxide, organic peroxides, organic hydroperoxides and azo nitriles.

3,506,627

COPOLYMERIZATION OF ALPHA OLEFINS IN THE PRESENCE OF VINYLIDENE AROMATIC HYDROCARBONS

Semih Zaim, Sarnia, Ontario, Canada, assignor to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

No Drawing. Filed Oct. 18, 1965, Ser. No. 497,450
Claims priority, application Canada, May 1, 1965, 929,611

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.7 **12 Claims**

An improved gel-free rubbery copolymer of ethylene is produced by copolymerizing a monomer mixture of ethylene and propylene and, if desired, a copolymerizable diene with a catalyst comprising an organo-aluminum compound and a compound of vanadium in the presence of less than 50% by weight of monomers of a vinylidene aromatic hydrocarbon such as styrene or allyl benzene. The copolymers containing about 1–10 mol percent of the units derived from the vinylidene aromatic hydrocarbon show improved processability and heat resistance.

3,506,628

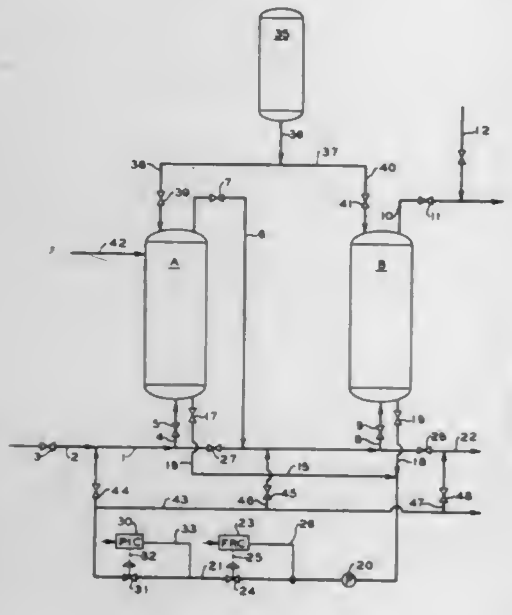
POLYMERIZATION METHOD AND APPARATUS

Wayne F. Hopkins, Borger, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 17, 1966, Ser. No. 587,275

Int. Cl. C08d *1/00, 3/06;* **B01j** *1/00*

U.S. Cl. 260—83.7 **8 Claims**



The product polymer of a continuous, series polymerization process is shortstopped in a continuous manner by stopping the polymerization feed to the first reaction zone, isolating the first reaction zone from the series, removing the polymerization reaction contents from the first reaction zone, and introducing same into the next adjacent downstream reaction zone, and repeating this process for each subsequent reaction zone of the series. While the series of reaction zones are being emptied, a polymerization reaction stopping agent is introduced into the effluent from the last reaction zone of the series. This can be accomplished by having a double set of headers with the reactants being introduced during the normal course of the reaction through the first header, through the first reaction zone, back into the first header, into the second reaction zone, and the like. To stop the polymerization, effluent is withdrawn into the second header and conveyed by pump means back into the first header, where appropriate valve means allow the withdrawn material to be introduced into the next succeeding reactor.

3,506,629

PROCESS FOR PREPARING ETHYLENE COPOLYMERS USING AN ACTIVATED ZIEGLER CATALYST

Cornelis E. P. V. van den Berg, Guido Gezellelaan 34, Geleen, Netherlands; Renier J. L. Graff, Graetheidelaan 2, Beek, Limburg, Netherlands; and Willy J. Hendriks, Rijksweg Z 37, Geleen, Netherlands

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,031
Claims priority, application Netherlands, Feb. 9, 1966, 6601610

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.78 **9 Claims**

A process for preparing copolymers of ethylene with at least one other alkene or poly-unsaturated compound or both by bringing a mixture of these monomers in a liquid repartition agent into contact with a coordination catalyst prepared by mixing a vanadium compound soluble in the repartition liquid, preferably containing a halogen atom, with a mono-alkyl aluminum dihalide and/or a di-alkyl aluminum monohalide, the catalyst containing the reaction product of an alcohol or a phenol, preferably monovalent, with a di-alkyl aluminum monohalide and/or with the soluble vanadium compound.

3,506,630

ETHYLENE-VINYL ACETATE COPOLYMER PREPARED IN THE PRESENCE OF MINOR AMOUNTS OF BUTYRALDEHYDE

Gerhard Beier, Eduard Bergmeister, and Hubert Wiest, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany, a corporation of Germany

No Drawing. Filed Dec. 30, 1968, Ser. No. 788,049
Claims priority, application Germany, Feb. 20, 1968, 1,745,570

Int. Cl. C08f *1/80, 15/16*

U.S. Cl. 260—80.81 **2 Claims**

In copolymerizing ethylene and vinyl acetate, optionally with a third aldehyde monomer, using a redox catalyst consisting of (1) a per-compound, (2) hydrogen, and (3) a colloidally dispersed noble metal, the incorporation of minor amount of a C-4 to C-8 aldehyde into the polymerization recipe gives polymers which form clear, blobfree solutions in organic solvents.

3,506,631

PROCESS FOR PREPARING COPOLYMERS OF CONJUGATED DIENES WITH ALKENYL ARYL COMPOUNDS

Adel F. Halasa, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 14, 1967, Ser. No. 690,429

Int. Cl. C08d *1/20;* **C08f** *1/76*

U.S. Cl. 260—83.7 **15 Claims**

The process disclosed herein involves the copolymerization of diene and vinyl aryl compounds, such as butadiene and styrene, in the presence of a modifier, namely an aliphatic or aromatic phosphite, thiophosphite or amidophosphite which overcomes the tendency of the vinyl aryl, that is styrene, etc., to form a block copolymer with the diene, e.g. butadiene, and also causes the monomers to copolymerize at a constant rate so that the resultant copolymer has a constant composition throughout its linear chains. Moreover, whereas amines and ethers have the ability to prevent such block polymer formation, they have the disadvantage of increasing the 1,2-microstructure of the copolymer from the usual 8% to as high as 50%. In contrast the phosphite modifiers effect little or no increase in the 1,2-microstructure. The phosphites suitable for this purpose have one of the formulas $(RO)_3P$, $(RS)_3$ or $(R_2N)_3P$ where R is a hydrocarbon group of 1–12 carbon atoms.

3,506,632

PREPARATION OF PLASTICS

James Neil Henderson, Hudson, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 425,085, Jan. 12, 1965. This application Apr. 15, 1968, Ser. No. 721,171

Int. Cl. C08d *3/10*

U.S. Cl. 260—85.3 **9 Claims**

The method disclosed comprises polymerizing mixtures of conjugated diolefins with internal olefins by means of a catalyst formed from (a) organoaluminum compounds such as aluminum trialkyls, or aluminum alkyl hydrides, (b) a reducible transition metal salt of titanium or vanadium such as titanium tetrachloride or vanadium acetyl acetonate and (c) an oxygenated compound selected from the group of organic peroxides, organic hydroperoxides, hydrogen peroxides, water, oxygen, ketones, aldehydes, quinones and alcohols. The polymerization is usually carried out as a solution polymerization in a diluent or solvent. The method results in copolymers of mixtures of conjugated diolefins with internal olefins in which the portion of the copolymer resulting from the conjugated diolefin is, in part, cyclic in structure. These copolymers contain rings usually having 5 or 6 carbon atoms and result in polymers having a lower degree of unsaturation and a higher density than the usual open chain polymers or copolymers. As a result, there is an extreme elevation of the glass transition temperature of such copolymers leading to a resinous non-crystalline material.

3,506,633

CATALYSTS IN OLEFIN POLYMERIZATION

Ryo Matsuura, Shigeo Kamimura, Koichiro Iwasaki, Kazuo Yamaguchi, Jihei Inomata, and Genjiro Kakogawa, Tokyo, Japan, assignors to Mitsubishi Chemical Industries Limited, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Mar. 8, 1966, Ser. No. 532,589

Int. Cl. C08f *1/56, 3/06*

U.S. Cl. 260—88.2 **21 Claims**

A polymerization catalyst having a Cl/Ti ratio of 2.5 to 3.5 is prepared by reacting a substantially amorphous alumina with titanium tetrachloride at a temperature of from 50–600° C. The alumina has a specific surface area not less than 100 $m.^2/g.$ and a total pore volume less than 0.7 ml./g. The reaction product can be further reacted with a chlorinating agent to enhance its catalytic properties

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3,506,634

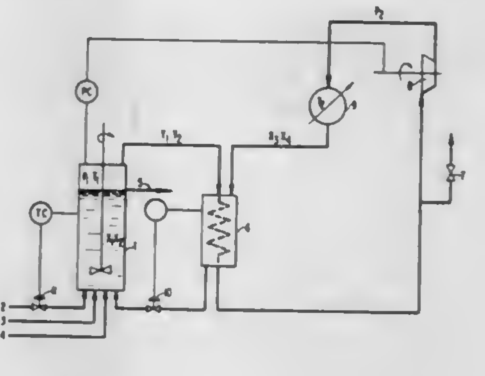
METHOD OF REMOVING THE REACTION HEAT DURING COPOLYMERIZATION REACTIONS AND SIMULTANEOUSLY CONTROLLING THE COMPOSITION OF THE COPOLYMER PRODUCED AT A PREDETERMINED, CONSTANT VALUE

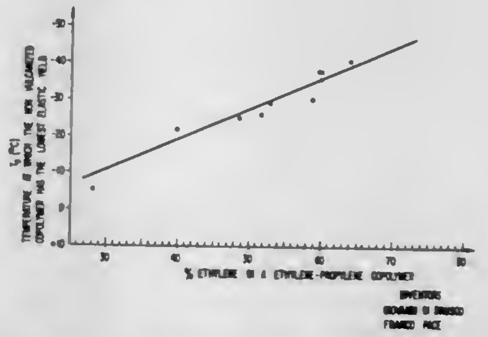
Giovanni Di Drusco, Bologna, and Franco Pace, Ferrara, Italy, assignors to Montecatini Edison S.p.A., Milan, Italy

Continuation of application Ser. No. 332,309, Dec. 20, 1963, which is a continuation-in-part of application Ser. No. 829,418, July 24, 1959. This application Aug. 26, 1966, Ser. No. 575,471
Claims priority, application Italy, July 31, 1958, 11,681/58

Int. Cl. C08f *1/06, 1/08, 15/04*

U.S. Cl. 260—88.2 **2 Claims**





There is disclosed a method for copolymerizing ethylene and a higher alpha-olefin under constant temperature and pressure conditions, in the absence of an inert polymerization solvent, in which the reaction heat is removed and, simultaneously, the composition of the copolymer produced is controlled at a predetermined constant value by continuously feeding at least the ethylene into a reaction zone containing a liquid phase in equilibrium with a gaseous phase essentially consisting of ethylene and the higher alpha-olefin, the gaseous phase is continuously sucked from the reaction zone, at a rate selected to main the pressure in said zone constant, said gaseous phase is compressed and liquified, the liquified gases are cooled and expanded isoenthalpically to the pressure in the reaction zone; and the liquified gases are recycled to the reaction zone, at least the ethylene being fed into the copolymerization reaction zone at a rate selected to maintain the temperature in said zone constant.

3,506,635

POLY (ω - PERFLUOROALKANOIC - SUBSTITUTED TRIFLUOROETHYLENE) AND THE PROCESS FOR THEIR PREPARATION

Burton C. Anderson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 455,980, May 14, 1965. This application Apr. 26, 1967, Ser. No. 633,684

Int. Cl. C08f *5/00*

U.S. Cl. 260—88.3 **1 Claim**

Poly(ω-perfluoroalkanoil-substituted trifluoroethylenes) are claimed. The acyl fluoride polymers having an infrared absorption at 5.35μ are produced by pyrolysis at temperatures of 200–275° C. of fluoroepoxy polymers obtained by the vinyl polymerization of ω-epoxyperfluoro-1-alkenes at pressures of about 65 kilobars and temperatures of about 200° C. The high molecular weight acyl polymers can be fabricated into solid objects and films. The polymers containing carboxyl groups are useful as adhesives, ion-exchange resins, and cation permeable membranes. The low molecular weight polymers are useful as mold release agents and as waterproofing agents.

3,506,636
PROCESS FOR SHORT-STOPPING CHLOROPRENE POLYMERIZATION WITH NITRIC OXIDE

Alan Charles Sturt, Surrey, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Nov. 1, 1966, Ser. No. 591,081
Claims priority, application Great Britain, Nov. 17, 1965, 48,818/65, Patent 1,090,484
Int. Cl. C08d *3/14;* **C08f** *3/20*
U.S. Cl. 260—92.3 **7 Claims**

Chloroprene polymers are produced by polymerizing 2-chloro-1,3-butadiene or 2-chloro-1,3-butadiene having no more than 20% by weight based on the total weight of monomeric material of a copolymerizable monomer or more than one monomer in an aqueous emulsion system and stopping the polymerization while the emulsion contains unpolymerized 2-chloro-1,3-butadiene by contacting the emulsion in the absence of oxygen with a short stop agent which comprises nitric oxide.

3,506,637
PROCESS FOR THE PREPARATION OF CHLORINATED POLYVINYL CHLORIDE

Tetuya Makino, Namerikawa-shi, Susumu Taima, Uozu-shi, and Saiji Nozaki, Unazuki-machi, Japan, assignors to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Apr. 11, 1967, Ser. No. 630,066
Claims priority, application Japan, Mar. 14, 1967, 42/15,549
Int. Cl. C08f *27/02*
U.S. Cl. 260—92.8 **5 Claims**

This invention relates to a process for the preparation of chlorinated polyvinyl chloride having an improved rate of chlorination reaction and also in which the degradation and thermal stability characteristics such as resistance to decomposition, to coloration at high temperature, and in processing and working characteristics are improved characterized that the polyvinyl chloride particles having specific shape and size made by a specific method is chlorinated under specific oxygen conditions in an aqueous suspension of the polyvinyl chloride particles.

3,506,638
POLYMER MODIFICATION WITH A COMPLEX OF ArN_2X AND RMX

Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Dec. 29, 1967, Ser. No. 694,389
Int. Cl. C08d *1/36, 5/02*
U.S. Cl. 260—94.7 **5 Claims**

The molecular weight of polymers of conjugated dienes is increased and the cold flow reduced by treating the polymers with a complex compound of an aryldiazonium halide and a Lewis acid of the group of halides and organic halogen compounds of boron, tin, phosphorus, arsenic, iron, lead, mercury, thallium, and antimony, the treating agent being added to terminate the polymerization, to the polymer solution following termination, or incorporated into the dry polymer.

3,506,639
PROCESS FOR INCREASING MOLECULAR WEIGHT OF LIVE POLYMERS

Adel F. Halasa, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 1, 1968, Ser. No. 702,188
Int. Cl. C08d *5/04;* **C08f** *27/03, 1/88*
U.S. Cl. 260—94.7 **10 Claims**

The molecular weight of polymers derived at least in part from conjugated diene monomers containing 4 to 12 carbon atoms is increased by reacting the cement of live polymer with a multi-halogenated aromatic compound of the class consisting of mononuclear and polynuclear hydrocarbons and hydrogen derivatives thereof. Dichlorobenzenes are preferred, and especially 1,2-dichlorobenzene, and the reaction is preferably carried out in the presence of an alkali metal hydrocarbon initiator. Live molecules of the polymer contain at least one and may contain two or more alkali metal terminal groups which may be lithium, sodium, potassium, rubidium or cesium. The reaction is usually carried out in an inert hydrocarbon solvent, for example hexane, heptane or benzene.

The reaction vessel is charged with one or more diene monomers including, for example, butadiene, isoprene, piperylene, 2,3-dimethylbutadiene, chloroprene, etc. The monomer is polymerized in a solvent using an alkali metal initiator. The increase in the molecular weight of the resulting live polymer is effected by reaction with multi-halogen compound, with or without the addition of an alkali metal initiator. As compared with the starting polymers, the reacted polymers of this invention have better processability and reduced cold flow with higher Williams recovery, and broad molecular weight distribution.

3,506,640
PROCESS FOR CONTROLLING THE QUALITY OF A POLYMER

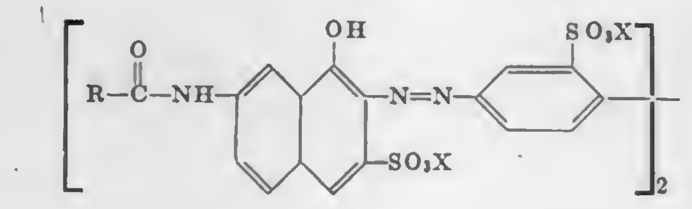
Richard K. Reid and Richard O. Welty, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 9, 1965, Ser. No. 470,670
Int. Cl. C08f *1/00, 1/98*
U.S. Cl. 260—94.9 **5 Claims**

A solution of a solid polymer is passed directly from a reactor and flashed into a vented extruder, the extrudate analyzed and the reaction controlled in response thereto.

3,506,641
DIAZO DYESTUFFS

Ivan H. Skoog, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Original application Apr. 5, 1965, Ser. No. 445,775. Divided and this application June 24, 1968, Ser. No. 751,330
Int. Cl. C09b *35/08*
U.S. Cl. 260—181 **3 Claims**

A red dyestuff of the formula



is shown wherein R is phenyl, methylphenyl or chlorophenyl and wherein X is hydrogen or an alkali metal.

3,506,642
STABLE ORALLY ACTIVE HEPARINOID COMPLEXES

Teow Y. Koh and Kekhusroo R. Bharucha, Toronto, Ontario, Canada, assignors to Canada Packers Limited, Toronto, Ontario, Canada

No Drawing. Filed July 3, 1967, Ser. No. 650,621
Int. Cl. C08b *19/03, 19/08*
U.S. Cl. 260—209 **19 Claims**

This invention relates to new stable, orally active heparinoid complexes, prepared by reacting heparinic acid or other acid heparinoids with non-toxic organic compounds having weakly basic or amphoteric properties and characterized by a base strength pK_b in the range of from about 7.0 to 12.5 or by an isoelectric point pI below about 9.7, to methods for preparing and using these new heparinoid complexes, and to therapeutic compositions containing them. Particularly suitable heparinoid complexes are those prepared from heparinic acid and amino acids having an isoelectric point pI below about 9.7. The new complexes have utility as oral blood anticoagulant and/or lipemic agents.

3,506,643
N^6-ARALKYL-ADENOSINE DERIVATIVES

Max Thiel, 35 Mannheim S 6, Germany; Kurt Stach, Stegerwaldweg 13, Mannheim-Waldhof, Germany; Werner Jahn, Zu Forstquelle 4, Heidelberg, Germany; and Wolfgang Schaumann, Sandhoferstrasse 124; and Karl Dietmann, Amalie-Sieveking-Weg 11, both of Mannheim-Waldhof, Germany

No Drawing. Filed Oct. 18, 1967, Ser. No. 676,032

Claims priority, application Germany, Dec. 9, 1966, B 90,219; July 11, 1967, B 93,416
Int. Cl. C07d *51/54*
U.S. Cl. 260—211.5 **8 Claims**

A class of novel N^6-aralkyl-adenosine derivatives is disclosed which constitute valuable therapeutic agents being particularly useful because of their effect on the cardiac and vascular systems.

3,506,644
MODIFIED CARBOXYALKYLCELLULOSE ETHERS

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 25, 1965, Ser. No. 427,691

Int. Cl. C08b *11/20*
U.S. Cl. 260—232 **7 Claims**

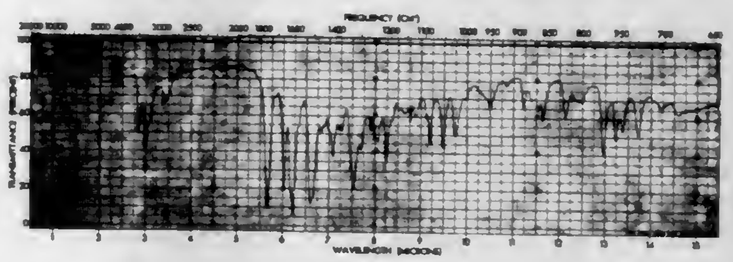
The water viscosifying property of carboxymethylcellulose is reduced without a corresponding decrease in fluid loss property by subjecting an aqueous dispersion of the CMC to a shearing stress.

3,506,645
MONOHYDRATE OF SODIUM SALT OF 6-(2-ETHOXY-1-NAPHTHAMIDO)PENICILLANIC ACID AND METHOD OF PREPARATION

David Flitter, Haverton, John J. Nescio, West Chester, and Samuel P. Mongelluzzo, Drexel Hill, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 413,912, Nov. 25, 1964. This application May 3, 1968, Ser. No. 726,613
Int. Cl. C07d *99/16*
U.S. Cl. 260—239.1 **4 Claims**

1. A dried hydrated crystalline form of the sodium salt of 6-(2-ethoxy-1-naphthamido)penicillanic acid characterized by being a white free-flowing solid having from about 3.5 to about 5% by weight of water, exhibiting a penicillin assay almost identical with the theoretical value for the monohydrate of said penicillanic acid, having an infrared spectrograph as disclosed in FIG. 1 of the drawings, being insoluble in acetone and chloroform, and possessing substantially greater storage stability than the anhydrous crystalline form of the sodium salt of 6-(2-ethoxy-1-naphthamido)penicillanic acid.



MONOHYDRATE

3,506,646
PROCESS FOR THE PREPARATION OF 7H-PYRIDO [1,2-b][1,2,5]BENZOTHIADIAZEPINE 5,5-DIOXIDES AND PYRROLO[1,2-b][1,2,5]BENZOTHIADIAZEPINE 5,5-DIOXIDES

Peter H. L. Wei, Upper Darby, and Stanley C. Bell, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 27, 1966, Ser. No. 565,335

Int. Cl. C07d *99/00*
U.S. Cl. 260—239.3 **1 Claim**

This invention relates generally to chemical compounds that are derivatives of 6-aminophenylsulfonyl compounds. More particularly, the invention relates to 1,2,5-benzothiadiazepine 1,1-dioxides having the heterocyclic ring fused on the "*b*" face thereof and having valuable pharmacological properties; to intermediates useful in the preparation of the first-named compounds and having also similar pharmacological properties; and to methods for preparing said intermediates and said benzothiadiazepine dioxide compounds therefrom. The compounds are useful as diuretic and hypotensive agents.

3,506,647
ISOINDOLO[2,1-d][1,4]BENZODIAZEPIN-6,9(7H,13bH)DIONES

Goetz E. Hardtmann, Florham Park, and Hans Ott, Convent Station, N.J., assignors to Sandoz-Wander, Inc., a corporation of Delaware

No Drawing. Filed Apr. 14, 1967, Ser. No. 630,835

Int. Cl. C07d *53/06, 27/06;* **A61k** *27/00*
U.S. Cl. 260—239.3 **2 Claims**

The title compounds are of the class of isoindolo[2,1-d][1,4]benzodiazepin-6,9(7H,13bH)diones, e.g., 2-chloro-5-methylisoindolo[2,1-d][1,4]benzodiazepin-6,9(7H,13bH)dione. The compounds are useful as anticonvulsants, sedatives and tranquilizers. The title compounds may be obtained by converting an appropriate 3-(5-unsubstituted or -5-halo-, 2-methyl- or 2-ethylaminophenyl) isoindolin-1-one to its corresponding 2-acetic acid lower alkyl ester, which is then cyclized to the corresponding title compound.

3,506,648

DIALKYLAMINOALKYL ESTRONE OXIME DERIVATIVES

Wataru Nagata, Nishinomiya-shi, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

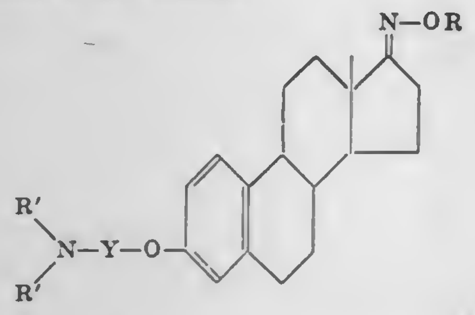
No Drawing. Continuation-in-part of application Ser. No. 739,932, June 4, 1968. This application Nov. 6, 1968, Ser. No. 773,942

Claims priority, application Japan, June 18, 1964, 39/34,534

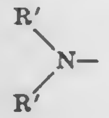
Int. Cl. C07c *169/02*

U.S. Cl. 260—239.5 23 Claims

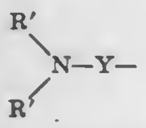
Compounds of the formula



wherein each R′ independently stands for methyl or ethyl, or



stands for pyrrolidino, piperidino or morpholino, Y is $-CH_2CH_2-$ or $-CH_2-CH_2-CH_2-$, and R is H or the group



wherein R′ and Y are as precedingly defined, and pharmaceutically effective acid addition salts thereof, possess hypocholesterolemic and urotropic activities on oral or parenteral administration.

3,506,649

1 - PHENYLSULFONYL - 2 - HYDROXY - 4 - SUBSTITUTED - PIPERAZINES AND DERIVATIVES THEREOF

Peter H. L. Wei, Upper Darby, and Stanley C. Bell, Penn Valley, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,768

Int. Cl. C07d *51/70*

U.S. Cl. 260—239.7 12 Claims

The compounds are 1-phenylsulfonyl-2-hydroxy-4-disubstituted-piperazines, and derivatives thereof, having central nervous system activity.

3,506,650

1α-ALKOXY-Δ^4-3-KETO PREGNENES, 3-ENOL ETHER THEREOF AND PROCESS FOR THEIR PREPARATION

Rinaldo Gardi, Carate Brianza, and Pier Paolo Castelli, Monza, Italy, assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed May 22, 1967, Ser. No. 640,400

Claims priority, application Germany, Nov. 18, 1966, 1,593,699

Int. Cl. C07c *173/10*

U.S. Cl. 260—239.55 15 Claims

New 1α-alkoxy-3,11,20-triketo-Δ^4-pregnenes and 3-alkyl enol ethers thereof are prepared from corresponding $\Delta^{1,4}$-3-keto-pregnadienes by concurrent action of an alkanol and an alkyl orthoformate.

3,506,651

EPOXYSTEROIDS

Taichiro Komeno, Osaka-shi, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan

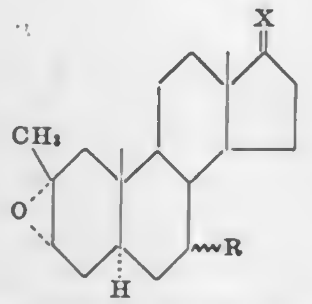
No Drawing. Continuation-in-part of application Ser. No. 649,106, June 27, 1967. This application Apr. 15, 1968, Ser. No. 721,183

Claims priority, application Japan, June 30, 1966, 41/43,443; Apr. 25, 1967, 42/26,469

Int. Cl. C07c *173/00*

U.S. Cl. 260—239.55 26 Claims

Strong anti-estrogenic and myogenic compounds of the formula



wherein R is a hydrogen or methyl and X is an oxygen function, human and veterinary medicine containing them as an active ingredient, and a process for preparing them.

3,506,652

PROCESS FOR THE PRODUCTION OF STEROIDAL LACTONE COMPOUNDS AND INTERMEDIATES THEREOF

Paul L. Creger, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Continuation-in-part of application Ser. No. 470,188, July 7, 1965. This application Feb. 5, 1968, Ser. No. 702,786

Int. Cl. C07c *173/00*

U.S. Cl. 260—239.57 10 Claims

Process for the production of 3-steroidal-propionic acid lactones, in which the steroidal grouping is 3β,17β-dihydroxyandrost-5-en-17α-yl or 17β-hydroxy-3-oxo-androst-4-en-17α-yl, by first reacting 17β,20-epoxy - 17α - methyl-androst-5-en-3β-ol or a 3-enamine derivative of 17β,20-epoxy-17α-methylandrost-4-en-3-one with an alkali metalloacetic acid derivative, such as N,N-dimethyl lithioacetamide, hydrolyzing the reaction mixture when necessary to remove the protective enamine grouping, and then either (a) further hydrolyzing directly the intermediate 3-steroidal-propionic acid derivative, or (b) first oxidizing the intermediate 3-(5-en-3β-hydroxy-steroidal)propionic acid derivative and then further hydrolyzing the 3-(4-en-3-oxo-steroidal)propionic acid derivative obtained. The products of the process are useful as intermediates in the synthesis of spironolactone.

3,506,653

NON-STEROID HORMONAL AGENTS

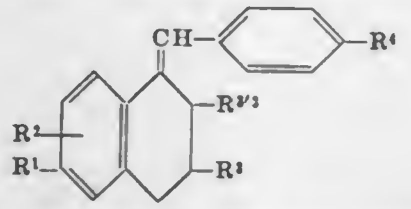
John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 12, 1966, Ser. No. 578,442

Int. Cl. C07c *15/24*

U.S. Cl. 260—240 13 Claims

1. A compound of the following formula:



wherein R^1 is hydrogen, hydroxy, lower alkyloxy, cycloalkoxy, 2-dialkylaminoethoxy, 2-piperidinoethoxy, 2-pyrrolidinoethoxy, 2-morpholinoethoxy or tetrahydropyran-2′-yloxy;

R^2 is hydrogen, lower alkyl, chloro or fluoro;

each of R^3 and $R^{3'}$ independently is hydrogen or lower alkyl; and

R^4 is hydroxy, lower alkyloxy, cycloalkoxy, 2-dialkylaminoethoxy, 2-piperidinoethoxy, 2-pyrrolidinoethoxy, 2-morpholinoethoxy or tetrahydropyran-2′-yloxy.

3,506,654

BENZYLIDENE DERIVATIVES OF CHROMENE, THIOCHROMENE, QUINOLINE, AND N-ALKYL QUINOLINE AND CORRESPONDING BENZYL TERTIARY CARBINOL INTERMEDIATES

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 15, 1966, Ser. No. 579,478

Int. Cl. C07d *7/34, 33/52, 65/14*

U.S. Cl. 260—240 19 Claims

This discloses as new compounds benzylidene derivatives of chromene, thiochromene, quinoline and N-alkyl quinoline and derivatives thereof wherein the benzylidene moiety is optionally substituted with hydroxy loweralkoxy, cycloalkoxy, 2-dialkylaminoethoxy, 2-piperidinoethoxy, 2-pyrrolidinoethoxy 2-morpholinoethoxy or tetrahydropyran-2′-yloxy and wherein the chromene, thiochromene, quinoline and N-alkylquinoline rings are also optionally substituted. These compounds are useful in accordance with their estrogenic and anti-estrogenic activities. Also taught are methods for the preparation of these compounds and the corresponding intermediate benzyl tertiary carbinols useful in these preparations.

3,506,655

PROCESS FOR PREPARING DYES USEFUL AS SENSITIZERS FOR SILVER HALIDE EMULSIONS

Roy Arthur Jeffreys, Middlesex, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 3, 1966, Ser. No. 518,010

Claims priority, application Great Britain, Jan. 7, 1965, 789/65

Int. Cl. C09b *23/00;* **G03c** *1/10*

U.S. Cl. 260—240.1 7 Claims

Styryl, hemicyanine, merocyanine, complex, oxamine and other cyanine dyes useful as sensitizers for photographic silver halide emulsions are prepared by reacting certain enamine compounds with an amino substituted aldehyde, a 2-alkylthioheterocyclic quaternary salt, a 2-(2-acetanilidovinyl) heterocyclic quaternary salt, a 2-(4-acetanilidoubutadienyl) heterocyclic quarternary salt, an alkoxymethylene derivative of a ketomethylene heterocyclic compound or ethylisoformanilide.

3,506,656

TRIAZOLO-TETRAZOLO-PYRIDAZINE DERIVATIVES

Herbert Berger, Sulzberg-Ried, Allgau, Kurt Stach, Mannheim-Waldhof, and Wolfgang Voemel, Mannheim, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschrankter Haftung, Mannheim-Waldhof, Germany, a corporation of Germany

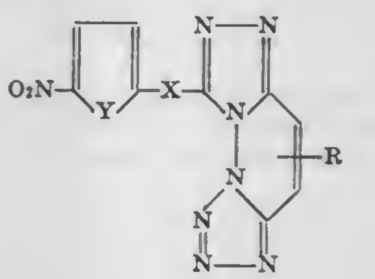
No Drawing. Filed Oct. 19, 1967, Ser. No. 676,645

Claims priority, application Germany, Oct. 22, 1966, B 89,538; May 13, 1967, B 92,514

Int. Cl. C07d *51/76*

U.S. Cl. 260—240 7 Claims

A novel series of triazolo-tetrazolo-pyridazine derivatives is disclosed which evidence outstanding germistatic action and are highly effective anti-bacterial agents particularly suitable for use in the treatment of infections of the urinary tract. The novel triazolo-tetrazolo-pyridazine derivatives of the invention have the following structural formula:



wherein X is a valency bond or vinyl, Y is oxygen or sulfur and R is hydrogen, halogen, substituted or unsubstituted lower alkyl, alkoxy, alkylmercapto or amino, wherein said substituent is lower alkyl or acyl.

3,506,657

6,6′-SUBSTITUTED 3,3′-DISULFO-4,4′-DINITRO- AND 3,3′-DISULFO-4,4′-DIAMINO-STILBENE

Heinrich Hausermann, Riehen, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland

No Drawing. Continuation-in-part of application Ser. No. 419,566, Dec. 18, 1964. This application May 13, 1968, Ser. No. 728,782

Claims priority, application Switzerland, Dec. 20, 1963, 15,713/63

Int. Cl. C09b *23/14*

U.S. Cl. 260—240 8 Claims

3,3′-disulfo-4,4′-dinitro- and 3,3′-disulfo-4,4′-diaminostilbenes are described which bear in 6- and 6′-positions alkyl sulfonyl or sulfamoyl groups, and which are useful as key intermediates in the production of novel optical brighteners of the stilbene series. The new 4,4′-dinitro derivatives are also useful as wood stains and wood protecting agents, while the 4,4′-amino derivatives are useful as fluorescent stains in ultraviolet microscopy and as indicators in the analysis of fibers and other organic materials bearing free acid or basic groups.

3,506,658

2-(10-METHYL-2-PHENOXAZINYL)PROPIONIC ACID

Daniel Farge, Thiais, Claude Jeanmart, Brunoy, and Mayer Naoum Messer, Sceaux, France, assignors to Phone-Poulenc S.A., Paris, France, a French body corporate

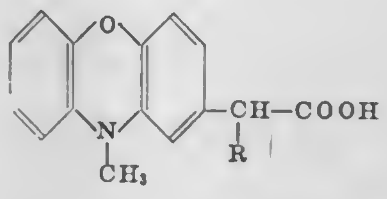
No Drawing. Filed Apr. 17, 1967, Ser. No. 631,127

Claims priority, application France, Apr. 20, 1966, 58,342

Int. Cl. C07d *87/52;* **A61k** *27/00*

U.S. Cl. 260—244 1 Claim

Phenoxazine derivatives of the formula:



wherein R represents hydrogen, methyl or ethyl, and salts thereof, which are new compounds, have therapeutic utility as anti-inflammation and anti-rheumatic agents.

3,506,659

4-HETEROCYCLIC AMINOMETHYL-5-PYRIDYL-3,4-DIHYDROBENZOTHIEPINS

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania

No Drawing. Original application Apr. 28, 1967, Ser. No. 636,570, now Patent No. 3,444,176, dated May 13, 1969. Divided and this application Aug. 16, 1968, Ser. No. 753,067

Int. Cl. C07d *87/46*

U.S. Cl. 260—247.1 **4 Claims**

The compounds are of the class of 2,3-dihydrobenzothiepins, useful for their pharmacological properties as hypotensive agents.

3,506,660

PRODUCTION OF TRIS-(N-β-HYDROXYALKYL)-ISOCYANURIC ACIDS

Kurt Schneider, Limburgerhof (Pfalz), and Harry Distler, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Apr. 23, 1968, Ser. No. 723,569
Claims priority, application Germany, Apr. 25, 1967, 1,670,214

Int. Cl. C07d *55/38*

U.S. Cl. 260—248 **9 Claims**

An improved process for the production of tris-(N-β-hydroxyalkyl) - isocyanuric acids by the reaction of cyanuric acid with alkylene oxides at elevated temperature in the presence of solvents, the improvement consisting in using as the solvent a lower alcohol and/or a water-soluble ether. Tris-(N-β-hydroxyalkyl)-isocyanuric acids are suitable as crosslinking agents for example for polymers containing carboxyl groups.

3,506,661

MANUFACTURE OF MELAMINE DERIVATIVES AND PRODUCTS RESULTING THEREFROM

Heinz Werner Enders, Stadtbergen, Augsburg, and Hans Deiner, Neusass-Lohwald, Germany, assignors to Chemische Fabrik Pfersee, G.m.b.H., Augsburg, Germany, a firm of Germany

No Drawing. Filed Sept. 20, 1966, Ser. No. 580,834

Int. Cl. C07d *55/32;* **D06m** *13/34*

U.S. Cl. 260—249.6 **5 Claims**

According to this invention there are manufactured melamine derivatives modified by fatty acid groups which are suitable in the form of solutions or aqueous dispersions for the treatment of textiles as softening agents and particularly for water repellant impregnation, by reacting ethers of fatty acid methylol amides having more than 10 carbon atoms, the methylol groups being etherified by monovalent saturated aliphatic alcohols with 1 to 6 carbon atoms, with highly etherified methylol melamines which contain more than 3 methylol groups at the melamine and the ether residues of which are derived from monovalent saturated aliphatic alcohols with 1 to 6 carbon atoms.

3,506,662

PROCESS FOR PREPARATION OF PYRAZINOYL- AND PYRAZINAMIDOGUANIDINES

Edward J. Cragoe, Jr., and John B. Bicking, Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 30, 1968, Ser. No. 725,508

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 **10 Claims**

A process is described for the preparation of pyrazinoylguanidines and pyrazinamidoguanidines which comprises the reaction of a guanidine or an aminoguanidine with a 3,5-diamino-6-chloropyrazinethiolcarboxylate ester. The products have utility as diuretic agents.

3,506,663

PROCESS FOR THE PREPARATION OF 4-ARYL-2-QUINAZOLINEPROPIONITRILES AND INTERMEDIATES UTILIZED THEREIN

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 12, 1968, Ser. No. 704,583

Int. Cl. C07d *51/48*

U.S. Cl. 260—251 **10 Claims**

This invention concerns a process to prepare 4-aryl-2-quinazolinepropionitriles by the cyclization of 4-aryl-1,2-dihydro-2-quinazolinepropionitriles 3-oxides to afford 5-ary-1-imino-1,2,3,3a - tetrahydropyrrolo(1,2 - a)quinazoline 4-oxides which are then subjected to a rearrangement reaction. Further, this invention relates to 5-aryl-1-imino-1,2,3,3a-tetrahydro(1,2-a)quinazoline 4-oxides which are useful intermediates in the preparation of pharmacologically active 4-aryl-2-quinazolinepropionitriles.

3,506,664

PREPARATION OF POLYBROMINATED 2-PYRIMIDINEACETONITRILES

George A. Burk, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 13, 1968, Ser. No. 705,002

Int. Cl. C07d *51/36*

U.S. Cl. 260—251 **7 Claims**

Polybrominated 2-pyrimidineacetonitriles are obtained as the major product when malononitrile is reacted with bromine at moderate temperatures. Small amounts of brominated malononitrile and other products are also formed. The polybrominated pyrimidineacetonitriles are active bactericides and fungicides.

3,506,665

4-4′-(ETHYLENEDIIMINO) BIS[2 - PHENYLPYRIMIDINE - 5 - CARBOXYLIC ACID]DIALKYL ESTERS AND RELATED COMPOUNDS

Dong H. Kim, Wayne, and Arthur A. Santilli, Havertown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 8, 1968, Ser. No. 711,523

Int. Cl. C07d *51/42*

U.S. Cl. 260—256.4 **10 Claims**

This present invention relates to 4,4′-(ethylenediimino)bis[2-phenylpyrimidine-5-carboxylic acid]dialkyl esters; 4,4′-(o-phenylenediimino)bis[2 - phenylpyrimidine-5-carboxylic acid]dialkyl esters; and 4,4′-(1,4-piperazinediyl)bis[2-phenyl-5-pyrimidinecarboxylic acid]dialkyl esters which are pharmacologically active as mydriatic agents.

3,506,666

1-METHYL-1-(SUBSTITUTED)-4-(PENTACHLOROPHENYL)PIPERAZINIUM SALTS

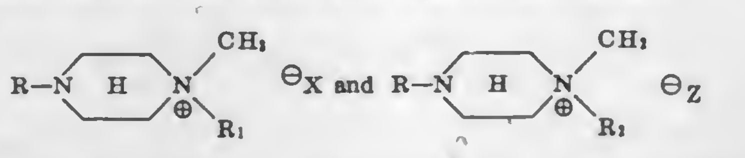
Elton K. Morris, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 5, 1966, Ser. No. 598,926

Int. Cl. C07d *51/70*

U.S. Cl. 260—268 **5 Claims**

1-methyl-1-(substituted)-4-(pentachlorophenyl) - piperazinium salts corresponding to one of the formulas



wherein R represents pentachlorophenyl, R_1 represents allyl or propynyl, R_2 represents alkyl, halolower alkyl, cyanomethyl, hydroxy lower alkyl, benzyl or (ethoxycarbonyl)methyl, X is sulfate, nitrate, chloride, bromide,

iodide or alkanoate and Z is X or bromochloroiodate, dichloroiodate or tetrachloroiodate. The compounds are useful for the control of algae, bacteria and fungi.

3,506,667

FURO QUINOLINE CARBOXYLATES

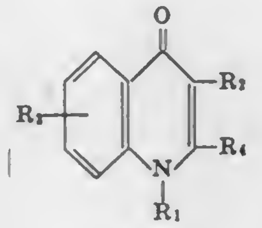
Daniel Kaminsky, Parsippany, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 709,166, Feb. 23, 1968. This application May 1, 1969, Ser. No. 821,100

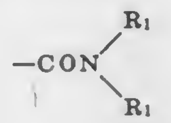
Int. Cl. C07d *33/48*

U.S. Cl. 260—287 **14 Claims**

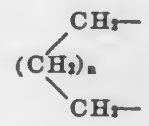
The present invention relates to quinoline derivatives of the formula:



wherein R_1 represents hydrogen, lower alkyl, aryl, aralkyl, dialkylamino alkyl, or substituted lower alkyl; R_2 represents carboxy, —$COOR_1$, hydrogen,



or —$CONHR_1$; R_3 represents an oxygen-containing heterocyclic ring system, and in particular, the furan ring system, which may be fused at 5,6-, 6,7-, or 7,8-position of the quinoline nucleus. The heterocyclic ring system may optionally be substituted by one or more of the following groups, for example, lower alkyl, alkoxy, carboxy, carbo lower alkoxy, nitro, aryl, alkylene, i.e.,



where $n=1$, 2, 3 or 4, and so forth. R_4 represents hydrogen, lower alkyl, aryl or aralkyl.

The compounds of this invention are useful as antiviral agents.

3,506,668

METHOD OF PREPARING 8-HYDROXYQUINOLINES

George Y. Lesher, Schodack, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Jan. 26, 1965, Ser. No. 428,244, now Patent No. 3,429,887, dated Feb. 25, 1969. Divided and this application Jan. 12, 1968, Ser. No. 697,301

Int. Cl. C07d *33/38*

U.S. Cl. 260—289 **6 Claims**

1 - (lower-alkyl) - 3-Z-1,4-dihydro-4-oxo-1,7-naphthyridines where Z is carboxy or groups convertible thereto by hydrolysis, having antibacterial properties, are prepared by 1-alkylating corresponding 3-Z-1,4-dihydro-4-hydroxy-1,7-naphthyridines. Other aspects include: 7-alkyl-1,7 - naphthyridinium quaternary salts; a rearrangement conversion of said salts bearing an 8 - alkyl substituent under alkaline conditions to yield 8-hydroxyquinolines; acylation of 8-alkyl-1,7-naphthyridines to form 8-acyloxy (and diacyloxy)methyl - 1,7 - naphthyridines; and, intermediate 4-hydroxy-1,7-naphthyridine-3-carboxylic acid derivatives bearing lower-alkyl substituents at the 8- and/or 6-positions of the 1,7-naphthyridine ring.

3,506,669

DERIVATIVES OF 2,4-DIAMINO-3-THIOPHENECARBOXYLIC ACID

Real Laliberte, Laval, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 20, 1968, Ser. No. 714,442

Int. Cl. C07d *29/34, 63/12*

U.S. Cl. 260—293.4 **20 Claims**

There are disclosed herein the 2,4-diaminothiophene-3-N-methylcarboxamide, 3-carboxanilide, 3-N-piperidinocarboxamide and 3-carboxylic acid N,N-dimethyl hydrazide, as well as the corresponding 3-carboxylic acid ethyl ester in which the amino group in position 2 is substituted by the methyl, allyl, tert-butyl, phenyl, 3-nitrophenyl, benzyl, and cyclohexyl groups, the amino group in position 4 may also be acetylated and which are furthermore substituted in position 5 with acetyl, benzoyl, 4-chlorobenzoyl, and 4-phenylbenzoyl groups. The compounds have amoebicidal and anthelmintic properties, and methods for their preparation and use are also given.

3,506,670

2-HETERO-AMINO-α,α-DIARYL-CYCLOALKONE-METHANOLS AND ESTERS THEREOF

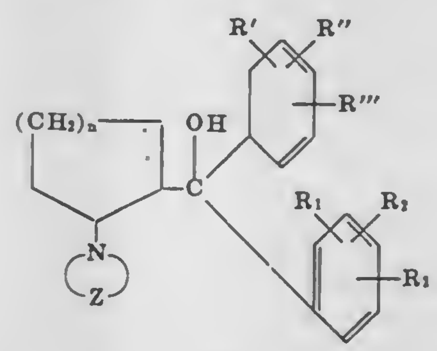
Jacob Szmuszkovicz, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Sept. 26, 1966, Ser. No. 581,730

Int. Cl. C07d *13/22, 57/36*

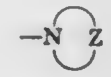
U.S. Cl. 260—294.7 **3 Claims**

Novel 1,3-aminoalcohols of the Formula II:

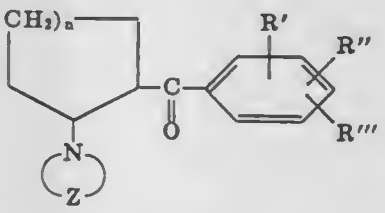


II

wherein n is 1 to 4,

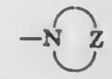


is a heterocyclic amino radical, R′, R″ and R‴ are hydrogen, halogen, lower alkyl, lower alkoxy or —CF_3 and R_1, R_2 and R_3 are hydrogen, lower alkyl and —CF_3, are produced by treating a ketone of Formula I:



I

in which n,



R′, R″, R‴ are defined as above, with a phenyl or substituted phenyl Grignard, The alcohols II, their ethers and esters, N-oxides, acid addition salts are useful as oral parenteral diuretics in mammals.

3,506,671

1-NAPHTHYLALKYL-4-PHENYLPIPERIDINE DERIVATIVES

Carl Kaiser, Haddon Heights, N.J., and Charles L. Zirkle, Berwyn, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 1, 1967, Ser. No. 679,655
Int. Cl. C07d *29/24, 29/16;* **A61k** *27/00*
U.S. Cl. 260—294.7 **7 Claims**

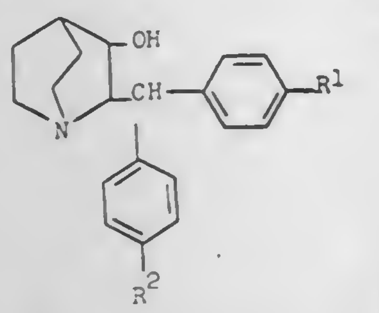
1 - naphthylalkyl - 4 - phenylpiperidines in which the naphthalene nucleus may have chloro, methyl or methoxy substituents, the phenyl group may be chloro, bromo, fluoro, methyl, trifluoromethyl or methoxy substituted and the piperidine ring is 4-hydroxy substituted are useful as tranquilizers. The compounds are generally prepared by condensation of a 4 - phenyl - 4 - piperidinol with a naphthalene-alkanoic acid or reactive derivative of the acid. The corresponding 4-acyloxy piperidines have analgetic activity and the dehydrated 1,2,5,6-tetrahydropyridines have tranquilizing activity.

3,506,672

2-(4,4'-DIHALO)-BENZHYDRYL-3-QUINUCLIDINOLS

Edward John Warawa and Nancy Jean Mueller, Milwaukee, Wis., assignors to Aldrich Chemical Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,389
Int. Cl. C07d *29/02*
U.S. Cl. 260—294.7 **17 Claims**

Compounds of the formula



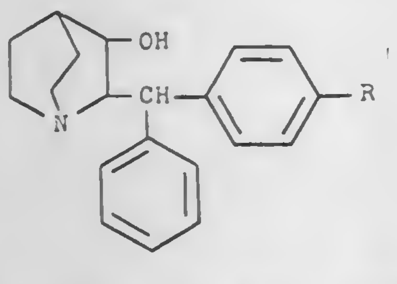
where R^1 and R^2 are both bromo or fluoro; and the pharmaceutically acceptable nontoxic salts thereof exhibit anti-inflammatory activity and are useful as anti-inflammatory agents in mammals.

3,506,673

2-(4'HALO)-BENZHYDRYL-3-QUINUCLIDINOLS

Edward John Warawa and Nancy Jean Mueller, Milwaukee, Wis., assignors to Aldrich Chemical Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
No Drawing. Filed Mar. 29, 1968, Ser. No. 717,405
Int. Cl. C07d *29/00*
U.S. Cl. 260—294.7 **9 Claims**

The β-cis-isomer of the compounds of the formula



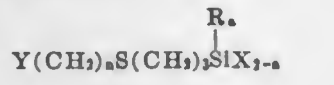
where R is chloro, bromo, iodo, fluoro or trifluoromethyl; and the pharmaceutically acceptable nontoxic salts thereof exhibit central nervous system stimulant activity and are useful as psychic stimulants in mammals.

3,506,674

CERTAIN PYRIDYL THIO ETHER SILANES

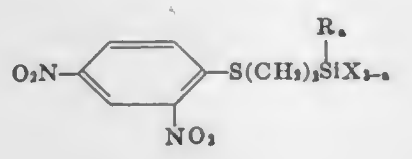
Abe Berger, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
No Drawing. Filed July 3, 1967, Ser. No. 650,632
Int. Cl. C07d *31/50*
U.S. Cl. 260—294.8 **2 Claims**

The disclosure relates to compounds within the scope of the following formulas:

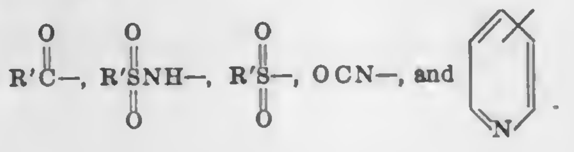


$$Y(CH_2)_nS(CH_2)_3\overset{R_a}{\overset{|}{Si}}X_{3-a}$$

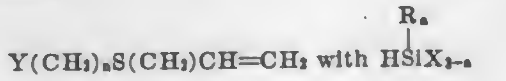
and



where X is a hydrolyzable radical, R is an organic radical, R' is a lower alkyl radical, Y is selected from the group consisting of

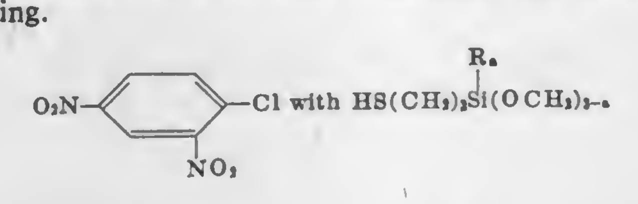


wherein the floating pyridyl radical represents 2- and 4-pyridyl, *n* is equal to 2 or 3 and *a* is equal to 0 to 2 inclusive. Compounds within the scope of the above formulae can be made by reacting an olefinic thioether of the formula:



$$Y(CH_2)_nS(CH_2)CH{=}CH_2 \text{ with } H\overset{R_a}{\overset{|}{Si}}X_{3-a}$$

in the presence of a platinum compound catalyst and by reacting.



in the presence of a basic catalyst. The compounds are useful as glass sizing agents.

3,506,675

COMPOUND, N - CARBAMYL - 5-(α-HYDROXY-α-2-PYRIDYL - BENZYL)-7-(α-2-PYRIDYL - BENZYLIDENE)-5-NORBORNENE-2,3-DICARBOXIMIDE

Kálmán Harsányi, Kálmán Takács, Dezsö Korbonits, and Csaba Szathmáry, Budapest, Hungary, assignors to Chinoin Gyogyszer es Vegyeszeti Termekek Gyara, Budapest, Hungary
Filed Jan. 17, 1967, Ser. No. 609,963
Claims priority, application Hungary, Jan. 20, 1966, CI 605; Jan. 26, 1966, CI 607
Int. Cl. C07d *31/44*
U.S. Cl. 260—295 **1 Claim**

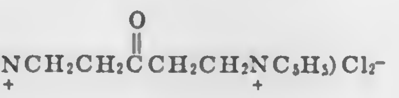
New N - carbamyl - Δ^4-cis-cyclo-hexene-dicarboximides compounds exhibiting rodenticidal activity which may be transformed into known Δ^4-cis-cyclo-hexene-1,2-dicarboximides which may be per se used in rodenticidal compositions or may be applied as intermediates for the preparation of known rodenticidal compounds and method of preparing said compounds.

3,506,676

CERTAIN BIS-PYRIDINIUM COMPOUNDS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Stephen B. Sello, Cedar Grove, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Application May 12, 1965, Ser. No. 455,333, now Patent No. 3,338,883, dated Aug. 29, 1967, which is a continuation-in-part of applications Ser. No. 99,673, Mar. 31, 1961, and Ser. No. 404,525, Oct. 16, 1964. Divided and this application May 11, 1967, Ser. No. 650,148
Int. Cl. C07d *31/32*
U.S. Cl. 260—296 **3 Claims**

1. A compound having the formula:



$$(C_5H_5\underset{+}{N}CH_2CH_2\overset{O}{\overset{\|}{C}}CH_2CH_2\underset{+}{N}C_5H_5)Cl_2^-$$

3,506,677

PROCESS FOR THE SEPARATION OF N:N'-DIALKYL-4:4'-BIPYRIDYLIUM HALIDE SALTS FROM N-ALKYL PYRIDINIUM HALIDE SALTS BY EXTRACTION WITH CHLOROFORM

John Edward Colchester and John Hubert Entwisle, Runcorn, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Continuation of application Ser. No. 535,045, Mar. 17, 1966. This application May 26, 1969, Ser. No. 828,812
Claims priority, application Great Britain, Mar. 19, 1965, 11,771/65
Int. Cl. C07d *31/42*
U.S. Cl. 260—296 **4 Claims**

There is provided a process for the separation of an N:N'-dialkyl-4:4'-bipyridylium salt from an N-alkyl pyridinium salt which comprises extracting a mixture of the solid halide salts with chloroform. The salts are preferably chlorides.

3,506,678

CERTAIN 2-SUBSTITUTED-THIENO[2,3-d] IMIDAZOLES

Dale R. Hoff, Cranford, and Louis H. Peterson, Woodbridge, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 21, 1967, Ser. No. 617,507
Int. Cl. C07d *91/00, 99/02*
U.S. Cl. 260—302 **3 Claims**

Thienoimidazoles substituted at the 2-position with an aryl, naphthyl or 5- (or 6) membered aromatic heterocyclic radical with optional substitution at the 1- and 5-positions, which compounds are anthelmintic agents. Processes for preparing such compounds from 2-aminothiophenes via formation of an aminothienylcarboxamide with subsequent ring closure to the thienoimidazole. Anthelmintic compositions containing a substituted thienoimidazole as an essential active ingredient.

3,506,679

2,5- AND 4,5-DIARYLTHIAZOLYL LOWER FATTY ACIDS AND DERIVATIVES THEREOF

John F. Cavalla, Isleworth, and Kevan Brown, Woodley, England, assignors, by mesne assignments, to John Wyeth & Brother Limited, Taplow, Maidenhead, England, a British company
No Drawing. Filed May 27, 1968, Ser. No. 732,070
Claims priority, application Great Britain, June 7, 1967, 26,262/67
Int. Cl. C07d *91/32*
U.S. Cl. 260—302 **6 Claims**

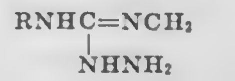
A group of diaryl thiazoles substituted at the 2- or 4-positions with an aliphatic acid radical (e.g., acetic or propionic) is described. The compounds are useful as antiinflammatory agents.

3,506,680

METHOD OF TREATING HYPERTENSION IN ANIMALS WITH AMINOGUANIDINES

Arthur Berger, Skokie, Ill., Edeltraut E. Borgaes, Sindelfingen, Germany, and John C. Longstreet, Evanston, Ill., assignors to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 560,898, June 27, 1966. This application Jan. 18, 1968, Ser. No. 698,689
Int. Cl. A01n *9/20, 9/24*
U.S. Cl. 424—326 **1 Claim**

A method of treating hypertension in animals by administering thereto an effective amount of a compound selected from the group consisting of aminoguanidines of the formula:



$$RNH\underset{\underset{NHNH_2}{|}}{C}{=}NCH_3$$

in which R is selected from the group consisting of 2-monohalogen-substituted benzyl and 2-methylbenzyl; and the pharmaceutically acceptable salts of said aminoguanidines.

3,506,681

DERIVATIVES OF MITOMYCIN AND PREPARATION OF THE SAME

Masanao Matsui, Tokyo, Keizo Uzu, Shizuoka-ken, and Yasuhiro Yamada and Shigetoshi Wakaki, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 472,823, July 19, 1965. This application Mar. 13, 1968, Ser. No. 712,734
Claims priority, application Japan, Aug. 25, 1964, 39/47,829
Int. Cl. C07d *27/38*
U.S. Cl. 260—326.3 **2 Claims**

The compounds 1a-crotonylmitomycin C and 1a-o-toluylmitomycin C. They are prepared by reacting mitomycin C with crotonyl chloride or crotonic acid anhydride, respectively, in the presence of trimethylamine as acid-binding agent.

3,506,682

PHENYLCYCLOPROPYL CARBINOLS AND PROCESS FOR THEIR PREPARATION

John H. Fried, Palo Alto, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,920
Int. Cl. C07d *27/00*
U.S. Cl. 260—326.5 **11 Claims**

This discloses as new compounds, 2,4-diphenylspiro[2.5]octan - 4 - ols, 2-phenyl-4-ethynylspiro[2.5]octan-4-ols, 2,4 - diphenylspiro[2.4]heptan - 4 - ols, 2 - phenyl-4-ethynylspiro[2.4]heptan - 4 - ols, 1,2 - methylene-1,3,3-triphenylpropan-3-ols, and 1,2-methylene - 1,3 - diphenyl-3-ethynylpropan-3-ols and derivatives thereof wherein the phenyl moieties are optionally substituted with (lower)-alkyl, (lower)alkoxy, di(lower)alkylamino(lower)alkoxy or cycloalkyleneamino(lower)alkoxy and wherein the ethynyl moiety is optionally substituted with chloro or methyl. These compounds are useful in the control of fertility, in reversing the effects of estrogen in animals, and in lowering serum cholesterol levels. Also taught are methods for the preparation of these compounds and the corresponding intermediate phenyl (or substituted phenyl) allylic carbinols useful in these preparations.

3,506,683
3-(2-PYRROLIDINYLIDENE)-3H-INDOLES

William C. Anthony and Jacob Szmuszkovicz, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Application Oct. 7, 1963, Ser. No. 314,502, now Patent No. 3,361,759, dated Jan. 2, 1968, which is a continuation-in-part of application Ser. No. 166,926, Jan. 17, 1962. Divided and this application Oct. 17, 1967, Ser. No. 675,770
Int. Cl. C07d *27/00*
U.S. Cl. 260—326.15 6 Claims

3-(2-pyrrolidinylidene)-3H-indole free bases and acid addition and quaternary salts thereof are disclosed. The compounds are useful as intermediates in the production of 3-(2-pyrrolidinyl)indoles which compounds are useful antianaphylactic, anti-inflammatory and anorexigenic agents.

3,506,684
NEW N-BENZO[B]THIEN-3-YLANTHRANILIC ACID COMPOUNDS

Robert A. Scherrer, White Bear Lake, Minn., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Apr. 6, 1967, Ser. No. 628,825
Int. Cl. C07d *63/22*
U.S. Cl. 260—330.5 5 Claims

N-[2-methyl(and 2-chloro- and 2-bromo-)benzo[B]-thien-3-yl]anthranilic acids, esters, and salts thereof, which are useful as pharmacological agents having anti-inflammatory activity, and their production by (a) reaction of anthranilic acid, or a lower alkyl ester thereof, or a carboxylate salt thereof with a 3-halo-2-methylthianaphthene compound; (b) reaction of N-(benzo[B]thien-3-yl)anthranilic acid with a halogenating agent; and (c) esterification of an N-[2-methyl (or 2-chloro- or 2-bromo-)benzo[B]thien-3-yl]anthranilic acid or an alkali metal salt thereof.

3,506,685
PROCESS OF PREPARING ETHERIC ACETALS OF 3,4-METHYLENEDIOXYBENZALDEHYDE

John D. Johnson, Kent, Egbert M. Gibbs, London, and Neville Unwin, Surbition, Surrey, England, assignors to Bush Boake Allen Limited, London, England, a British company
No Drawing. Filed Nov. 26, 1968, Ser. No. 779,270
Int. Cl. C07d *13/10*
U.S. Cl. 260—340.3 7 Claims

Acetals, and particularly acetals useful as synergists for pyrethrum are prepared by a reaction of an aromatic aldehyde such as 3,4 methylenedioxybenzaldehyde with alkyl ether alcohols in a substantial non-polar medium refluxing at a temperature between 120 and 200° C. and consisting essentially of a hydro saturated hydrocarbon solvent.

3,506,686
PROCESS FOR THE PRODUCTION OF A 5-CARBOXY-1,3-DIOXANE COMPOUND, AND THE RESULTING COMPOUNDS

Lars-Olof Ryrfors, Perstorp, Sweden, assignor to Perstorp AB, Perstorp, Sweden
No Drawing. Filed Dec. 27, 1967, Ser. No. 639,702
Claims priority, application Sweden, Jan. 25, 1967, 1,065/67
Int. Cl. C07d *15/04*
U.S. Cl. 260—340.7 6 Claims

5-acetyl-1,3-dioxanes, which may or may not be additionally substituted in the 5-position by $-CH_2OH$, $-CH_3$, $-C_2H_5$, or in general C_nH_{2n+1}, are oxidized to the corresponding novel 5-carboxy-1,3-dioxanes. The latter are useful intermediates for the preparation by hydrolysis of methylolalkanoic acids, which in turn are useful (as discolsed in the prior French Patent No. 1,418,073) for making alkyd resins.

3,506,687
PRODUCTION OF TRANS-8-OXABICYCLO (4.3.0) NONANE

Earl W. Wilson and Robert M. Simons, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 25, 1967, Ser. No. 677,875
Int. Cl. C07d *5/04*
U.S. Cl. 260—346.2 3 Claims

Relatively pure trans-8-oxabicyclo(4.3.0)nonane is prepared from mixtures of cis and trans 1,2-cyclohexanedimethanol. Preferential dehydration of cis-1,2-cyclohexanedimethanol to the cyclic ether and removal of the cis-8-oxabicyclo(4.3.0)nonane as a water azeotrope increases the concentration of the trans-glycol in the reaction mixture, which glycol may be converted to the trans-ether by conventional methods. Trans-ether is a starting material for certain elastomeric polymers.

3,506,688
HYDROXYALUMINUM SALT OF 2-BENZOFURANACETIC ACID

Samuel S. M. Wang, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 5, 1968, Ser. No. 695,834
Int. Cl. C07d *5/44*
U.S. Cl. 260—346.2 1 Claim

The hydroxyaluminum salt of 2-dibenzofuranacetic acid is prepared by the reaction of 2-dibenzofuranacetic acid with aluminum chloride hexahydrate. The novel salt is useful as an anti-inflammatory agent.

3,506,689
PRODUCTION OF AROMATIC CARBOXYLIC DIANHYDRIDES WITH VANADIUM CONTAINING CATALYSTS

Karl Peterlein, Gladbeck, Germany, assignor to Studiengesellschaft Kohle m.b.H., Kaiser Wilhelm Platz, Mulheim (Ruhr), Germany
No Drawing. Filed Aug. 9, 1966, Ser. No. 571,176
Claims priority, application Germany, Aug. 16, 1965, St 24,278
Int. Cl. C07c *63/00*
U.S. Cl. 260—346.3 3 Claims

Process for the production of aromatic carboxylic dianhydrides by the catalytic dehydro-oxidation of adducts of diene hydrocarbons and maleic anhydride in which the dehydro-oxidation is carried out in the gas phase in the presence of a vanadium containing catalyst.

3,506,690
PROCESS FOR THE PREPARATION OF EPOXIDES

Henri Normant, Paris, and Jean Francois Normant, Reims, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed Dec. 15, 1966, Ser. No. 601,869
Claims priority, application France, Dec. 17, 1965, 42,856
Int. Cl. C07d *1/02*
U.S. Cl. 260—348 6 Claims

Aromatic epoxides are made from the corresponding carbonyl compounds by reaction with reducing agents obtained by dissolving alkali metals in phosphorus amides or esters.

3,506,691
PROCESS FOR THE PRODUCTION OF DERIVATIVES OF STEROIDIC 3-β-HYDROXY-4,6-DIOLEFINS

Romana Jaworska, Wamawa, Ksleeia Yamssa 16/22 m. 23, and Marian Kocor, Landomierska 6 m. 1, both of Warsaw, Poland
No Drawing. Filed Dec. 20, 1967, Ser. No. 691,977
Claims priority, application Poland, Dec. 20, 1966, P 118,066; Nov. 9, 1967, P 123,832
Int. Cl. C07c *167/16*
U.S. Cl. 260—397.2 8 Claims

A process for producing steroidic 3-β-hydroxy-4,6-diolefins by reacting a corresponding 7-halogenated steroid with a compound of basic character in the presence of a mercury compound as a catalyst and an organic amine in an inert organic solvent.

3,506,692
PROCESS FOR PREPARING $\Delta^{5(10)}$-3-OXO-19-NORSTEROID COMPOUNDS

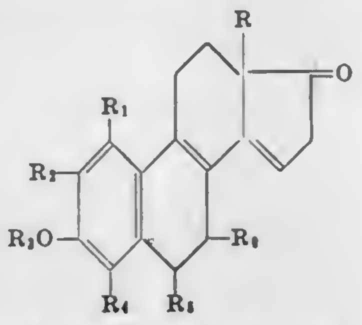
Katsumi Tanabe and Ryozo Hayashi, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan
No Drawing. Filed July 10, 1968, Ser. No. 743,587
Claims priority, application Japan, July 25, 1967, 42/47,763
Int. Cl. C07c *169/00*
U.S. Cl. 260—397.3 4 Claims

The application is directed to process for the preparation of $\Delta^{5(10)}$-3-oxo-19-norsteroid compounds which have been known useful as sex homones or as intermediates thereof. The process comprises subjecting Δ^5-3β-hydroxy-10β-carboxy-19-norsteroid compounds to Oppenauer oxidation.

3,506,693
PROCESS FOR THE PREPARATION OF OPTICALLY ACTIVE 13-ALKYL GONAPENTAENES AND INTERMEDIATES

Robert Bucourt, Clichy-sous-Bois, Michel Vignau, Neuilly-sur-Seine, and Jean Raynal, Paris, France, assignors to Roussel UCLAF, Paris, France, a corporation of France
No Drawing. Filed Aug. 21, 1967, Ser. No. 661,786
Claims priority, application France, Aug. 25, 1966, 74,179; Nov. 25, 1966, 85,043; July 7, 1967, 113,579
Int. Cl. C07c *167/02*
U.S. Cl. 260—397.45 19 Claims

This invention relates to a novel process for the preparation of optically active 13-alkyl gonapentaenes of the formula

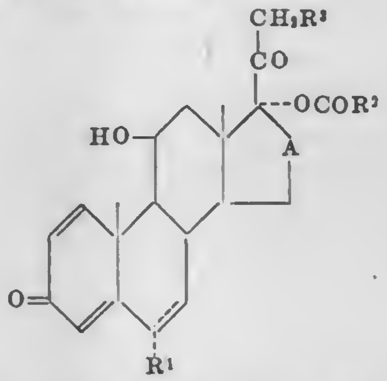


wherein R is an alkyl having from 1 to 3 carbon atoms, R_1, R_2 and R_4 are substituents selected from the group consisting of hydrogen, lower alkyl and lower alkoxy, R_3 is lower alkyl and R_5 and R_6 are substituents selected from the group consisting of hydrogen, α-lower alkyl and β-lower alkyl. This process involves condensing a 2-R-cyclopentane-1,3-dione with an acrylic derivative, resolving the 3-(1′-R-2′-ketal-5-oxo-cyclopentyl)-propionic acid by an optically active base, recovering the optically active isomers, and lactonizing the same, condensing the optically active lactone with a phenylpropyl magnesium halide and cyclizing the resultant optically active secogonatetraene to give said optically active 13-alkyl gonapentaenes. These compounds are physiologically active steroids. They are useful as starting materials for the production of active compounds belonging to the natural or to the antipodal configuration of steroids.

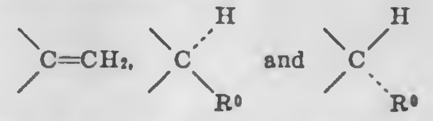
3,506,694
17-ACYLOXYSTEROIDS AND THEIR MANUFACTURE

Peter Oxley, Nottingham, England, assignor to Boots Pure Drug Company Limited, Nottingham, England, a British company
No Drawing. Filed Nov. 27, 1967, Ser. No. 685,984
Claims priority, application Great Britain, Dec. 15, 1966, 56,249/66
Int. Cl. C07c *169/34*
U.S. Cl. 260—397.45 4 Claims

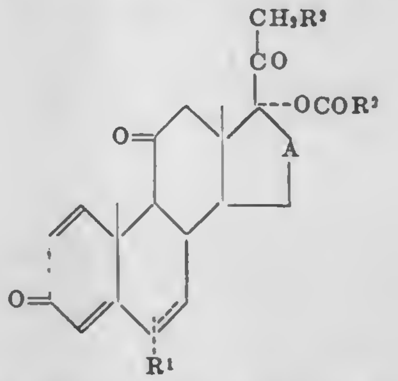
Compounds of the formula



in which the bond marked ═ ═ ═ is selected from the group consisting of single and double bonds; A is selected from the group consisting of



R^0 is selected from the group consisting of hydrogen, alkanoyloxy, fluorine, chlorine and methyl; R^1 is selected from the group consisting of hydrogen, fluorine, methyl and fluorinated methyl; R^2 is alkyl; and R^3 is selected from the group consisting of hydrogen, fluorine and chlorine; and their preparation by reducing a compound of the formula



with a reducing agent selected from the group consisting of sodium borohydride, potassium borohydride and lithium trialkoxy-aluminum hydrides of the formula $LiAl(OR^4)_3H$, wherein R^4 is alkyl.

3,506,695
PROCESS FOR SEPARATING SATURATED FROM UNSATURATED FATTY ACIDS

Adolf Koebner, St. Bees, and Thomas Thornton, Moresby Parks, near Whitehaven, England, assignors to Marchon Products Limited, London, England, a British company
No Drawing. Continuation-in-part of application Ser. No. 319,586, Oct. 28, 1963. This application July 28, 1967, Ser. No. 656,658
Claims priority, application Great Britain, Dec. 7, 1962, 46,254/62
The portion of the term of the patent subsequent to Apr. 22, 1986, has been disclaimed
Int. Cl. C11c *1/08*
U.S. Cl. 260—419 11 Claims

Fatty acids of high polarity may be separated from high fatty acids of low polarity in admixture therewith by dissolving the mixture of fatty acids in an aqueous solution of aryl or alkaryl sulphonates of sufficient concentration to dissolve the mixture of acids therein and then cooling the solution to crystallise out the acids of low polarity which are recovered relatively free from the high fatty acids of high polarity, these latter may be recovered from the aqueous sulphonate solution by dilution of the sulphonate solution to yield a fatty acid oily layer.

3,506,696
CONTINUOUS HIGH TEMPERATURE STEAM DEODORIZATION OF EDIBLE OILS

Joseph S. Baker, Green Township, Hamilton County, and James B. Edwards, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 22, 1968, Ser. No. 723,308

Int. Cl. C11b *3/14*

U.S. Cl. 260—428 **9 Claims**

A process for continuous high temperature (350–500° F.) steam deodorization of edible oils in a packed chamber wherein the packing material has a packing factor less than about 100. Hot deaerated oil is passed downward through the packed chamber, countercurrent to a stream of steam. The process is particularly characterized by its high capacity (up to about 5000–10,000 pounds per hour per square foot of packed chamber cross section, depending on packing material), its low steam usage (about 0.1–1.0% by weight of the oil deodorized), its rapidity (about 2 minutes residence time typically required for deodorization at 480° F.), and its moderate vacuum requirements (about 0.1–50 mm. Hg in the lower portion of the packed chamber).

3,506,697
PROCESS FOR THE PRODUCTION OF IRON-CONTAINING COMPLEX DYESTUFFS

Walter Scholl, Cologne-Stammheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 15, 1968, Ser. No. 713,313

Claims priority, application Germany, Mar. 25, 1967, F 51,936

Int. Cl. C07j *15/02*

U.S. Cl. 260—439 **3 Claims**

Iron-containing complex dyestuffs obtained by the reaction of o-oxynitroso compounds with salts of 2- or 3-valent iron.

3,506,698
PREPARATION OF THIOLHYDROXAMATE CARBAMATES

Arthur G. Jelinek, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 9, 1967, Ser. No. 614,803

Int. Cl. C07c *119/12, 131/100*

U.S. Cl. 260—453 **5 Claims**

Reaction of thiolhydroxamate esters such as methyl thiolacetohydroxamate esters with a carbamylating agent such as isocyanic acid or its methyl ester in an aqueous medium at a temperature of between 0° C. and the boiling point of the reaction mass, to obtain the corresponding thiolhydroxamate carbamates.

3,506,699
HETEROCYCLIC COMPOUNDS CONTAINING HETERO SULFUR AND SILICON ATOMS

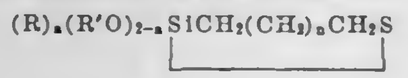
Richard V. Viventi, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 2, 1967, Ser. No. 679,992

Int. Cl. C07d *103/02;* **C07f** *7/04;* **C07h** *7/18*

U.S. Cl. 260—448.8 **2 Claims**

Heterocyclic silanes having the formula:



$$(R)_a(R'O)_{2-a}SiCH_2(CH_2)_nCH_2S$$

are prepared by reacting sodium hydrosulfide in dimethylformamide with an appropriate chloroalkylsilane. In the formula, R is a member selected from the class consisting of lower alkyl radicals and monocyclic aryl radicals, R′ is a lower alkyl radical, *a* is a whole number equal to from 0 to 1, inclusive, *n* is an integer equal to from 1 to 2, inclusive. The heterocyclic organosilanes are useful as silver and copper protectants.

3,506,700
ALKALI METAL ALUMINUM COMPLEXES AND THEIR PREPARATION

Gottfried J. Brendel, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 27, 1967, Ser. No. 678,534

Int. Cl. C07f *5/06*

U.S. Cl. 260—448 **10 Claims**

Complex alkali metal aluminum alkyl hydride compounds e.g., $NaAl(C_2H_5)_4 \cdot 4AlH_3$;

$$NaAl(C_2H_5)_2H_2 \cdot (C_2H_5)_2AlH \cdot 3AlH_3$$

and their preparation are described. The complexes contain from 8 to 12 hydrogen atoms per molecule and are useful as selective chemical reducing agents, sources of hydrogen gas, and in the preparation of polymerization catalysts.

3,506,701
URIEDO SUBSTITUTED ORGANOSILANES

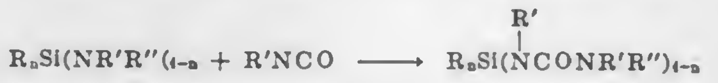
Joel Francis Di Paola, Danbury, Conn., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 9, 1967, Ser. No. 659,293

Int. Cl. C07f *7/04, 7/10, 7/18*

U.S. Cl. 260—448.2 **10 Claims**

Uriedo substituted organosilicon materials, such as bis (N,N-dimethyl-N′-allyl - uriedo)dimethylsilane, tris(N,N-dimethyl-N′-methyluriedo)methylsilane, etc., are made by effecting reaction between the corresponding aminosilane and organoisocyanate as illustrated by the equation,



$$R_nSi(NR'R'')_{4-n} + R'NCO \longrightarrow R_nSi(\overset{R'}{N}CONR'R'')_{4-n}$$

where *n* is equal to 1 or 2.

The subject uriedo substituted organosilicon materials can be employed with various silanol-containing organosilicon materials to provide for the production of organosilicon polymers and block copolymers and room temperature vulcanizing organopolysiloxane compositions.

3,506,702
2-CYANOALKYL URETHANES

Laszlo Suranyi, Mannhein, Germany, assignor to Knoll A.G., Ludwigshafen (Rhine), Germany

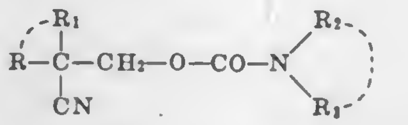
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,638

Claims priority, application Germany, Jan. 3, 1966, K 58,055

Int. Cl. C07c *125/04, 121/50, 121/14*

U.S. Cl. 260—465 **7 Claims**

Urethanes having utility as muscle-relaxants, antispasmodics, tranquilizers and sedatives and having the formula



in which R is a straight or branched chain alkyl of 1 to 6 carbon atoms; R_1 is a straight or branched chain alkyl of 1 to 6 carbon atoms, phenyl, or phenyl mono- or disubstituted by halogen, trifluoromethyl, nitro, alkyl

of 1 to 3 carbon atoms or alkoxy of 1 to 3 carbon atoms; R and R_1 together are divalent alkylene of 3 to 5 carbon atoms; R_2 and R_3 are hydrogen, lower alkyl, lower alkoxy or benzyl; and R_2 and R_3 together with the nitrogen stand for a six-membered heterocyclic ring, as well as the preparation and administration thereof.

3,506,703
NOVEL N-CARBALKOXY DIBENZOCYCLOHEPTENE-5-CARBOXAMIDES

Martin A. Davis, Montreal, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 31, 1967, Ser. No. 612,780

Int. Cl. C07c *125/06*

U.S. Cl. 260—471 **2 Claims**

There are disclosed herein N-carbethoxy-10,11-dihydro-5H-dibenzo[a.d]cycloheptene-5-carboxamide and a number of N-carbo-(lower alkoxy)-10,11-dihydro-5H-dibenzo[a,d]cycloheptene-5-carboxamides as well as a process for preparing those compounds. The compounds disclosed herein are useful as anticonvulsant, trichomonicidal, and antibacterial agents, and methods for their use are also given.

3,506,704
ESTER PROCESS

Leonard E. Miller, San Anselmo, and Mitchell Danzik, Oakland, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed June 17, 1964, Ser. No. 375,917

Int. Cl. C07c *69/78, 69/22, 69/34*

U.S. Cl. 260—476 **7 Claims**

In a liquid phase reaction esters are produced by heating C_4–C_{20}-primary bromides with liquefiable mono- and dibasic carboxylic acids. The reaction rate is improved by the use of lithium bromide and related catalysts.

3,506,705
ESTERS

Gerardus J. B. Corts, Haarlem, Netherlands, assignor to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia Looiersgracht, Amsterdam, Netherlands

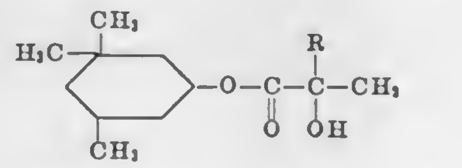
No Drawing. Filed Aug. 3, 1966, Ser. No. 569,843

Claims priority, application Great Britain, Aug. 3, 1965, 33,228/65

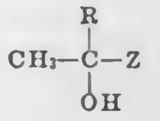
Int. Cl. C07c *69/74*

U.S. Cl. 260—484 **3 Claims**

New 3,3,5-trimethylcyclohexanol esters are provided which have the formula:



wherein R is a hydrogen atom or a methyl group. The new esters are prepared by reacting 3,3,5-trimethylcyclohexanol with a compound of the formula:



$$CH_3-\overset{R}{\underset{OH}{C}}-Z$$

wherein R is a hydrogen atom or a methyl group and Z is —COOH group, a —COOR′ group in which R′ is a lower alkyl, or a —CN group. The new compounds are useful as vasodilators.

3,506,706
PROCESS FOR PREPARING ENOL ACETATES OF CYCLIC KETONES

Walter A. Gay, New Haven County, and Desmond Sheehan, Hamden, Conn., assignors to The Techni-Chem Company, Wallingford, Conn., a corporation of Connecticut

No Drawing. Filed Sept. 8, 1967, Ser. No. 666,468

Int. Cl. C07c *49/56*

U.S. Cl. 260—488 **11 Claims**

Cyclic ketones, and particularly cyclohexanone, cycloheptanone and cyclooctanone, are reacted with acetic anhydride using hydrogen iodide as a catalyst to form the corresponding enol acetates.

3,506,707
PREPARATION OF ACRYLAMIDOALKANESULFONIC ACIDS

Leonard E. Miller, Chagrin Falls, and Donald L. Murfin, Mayfield Heights, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 1, 1968, Ser. No. 702,197

Int. Cl. C08f *37/00;* **C07c** *103/08*

U.S. Cl. 260—513 **7 Claims**

Acrylamidoalkanesulfonic acids are prepared by a two-step reaction sequence comprising first reacting an olefinic compound containing at least one allylic hydrogen atom with an acyl hydrogen sulfate to form a sulfonated intermediate, and subsequently reacting this intermediate with water and an acrylonitrile in the presence of sulfuric acid. The method is more convenient and gives better yields than the methods previously known.

3,506,708
PRODUCTION OF ACROLEIN AND ACRYLIC ACID

William John Ball, Capel, near Dorking, and Rowland Harris Jenkins, Woodcote Green, Epsom, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 9, 1966, Ser. No. 532,889

Claims priority, application Great Britain, Mar. 27, 1965, 13,105/65, Patent 1,070,354

Int. Cl. C07c *51/32*

U.S. Cl. 260—533 **13 Claims**

Improved yields of acrylic acid and acrolein are obtained in a process for treating propylene and molecular oxygen in the presence of an oxide composition containing antimony and vanadium and optional polyvalent metals as a catalyst by keeping the linear velocity of the reaction mixture at greater than two feet per second and the inlet pressure of the gas at at least 10 p.s.i.g.

3,506,709
PROCESS FOR THE PRODUCTION OF LOWER FATTY ACIDS

Takeo Nakamura, Musashino-shi, Tokyo, and Hiroshi Murayama and Tatsuya Yamaguchi, Tokyo, Japan, assignors to Tekkosha Co. Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Continuation-in-part of application Ser. No. 349,178, Mar. 3, 1964. This application June 1, 1967, Ser. No. 642,721

Int. Cl. C07c *51/18, 51/22*

U.S. Cl. 260—533 **2 Claims**

A process for oxidizing a petroleum fraction using a multicomponent catalyst consisting essentially of 1 part cobalt to 1–10 parts of one or two second metals selected from the group consisting of Na, Ba, Al, Pb and Ni.

3,506,710
UREA SYNTHESIS PROCESS WITH SOLUTION RECYCLE

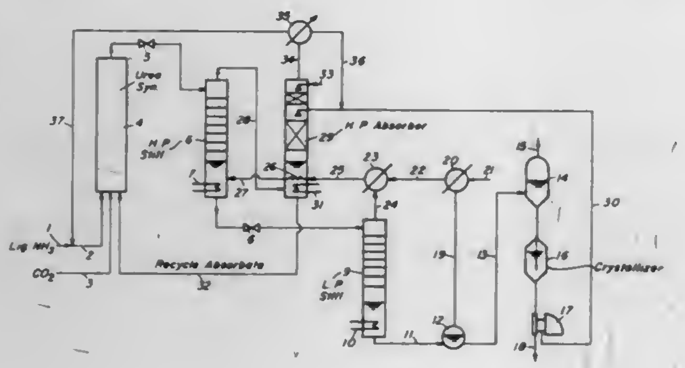
Shigeru Inoue, Kamakura, and Eiji Otsuka and Kazumichi Kanai, Fujisawa, Japan, assignors to Toyo Koatsu Industries, Incorporated, Tokyo, Japan

Filed Oct. 10, 1967, Ser. No. 674,211

Claims priority, application Japan, Oct. 14, 1966, 41/67,223

Int. Cl. C07c *127/04*

U.S. Cl. 260—555 **10 Claims**



A urea synthesis process having solution recycle wherein the unreacted gasses are separated from the urea effluent at progressively decreasing pressures; are absorbed by absorbates at progressively increasing pressures to produce a final absorbate containing little water which is returned to the urea synthesis step.

3,506,711
SULFONAMIDE COMPOUNDS

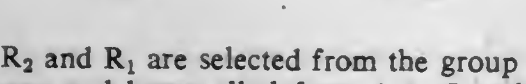
Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Richard N. Ring, Wood-Ridge, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 337,997, Jan. 16, 1964. This application June 8, 1967, Ser. No. 644,739

Int. Cl. C07c *143/72*

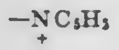
U.S. Cl. 260—556 **5 Claims**

Polyfunctional aliphatic sulfonamide compounds represented by the structural formula:



$$R_2O\underset{R_1}{CH}\underset{R_1}{CH}SO_2N{-}Z{-}NSO_2\underset{R_1}{CH}\underset{R_1}{CH}OR_2$$

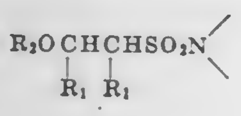
wherein R_2 and R_1 are selected from the group consisting of hydrogen and lower alkyl from 1 to 5 carbon atoms and Z is an aliphatic group such as alkylene, polyoxyethylene, polyoxypropylene or hydroxyalkylene. Compounds of the above structure wherein both R_2O groups in the terminal position are replaced by $—COOCH_3$ or



$$-\underset{+}{N}C_5H_5$$

are also disclosed. These compounds are suitable for crosslinking agents for cellulosic polymers.

Monofunctional compounds useful for the chemical modification of cellulosic polymers and which contain the characteristic grouping of the formula



$$R_2O\underset{R_1}{CH}\underset{R_1}{CH}SO_2N\diagdown$$

are also disclosed.

3,506,712
QUATERNARY AMINE SALTS USEFUL AS FUEL STABILIZERS

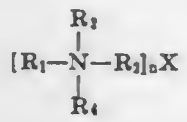
Julius Capowski and Harry J. Andress, Jr., Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Original application Aug. 31, 1964, Ser. No. 393,351, now Patent No. 3,387,954, dated June 11, 1968. Divided and this application Oct. 6, 1966, Ser. No. 584,680

Int. Cl. C07c *87/30;* **C10l** *1/22*

U.S. Cl. 260—567.6 **3 Claims**

Alkylamine salts having the formula:



$$[R_1{-}\overset{R_2}{\underset{R_4}{N}}{-}R_3]_nX$$

where R_1, R_2, R_3 and R_4 are alkyl groups having from 1 to about 22 carbon atoms, and X is an acid radical of phosphoric acids having from 2 to 8 phosphorus atoms per molecule and *n* is a whole number from 1 to 5, the maximum value of *n* being limited by the number of replaceable hydrogen atoms in the acid molecule of which X is an acid radical. These compounds find utility as fuel stabilizers.

3,506,713
POLY 1,4-BIS[BIS(DIFLUOROAMINO)METHYL]-3,5-DIOXA-2-HYDROXYMETHYLPENTANE

David C. Sayles, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

No Drawing. Filed Dec. 2, 1965, Ser. No. 513,146

Int. Cl. C07c *93/02;* **C06b** *11/00, 15/00*

U.S. Cl. 260—584 **2 Claims**

The compound poly 1,4-bis[bis(difluoroamino)methyl]-3,5-dioxa-2-hydroxymethylpentane is prepared by reacting poly 3,5-dioxa-2-hydroxy-methyl-1,4-pentanedial with difluoroamine in the presence of sulfuric acid. Propellant compositions can be prepared from the above polymer by mixing it with finely divided aluminum, ammonium perchlorate and a diisocyanate cross linking agent.

3,506,714
PROCESS FOR THE PREPARATION OF METHYL (3 - LOWER ALKOXY - 4 - HYDROXYBENZYL)KETONES

David F. Hinkley, Plainfield, and John Budavari, Warren, N.J., assignors to Merck & Co. Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Dec. 22, 1967, Ser. No. 692,689

Int. Cl. C07c *49/76;* **A61k** *27/00*

U.S. Cl. 260—590 **11 Claims**

A process is described for the preparation of methyl (3 - lower alkoxy-4-hydroxybenzyl)ketones involving a modification of the Darzen glycidic ester synthesis characterized by the use of an acid labile blocking group for the phenolic hydroxyl, a single unit operation and concomitant high yields. The product is an important intermediate in the synthesis of α-methyl-β-(3,4-dihydroxyphenyl)analine, a commercial antihypertensive compound.

3,506,715
TEMPERATURE CONTROL

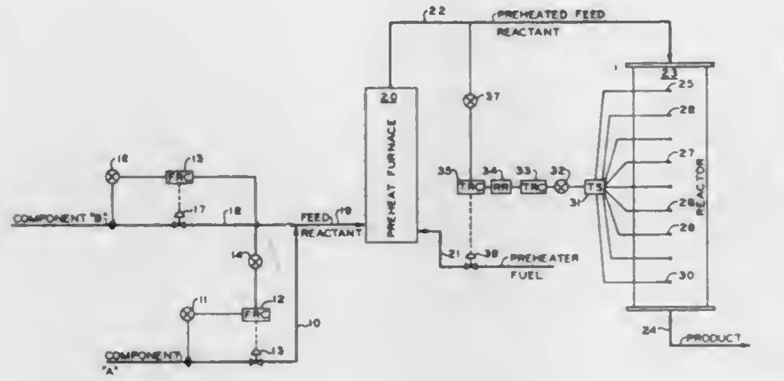
Joseph W. Clark, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 23, 1966, Ser. No. 581,510

Int. Cl. C07b *29/00;* **C07c** *149/00;* **B01j** *9/04*

U.S. Cl. 260—609 **7 Claims**

In a cascade temperature control system the first temperature control signal derived from the temperature to be controlled is suppressed to reduce fluctuations therein prior to being applied to the control device which regulates a secondary temperature.



3,506,716
PHENOLIC CONTAINING ALKYL SULFIDES

Hans Jakob Peterli, Fullinsdorf, Basel-Land, and Hansjörg Heller, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

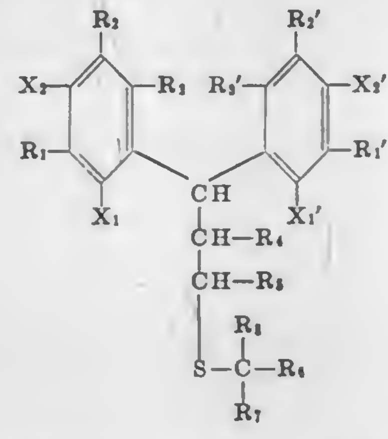
No Drawing. Filed Feb. 3, 1967, Ser. No. 613,730

Claims priority, application Switzerland, Feb. 8, 1966, 1,759/66

Int. Cl. C07c *149/36;* **C08f** *45/58;* **B01j** *1/16*

U.S. Cl. 260—609 **9 Claims**

Diphenylalkylmercaptans of the formula



wherein one of X_1 and X_2 and one of X_1' and X_2' represents the hydroxyl group and the other represents hydrogen,

R_1 and R_1' each represent an alkyl group having, in all, 3 to 20 carbon atoms in a chain which is branched at the α-carbon atom, which alkyl group can contain a phenyl radical which may be substituted, or they each represent a cycloalkyl group having 5 to 20 carbon atoms and a 5 to 12 membered ring;

R_2 and R_2' each represent hydrogen, a lower straight chain alkyl group, an optionally substituted phenyl group or the same as R_1;

R_3 and R_3' and also R_4 and R_5 each represent hydrogen or a lower alkyl group;

R_6 represents hydrogen, an alkyl group having 1 to 19 carbon atoms, or an oxa-alkyl or thia-alkyl group having 2–19 carbon atoms;

R_7 represents hydrogen or the methyl group, and

R_8 represents hydrogen or the methyl group and, in addition, when R_7 is hydrogen, it also represents an alkyl group having 2 to 6 carbon atoms,

which compounds are useful as antioxidants, especially for the protection of oxidation-sensitive organic materials such as polyolefins, as well as such materials protected therewith and the use of such compounds for such protection.

3,506,717
TETRAALKYL-1,3-CYCLOBUTANEDITHIOLS

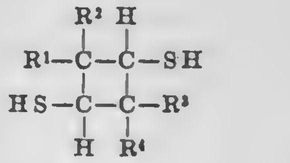
Edward U. Elam and Herman E. Davis, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,237

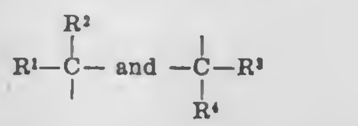
Int. Cl. C07c *149/26;* **C08g** *51/66*

U.S. Cl. 260—609 **4 Claims**

Cyclobutanedithiols of the formula



wherein R^1, R^2, R^3 and R^4, taken singly, are lower alkyl or



$$R^1{-}\overset{R^2}{\underset{|}{C}}{-} \text{ and } {-}\overset{|}{\underset{R^4}{C}}{-}R^3$$

are carbocyclic rings containing from 4 to 6 carbon atoms. The cyclobutanedithiols are useful in photochromic compositions and are prepared by reduction of the corresponding cyclobutanedithiones.

3,506,718
AROMATIC FLUOROALKYL SULFIDES

Edward L. Mutsch, Woodbury Township, Washington County, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 8, 1968, Ser. No. 719,747

Int. Cl. C07c *149/34*

U.S. Cl. 260—609 **8 Claims**

Fluorine-containing sulfide compounds possessing fungicidal activity, particularly toward *Sclerotium rolfsii.* The compounds are represented by the structural formula:

$$\text{Ar—alk—S—CH}_2\text{—(CF}_2)_m\text{—X}$$

wherein Ar is phenyl, substituted phenyl, naphthyl or substituted naphthyl, the substituents being lower alkyl, lower alkoxy, halo or nitro; —alk— is an alkyl group, being straight or branched chain, or cyclic and containing from 1 to 6 carbon atoms; *m* is an integer of from 1 to 8, preferably 2, 3, or 4 and X is hydrogen or fluorine.

3,506,719
NOVEL OXIODINIUM AND THIAIODINIUM COMPOUNDS

William N. Cannon, Greenwood, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 270,545, Apr. 4, 1963. This application July 19, 1967, Ser. No. 654,656

Int. Cl. C07c *43/20*

U.S. Cl. 260—612 **5 Claims**

Novel oxiodinium and thiaiodinium compounds having a superior inhibitory effect against micro-organisms coupled with outstanding stability and low toxicity are described.

3,506,720
HALOGENATED HYDROXY-DIPHENYL ETHERS

Ernst Model, Basel, and Jakob Bindler, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 345,080, Feb. 17, 1964. This application Aug. 8, 1966, Ser. No. 570,742
Claims priority, application Switzerland, Feb. 22, 1963, 2,250/63
Int. Cl. C07c *43/20, 43/22, 121/60*
U.S. Cl. 260—613 **4 Claims**

Halogenated-2-hydroxy-diphenyl ethers and esters thereof are useful in bactericidal compositions and methods for the protection of organic materials. Illustrative compounds are 4,2′,4′-trichloro-2-hydroxy-diphenyl ether and 4,2′,4′-trichloro-2-methoxy-diphenyl ether.

3,506,721
NUCLEAR VINYLATION OF PHENOLS

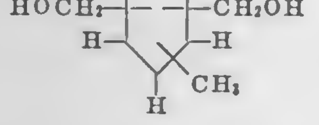
Joseph T. Arrigo, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 230,713, Oct. 15, 1962. This application Aug. 29, 1966, Ser. No. 575,549
Int. Cl. C07c *39/18*
U.S. Cl. 260—613 **8 Claims**

A process for nuclear vinylation of phenols in which a phenolic compound, such as phenol, is reacted with an N - (2,2 - dihydrocarbylethylidene) - 2, 2 -dihydrocarbylvinylamine, such as N-(2,2-dimethylethylidene)-2,2-dimethylvinylamine to yield a (2,2-dihydrocarbylvinyl) phenol such as O-(2,2-dimethylvinyl)phenol, which is useful as a rubber antiozonant.

3,506,722
DI(HYDROXYMETHYL)METHYL-CYCLOPENTANES

Erich Marcus, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Application Mar. 20, 1967, Ser. No. 624,189, now Patent No. 3,414,626, dated Dec. 3, 1968, which is a division of application Ser. No. 247,838, Dec. 28, 1962, now Patent No. 3,356,704, dated Dec. 5, 1967. Divided and this application June 7, 1968, Ser. No. 735,205
Int. Cl. C07c *29/00, 31/00, 35/00*
U.S. Cl. 260—617 **3 Claims**

This invention relates to the production of di(hydroxymethyl)methylcyclopentane of the formula:



by reacting 1,3-butadiene with an isoalkylaluminum, oxidizing the resulting polymer, and then hydrolyzing the oxygenated polymer.

3,506,723
1-HYDROXYMETHYL-2-HYDROXYETHYL-CYCLOPENTANE

Erich Marcus, Charleston, and Donald L. MacPeek, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Original application Mar. 20, 1967, Ser. No. 624,148, now Patent No. 3,419,622, dated Dec. 31, 1968. Divided and this application June 14, 1968, Ser. No. 736,967
Int. Cl. C07c *29/00, 33/00, 31/00*
U.S. Cl. 260—617 **3 Claims**

This invention relates to the production of 1-hydroxymethyl-2-hydroxyethylcyclopentane by reacting 1,5-cyclooctadiene with an isoalkylaluminum, oxidizing the resulting polymer, and then hydrolyzing the oxygenated polymer.

3,506,724
PREPARATION OF ORTHO- AND PARA-NITROPHENOLS

William B. Tuemmler and Seymour M. Linder, Catonsville, Md., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 23, 1966, Ser. No. 581,447
Int. Cl. C07c *79/22*
U.S. Cl. 260—622 **5 Claims**

This specification discloses a method of producing the sodium salt of an ortho- or para-nitrophenol by hydrolyzing the corresponding nitrochloroaromatic compound with caustic soda in dimethyl sulfoxide as solvent, at a temperature between 80–115° C., while blowing an oxygen-containing gas through the reaction mixture in sufficient quantity to inhibit tar formation.

3,506,725
SEPARATING 1,5-DINITRONAPHTHALENE FROM 1,8-DINITRONAPHTHALENE

Hans-Juergen Sturm, Ludwigshafen (Rhine), and Guenter Steinhoff, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Mar. 4, 1968, Ser. No. 709,928
Claims priority, application Germany Mar. 11, 1967, 1,618,109
Int. Cl. C07c *79/14, 79/10;* **B01d** *9/02*
U.S. Cl. 260—645 **8 Claims**

Separation of 1,5-dinitronaphthalene and 1,8-dinitronaphthalene from solutions of both substances in nitric acid by cooling and separation of the deposited 1,5-dinitronaphthalene followed by addition of water and separation of deposited 1,8-dinitronaphthalene. The products of the separation are dye intermediates.

3,506,726
PROCESS FOR THE PRODUCTION OF HEPTABROMOCYCLOPENTENE AND HEXABROMOCYCLOPENTADIENE

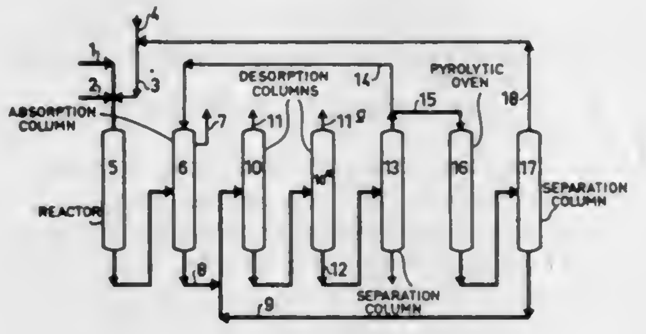
Delbert L. Hanna, Oak Park, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Continuation-in-part of application Ser. No. 370,117, May 25, 1964. This application Dec. 19, 1966, Ser. No. 602,569
Int. Cl. C07c *17/00, 23/00*
U.S. Cl. 260—648 **2 Claims**

A process for production of the new compound heptabromocyclopentene, hexabromocyclopentadiene, and mixtures thereof, which comprises reacting cyclopentane, cyclopentene, bromocyclopentane or bromocyclopentene containing up to five bromine atoms, or mixtures thereof with a substantial excess of bromine at a temperature above about 150° C. Heptabromocyclopentene is useful as an intermediate in the preparation of hexabromocyclopentadiene.

3,506,727
PROCESS FOR FABRICATING MIXTURES CONTAINING VINYL CHLORIDE AND 1,2-DICHLOROETHANE

Julien Mulders, Brussels, Belgium, assignor to Solvay & Cie, Brussels, Belgium
Filed May 8, 1967, Ser. No. 636,713
Int. Cl. C07c *21/06, 17/02*
U.S. Cl. 260—656 **7 Claims**

Process for the production of mixtures containing vinyl chloride and 1,2-dichloroethane by means of a reaction between a reactive gaseous mixture, composed of acetylene, hydrogen chloride, ethylene, and chlorine, the chlorine-ethylene molar ratio being between 0.9 and 1.5, and inert gaseous compounds acting as diluents and present in the mixture in a proportion of at least 40% by volume, at a temperature of between 100° C. and 180° C., in the presence of a hydrochlorination catalyst based on metallic chloride, the concentration of active metallic elements of the catalyst being less than 5% by weight.



3,506,728
REACTIONS OF FLUOROCHLOROETHYLENES

Heinz G. Viehe, Linkebeek, and Serge Y. Delavarenne, Wemmel, Belgium, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 24, 1967, Ser. No. 655,286
Int. Cl. C07j *1/02*
U.S. Cl. 260—665 **1 Claim**

Fluorochloroethylenes react with lithium amides to form lithium fluorochloroethylenes which are useful for introducing fluorochloroethenyl groups into organic compounds.

3,506,729
METHOD OF MAKING SOLID CYCLOPENTADIENYLLITHIUM COMPOUNDS

William Novis Smith, Jr., Exton, and Edward D. Kuehn, West Chester, Pa., assignors to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 28, 1967, Ser. No. 686,277
Int. Cl. C07j *1/02*
U.S. Cl. 260—665 **19 Claims**

In the preparation of cyclopentadienyllithium and methylcyclopentadienyllithium by reacting lithium metal with cyclopentadiene or methylcyclopentadiene in the presence of tetrahydrofuran, there is included in the reaction mixture diethylether or a hydrocarbon containing from 5 to 8 carbon atoms in an amount to precipitate at least a major proportion of the cyclopentadienyllithium compound.

3,506,730
ISOMERIZATION OF ALKYL AROMATIC HYDROCARBONS

James Salvatore Marchese, North Plainfield, N.J., and James Chipman Hamilton, Cincinnati, Ohio, assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 586,389, Oct. 13, 1966. This application July 8, 1968, Ser. No. 743,022
Int. Cl. C07c *5/30; 15/24*
U.S. Cl. 260—668 **7 Claims**

1,2- and 1,4-diisopropyl benzenes are isomerized to 1,3-isopropyl benzenes and 1-isopropyl naphthalenes are isomerized to 2-isopropyl naphthalenes in the presence of a boron trifluoride-phosphoric adduct as catalyst.

3,506,731
DISPROPORTIONATION OF AROMATIC HYDROCARBONS

Vincent J. Frilette, Yardley, and Mae K. Rubin, Bala Cynwyd, Pa., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 494,228, Oct. 8, 1965, which is a continuation of application Ser. No. 142,778, Oct. 4, 1961. This application Oct. 24, 1967, Ser. No. 677,762
Int. Cl. C07c *3/58, 3/50, 3/10*
U.S. Cl. 260—672 **4 Claims**

Acid mordenite, a crystalline aluminosilicate having a ratio of silicon atoms to aluminum atoms of about 5 to 1 can be used as a catalyst for the disproportionation of aromatic hydrocarbons.

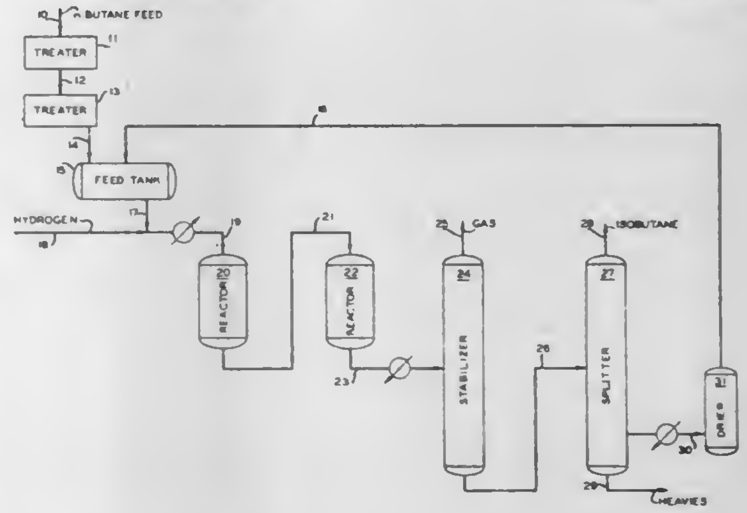
3,506,732
CYCLIC DIENE ADSORPTION WITH ACTIVATED ZINC OXIDE-SILICA-ALUMINA ADSORBENTS

Don E. Crowley and Donald C. Tabler, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 14, 1968, Ser. No. 767,471
Int. Cl. C07c *7/12;* **B01j** *11/06*
U.S. Cl. 260—681.5 **6 Claims**

Removal of cyclic dienes from streams containing open chain dienes by adsorption with activated zinc oxides. Specifically, cyclopentadiene is adsorbed from isoprene streams with an activated zinc oxide-silica-alumina adsorbent.

3,506,733
HYDROISOMERIZATION WITH DRYING OF RECYCLE STREAM

Luther F. Mayhue, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 1, 1968, Ser. No. 702,235
Int. Cl. C07c *5/24, 5/28*
U.S. Cl. 260—683.68 **3 Claims**

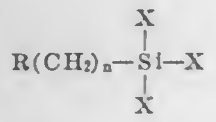


In the catalytic isomerization of normal paraffins to isoparaffins the feed is contacted serially with at least two different solid adsorbent materials to remove contaminants and then with spent isomerization catalyst prior to subjecting to isomerization, together with drying of recycle normal paraffin by contacting with a molecular sieve.

3,506,734
WATERPROOF COATING COMPOSITION FOR POLYESTER TYPE FABRIC

Melik Bedikian, Westwood, N.J., assignor to Nu-Dye & Finishing Co., Inc., Paterson, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 15, 1967, Ser. No. 660,592
Int. Cl. C08g *47/10;* **C08f** *35/02, 11/04*
U.S. Cl. 260—826 **8 Claims**

This invention relates to an improved waterproofing composition for polyester synthetic fabrics which renders the fabric coated durable yet resistant to repeated dry cleaning and intermittent home laundering at elevated temperatures. The composition comprises a resinous component, (A) composed of a polymerizable acrylic resin system and a cross-linkable quantity of an amino-aldehyde resin, a resinous component, (B) composed of a silicone prepolymer having pendant hydroxyl and hydrogen groups, and monomeric silane component containing (C) a carbon functional group and which may be represented by the following general formula:



$$R(CH_2)_n-\overset{\displaystyle X}{\overset{|}{\underset{\underset{\displaystyle X}{|}}{Si}}}-X$$

wherein R represents a reactive organic functional group such as vinyl, epoxy, nitrile, or also an amino attached to the terminal carbon of the silicone carbon side chain, *n* represents a multiplicity of alkylene units usually less than about 10 and X represents a readily hydrolyzable group such as a lower alkoxy group or a halogen group.

3,506,735

PROCESS FOR THE PREPARATION OF ADHESIVES, PUTTIES, COATING MATERIALS OR SEALING COMPOUNDS BASED ON MODIFIED TRIGLYCIDYL ISOCYANURATES

Zissis Aggias, Hilden, Rhineland, Germany, assignor to Henkel & Cie G.m.b.H., Dusseldorf, Germany, a corporation of Germany

No Drawing. Filed Nov. 16, 1967, Ser. No. 683,444

Claims priority, application Germany, Nov. 30, 1966, H 61,149

Int. Cl. C08g *45/12, 30/14*

U.S. Cl. 260—830 7 Claims

The present invention relates to epoxide resin mixtures for adhesives, putties, coating materials and sealing compounds, based on glycidyl isocyanurates and organic amine epoxide resin hardeners, which are hardenable at room temperature which comprise (A) 100 parts by weight of a mixture of compounds having epoxide groups consisting of (1) from 50 to 91 parts by weight of a modified glycidyl isocyanurate reaction product of 10 mols of crystalline triglycidyl isocyanurate having an epoxide oxygen content of at least 14% with from 0.1 to 3.0 mols of an organic compound containing at least one isocyanate group in the molecule and free of other epoxide reacting substituents and (2) 50 to 9 parts by weight of a liquid, low-molecular-weight glycidyl compound having a molecular weight of less than 450 and a Hoppler viscosity of less than 15,000 cp. at 20° C., and (B) from 20 to 200 parts by weight of an organic amine epoxide resin hardener selected from the group consisting of aliphatic amines and cycloaliphatic amines.

3,506,736

THERMOSETTING RESINS FROM POLYEPOXIDES, UNSATURATED POLYESTERS AND ETHYLENICALLY UNSATURATED CARBOXYLIC ACIDS

Daniel J. Najvar, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,788

Int. Cl. C08g *45/14, 45/04*

U.S. Cl. 260—835 15 Claims

Thermosetting resin compositions are prepared by reacting an unsaturated carboxylic acid and a polyepoxide with an unsaturated polyester. The resins may be mixed with a polymerizable monomer and have excellent wettability for glass fibers and other inert fillers. The resins have improved properties over conventional polyesters both from a handling and fabrication standpoint as well as from the physical properties of the cured articles.

3,506,737

GLASS AEROSOL BOTTLES AND METHOD FOR MAKING SAME

Robert M. Smith and Lowell J. Wells, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

No Drawing. Original application Mar. 1, 1962, Ser. No. 176,821. Divided and this application Oct. 23, 1965, Ser. No. 504,235

Int. Cl. C08f *29/50;* **C08g** *45/04*

U.S. Cl. 260—837 2 Claims

Epoxy-based resin ink compositions used for application to glass surfaces such as containers. After curing, the ink compositions are firmly and tenaciously adhered to the glass surfaces even under humid and moist conditions and under alkaline conditions. The inks contain an epoxy-based resin and an amino-substituted alkyl alkoxy silane.

3,506,738

RESINOUS BLEND OF A BENZOGUANAMINE-FORMALDEHYDE RESIN AND A MELAMINE-FORMALDEHYDE RESIN

Alistair John Ross, Wallingford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Dec. 20, 1966, Ser. No. 603,159

Int. Cl. C08g *37/32*

U.S. Cl. 260—849 8 Claims

A resinous blend of from about 60% to 85%, and preferably 70%, by weight, of certain benzoguanamine-formaldehyde reaction products with correspondingly from about 40% to about 15% and preferably 30% of a melamine-formaldehyde reaction product.

3,506,739

GRAFT COPOLYMER OF ALIPHATIC POLYCARBONATE ON POLYMERIC BACKBONE HAVING PENDANT HYDROXY, CARBOXY OR AMINE GROUPS

James E. Cantrill, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 533,788, Mar. 14, 1966. This application Nov. 13, 1967, Ser. No. 682,588

Int. Cl. C08g *39/10*

U.S. Cl. 260—873 9 Claims

A thermoplastic graft copolymer of a polymer backbone having pendant thereon aliphatic polycarbonate groups, which aliphatic polycarbonate groups are attached to the polymer backbone by radicals which may be either carbonates, esters or carbamates or mixtures thereof. The thermoplastic graft copolymer consists of 30–96 weight percent of the aliphatic polycarbonate units and correspondingly 70–5 weight percent of the polymer backbone. The aliphatic polycarbonate groups pendant on the polymer backbone are the residue of at least two molecules of an aliphatic diol. It is essential that the graft copolymer remain thermoplastic.

3,506,740

LOW MOLECULAR WEIGHT POLYOLEFINS AS INTERNAL LUBRICANTS FOR IMPACT POLYSTYRENE COMPOSITIONS

Lawrence T. Dempsey, Cherry Hill, N.J., and Lyndon R. Babcock, Jr., Elmhurst, N.Y., assignors, to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 509,604, Nov. 24, 1965. This application Oct. 12, 1966, Ser. No. 586,017

Int. Cl. C08f *33/08*

U.S. Cl. 260—876 4 Claims

The elongation, viscosity and other flow characteristics of high impact polystyrene and ABS resins are improved

with only minor effect on heat distortion and other mechanical properties by blending with the resin from 1–5 parts of an amorphous, atactic low molecular weight polyolefin selected from polypropylene and polybutylene. The polyolefin may be added during any stage of the manufacture and processing of the high impact resin.

3,506,741

HALOGENATED POLYMERS AND BLOCK COPOLYMERS PRODUCED THEREFROM

William J. Trepka and Carl A. Urancek, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 10, 1966, Ser. No. 519,473

Int. Cl. C08d *5/04, 9/08, 9/16*

U.S. Cl. 260—889 9 Claims

Hydrocarbon polymers having at least one hydrogen attached to a tertiary carbon atom per molecule are halogenated by contacting said polymer with a tertiary alkyl halide and an aluminum halide; and the halogenated polymer is recovered.

3,506,742

TERMINALLY ACTIVE LIQUID DIOLEFIN POLYMERS, PREPARATION AND VULCANIZATES THEREOF

Ernest Jack Buckler and Douglas Cameron Edwards, Sarnia, Ontario, Richard Helmut Wunder, Corunna, Ontario, and John Beaton, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

No Drawing. Continuation-in-part of application Ser. No. 559,733, June 23, 1966. This application May 6, 1968, Ser. No. 727,039

Claims priority, application Canada, Aug. 9, 1965, 937,644, 937,645

Int. Cl. C08d *1/36, 3/04, 3/06*

U.S. Cl. 260—889 16 Claims

Difunctional liquid polymers of conjugated diolefins are prepared in an emulsion polymerization system in the presence of free radical catalyst and polyhalo chain transfer agents.

These liquid polymers vulcanize with polyfunctional vulcanizing agents, such as polyfunctional amines to form solid elastomers. When rapid vulcanization at room temperature is required, tertiary aliphatic polyamines are used. Slower cures and thermally stable vulcanizates are obtained with heterocyclic polyamines.

3,506,743

NOVEL O,O-DIALKYL-O-(CARBOXY-ALKENYL)-PHOSPHORIC ACID COMPOUNDS

Wolfgang Buck, Richard Sehring, and Karl Zeile, Ingelheim (Rhine), Germany, assignors to C. H. Boehringer Sohn, Ingelheim (Rhine), Germany, a limited partnership of Germany

No Drawing. Filed Apr. 6, 1967, Ser. No. 632,506

Claims priority, application Germany, Apr. 7, 1966, B 86,592; Nov. 25, 1966, B 90,016

Int. Cl. C07f *9/08;* **C07d** *29/24, 87/36*

U.S. Cl. 260—942 6 Claims

The compounds are novel derivatives of O,O-dialkyl-O-(carboxy-alkenyl)-phosphoric acid useful as insecticidal and acaricidal agents with low toxicity toward warm-blooded animals and low volatility.

3,506,744

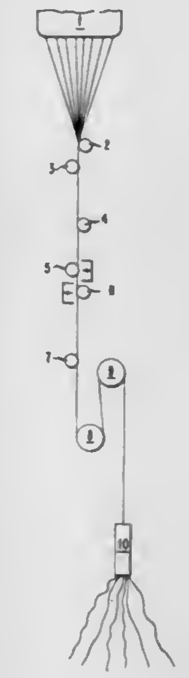
PROCESS FOR FORMING NONWOVEN WEB

Larry Melvin Talbert, Madison, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Continuation-in-part of abandoned applications Ser. No. 554,100, May 31, 1966, and Ser. No. 633,655, Mar. 30, 1967. This application Nov. 25, 1968, Ser. No. 778,738

Int. Cl. B29c *24/00*

U.S. Cl. 264—22 5 Claims



The positive triboelectric charge level of polyester fibers is enhanced by the presence therein of small amounts of alkali metal salts.

3,506,745

METHOD OF ELIMINATING PUFFING IN THE MANUFACTURE OF ELECTRODES FROM PUFFING PETROLEUM COKE

Leslie H. Juel, Lewiston, and Robert W. Rosene, Grand Island, N.Y., assignors to Great Lakes Carbon Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 587,655, Oct. 19, 1966. This application May 29, 1969, Ser. No. 833,851

Int. Cl. B29b *3/00;* **C01b** *31/02*

U.S. Cl. 264—29 15 Claims

A method for producing carbon and graphite bodies, such as large graphite electrodes for use in steel producing electric furnaces, by using an aggregate comprised in part or in total of heat-treated and/or graphitized "puffing" petroleum coke which has been heated to a temperature above the puffing temperature in the presence of a puffing inhibiting agent in order to substantially eliminate puffing of the coke in the electrode when the latter is graphitized.

3,506,746

STRUCTURAL FORM AND METHOD FOR MAKING ARCHITECTURAL STRUCTURES

Jean Louis Fontaine, 37 Quai de la Tournelle, Paris 5eme, France

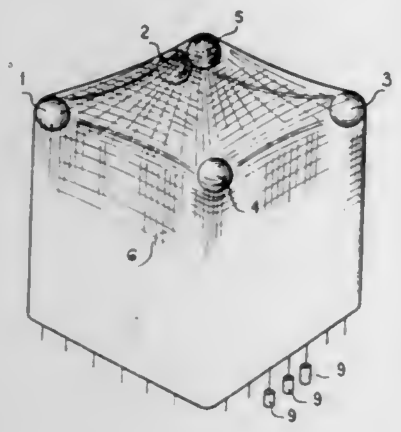
Filed Dec. 18, 1967, Ser. No. 691,358

Claims priority, application France, Dec. 20, 1966, 88,085

Int. Cl. E04b *1/16;* **E04g** *11/04*

U.S. Cl. 264—32 3 Claims

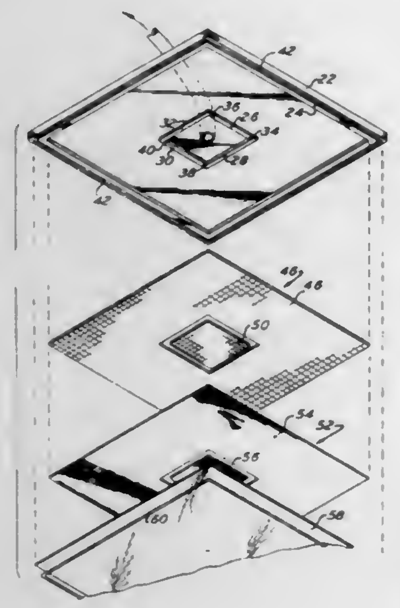
A method of forming an architectural structure and a form upon which an architectural structure may be made. One or more elevated supporting elements are positioned at the roof level, a deformable mesh element is draped thereover with the central region suspended from the supporting elements, the lower peripheral region being



tensioned downwardly. The intermediate regions hang freely downwardly in unsupported fashion to define the contour and texture of the side walls.

3,506,747
METHOD AND APPARATUS FOR TREATING CONCRETE WITH A PARTIAL VACUUM

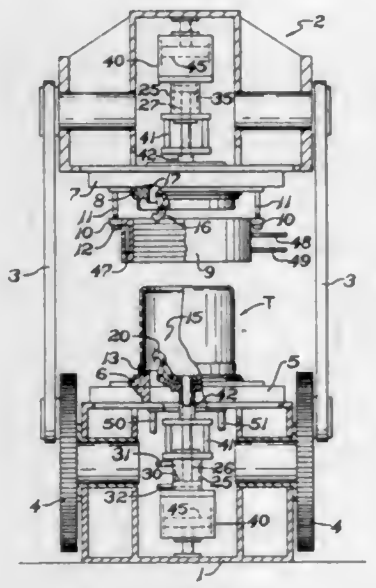
Jacob J. Creskoff, Wynnewood, Pa., assignor to Vacuum Concrete Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1968, Ser. No. 701,750
Int. Cl. B28b *1/26;* **F16b** *47/00*
U.S. Cl. 264—87 6 Claims



An improved method and apparatus for treating concrete. An apparatus is provided which comprises a cover, a first member which is provided about the periphery of the cover to form an outer compartment under the cover and a second member which is provided within the first member to provide an inner compartment within the member. Means defining a port are provided for connecting the inner compartment to a source of reduced pressure. Means defining fluid passages between the inner compartment and the outer compartment are also provided which are smaller in area than the port. This apparatus is used for vacuum treating concrete having excess water. The improved results from the fact that the smaller inner compartment is easier sealed to the concrete than the outer compartment and once sealed it causes the outer compartment to seal.

3,506,748
TIRE CURING APPARATUS AND METHOD

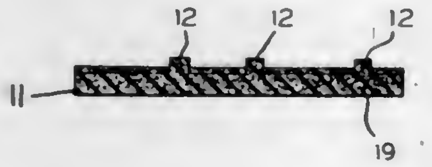
Armando Cardenas, Cuyahoga Falls, and John W. Martindale, Medina, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Jan. 18, 1966, Ser. No. 521,373
Int. Cl. B29h *5/02, 5/18*
U.S. Cl. 264—94 4 Claims



A method and apparatus for making a tire with sidewalls having axially folded portions therein. The apparatus contains three pieces including upper and lower mold parts and an intermediate mold part. The upper and lower mold parts have annular projection means extending axially toward each other, the outer end portions thereof being closely adjacent to each other when the mold is in a closed position. Means for clamping tire beads are also provided on the upper and lower mold parts. A means is provided for aligning the intermediate mold part with the center line of a tire carcass and these means allow for unrestricted axial movement of the intermediate mold part between the upper and lower mold parts. In the method, an uncured cylindrical tire is located in the mold and beads in the tire are clamped by the upper and lower mold sections to form a chamber. The chamber is inflated to move the tread portion of the tire radially outward into engagement with the intermediate part of the mold. One end part and the intermediate part of the mold are moved toward the other and mold part to close the mold and shape the side walls of the mold into reentrant folds. The tire is then cured with the folds therein.

3,506,749
EMBOSSING POROUS STAMP MATERIAL

Samuel M. Weissman, % Bankers & Merchants, Div. of Consolidated Foods Corp., 4410 N. Ravenswood, Chicago, Ill. 60640
Continuation-in-part of application Ser. No. 405,228, Oct. 20, 1964. This application Nov. 21, 1968, Ser. No. 777,855
Int. Cl. B29d *27/00;* **B29h** *7/20*
U.S. Cl. 264—102 11 Claims



A porous ink stamp having indicia embossed upon a flexible foam member and a method for producing same whereby porous indicia and a fused background are formed on the member by the preselected coaction of heat and pressure whereupon ink contained in the member is able to flow through the indicia while the background is impervious to the ink.

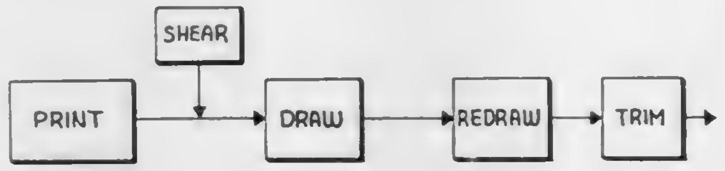
3,506,750
METHOD FOR MANUFACTURE OF GALVANIC CELLS

Faat Khatovich Nabiullin, 3 Mytischinskaya ulitsa 14-a, kv. 90; Zoja Mikhailovna Buzova, Suschevsky val. 23, kv. 116; and Efim Mikhailovich Gertsik, 3 Mytischinskaya ulitsa 14-a, kv. 98, all of Moscow, U.S.S.R.; Boris Vasilyevich Marfin, Balashikha 1, ulitsa Sovetskaya 16, kv. 6, Moskovskaya, Obl., U.S.S.R.; and Vyacheslav Anatolievich Rabinovich, Razumovskaya naberezhnaya 14, kv. 34; and Ivan Ivanovitch Koval, N-Peschanaya ulitsa 23/7, kv. 369, both of Moscow, U.S.S.R.
Filed May 31, 1967, Ser. No. 642,415
Claims priority, application U.S.S.R., May 31, 1966, 1,080,913; Oct. 29, 1966, 1,109,586, 1,110,215; Mar. 1, 1967, 1,133,410
Int. Cl. C04b *35/00;* **H01m** *31/00, 33/00*
U.S. Cl. 264—104 4 Claims

A method for the manufacture of galvanic cells with coaxially disposed electrodes and an ion-conducting diaphragm in which the electrolyte is preliminarily gelled and is then pressed into the casing of a galvanic cell simultaneously with at least one electrode of the cell.

3,506,751
METHOD OF DRAWING PLASTIC CONTAINERS

Randolph D. Lurie, Parkersburg, W. Va., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Continuation-in-part of abandoned application Ser. No. 360,957, Apr. 20, 1964. This application May 3, 1968, Ser. No. 726,384
Int. Cl. B32b *31/12;* **B29c** *17/03*
U.S. Cl. 264—134 11 Claims

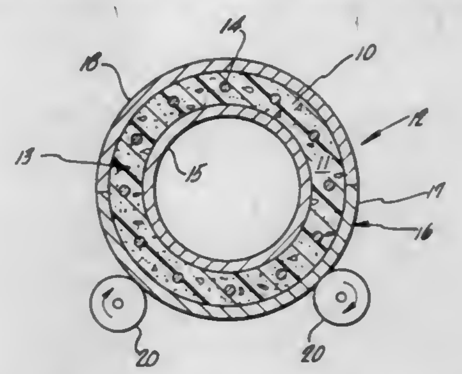


This disclosure relates to a method of forming plastic containers by first applying a pattern of coating material material to a surface of a plastic sheet, and thereafter drawing the sheet in a conventional die assembly with the coating material in opposition to a male punch whereby during the drawing operation "necking" or thinning of the plastic material heretofore commonly formed by conventional methods as eliminated.

3,506,752
METHOD OF MAKING REINFORCED POLYESTER PIPE

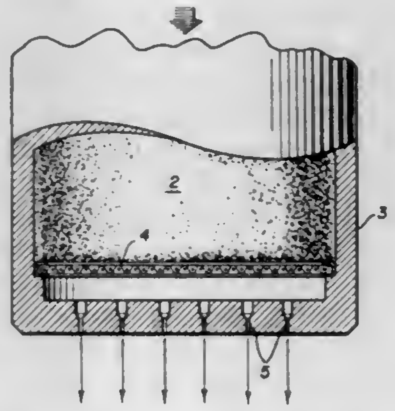
William R. Varnell and Mance R. Mitchell, San Antonio, Tex., assignors to Concrete Development Corporation, San Antonio, Tex., a corporation of Texas
Continuation-in-part of applications Ser. No. 366,332, May 11, 1964, Ser. No. 429,516, Feb. 1, 1965, and Ser. No. 659,830, July 6, 1967. This application Nov. 13, 1967, Ser. No. 685,239
Int. Cl. B28b *21/30, 21/60, 21/62*
U.S. Cl. 264—135 3 Claims

Concrete pipe is made from a mixture of polyester resin and aggregate, and may be wrapped with resin coated aluminum reinforcing wire in tension to increase the internal pressure which the pipe can withstand. The pipe may also be reinforced with longitudinally placed resin coated aluminum bars. Both the reinforcing wire and bars are coated with resin while at an elevated temperature to avoid any substantial detrimental reaction between the aluminum and polyester resin.



3,506,753
MELT-SPINNING LOW VISCOSITY POLYMERS

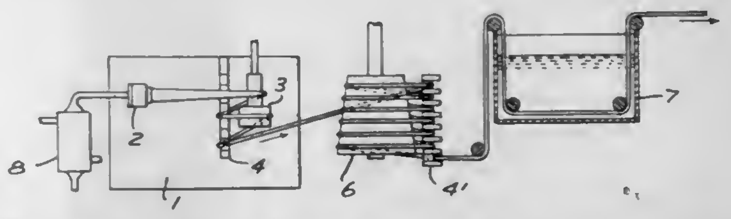
Charles D. Flamand, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 7, 1967, Ser. No. 629,236
Int. Cl. B28b *3/20*
U.S. Cl. 264—176 6 Claims



This invention relates to melt-spinning polymers of low relative viscosity into high quality filaments by a process which includes subjecting the molten polymer to high shear and then extruding the sheared polymer at a low jet velocity.

3,506,754
PROCESS FOR MANUFACTURING RAYON HAVING HIGH DEGREE OF POLYMERIZATION BY THE VISCOSE PROCESS

Takashi Asaeda, Kuse-gun, Japan, assignor to Tachikawa Research Institute, Kyoto, Japan, a corporation of Japan
Continuation of application Ser. No. 308,137, Sept. 11, 1963. This application Sept. 27, 1967, Ser. No. 671,545
Int. Cl. D01f *3/12*
U.S. Cl. 264—191 2 Claims



The application discloses a method of making high DP rayon by the viscose process. The method includes a xanthation step prior to which the CS_2 and the surfactant are mixed together. After xanthation the resulting viscose is heated to within 10° C. of the spinning bath temperature. A hot bath follows the spinning bath. A tapered godet stretches the spun filaments between the godet in combination with a second godet having a maximum of one step over which the filaments are drawn. The second godet may be either in or out of the spinning bath.

3,506,755

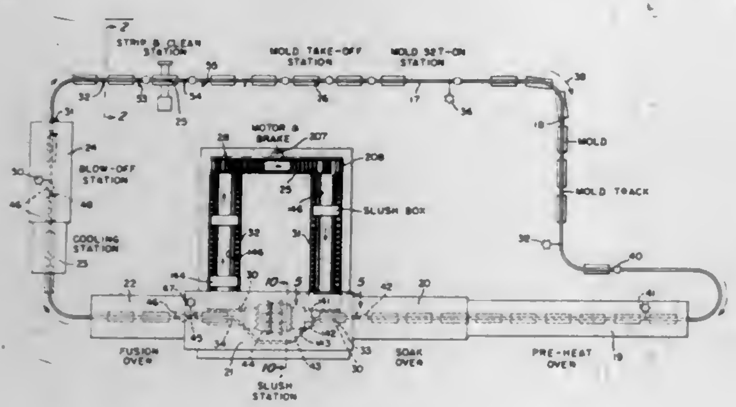
MOLDING APPARATUS AND METHODS

Walter H. Rudder, Akron, and Roy K. Rubright, Tallmadge, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed June 12, 1967, Ser. No. 645,385

Int. Cl. B28b *5/02;* **B29c** *5/04, 7/00*

U.S. Cl. 264—297 **4 Claims**



This invention relates to an apparatus and method of using said apparatus for molding thermoplastic materials. The apparatus comprises a conveyor system for the mold and a conveyor system for the slush box, means to heat the mold, means to cool the mold, means to mate the mold and slush box, means to separate the mold and slush box after the slush box and mold have moved as a unit through a slushing station. The conveyor systems for the slush box and the mold being operated normally continuously but being stopped periodically at the stations along the conveyor, including a station for stripping the molded article from the mold.

3,506,756

USE OF ADIPIC ACID AS A TABLETING LUBRICANT

George Carr Hoss, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed July 7, 1969, Ser. No. 839,714

Int. Cl. A61j *3/10*

U.S. Cl. 424—44 **6 Claims**

An improvement in the process of compressing powdered tabletable compositions is achieved by mixing adipic acid with said composition prior to compression. The adipic acid acts as a surface lubricant and as an internal compression lubricant for said tabletable compositions. The powdered tabletable compositions lubricated with adipic acid can be those intended for internal employment, such as for alkalizing of the stomach, or intended for external use, such as for general cleaning of solid surfaces.

3,506,757

LIQUID DENTIFRICE CONTAINING POWDERED ABRASIVE

Gerhard Martin Salzmann, Franklin Lakes, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,033

Int. Cl. A61k *7/16*

U.S. Cl. 424—52 **8 Claims**

This disclosure relates to a liquid dentifrice containing an abrasive ingredient in the form of a stable suspension by utilizing about 0.3–2.0% of a polysaccharide of high molecular weight, the molecule containing mannose, glucose, potassium glucuronate and acetyl in the approximate molar ratio of 2:1:1:1, as the stabilizing and suspending agent.

3,506,758

SUBSTANTIVE SUNSCREENING COMPOSITIONS

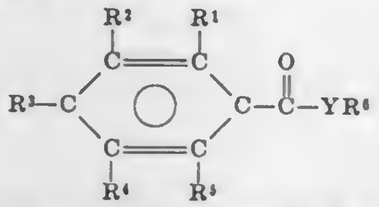
Morton Batlan Epstein, Chicago, Ill., and John Fred Gerecht, Somerville, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 10, 1964, Ser. No. 350,681

Int. Cl. A61l *23/00*

U.S. Cl. 424—60 **4 Claims**

Sunscreening agents having improved adhesion to the skin in the presence of water or perspiration and compositions containing such agents in a carrier, said agents being represented by the formula



where R^1 is hydroxyl or hydrogen; R^2, R^4, and R^5 are hydrogen; R^3 is NH_2 or NO_2 or hydrogen; R^6 is (A) the acyl radical of lecithin or choline or a quaternized imidazole, (B) the radical 2,2-diethylaminoethyl alkylated, benzylated, carboxymethylated, or neutralized, (C) quaternized or neutralized aliphatic diamines, (D) colaminomethylformylpyridinium halide, (E) quaternized or neutralized tertiary amines, said R^1 being hydroxyl when R^3 is hydrogen and R^1 being hydrogen when R^3 is NH_2 or NO_2; and Y is ester-oxygen or amido-NH.

3,506,759

WOOD PROTECTION PROCESS

Jacques L. Ricard and Walter B. Bollen, Corvallis, Oreg., assignors, by mesne assignments, to Research Corporation, New York, N.Y., a nonprofit corporation of New York

No Drawing. Filed Jan. 9, 1967, Ser. No. 607,891

Int. Cl. A01n *15/00*

U.S. Cl. 424—93 **1 Claim**

A method for the protection of Douglas fir heartwood against fungus-induced deterioration wherein the heartwood is inoculated with a commensal fungus antagonistic to deterioration-causing fungi. A fungus-elaborated antibiotic and a method for its production.

3,506,760

METHOD AND COMPOSITION FOR THE TREATMENT OF NIGHT BLINDNESS

Howard Brod, 17 W. 9th St., New York, N.Y. 10011

No Drawing. Continuation-in-part of application Ser. No. 485,103, Sept. 3, 1965. This application Nov. 24, 1967, Ser. No. 685,248

Int. Cl. A61k *15/00*

U.S. Cl. 424—253 **2 Claims**

A composition containing an effective amount of caffeine which is about 100 to 200 milligrams and of beta-carotene which is an amount equivalent to between 10,000 and 100,000 International Units of Vitamin A, but preferably 25,000 to 50,000 units, for the treatment and improvement of the condition known as night blindness.

3,506,761

COMBINATIONS OF ALUMINUM-COORDINATING THERAPEUTIC ADJUVANTS AND ALUMINUM CHELATES AND PROCESS FOR MAKING AND USING THE SAME

Andrew M. Rubino, Caldwell, N.J., assignor to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

Continuation-in-part of abandoned application Ser. No. 309,612, Sept. 18, 1963. This application July 7, 1967, Ser. No. 651,736

Int. Cl. A61k *27/00;* **A61l** *13/00*

U.S. Cl. 424—230 **7 Claims**

Antacid therapeutic compositions which are orally administered of an aluminum-coordinating therapeutic adjuvant and an aluminum chelate of an alpha or beta hydroxyaliphatic saturated carboxylic acid.

3,506,762

METHOD OF AND COMPOSITION FOR ANTI-CONTRACTURANT AND LOCAL ANESTHESIA USING MEPHENESIN ACETYLSALICYLATE

Joseph Pouget, 134 Rue de Grenelle, Paris 7e, France

No Drawing. Application May 6, 1968, Ser. No. 727,026, which is a continuation-in-part of application Ser. No. 408,574, Oct. 21, 1964. Divided and this application Dec. 9, 1968, Ser. No. 813,346

Claims priority, application France, Oct. 24, 1963, 951,612

Int. Cl. A61k *27/00*

U.S. Cl. 424—230 **2 Claims**

This invention relates to compositions and methods of relaxing muscular tension, strain, irritation and contraction using mephenesin acetylsalicylate.

3,506,763

METHOD OF PROMOTING GROWTH OF ANIMALS WITH TESTOLOLACTONES

Leonard J. Lerner, New Brunswick, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 371,071, Oct. 17, 1963. This application Dec. 20, 1965, Ser. No. 515,146

Int. Cl. A61k *27/00*

U.S. Cl. 424—244 **6 Claims**

The administration of small, but effective doses of non-androgenic testololactones such as testololactone, Δ^1-testololactone, A-nortestololactone or their simple derivatives prior to birth or to the newborn animal shortly after birth stimulates general body growth and maturation without virilization or adverse anabolic effects in the weaned or adult animal.

3,506,764

WATER TREATMENT COMPOSITION FOR USE IN A MARINE COMMODE SYSTEM AND PROCESS FOR USE THEREOF

Thomas E. Schneider, Jr., and James L. Halley, Atlanta, Ga., assignors to Tesco Chemicals, Inc., Atlanta, Ga., a corporation of Georgia

No Drawing. Filed Oct. 28, 1968, Ser. No. 771,290

Int. Cl. C02b *1/36*

U.S. Cl. 424—249 **13 Claims**

A water treatment composition for use in a marine commode system comprising a potassium salt of dichloroisocyanuric acid; a blend of microcrystalline cellulose and either methyl cellulose or an alkali metal compound of carboxymethyl-cellulose; and a metallic salt of an aliphatic carboxylic acid having at least 10 carbon atoms.

3,506,765

METHOD FOR THE RELIEF OF COUGH WITH A THEBAINE DERIVATIVE

Isao Seki, Hiromu Takagi, Shinsaku Kobayashi, Issei Iwai, and Haruhiko Minakami, Tokyo, Japan, assignors to Sankyo Company Limited, Tokyo, Japan

No Drawing. Filed Feb. 26, 1968, Ser. No. 707,952

Int. Cl. A61k *27/00*

U.S. Cl. 424—260 **9 Claims**

New use of 14-hydroxy-dihydro-6β-thebainol 4-methyl ether as an antitussive. Such thebainol exerts a higher antitussive activity on coughs due to a wide variety of respiratory diseases in a human subject and far less side effects, as compared with prior antitussive drugs, especially codeine phosphate, in an amount, calculated on a daily dosage basis, ranging from 3 to 12 mg., preferably 6 mg., usually three times a day at a single dose of 1–4 mg., preferably 2 mg., usually in the form of pharmaceutical composition such as tablets, solutions for injection and the like.

3,506,766

NOVEL MILDEWCIDAL COMPOSITION AND METHOD OF USE

Donald R. Arnold, Lincolndale, N.Y., and Anthony A. Sousa, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Application Mar. 23, 1966, Ser. No. 536,645, now Patent No. 3,418,330, dated Dec. 24, 1968, which is a continuation-in-part of application Ser. No. 324,183, Nov. 18, 1963. Divided and this application Aug. 7, 1968, Ser. No. 750,744

Int. Cl. A01n *9/22*

U.S. Cl. 424—263 **6 Claims**

Novel compositions containing an oxetane, such as 2-(meta-pyridyl)-2-phenyl-3,3-dimethyloxetane, as the active ingredient, are useful for controlling mildew.

3,506,767

BENZIMIDAZOLE COMPOSITIONS AND METHODS OF USE

Wilhelm Ernst Frick, Basel-Land, Anton G. Weiss, Basel, and Thomas Wenger and Walter Traber, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York

No Drawing. Filed Aug. 4, 1966, Ser. No. 570,159

Claims priority, application Switzerland, Aug. 6, 1965, 11,111/65; Nov. 11, 1965, 15,586/65; Jan. 5, 1966, 103/66

Int. Cl. A01n *9/12, 9/14, 9/22*

U.S. Cl. 424—273 **6 Claims**

A process for the production of 1,2-nitranilines, 1,2-phenylene diamines, benzimidazoles, particularly 2-halogeno or 2-halogeno alkyl-substituted benzimidazoles, and the compounds obtained by this process and compositions containing benzimidazoles from this process. Organic material, particularly keratin-containing material, is protected from keratin devouring insects and their larvae by application thereto of the benzimidazole compounds of this invention. 2,4,6-trichloro-7-(3′,4′-dichlorophenoxy)-benzimidazole and 2,4,6-trichloro-7-(3′-trifluoromethyl-4′-chlorophenoxy)-benzimidazole are among the preferred compounds mentioned.

ERRATUM

For Class 424—326 see:
Patent No. 3,506,680

3,506,768

COMPOSITION AND METHOD FOR ANESTHETIZING USING 3-CHLORO-1,1,2,2,3-PENTAFLUOROPROPANE

Bernard M. Regan, Chicago, Ill., assignor to Baxter Laboratories, Inc., Morton Grove, Ill., a corporation of Delaware

No Drawing. Filed Jan. 18, 1968, Ser. No. 698,687

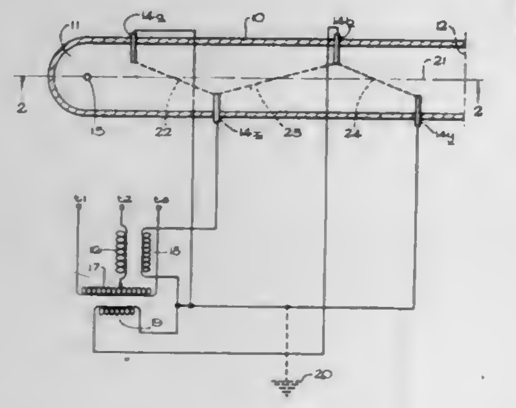
Int. Cl. A61k *13/00*

U.S. Cl. 424—350 **3 Claims**

A method for anesthetizing animals by administration of the compound 3-chloro-1,1,2,2,3-pentafluoropropane.

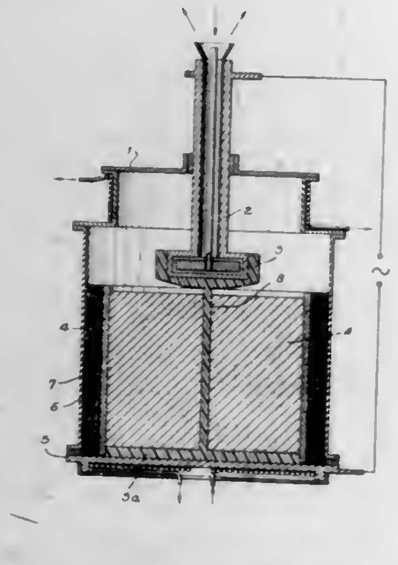
ELECTRICAL

3,506,769
FURNACES FOR SUPPLYING MOLTEN GLASS
Philip Anthony Maunsell Gell, Enville, Stourbridge, England, assignor to Elemelt Limited, Stafford, England, a British company
Filed Aug. 19, 1968, Ser. No. 753,480
Claims priority, application Great Britain, Aug. 17, 1967, 37,914/67
Int. Cl. C03b *5/02*
U.S. Cl. 13—6 **10 Claims**



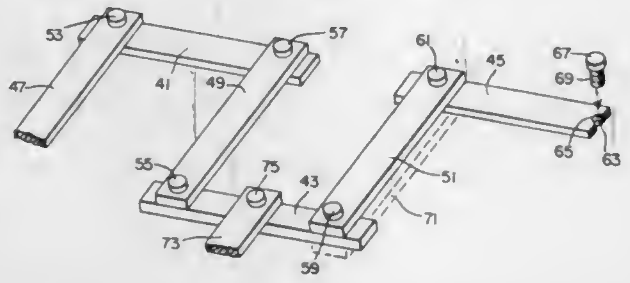
A glass feeder duct for feeding molten and refined glass from a furnace chamber to a feeder chamber subjected to heating by passage of electrical current through the glass in the feeder duct along a generally zig-zag path between at least two electrode means adjacent to each side of the duct, the electrode means at one side being longitudinally offset or staggered relatively to the electrode means at the other side.

3,506,770
APPARATUS FOR MELTING URANIUM AND PLUTONIUM DIOXIDES
Lothar Schikarski, Hanau am Main, and Hans-Jürgen Teiwes, Ruckingen, Germany, assignors to Nukem Nuklear-Chemie und -Metallurgie Gesellschaft m.b.H., Wolfgang, near Hanau am Main, Germany
Filed Mar. 27, 1967, Ser. No. 626,098
Claims priority, application Germany, Apr. 29, 1966, N 28,467
Int. Cl. H05b *7/18*
U.S. Cl. 13—23 **3 Claims**



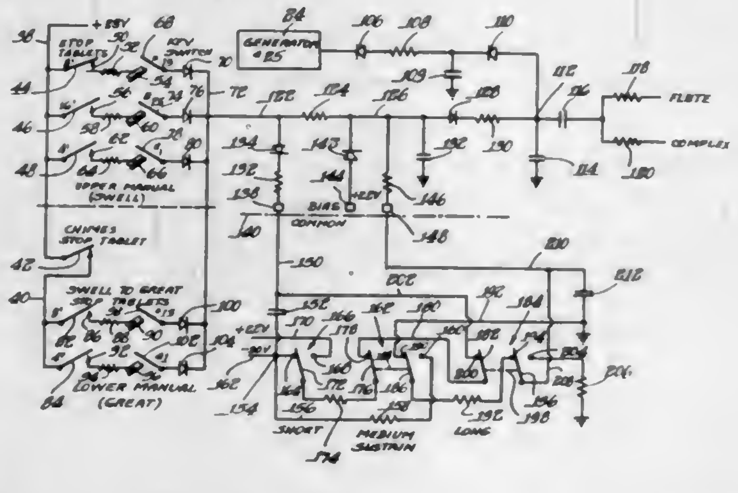
A metal tank having a non-electrical ceramic lining is used instead of a graphite crucible to prevent short circuits between upper and lower electrodes when melting uranium and plutonium dioxides.

3,506,771
MODULARLY CONSTRUCTED HEATING ELEMENTS FOR ELECTRIC FURNACES
Stephen F. Cole, Jr., 26 Meadowbrook Lane, Chalfont, Pa. 18914
Filed Oct. 10, 1968, Ser. No. 766,451
Int. Cl. H05b *3/62*
U.S. Cl. 13—25 **10 Claims**



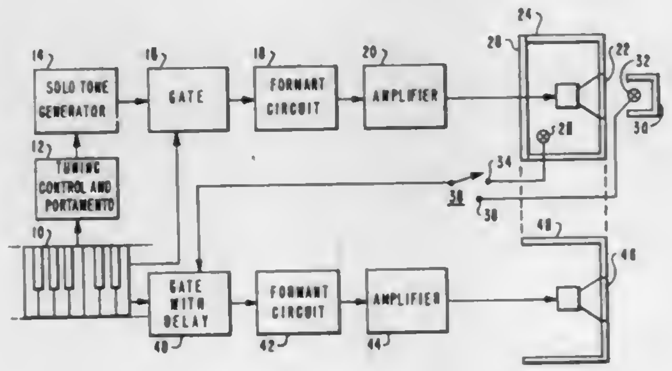
The present device relates to an arrangement of heating elements for electrically heated furnaces. In the preferred embodiment the arrangement is composed of a plurality of rigid graphite members, some of which constitute support bars (which also act as electrical interconnection bars) and some of which constitute heating bars. Each of the heating bars is bolted across at least two support bars and at opposite ends thereof in order to form a continuous ohmic or electrical resistance path. The electrical power is connected to one or more of the supporting bars. The heating bars which very often wear out or burn out can be easily replaced by simply removing the bolts holding the heating bars to the support bars and replacing the worn out or burned out heating bars with the new heating bar. In addition the heating bars are formed to provide large contact surfaces with the support bars, this (bolted) configuration diminishes the occasions for arcing and permits great flexibility in altering the value at the ohmic path.

3,506,772
ELECTRONIC DIODE KEYING CIRCUIT WITH VARIABLE SUSTAIN
Roger J. McNerney, Tonawanda, and William V. Machanian and Robert D. Barry, North Tonawanda, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed June 26, 1967, Ser. No. 648,613
Int. Cl. G10h *1/02*
U.S. Cl. 84—1.01 **5 Claims**



A two manual electronic organ in which the generators are continuously oscillating and are switched through diodes to utilization circuits, and wherein a plurality of key switches corresponding to different keys and bearing an octave or footage relation to one another are connected through respective diodes to the generator switching diodes, and wherein sustain is also controlled through diodes.

3,506,773
DEVICE FOR PRODUCING STRINGED INSTRUMENT OR MUTED HORN RESONANT TONES EMPLOYING A MICROPHONE INSIDE OR NEAR A SPEAKER ENCLOSURE
Thomas J. George, Burbank, Calif., assignor to Hammond Organ Company, a corporation of Delaware
Filed Mar. 16, 1967, Ser. No. 623,615
Int. Cl. G10h *3/00;* **H04r** *5/04*
U.S. Cl. 84—1.21 **14 Claims**

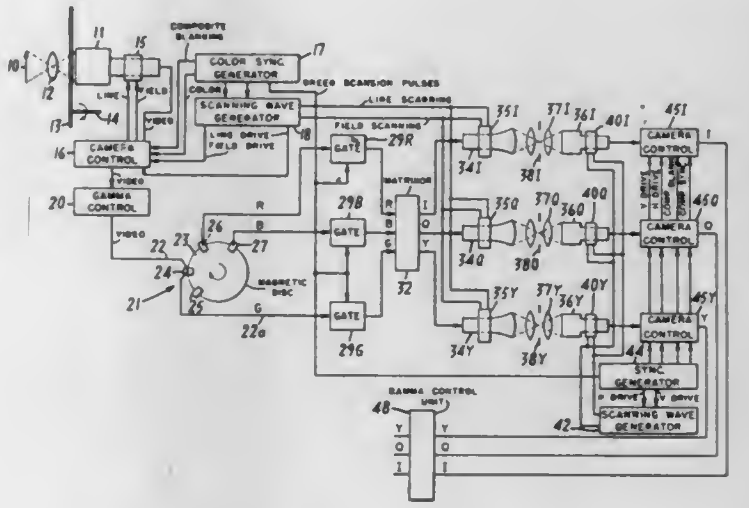


An electronic musical instrument for imparting a portamento effect to and modifying the harmonic content of the sound produced thereby; the sound being modified in accordance with a select frequency response or responses comprising sharp peaks and valleys. The instrument includes first and second audio channels and apparatus for imparting a portamento effect to an input signal applied to the first channel. A standing wave pattern of the signal in the first channel is established and sensed at a fixed location to provide an input signal having a desired harmonic content to the second channel. Accordingly, the first channel provides an open tone sound in accordance with a relatively simple frequency response and the second tone channel provides a resonant tone in accordance with a complex frequency response having random sharp peaks and valleys, the sounds of the two channels being combined to provide a realistic simulation of certain characteristic sounds such as those of certain musical instruments, including the violin and muted trombone.

3,506,774
GASEOUS DIELECTRIC COMPRISING CF_2=$CFSF_5$
Gary L. Gard, Beaverton, Oreg., and Cyril Woolf, Morristown, and Ruth M. Shaw, Madison, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Dec. 2, 1966, Ser. No. 598,833
Int. Cl. H05k *5/06;* **H01b** *3/16*
U.S. Cl. 174—17 **3 Claims**

Perfluorovinyl sulfur pentafluoride can be used as an electrical insulating gas in high voltage electrical apparatus. Perfluorovinyl sulfur pentafluoride had a dielectric or electrical breakdown strength higher than that of sulfur hexafluoride, which is extensively used commercially as an electrical insulating gas. Mixtures of perfluorovinyl sulful pentafluoride and sulfur hexafluoride have a dielectric strength which is greater than either compound alone.

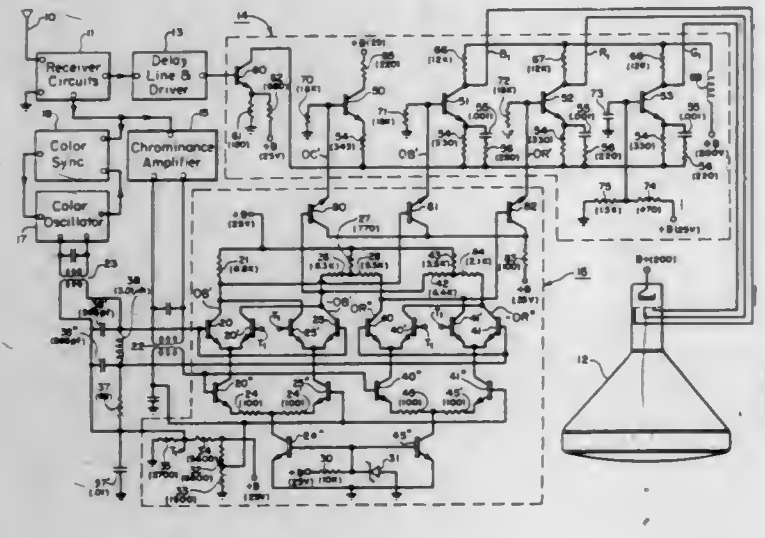
3,506,775
COLOR TELEVISION SIGNAL CONVERTER
Renville H. McMann, Jr., New Canaan, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Oct. 14, 1966, Ser. No. 586,731
Int. Cl. H04n *9/02, 5/78, 9/42*
U.S. Cl. 178—5.2 **15 Claims**



A color television signal production system providing simultaneous color field signals from sequentially produced color field signals. The sequential signals are made simultaneous by delaying two of the color component signals the time necessary to cause their simultaneous occurrence with a further instantaneous color component signal. The delays are provided by a magnetic disc recorder which employs two reproducing heads spaced appropriately from a recording head to provide the necessary time delays. The delayed and the instaneous color component signals are passed simultaneously through gates triggered open only during the application of particular color component signals to each gate. The color signals are then applied to a matrixor to give the I, Q and Y signals for subsequent reproduction. A short field scanning time for each color may result in simultaneous color signals combined at the desired repetition rate but of short duration. In this case, the signal duration is increased by producing I, Q and Y representative displays which are scanned, by camera tubes, more slowly than the rate at which they are produced. If the field scanning rate is initially that desired, the duration need not be increased. However, half-line delays are imposed during alternate field scansions to artificially interlace the color component signal. Also, selective masking compensates for field-to-field lag by removing small portions of previous color component signals.

3,506,776
BALANCED PRODUCT MIXER OR DEMODULATOR AND MATRIXING SYSTEM FOR WAVE SIGNAL RECEIVERS
John L. Rennick, Elmwood Park, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 10, 1967, Ser. No. 629,764
Int. Cl. H04n *9/50*
U.S. Cl. 178—5.4 **18 Claims**

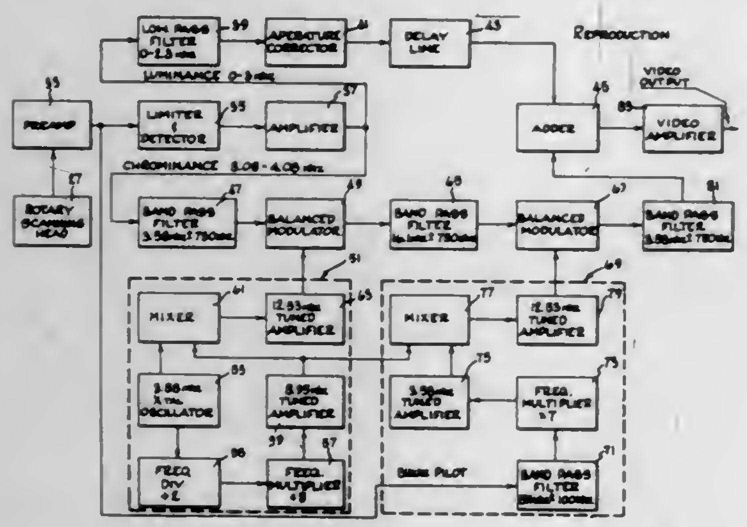
A balanced product mixer has no inductors but includes two differential transistor amplifiers with cross coupling from a collector of one amplifier to a collector load impedance of the other. The modulated signal and the demodulating signal are applied to the amplifiers with such relative phase that the modulation products, developed in that load impedance as a consequence of its being in the circuit of both amplifiers, augment one another, whereas components developed in that same impedance but representing the applied modulated and demodulating signals cancel one another. For application to a color television receiver, as a color demodulator, a pair of such product mixers are used in conjunction with a resistive matrix for developing output signals to drive a common emitter active matrixing system which develops directly a plurality of color-control signals for controlling a color picture tube even though these control signals themselves may not sum to zero. The disclosed circuitry is well suited to integrated-circuit construction.



3,506,777
APPARATUS FOR REPRODUCING COLOR TELEVISION SIGNALS WHEREIN A PILOT SIGNAL IS UTILIZED FOR ELIMINATING HUE ERRORS DUE TO TIME BASE VARIATIONS

Donald A. Carlson, Des Plaines, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Aug. 11, 1967, Ser. No. 660,042
Int. Cl. H04n *9/02, 5/78*
U.S. Cl. 178—5.4 **4 Claims**

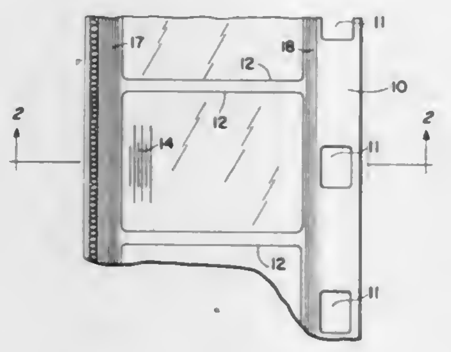


The invention concerns an apparatus for recording and reproducing color video signals which apparatus includes means for generating a pilot signal which is a fraction of the color burst signal. The pilot signal is added to a frequency modulated signal formed by a carrier being modulated by the composite video signal and the two signals are then recorded upon a magnetic tape. During reproduction, the derived tape signal is split into its component parts. The chrominance portion of the signal is mixed with a signal which is derived from the pilot signal multiplied to the frequency of the color burst signal. The mixing process cancels out the undesirable hue errors caused by the inherent time base error of the recording apparatus. The chrominance signal is then recombined with the luminance signal to reform the composite color video signal.

3,506,778
COLOR TELEVISION SYSTEM

Nathan Gold, Framingham, Lawrence K. M. Ting, Arlington, and Richard F. Weeks, Lexington, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Dec. 27, 1967, Ser. No. 694,014
Int. Cl. H04n *9/10, 9/46*
U.S. Cl. 178—5.4 **28 Claims**

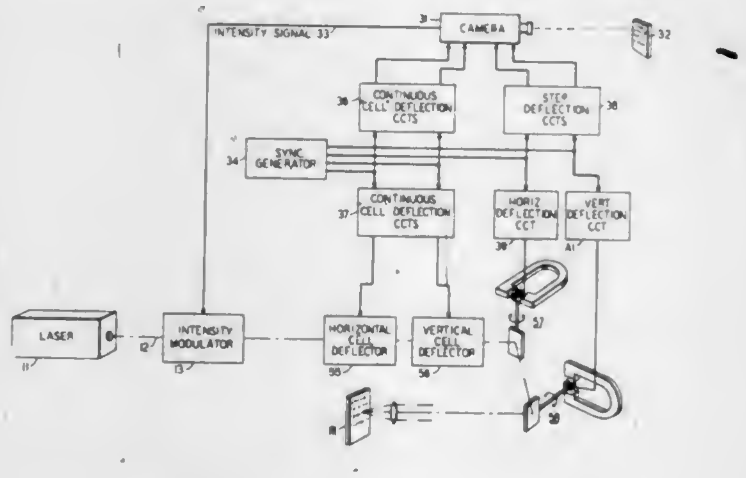


A system for deriving a color video signal from single frame or motion picture film. The system utilizes a film format wherein the image recorded within each frame is formed from a repetitive sequence of color coded parallel stripes. The stripes are dimensioned in a manner providing an output at video chrominance subcarrier frequencies when scanned optically at video scan rates. A color burst is provided by inserting a select series of coded stripes along an edge of each film frame. The light scan output may be picked up by a single photodetector.

3,506,779
LASER BEAM TYPESETTER

Earl F. Brown, Piscataway, and Charles F. Hempstead, Holmdel, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Apr. 3, 1967, Ser. No. 628,042
Int. Cl. H04n *1/10, 1/24*
U.S. Cl. 178—6.6 **2 Claims**

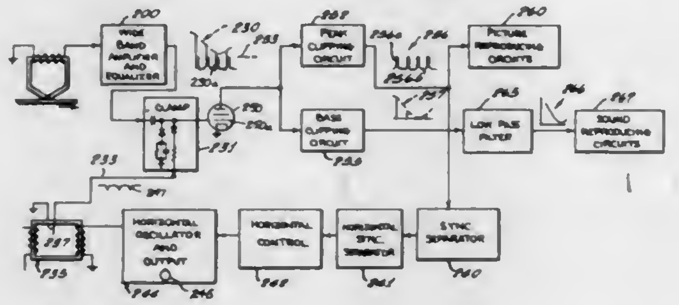


A printing plate, used for printing text and illustrations, is formed by a controlled laser beam writing directly upon a plate blank. A very high intensity beam of small cross section from a CO_2 laser removes material from the plate surface by vaporizing to form relief type plates for letter press or intaglio printing. The intensity and deflection of the beam are controlled to form the writing and may be programmed by a computer or driven by closed circuit television techniques. Photosensitive materials may be exposed at very high speed with excellent resolution by a controlled laser beam of shorter wavelength as a first step in forming plates by more conventional photographic methods.

3,506,780
SIGNAL TRANSDUCER SYSTEMS

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, Chicago, Ill., a corporation of Illinois

Filed Aug. 31, 1964, Ser. No. 393,282
Int. Cl. H04n *5/78, 7/04, 5/62*
U.S. Cl. 178—6.6 **27 Claims**

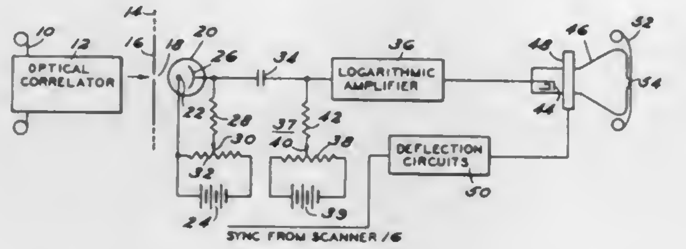

WIDE BAND AMPLIFIER AND EQUALIZER
PEAK CLIPPING CIRCUIT
PICTURE REPRODUCING CIRCUITS
CLAMP
BASS CLIPPING CIRCUIT
LOW PASS FILTER
SOUND REPRODUCING CIRCUITS
HORIZONTAL OSCILLATOR AND OUTPUT
HORIZONTAL CONTROL
HORIZONTAL SYNC
SYNC SEPARATOR

A television signal recording and playback system utilizing a recorder having a bandwidth substantially less than that of the broadcast television signal to be recorded. In one embodiment, the audio signal is changed from the 4.5 megahertz carrier directly to a carrier within the bandwidth of the recorder without intervening demodulation of the audio signal. In another embodiment, the audio is inserted during the horizontal blanking intervals of the recorded signal.

3,506,781
OPTICAL IMAGE DISPLAY SYSTEM

Allen C. Munster, Ann Arbor, Mich., assignor to Conductron Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed June 17, 1966, Ser. No. 558,328
Int. Cl. H04n *5/20*
U.S. Cl. 178—7.2 **7 Claims**

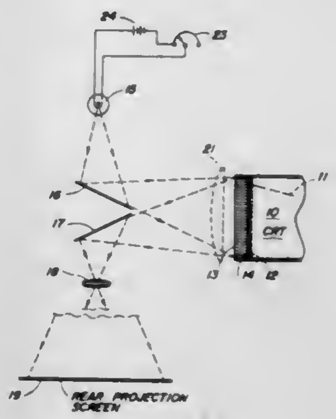


An optical image display system is disclosed wherein an image derived from an optical data processor is converted to an electrical signal. The electrical signal is applied to a non-linear circuit which is responsive only to the instantaneous values of the signal and operates to compress the dynamic range of the signal. Means are provided for adjusting both the maximum and minimum instantaneous output signals of the non-linear device. Thus, the dynamic range of the signals may be adjusted so that no saturation occurs in the optical output of the display or in the recording medium while, at the same time, ensuring that all data is displayed with sufficient intensity to be readable in the display output and registerable in the recording medium.

3,506,782
STATUS DISPLAY SYSTEM AND CATHODE RAY TUBE THEREFOR

Robert D. Anwyl, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 9, 1966, Ser. No. 593,191
Int. Cl. H04n *5/74*
U.S. Cl. 178—7.87 **8 Claims**



A cathode ray tube display system in which the faceplate of the cathode ray tube is formed of photochromic optical fibers with a dichroic filter located behind the faceplate to reflect visible light and transmit ultraviolet light and with a phosphor layer coated on the rear surface of the dichroic filter. Light directed toward the front of the faceplate is either absorbed by the photochromic fibers, or it is reflected by the dichroic filter projected onto a screen, so that the image on the cathode ray tube is reproduced on the screen in an enlarged image with increased contrast.

3,506,783
KEY MATERIAL GENERATOR

Ivar Mo, Lorenskog, Per R. Abrahamsen, Kjeller, and Kaare Ragnar Melsingset, Stabekk, Norway, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed June 12, 1967, Ser. No. 645,305
Claims priority, application Norway, June 17, 1966, 163,527
Int. Cl. H04l *9/04*
U.S. Cl. 178—22 **6 Claims**

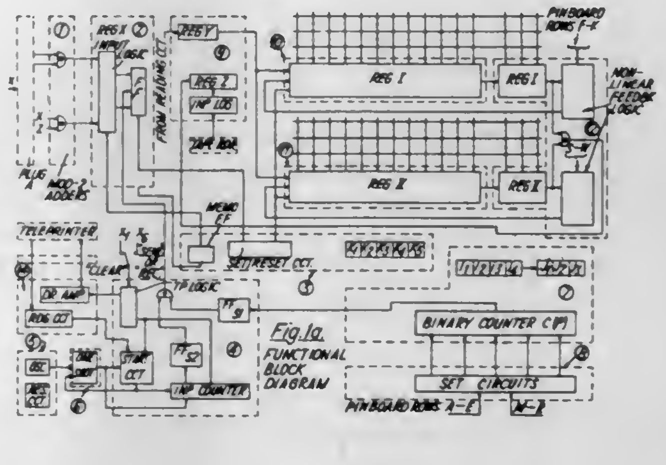
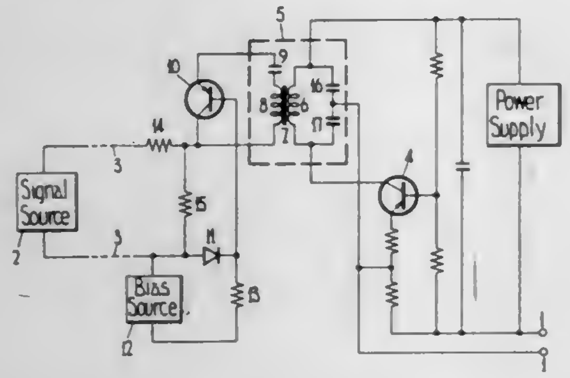


Fig. 1a. FUNCTIONAL BLOCK DIAGRAM

There is provided a key material generator, for producing pseudo-random sequences, having one or more feedback connected non-linear shift registers. Each register comprises a plurality of flip-flop circuits connected so that the register operation is such that the next contents of an arbitrary flip-flop is equal to the sum modulo-2 of the present contents of the flip-flop in question and the preceding flip-flop.

3,506,784
TRANSISTOR FSK SWITCHING CIRCUITS

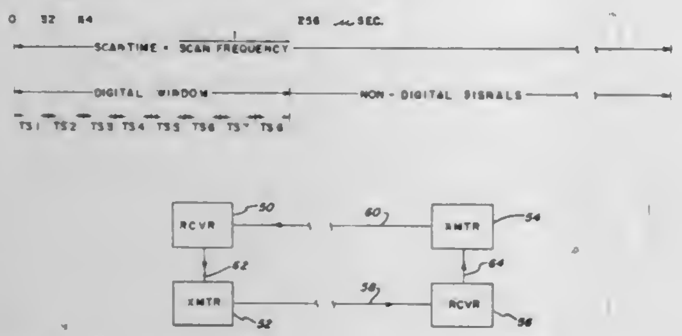
Bernard Garland, Balsall Common, Coventry, England, assignor to The General Electric Company Limited, London, England, a British company
Filed Feb. 3, 1967, Ser. No. 613,848
Claims priority, application Great Britain, Feb. 4, 1966, 5,019/66
Int. Cl. H03c *3/10;* H04l *27/12*
U.S. Cl. 178—66 **2 Claims**



In a frequency shift data transmitter which is responsive to pulse signals of alternate polarities to generate respective oscillatory output signals of two different frequencies, a transistor is used selectively to switch a capacitor in circuit with the tuned circuit of the oscillation generator, and a forward biased diode is employed to set the forward bias level for the transistor so as to avoid distortion of received pulses whose transients are not effectively instantaneous.

3,506,785
SYNCHRONIZED ASYNCHRONOUS FACSIMILE COMMUNICATION SYSTEM

Halbert M. Harris, Jr., Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1966, Ser. No. 583,358
Int. Cl. H04l *7/04*
U.S. Cl. 178—69.5 **11 Claims**

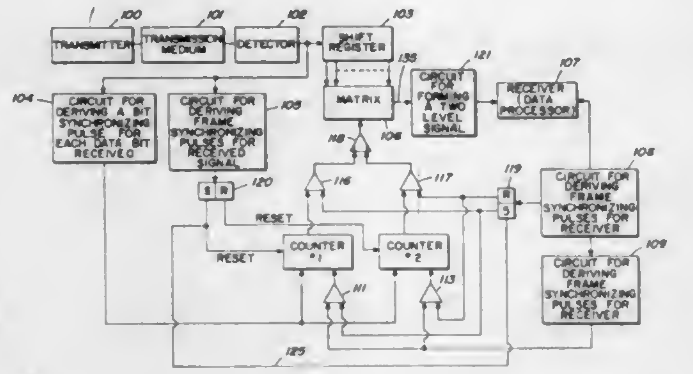


A hybrid facsimile communication system for transmitting synchronous video signals with digital sync signals. Multiplexed on the same channel as the asynchronous video signals are synchronized digital control words utilized to establish synchronization between a facsimile receiver and a facsimile transmitter.

3,506,786
MEANS FOR SYNCHRONIZING FRAME AND BIT RATES OF A RECEIVED SIGNAL WITH A RECEIVER

Mark A. Sloate, Costa Mesa, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 9, 1967, Ser. No. 673,669
Int. Cl. H04n *5/04*
U.S. Cl. 178—69.5 **6 Claims**

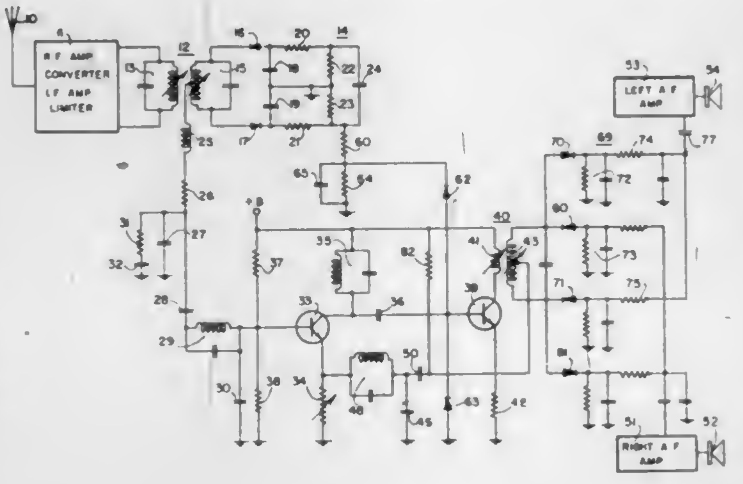
Means for synchronizing the frame and bit rates of a received signal with the frame and bit rates of a receiver comprising a shift register to which the received data bits are supplied. First and second counter are each advanced one count by each received bit and are alternately reset to zero by successively received frame synchronizing pulses so that the counters keep track of bits received in alternately occurring frames. The counter keeping track of a given received frame has its output connected to the matrix by the next received frame synchronizing pulse.


TRANSMITTER
TRANSMISSION MEDIUM
DETECTOR
SHIFT REGISTER
CIRCUIT FOR DERIVING A BIT SYNCHRONIZING PULSE FOR EACH DATA BIT RECEIVED
CIRCUIT FOR DERIVING FRAME SYNCHRONIZING PULSES FROM RECEIVED SIGNAL
MATRIX
CIRCUIT FOR FORMING A TWO LEVEL SIGNAL
RECEIVER (DATA PROCESSOR)
CIRCUIT FOR DERIVING FRAME SYNCHRONIZING PULSES FOR RECEIVER
CIRCUIT FOR DERIVING FRAME SYNCHRONIZING PULSES FOR RECEIVER
RESET
COUNTER #1
COUNTER #2
100
101
102
103
104
105
107
108
109
120
121
125

Said matrix means responds to the count of said connected counter to address the corresponding shift register stage and supply the bit stored therein through the matrix to a gating means at the output thereof. Each receiver bit synchronizing pulse decrements the connected counter by one and also opens said gating means to pass the data to a receiver means. Thus the connected counter count always corresponds to that shift register stage containing the next bit to be transferred therefrom.

3,506,787
STEREOPHONIC FM RECEIVER

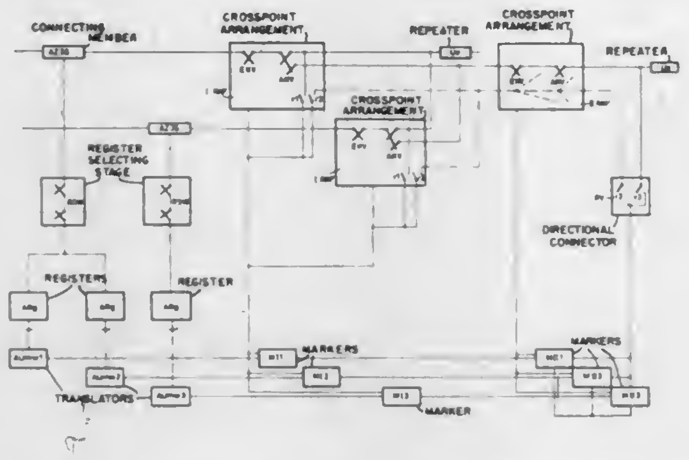
Leslie P. Golonski, Hanover Park, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 11, 1966, Ser. No. 535,302
Int. Cl. H04h *5/00*
U.S. Cl. 179—15 **6 Claims**



In a stereophonic receiver, the input to a transistor amplifier in the frequency doubling circuit, for providing the 38 kc. reference signal in response to the 19 kc. pilot tone signal, is shunted with a normally conductive diode to prevent noise signals from being translated through the doubling circuit. The diode is reverse-biased in response to a received carrier wave of a predetermined magnitude to enable the 38 kc. doubling circuit to be responsive to the 19 kc. pilot tone signal applied to its input.

3,506,788
CROSSPOINT SELECTION CIRCUITS

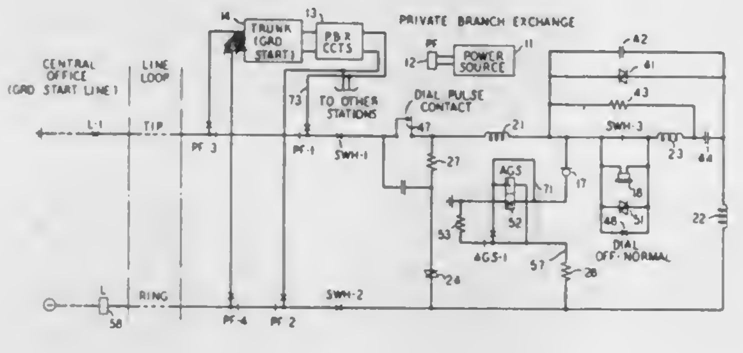
Anton Pfau, Stuttgart-Zuffenhausen, Gerhard Kohler, Stuttgart-Weilimdorf, and Nikolaus Lewen, Tamm, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 29, 1966, Ser. No. 561,626
Claims priority, application Germany, July 1, 1965, St 24,062
Int. Cl. H04m *3/22*
U.S. Cl. 179—18 **7 Claims**



A switching system is provided which uses crosspoint arrangements in tandem to reduce the requirements for central control facilities. In the system, a first crosspoint arrangement is controlled by a marker and the second crosspoint arrangement is provided with a guidewire network. The marker of the first crosspoint arrangement is used to control seizure of continuing lines with the aid of test potentials, or will select the search wires of the second crosspoint arrangement with the aid of a search potential.

3,506,789
AUTOMATIC GROUND START CIRCUIT FOR PRIVATE BRANCH EXCHANGES

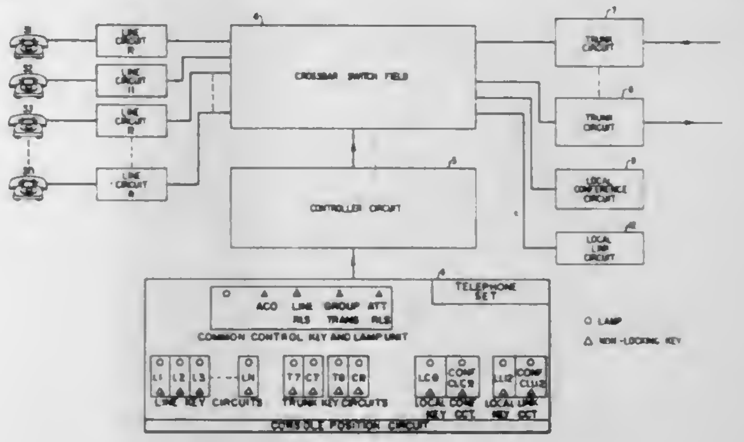
Richard W. Brockschmidt, Downers Grove, and Robert W. Hutton, Sr., Oak Lawn, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 25, 1967, Ser. No. 655,854
Int. Cl. H04m *7/00*
U.S. Cl. 179—18 **10 Claims**



An automatic ground start circuit for use at PBX stations equipped for automatic cut-through to a central office in the event of a power failure at the PBX includes a relay for controlling connection of the start ground to the line. The relay is connected to the line at the station and the point of connection coincides with the electrical midpoint between the two sides of the line so that the relay will not be sensitive to supervisory potential reversals on the tip and ring.

3,506,790
SIMULTANEOUS TRANSFER CONFERENCE SYSTEM

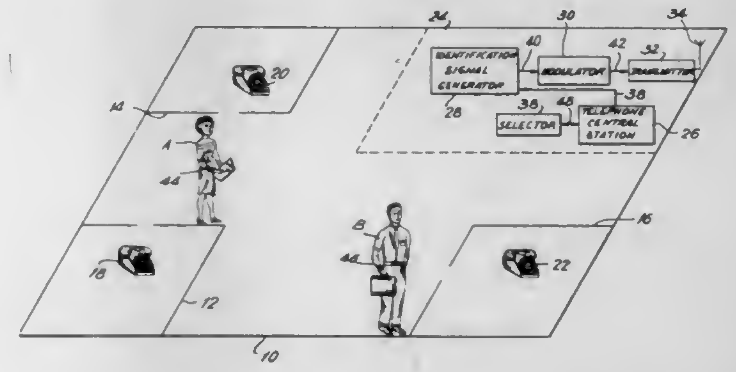
Milton E. Ozenberger, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed June 22, 1966, Ser. No. 559,527
Int. Cl. H04m *3/56*
U.S. Cl. 179—27 **8 Claims**



A telephone key type switching system is arranged to establish a conference connection between a plurality of stations and thence via a particular channel to another remote station. The console-coordinated key controlled switching system employs a crossbar switch field as the network media for interconnection of the stations and for connecting stations to communication channels terminating in the external telephone network. Control circuitry, including a memory capable of recording reconnection of conference lines, allows the group of conference stations to be subsequently transferred en masse from one conference channel to any other conference channel.

3,506,791
TELEPHONE SYSTEM FOR DIRECTING CALLS TO PERSONS INSTEAD OF STATIONS

Josef Halaby, 1406 New York Ave., Brooklyn, N.Y. 11210
Filed Jan. 16, 1967, Ser. No. 609,374
Int. Cl. H04q *7/04*
U.S. Cl. 179—41 **15 Claims**

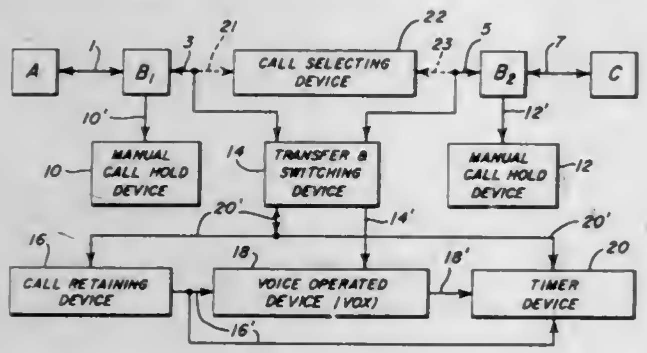


A method is disclosed according to which telephone calls are made to persons rather than to stations. To practice this method, a system is disclosed in which an incoming call received by a central station causes the wireless transmission of a signal identifying the person being called. This person wears a transceiver which alerts the person to the fact that he is being called. He then goes to any one of a number of special telephones which are actuated by the person's transceiver to control a selector to connect the incoming call to the telephone thusly approached.

3,506,792
SEMIAUTOMATIC DIVERTER FOR TELEPHONE CALLS

Edward Rudo, 5809 Jonquil Ave. 21215; Sidney Gerstein, 716 Glenwood Ave. 21212; and Robert G. Smith, 844 Reverdy Road 21212, all of Baltimore, Md.

Filed Mar. 11, 1966, Ser. No. 533,506
Int. Cl. H04m *5/08*
U.S. Cl. 179—42 3 Claims

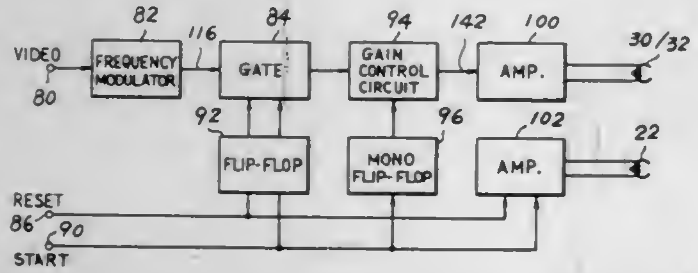


A semiautomatic diverter for diverting telephone calls comprising first and second telephones located at a predetermined site, a manually actuated call holding device, associated with these telephones for maintaining a telephone link between the first telephone and a randomly, remotely located third telephone, manually actuated means for establishing a telephone link between the second telephone and a selected remotely located fourth telephone and a manually actuated transfer device for establishing a telephone link between the first and second telephones whereby a telephone link is established between the third and fourth telephones via the telephone link between the first and second telephones, monitoring means coupled to the transfer device for detecting audio frequencies in the telephone link between the third and fourth telephones and deactuating means associated with the monitoring means for deactuating the transfer device so that the link between the third and fourth telephone is broken after no audio frequencies are detected for a predetermined delay period.

3,506,793
MAGNETIC TAPE EDITING SYSTEM WITH A BILEVEL SIGNAL AMPLIFIER

Yuzuru Inoue, Tokyo, and Shuichi Wada, Nagoya, Japan, assignors to Victor Company of Japan, Limited, Kanagawa-ku, Yokohama City, Japan

Filed Feb. 9, 1967, Ser. No. 614,933
Claims priority, application Japan, Feb. 23, 1966, 41/10,907
Int. Cl. G11b *27/02, 27/08;* **H04n** *1/28*
U.S. Cl. 179—100.2 11 Claims

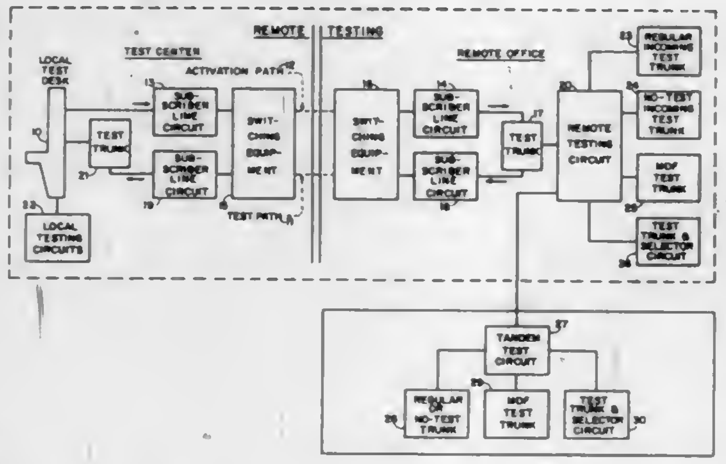


An editing system for an information recorder is disclosed. The illustrated embodiment, adapted for incorporation with a helical-scan, magnetic tape, video recorder comprises a bilevel signal amplifier for amplifying the beginning portion of a new signal segment which is recorded over an existing signal on a prerecorded tape at a higher signal level than the remaining portion of the new signal segment which is recorded on erased tape. By recording the beginning portion of the new signal at a higher signal level, the distracting effects of a "beat signal" editing mark are reduced or eliminated.

3,506,794
TANDEM TESTING OF TELEPHONE LINES

William Chulak, Chambly, Quebec, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Jan. 22, 1968, Ser. No. 699,561
Int. Cl. H04m *3/26*
U.S. Cl. 179—175.2 5 Claims



This invention relates to tandem testing of telephone offices located within a limited distance from a remote office equipped for remote testing. Such testing is carried out under the control of a test desk located at a test center, through, the remotely controlled office, and over a direct current trunk between the remotely controlled office and the other office located within a limited distance of the remotely controlled office.

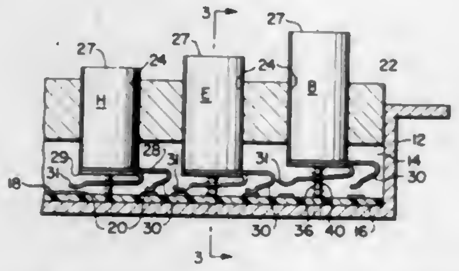
ERRATUM

For Class 191—23 see:
Patent No. 3,506,099

3,506,795
ELECTRICAL SWITCH DEVICE

Raymond F. Schmidt, 11 MacGregor Court, Waldwick, N.J. 07463

Filed Oct. 24, 1967, Ser. No. 677,636
Int. Cl. H01h *9/26*
U.S. Cl. 200—5 22 Claims

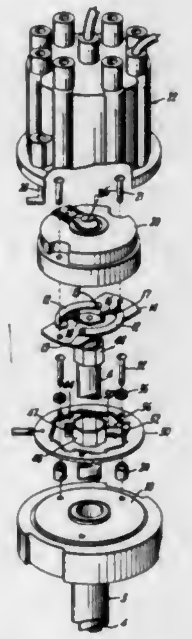


An electrical switching assembly for transmitting electrical codes including a printed circuit board with conducting strips, portions of which serve as fixed switch contacts, one manner of accomplishing this is to have the strips include printed circuit contact pads. Keybuttons mounted above the board each have movable spring contacts attached to their bottom end and in various embodiments such spring contacts engage the pads to close or to open the circuit through the conducting strips upon depression of the buttons. At least one of the spring contacts may be used to bias the button to its normal raised position. Various coding arrangements are obtainable by varying either or both of the number and the position of the spring contacts and the coding stations on the printed board. Also, the spring contacts move into engagement with the printed pads in a direction which is non-parallel relative to the board and are shaped to provide a wiping action against the pads during button operation.

3,506,796
DISTRIBUTOR UTILIZING A STATIONARY CAM PLATE COACTING WITH A RESILIENT SELF-WIPING CONTACTOR

Cosimo Roschilla, 2442 Hampton St., East Meadow, N.Y. 11554

Filed Dec. 19, 1966, Ser. No. 602,963
Int. Cl. H01h *1/36, 19/32*
U.S. Cl. 200—19 10 Claims

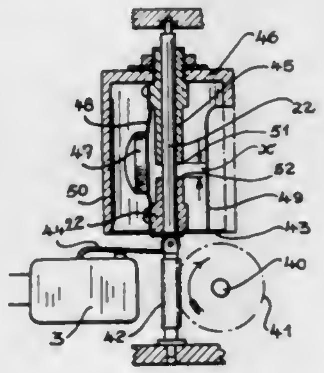


A distributor system for an internal combustion engine wherein there is provided at least one spring loaded rotary self-wiping breaker point which engages in succession, as it rotates, a series of circumferentially arranged cam surfaces, each surface having a terminal high point such that as the rotating breaker point travels along each cam surface a charge is built up in the distributor system's electrical circuit. When the rotating, self-wiping breaker point moves off the high portion of each of the cam surfaces a magnetic field collapse is caused. This collapse, aided by condenser action, induces the high voltage in the second winding of the ignition coil, which high voltage surge is led to the proper spark plug.

3,506,797
SWITCH ACTUATING ARRANGEMENT

Heinz Georg Ostwald, Frankfurt am Main-Bonames, Germany, assignor to Eichner Organisation G.m.b.H., Neuenhain, Taunus, Germany

Filed Aug. 21, 1967, Ser. No. 662,123
Claims priority, application Germany, Aug. 20, 1966, E 32,325
Int. Cl. H01h *35/06*
U.S. Cl. 200—61.46 4 Claims

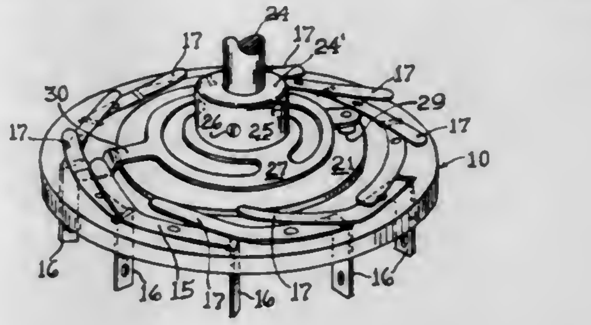


The source of light by which photosensitive papers are exposed in a copying machine, is automatically disconnected by opening a switch when the speed of the transporting roller of the papers drops below a predetermined minimum speed so that damage to the papers by overheating is prevented. The actuating means of the switch are stopped after actuation to prevent damage to the switch.

3,506,798
MULTI-POSITION BREAK-BEFORE-MAKE SNAP-ACTION SWITCH

Walter L. Cherry, Highland Park, Ill., assignor to Cherry Electrical Products Corporation, Highland Park, Ill., a corporation of Illinois

Filed Sept. 11, 1967, Ser. No. 666,717
Int. Cl. H01h *19/32*
U.S. Cl. 200—63 4 Claims

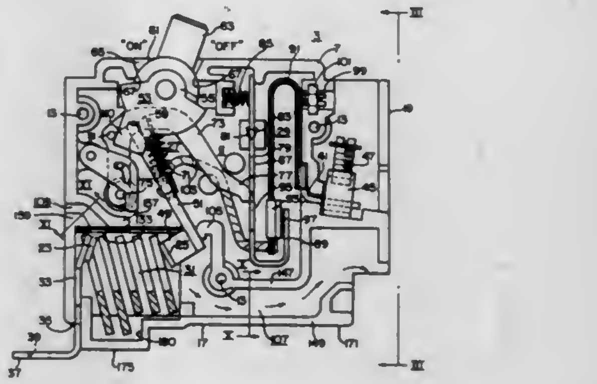


A snap-action switch having a multiple break-before-make position which includes a non-conductive mounting plate upon which is carried a contact ring as well as a movable switch member that provides a contact point and a wiper finger diametrically related to each other and extending in a coplanar relation with respect to the mounting plate. A plurality of spaced apart conductor members providing contact fingers are carried by the mounting plate, and have the contact fingers extending over and above a portion of an adjacent conductor member such that the wiper finger as it is moved over the mounting plate can only successively engage adjacent contact fingers in a break-before-make fashion.

3,506,799
CIRCUIT BREAKER WITH IMPROVED VENTING MEANS AND ARC EXTINGUISHING STRUCTURE

James P. Ellsworth and Glenn R. Thomas, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 23, 1967, Ser. No. 648,288
Int. Cl. H01h *9/44*
U.S. Cl. 200—147 10 Claims



A circuit breaker comprises an improved arc-extinguishing structure and improved means for venting arc gases from the breaker housing.

3,506,800
QUICK-CHANGE TOOL FOR ELECTROEROSIVE MACHINING

Thomas J. O'Connor, 100 Morgan Road, Ann Arbor, Mich. 48104

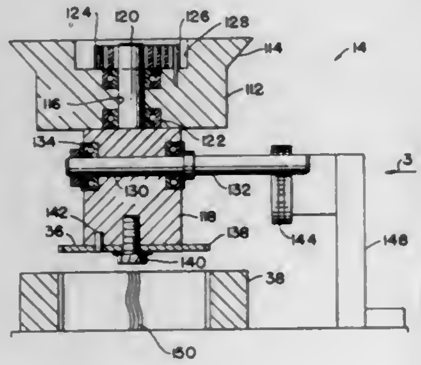
Original application June 20, 1966, Ser. No. 558,695. Divided and this application Jan. 8, 1968, Ser. No. 696,280
Int. Cl. B23k *7/02*
U.S. Cl. 219—69 8 Claims

A quick-change tool for use in electrical machining of arcuate grooves or holes in conductive workpieces in conjunction with electrical machining apparatus is disclosed.

The quick-change tool includes a dovetail base plate portion for rapidly and accurately securing the tool to electrical machining apparatus.

In one embodiment the quick-change tool includes a cylindrical body member having a disc electrode secured to one end thereof which body member is mounted for rotation about its axis of generation at the other end. A cam follower shaft extends transversely from the body member biased into engagement with a vertically extending cam surface whereby on downward movement of the body member the electrode will rotate in accordance with the cam surface to machine axially arcuate interior grooves in a cylindrical workpiece.

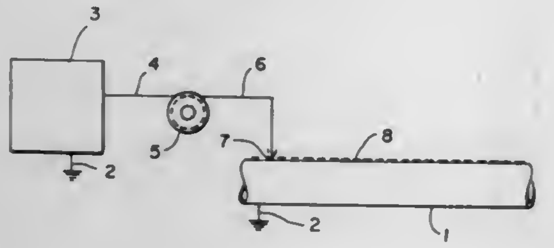
In another embodiment the quick-change tool includes structure for moving a helical electrode axially while simultaneously rotating the helical electrode to produce a helical opening in a conducting workpiece. The second embodiment of the quick-change tool may also be used to provide linear eroding of a workpiece with a continuously rotated electrode.



In addition unique ram structure for electrical machining apparatus is disclosed including a vertically movable ram guided in one modification by triangular three point roller adjustable guide structure at spaced apart locations therealong whereby the vertical axis of the ram may be readily adjusted and ram guide wear compensated for. In a second modification of the ram structure, two point roller and a friction surface guiding of the ram is provided. Adjustable counterbalance means is also provided for the ram structure comprising an adjustable helical coil connected between the ram and guide means therefor operable to wind up on downward movement of the ram.

3,506,801
FUSION MARKING OF METAL ARTICLES

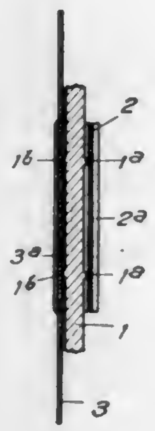
Walter Michael Smith, Bethel Park, Pa., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1968, Ser. No. 731,475
Int. Cl. B23k *9/04*
U.S. Cl. 219—76 3 Claims



A metal article is marked for identification by fusing to its surface a nugget of a second metal which contrasts with the metal of the article.

3,506,802
RESISTANCE WELDING

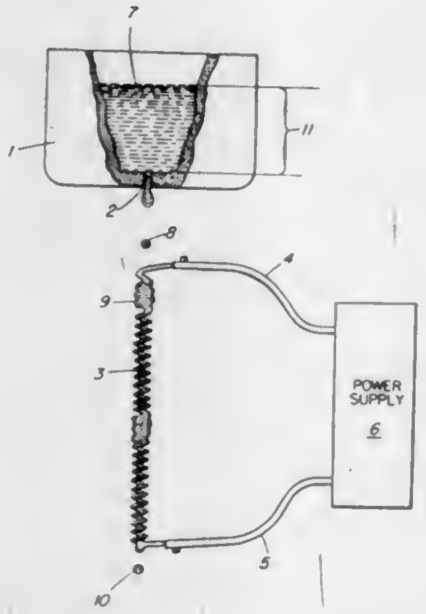
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Automobiles Citroen, Paris, France
Filed May 23, 1966, Ser. No. 551,966
Claims priority, application France, May 21, 1965, 3,211
Int. Cl. B23k *9/28, 11/10*
U.S. Cl. 219—93 3 Claims



A method of welding two metal plates of different thicknesses comprises providing the thicker plate with at least one integral continuous rectilinear rib along a surface thereof which is to face the thinner plate, placing the rib in contact with the thinner plate and resistance welding the plates together along said rib.

3,506,803
METHOD AND APPARATUS FOR CONTINUOUS VAPORIZATION OF LIQUIDS

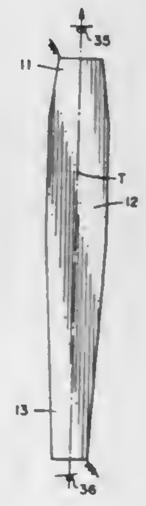
Thomas Gordon Hart, Cranbury, N.J., assignor to Phelps Dodge Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 8, 1968, Ser. No. 726,636
Int. Cl. F22b *1/00*
U.S. Cl. 219—273 21 Claims



Material to be vaporized is deployed as a film forming a sheath about the turns of a vertical heating coil having the property of being wet by the liquid. The sheath is maintained by causing globules of the liquid to periodically travel down the coil. Liquid from the traveling globules distributes itself about the turns to replenish the sheath as liquid is vaporized.

3,506,804
DEVICES FOR HEATING FILAMENTS OR TREADS

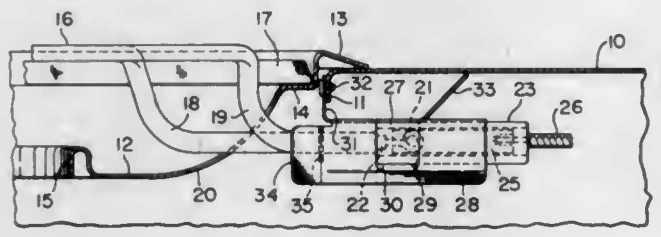
Heinz Schippers and Hans Lohest, Remscheid-Lennep, and Heinz Treptow, Ennepetal-Milspe, Germany, assignors to Barmag Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal, Germany
Filed Mar. 8, 1967, Ser. No. 621,566
Claims priority, application Germany, Mar. 14, 1966, B 86,192
Int. Cl. F27b *9/06*
U.S. Cl. 219—388 9 Claims



Elongated, filament heating devices heated by, or in form of, electric resistors with varying area and/or transverse cross section for maintaining substantially constant or predetermined, varied temperature throughout length of heating device.

3,506,805
ELECTRIC RANGE SURFACE ELEMENT ASSEMBLY

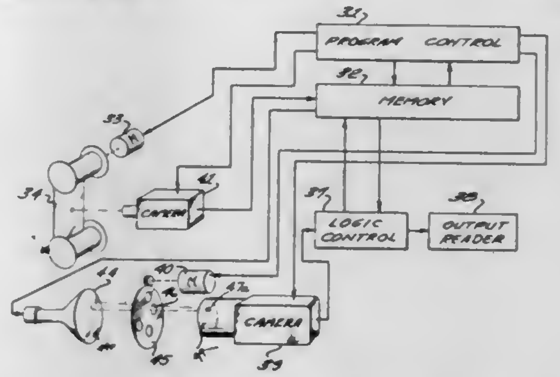
Donald R. Sauder, Bellville, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed June 6, 1968, Ser. No. 735,112
Int. Cl. H05b *3/76*
U.S. Cl. 219—451 3 Claims



An electric spiral sheathed resistance held in a top plate opening by a drip bowl having an integral trim ring, with the element ends extending through the bowl and plugged into a socket mounted at the underside of the top plate by a one-piece metal bracket of inverted channel form. The socket has side bosses seized in cut-outs in the sides of the bracket and the bracket top is cut and bent to form upward tabs, one of which is attached by a fastener to the top plate.

3,506,806
OPTICAL DATA PROCESSING SYSTEM

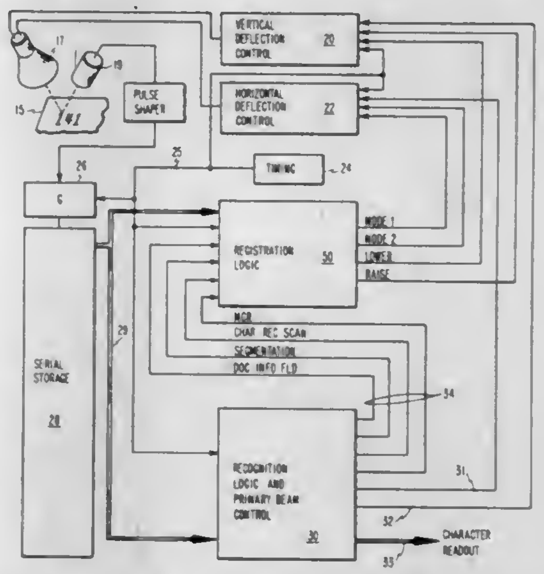
Joseph K. Hawkins, Newport Beach, and Clarence J. Munsey, Costa Mesa, Calif., assignors, by mesne assignments, to Philco-Ford Corporation, a corporation of Delaware
Filed Oct. 18, 1963, Ser. No. 317,372
Int. Cl. G06k *7/00*
U.S. Cl. 235—61.6 7 Claims



Optical data processing system using binary display matrix and associated receiving matrix having light sensitive points, each arranged to receive light from several bit locations on display matrix.

3,506,807
SCAN CENTERING DEVICE

Davey L. Malaby, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 24, 1965, Ser. No. 509,512
Int. Cl. G06k *7/015, 9/04*
U.S. Cl. 235—61.11 27 Claims

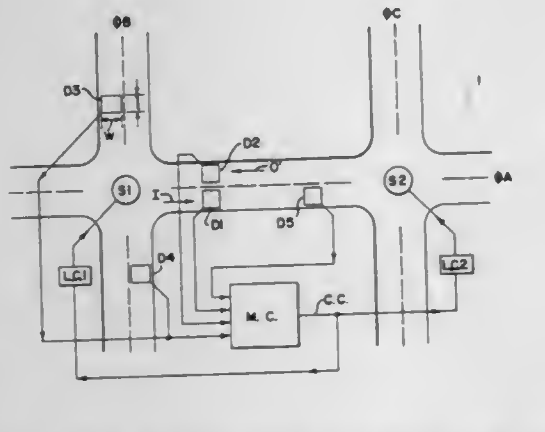


Apparatus is provided for centering the field of scan of a flying spot scanner on a line of characters to be read. Logic circuits are responsive to digitized video data to develop feedback signals to the vertical and horizontal deflection control circuits for the scanner to control both the vertical field of scan and the amount of horizontal raster displacement for initial line location, for line following and for character recognition. Different logical criteria is used in each of the three modes to obtain an optimum performance. Bit weighting is used for dampening the response of the system.

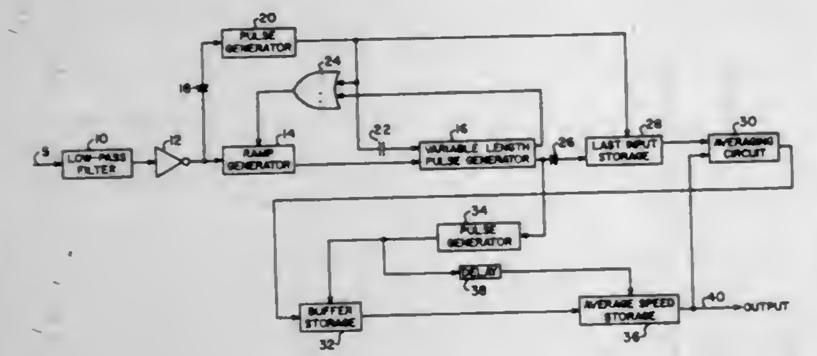
3,506,808
VOLUME-OCCUPANCY CONTROL OF TRAFFIC FLOW

Ralph M. Riddle, Jr., and James H. Hufford, Moline, Ill., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Mar. 24, 1967, Ser. No. 625,742
Int. Cl. G08g *1/07;* **G06g** *7/12*
U.S. Cl. 235—150.24 18 Claims

A traffic control apparatus which includes volume and occupancy computers for developing traffic volume and traffic occupancy level signals. A combining device serves to combine these signals and provide a volume-occupancy level signal. A traffic function selector receives the volume-occupancy level signal to control such traffic functions as cycle length, offset and split. A stoppage detector serves, when the volume-occupancy level signal is greater than a given value, to stop the computing function by the computers and a detector transfer circuit serves under these conditions to substitute a secondary traffic detector for a primary traffic detector coupled to the computers.



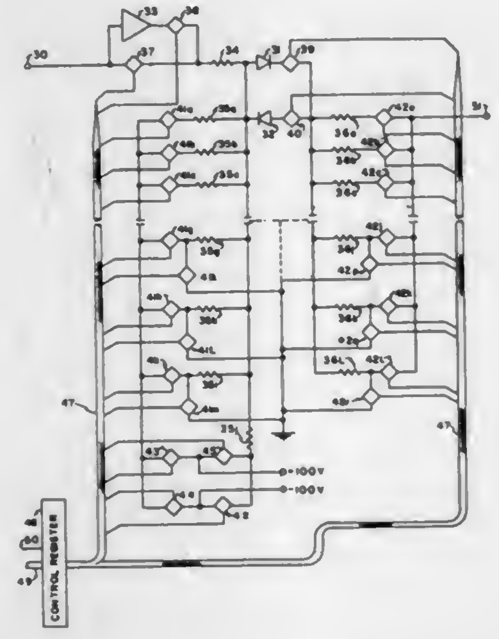
3,506,809
SPEED AVERAGING CIRCUIT
Ludwig R. Pallat, Rochester, N.Y., assignor to LFE Corporation, Waltham, Mass., a corporation of Delaware
Filed Feb. 21, 1967, Ser. No. 617,555
Int. Cl. G06f *15/48*
U.S. Cl. 235—150.24 10 Claims



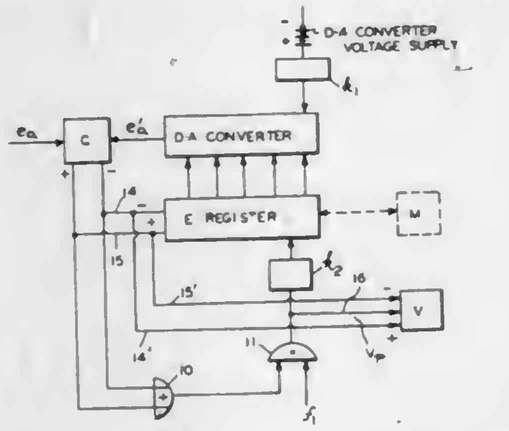
A speed averaging circuit adapted for use with vehicle detection devices of the type which generates a pulse with a duration inversely proportional to the speed of the detected vehicle. The pulse duration is inverted to give a voltage pulse of duration directly proportional to vehicle speed. This pulse duration is converted to a voltage level which is then averaged with a stored voltage level representing the average speed of preceding vehicles.

3,506,810
DIGITAL CONTROLLED FUNCTION GENERATOR INCLUDING A PLURALITY OF DIODE SEGMENT GENERATORS CONNECTED IN PARALLEL
Emanuel Katell, Lincroft, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Dec. 14, 1966, Ser. No. 611,199
Int. Cl. G06g *7/26*
U.S. Cl. 235—150.53 1 Claim

A function generator is adapted to be controlled by a digital signal source and includes a plurality of diode segment generators in parallel connection with each having means therein to select a diode orientation, a plurality of biasing means selectable to incrementally bias the diode to different conducting levels which may be either positive or negative relative to the diode orientation and a plurality of resistance means selectable for series connection with the diode to provide incremental increases in the slope of the generated function segment, the respective selections being in accordance with the format of the signals generated by the digital signal source.

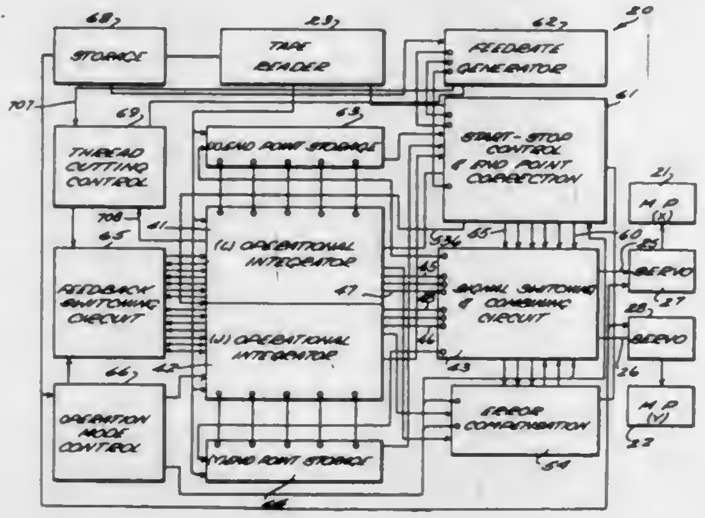


3,506,811
PROCESS CONTROL APPARATUS
Edward W. Yetter, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 1, 1966, Ser. No. 530,842
Int. Cl. G06f *15/46;* **G06j** *1/00*
U.S. Cl. 235—151.1 13 Claims



A process controller adapted to service an individual process loop, or a relatively small number of individual process loops collectively, incorporating a null-balancing comparator opposing a process signal which is a function of the process to be controlled with a counterbalancing signal generated responsive to the sensed unbalance between the two signals, and concurrently generating a proportionate control effectuation signal applied to apparatus operating on the process.

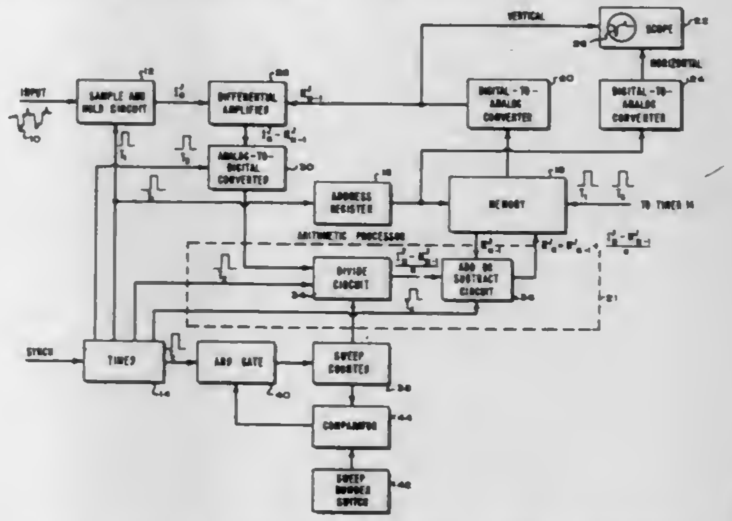
3,506,812
CIRCULAR INTERPOLATION SYSTEM
Harvey J. Rosener, Dayton, Ohio, assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 3, 1964, Ser. No. 341,958
Int. Cl. G06f *7/38, 15/46*
U.S. Cl. 235—152 29 Claims


STORAGE
TAPE READER
FEEDRATE GENERATOR
THREAD CUTTING CONTROL
START-STOP CONTROL & END POINT CORRECTION
FIXED POINT STORAGE
(x) OPERATIONAL INTEGRATOR
(y) OPERATIONAL INTEGRATOR
FEEDBACK SWITCHING CIRCUIT
SIGNAL SWITCHING & COMBINING CIRCUIT
OPERATION MODE CONTROL
ERROR COMPENSATION
SERVO
SERVO

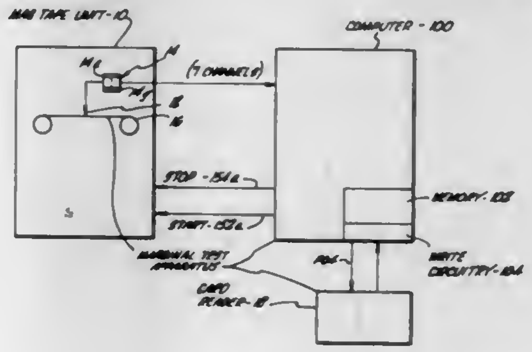
A numerical control system for responding to program information to generate trains of command pulses on *x* and *y* output lines for performing relative *x* and *y* movements proportional to the respective numbers of command pulses comprising a pair of operational integrators each having an integrand register and an accumulator register, a pulse code unit operable through a cycle of operation to produce four series of pulses and a carry pulse in each cycle of operation thereof with the numbers of pulses in said series being selectively addable to produce any number from one through nine and with the pulses of each series being non-coincident with the carry pulse and the pulses of the other series, serially connected register units in said accumulator register each comprising a decade counter having an input and an output, four gates for selectively applying said four series of pulses to said decade counter input, means for storing an output pulse from said decade counter, means responsive to a carry pulse from said pulse code unit for transmitting a stored output pulse to the input of a subsequent unit, serially connected register units in said integrand register and four lines connecting said gates of each accumulator register unit to an integrand register unit for parallel control therefrom. The operational integrators may be selectively interconnected for linear or circular interpolation.

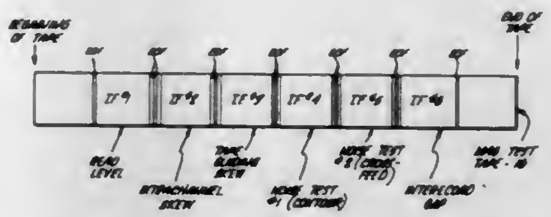
3,506,813
SIGNAL-TO-NOISE RATIO ENHANCEMENT METHODS AND MEANS
Charles R. Trimble, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 13, 1966, Ser. No. 557,167
Int. Cl. G06f *7/39;* **A61b** *5/04;* **G01r** *29/00*
U.S. Cl. 235—152 15 Claims

A selected interval of a recurring input signal is repetitively sampled in amplitude at the same time positions during successive signal averaging cycles. During the first cycle the amplitude information obtained from each sample is stored as an average of one recurrence of the selected input interval in a memory channel associated with the time position of that sample. During each succeeding cycle the difference in amplitude between each sample and the average stored in the associated memory channel during the preceding cycle is divided by a selected factor and the resultant quotient signal employed as a correction factor to update that average.



3,506,814
MARGINAL TEST METHOD AND APPARATUS
Duncan N. MacDonald, Arcadia, and Sebastian Grabl, Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 10, 1965, Ser. No. 462,971
Int. Cl. G06f *11/00;* **G11b** *5/00;* **G01r** *15/12*
U.S. Cl. 235—153 42 Claims

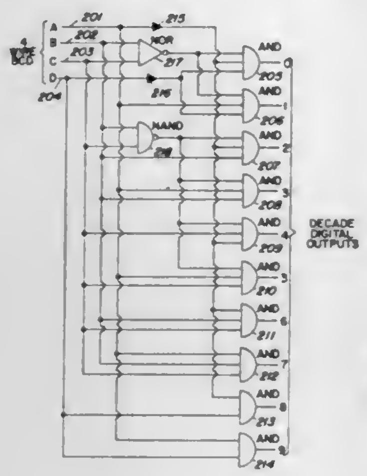




A test record member for a reading apparatus that has serially readable indicia thereon. The indicia is serially and systematically degraded in readability from indicia which can be, to indicia which cannot be, read by the reading apparatus. A digital reading apparatus serially reads such test record member and provides corresponding output signals. A data processing apparatus monitors the signals from the reading apparatus and determines when failure of reading occurs because of the degraded indicia on the record member. A method is disclosed for determining the point of failure of the digital record member reading apparatus using such record member.

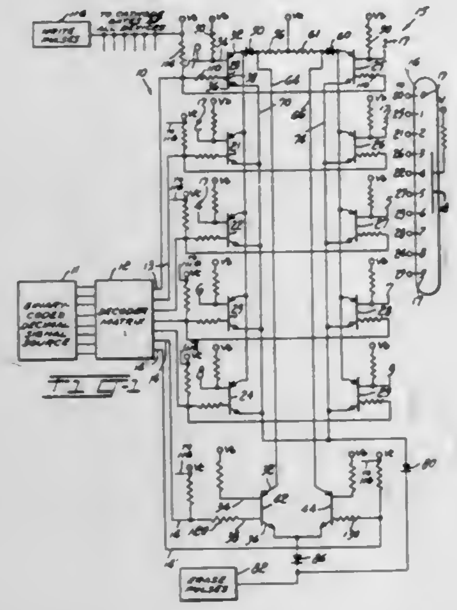
3,506,815
BINARY CONVERTER
James S. Stone, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 28, 1966, Ser. No. 605,508
Int. Cl. H03k *13/00;* **G06f** *5/02*
U.S. Cl. 235—155 3 Claims

Binary coded data present on four input lines is converted into decade logic information present on ten output lines. For a given combination of input signals only one of the ten output lines contains a logic "1" while the remaining nine contain a logic "0." The conversion is made by the use of known logic circuits primarily consisting of AND, NAND, OR, NOR and inverter circuitry.



3,506,816
ELECTRONIC DECODER CIRCUIT

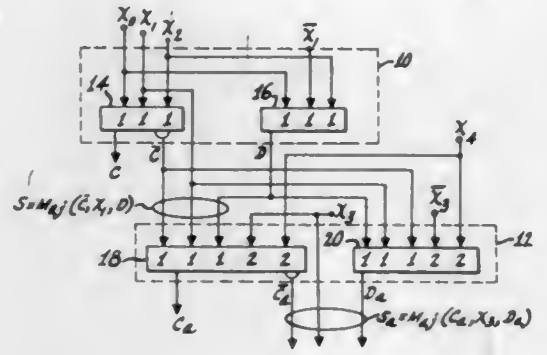
James J. Klinikowski, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 1, 1965, Ser. No. 468,891
Int. Cl. H03k *13/00;* **G06f** *5/02*
U.S. Cl. 235—155 **1 Claim**



A decoder circuit comprising a decimal display tube of the type adapted to provide visual display of numerals "0" to "9" and ten four-electrode semiconductor switching devices arranged in five pairs so that there are two groups, each including five of the devices. In addition, two auxiliary control switching devices of the same type are coupled, one to each group of five switching devices. Each control device is connected so that it can disable its group of five switching devices, whereby the other group of five is enabled. The ten switching devices and the two control devices are connected to the output of a decoder which provides output signals in biquinary form decoded from binary-coded decimal code. The applied signals operate one of the control devices and one member of the enabled group of five devices, whereby a single cathode numeral in the display tube is energized. Low level input signals may be used to operate the various switching and control devices because of the manner in which the control devices are connected to the groups of switching devices.

3,506,817
BINARY ARITHMETIC CIRCUITS EMPLOYING THRESHOLD GATES IN WHICH BOTH THE SUM AND CARRY ARE OBTAINED IN ONE GATE DELAY INTERVAL

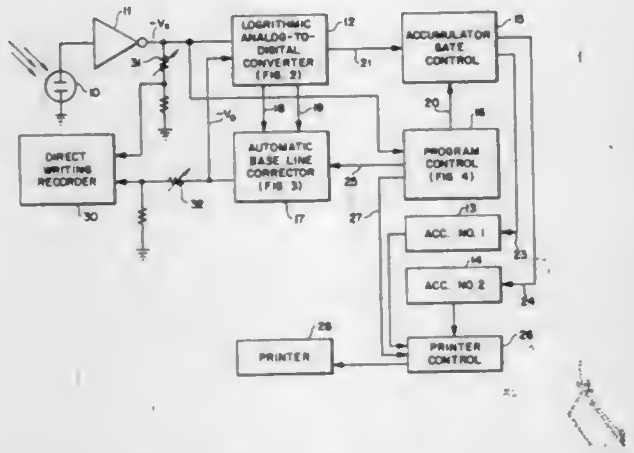
Robert O. Winder, Trenton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Feb. 24, 1967, Ser. No. 618,508
Int. Cl. G06f *7/385*
U.S. Cl. 235—176 **8 Claims**



This disclosure relates to binary arithmetic circuits employing threshold gates. In particular, the disclosure relates to fast binary adders and to multipliers implemented with such adders.

3,506,818
DIGITAL INTEGRATOR WITH AUTOMATIC BASE LINE CORRECTION

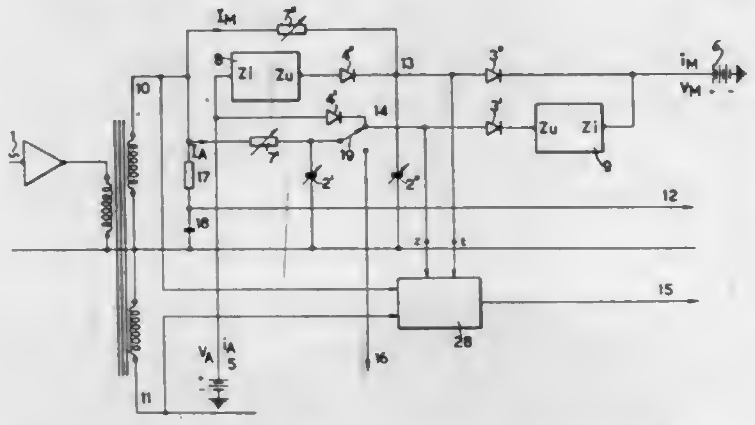
Douglas H. Smith, Albany, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed June 6, 1966, Ser. No. 555,534
Int. Cl. G06g *7/18;* **G06f** *15/20*
U.S. Cl. 235—183 **17 Claims**



An apparatus for integrating the area under the peaks of a first electrical signal waveform which integration is performed with respect to a second electrical signal reference. The first and second electrical signals are simultaneously applied to a converter that provides a series of output pulses having time intervals related to the logarithm of the ratio of the amplitude of the first signal with respect to the amplitude of the second signal which output pulses are applied to an accumulator for totaling the time intervals of the output pulses associated with each signal peak. A correction means is connected to the converter for varying the amplitude of the second signal until it is equal to that of the first signal during time periods the accumulator is inactivated. A control means is responsive to the first signal to enable the accumulator during the presence of a signal peak and to enable the correction means during the absence of a peak. A recorder continuously records both the first and second electrical signals simultaneously, as a function of time.

3,506,819
ELECTRONIC SIMULATOR FOR CYLINDERS OF RECIPROCATING COMPRESSORS

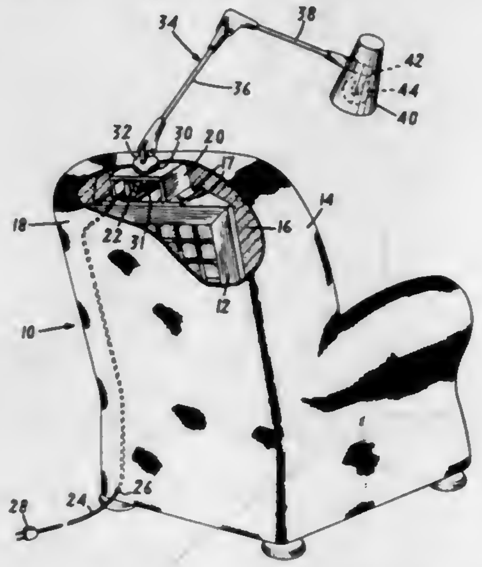
Roberto Carli, Milan, Vincenzo Gervasio, San Donato Milanese, and Giorgio Spallanzani, Milan, Italy, assignors to SNAM S.p.A., Milan, Italy, an Italian company
Filed Oct. 18, 1965, Ser. No. 497,004
Claims priority, application Italy, May 14, 1965, 4,662/65
Int. Cl. G06g *7/70*
U.S. Cl. 235—184 **3 Claims**



The invention comprises an electronic simulator for the operation of an engine having reciprocating pistons, employing voltages to simulate fluid pressures and currents to simulate fluid flow, and consisting of two similar, coupled circuits provided with a common higher and a common lower potential source, the potentials of the two sources simulating, respectively, the discharge and intake pressures of a cylinder, each circuit including two rectifiers, to simulate valves, connected in series to limit current flow from the lower to the higher potential source, a variable capacitor simulating cylinder volume, and an alternating current source connected, in series with a variable resistor, across the capacitor to simulate the movement of the piston in the cylinder.

3,506,820
COMBINED LIGHT SOURCE AND ARTICLE OF FURNITURE

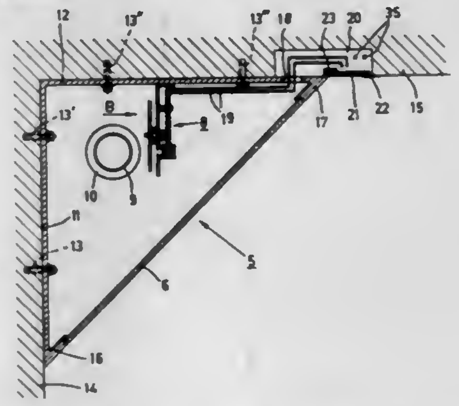
Michael J. Shannon, 130 Greenwood Ave., Bend, Oreg. 97701
Filed Oct. 11, 1967, Ser. No. 674,506
Int. Cl. F21v *33/00*
U.S. Cl. 240—4 **7 Claims**



A combined light source and article of furniture consisting of a chair or the like having mounted in the top of the back thereof a step-down transformer for transforming a conventional household 110 volt A-C power signal into a reduced A-C power signal. The household power signal is supplied to the input winding of the transformer by a power cord which extends through the chair to a plug outside the chair adapted for engagement with a conventional wall socket. The output winding of the transformer is connected to a socket similarly mounted in the chair for removable engagement with a connector carried by an articulated support arm. On its other end, the support arm carries a small concentrated and directed light source which operates on the reduced voltage supplied across the output winding of the transformer.

3,506,821
TUNNEL-LIGHTING ARRANGEMENT

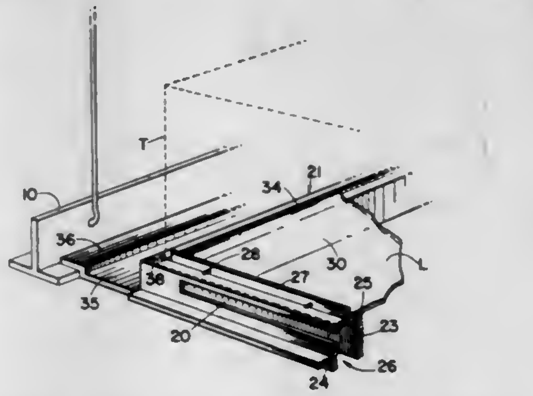
Pieter Jan Bolhuis and Jozef Cornelis Moerkens, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,814
Claims priority, application Netherlands, June 4, 1966, 6607797
Int. Cl. F21s *3/10*
U.S. Cl. 240—9 **8 Claims**



A tunnel lighting fixture has a closed housing of which one portion is translucent. A photosensitive element is mounted in the housing near the light source to receive light therefrom and is shielded from exterior light. A light filter having variable permeability is positioned between the light source and the photosensitive element, such that by varying the permeability, the amount of light striking the photosensitive element is varied, thereby affecting electric current control means and the light intensity.

3,506,822
UNIVERSAL AIR HANDLING TROFFER FRAME

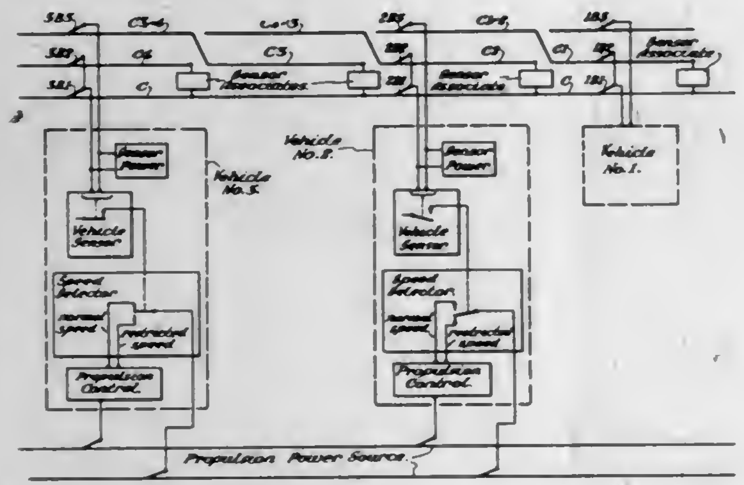
Gerard Edmund Mulvey, 36 Castle Frank Road, and George Elliott Boake, 6 Maple Ave., both of Toronto, Ontario, Canada
Filed Dec. 4, 1967, Ser. No. 687,697
Int. Cl. F21s *3/08, 3/14*
U.S. Cl. 240—9 **6 Claims**



A supporting frame for use with light troffers of the kind employing fluorescent lamps. In order to support the support the light troffers in position in the ceiling, the frames are constructed separately and are of a readily variable design to accommodate changes in length, without affecting the light troffers. Also provided is a method for custom designing of lighting installations at very low cost without altering the light troffers, and as such is adaptable for use with or without air handling facilities without revealing any apparent alteration to the naked eye. The troffer frames are preferably formed of extruded material such as aluminum and provided with concealed attachment flanges to which the sheet metal troffer boxes can be attached.

3,506,823
VEHICLE SPEED CONTROL SYSTEM

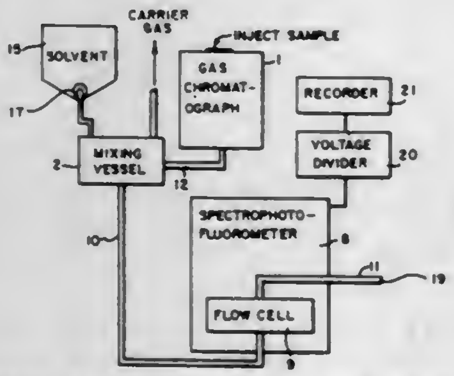
Charles W. Failor, Forest Hills, Pa., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Dec. 21, 1967, Ser. No. 692,373
Int. Cl. B61l *23/16*
U.S. Cl. 246—66 **11 Claims**



A speed control system for vehicles traversing a fixed roadway. Operating control apparatus carried on each vehicle is coupled to wayside conductors arranged in a preselected pattern dividing the roadway into sections. Signals transmitted from a vehicle are reflected as distinctive signals by an inert device, responsive only to said transmitted signals, connected between selected conductors at exit end of the immediate advance section. Reception or non-reception of reflected signals by vehicle control apparatus actuates normal or restricted speed control, respectively. An occupancy detection shunt connection on each vehicle, coupled across said selected conductors, bypasses signals transmitted from a closely following vehicle to block reflection of distinctive signals by corresponding inert device, thus restricting speed of the following vehicle.

3,506,824
APPARATUS FOR COMBINING A GAS CHROMATOGRAPH WITH A SPECTROPHOTOFLUOROMETER AND OTHER DEVICES BY MEANS OF A FLOWING LIQUID INTERFACE

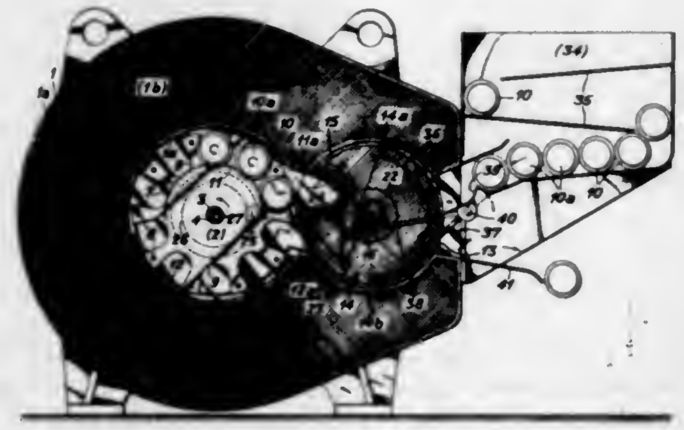
Morton Beroza, 821 Malta Lane, Silver Spring, Md. 20901, and Malcolmn C. Bowman, 114 Fulwood Blvd., Tifton, Ga. 31794
Filed Apr. 22, 1968, Ser. No. 723,051
Int. Cl. G01n *21/26*
U.S. Cl. 250—43.5 **16 Claims**



An apparatus which combines a gas chromatograph with an analytical instrument such as a spectrophotofluorometer in such a manner that the substances which are separated in the gas chromatograph are absorbed in a flowing stream of solvent and monitored in a flow cell of the spectrophotofluorometer or in some other appropriate analytical instrument depending on the property of the solute being determined.

3,506,825
ORBITING TYPE IRRADIATION DEVICE WITH ROTARY SLUICE MEANS

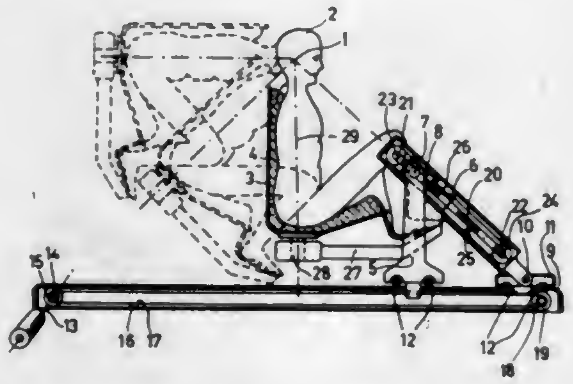
Jurg Hartmann, Dietikon, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 27, 1966, Ser. No. 582,316
Claims priority, application Switzerland, Oct. 5, 1965, 13,735/65
Int. Cl. G01n *23/20, 21/00;* **H01j** *37/20*
U.S. Cl. 250—52 **12 Claims**



The loads to be irradiated are fed by the rotary sluice which seals off the radiation chamber in sequence into successive slots of the slotted wheel rims. The fixed tracks cause the loads to rotate on their own axes during orbiting about the radiation source to obtain uniform irradiation. The loads are returned to the sluice and led out of the radiation chamber.

3,506,826
PATIENT SUPPORTING DEVICE FOR RADIOGRAPHIC EXAMINATION

Paul Louis Marie Kosters, St. Oederode, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,805
Int. Cl. G03b *41/16*
U.S. Cl. 250—55 **12 Claims**



A device having a movable carriage on which a patient is supported in various positions during radiographic examination, the carrier movement controlled by two members of a sub-assembly that have their lower ends slidably translatable at different rates along a base, and have their upper ends engaged in a sliding-pivot joint, whereby the carriage is moved in a circular path about a point at a fixed distance from said base.

3,506,827
METHOD OF MASKING FLUORESCENCE IN FLUORESCENT DYE TRACER INSPECTION PROCESS MATERIALS

James R. Alburger, 5007 Hillard Ave., La Canada, Calif. 91011
Filed Jan. 22, 1968, Ser. No. 699,536
Int. Cl. G01n *21/16, 21/38*
U.S. Cl. 250—71 **9 Claims**

A method (and applicable compositions) of masking out undesired effects of background fluorescence in liquid inspection process materials, such as rinse liquids dilution-expansion developers, and the like. The method involves a determination of the dimensional threshold of fluorescence response in the liquid material to be treated, after which an ultraviolet absorber dye is dissolved in the liquid to a concentration just sufficient, and no more, to depress the unwanted fluorescence response, whereby there is substantially no interference by the absorber dye with desired fluorescent indications resulting in the inspection process.

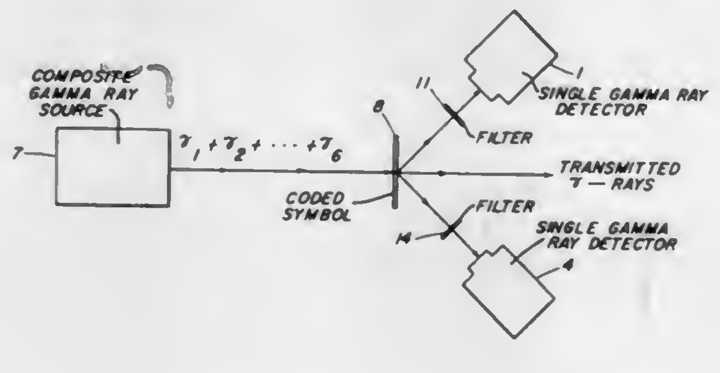
3,506,828
QUATERNARY AMMONIUM BASES AND LIQUID SCINTILLATION COUNTING SOLVENT

David L. Hansen, Palatine, and Elizabeth T. Bush, Chicago, Ill., assignors to Nuclear-Chicago Corporation, Des Plaines, Ill., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 541,541, Apr. 11, 1966. This application Apr. 1, 1968, Ser. No. 718,003
Claims priority, application Germany, Apr. 8, 1967, N 30,301
Int. Cl. G01t *1/20;* **G09k** *1/02*
U.S. Cl. 250—71.5 **17 Claims**

Quaternary ammonium bases, wherein the cationic portion is a N-methyl or N-benzyl di-higher alkyl methyl ammonium grouping, and a solvent composition comprising such a quaternary ammonium base in a solution containing a primary liquid scintillation solvent. The bases can be prepared from the corresponding quaternary ammonium halides such as by treatment with an anion exchange resin or other sources of hydroxide or alkoxide ion.

3,506,829
PRINTING AND READOUT SYSTEM UTILIZING CODING COMPONENTS FOR SYMBOLS, EACH COMPONENT HAVING MATERIALS WHICH ABSORB RESONANTLY DIFFERENT GAMMA RAYS AND CAUSE SCATTERED RERADIATION, THE READOUT SYSTEM INCLUDING A SOURCE OF DIFFERENT GAMMA RAYS CORRESPONDING TO EACH OF THE CODING COMPONENTS

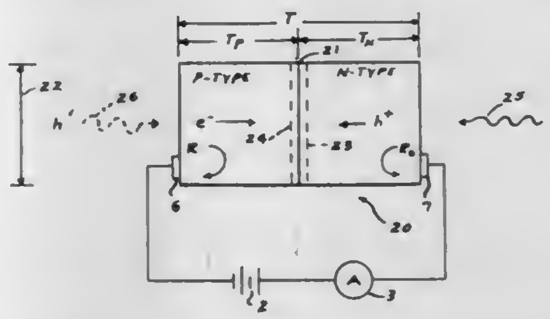
Roy Barton Hannan, Norwalk, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
Filed Feb. 9, 1966, Ser. No. 526,179
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **6 Claims**


COMPOSITE GAMMA RAY SOURCE
7
γ1 + γ2 + · · · + γ6
8
11
1
SINGLE GAMMA RAY DETECTOR
FILTER
TRANSMITTED γ — RAYS
CODED SYMBOL
FILTER
14
SINGLE GAMMA RAY DETECTOR
4

Coded symbols are formed of inks which have present one or more components of the code in the form of materials which when irradiated with certain bands of recoilless gamma radiation absorb it and reradiate it in all directions. The code may be presence or absence of a component, in which case the number of symbols which can be represented is 2^n-1, where *n* is the number of different components. In order to read out the code the symbol is irradiated with recoilless gamma radiation either with all of the wavelengths to which different components respond or serially with individual ones, and if a particular component is present it absorbs its radiation and reradiates in all directions. Detection can then be obtained by the detector responsive to the particular radiations.

3,506,830
NARROW SPECTRAL RESPONSIVE P-N JUNCTION PHOTODIODE

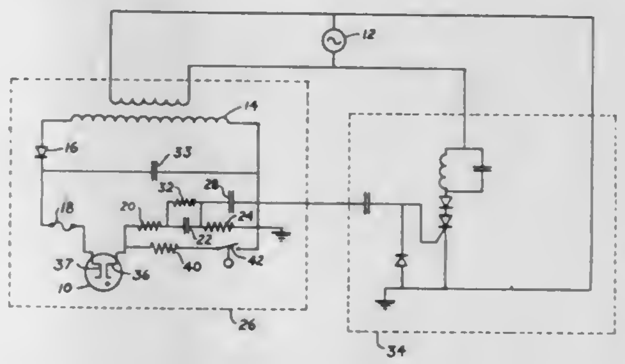
John A. Love III and John R. Sizelove, Dayton, Ohio, assignors to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 26, 1968, Ser. No. 708,058
Int. Cl. G01j *3/00*
U.S. Cl. 250—83.3 **5 Claims**



A low ohmic gallium arsenide semiconductor P–N junction wafer photodiode 200 microns thick having the junction in the center of the wafer wherein the light enters the diode on the N-type semiconductor side and through a specific bulk absorption-recombination action the photodiode has a narrow bandpass spectral response peaked at approximately 8960 angstroms.

3,506,831
APPARATUS FOR RECONDITIONING TUBES OPERATING WITH TOWNSEND AVALANCHE

Lyman F. Gilbert, Somers, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 29, 1966, Ser. No. 605,740
Int. Cl. H01j *9/00, 39/28;* **G01t** *1/18*
U.S. Cl. 250—83.6 **5 Claims**

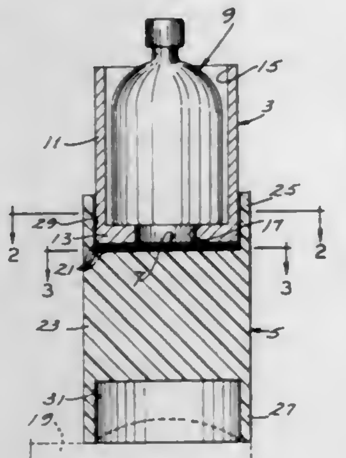


A system and process for restoring to its original work function an electron tube that operates with a townsend avalanche and which has had its work function altered because of electrode contamination. In the system and method the electrodes are heated for a short time by passing a current through the tube to raise the electrode temperature to a value such that the contaminates will be evaporated from the electrode surface and will condense on the envelope of the tube.

3,506,832
METHODS AND APPARATUS FOR ASSAY OF RADIOACTIVE SOLUTIONS

Lloyd G. Struttman, St. Louis County, Mo., assignor to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri

Filed Aug. 7, 1967, Ser. No. 658,788
Int. Cl. G21f *1/00, 3/00, 5/00, 7/00*
U.S. Cl. 250—108 **10 Claims**

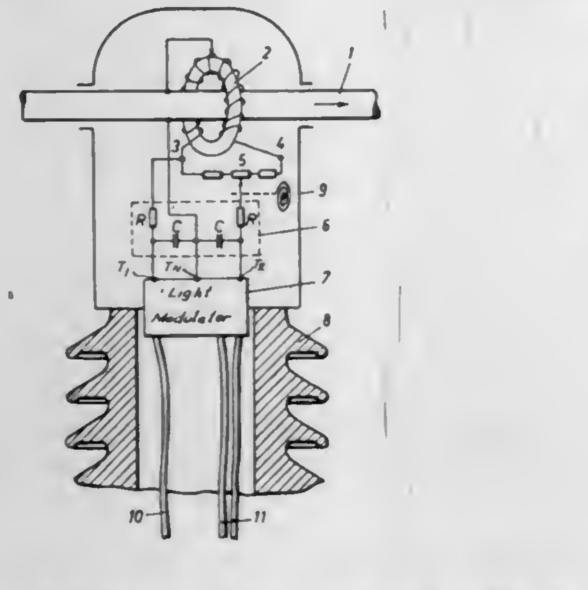


Apparatus and methods for the non-destructive assay of radioisotopes. A bottled radioisotope solution is placed in a cupped shield having an opening for collimating the emitted radiation in the direction of a radiation detector. The energy of the collimated beam is attenuated by means of one or more lead disks to the range of the detector and an associated radiospectrometer. The bottled solution, shield and filter(s) are placed in a rigid plastic block that spaces the radiation source from the detector and absorbs emitted secondary radiation. The intensity of the radiation is measured by the radiospectrometer after calibration of the latter with the apparatus and a radioisotope standard.

3,506,833
APPARATUS FOR TRANSMITTING VARIABLE QUANTITIES TO A REMOTE POINT OF MEASUREMENT INCORPORATING MODULATED LIGHT BEAM AS INFORMATION CARRIER

Friedrich Karl von Willisen, Zurich, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Dec. 14, 1966, Ser. No. 601,646
Claims priority, application Switzerland, Feb. 3, 1966, 1,555/66
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 **9 Claims**

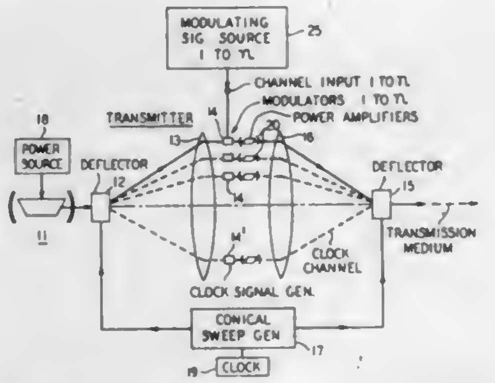


Apparatus is provided for transmitting the measured value of an electrical quantity optically from a remote measuring station to a receiving station. The measuring station includes electro-mechanical transducers which respond to the signal and serve to actuate measuring mirrors which form part of an optical interferometer system and produce outgoing light beams modulated by the displacement of the mirrors. The modulated light beams are transmitted via light pipes to the receiving station where they are received by photo-detectors and are then demodulated to derive an output signal proportional to the quantity measured at the measuring station.

3,506,834
TIME-DIVISION MULTIPLEX OPTICAL TRANSMISSION SYSTEM

Solomon J. Buchsbaum, Westfield, and Rudolf Kompfner, Middletown, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Apr. 17, 1967, Ser. No. 631,301
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 **3 Claims**

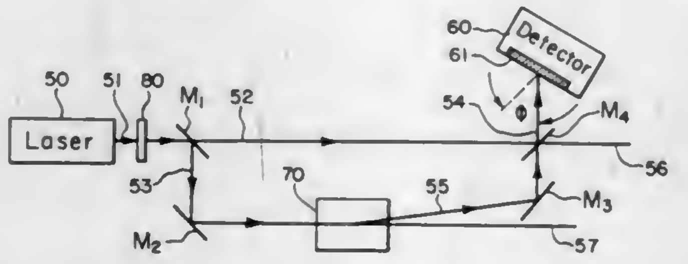


Optical time-division multiplexing is provided in an optical communication system or other optical transmission system by deflecting a laser beam sequentially and repetitively to a plurality of modulators driven by the signals to be multiplexed and then combining the modulated optical pulses into a single beam in the transmitter by inverse deflection in a sequence that is synchronized with the initial deflection. Demultiplexing at the receiver is obtained by sequentially and repetitively deflecting the received beam to a plurality of detectors and synchronizing the deflection with clock signals or similar signals supplied from the transmitter in one of the transmission channels. High-speed electro-optic deflection with a circular, conical scan is employed for each deflection operation; and deflection angles suitable for a high capacity system are obtained by employing confocal mirror structures providing multiple-pass operation in the deflectors.

3,506,835
PHOTO-DETECTOR SIGNAL-TRANSLATING DEVICE

Leigh Curtis Foster, Atherton, Calif., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Aug. 1, 1967, Ser. No. 657,561
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 **8 Claims**

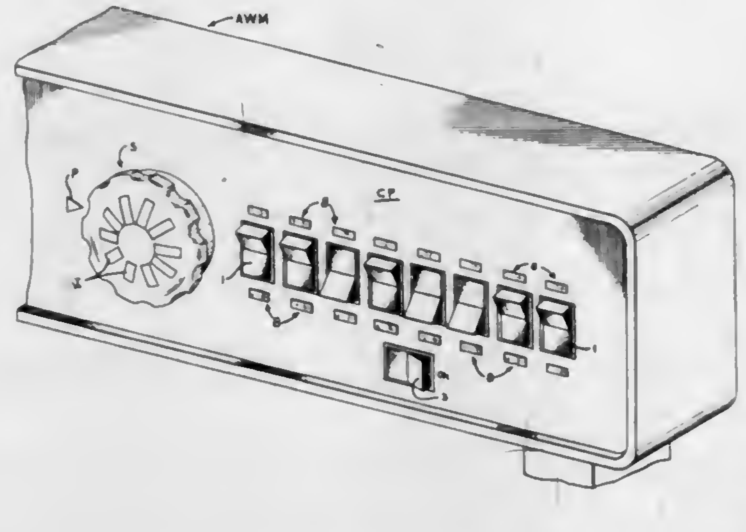


A photo-detector device in which reflected energy is minimized at the light-wave-responsive surface, with a resulting increase in its effective quantum efficiency, by canting the detector surface at Brewster's angle relative to the incident plane-polarized light beam. The invention is described in a laser heterodyne system, in which it provides a substantial (i.e., up to 60% or more) improvement in the system's sensitivity.

3,506,836
OPTICAL PROGRAMMER WITH OPTIC FIBER MEANS FOR INDICATING OPERATING INTELLIGENCE FOR EQUIPMENT CONTROLLING MEANS

Herman Rueger, Lancaster, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Aug. 23, 1966, Ser. No. 574,458
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 **10 Claims**

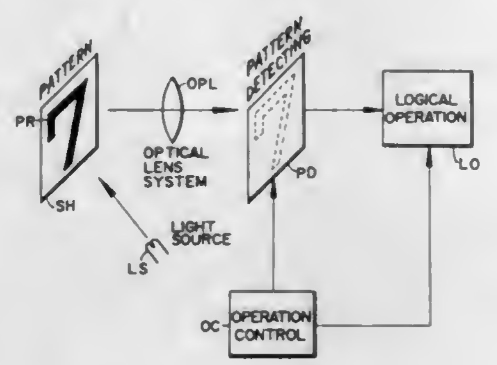


An optical programming device uses fiber optic means in conjunction with a code-disc having coded areas, the code-disc being disposed between a light source and the ends of the fiber optic means so that movement of the code-disc to any of the coded areas transmits light via the fiber optic means in accordance with the selected coded area as intelligence to a remote location and at which location the intelligence is utilized.

3,506,837
PATTERN-DETECTING DEVICE USING SERIES CONNECTED PHOTOSENSITIVE BODIES

Hideyasu Majima, Kokubunji-shi, Tokyo-to, Japan, assignor to Hitachi, Ltd., Tokyo-to, Japan

Filed Dec. 13, 1966, Ser. No. 601,409
Claims priority, application Japan, Dec. 15, 1965, 40/76,689; June 27, 1966, 41/41,369
Int. Cl. G06k *9/00*
U.S. Cl. 250—219 **11 Claims**

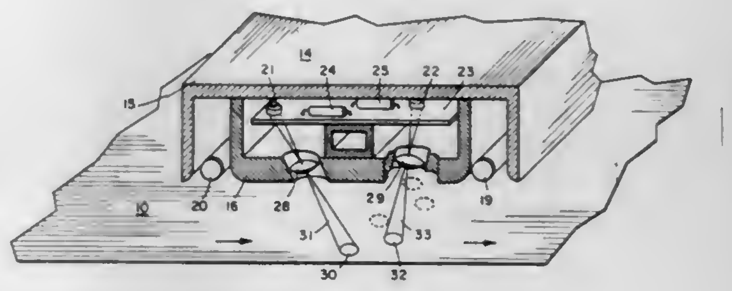


This application discloses a pattern detecting system and various photo-electric conversion elements which generally comprise a plurality of photo-sensitive bodies connected in series. The photo-sensitive bodies include solar batteries, photo-transistors, or photo-diodes and the like. The pattern-detecting system includes one photo-electric conversion element or two or more such elements connected in parallel in various combinations. The photo-electric elements are also provided with integrated construction.

3,506,838
PHOTOELECTRIC DEFECT DETECTOR RESPONDING TO INEQUALITY OF RESIDUAL CHARGES ON PAIRS OF CAPACITORS CONNECTED TO PAIRS OF PHOTOCELLS

Warren B. Offutt, Centerport, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Feb. 2, 1968, Ser. No. 702,602
Int. Cl. G01n *21/16, 21/32*
U.S. Cl. 250—219 **4 Claims**



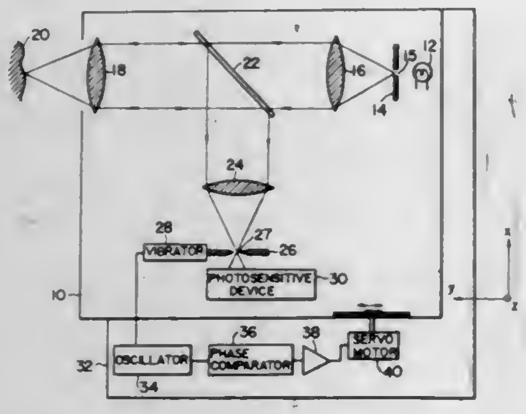
Inspection apparatus having photosensitive means controlling the discharge rate of a capacitor which periodically is charged to a given quantity of charge. The intensity of light incident on the photosensitive detector from a path intercepted by a moving web changes in accordance with any change in light transmitting or reflecting properties of the web passing through the path, thus changing the discharge rate of the capacitor during a relatively long interval between recurrent charging pulses. The amount of charge added to the capacitor by a relatively short-duration charging pulse is a function of the discharge of the capacitor during the preceding much longer interpulse interval and provides an output signal whose magnitude is indicative of the properties, such as defects, of that portion of the web that passed through the light path. Balanced circuit arrangements of capacitors are used in the preferred embodiment of moving web inspection apparatus.

3,506,839
CONTACTLESS PROBE SYSTEM

Shigeru Ando, Ichiro Taniguchi, and Takayuki Miyazawa, Amagasaki, Japan, assignors to Mitsubishi Denki Kabushiki Kaisha, Tokyo, Japan

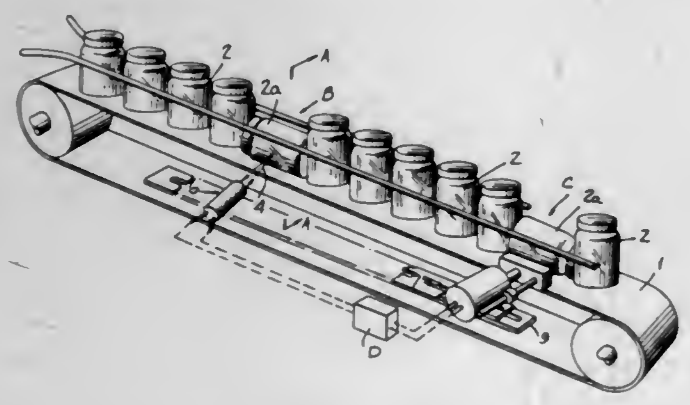
Filed Feb. 20, 1967, Ser. No. 617,138
Claims priority, application Japan, Feb. 23, 1966, 41/10,976
Int. Cl. G06m *7/00;* **H01j** *39/12;* **G01d** *5/36*
U.S. Cl. 250—222 **8 Claims**

A contactless probe system for determining the configuration of an object comprising a laser scanner scanning the surface of the object with a beam of light focused at a point which is a fixed distance from the scanner. A focusing system focuses light reflected back along the axis of the scanning light beam to a selected focal point selected so that if reflected light is constantly at this focal point the focused beam is constantly focused at its focal point directly on the surface of the object. The system determines when light reflected from the object's surface is not at the desired focal length of the fixed focal point and focused at the selected point. Means are provided that respond to the determining of when the reflected light is not at the desired focal length of the fixed point to adjust the distance between the scanner and the surface of the object in order to cause the reflected light to focus at the focal point. The adjustment of this distance relative to a given datum is indicative of the configuration of the surface along an axis on which the adjustment takes place. A servo system moves the scanner in three dimensions represented by three orthogonal axis so that the configuration of the object is determinable in three dimensions.



3,506,840
DOWN-WARE REJECTOR SYSTEM

Roger H. Fink, Fairfield, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 8, 1967, Ser. No. 666,318
Int. Cl. B07c *5/342*
U.S. Cl. 250—223 **10 Claims**

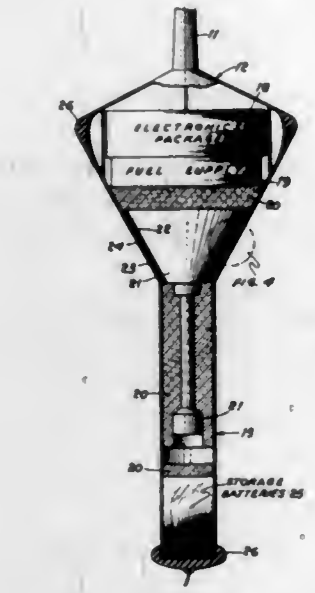


A non-mechanical system for detecting fallen articles in a line of upright articles, such as glass jars or other cylindrical containers, on a conveyor wherein a source of radiation is mounted on the side of the conveyor with the beam directed against the moving articles. The angle of incidence of the beam is so adjusted that upright articles will reflect the sensing beam upwardly and outwardly away from a suitable detector adjacent the beam source while fallen articles will reflect the beam directly back onto the detector which will initiate the operation of the rejection means.

3,506,841
OCEANOGRAPHIC DATA-COLLECTING BUOY ARRANGEMENT

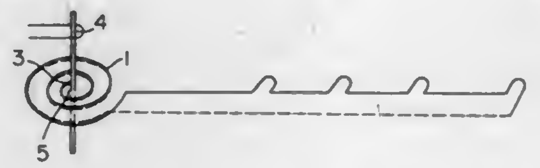
Charles P. Majkrzak, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Mar. 2, 1967, Ser. No. 619,978
Int. Cl. F01d *15/10;* **H02k** *7/18*
U.S. Cl. 290—2 **4 Claims**

The arrangement provides an oceanographic data-collecting buoy having a self-contained fuel supply, energy converter, electrical energy storage, and a data collecting and transmitting system. The energy converter includes a condenser arranged within the buoy so as to enhance the transfer of heat to the ocean.



3,506,842
DISTRIBUTED STRAY CAPACITY PARAMETRON DEVICES

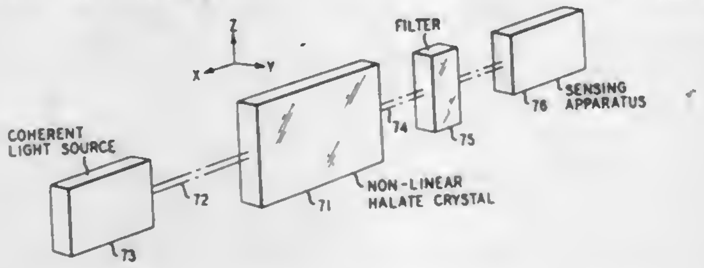
Yu Hata and Hiroki Fujishima, Tokyo, Japan, assignors to TDK Electronics Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Aug. 8, 1967, Ser. No. 659,176
Claims priority, application Japan, Aug. 13, 1966, 41/53,066
Int. Cl. H01f *27/42*
U.S. Cl. 307—88 **2 Claims**



A distributed stray capacity parametron device comprising two concentric, closely parallel spiral coils wound in the same direction, each of the coils being open at the center, beginning part of the spiral and having a ferromagnetic wire passing through the open center, and there being a coupling circuit connecting the outer ends of the coils.

3,506,843
OPTICAL DEVICES UTILIZING NONLINEAR HALATE CRYSTALS

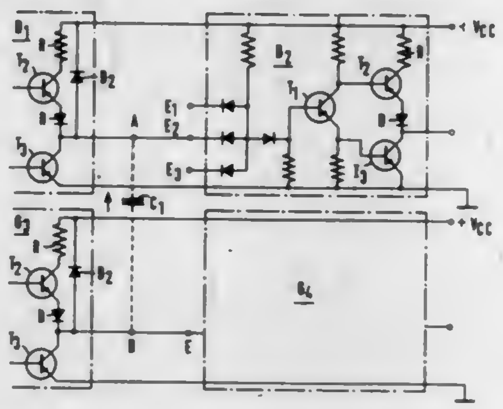
John G. Bergman, Jr., Farmingdale, and Stewart K. Kurtz, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Mar. 28, 1968, Ser. No. 716,956
Int. Cl. H03f *7/00;* **H02m** *5/06*
U.S. Cl. 307—88.3 **3 Claims**



A class of halate materials exemplified by certain of the iodates and bromates is found to have nonlinear device properties. Resulting devices which may operate at light frequencies include second harmonic generators, parametric oscillators, and other parametric devices.

3,506,844
CIRCUIT DEVICE FOR CONTACT-FREE INTEGRATED CIRCUIT CONTROL MODULES

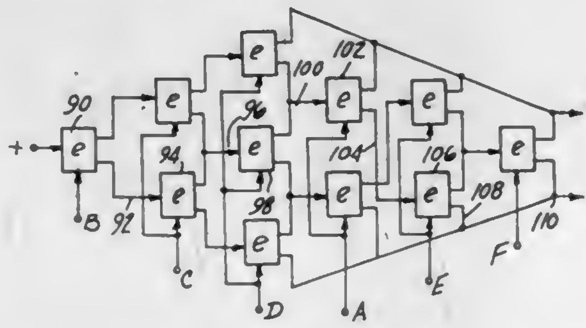
Ebbe Rohloff, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Mar. 7, 1967, Ser. No. 621,334
Claims priority, application Germany, Mar. 17, 1966, S 102,572
Int. Cl. H02h *7/20*
U.S. Cl. 307—202 **1 Claim**



An integrated-circuit module with two transistors series-connected between the voltage bus leads and an output connected to a circuit point between the two transistors, is provided with an inversely poled diode which is connected between the output and the one bus lead that carry the operating potential of the module.

3,506,845
NETWORKS OF ELEMENTS FOR IMPLEMENTING THRESHOLD FUNCTIONS

Robert O. Winder, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 5, 1966, Ser. No. 547,873
Int. Cl. H03k *19/08*
U.S. Cl. 307—205 **12 Claims**

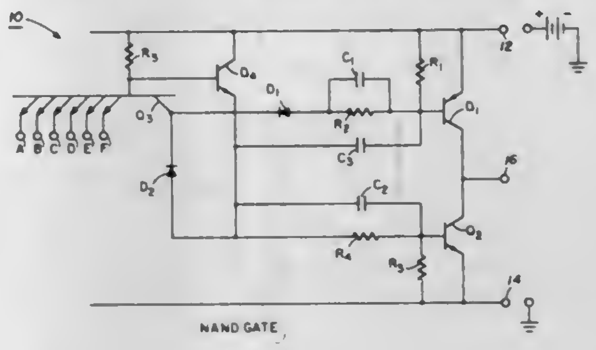


Networks of two condition elements, each including at least one normally open switch. Each switch is controlled by a stimulus indicative of a single argument of a threshold function. The networks are designed to realize threshold functions such as majority functions, N-universal functions and so on. The networks may be implemented with field-effect transistors, relay contacts or other simple structures.

3,506,846
LOGIC GATE CIRCUIT HAVING COMPLEMENTARY OUTPUT DRIVE

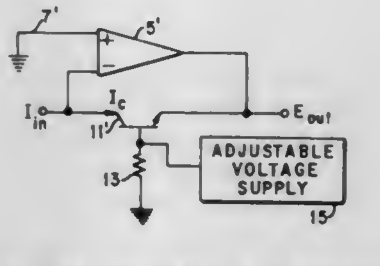
George W. Niemann, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 18, 1966, Ser. No. 552,358
Int. Cl. H03k *19/34*
U.S. Cl. 307—215 **14 Claims**

Disclosed is a logic gate circuit that provides relatively increased switching speeds and repetition rates and relatively shorter propogation delays. This novel circuit includes a pair of complementary output transistors having common collectors that forms the output of the circuit and emitters that are respectively connected to a voltage supply. Logic input means are coupled to the base of one of the output transistors for driving one of the transistors, and switching means are coupled to the base of the other transistor for driving the other transistor, and circuit means are provided for controlling the switching means so that the output transistors are alternatively conductive in response to the logic applied to the input means.



3,506,847
LOGARITHMIC CONVERTER

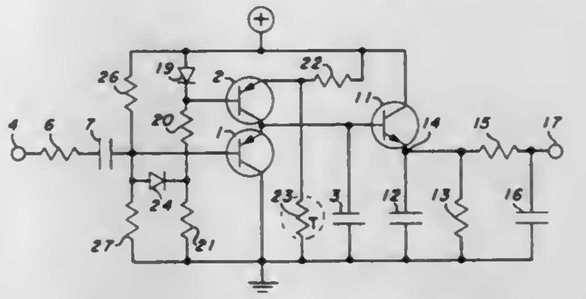
O. E. Schow III, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Nov. 1, 1967, Ser. No. 679,829
Int. Cl. G06g *7/12*
U.S. Cl. 307—230 **3 Claims**



This invention has provided a logarithmic converter whose linear range is accurately extended from the present 10^{-12} amperes to currents near 10^{-15} amperes by inserting a resistor in the base circuit of a transistor of an otherwise conventional operational amplifier feedback loop and applying a small stable bias to the transistor base.

3,506,848
PULSE WIDTH TO ANALOG SIGNAL CONVERTER

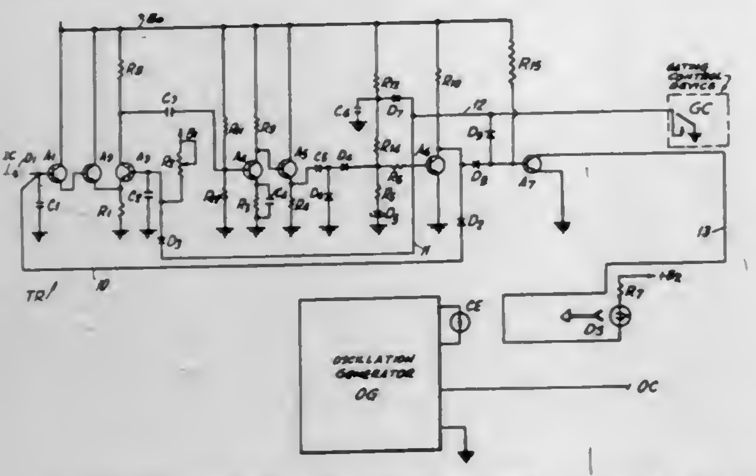
Henry Richard Beurrier, Chester Township, Morris County, N.J., asssignor of ten percent to Sylvan Sherman, Union County, and fifteen percent to Richard O. Winter, Morris County, N.J.
Filed Apr. 12, 1967, Ser. No. 630,310
Int. Cl. H03k *5/20, 5/18*
U.S. Cl. 307—234 **6 Claims**



A circuit for converting pulse width encoded signals into analog form which, in the absense of input signals, will provide an output signal within prescribed limits. Such a circuit is useful, for example, in remote control applications to provide a "fail safe" operation.

3,506,849
FREQUENCY SHIFT AMPLITUDE TO TIME CONVERTER

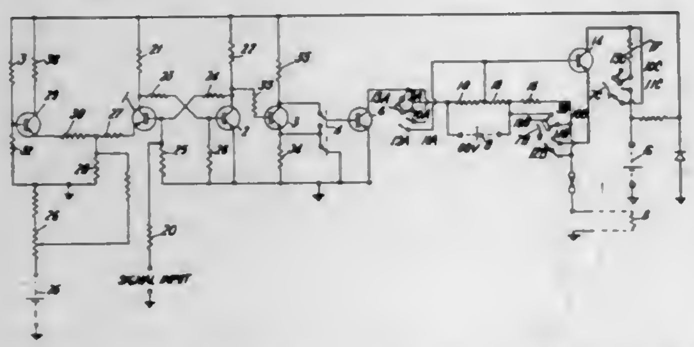
Herbert H. Waller, Hicksville, N.Y., assignor to Servo Corporation of America, Hicksville, N.Y., a corporation of New York
Filed Nov. 30, 1966, Ser. No. 597,937
Int. Cl. H03k *5/04*
U.S. Cl. 307—235 **8 Claims**



A frequency shift amplitude to time converter is provided. The converter includes a first circuit connected to a signal input circuit capable of transmitting pulses and including a capacitor for producing a charge thereon of a magnitude corresponding to the amplitude of the input circuit pulses. A second circuit including a second capacitor adapted to receive a charge thereon which increases in magnitude linearly with respect to time is also provided. The second capacitor has a first terminal connected to a power source and a second terminal connected to ground. A gating circuit including a switch element is shunted across the second capacitor thereby preventing its charging when the switch element is closed. A control circuit is interconnected with the first and second circuit and includes a switching transistor adapted to be rendered conductive when the second capacitor is charged to a level corresponding to the charge on the first circuit capacitor. The converter also includes oscillation generator control means interconnected with the gating circuit and a switching transistor adapted to drive an oscillation generator for providing an A.C. voltage of a predetermined frequency for a time period beginning with the opening of the gating circuit switch and lasting until the switching transistor is rendered conductive.

3,506,850
AMPLIFIER WITH BINARY OUTPUT

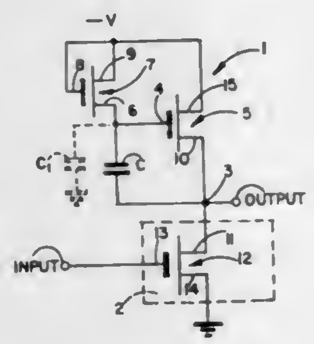
Robert Arthur Buck, Barnet, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 606,674
Claims priority, application Great Britain, Feb. 4, 1966, 4,969/66
Int. Cl. H03k *17/00*
U.S. Cl. 307—239 **4 Claims**



This invention relates to an amplifier which produces a binary output signal from an input signal which may, for example, be of sinusoidal or trapezoidal waveform. The amplifier is provided with a selector switch which enables one of a number of differing types of output signals to be selected without modification of the external connections to the amplifier such as by removing or patching-in external links.

3,506,851
FIELD EFFECT TRANSISTOR DRIVER USING CAPACITOR FEEDBACK

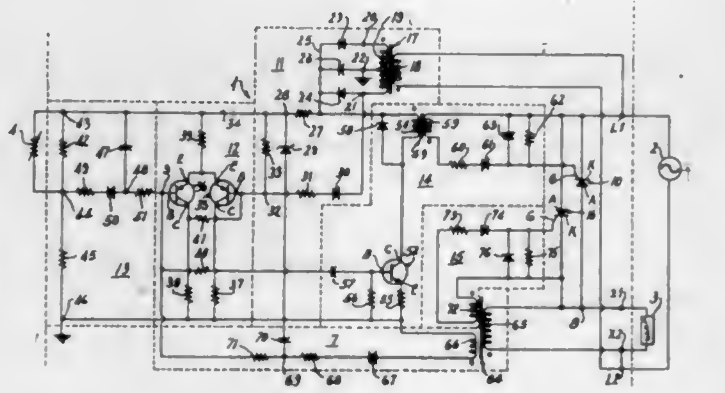
Robert W. Polkinghorn, Huntington Beach, Arthur F. Pfeifer, Whittier, and William H. Dierking, Orange, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,774
Int. Cl. H03k *17/00*
U.S. Cl. 307—251 **11 Claims**



This invention relates to a driver for MOS devices comprising a capacitor, including means for charging and preventing discharge of the capacitor, connected between the gate electrode of the output transistor and the output for feeding back the output voltage to the gate electrode, whereby relatively higher voltage and current output from the driver is achieved without increasing the supply voltage.

3,506,852
METHOD AND APPARATUS TO PROVIDE ZERO ANGLE FIRING OF A STATIC LATCHING SWITCH IN A NOISE-FREE ELECTRIC CONTROLLER

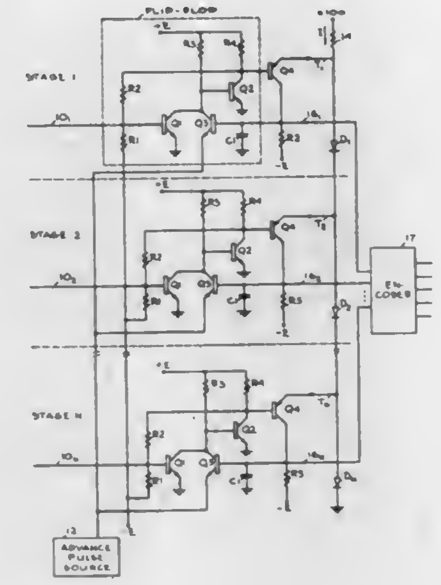
Dale M. De Hart, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Mar. 10, 1967, Ser. No. 622,114
Int. Cl. H03k *17/00*
U.S. Cl. 307—252 **13 Claims**



This noise-free controller for alternating or pulsating current employs a flip-flop receiving a condition responsive signal and a synchronizing signal to fire at zero angle a static latching switch controlling flow of current to a load. By adding a feedback from the latching switch to the flip-flop, a burst length proportioning control is obtained, alternately conducting and non-conducting for varying integral numbers of half cycles or pulses as a function of the condition responsive signal.

3,506,853
SELECTION DEVICE

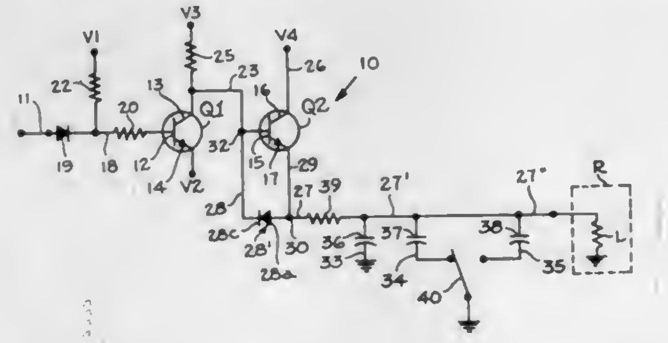
Robert N. Mellott, Palos Verdes Estates, Calif., assignor to The Bunker-Ramo Corporation, Canoga Park, Calif., a corporation of Delaware
Original application July 18, 1963, Ser. No. 296,001. Divided and this application Dec. 30, 1966, Ser. No. 606,351
Int. Cl. H03k *17/74;* **G06f** *7/02*
U.S. Cl. 307—259 **6 Claims**



An amplitude selection device including a bleeder supply with series diodes and a plurality of transistors with their emitters connected to the junction between respective diodes and wherein input signals applied to the bases will result in shunting bleeder current through a respective transistor to the exclusion of the others thereby providing a selected output.

3,506,854
DRIVER CIRCUIT

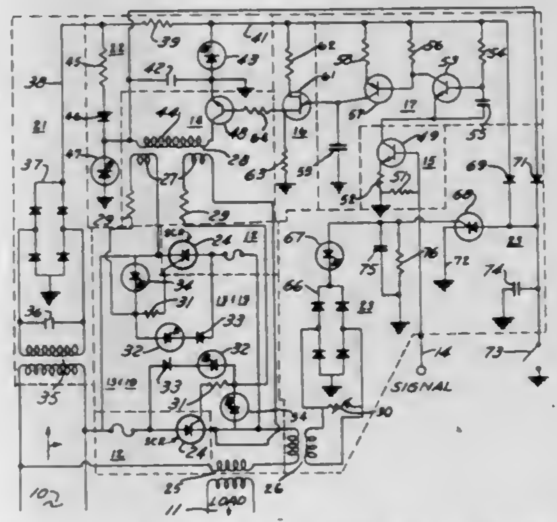
John Guzak, Jr., Waukegan, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed July 25, 1967, Ser. No. 655,910
Int. Cl. H03k *1/12, 5/01*
U.S. Cl. 307—262 **2 Claims**



There is disclosed circuitry with electrical output at one level relative to a reference potential during reception of an input signal and at a matched level electrical output in the opposing sense when there is no input signal. When a first transistor is turned on during reception of an input signal, a first current path through the first transistor is established. When there is no signal to drive the first transistor to its on condition, a second transistor electrically connected to the first transistor is driven to its on condition and a second current path through the second transistor is established. A diode is connected in series with the collector of the first transistor and the circuit output line and in parallel with the base-emitter path of the second transistor and assures that there is no current flow through the second transistor in the second current path when the first transistor is on. The first and second current paths enable a polarized output signal. A resistor-capacitor wave-shaping network is located in the output circuit.

3,506,855
POWER CONTROL CIRCUIT

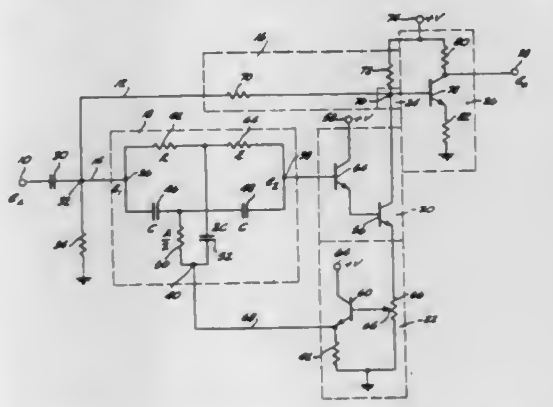
Henry S. Borkovitz, 1412 W. Thorndale Ave., Chicago, Ill. 60626
Original application Mar. 1, 1966, Ser. No. 530,982, now Patent No. 3,295,020, dated July 13, 1966. Divided and this application Aug. 22, 1966, Ser. No. 589,782
Int. Cl. H03k *17/26*
U.S. Cl. 307—293 **1 Claim**



A power control circuit for controllably pulse-firing a semiconductor voltage source effective to control the application of current to a connected load and which circuit includes a first transistor to which a control signal is applied. A second transistor connected to the first transistor forms a part of a time delay circuit which regulates the buildup of current in the first transistor. A third transistor connected to the second transistor is operable at the expiration of the time delay as determined by the time-delay circuit to pulse-fire a unijunction transistor which, when turned on, operates to pulse control and turn on the semiconductor voltage source.

3,506,856
DELAY EQUALIZER CIRCUIT USING PARALLEL-T NETWORK

Jerome E. Toffier and Paul N. Winters, Anaheim, and John N. Buterbaugh, Manhattan Beach, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 15, 1967, Ser. No. 638,380
Int. Cl. H03k *1/16*
U.S. Cl. 307—295 **2 Claims**

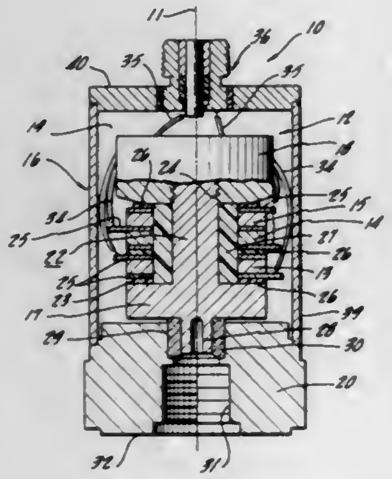


The disclosed delay equalizer circuit includes a pair of signal processing channels coupled in parallel, one channel including a voltage dividing network, and the other channel including a parallel-T network connected in a degenerative feedback loop and feeding an inverting buffer amplifier. Output signals from the respective channels are summed and then amplified.

3,506,857
COMPRESSIVE MODE PIEZOELECTRIC TRANSDUCER WITH ISOLATION OF MOUNTING BASE STRAINS FROM THE SIGNAL PRODUCING MEANS THEREOF

Bill R. Tolliver, Dallas, Tex., and Leonard E. Maier, Monrovia, Calif., assignors, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 10, 1967, Ser. No. 622,309
Int. Cl. H01v *7/02*
U.S. Cl. 310—8.4 3 Claims

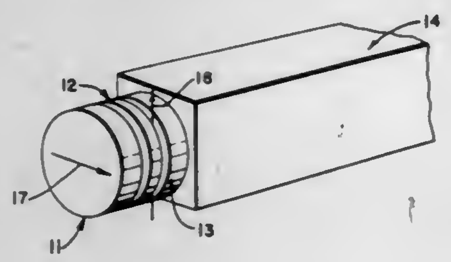


An instrument transducer including a strain-sensitive, signal producing movement, for example, a piezoelectric accelerometer, in which the movement is mounted within a housing relative to a mounting base defined by the housing so that strains developed in the base and the housing are essentially completely isolated from the movement and do not lead to the production of extraneous signals occasioned by environmental conditions and occurrences other than changes in the physical phenomenon to which the transducer is sensitive.

3,506,858
PIEZOELECTRIC SHEAR WAVE TRANSDUCER

Herbert John Shaw, Stanford, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Apr. 17, 1968, Ser. No. 721,973
Int. Cl. H01v *7/00*
U.S. Cl. 310—8.6 4 Claims

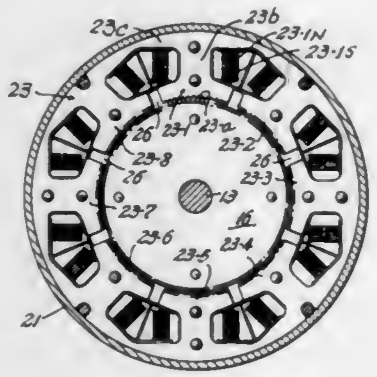


Two transducer discs, separated by a passive member, are so oriented that the linearly polarized shear waves which they generate will be polarized at right angles in space with respect to one another. The passive spacer introduces a time delay which causes a rotating field to be set up. The discs, driven by an RF field, would resultantly generate circularly polarized shear waves in a solid rod.

3,506,859
ELECTRIC STEPPING MOTOR WITH PLURAL FIELD WINDINGS AND ENERGIZING CIRCUITRY

Arthur E. Snowdon, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut

Filed Jan. 10, 1969, Ser. No. 790,326
Int. Cl. H02k *29/02, 37/00*
U.S. Cl. 310—89 10 Claims

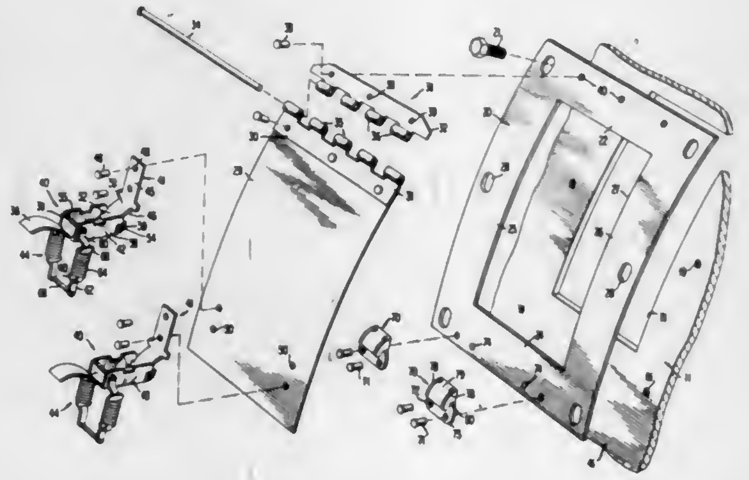


A stepping motor capable of producing small increments of movement, as for example 1000 steps per revolution, with each change of energization of its windings providing a step and for maintaining its position when the energization is unchanged. The motor has a toothed rotor and a plurality of toothed stator poles with the pitch of the rotor teeth being one tooth different from the pitch of the stator teeth and each change of energization causes the rotor to advance one increment having a length that is the reciprocal of the number of rotor teeth times the number of stator poles.

3,506,860
TRACTION MOTOR INSPECTION COVER

Samuel Nathan Rosenthal, 2638 Midway Road, Decatur, Ga. 30030

Filed July 8, 1968, Ser. No. 743,254
Int. Cl. H02k *5/04*
U.S. Cl. 310—49 4 Claims

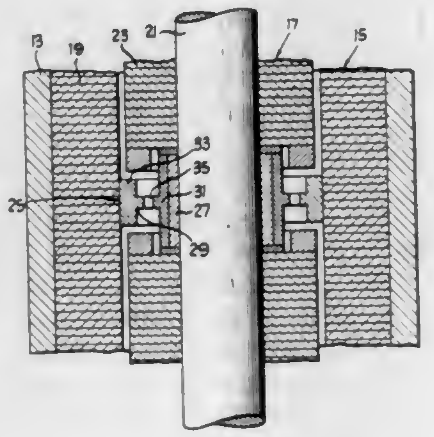


An inspection door assembly for a diesel-electric traction motor housing, including a generally rectangular frame defining a central opening. The frame is curved from top to bottom about an axis extending parallel to the top and bottom legs, and a plurality of bolt openings are defined at spaced intervals about the frame for connecting the frame to the traction motor housing. A door sized to span the opening of the frame and overlap portions of the frame top, bottom and side legs is hingedly connected to the top leg of the frame. A pair of spaced latch mechanisms are connected to the door at its edge adjacent the bottom leg of the frame which are connectable to the bottom leg, and the latch mechanisms each comprise springs connectable to the bottom leg which together are of a strength sufficient to bend the door into abutting relationship with the side legs and the bottom leg so that the door assumes the curvature of the frame.

3,506,861
BEARING ARRANGEMENT FOR ELECTRIC MOTORS

Clinton A. Boyd, Tulsa, Okla., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 22, 1966, Ser. No. 574,093
Int. Cl. H01k *5/16*
U.S. Cl. 310—90 5 Claims

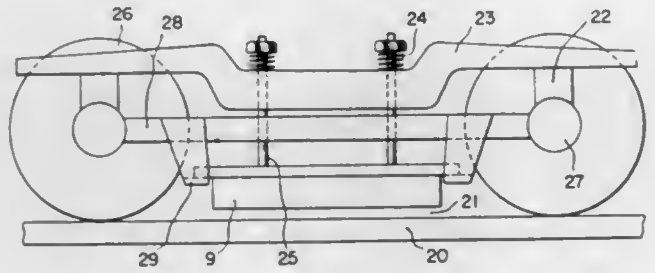


An elongated electric motor having a stator comprising a plurality of magnetic laminations. A rotor including a plurality of segments and a supporting shaft disposed within the stator. The rotor is supported by a plurality of spaced apart bearing assemblies which include a stationary journal supported by the stator and a sleeve which rotates with the shaft. The journal is made of a non-magnetic material having a resistivity of at least 100 microhms/cm.^{3} when measured at 20 degrees centigrade.

3,506,862
DYNAMIC AND EDDY CURRENT RAILWAY BRAKE DEVICE

Yoshio Nomura and Hisakazu Sookawa, Tokyo-to, Japan, assignors to Nippon Kokuyu Tetsudo (known in English as Japanese National Railways), Tokyo-to, Japan

Filed July 12, 1967, Ser. No. 652,965
Claims priority, application Japan, July 15, 1966, 41/45,895
Int. Cl. B60l *7/28;* **H02k** *49/04*
U.S. Cl. 310—93 4 Claims

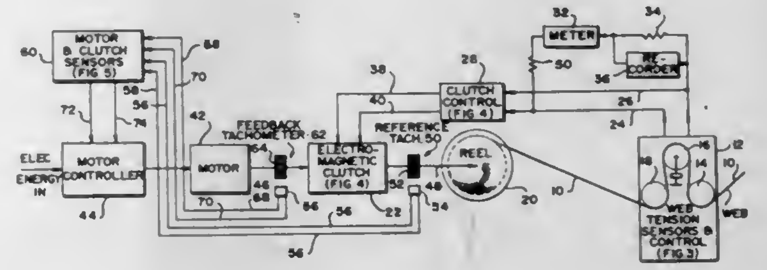


A combination of a dynamic brake device and an eddy-current brake device which has electromagnets confronting each rail at a constant gap distance and energized by the load current generated by the dynamic brake device in exerting dynamic braking force. The resultant braking force equal to the sum of the braking forces respectively produced by the two devices is utilized to brake the vehicle on which the brake devices are mounted.

3,506,863
WEB TENSION CONTROLLING REWIND DRIVE

Harold E. Fallis, Mount Vernon, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed June 24, 1965, Ser. No. 466,600
Int. Cl. H02k *49/08*
U.S. Cl. 310—94 26 Claims

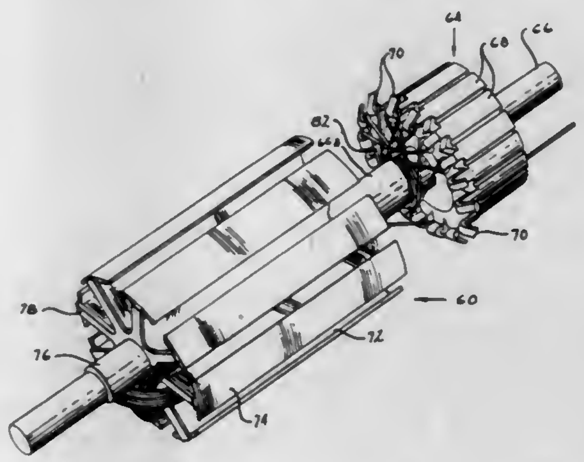


Web tension control provisions for use in reeling or unreeling a continuous web include a reel drive motor, an electro-magnetic clutch coupling the motor with a reel, web tension sensing provision and a feed-back circuit for controlling the coupling of the electro-magnetic clutch in response to web tension variations indicated by the web tension sensing provision. The feed-back circuit may include a low-gain amplifier and provides less than full tension variation compensation to allow gradual changing in web tension during a winding or unwinding operation. Speed monitoring provisions detect the input and output speeds of the clutch, which speeds are compared and employed to control motor control provisions for maintaining a speed differential between the input and the output of the clutch.

3,506,864
ARMATURE WINDING AND COMMUTATOR CONNECTION

Jerry E. Miller, Dayton, Ohio, assignor to The Globe Tool and Engineering Company, Dayton, Ohio, a corporation of Ohio

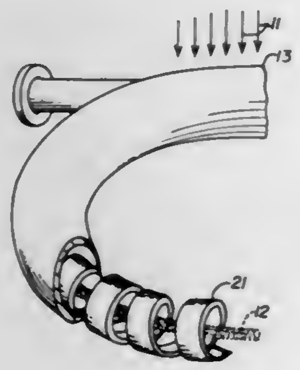
Filed Feb. 9, 1968, Ser. No. 704,342
Int. Cl. H02k *3/46*
U.S. Cl. 310—234 14 Claims



Novel winding patterns for armatures having various numbers of slots and either one or two coils per slot are disclosed along with methods and apparatus for winding armatures. Lead wires between coils are wrapped around the armature shaft and looped around commutator tangs. An efficient method of obtaining armatures having opposite polarities is also shown and described.

3,506,865
STABILIZATION OF CHARGED PARTICLE BEAMS

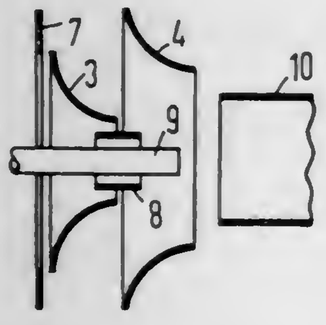
Richard J. Briggs, Lexington, Mass., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 28, 1967, Ser. No. 656,956
Int. Cl. H05h *11/00, 13/04*
U.S. Cl. 313—62 **5 Claims**



Charged particle beam conductive or directing apparatus having an electrically inductive structure disposed circumjacent said beam to eliminate the tendency for beam particles to bunch by the interaction of electric charges induced in the inductive structure within the beam.

3,506,866
HOLLOW ELECTRON BEAM GENERATOR HAVING CATHODE OF ROTATIONAL GENERATION WHOSE SURFACE COINCIDES WITH MAGNETIC FLUX

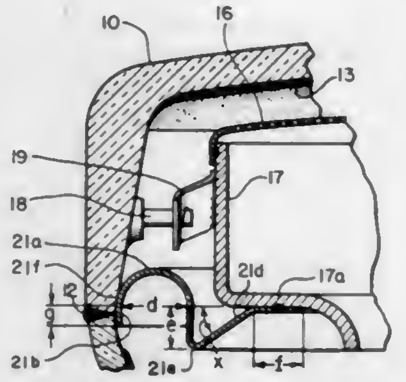
Klaus Poschl, Furth, and Werner Veith, Munich, Germany, assignors to Siemens Aktiengesellschaft, Munich, Germany, a corporation of Germany
Filed Apr. 20, 1967, Ser. No. 632,406
Claims priority, application Germany, Apr. 26, 1966, S 103,410
Int. Cl. H01j *29/46*
U.S. Cl. 313—84 **6 Claims**



A system for the production of a hollow electron beam for transit-time tubes, in particular travelling-wave tubes of high power, having a cathode of rotational generation with an outer emission surface which converges in beam direction, and an accelerator electrode having rotary symmetry coaxially surrounding the cathode, the latter being disposed in a magnetic field with an axial induction proceeding in beam direction, such magnetic field being inhomogeneous with a field intensity increasing in beam direction, the emission surface of the cathode coinciding substantially with the magnetic lines of force existing at the location of the cathode.

3,506,867
CATHODE RAY TUBE WITH ELECTRON SHIELD HINGEDLY MOUNTED ON SHADOW MASK FRAME

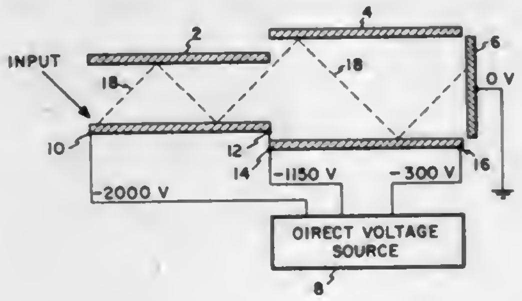
James L. Kraner, Harwood Heights, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed June 18, 1968, Ser. No. 737,968
Int. Cl. H01j *1/53, 29/40*
U.S. Cl. 313—85 **8 Claims**



An electron shield for a shadow mask type of color tube bridges the space between the mask frame and the tube envelope. The cross-section of the shield has a J-shaped portion located in the space between the frame and the envelope with its bowed part toward the screen and with its bight dimension less than the spacing of the frame to the envelope. The stem of the J-shaped portion has a mounting portion connected thereto and defines therewith a hinge. The mounting portion is welded to the mask frame and the dimensioning is such that the hinge is spaced away from the frame both in the direction of the gun and in the direction of the envelope.

3,506,868
POSITIVE-TYPE ELECTRON MULTIPLIER CHANNELS CONNECTED IN SERIES

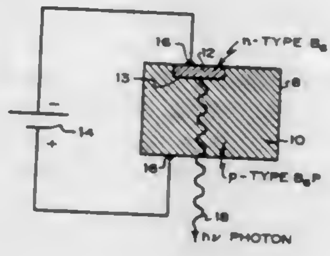
Donald H. Ceckowski, Ferndale, George W. Goodrich, Oak Park, and Andrew J. Meyer, Birmingham, Mich., assignors to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 312,414, Sept. 30, 1963. This application May 22, 1967, Ser. No. 640,428
Int. Cl. H01j *39/16, 43/18*
U.S. Cl. 313—103 **11 Claims**



A plural section electron multiplier device having separate-strip portions for providing improved gain and resolution. The purpose of the foregoing abstract is to enable the Patent Office and the public generally and especially the scientist, engineer, or practitioner in the art who is not familiar with patent or legal terms or phraseology to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which of course is measured by the claims nor is it intended to be limiting as to the scope of the invention in any way.

3,506,869
LUMINESCENT BORON SUBPHOSPHIDE SEMICONDUCTOR DEVICE

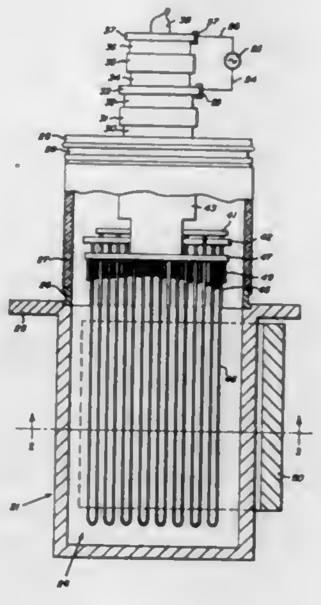
Robert A. Burmeister, Jr., Los Altos, and Egon E. Loebner, Palo Alto, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Oct. 31, 1967, Ser. No. 679,303
Int. Cl. H05b *33/14*
U.S. Cl. 313—108 **4 Claims**



A P-N junction in a body of B_6P is forward biased to provide electroluminescent emission from an optically transparent region having an impurity content of less than 0.05 percent by weight of carbon and 0.1 percent by weight of other impurities.

3,506,870
HIGH POWER MAGNETICALLY BEAMED VACUUM TUBE WITH LOW HUM

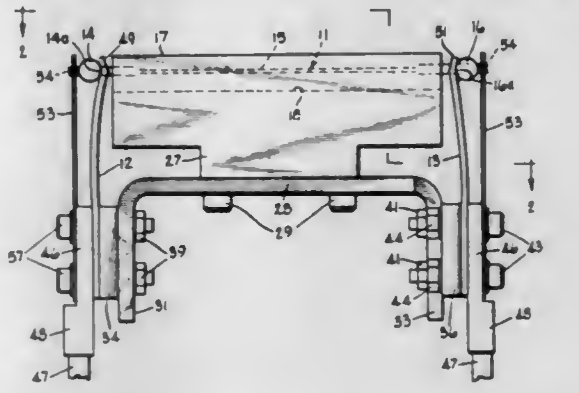
Barry M. Singer, New York, N.Y., and Carl T. Johnson, Chamblee, Ga., assignors to The Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,515
Int. Cl. H01j *1/50, 3/20, 3/32, 23/10, 29/76*
U.S. Cl. 313—154 **9 Claims**



An electron tube comprising an anode having an open ended cavity therein, an array of parallel filament wires disposed longitudinally within the anode cavity, each of the filament wires having a cross section which predetermines the maximum intensity of a magnetic field established around the wire by a peak value of alternating filament current, and an external magnet having opposing pole faces disposed one on either side of the anode in respective planes parallel to that of the filament array and a magnetic field therebetween which has an intensity equal to or greater than the maximum intensity of the respective magnetic fields around the respective filament wires.

3,506,871
ELECTRON BEAM GUN HAVING ELONGATED TENSIONED EMITTER

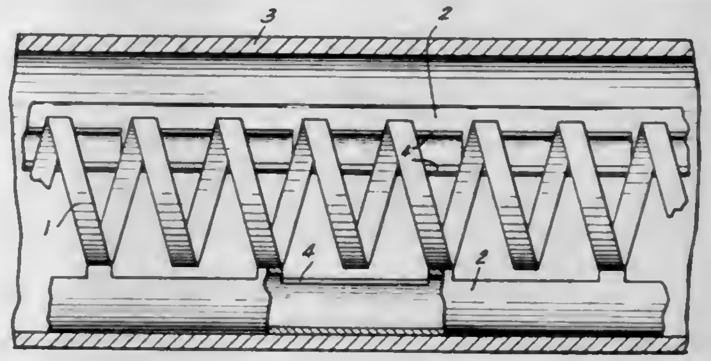
Charles d'A. Hunt, Orinda, Calif., assignor, by mesne assignments, to Air Reduction Company, Incorporated, a corporation of New York
Filed May 29, 1967, Ser. No. 641,833
Int. Cl. H01j *1/94, 19/48*
U.S. Cl. 313—278 **5 Claims**



An electron beam gun is described having an elongated emitter supported under tension by supports resiliently biased outwardly against contact elements on the respective ends of the emitter.

3,506,872
APPARATUS FOR SUPPORTING A HELICAL DELAY LINE IN A TRAVELING WAVE TUBE IN A SUBSTANTIALLY NONLOADING MANNER

Hannjorg Bittorf, Paul Kahl, and Andreas Weissfloch, Munich, Hinrich Heynisch, Grafelfing, Paul Meyerer, Ottobrunn, and Werner Veith, Munich, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed Apr. 11, 1967, Ser. No. 630,059
Claims priority, application Germany, Apr. 20, 1966, S 103,287
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 **3 Claims**

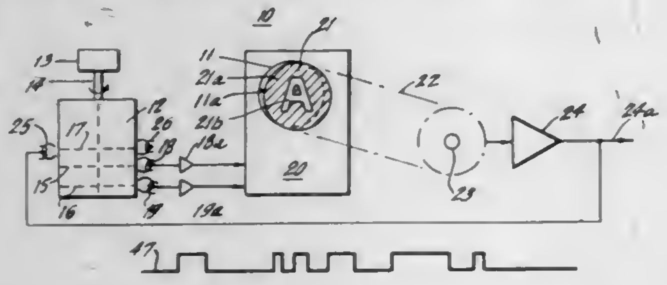


A traveling wave tube utilizing a delay line in the form of a helix, in which the helix is supported by a plurality of insulating bars extending parallel to the helix axis, which bars may bear directly upon the inner wall surface of the vacuum casing coaxially enclosing the helix, such bars being of hollow tubular formation, and preferably provided with transversely extending slots disposed between contact surfaces of the helix.

3,506,873
METHOD AND APPARATUS FOR PRODUCING A PULSE TRAIN

Richard B. Hanbicki, Princeton Junction, N.J., assignor to Madatron Corporation, Rocky Hill, N.J., a corporation of New Jersey
Filed May 23, 1968, Ser. No. 731,467
Int. Cl. G01r *17/04*
U.S. Cl. 315—10 **13 Claims**

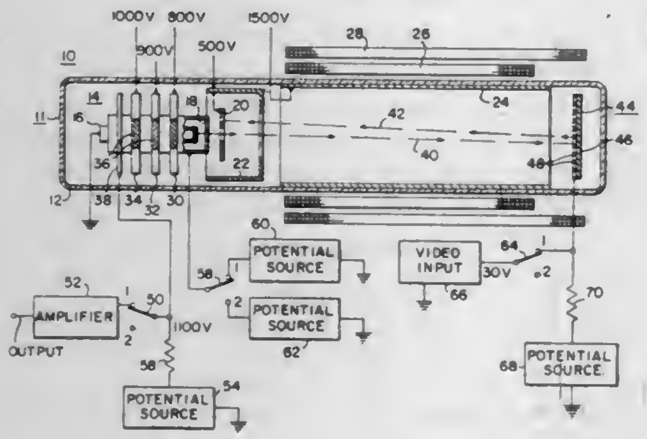
Method and apparatus for producing a pulse train comprising oscilloscope means and means for causing the electron beam of the oscilloscope to scan the face thereof. A mask is positioned over the face of the oscilloscope, and light-sensitive means is employed to generate an output each time the electron beam passes through a cut-out (or transparent) portion of the mask. The pulse duration and spacing between pulses is determined by the scanning rate and the mask configuration. The pulses may be stored within suitable memory means such as a magnetic drum, magnetic tape or a light-sensitive surface. The pulse trains developed may be employed in a variety of applications such as, for example, character display systems.



In an alternative embodiment of the invention, the oscilloscope-mask concept maybe adapted for use in test circuitry. The desired output curve may be displayed and photographed or otherwise plotted by testing one such circuit. A dither signal may be superimposed upon the curve to establish a preselected deviation tolerance from the ideal curve characteristics to form the proper mask which may then be positioned over the oscilloscope's face for test of other such circuits. The electron beam is then caused to scan across the face of the oscilloscope in order to provide a trace of the operating characteristics. If the trace lies behind the opaque portion of the mask, an indication that the circuit characteristics fall within the desired tolerances is provided. If the trace falls outside of the opaque section of the mask at any point along the trace, an immediate indication is provided of the fact that the characteristics of the circuit under test do not fall within required tolerances. A variety of masks may be provided for similar applications such as, for example, the examination of pulse trains to determined whether their rise and fall times occur within the desired limits.

3,506,874
STORAGE SYSTEM

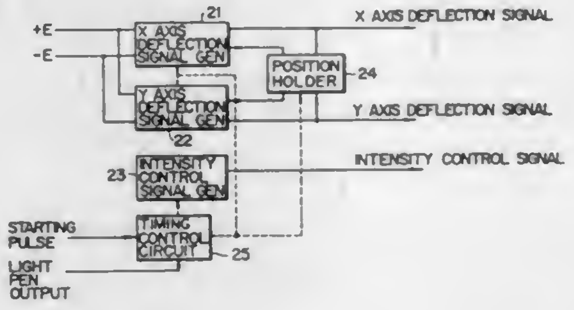
Arthur S. Jensen, Baltimore, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 10, 1967, Ser. No. 659,787
Int. Cl. H01j *29/41*
U.S. Cl. 315—12 18 Claims



This invention relates to the method of operating and a system including a storage tube with a target and an electron gun therein. Illustratively the storage target may take the form of a layer of dielectric material and a fine screen overlying the dielectric layer. In another embodiment, the storage target may be an electrically conductive plate having a plurality of grooves therein and strips of dielectric material disposed within the grooves. In this embodiment the storage target appears on its surface to be a metal grille interleaved by dielectric strips. Writing is accomplished by scanning the target with an electron beam thereby to drive the surface of the dielectric material toward a first equilibrium potential as determined by a first potential source which is connected during the writing process to said screen (or grille). In order to derive an output signal, an electron beam is scanned across the storage target to drive the surface of the dielectric material towards a second, different equilibrium potential as determined by a second potential source which is connected during the reading process to said screen (or grille). Further, both of the potential sources are of a value above the first crossover of the secondary electron emission characteristic of the storage, dielectric material.

3,506,875
PEN-TRACKING SYSTEM IN CATHODE-RAY TUBE DISPLAY EQUIPMENT

Shigeru Watanabe, Hachioji-shi, Chikafusa Hirano, Kodaira-shi, and Takeo Miura, Kokubunji-shi, Japan, assignors to Hitachi, Ltd., Tokyo-to, Japan
Filed Apr. 30, 1968, Ser. No. 725,346
Claims priority, application Japan, June 28, 1967, 42/40,991
Int. Cl. H01j *29/46*
U.S. Cl. 315—12 21 Claims

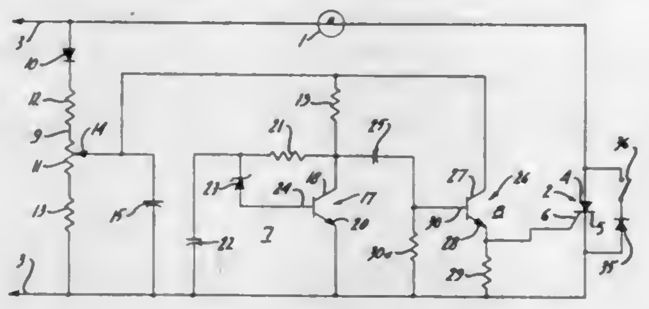


A system for tracking a light-pen on the face of a cathode-ray tube through control of beam deflection including a storage arrangement for storing the coordinate value of the light-pen position, deflection control means for generating two sets of tracking signals for deflecting the electron beam along transverse lines through the previously detected position of the light-pen from points outside of the circular sensitive field thereof, means for detecting the coordinates of points of entry of the beam into said sensitive field, means for determining the position of the light-pen from the detected coordinates and means for renewing the value of the light-pen position in the storage arrangement from the newly determined value.

3,506,876
CONTROL CIRCUIT FOR INTERRUPTED LOAD ENERGIZATION

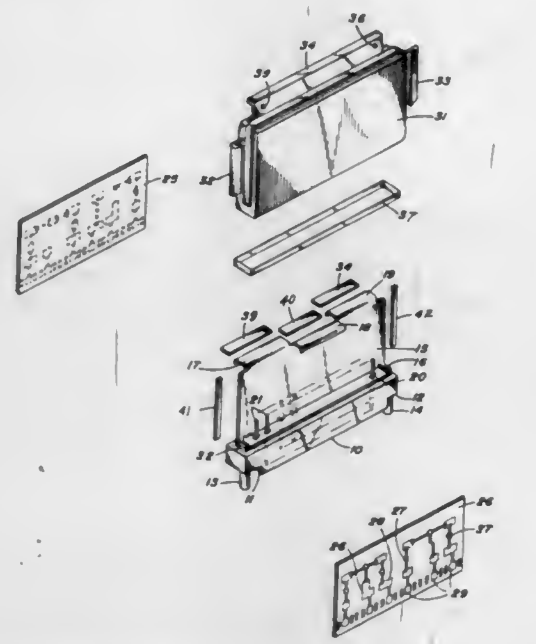
Fredrick J. Antonich, 2234 S. 81st St., West Allis, Wis. 53214
Filed Aug. 23, 1966, Ser. No. 574,401
Int. Cl. H05b *37/02, 41/14*
U.S. Cl. 315—200 10 Claims

The present disclosure includes a lamp connected to an alterating current source or a full wave rectified source in series with a silicon controlled rectifier. The gate of the rectifier is interconnected to a noise generator which in turn is energized from the incoming power lines. The noise generator provides a random energization of the gate with a corresponding random energization of the lamp to simulate a candle type flicker.



3,506,877
HERMETICALLY SEALED AND SHIELDED CIRCUIT MODULE

Mickey Owen, St. Louis, Mo., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 25, 1968, Ser. No. 762,462
Int. Cl. H02b *1/00*
U.S. Cl. 317—100 7 Claims

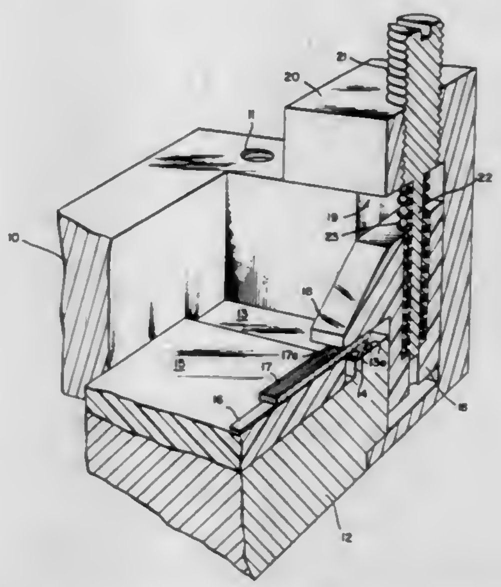


A hermetically sealed and shielded circuit module and method of making same having an elongated connector header with a connector indexing means and two rows of connector pins glass sealed therethrough and an upstanding heat sink shield with a printed circuit board affixed to each side and circuit coupled to the connector pins, and a cover with one atmosphere of helium gas therein hermetically sealing the printed circuits within the confines of the cover and connector header in contact arrangement to conduct internally generated heat to the exterior through the cover and to shield the circuits from internal and external radio frequency interference.

3,506,878
APPARATUS FOR MOUNTING MINIATURE ELECTRONIC COMPONENTS

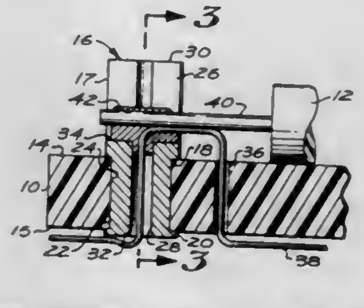
William W. Gray, Manhattan Beach, and Richard J. Wagner, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 26, 1968, Ser. No. 762,953
Int. Cl. H01l *1/12*
U.S. Cl. 317—100 8 Claims

An improved method and apparatus for mounting miniature electronic components such as microwave diodes for increased power dissipation. The miniature electronic component is held in intimate thermal and electrical contact with a base block and lead strap by a jawlike member of thermally conductive dielectric material. To insure greater thermal conduction from the component to the base block and dielectric member, the contacting surfaces are first coated with a thin layer of soft solder. Substantially constant clamping force in the presence of thermal expansion of the component is provided by an adjustable spring coupling between the mounting base and the dielectric member.



3,506,879
CIRCUIT BOARD TERMINALS WITH LACED CONDUCTOR MEANS

Hugh W. Maxwell, Alhambra, and Mario Vinci, Anaheim, Calif., assignors to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio
Filed Sept. 12, 1968, Ser. No. 759,279
Int. Cl. H05k *1/04*
U.S. Cl. 317—101 8 Claims



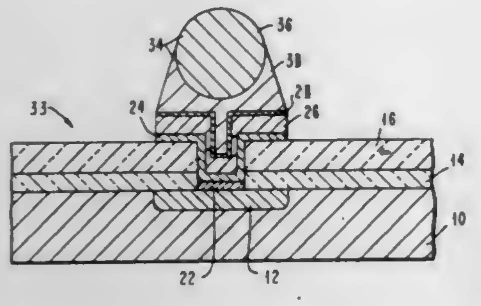
This disclosure relates to circuit packaging, and particularly to terminal devices for connecting circuit elements togther in electrical circuit modules.

According to the present disclosure, a circuit module comprises a circuit board having a plurality of terminal devices mounted thereto. The terminal devices permit direct electrical contact between the lead wire of a circuit element and a conductor wire. This procedure minimizes the metal-to-metal interface between conductors and minimizes contact resistance between circuit elements.

3,506,880
SEMICONDUCTOR DEVICE

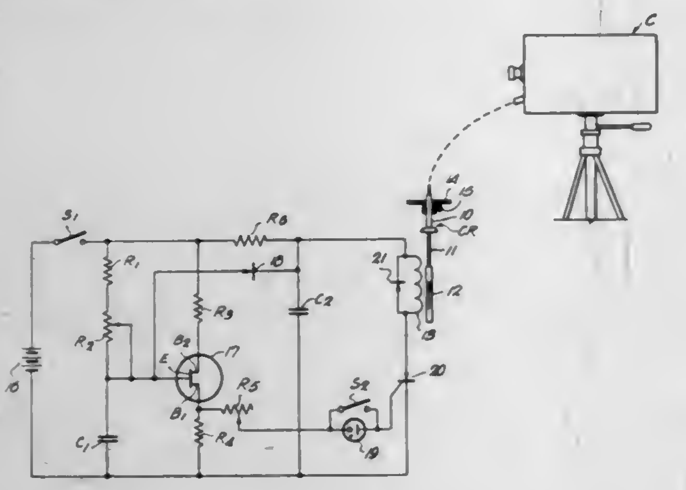
Jack L. Langdon and Raymond P. Pecoraro, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application June 28, 1963, Ser. No. 291,322. Divided and this application Jan. 29, 1969, Ser. No. 794,971
Int. Cl. H01l *19/00*
U.S. Cl. 317—101 11 Claims

A semiconductor device which includes a hermetically sealing metal layer that covers at least a portion of a metal layer which is in ohmic contact with the semiconductor device to prevent ambient impurities from attacking the portion of the contact.



3,506,881
VARIABLE TIME INTERVAL CABLE RELEASE FOR MOTION PICTURE CAMERAS

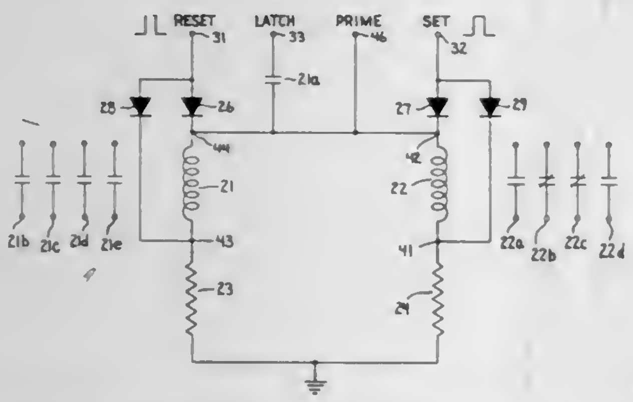
Thomas P. Leary, ℅ 1212 First National Bank Bldg., Omaha, Nebr. 68102
Filed Dec. 12, 1966, Ser. No. 601,190
Int. Cl. H01h *47/24, 47/18, 47/32*
U.S. Cl. 317—130 **3 Claims**



A portable battery operated timer employing solid state circuitry which energizes a solenoid or similar electromagnetic device at variable preselected and uniform time intervals to trip a cable release attached to a motion picture camera.

3,506,882
CONTROL MODULE

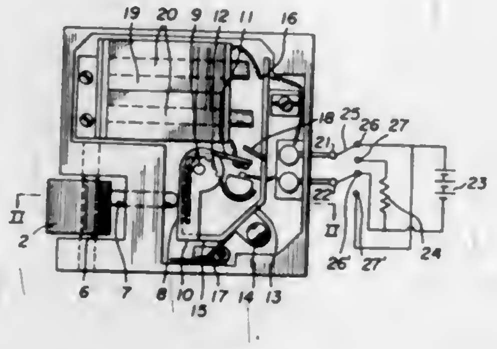
Lester J. McArthur, Wabash, Ind., assignor to Wabash Magnetics, Inc., Wabash, Ind., a corporation of Indiana
Filed Jan. 3, 1967, Ser. No. 606,681
Int. Cl. H01h *47/04, 47/12*
U.S. Cl. 317—137 **9 Claims**



A control module having two relays, each relay having contacts operated by a coil that is provided with a blocking diode, a bypass diode and a series resistor.

3,506,883
ELECTRICAL LOCKING DEVICE

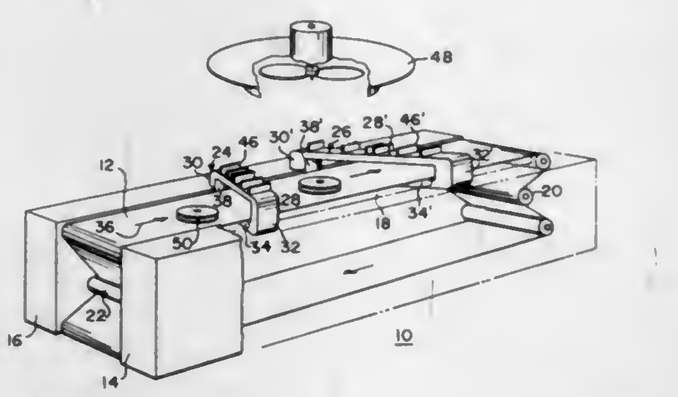
Kazuo Sugiyama, Tokyo, Japan, assignor to Heiwa Denki Kabushiki Kaisha, Kawasaki-shi, Japan
Filed Dec. 19, 1966, Ser. No. 602,811
Claims priority, application Japan, Dec. 22, 1965, 40/78,616; June 6, 1966, 41/52,543
Int. Cl. H01f *7/10, 7/14;* **H01h** *47/04*
U.S. Cl. 317—154 **3 Claims**



The invention relates to an electrical device for locking doors or the like which utilizes an attractable member which will carry residual magnetism of such strength so that even with the retractional force of a return spring on the member, that unlocked condition is maintained and electricity can be saved. Also, a unique arrangement of levers within the lock itself achieves both electrical and mechanical locking with respect to the same apparatus.

3,506,884
MAGNETIC TAPE DEGAUSSING UNIT

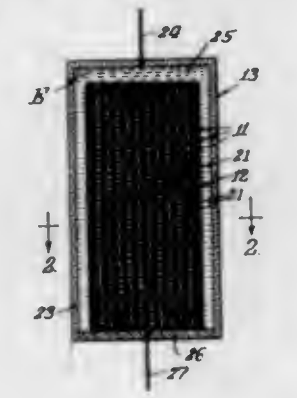
Milton A. McKinley, 24 E. Columbia Ave., Palisades Park, N.J. 07650
Filed Mar. 29, 1967, Ser. No. 632,496
Int. Cl. H01f *13/00;* **H01h** *47/00*
U.S. Cl. 317—157.5 **13 Claims**



The invention is directed to a degaussing unit for magnetic tapes which comprises a closed coil with an air core in which the magnetic flux lines are, at their maximum, inside the air core in a direction perpendicular to the opening in the center of the coil. Magnetic tapes are passed through the center of the coil by various transportation means so that the flat surface of the tape will be perpendicular to the lines of magnetic flux. It has been determined that the degaussing effect on the magnetic tape is maximum where the lines of flux are perpendicular to the flat surface and is minimum where the lines of flux are parallel to the surface of the tape. Accordingly, in order to degauss the tape on a reel, the transportation means is operative in one embodiment to spin the reel within the air core so as to degauss the entire reel and in another embodiment, two coils are provided at 90 degrees with respect to each other and the reels are passed through the air cores by a conveyor belt extending through the two coils. In this way, as the conveyor belt transports the reels, first the reels will be degaussed in one direction and then when passing through the second coil, the reels will be degaussed in a direction perpendicular to the first direction.

3,506,885
ELECTRIC DEVICE HAVING PASSAGE STRUCTURE ELECTRODE

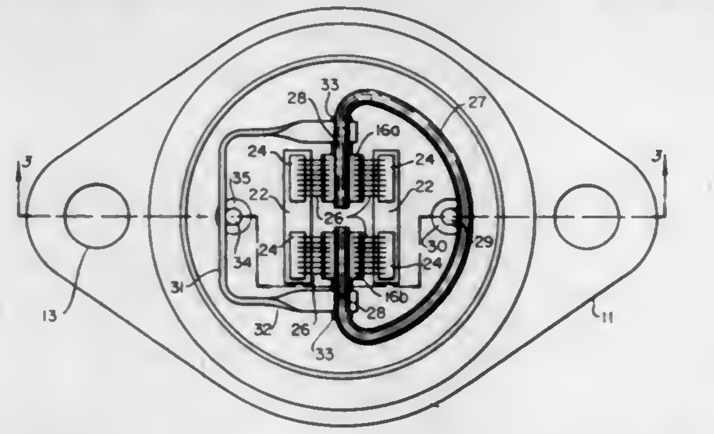
John A. Roberts, North Chelmsford, and Peter R. Roberts, Groton, Mass., assignors to Brunswick Corporation, Chicago, Ill.
Continuation-in-part of application Ser. No. 471,123, July 12, 1965. This application Nov. 25, 1968, Ser. No. 778,679
Int. Cl. H01g *9/04*
U.S. Cl. 317—230 **5 Claims**



A collimated hole structure formed by constricting a plurality of tubular elements each provided with a core for supporting the tubular element during the constricting operation. The bundle of elements is constricted to a point where the elements effectively fuse into a substantially monolithic body. The cores are then removed, leaving a plurality of extremely small diameter, generally parallel passages in a solid body. The tubular elements may be arranged in any desired array, and thus the passages may be provided similarly in any desired array. The passages may have high aspect ratios and may be closely juxtaposed. In one illustrative application, the collimated hole structure is provided with dielectric film and utilized as an anode portion of an electrolytic capacitor. In another illustrative application, the collimated hole structure is utilized as a tip for a drilling device.

3,506,886
HIGH POWER TRANSISTOR ASSEMBLY

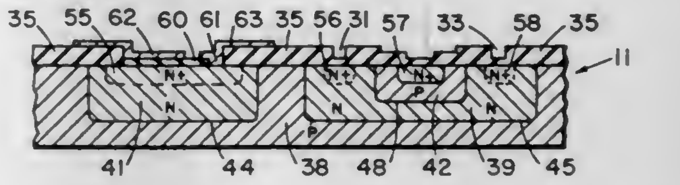
George F. Hardy, Sunnyvale, Richard H. Winkler, Palo Alto, and Sidney Levine, San Jose, Calif., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Filed Mar. 8, 1965, Ser. No. 437,960
Int. Cl. H01l *3/00, 5/00, 11/00*
U.S. Cl. 317—234 **6 Claims**



1. A transistor assembly comprising a header, first and second transistors each including base, collector and emitter regions, a heat conductive electrically insulating means supporting each of said transistors on said header, said means including a collector contact forming ohmic connection to the collector regions of each of said transistors and extending outwardly therefrom, an emitter pedestal disposed adjacent said transistors and having one end connected to the header and the other end disposed adjacent to the transistors, leads forming an electrical connection between said pedestal and the emitter regions of each of said transistors whereby said header forms the common emitter terminal for said transistors, base and collector posts extending upwardly into said header, insulating means for supporting said posts on said header, a U-shaped collector lead supported on said collector post and having each of its legs connected to one of said collector contacts, a C-shaped base lead supported on said base post and extending over said transistors with the fingers of the "C" disposed above the transistors, and leads extending between the base regions and the C-shaped member.

3,506,887
SEMICONDUCTOR DEVICE AND METHOD OF MAKING SAME

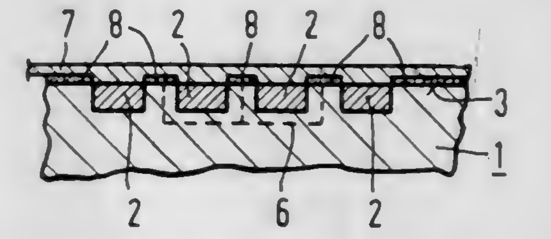
Ronald J. Gutteridge, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Feb. 23, 1966, Ser. No. 529,390
Int. Cl. C23b *5/48;* **H01l** *3/00*
U.S. Cl. 317—234 **3 Claims**



A method of fabricating a thin film capacitor which includes anodizing an exposed surface of a masked face of a semiconductor wafer to form a thin oxide layer thereon, and thereafter forming a layer of metal on said thin oxide layer to form the top plate of the thin film capacitor.

3,506,888
VOLTAGE-RESPONSIVE SEMICONDUCTOR CAPACITOR

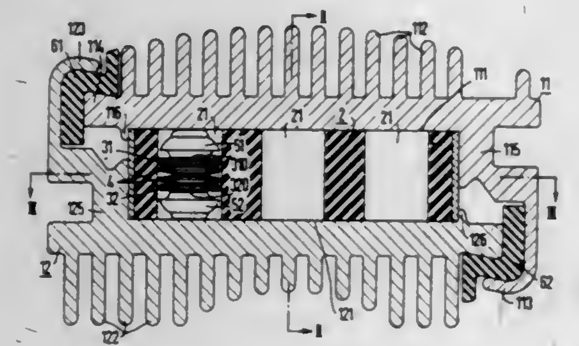
Karl Siebertz, Munich-Obermenzing, and Ernst Hofmeister, Munich, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Nov. 16, 1967, Ser. No. 683,516
Claims priority, application Germany, Dec. 22, 1966, S 107,544
Int. Cl. H01l *5/00*
U.S. Cl. 317—234 **6 Claims**



A voltage-responsive capacitor (varactor) has a crystalline semiconductor body of one conductivity type in which a multiplicity of mutually spaced regions of the other conductivity type are embedded in a grid arrangement of planar-type elements which are all electrically connected in parallel and of which each forms a p–n junction. The spacing between the individual elements of the grid arrangement is sufficiently small to cause the space-charge zones of the p-n junctions to merge when blocking voltage is applied, thus considerably increasing the effected change in capacitance.

3,506,889
RECTIFIER BRIDGE FOR DISC-TYPE RECTIFIERS

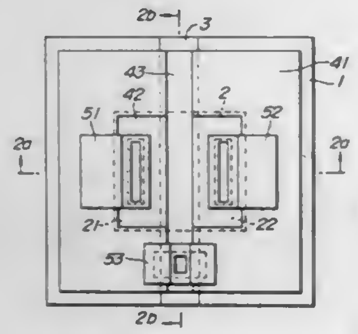
Herbert Vogt, Munich, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Feb. 14, 1968, Ser. No. 705,466
Int. Cl. H01l *1/12, 1/14, 1/16*
U.S. Cl. 317—234 **12 Claims**



A spacer of electrically insulative material affixes a pair of mechanically rigid bus bars to each other in spaced relation thereby providing a space between the bus bars for housing a pair of disc-type rectifiers with the anode of one of the rectifiers in electrical contact with one of the bus bars and the cathode of the other rectifier in electrical contact with the other bus bar. A contact member has a pair of spaced pressure arms between the pair of rectifiers in electrical contact with the cathode of the one rectifier and the anode of the other rectifier. A spring between the pressure arms of the contact member urges each of such pressure arms against the corresponding one of the rectifiers.

3,506,890
FIELD EFFECT SEMICONDUCTOR DEVICE HAVING CHANNEL STOPPING MEANS

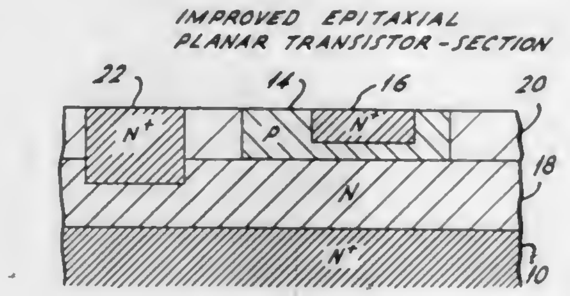
Yasufusa Shima, Kodaira-shi, and Kazuo Kobayashi, Tokyo, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed Oct. 25, 1967, Ser. No. 677,912
Claims priority, application Japan, Oct. 31, 1966, 41/100,318
Int. Cl. H01l *11/00, 5/00*
U.S. Cl. 317—235 **7 Claims**



A junction-type field effect transistor having an n-type region (the region providing a source and a drain region, and a carrier path) formed in the surface of a p-type silicon substrate, a p^{+}-type region (a gate region) formed in the n-type region, and an insulating film covering the substrate surface including the exposed portion of the pn junction. In the transistor, the high-doped p^{+} gate region extends between opposite extremities of the substrate across the n-type source and drain regions, and the insulating film is partly removed to expose the substrate surface so that the exposed portions surround the n-type region and intersect the extended p^{+}-type region.

3,506,891
EPITAXIAL PLANAR TRANSISTOR

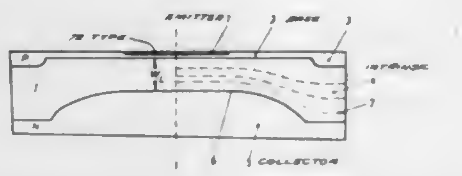
Robert L. Luce, North Wales, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,424
Int. Cl. H01l *11/00, 5/00, 7/36*
U.S. Cl. 317—235 **2 Claims**



Planar transistor formed in wafer having sequentially grown epitaxial layers with lower layer doped for desired resistivity of collector region and upper layer, which has base and emitter regions diffused therein, made substantially intrinsic to reduce carrier compensation in base region.

3,506,892
JUNCTION TRANSISTOR

Fritz Gunter Adam, Freiburg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 2, 1968, Ser. No. 718,057
Claims priority, application Germany, Apr. 4, 1967, D 52,697
Int. Cl. H01l *11/00, 5/00*
U.S. Cl. 317—235 **6 Claims**

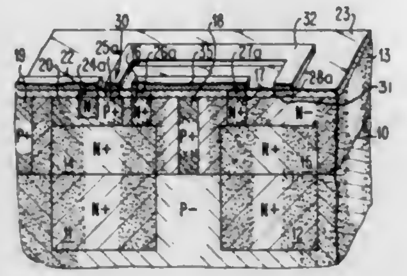


An NPIN transistor having an intrinsic layer which is thicker at the rim portion than it is below the emitter region. Voltage breakdown is determined by the thickness and resistivity of the intrinsic region. The thickness and specific resistance of the intrinsic region is such that with zero external biasing voltage, the space charge depletion layer of the collector base junction fills the entire intrinsic region and penetrates into a portion of the adjacent low resistivity zone of the same conductivity type.

3,506,893
INTEGRATED CIRCUITS WITH SURFACE BARRIER DIODES

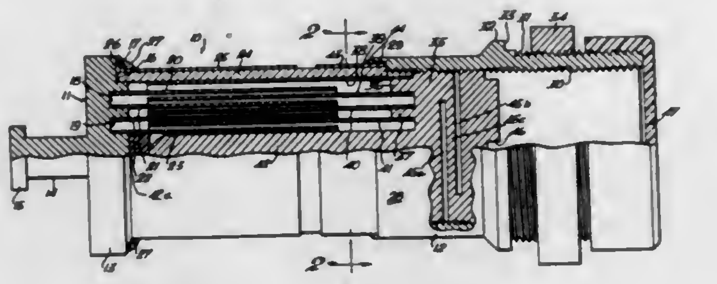
Vir A. Dhaka, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 27, 1968, Ser. No. 740,719
Int. Cl. H01l *19/00*
U.S. Cl. 317—235 **28 Claims**

An integrated circuit containing a surface barrier diode utilizing the Schottky effect. The Schottky-barrier diode is formed in a high resistivity epitaxial layer which contains other semiconductor devices forming an integrated circuit. The epitaxial layer has a thickness of less than 2.5 microns and an impurity concentration of less than 5×10^{16} cm.$^{-3}$ at the surface. The diode comprises a metallic rectifying contact formed on the surface of the epitaxial layer opposite to and spaced by a distance of less than 0.5 micron from a low resistivity region formed in said epitaxial layer by out-diffusion from a corresponding region in a semiconductor substrate supporting the epitaxial layer. Suitable electrical connections couple the rectifying contact and the low resistivity epitaxial region to other devices in the circuit, e.g., the low resistivity region is coupled to a collector and the contact coupled to a base of a transistor providing a diode shunt across the collector-base junction which prevents saturation of the transistor.



3,506,894
DUAL-DIELECTRIC CAPACITOR

John E. Johanson and Norman Eric Johanson, Boonton, N.J., assignors to Johanson Manufacturing Corporation, Boonton, N.J.
Filed Oct. 23, 1968, Ser. No. 770,017
Int. Cl. H01g *5/14, 5/24*
U.S. Cl. 317—251 **5 Claims**

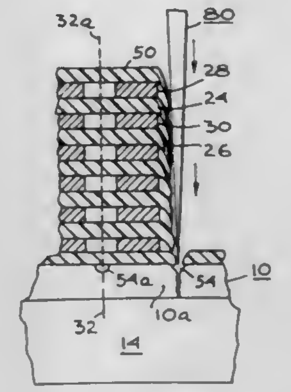


A dual-dielectric tubular capacitor including rotor and stator end members held in axially-spaced relation by means of a ceramic support tube end portions of which are press-fitted in cylindrical openings in said end members, wherein tubular capacitor plates are concentrically arranged in intermeshed relation within the ceramic support tube and secured in place by end portions thereof being press-fitted with respect to annular wall surfaces of annular recesses provided in said rotor and stator members to constitute the air dielectric capacitance portion of the capacitor.

3,506,895
CAPACITOR ARRANGEMENT AND METHOD OF MAKING SAME

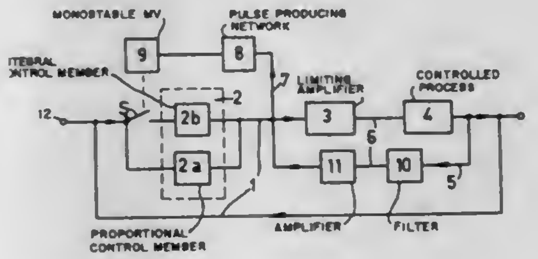
David Kellerman, 1485 S. Cardiff,
Los Angeles, Calif. 90035
Filed Dec. 6, 1965, Ser. No. 511,914
Int. Cl. H01g *1/00, 13/00*
U.S. Cl. 317—261 **10 Claims**

There is disclosed herein an improved method of manufacturing a wound capacitor and improved capacitor manufactured according to this method. As disclosed, a thin wall dielectric cylinder having a comparatively large diameter is placed upon a means for rotating the cylinder about the axis of the cylinder. During the rotation, a first plurality and a second plurality of electrically conductive layers are wound upon the cylinder with a plurality of dielectric layers intermediate each of the electrically conductive layers, upon the outside peripheral surface of the cylinder. When sufficient number of layers has been built up, the cylinder is removed from the rotation means and cut into individual sections. The cylinder may be provided with score lines to aid in the fracture of the cylinder at predetermined points. Each of the individual segments then comprises a wafer-like capacitor which may be provided with appropriate end connections to allow utilization in electric circuitry.



3,506,896
SELF ADAPTIVE CONTROL SYSTEM WITH MEANS FOR AUTOMATICALLY MATCHING CONTROL SYSTEM PARAMETERS TO CHANGES IN PARAMETERS OF A CONTROLLED PROCESS

Cornelis Henricus Loos, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed June 8, 1967, Ser. No. 644,542
Claims priority, application Netherlands, June 23, 1966, 6608702
Int. Cl. G05b *15/02*
U.S. Cl. 318—18 **8 Claims**

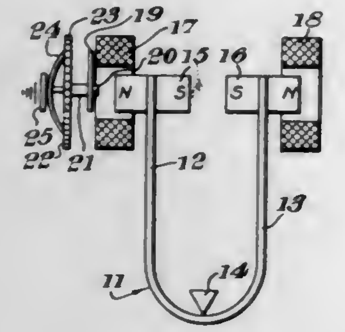


A self-adaptive control system includes a self-oscillating auxiliary loop in which the amplitude and frequency of the oscillation signal varies with the process gain and time constants, respectively. The amplitude variations of the oscillation signal are used to maintain the overall system gain constant and the frequency variations are used to control the integral time constant of the control system in a sense to compensate for variations in the process time constants.

3,506,897
TUNING FORK WITH FREQUENCY ADJUSTMENT

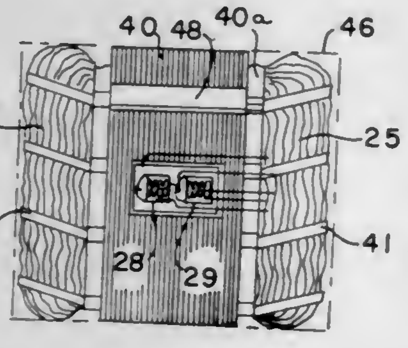
Cecil Frank Clifford, Newbridge Works,
Bath, Somerset, England
Filed June 26, 1967, Ser. No. 648,706
Claims priority, application Great Britain, July 4, 1966, 29,906/66
Int. Cl. G05b *33/00*
U.S. Cl. 318—128 **1 Claim**

An electromechanical oscillator including a tuning fork and having a movable magnetic element, either made of a magnetic material or in the form of a permanent magnet, placed adjacent one tine or between the tines, to modify the restoring force and thereby reduce the natural frequency of oscillation, movement of the magnetic element providing a small range of frequency adjustment.



3,506,898
STATOR CONSTRUCTION INCLUDING AN ENCAPSULATED SEMI-CONDUCTOR DEVICE MOUNTED ON THE STATOR

Alex F. Gawron and Frank C. Schrack, Chicago, Ill., assignors to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 7, 1966, Ser. No. 592,624
Int. Cl. H02p *29/00*
U.S. Cl. 318—138 **12 Claims**

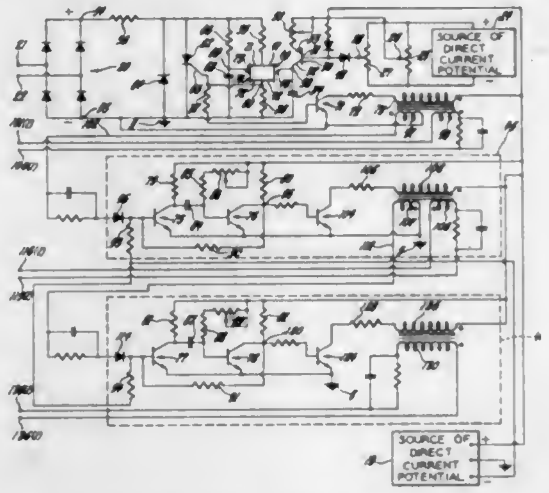


The motor stator has a built-in or integral frequency generator which includes a plurality of transistors. Each transistor is mounted directly to the motor stator. Each transistor is defined by a sheet of insulating material mounted to the stator structure, a collector or terminal plate and a transistor chip or semi-conducting body mounted on the collector plate; these members are covered by an encapsulating compound the outer surface of which is exposed.

3,506,899
SPEED CONTROL SYSTEM FOR ALTERNATING CURRENT INDUCTION MOTORS

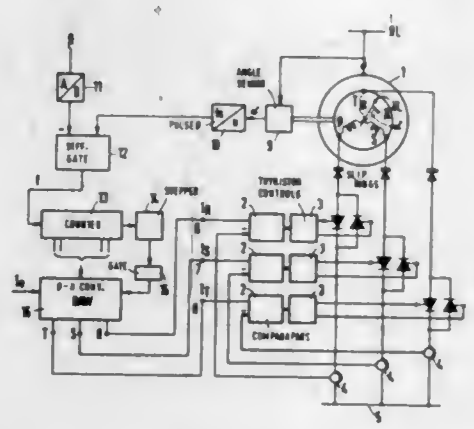
Donald E. Graham, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 19, 1968, Ser. No. 722,637
Int. Cl. H02p *7/62*
U.S. Cl. 318—227 **5 Claims**

A speed control system for alternating current electric motors wherein two potentiometers, one of which has a movable contact adapted to be operated by changes of an external condition to which the speed of the motor is to be adjusted, are connected in parallel across a source of direct current potential. The base electrode and one current carrying electrode of a transistor are connected across the movable contacts of the potentiometers and the series combination of the current carrying electrodes of the transistor and a capacitor are connected across a direct current potential source. The base electrodes of a unijunction transistor are connected across a reference potential source, which is obtained by rectifying a selected phase of the alternating current supply potential, through respective base resistors and the emitter electrode thereof is connected to a junction between the capacitor and the transistor. The discharge of the capacitor through the emitter and one of the base electrodes of the unijunction transistor produces a trigger signal across one of the base resistors. Successive monostable multivibrator circuits, each responsive to the next preceding trigger signal, produce successive trigger signals spaced from each other by an electrical angle equal to the electrical angle between phases of the supply potential.


SOURCE OF DIRECT CURRENT POTENTIAL
SOURCE OF DIRECT CURRENT POTENTIAL

3,506,900
SYSTEM FOR REGULATION OF THREE-PHASE MACHINES

Ingemar Neuffer, Eugen Buder, Rudolf Dirr, and Hermann Waldmann, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Aug. 31, 1967, Ser. No. 664,670
Claims priority, application Germany, Sept. 3, 1966, S 105,679
Int. Cl. H02p *7/62*
U.S. Cl. 318—237 **8 Claims**



A system for regulating a dynamoelectric three-phase machine is designed for controlling the speed of the rotor to maintain it in synchronism with the rotating field of the stator independently of changes in speed. This is done by connecting to the slip rings of the rotor and hence to its three-phase windings an external excitation circuit which contains respective thyristors in each of its three phases. The thyristors are controlled by solid-state regulating equipment which receives an input magnitude proportional to the slip angle of the machine and correspondingly fires the thyristors to supply the rotor windings with a three-pulse excitation current varying with the amount of slip. This regulating equipment comprises a digital three-phase current generator constituted by a network of solid-state logic components which furnish a three-phase datum-reference current proportional to the slip. The datum reference is compared with a pilot quantity proportional to the actual amount of current

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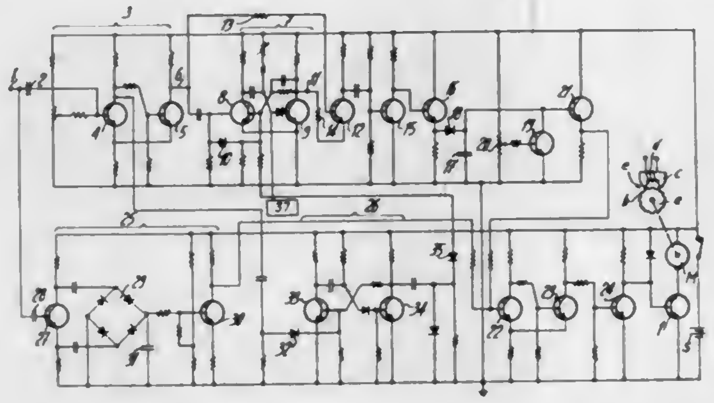
supplied to the rotor windings, the regulation being in accordance with the difference between the slip-responsive reference magnitude and the pilot magnitude.

3,506,901
ELECTRONIC SPEED REGULATOR FOR ELECTRIC MOTORS

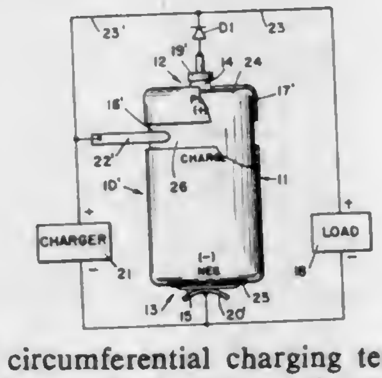
Claudio Prezzi, Yverdon, and Giovanni Odone, La Rosiaz, Lausanne, Switzerland, assignors to Paillard S.A., Sainte-Croix, Vaud, Switzerland, a company of Switzerland
Filed Mar. 16, 1967, Ser. No. 623,644
Claims priority, application Switzerland, Apr. 4, 1966, 4,949/66
Int. Cl. H02p *5/06*
U.S. Cl. 318—314 **5 Claims**



A highly accurate electronic regulator of the speed of an electric motor, wherein the motor controls a generator producing pulses the duration of which are reversely proportional to the speed of rotation of the motor, said pulses controlling a multivibrator the period of non-stability of which defines pulses of a reference duration produced in synchronism with the first-mentioned pulses. The two series of pulses are compared so as to supply pulses the duration of which are proportional to the difference between the first-mentioned pulses and the reference pulses and which control an electronic switch feeding the motor so as to maintain the latter at a speed determined by the duration of the reference pulses. According to a modification, the reference pulses may in fact be obtained from a remote frequency source with which the motor is to be synchronized.

3,506,902
RECHARGEABLE CELLS AND CONNECTION MEANS THEREFOR

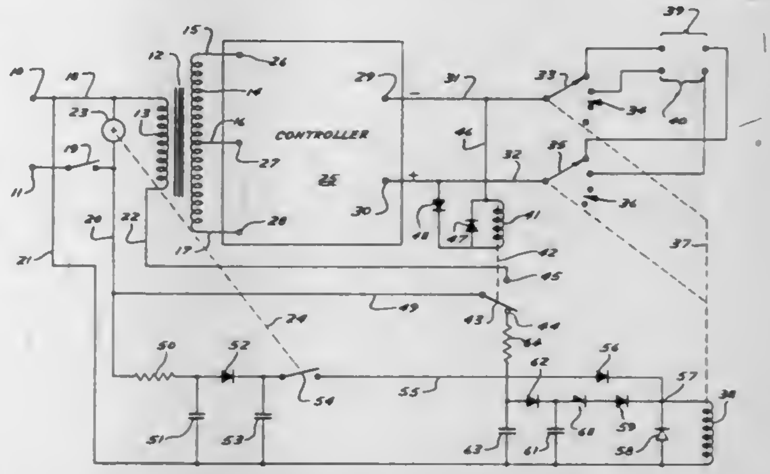
James R. Sullivan, Arlington Heights, Ill., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed July 27, 1967, Ser. No. 656,490
Int. Cl. H02j *7/32;* **H01m** *45/04*
U.S. Cl. 320—2 **7 Claims**



A separate, circumferential charging terminal is positioned on a rechargeable electrical cell. The terminal may be formed by cutting away a portion of the cell's insulating wrapper to expose an area of its conductive casing. A contact engaging the circumferential terminal is connected to a charging circuit of the cell.

3,506,903
AUTOMATIC CHARGING APPARATUS

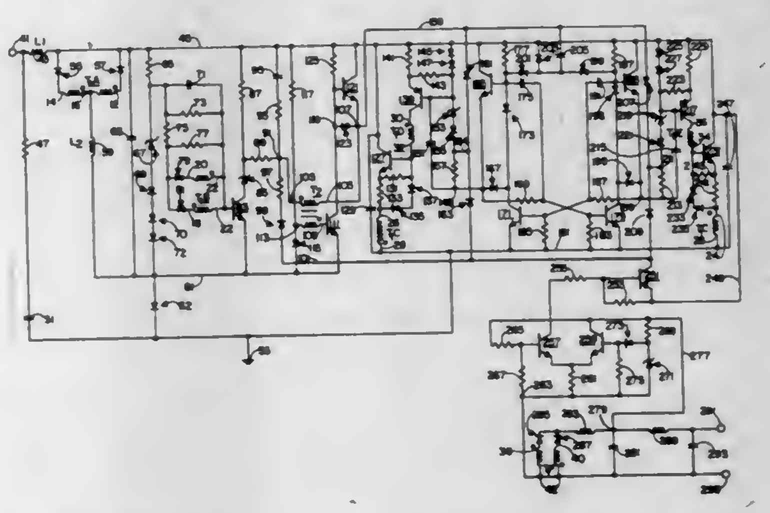
Ellis W. Olson, Hopkins, Minn., assignor to Introl Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 17, 1967, Ser. No. 661,271
Int. Cl. H01m *45/04*
U.S. Cl. 320—17 **7 Claims**



Automatic charging apparatus in which a plurality of batteries may be accommodated for automatic sequential charging, conditioning or maintaining. A timed selective switching apparatus is utilized to sequentially select pairs of output terminals that are connected or intended to be connected to batteries to be charged. A periodic signal from the timed source causes sequential operation of the selective switching apparatus. Further apparatus is provided for de-energizing a source of charging potential in the absence of a battery, or the like, across any particular pair of output terminals or, in the alternative, the possible connection of a battery in a polarity reverse of that for which the apparatus is designed to operate. In the situation wherein there is no battery present or the polarity is incorrect, this appartus causes continued sequential operation of the selective switching apparatus until terminals are found having a battery connected in the proper polarity. The charge controller is then energized and the particular battery will be charged according to the characteristics of the controller until such time as the end of the period of the timer device.

3,506,904
SELF-STARTING DC TO DC CONVERTERS

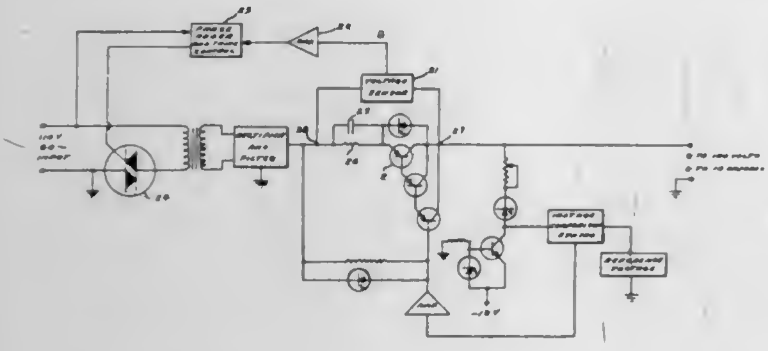
Daniel J. Sikorra, Champlin, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 19, 1968, Ser. No. 706,415
Int. Cl. H02m *3/22*
U.S. Cl. 321—2 **5 Claims**



A self-starting DC to DC converter wherein a feedback signal from a power transformer is compared to a reference level to generate a control signal which is used to control the power to the primary winding of a power transformer.

3,506,905
TRANSISTOR TRIAC REGULATED POWER SUPPLY

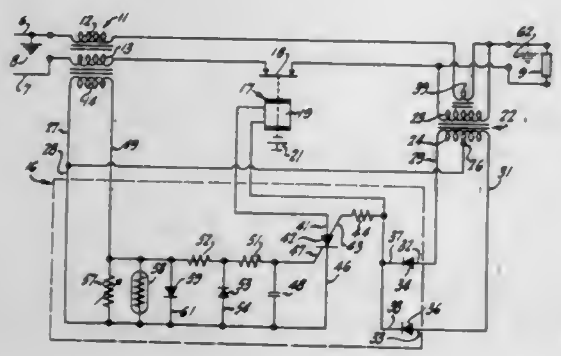
Robert M. Thomas, Box 661, Shalimar, Fla. 32579
Filed Mar. 11, 1968, Ser. No. 712,280
Int. Cl. H02m *7/12, 7/24*
U.S. Cl. 321—18 2 Claims



The power input to a conventional solid state series regulated, variable voltage, power supply is controlled by a triac in the alternating current input to the power supply. The voltage drop across the series regulating transistor of the power supply controls the triac.

3,506,906
GROUND FAULT CIRCUIT INTERRUPTER WITH INADVERTENT GROUND SENSOR

David William Nestor, Oakland, Calif., assignor to The Rucker Company, a corporation
Filed Dec. 18, 1967, Ser. No. 691,371
Int. Cl. H02h *1/02, 3/28*
U.S. Cl. 321—18 7 Claims

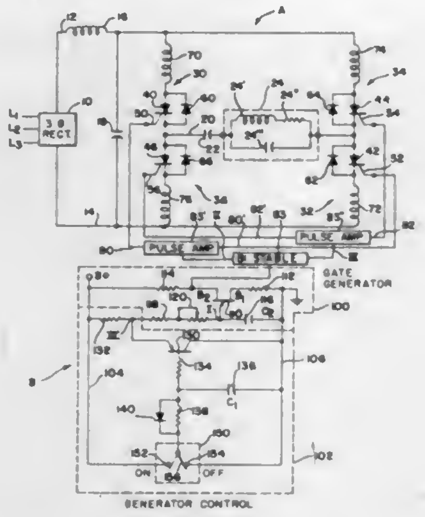


A circuit breaker is installed between a source having a neutral conductor and a load and is operated when a differential transformer senses that more current is flowing into the load from the source through the conductors that is flowing back to the source through the conductors. A power transformer is across the neutral conductor and a load conductor and has in its magnetic field a winding for inducing a small voltage between the neutral conductor and ground to sense an inadvertent grounding of the neutral conductor at or near the load.

3,506,907
GATING CONTROL OF A RESONANT BRIDGE INVERTER FOR INDUCTION HEATING USE

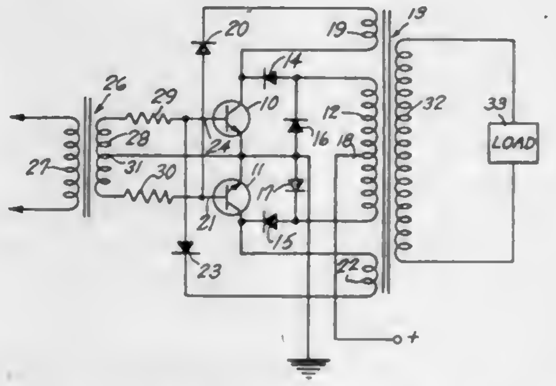
Cecil P. Porterfield, Parma, and Graham R. Adams, Warrensville Heights, Ohio, assignors to Park-Ohio Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 4, 1967, Ser. No. 672,905
Int. Cl. H02m *7/48;* **H02p** *13/18*
U.S. Cl. 321—45 12 Claims

There is provided an improvement in a series resonant bridge inverter of the type adapted for induction heating and having two separate switching circuits energized alternately by gating silicon controlled rectifiers in each switching circuit with a train of gating pulses. This improvement includes substantially reducing the frequency of the gating pulses as they are first initiated to prevent coinciding activation of silicon controlled rectifiers in the separate switching circuits.



3,506,908
ELIMINATION OF SHORT CIRCUIT CURRENT OF POWER TRANSISTORS IN PUSH-PULL INVERTER CIRCUITS

Robert J. Resch, Chardon, Ohio, assignor to TRW Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 20, 1968, Ser. No. 730,319
Int. Cl. H02m *7/44*
U.S. Cl. 321—45 7 Claims

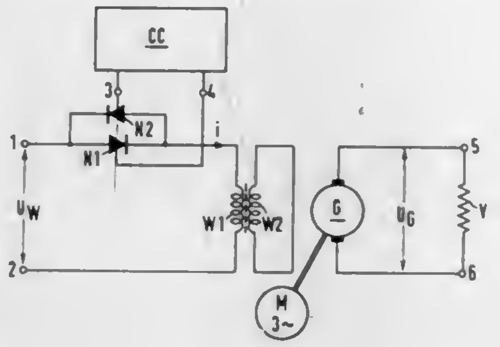


An inverter circuit for changing DC to AC. The inverter includes a pair of electronic switch means connected in push-pull arrangement for causing current flow to pass through a primary winding in alternately opposite directions to generate an AC voltage at the output of a transformer. The conduction of one of the switch means is sensed and used to develop a feedback voltage which is applied to the control electrode of the other switch means to insure that the non-conducting switch is maintained non-conductive until the conducting switch is rendered non-conductive at which time the non-conducting switch will become conductive.

3,506,909
CIRCUIT ARRANGEMENT FOR THE EXCITATION OF A DC MACHINE

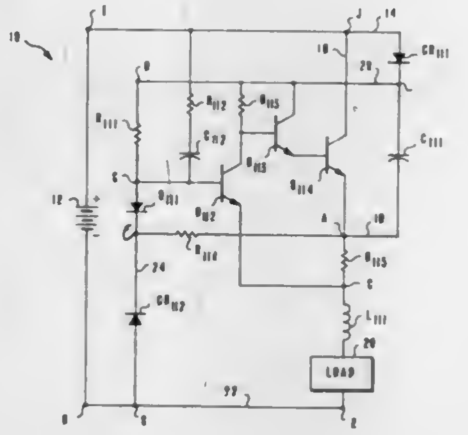
Klaus Böhm and Gerhard Rumold, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Filed July 22, 1968, Ser. No. 746,527
Claims priority, application Germany, Aug. 5, 1967, 1,613,409
Int. Cl. H02p *9/30*
U.S. Cl. 322—63 7 Claims

A DC machine having a pair of inductively coupled field windings and is excited from an AC power network by a circuit including controlled rectifiers connected between the AC power network and one of the windings for periodically exciting the one of the windings and a short-circuit of the other of the windings.



3,506,910
TEMPERATURE INDEPENDENT CONSTANT CURRENT SUPPLY

Jeffrey M. Bevis, Long Beach, Calif., assignor to Chalco Engineering Corporation, Gardena, Calif.
Filed July 17, 1967, Ser. No. 653,775
Int. Cl. G05f *1/44*
U.S. Cl. 323—4 8 Claims

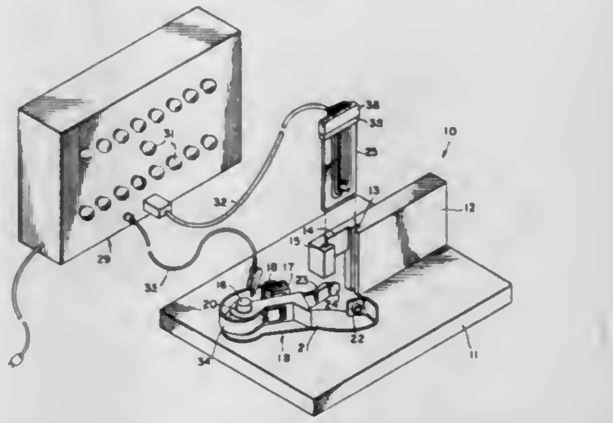


A transistorized on-off constant current supply. One current path allows load current buildup to a predetermined value at which value a switching transistor is turned off. A second current path turns the switching transistor on when load current falls below the predetermined value. The supply is temperature independent while a snap-action effect minimizes power dissipation.

3,506,911
APPARATUS FOR INDICATING RELATIVE ALIGNMENT OF ENGAGEABLE CONTACTS USING A PRINTED CIRCUIT SENSOR

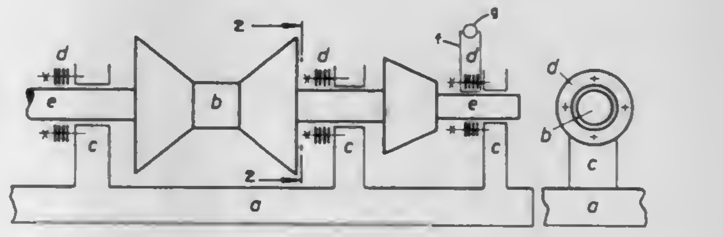
Carl A. Stone, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,412
Int. Cl. G01n *27/00*
U.S. Cl. 324—28 7 Claims

An apparatus for indicating the relative alignment of engageable contacts. A printed circuit board having adjacent electrically conductive areas is positioned between the contacts. The displacement of one of the contacts with respect to the other contact causes the contacts to engage with the printed circuit board and at least one of the conductive areas. Indicating means is electrically coupled between the contacts and the conductive areas of the printed circuit board for indicating at least one of the conductive areas engaging wih the contact or contacts thereby indicating the relative alignment of the contacts.



3,506,912
LARGE GENERATOR SHAFT VOLTAGE REDUCING ARRANGEMENT AND INDICATOR

Robert Braun, Socking, Germany, assignor to Allianz Versicherungs-Aktiengesellschaft, Munich, Germany
Filed June 10, 1968, Ser. No. 735,881
Claims priority, application Germany, June 16, 1967, A 55,995
Int. Cl. G01r *33/00;* **H02k** *1/00, 11/00*
U.S. Cl. 324—34 4 Claims

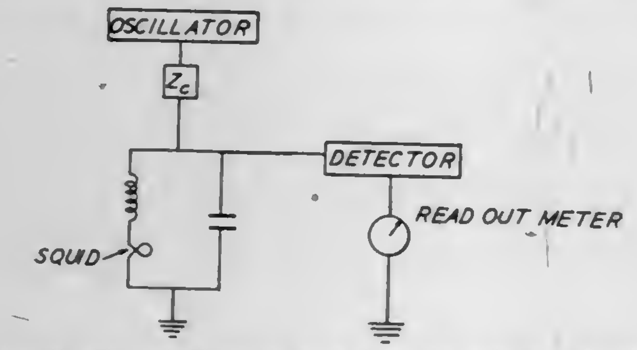


In a rotating machine comprising a rotor and a stator of ferritic steel is provided means for reducing unipolar voltages comprising at least one arrangement formed by a plurality of axially-stacked annular plates which encircle the rotor shaft, said plates being mechanically and magnetically connected to the stator, and being spaced only a short distance from the rotor.

3,506,913
SUPERCONDUCTIVE QUANTUM INTERFERENCE DEVICE UTILIZING A SUPERCONDUCTIVE INDUCTIVE REACTIVE ELEMENT SHUNTED BY A SINGLE JUNCTION

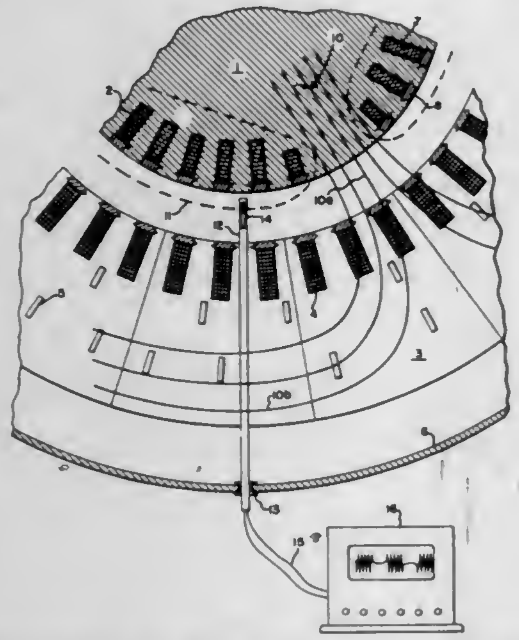
John J. Lambe, Birmingham, James E. Mercereau, Dearborn, Arnold H. Silver, Farmington, and James E. Zimmerman, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 445,191, Apr. 2, 1965. This application June 28, 1968, Ser. No. 746,726
Int. Cl. G01r *33/02*
U.S. Cl. 324—43 17 Claims

A superconductive quantum interference device in which a superconductive inductive reactive element and a single junction shunting the element encloses a finite area for the reception of magnetic flux. An alternating potential of sufficiently high frequency is applied to the superconductive inductive reactive element to cause a voltage to appear across the junction and current to flow through it, and means are coupled to the quantum interference device for detecting quantum interference effects in the device. This device is usable as an extremely sensitive magnetometer, oscillator or amplifier. The invention also relates to a process for effecting superconductive interference by forming a superconductive inductive reactive element and a junction shunting the superconductive inductive reactive element in a loop enclosing a finite area. An alternating potential of sufficiently high frequency to cause current flow through the junction is applied to the superconductive inductive reactive element, and quantum interference effects in the junction are detected.



3,506,914
METHOD AND APPARATUS FOR DETECTING ROTOR FLUX VARIATIONS IN THE AIR GAP OF A DYNAMOELECTRIC MACHINE

Donald R. Albright, Scotia, and William B. Jackson, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed July 1, 1968, Ser. No. 741,786
Int. Cl. G01r ***31/02***
U.S. Cl. 324—51 8 Claims

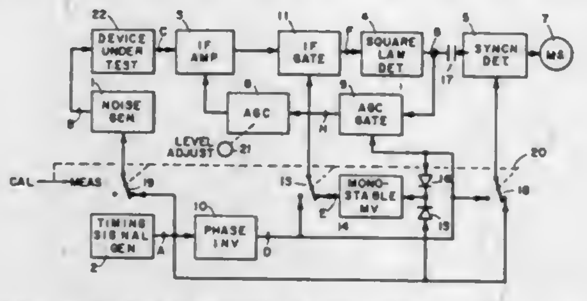


In a dynamoelectric machine with a rotating field winding, a probe is disposed in the air gap close to the rotor surface to monitor variations in leakage flux density. The apparatus is useful in detecting shorted turns in the field winding.

3,506,915
CALIBRATOR SYSTEM FOR AUTOMATIC NOISE FIGURE INDICATORS

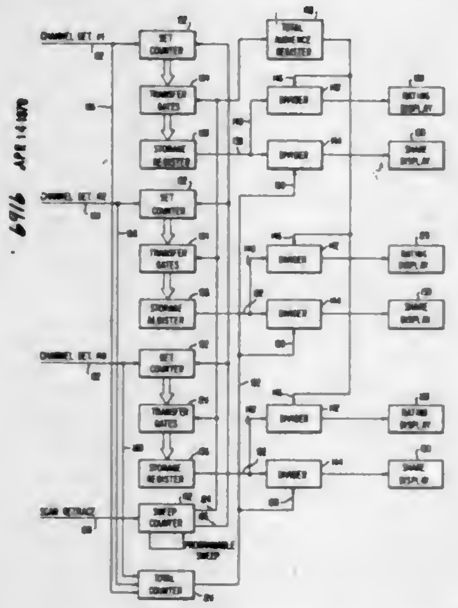
David J. Harris, East Northport, and William E. Pastori, Hicksville, N.Y., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 14, 1968, Ser. No. 713,093
Int. Cl. G01r ***27/00;*** **H04b** ***1/00***
U.S. Cl. 324—57 3 Claims

A noise figure indicator instrument arranged for selective operation in measurement and calibration modes. In measurement, the output of a test device in response to a cyclically pulsed noise source is amplified with automatic gain control to produce two alternately occurring output power levels and the difference between the two levels is indicated in terms of the noise figure of the test device. In calibration, the output is cylically interrupted so as to occur only at the lower of the two levels and is indicated. The scale factor of the instrument is set to make the latter indication correspond to the known excess noise ratio of the noise source to be used.



3,506,916
TELEVISION AUDIENCE SURVEY SYSTEM

Stephen A. Mixsell, Melbourne, and Hansel B. Mead, Eau Gallie, Fla., assignors, by mesne assignments, to Teltronic Measurement Systems, Inc., New York, N.Y., a corporation of Delaware
Continuation-in-part of application Ser. No. 608,589, Jan. 11, 1967. This application Jan. 19, 1968, Ser. No. 699,078
Int. Cl. H04h ***9/00;*** **H04b** ***1/60***
U.S. Cl. 325—31 6 Claims



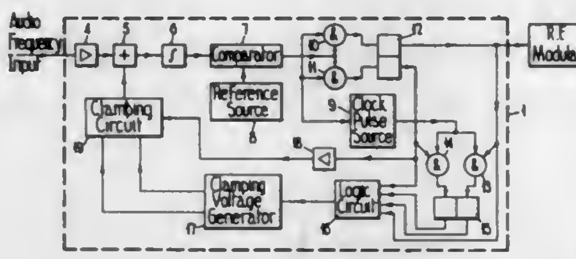
Disclosed is a radio and television audience survey system particularly suited for monitoring the listening and viewing habits of CATV subscribers. Local oscillator signals are picked off the CATV cables "upstream" of the cable amplifiers and separated by a spectrum analyzer technique. Each set produces a signal of slightly different frequency and these signals are converted to pulses and supplied to a counter. The counter presents a continuously updated and automatically averaged display of the current share and rating for each television channel being monitored.

3,506,917
TRANSMITTER AND RECEIVER FOR DELTA-SIGMA CODE MODULATION SYSTEM EMPLOYING LOGIC CIRCUITS TO ACHIEVE VOLUME COMPRESSION AND EXPANSION

Robert Frank Bond, Denham, England, assignor to The General Electric Company Limited, London, England, a British company
Filed June 12, 1967, Ser. No. 645,226
Claims priority, application Great Britain, June 14, 1966, 26,555/66
Int. Cl. H03k ***13/22***
U.S. Cl. 325—38 10 Claims

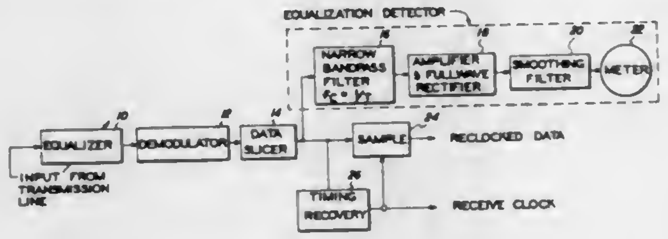
A communication system employing Delta-sigma pulse code modulation wherein volume compression of the

modulating signal is effected in the transmitter by means of logic circuits arranged to vary the amplitude of the pulses in the feedback signal in dependence on the number of pulses present or absent in the last-occurring pulse positions of the encoded signal. A receiver effecting volume expansion by a similar means is also described.



3,506,918
DATA CHANNEL EQUALIZATION DETECTOR

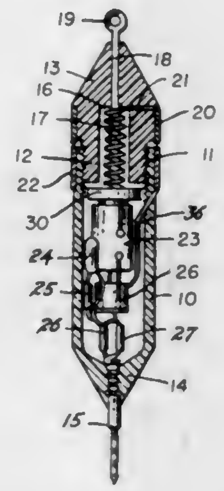
Donald A. Perreault, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Dec. 27, 1966, Ser. No. 604,992
Int. Cl. H04b ***1/00***
U.S. Cl. 325—67 8 Claims



A system for effecting channel equalization at a data receiver. Manual means for adjusting the equalization of a data transmission media allow an inexperienced operator to adjust the equalization thereof by simply viewing a meter or other indicating device.

3,506,919
MODULATED PORTABLE SIGNALING OR TEST TRANSMITTER

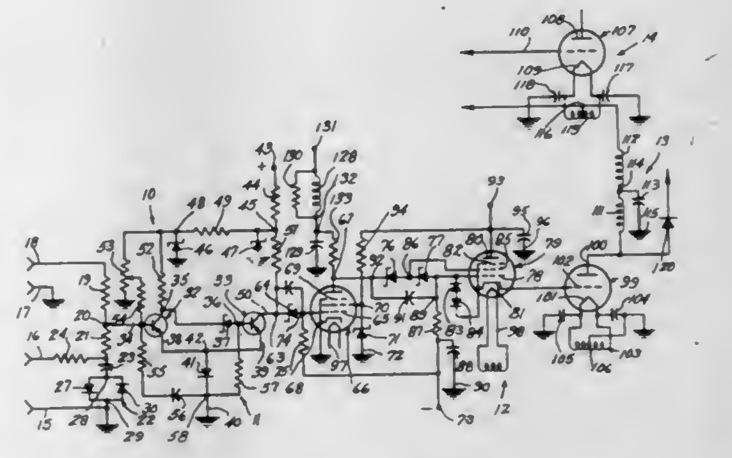
David N. Fistell, 1001 Bannock St., Denver, Colo. 80204
Filed July 21, 1967, Ser. No. 655,134
Int. Cl. H03b ***5/24***
U.S. Cl. 325—105 4 Claims



A miniature transistor oscillator circuit energized by 1.5 v., hearing-aid battery cell, all encased in a portable, suspendable, tubular, insulated container closed at its upper extremity with a threaded cap having a metallic contact band which, when the cap is tightened, contacts a second contact band on the container, to close the battery circuit to the oscillator so as to emit a modulated radio frequency signal from an antenna pin at the lower extremity of said container.

3,506,920
HIGH EFFICIENCY TRANSFORMER UTILIZING PULSE DURATION MODULATION TO ELIMINATE AUDIO-RF TRANSFORMER COUPLING

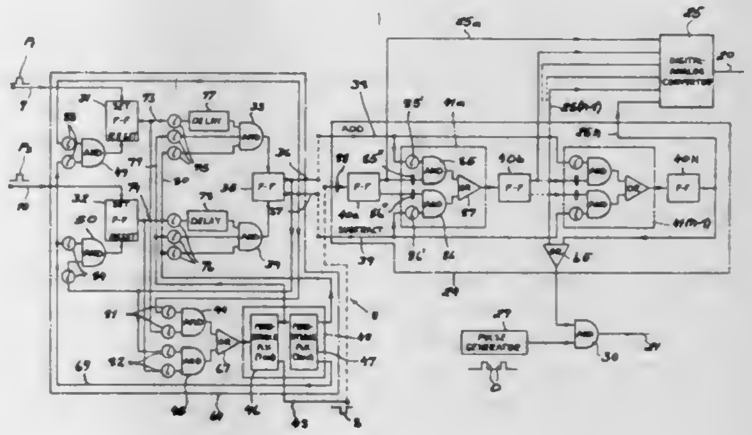
Hilmer I. Swanson, Quincy, Ill., assignor to Gates Radio Company, Quincy, Ill., a corporation of Illinois
Filed Feb. 10, 1966, Ser. No. 526,610
Int. Cl. H04b ***1/04***
U.S. Cl. 325—142 15 Claims



A high efficiency transmitter having a pulse duration modulator coupled to an input audio source and including a power amplifier coupled to the output of the pulse duration modulator for increasing the amplitude of the information pulses. Demodulation means for the pulse duration modulated signal is coupled through a DC path from the power amplifier directly to the RF stage, thereby eliminating the need for an inefficient audio-RF coupling transformer.

3,506,921
CO-ORDINATION SYSTEM FOR TWO COACTING UNITS

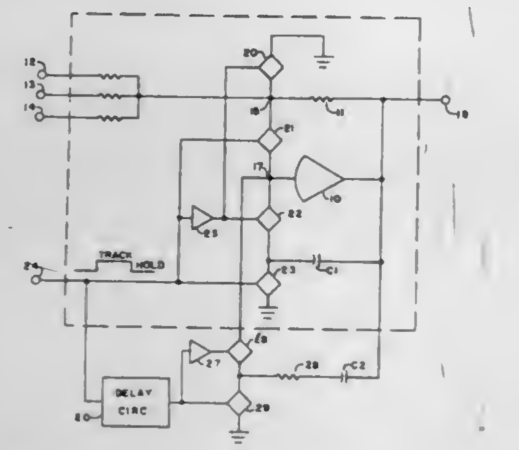
Rudolf Wanner and Berthold Mader, Augsburg, Germany, assignors to Firma Bowe Bohler & Weber KG., Augsburg, Germany, a corporation of Germany
Filed June 6, 1967, Ser. No. 643,887
Claims priority, application Germany, June 7, 1966, B 87,453
Int. Cl. H03k ***17/02***
U.S. Cl. 328—70 15 Claims



System for co-ordinating, within predetermined tolerance limits, the operations of two coacting units, such as a paper-feeding and a paper-cutting machine, wherein each unit generates a train of metering pulses with a cadence proportional to its operating speed and these pulses are differentially fed to a digital counter whose output controls (e.g. arrests) one or both units to vary their relative speed upon the reading of the counter exceeding a predetermined value; before reaching the counter, the metering pulses are temporarily stored in respective input flip-flops individual to the two units and generate delayed stepping pulses for the counter which also receives from an output flip-flop, controlled by the corresponding input flip-flop, a sign-indicating signal determining whether the counter is to respond additively or subtractively to the stepping pulse. The transmission channels between the input flip-flops and the output flip-flop are blocked for a predetermined period, sufficient to enable stepping of the counter, whenever the output flip-flop is in a condition assigned to the input flip-flop tripped by an incoming metering pulse; when both input flip-flops are tripped by substantially simultaneous metering pulses from the two units, a first stepping pulse due to the set condition of one input flip-flop (i.e. the one corresponding to the existing condition of the output flip-flop) actuates the counter in one sense (e.g. additively) whereupon that input flip-flop is reset and the transmisison channel to the output flip-flop from the other input flip-flop is reopened so that the output flip-flop is reversed and a further stepping pulse actuates the counter in the opposite sense (e.g. subtractively) before the second input flip-flop is also reset.

3,506,922
TRACK-HOLD CIRCUITRY HAVING WIDE BAND-WIDTH RESPONSE

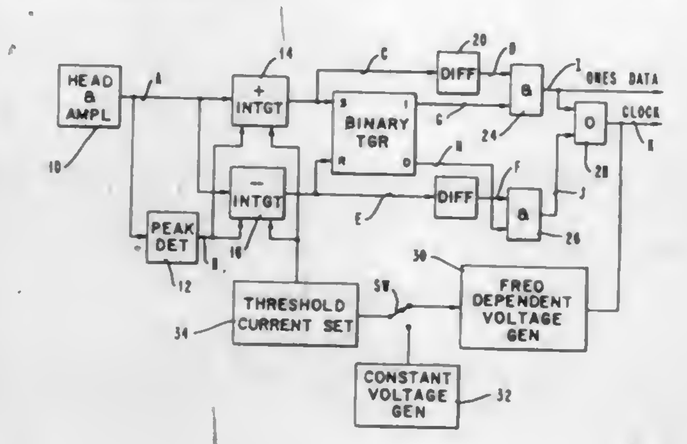
George Hannauer III, Pennington, and Thomas A. Fyfe, Oakhurst, N.J., assignors to Electronic Associates, Inc., Long Branch, N.J., a corporation of New Jersey
Filed Dec. 1, 1966, Ser. No. 598,329
Int. Cl. H03k *5/53*
U.S. Cl. 328—151 9 Claims



A track-hold circuit for an analog computer is formed of an amplifier and a first capacitor adapted to be switched into a feedback relation therewith, this first capacitor having a relatively small capacitance; a second capacitance is provided to also be switched into feedback relation with the amplifier, this second capacitor having a large capacitance relative to the first capacitor; and a switching circuitry is coupled to the amplifier and the first capacitor and through a delay circuit to the second capacitor such that when the track-hold circuit is switched from the track mode to the hold mode, the first capacitor is immediately switched into its feedback relation with the amplifier but the second capacitor is switched into such a feedback relation only after a finite duration of time such that, for short hold mode durations, the second or high valued capacitor is not employed in the circuit.

3,506,923
BINARY DATA DETECTION SYSTEM

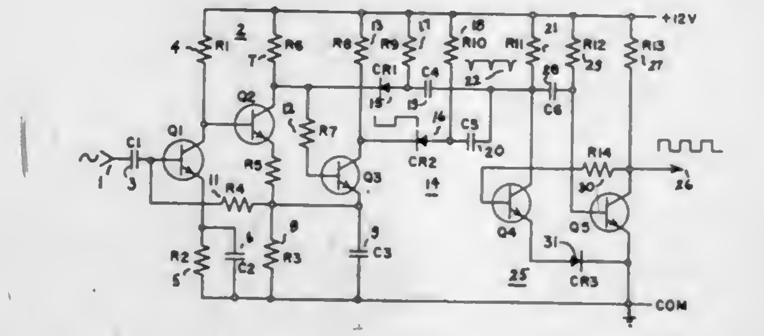
Louis E. Ambrico, Hyde Park, N.Y., and Benjamin C. Fiorino, Longmont, Colo., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 12, 1967, Ser. No. 608,785
Int. Cl. H03k *13/00*
U.S. Cl. 329—104 14 Claims



A circuit for detecting phase encoded binary data. The input to the circuit is limited binary data. Pulses are derived from the zero crossings of this data. The positive excursions of data are integrated by a positive integration circuit and negative excursions are integrated by a negative integration circuit. The positive integrator feeds the set side of a binary trigger to turn it on when the integration exceeds a certain level. The negative integrator feeds the off side of this trigger and resets the trigger when the level exceeds a certain level. The trigger output is then used as a time gate to gate ones data to a utilization device.

3,506,924
F.S.K. ZERO CROSSING DETECTOR

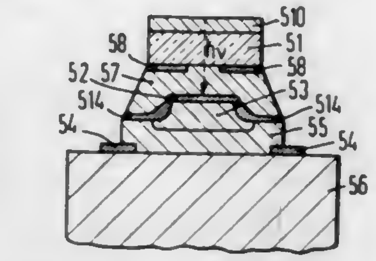
Robert P. Dixon, Rustburg, Va., assignor to General Electric Company, a corporation of New York
Filed Apr. 24, 1967, Ser. No. 633,205
Int. Cl. H03k *9/00*
U.S. Cl. 329—104 6 Claims



A zero crossing detector for a frequency-shift-keyed carrier signal. The frequency-shifted carrier signal is applied to a pulse-shaping network in which the carrier signal is converted to two out-of-phase square waves. The square waves are rectified and differentiated to produce a pulse train with each pulse representing a zero crossing of the carrier signal. The pulses trigger a one-shot multivibrator to produce a plus train the duty cycle of which varies as the carrier frequency shifts between the two values. The pulse train from the one-shot multivibrator is applied to an integrating network, such as a low pass filter network having a cut-off below the lowest carrier frequency, to produce a DC output signal, the amplitude of which varies with the duty cycle of the applied pulse train and, hence, with the frequency shift of the carrier signal.

3,506,925
ACTIVE COMPONENT FOR GENERATING AND AMPLIFYING ULTRAHIGH FREQUENCY SIGNALS

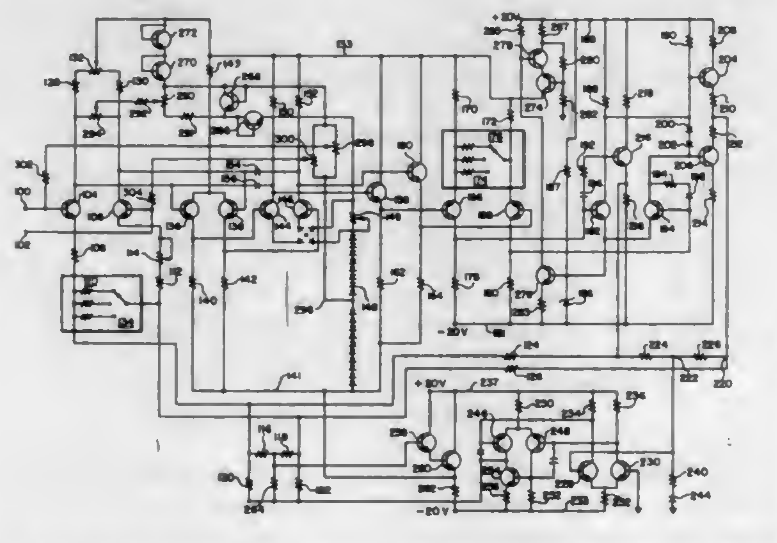
Eberhard Groschwitz, Munich, Germany, assignor to Siemens Aktiengesellschaft, a corporation of Germany
Filed Feb. 21, 1968, Ser. No. 707,118
Claims priority, application Germany, Mar. 14, 1967, S 108,800
Int. Cl. H01s *3/08*
U.S. Cl. 330—4.3 24 Claims



An active component for generating and amplifying ultra high frequency signals comprises a light source which radiates optical radiation into a first solid state layer of degenerated electron concentration having a thickness sufficient for complete absorption of the optical radiation and at least in the order of magnitude of a few damping lengths of electrons photoelectrically excited in the first layer but not larger than in the order of 10^2 to 10^3 of the damping lengths. A second layer adjacent to and forming a junction with the first layer comprises semiconductor material of *p* conductivity type having a statistically degenerated defect-electron enrichment layer. The second layer has ohmic contacts for applying blocking direct voltage between the first and second layers. The optical radiation of the light source has a frequency corresponding to a photon energy greater than the work function of the hot electrons issuing from the first layer into the conduction band of the semiconductor material and has an intensity at which the median concentration of the localized hot electron cloud occurring at the junction between the first and second layers with a determined blocking direct voltage applied thereto via the ohmic contacts is comparable in order of magnitude with the median concentration of the defect-electron enrichment layer of the semiconductor material.

3,506,926
DIRECT COUPLED DIFFERENTIAL TRANSISTOR AMPLIFIER WITH IMPROVED OFFSET VOLTAGE TEMPERATURE COEFFICIENT AND METHOD OF COMPENSATION

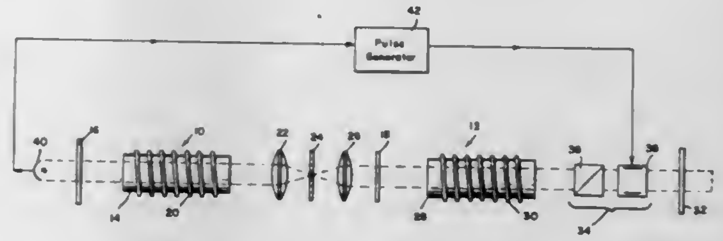
William F. Shoemaker, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Oct. 18, 1965, Ser. No. 496,791
Int. Cl. H03f *3/68*
U.S. Cl. 330—30 8 Claims



A direct coupled differential transistor amplifier having a voltage point which varies linearly with temperature at a different rate than the first stage transistor collector electrodes wherein the voltage point is connected to the collector electrodes by a resistive network to imbalance the collector currents to compensate for any differential input offset voltage variance with temperature change.

3,506,927
SELECTED MODE GIANT PULSE LASER

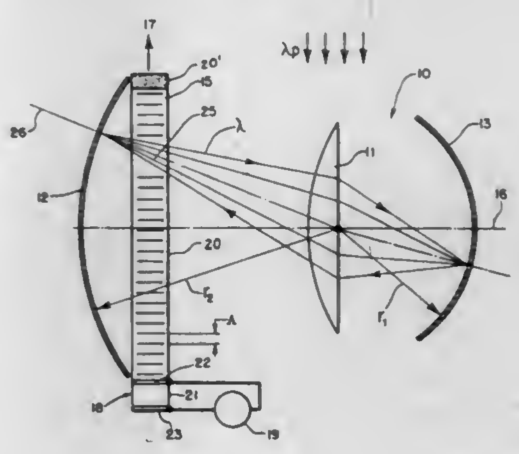
Robert S. Witte, Torrance, and Lee M. Frantz, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Dec. 23, 1966, Ser. No. 604,432
Int. Cl. H01s *3/02*
U.S. Cl. 331—94.5 6 Claims



Single mode operation is achieved from a giant pulse laser by enhancing oscillations in the desired mode group rather than inhibiting oscillations in the undesired modes. Enhancement of oscillations in the desired mode group is achieved by injecting a signal of the desired mode group into a cavity that sustains multimode oscillations, such that the oscillations of the desired mode group override those of all the other modes.

3,506,928
RADIATION SCANNING APPARATUS

Adrianus Korpel, Prospect Heights, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 25, 1967, Ser. No. 611,703
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 5 Claims

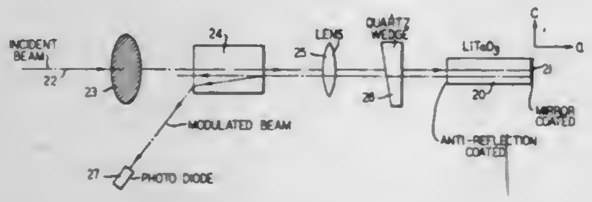


A conjugate laser includes an optical cavity in which an active laser element images onto one cavity reflector a plurality of points on an opposing cavity reflector. A series of spaced pulses of acoustic waves are propagated across one end of the cavity. The acoustic waves scatter the light from the laser element and prevent regenerative lasing except along a path through the gap between successive acoustic wave pulses; as that gap moves across the cavity the position of the light emerging therethrough correspondingly changes.

3,506,929
LiTaO$_3$ ELECTRO-OPTIC MODULATOR

Albert A. Ballman, Woodbridge, Richard T. Denton, South Plainfield, Pascal V. Lenzo, Warren Township, Somerset County, and Edward G. Spencer, Berkeley Heights, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 13, 1967, Ser. No. 615,811
Int. Cl. G02f *1/16*
U.S. Cl. 332—7.51 12 Claims

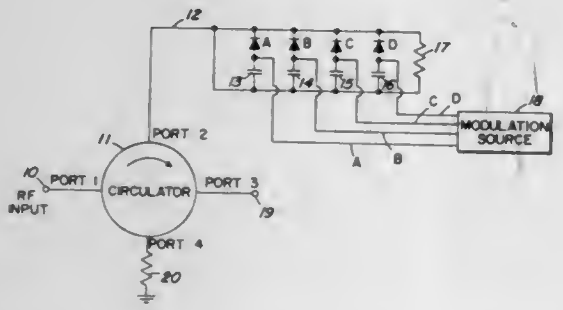


Single domain lithium tantalate evidences a substantial transverse electro-optic effect. Intensity, frequency, and phase modulators, either continuous or pulse, utilizing the tantalate may be operated over a bandwidth including the visible spectrum and the near infrared at modulation frequencies in the microwave range at low voltage and power.

3,506,930
BROADBAND MULTILEVEL PHASE MODULATION SYSTEM EMPLOYING DIGITALLY CONTROLLED SIGNAL REFLECTION MEANS

Noel A. Gantick, Plano, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed July 18, 1967, Ser. No. 654,138
Int. Cl. H03c *3/00;* **H03k** *19/20*
U.S. Cl. 332—16 6 Claims



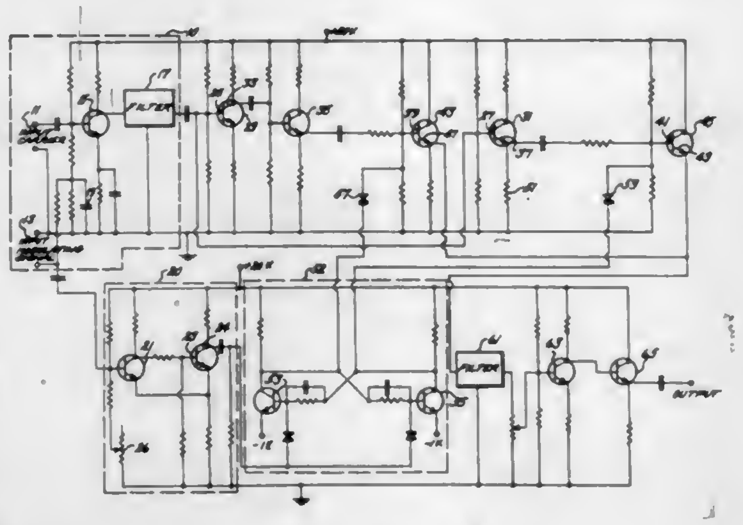
Disclosed is a phase modulator which changes the phase of an incoming signal by multiples of a preselected phase angle. The signal is injected into the first port of a circulator and passed out of the second port to a coaxial line having a plurality of parallel connected diodes thereacross. A modulation source biases one of the diodes, depending upon the input of the modulator. The conductive diode shorts the coaxial cable to provide the desired phase shift of the signal. The shifted signal reenters the circulator at port 2 and exits at port 3 as a phase modulated signal.

3,506,931
GYROSCOPE TEST TABLE OSCILLATOR

James S. Gallo and James R. Sherritt, Alamogordo, N. Mex., assignors to the United States of America as represented by the Secretary of the Air Force

Filed Feb. 21, 1967, Ser. No. 618,309
Int. Cl. H03c *1/00*
U.S. Cl. 332—31 3 Claims

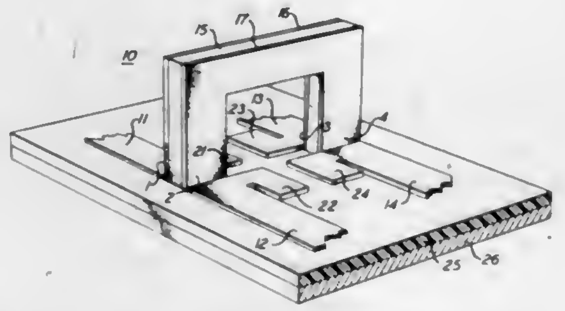
An apparatus for controlling a gyroscope test table by causing a carrier signal to shift phase whenever an input signal passes through zero amplitude. The input signal is phase shifted and fed to a Schmitt trigger which triggers a flip flop. The input signal also modulates a carrier signal from which a second carrier is formed 180° out of phase from the first. The state of the flip flop determines which carrier is the output.



3,506,932
QUADRATURE HYBRID COUPLER

Henry R. Beurrier, Chester Township, Morris County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Feb. 28, 1968, Ser. No. 709,091
Int. Cl. H01p *3/08, 5/14, 5/12*
U.S. Cl. 333—11 9 Claims



This application describes a lumped-impedance quadrature hybrid coupler comprising two congruent conductive strips each of which is bonded to a side of a dielectric insulator. In one embodiment of the invention, the strips are bonded to opposite sides of a common dielectric member. In another embodiment, the strips are bonded to different dielectric members.

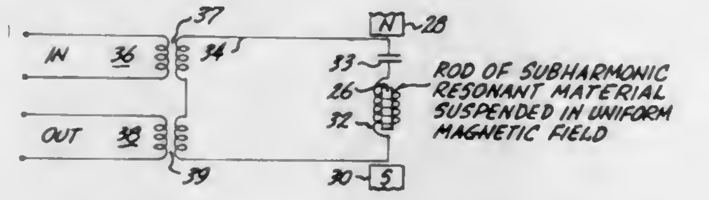
Couplers of the type described are highly uniform, have very low loss and can be readily fabricated by a punching operation, or by printed-circuit techniques.

3,506,933
FREQUENCY-SELECTIVE LIMITER USING DIRECT SUBHARMONIC GENERATION

Attilio J. Giarola, Seattle, Darrell R. Jackson, Mercer Island, and Roger W. Orth and William P. Robbins, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Sept. 12, 1967, Ser. No. 667,119
Int. Cl. H04b *3/04;* **H03h** *9/22*
U.S. Cl. 333—17 10 Claims

A frequency-selective limiter is disclosed which includes a bandpass filter circuit having input and output terminals and tuned to pass signal frequency components within a predetermined frequency band. A body of material capable of acoustic resonance at a large number of "subharmonic" frequencies substantially equal, respectively, to one-half the frequencies within the frequency band, and means in the filter circuit operable to generate a substantially uniform field in which the resonant body is immersed and which is proportional to a signal applied at the input terminals. The resonant body has a characteristic whereby variations in the field, in response to input signal variations traversing a predetermined threshold value, cause changes in elastic parameters of the body, generating subharmonic elastic waves therein with oscillations at the aforementioned half-frequencies, thereby diverting (absorbing and reflecting) the power contained in input signal components which exceed the threshold value. The generation of subharmonic frequencies is direct, and does not require coincidence of conditions, producing ordinary resonance and subharmonic resonance together. Circuit details using piezoelectric and magnetostrictive materials are provided.


IN
36
34
37
OUT
38
39
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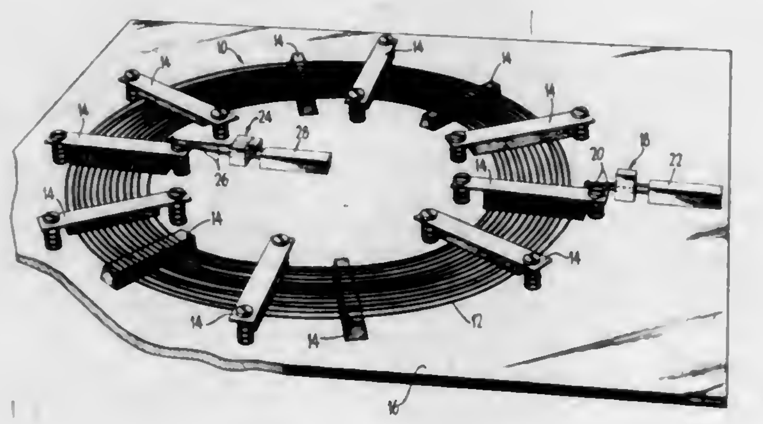
28
33
26
32
30
S
ROD OF SUBHARMONIC RESONANT MATERIAL SUSPENDED IN UNIFORM MAGNETIC FIELD

3,506,934
ULTRASONIC PROPAGATION MEDIUM

Robert A. Tracy, Castro Valley, Calif., assignor to The Singer Company, a corporation of New Jersey

Filed May 24, 1967, Ser. No. 640,998
Int. Cl. H03h *7/30;* **C22c** *9/00*
U.S. Cl. 333—30 2 Claims



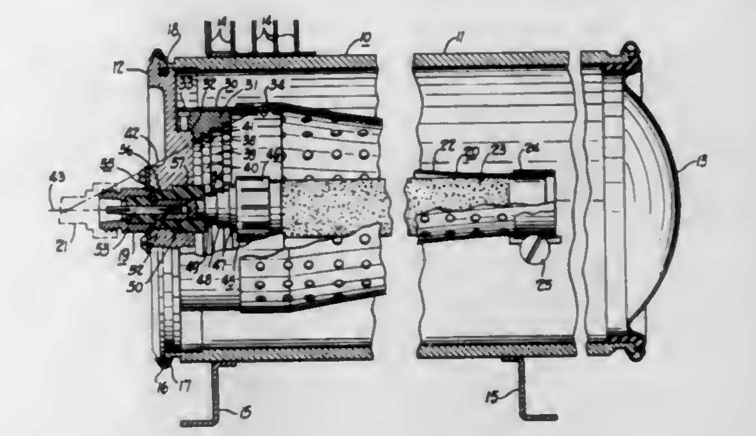
An ultrasonic delay line comprised of a pulse propagating medium having the characteristics of low hysteresis loss, high thermal coefficient of time delay, relatively slow propagation speed, and low temperature annealability. The pulse propagating medium is constructed of a copper base allow consisting essentially of about 97% copper and about 2% beryllium.

3,506,935
NONREFLECTING COAXIAL LINE SECTION

Sam Minich, Euclid, Ohio, assignor to Bird Electronic Corporation, Solon, Ohio, a corporation of Ohio

Filed Oct. 11, 1965, Ser. No. 494,687
Int. Cl. H03h *7/38*
U.S. Cl. 333—34 4 Claims

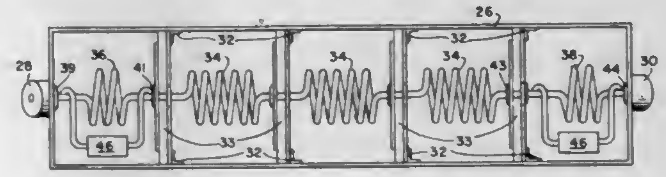
A nonreflecting coaxial line section for coupling coaxial lines to devices such as line terminations. The subject invention is capable of coupling a coaxial line to another device such as a resistive line termination within the shortest possible axial length while maintaining a voltage standing wave ratio of less than 1.20 for frequencies from direct current to 3,000 mc. This is achieved by employing tapered inner and outer conductors in which the taper is in the range of 20 to 40 degrees. In one embodiment, the taper is achieved by series of steps of relatively short axial length on both the inner and outer conductors. In another embodiment, the coupling device is comprised of conical surfaces having angles in the range of 20 to 40 degrees.



3,506,936
PARALLEL PLATE FEED-THROUGH CAPACITOR

Joseph Loos, Morton Grove, and Maynard H. McGhay, Schaumburg, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Apr. 3, 1967, Ser. No. 628,032
Int. Cl. H01h *7/14*
U.S. Cl. 333—79 6 Claims



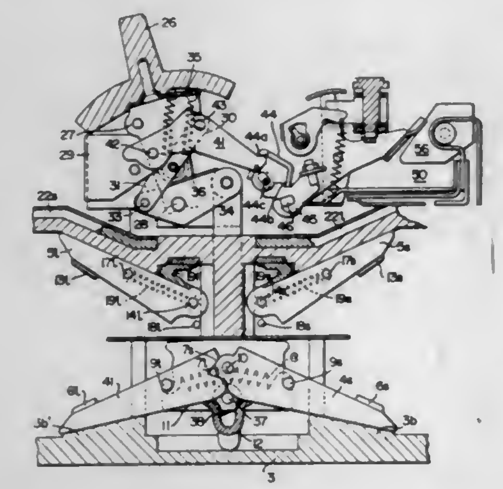
A parallel plate feed-through capacitor includes first and second plates engaging opposite sides of a dielectric sheet. The first plate is in direct electrical connection to a chassis. A terminal lead from a circuit component is fed through the capacitor being insulated from the first plate and soldered to the second plate. This configuration minimizes lead inductance, provides shielding between adjacent circuit components, eliminates contact potential between the first plate and the chassis and improves thermal conductivity to the chassis.

3,506,937
MOVABLE CONTACT UNIT OF CIRCUIT INTERRUPTER

Tutomu Hanafusa, Osaka, Japan, assignor to Terasaki Denki Sangyo Kabushiki Kaisha, Osaka, Japan

Filed Nov. 27, 1968, Ser. No. 779,565
Claims priority, application Japan, Nov. 28, 1967, 42/99,407; Dec. 20, 1967, 42/81,220
Int. Cl. H01h *77/10*
U.S. Cl. 335—16 2 Claims

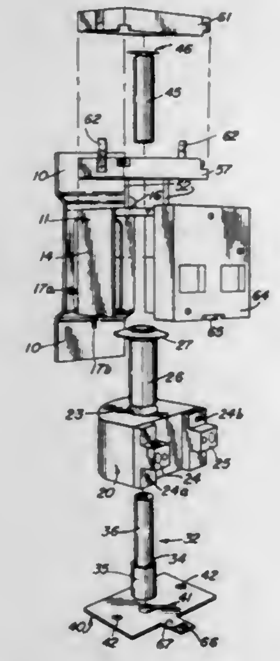
One of two movable contact units includes two movable contact arms normally bridging the opposite movable contact unit and having on the adjacent end portions a circular protrusion and a V-shaped groove maintained in double line contact relation by a tension spring spanned between the arms. Upon an electromagnetic repulsion generated between both contact units due to a flow of shortcircuiting current through them, both arms are rotated in the opposite directions about the center of the circular protrusion while the central portion of the spring abuts against a stopper positioned below that center to be bent into its expanded state. As the repulsion decays



the spring returns back to its straight-forward shape to put the arms into predetermined positions from which they can easily be brought into their open positions through the operation of the associated tripping and switching mechanisms.

3,506,938
CURRENT-SENSING TIME-LIMIT MOTOR ACCELERATION RELAY

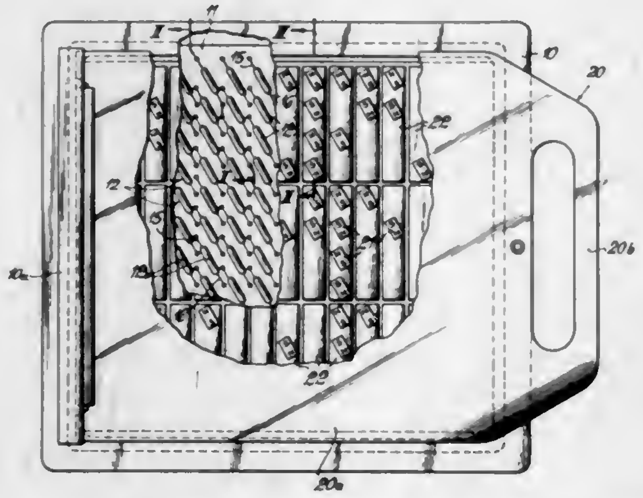
Charles Allan Schurr, Shaker Heights, Ohio, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Sept. 20, 1967, Ser. No. 669,088
Int. Cl. H01h *7/08, 7/14*
U.S. Cl. 335—63 **13 Claims**



The relay has a contact-carrying tube movable linearly in one direction, within an annular space between an inner magnetic core and outer coil-carrying spool, in response to flux change produced by current in the coil. Return movement of the tube is caused by gravity and is retarded by the flux. The core and spool are positioned with respect to each other by complementary annular shoulders on the core and the spool. The core and spool are secured in this position and to a frame of the relay by engagement of an upper edge portion of the spool and a lower conical surface on the core with respective cooperating parts of the frame and a support plate which is secured to the frame.

3,506,939
MAGNET OPERATED PROGRAM DEVICE

Paul Hesser, Heutigsheim, Erich Leinauer, Ludwigsburg-Eglosheim, and Gerhard Widl, Ditzingen, Germany, assignors to Robert Bosch GmbH, Stuttgart, Germany
Filed Jan. 26, 1967, Ser. No. 611,876
Claims priority, application Germany, Feb. 4, 1966, B 85,672
Int. Cl. H01h *9/02*
U.S. Cl. 335—206 **4 Claims**



A program device for programmable working machines whose reader comprises an array of envelopes each accommodating an electric switch which is closed when placed into a suitable magnetic field. The information storing device comprises one or more cards with arrays of permanent magnets thereon. When a card is properly inserted into or placed onto the reader, each magnet effects closing of a switch. The magnets and the envelopes of the switches are embedded in layers of synthetic plastic material to protect them against moisture, dust or other foreign matter.

3,506,940
HIGH TRANSITION TEMPERATURE SUPERCONDUCTOR AND DEVICES UTILIZING SAME

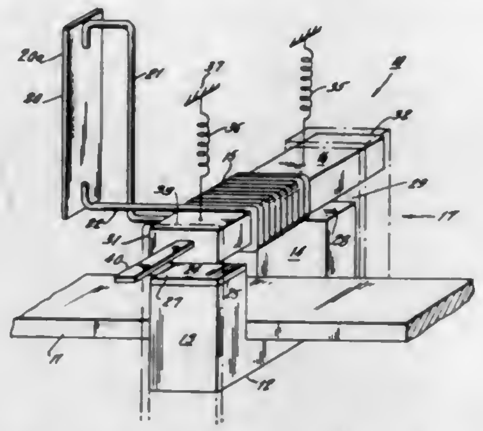
Ernest Corenzwit, New Providence, Theodore H. Geballe, Summit, Louis D. Longinotti, South Plainfield, and Bernd T. Matthias, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed May 2, 1967, Ser. No. 635,471
Int. Cl. C21d *1/26;* **H01f** *11/04, 7/22*
U.S. Cl. 335—216 **5 Claims**

Superconducting materials in the Nb_3Al–Nb_3Ge system having increased transition temperatures are produced by a series of processing steps including a critical anneal schedule. Exemplary materials within the system evidence transition temperatures of 19.5° K. and above.

3,506,941
THERMAL TRIPPING DEVICE FOR CIRCUIT BREAKER

Howard R. Shaffer, Glenside, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 667,513
Int. Cl. H01h *61/013, 61/02*
U.S. Cl. 337—106 **7 Claims**

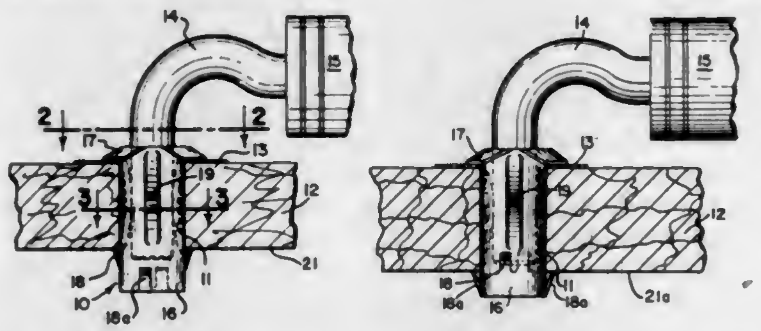
A directly heated thermal tripping device, comprising a voltage transformer having as its primary conductor a conductor in the circuit being protected, and having a secondary conductor connected with a bimetallic strip that trips the breaker; an armature held away from a magnet core by a biasing means and being drawable to the magnet core around which the primary conductor is wound when the current in the primary conductor exceeds a predetermined level; when the armature is spaced away from the magnet core, the power in the bimetallic strip is at a first level, and when the armature is drawn



near or into engagement with the magnet core, there is a step change in the power as the bimetallic strip increases.

3,506,942
SELF-LOCKING CONTACT

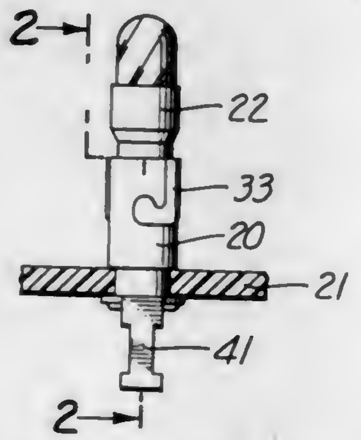
Frank V. Alimena, Port Chester, N.Y., assignor to Spacetec Research and Development, Inc., Port Chester, N.Y., a corporation of New York
Filed Oct. 19, 1967, Ser. No. 676,395
Int. Cl. H05h *1/18*
U.S. Cl. 339—17 **6 Claims**



A self-locking, one-piece insert for printed circuit boards is disclosed. The self-locking insert is provided with radial contact members for contacting the printed circuitry of the board and with inwardly extending spring contact members which together establish a secure electrical connection between the printed circuitry on the surface of the board and electronic components mounted on the board.

3,506,943
LAMP SOCKET ASSEMBLY

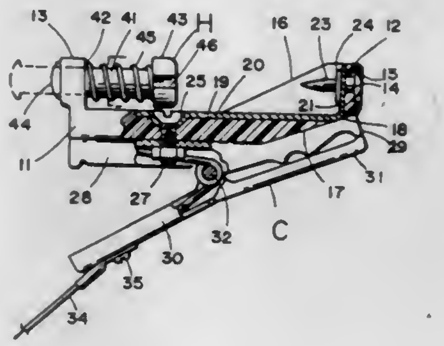
James N. Dupree, South El Monte, Calif., assignor to Western Indicator Co., Inc., South El Monte, Calif., a corporation of California
Filed Jan. 22, 1968, Ser. No. 699,505
Int. Cl. H02b *1/04;* **H05k** *1/18*
U.S. Cl. 339—17 **3 Claims**



A lamp socket having a center conductor pin fixed in the insulator and socket sleeve. An additional terminal in the socket assembly adjacent the center pin for tying the wire going to the pin. A socket assembly including an illuminated panel, color filter and heat sink. A method of forming a socket sleeve for bayonet base lamps.

3,506,944
CLIP-TYPE WIRE CONNECTOR

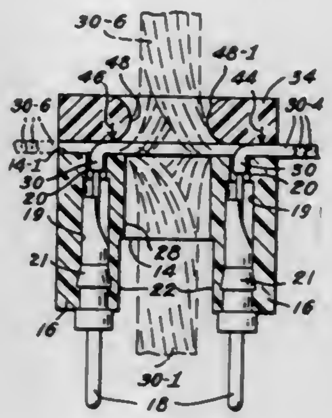
Robert A. Potruch, Miami Beach, Fla., assignor to Lumidor Products Corporation, Hialeah, Fla., a corporation of Maryland
Filed Apr. 16, 1968, Ser. No. 721,659
Int. Cl. H01r *11/20, 11/22, 9/28*
U.S. Cl. 339—95 **2 Claims**



A B-wire connector clip having a holder for the B-wire connector and an alligator clip attached to the holder which consists of a fixed pin making electrical contact with the B-wire connector and a slidable member engaging the B-wire connector yieldingly forcing the B-wire connector in the direction of the fixed pin and an electrical conductor connecting the fixed pin and the alligator clip whereby electrical energy may flow from the B-wire connector to the alligator clip.

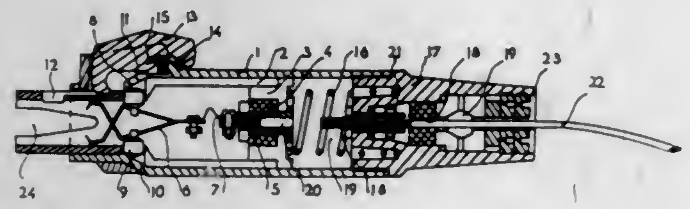
3,506,945
SIX-WAY PLUG CONNECTOR

David B. Appleton and Ralph C. Hoy, Attleboro, Mass., assignors to Augat, Inc., Attleboro, Mass., a corporation of Massachusetts
Filed July 22, 1968, Ser. No. 746,358
Int. Cl. H01r *13/58, 33/04*
U.S. Cl. 339—107 **6 Claims**



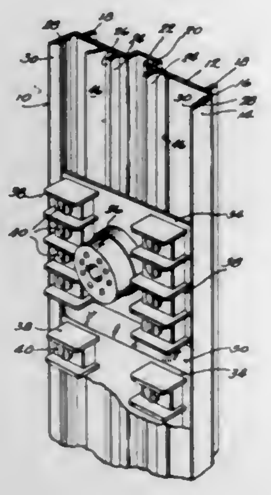
A plug connector for electrical applications is provided, which has a capability of bringing the electrical cable out in six different directions. The plug body has a generally table-like configuration. The wires emerge from the top of the table and can be brought vertically upward through an opening in the plug cover, or can go horizontally in either direction out the side of the plug connector through a gap between the cover and the top surface of the plug body. The wire can also go downward through an opening in the plug body and then horizontally through a longitudinal channel formed between two depending legs of the plug body, and emerge in either direction. The cover of the plug connector is raised up on a pair of bosses which are so dimensioned in relation to the diameter of the wires, that a clamping relationship is achieved so as to relieve flexure strain on the wire terminations.

3,506,946
ANTI-ARCING ELECTRICAL CONNECTOR
Jean Claude Redon, 16 Avenue Marechal Foch, Marseille, France
Filed June 17, 1968, Ser. No. 737,538
Claims priority, application France, Aug. 10, 1967, 21,948
Int. Cl. H01r *13/52, 13/24*
U.S. Cl. 339—111 **3 Claims**



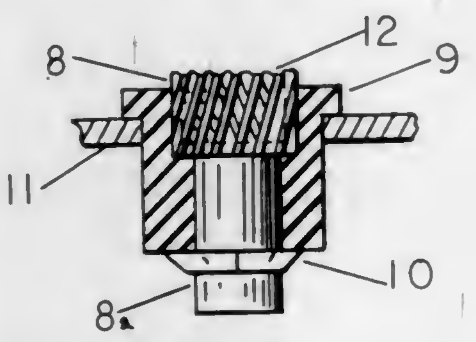
An anti-arcing device has a casing and a slide movable therein against spring loading, the slide carrying contact spring-closed contact jaws which are held open by cams in the rest position of the slide, the casing and slide defining a gas-tight chamber in which are positioned respective contacts coupled to the jaws and to a conductor, the arrangement being such that as the slide is moved towards its other end position of movement firstly the jaws are free to close and, after an interval of time, the contacts are brought into abutment to complete a circuit from the jaws to the conductor.

3,506,947
MOUNTING FOR ELECTRICAL TERMINAL BLOCKS AND SOCKETS AND THE LIKE
Thomas F. Leskosek, Milwaukee, Wis., assignor to Curtis Development & Mfg. Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 18, 1968, Ser. No. 713,892
Int. Cl. H01r *9/00*
U.S. Cl. 339—119 **6 Claims**



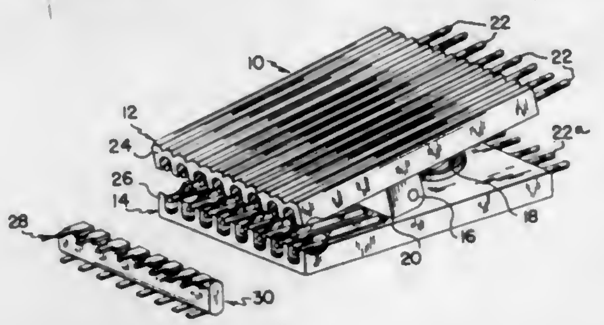
An extruded channel of any appropriate length has flexible side walls with longitudinal grooves to engage the ends of flat plates upon which electrical equipment such as terminal blocks and sockets is carried. Similarly positioned are identification plates. The channel unitarily provides both fixed and yieldable supports for the intermediate parts of such plates. The sides of the channel have beveled margins and may be sprung laterally to receive or release the plates.

3,506,948
ELECTRICAL PIN JACKS
Richard U. Clark, South Lyndeboro, N.H.
Filed Oct. 12, 1967, Ser. No. 674,964
Int. Cl. H01b *17/26;* **H01r** *9/12*
U.S. Cl. 339—126 **3 Claims**



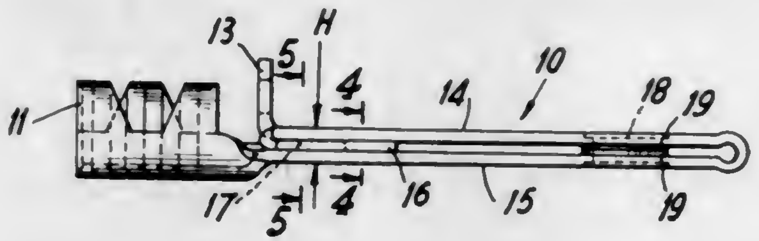
The electrical pin jack constituting the present invention comprises a thin walled, knurled, non-bifurcated, distensible, cup-like metal tube having a pin termination at one end. By virtue of the knurling of the cup section this area becomes work hardened and of spring-like consistency also a transverse cross-section of the cup wall would show a minor wave like configuration which under internal pressure, caused during use by the insertion of a tight fitting co-operating conductor pin of round cross-section, would tend to stretch out or distend same thus providing for complete mating of cup and pin to form a very low resistance electrical connection. The closed end of the cup section terminates in a rod configuration to provide for a fixed electrical connection and the periphery of the jack's metal area is encased in a pliable bushing of insulating material to facilitate mounting the jack in a hole in a panel. A push-on nut on the rod area permits compression of the bushing and generates an inward radial pressure at the panel hole contact area to augment the spring grip between jack cup and conductor pin.

3,506,949
ELECTRICAL CONNECTOR CLIP DEVICE
John T. Venaleck, 6273 Melshore Drive, and Robert J. Gabor, 6281 Melshore Drive, both of Mentor, Ohio 44060
Filed Dec. 29, 1967, Ser. No. 694,694
Int. Cl. H01r *23/10, 11/22*
U.S. Cl. 339—174 **18 Claims**



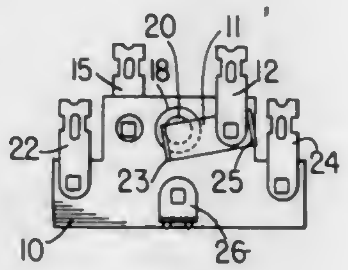
An electrical connector clip device including a pair of finger members having opposed clamping jaws mounted for movement with respect to one another. A plurality of conductor elements carried by each of the finger members to electrically engage an electrical component at one end and/or to electrically engage an electrical test unit at the other end, and a resilient element coacting between the finger members for resiliently urging the same toward one another.

3,506,950
FOLD-OVER BLADE AND FOLD-OVER BLADE CAPLINE
Ferdinand Klumpp, Jr., Mountainside, and Kerry Heyman, Summit, N.J., assignors to Heyman Manufacturing Company, Kenilworth, N.J., a corporation of New Jersey
Filed Nov. 22, 1967, Ser. No. 685,083
Int. Cl. H01r *33/06, 11/08*
U.S. Cl. 339—195 **9 Claims**



A fold-over blade and fold-over blade capline construction allowing the molding of caps on fold-over blades of thin stock in conventional cap cavities with a minimum of plastic outflow through the cavity and the blade folds.

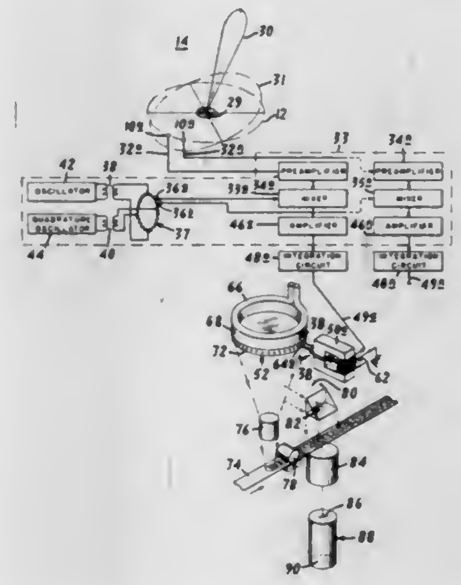
3,506,951
ELECTRICAL COMPONENT MOUNT
Julius L. Simon, Morton Grove, and Edward A. Salners, Mount Prospect, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Jan. 30, 1968, Ser. No. 701,623
Int. Cl. H01r *9/00, 13/46*
U.S. Cl. 339—214 **5 Claims**



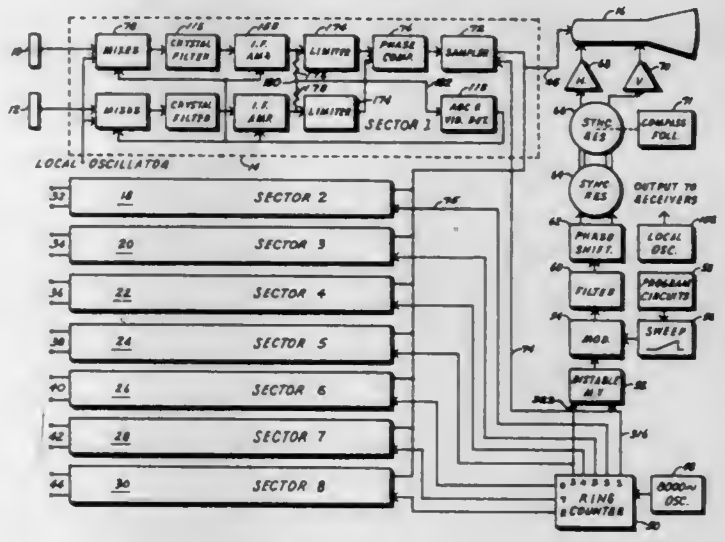
A mounting structure for electrical components, in particular disc-type thermistors, which eliminates the use of solder leads. The component is mounted between flat springs in an aperture in an insulated board. The flat springs hold the component in position and provide electrical connection therewith.

3,506,952
SONAR SYSTEM EMPLOYING HOLOGRAPHIC TECHNIQUES TO PRODUCE A PICTURE OF AN OBJECT FIELD
Dennis Gabor, London, England, and Benjamin B. Bauer and Frank B. Gorman, Stamford, Conn., assignors to Columbia Broadcasting Systems, Inc., New York, N.Y., a corporation of New York
Filed Aug. 30, 1967, Ser. No. 664,415
Int. Cl. G01s *9/66;* **G10k** *11/00*
U.S. Cl. 340—3 **13 Claims**

As described herein, a sonar system employing holographic techniques includes an acoustic wave transmitter which illuminates 1/100 of an object field each 1/100 of a second with a narrow beam which is moved to scan the entire field. The reflected waves of 100 object points in each illuminated portion of the object field are sensed by 360 hydrophones which are arranged in a circular array. The output from each hydrophone is amplified and then modulated by a signal corresponding to an equivalent reference sound wave outside the object field and having a frequency equal to the frequency of the transmitted acoustic wave. Each joint signal is then translated into a corresponding light beam for imaging in a corresponding circular array onto an intermittently driven photographic medium with a 1000:1 reduction in scale from the hydrophone array. The photographic medium is then developed and when the images appearing thereon, corresponding to holograms of the entire illuminated object field, are illuminated by a beam of coherent light, a visible picture of the entire object field is reproduced.



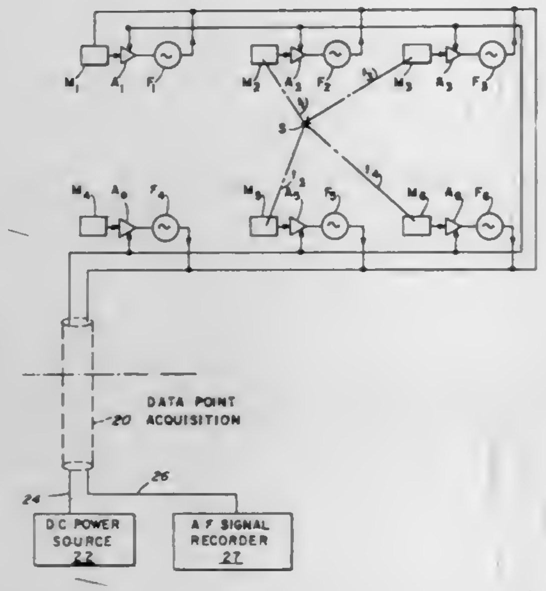
3,506,953
LIGHTWEIGHT RECEIVING SYSTEM FOR SONAR
Erland W. Rudy, Granada Hills, Calif., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 577,227
Int. Cl. G01s *3/00, 9/68*
U.S. Cl. 340—3 **9 Claims**



A lightweight sonar system designed for use with an underwater transducer having a limited number of transmitting and receiving elements, each with a moderately wide beam characteristic. The elements are connected in pairs to provide bearing deviation indicator (BDI) information which is processed in a plurality of separate receivers, one for each desired sector of the output cathode ray tube. A ring counter is used to provide scanning of the receiver outputs in the desired sequence and said outputs are connected to control a single beam sweeping 360° of the cathode ray tube face.

3,506,954
PASSIVE SONIC LOCATING SYSTEM

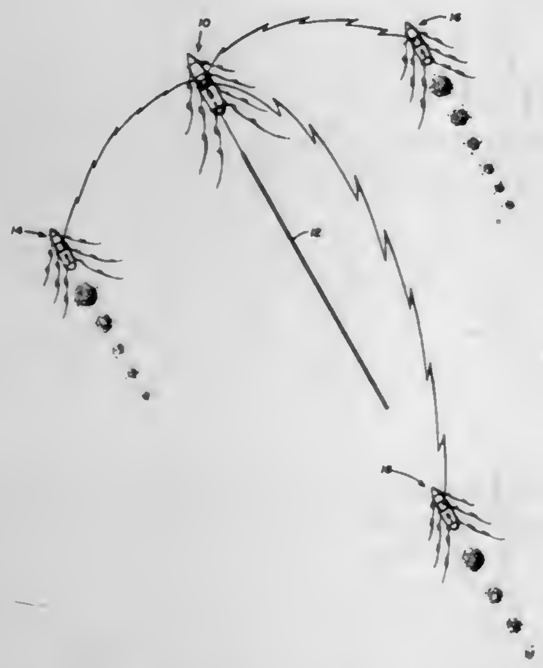
Frank Massa, Cohasset, Mass., assignor to Massa Division, Dynamics Corporation of America, Hingham, Mass.
Filed Apr. 20, 1967, Ser. No. 632,231
Int. Cl. G01s *3/00, 5/18*
U.S. Cl. 340—6 10 Claims



A single submarine cable interconnects a group of transponders which are scattered across an ocean floor. Each transponder includes a hydrophone, a preamplifier, and an oscillator tuned to a particular location identifying frequency. When an object splashes down into the ocean, the nearby hydrophones pick up the resulting disturbances in the water and each oscillator sends a frequency signal identifying the reporting hydrophone. The time of arrival of each signal gives a distance indication of the point of splash-down.

3,506,955
MULTILINE SEISMIC EXPLORATION

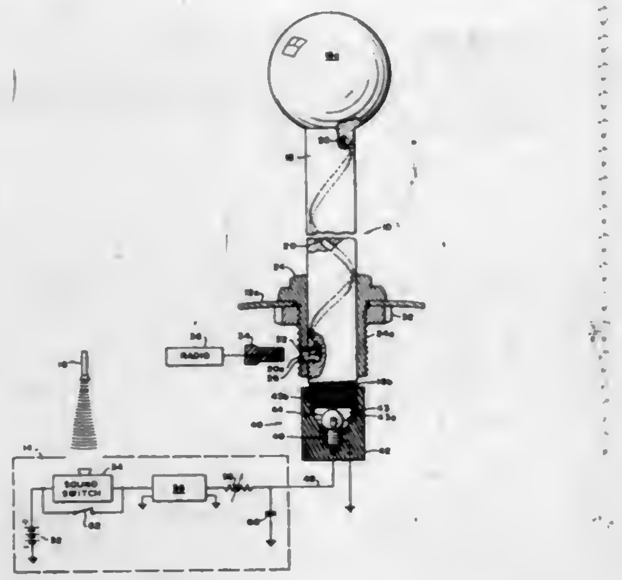
Milo M. Backus and William A. Schneider, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 26, 1967, Ser. No. 678,355
Int. Cl. G01v *1/13, 1/38*
U.S. Cl. 340—7 10 Claims



Discrete seismic signals are sequentially generated at spaced points along three parallel, spaced apart lines of traverse. Alternating ones of the discrete seismic signals are sequentially received along the middle line of traverse and are recorded. Additional lines of traverse are interleaved and intersected with the three lines of traverse in order to provide a grid coverage of a selected geologic area.

3,506,956
AUTOMOBILE RECOGNITION SYSTEM

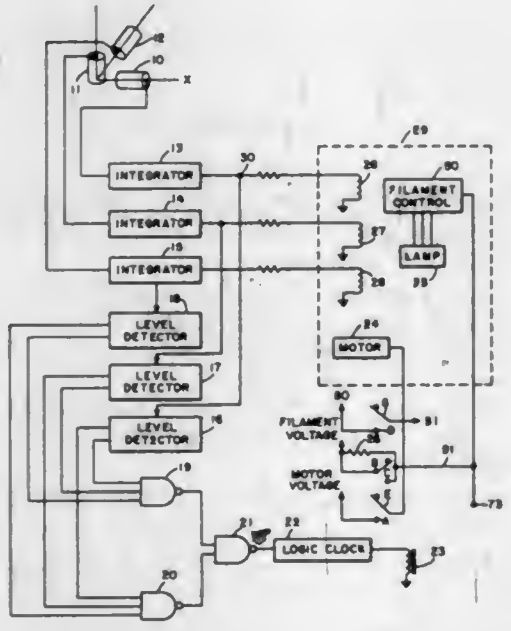
Eric A. Kolm, Brookline, and John J. Harris, Millis, Mass., assignors to Sonus Corporation, Natick, Mass.
Filed Apr. 10, 1968, Ser. No. 720,061
Int. Cl. H04b *11/00*
U.S. Cl. 340—15 15 Claims



An automobile recognition system employs an illuminating automobile fixture which, when turned on, emits a characteristic recognition signal to enable an owner to locate his car. An acoustical switch turns on the fixture in response to inaudible whistle blasts of a selected frequency produced by the owner in the general vicinity of his car.

3,506,957
STRONG MOTION RECORDER USING VELOCITY GEOPHONE

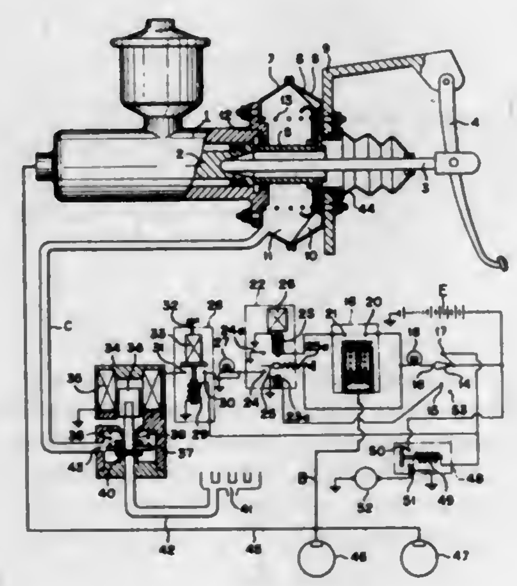
Thomas M. Davison, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 28, 1968, Ser. No. 740,944
Int. Cl. G01v *1/20, 1/28*
U.S. Cl. 340—15.5 6 Claims



Three velocity geophones, each having a natural frequency of 21 cycles per second, are orthogonally arranged in an apparatus to measure the earth movements in three planes. The low frequency portion of the response curve of each geophone, rolling off at 18 db/octave, is individually integrated and then coupled through three channels of bi-polar level detection circuitry, providing for either positive or negative polarities. Grating circuits responsive to predetermined *g* levels of either polarity in any of the three channels cause a recording oscillograph to commence operation. The oscillograph lamp circuitry, having a primary filament and a secondary filament, is responsive to the burning out of the primary filament to cause the secondary filament to be activated. Circuitry is also provided to monitor all of the supply voltages and to activate an alarm should one of the circuits experience failure.

3,506,958
DEVICE FOR VERIFYING HYDRAULIC PRESSURE IN MOTOR VEHICLE BRAKE SYSTEM

Tsuneo Kawabe, Kariya-shi, Japan, assignor to Aishin Seiki Kabushiki Kaisha, Aichi-ken, Japan, a joint-stock company of Japan
Filed June 2, 1967, Ser. No. 643,174
Claims priority, application Japan, June 7, 1966, 41/36,717
Int. Cl. B60q *1/00*
U.S. Cl. 340—52 8 Claims

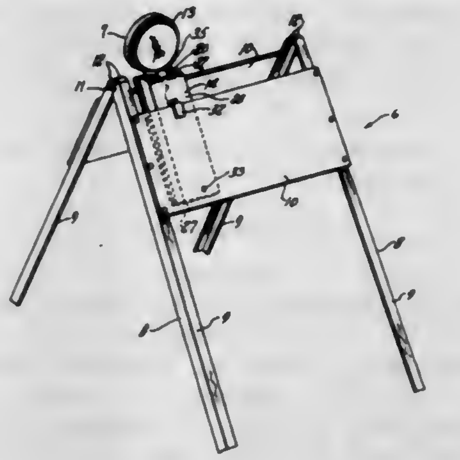


An electrical control circuit containing a combination of relays is operated by the main switch of a motor vehicle at each instance of starting of the engine to operate the master cylinder of the brake system automatically, temporarily, and independently of the normal pedal operation through a booster device operated by the negative pressure in the engine intake manifold, and the state of the resulting hydraulic pressure generation is automatically detected and indicated.

3,506,959
BARRICADE WITH FLASHING SIGNAL

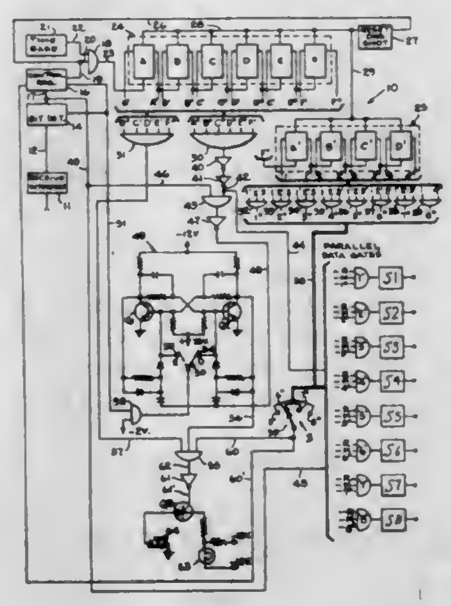
Ewing D. Nunn, Mequon, Wis., assignor to Douglas L. P. Hamilton, Fox Point, Wis.
Filed Oct. 9, 1967, Ser. No. 675,010
Int. Cl. B60q *7/00;* **E01f** *13/00*
U.S. Cl. 340—114 6 Claims

A folding barricade having hingedly connected frame sections, each of which has a transversely extending panel, has the battery case of a flashing signal unit secured to the inner face of one of said frame panels, with the intermittently illuminated head of the unit projecting above the panel and disposed at such an inclination to the plane of the panel that when the barricade is in use the head stands erect. The mounting of the flasher head on the battery case includes a rubber grommet which provides the mounting with resilient yieldability so that upon impact the flasher head can tilt in any direction from its normal erect posture. The rubber grommet also frictionally holds the flasher head in any position of rotation to which it may be turned.



3,506,960
DATA HANDLING SYSTEM

John Guzak, Jr., Waukegan, and Richard M. Ireland, Long Grove, Ill., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed July 31, 1967, Ser. No. 657,413
Int. Cl. H03k *13/32*
U.S. Cl. 340—146.1 19 Claims



There is disclosed a data handling system in which each incoming serial bit binary code signal is checked to indicate whether or not the signal has a predetermined odd or even number of similar bits, that is, mark and parity bits, and in which the incoming serial signal is converted to a parallel output signal. A memory device is conditioned by each similar bit as each similar bit is serially detected After the memory device has been conditioned by all the similar bits and when the last bit of the incoming signal has been received an indicator denotes whether or not the incoming signal was correct. Assuming the incoming signal is supposed to have an odd number of similar bits, the memory device in the form of a bistable multivibrator will be operated an odd number of times for a correct signal and an even number of times for an erroneous signal; if the multivibrator had been operated an odd number of times, the indicator would not be operated; if the multivibrator had been operated an even number of times, the indicator would be operated. The condition of the multivibrator is read at the end of the received signal. The components of the serial-to-parallel converter are in part common with the components of the checking arrangement, such common components including a bit detector, a control register, an oscillator, an electronic counter, a reset one shot for the counter, and an AND gate connecting the control register and the oscillator with the counter.

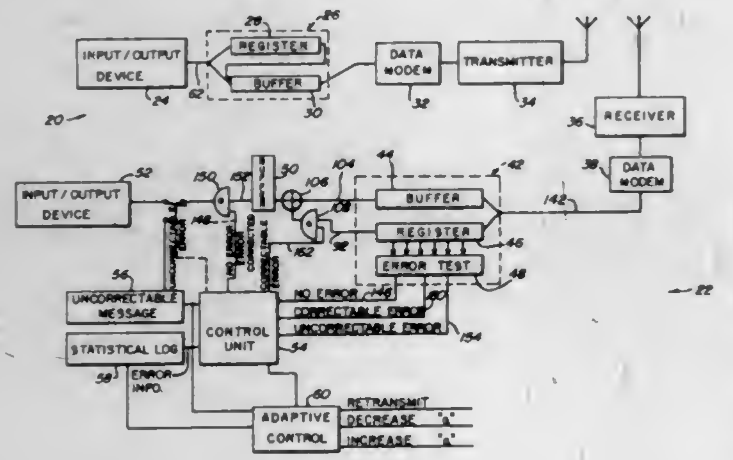
3,506,961
ADAPTIVELY CODED DATA COMMUNICATIONS SYSTEM

Norman Abramson, Arlington, Va., and Lawrence Lutzker, Palo Alto, Calif., assignors to American Computer Communications Co., Inc., a corporation of Delaware

Filed Aug. 15, 1966, Ser. No. 572,467

Int. Cl. G06f *11/00*

U.S. Cl. 340—146.1 10 Claims



An adaptively coded communications system in which the efficiency of data transmission is maintained under varying noise conditions by increasing the error correction capabilities in the system without changing codes and without increasing the percentage redundancy of the transmitted data. The potency of the system is effected by adaptively increasing the block length of the data transmitted and by using the longer block length to generate desired check bits as a function thereof which check bits are interleaved throughout the entire block length of the transmitted data.

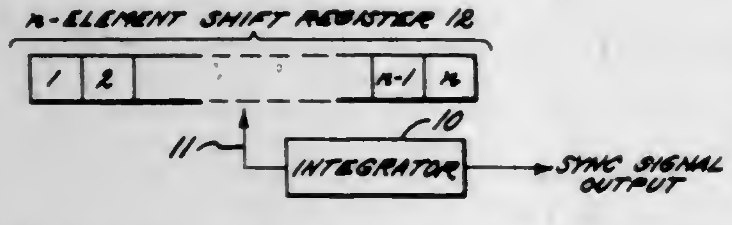
3,506,962
BINARY SEQUENCE PATTERN MONITOR APPARATUS

Charles H. Brenner, Scottsdale, Ariz., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Sept. 2, 1966, Ser. No. 577,100

Int. Cl. H03k *13/32;* **G01c** *25/00*

U.S. Cl. 340—146.1 3 Claims



An integrator with an RC time constant approximately equal to (1/shift rate) of a binary pseudo random character generator is used to provide a sync signal and to verify the randomness of the sequence.

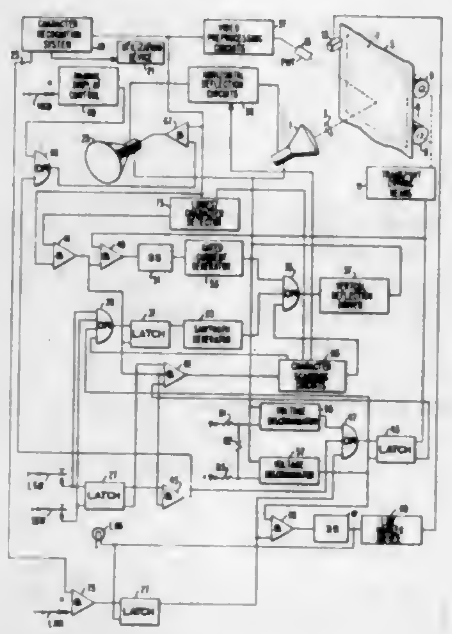
3,506,963
CHARACTER RECOGNITION SYSTEM

David E. Dohler, Endicott, N.Y., and William W. Hardin, Stewartville, Minn., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Dec. 17, 1965, Ser. No. 514,549

Int. Cl. G06k *7/015*

U.S. Cl. 340—146.3 9 Claims



A flying spot scanner cooperates with suitable transport means for recurrently moving a portion of a document bearing characters to be read past the zone which is scanned by the flying spot scanner. Initially, the scanner scans a small area near that portion of the scanning zone where a line of characters first appears with the document in motion. When a line is detected, the scanning beam moves upward in small increments or steps each time it detects the upward moving line of characters. When the first line of characters is positioned at the top of the scanning zone, the transport means is stopped and the lines of characters are then scanned successively for recognition by a suitable character recognition system. When the scanning beam reaches the lowermost line, the transport driving means is again rendered operative to move the document again with the scanner beam following the line upward until the next line to be read is positioned at the top of the scanning zone. In the event of an unrecognizable character, the line in which the unrecognizable character occurs is moved to a position where a marking device marks the line bearing the defective character. Visual monitoring of the character scanning operations are also provided.

3,506,964
CODE TRANSMISSION SYSTEM

Joseph R. De Priest, Richmond, Va., assignor to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania

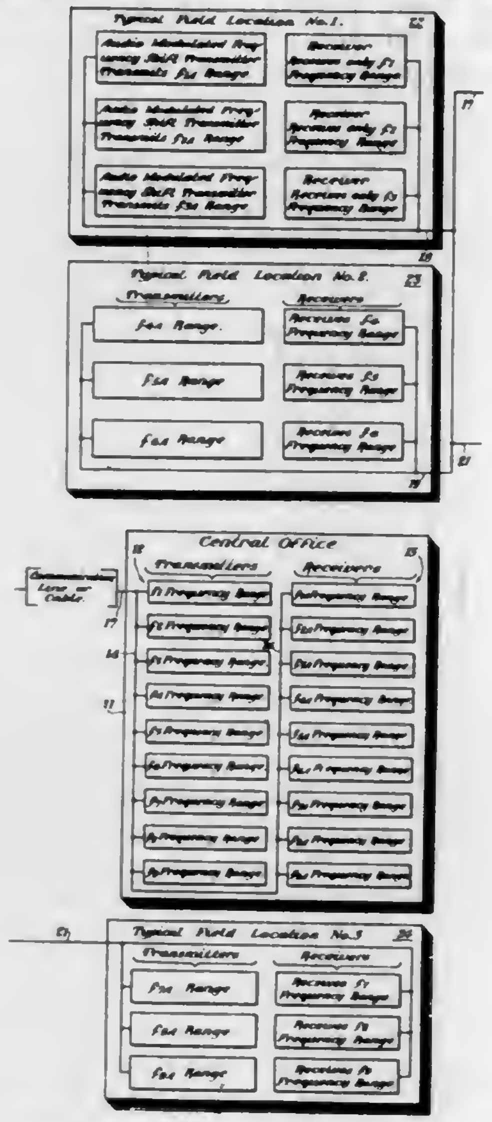
Filed Apr. 27, 1966, Ser. No. 545,758

Int. Cl. H04q *1/45, 5/12*

U.S. Cl. 340—151 6 Claims

The invention in its most elemental form requires the field locations to each have a command receiver and a field component function indication transmitter, plus one or more components whose function is to be controlled. Each of the control command transmitters is capable of producing a first, second and third signal level output. The first signal level output may be utilized to controllably select a command receiver at a remote location, while the second signal level output may be utilized in the control of a component's function through the command receiver at the remote location. Finally, the third

level signal output may be employed to interrogate one of the remote components through the command receiver at the field location and to simultaneously condition this field component function indication transmitter through the command receiver to transmit a signal indicative of the selection of a command receiver and the function of one or more components. The field function indication receivers at the control location are responsive to the output from field component function transmitters to produce an output indicative of the station selected and the function of the remote component or components.


Typical Field Location No. 1.
Typical Field Location No. 2
Transmitters
Receivers
Central Office
Transmitters
Receivers
Communication Line or Cable.
Typical Field Location No. 3
Transmitters
Receivers

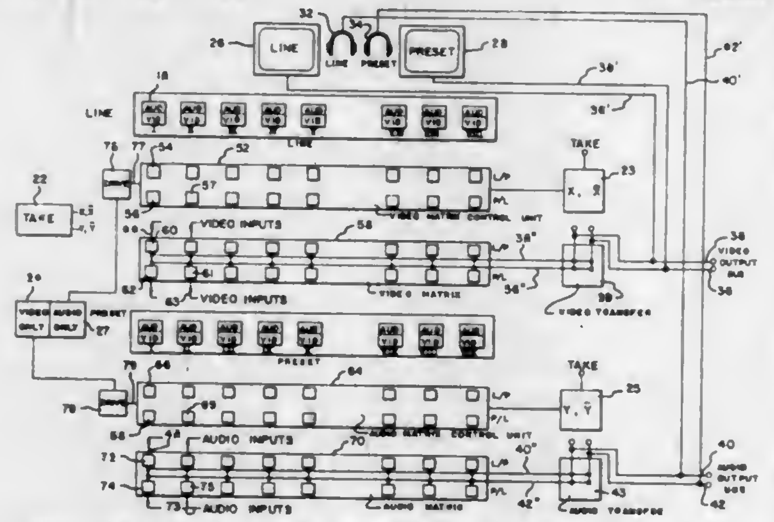
3,506,965
PROGRAMMING CONTROL SYSTEM

Edward Camp Dowling, Harrisburg, Pa., Mario William Conti, Manhasset, N.Y., and John Breniser Thomas, Camp Hill, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed June 8, 1966, Ser. No. 555,998

Int. Cl. H04q *3/54*

U.S. Cl. 340—166 35 Claims



The disclosure relates to a control system which provides a plurality of signal source initiating members, such as pushbuttons, divided into Line and Preset groups, with a pair of bistable memory elements under the control of either a Line or a Preset indicating member and in turn controlling a switch module in a switch matrix capable of selectively connecting any one of a plurality of signal sources to an output bus. The memory elements are driven by pulse drivers in turn driven by a master clock, such as the vertical synchronizing source in a video system and are also driven by a circuit which automatically clears all of the memory elements and therefore opens all of the switch modules automatically upon the setting of a selected memory element. Auxiliary drivers are provided for the memory elements which in turn furnish a supply to indicating means in the initiating members with such supply being automatically gated responsive to changes in program. In a form specific to video and audio systems, the foregoing structure is duplicated with respect to each type system and further logic is provided such that either may be utilized without the other and such that both may be utilized under the control of the same initiating members and responded to by the same indicating elements.

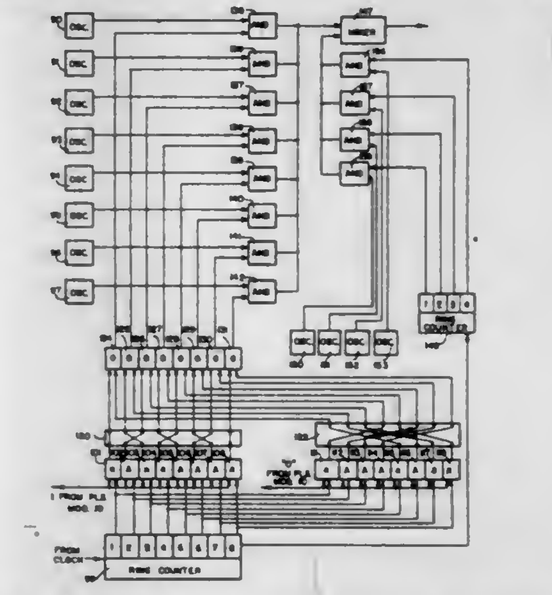
3,506,966
PULSE CODED, WIDE BAND RADIO COMMUNICATION SYSTEM

Henry Magnuski, Glenview, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed Sept. 12, 1966, Ser. No. 578,856

Int. Cl. H04q *1/45, 11/02, 11/04*

U.S. Cl. 340—171 13 Claims



Wideband radio communication system in which a plurality of independent communications can co-exist in a common wideband frequency channel. Each transmitter converts information signals into a pulse train which is transmitted in the form of short radio frequency pulses continuously switching from one frequency to another in accordance with a prearranged code or address pattern. The corresponding receiver is synchronously switched to the different pulse frequencies in accordance with the prearranged code or address pattern so that it can receive the radio frequency pulses and detect the pulse train which is reconverted into the information signal.

3,506,967
AMPLITUDE LEVEL REMOTE CONTROL SYSTEM

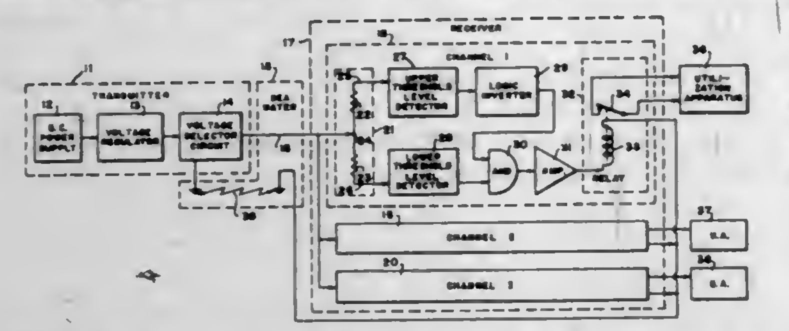
James W. B. Foley, Lanesboro, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 7, 1966, Ser. No. 577,785

Int. Cl. H04q *9/06*

U.S. Cl. 340—172 8 Claims

A system for controlling an apparatus is disclosed herewith that includes a transmitter and a receiver which produces an actuation signal in response to only one range of signals included within a plurality of ranges of signals supplied thereto by said transmitter. The receiver includes upper and lower thresholders, a logic inverter connected to the output of the upper thresholder thereof, and an AND gate which is opened by the presence of signals at the outputs of the lower thresholder thereof and said logic inverter.



3,506,968
FREQUENCY MEMORY FOR AN OSCILLATOR TO ACT DURING INTERRUPTIONS IN CONTROL PULSES

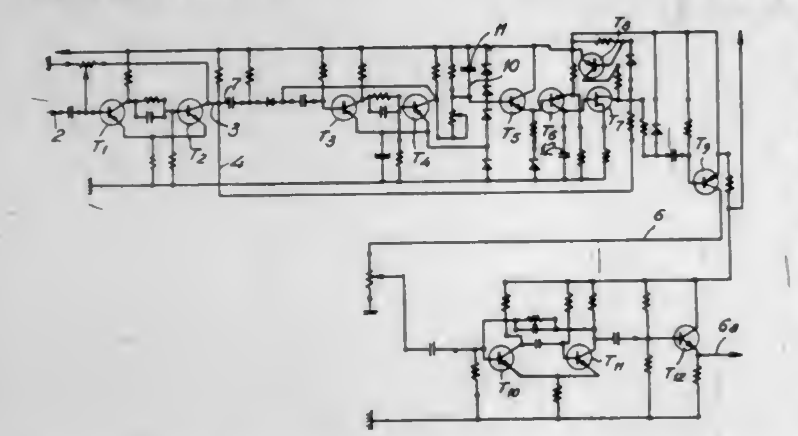
Jean Claude Preti, Clamart, France, assignor to Societe de Fabrication d'Instruments de Mesure (S.F.I.M.), Massy, Essonne, France

Filed Mar. 2, 1967, Ser. No. 620,083

Claims priority, application France, Sept. 21, 1966, 77,097

Int. Cl. H03b *3/04;* **H02m** *5/06*

U.S. Cl. 340—173 **5 Claims**



A frequency memory acting on an oscillator to control the latter in the event of momentary or prolonged failure of pilot impulses. The device comprises an oscillator having two inputs, one of which receives pilot pulses when they are present. The other input receives a voltage determining the oscillation frequency of said oscillator, said voltage being picked up at terminals of a capacitor via a high impedance output of a circuit being itself fed by pilot pulses when they are present so that, when said pulses stop, said oscillator is caused to function at the frequency of the last-received pilot pulses during a time which can be substantial. The voltage is maintained without appreciable loss at the terminal of said capacitor.

3,506,969
BALANCED CAPACITOR READ ONLY STORAGE USING A SINGLE BALANCE LINE FOR THE TWO DRIVE LINES AND SLOTTED CAPACITIVE PLATES TO INCREASE FRINGING

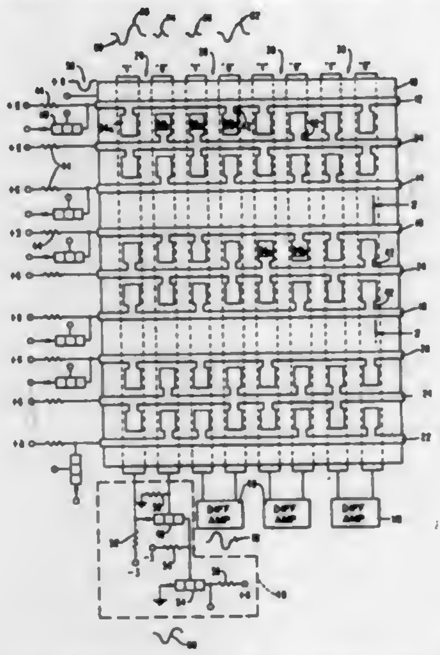
Shakir A. Abbas, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 4, 1967, Ser. No. 628,373

Int. Cl. G11c *17/00, 5/02*

U.S. Cl. 340—173 **1 Claim**

This specification describes a balanced capacitor read only memory which has spaced word drive lines intersecting with pairs of bit sense lines to form storage bit positions along the drive lines at the intersections. At each such bit position a capacitive member couples the drive line to one of the sense lines in the bit sense line pair at the bit position. The information stored at the bit position will depend on which sense line is coupled to the drive line by the capacitive member. If the capacitive member couples the drive line to one of the sense lines in the pair a "1" is stored. If the capacitive member couples the drive line to the other sense line, a "0" is stored. In this memory there is a single-balance line associated with each two drive lines. This balance line is coupled by an additional capacitive member at each bit position to the sense line which is not coupled to the drive line at that bit positon. Therefore there is a capacitive coupling to each of the sense lines at each of the bit positions irrespective of the information stored in the capacitive read only memory. Preferably the balance line is located between the two drive lines with which it is associated and all the capacitive members are positioned between the drive lines and the balance lines.



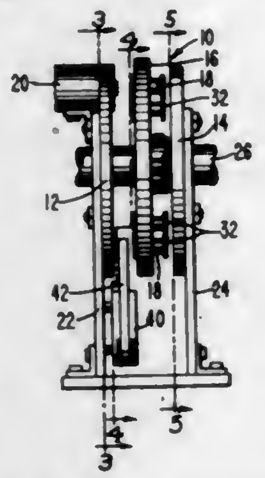
3,506,970
MAGNETICALLY BISTABILIZED MECHANICAL MEMORY DEVICE

William B. Templeton, Howell, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Dec. 4, 1967, Ser. No. 687,792

Int. Cl. G11c *23/00;* **F16h** *54/04;* **H01h** *43/10*

U.S. Cl. 340—173 **8 Claims**



A rotatable disc having a plurality of slideable pins adjacent the periphery of the disc, is supported between a pair of spaced-apart parallel magnets. The pins extend beyond the broadsides of the disc. When the pins extend wholly to one side of the disc they are in a normal ineffective position. When the pins extend wholly to the other side of the disc they are in an effective position. The two magnets maintain the pins in either position. An electromagnet is positioned along the path of travel of the pins to controllably move a pin from the ineffective to the effective position. A control member or switch is positioned along the path of travel of the pins and is actuated by any pin which is in an effective position. After the switch and before the electromagnet, a pin in an effective position is returned to the ineffective position.

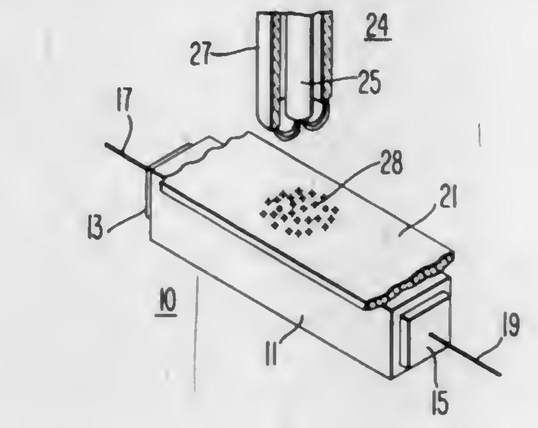
3,506,971
APPARATUS FOR ELECTROSTATICALLY STORING SIGNAL REPRESENTATIONS

Richard S. Sakurai, Oxford, Ohio, assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 398,717, Sept. 23, 1964. This application June 23, 1969, Ser. No. 838,035

Int. Cl. G11c *11/32*

U.S. Cl. 340—173 **5 Claims**



This invention relates to an apparatus for storing data signals on a doped semiconductor body having a pair of interrogating electrodes. A signal-representing electrical charge is electrostatically deposited upon a dielectric contiguous with the doped semiconductor body to induce electrical surface charge on the semiconductor and thereby control its conductivity. The stored signal can be read repeatedly without destruction.

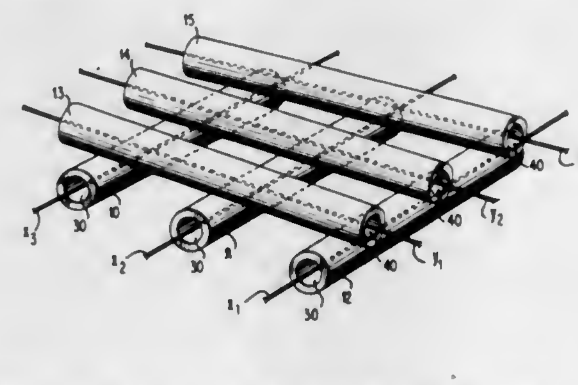
3,506,972
FERRITE CORE ASSEMBLY FOR MAGNETIC STORAGE DEVICES

Wilbert L. Shevel, Jr., Peekskill, Otto A. Gutwin, Crugers, and Kurt R. Grebe, Beacon, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Original application Dec. 13, 1961, Ser. No. 159,127, now Patent No. 3,237,283, dated Mar. 1, 1966. Divided and this application May 5, 1965, Ser. No. 462,780

Int. Cl. G11c *5/02, 11/02;* **C04b** *37/00*

U.S. Cl. 340—174 **2 Claims**



A ferrite core assembly formed from a series of extruded, tubular, ferrite elements arranged in parallel alignment which are bonded to a second series of extruded, tubular, ferrite elements overlaying said first series of elements wherein the bond between the first and second series of elements is a magnetic crystalline ferrite bond.

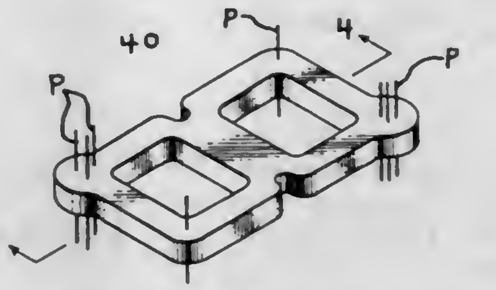
3,506,973
MONOLITHIC MULTIAPERTURE CORE DEVICE

William Baird Fritz, Harrisburg, Neil Harrison Sanders, Carlisle, Emerson Marshall Reyner II, Harrisburg, and Harry Alvin Fox, Jr., Palmyra, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Dec. 13, 1966, Ser. No. 601,500

Int. Cl. G11b *5/74*

U.S. Cl. 340—174 **11 Claims**



A magnetic core structure wherein separate circuit windings are coupled to the core through a series of small holes insulated each from the other only by the core material.

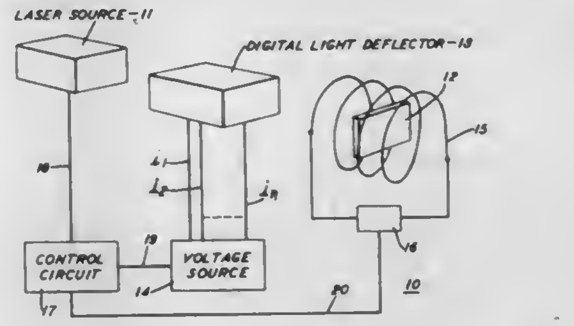
3,506,974
MAGNETIC MEMORY IMPLEMENTATION

Roy Conway Le Craw, Madison, and Richard C. Sherwood and Raymond Wolfe, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Apr. 11, 1967, Ser. No. 629,993

Int. Cl. G11b *7/02;* **G11c** *13/04*

U.S. Cl. 340—174 **10 Claims**



Single wall (bubble) domains of reverse magnetization are written into a magnetically initialized sheet of orthoferrite by locally raising the temperature of the sheet to a characteristic temperature at which flux reorients from a direction normal to the plane of the sheet to a direction in the plane of the sheet and by providing a suitable magnetic field in a direction normal to the plane of the sheet as the temperature is again reduced. A proper selection of the magnetic material permits a characteristic temperature controllably close to the ambient temperature enabling switching in the absence of local heating.

3,506,975
CONDUCTOR ARRANGEMENT FOR PROPAGATION OF SINGLE WALL DOMAINS IN MAGNETIC SHEETS

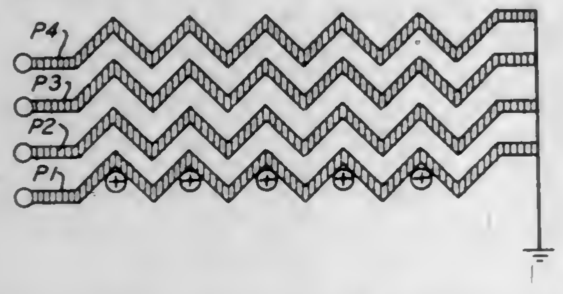
Andrew H. Bobeck, Chatham, and Robert F. Fischer, Livingston, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed June 7, 1967, Ser. No. 644,351

Int. Cl. G11c *11/14, 19/00*

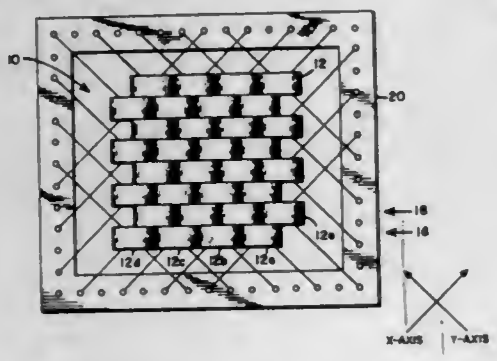
U.S. Cl. 340—174 **7 Claims**

Magnetic memories comprising sheets of material in which single wall, reverse magnetized domains are advanced by consecutively offset propagation fields are potentially capable of packing densities determined by the size of the stable domain diameter. It has been found, however, that the domain diameter can be made smaller than can presently available compatible printed propagation drive circuitry which provides the propagation fields when pulsed. The latter, then, becomes the limiting factor in packing densities. The disclosure describes an improved propagation drive configuration which permits, inter alia, fuller realization of the packing density capabilities.



3,506,976
SYNTHETIC MONOLITHIC FERRITE ARRAY

George B. Strawbridge, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,350
Int. Cl. G11c *5/02, 5/08*
U.S. Cl. 340—174 **9 Claims**



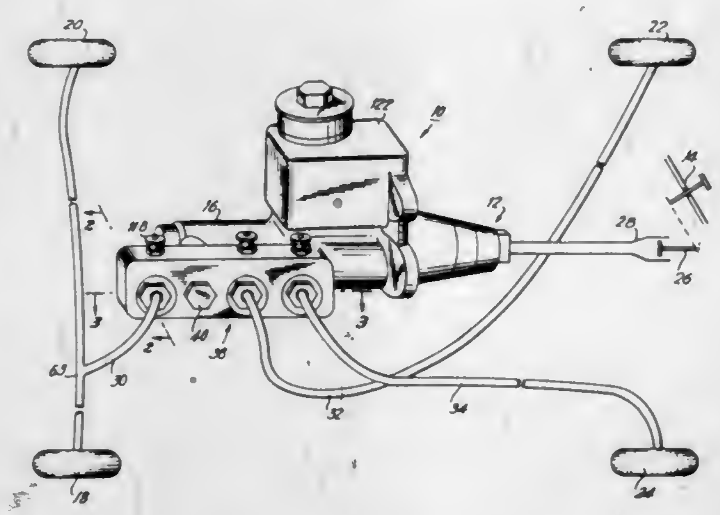
A magnetizable memory array and method of assembling thereof utilizing discrete toroidal cores as the memory elements which are formed into a compact assembly. The cores are formed in strips of planar aligned cores that are aligned in contact along their colinear diameters. Adjacent strip's aligned contiguously along the strips, opposing planar surfaces, are shifted one-half core outside diameter whereby there is formed a two-dimensional array of toroidal cores, the inside diameters of which form diagonal core stringing channels therethrough.

ERRATUM

For Class 340—174.1 see:
Patent No. 3,505,744

3,506,977
HYDRAULIC SAFETY DEVICE

Carlos Nunez, Brooklyn, N.Y., assignor to Hydraulic Safety Valve, Inc., Glendale, N.Y., a corporation of New York
Filed Feb. 1, 1968, Ser. No. 702,252
Int. Cl. F15b *13/06;* **B60t** *11/10, 17/18*
U.S. Cl. 60—54.5 **11 Claims**



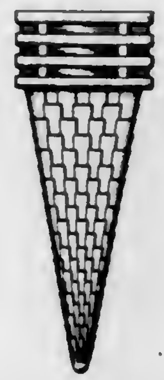
A hydraulic safety valve device especially useful in automobile braking systems of the closed hydraulic pressure type. In the event of either slow or rapid leaks in the system, the device removes from operation that portion of the hydraulic system which is leaking, without interferring with or permitting the loss of hydraulic fluid from the remainder of the system which is functioning normally. A novel variable cross-sectional area piston arrangement permits rapid sealing and isolating of that portion of the system which is leaking.

DESIGNS

APRIL 14, 1970

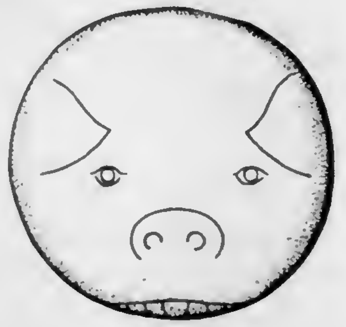
217,108
EDIBLE CONTAINER FOR ICE CREAM AND THE LIKE

Dean A. Smith, Winston-Salem, N.C., assignor to Keebler Company, a corporation of Delaware
Filed June 23, 1969, Ser. No. 17,805
Term of patent 14 years
Int. Cl. D1—*02*
U.S. Cl. D1—5



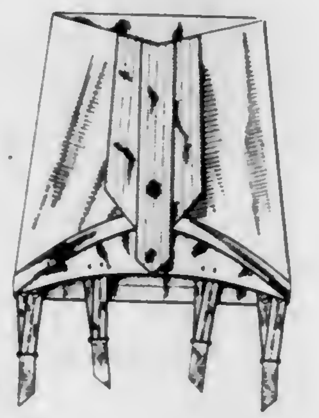
217,109
HAMBURGER BUN

Theodore A. Corn, 1000 N. Point, San Francisco, Calif. 94109, and Robert M. Harlick, 2330 Welford, South San Francisco, Calif. 94080
Filed June 9, 1969, Ser. No. 17,609
Term of patent 14 years
Int. Cl. D1—*01*
U.S. Cl. D1—24



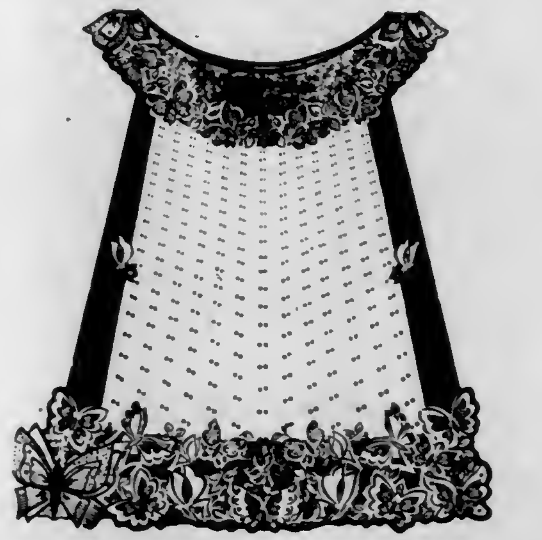
217,110
LADY'S GIRDLE

Maurice Pichon, Saint Etienne, France, assignor to Pichon Freres Societe Anonyme, Saint Etienne, France, a corporation of France
Filed July 30, 1969, Ser. No. 18,478
Term of patent 7 years
Int. Cl. D2—*02*
U.S. Cl. D2—2



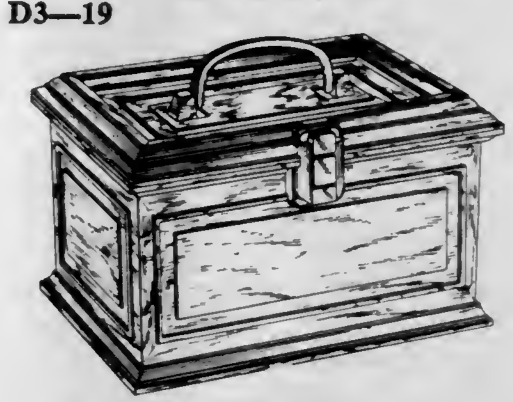
217,111
PINAFORE

Elsie Sutta, 4821 Hanford St., Douglaston, N.Y. 11362
Filed Jan. 2, 1969, Ser. No. 15,170
Term of patent 14 years
Int. Cl. D2—*01*
U.S. Cl. D2—81



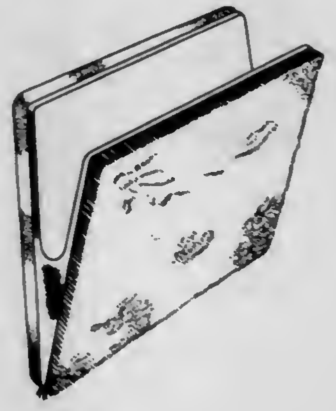
217,112
SEWING CHEST

Albert C. Petitto, Hudson, Mass., assignor to Lerner Manufacturing, Inc., Melville, N.Y., a corporation of New York
Filed June 23, 1969, Ser. No. 17,811
Term of patent 14 years
Int. Cl. D6—*99*
U.S. Cl. D3—19



217,113
SURGEON'S SCRUB BRUSH

Frederick J. Melges, 314 N. Orchard Place, Battle Creek, Mich. 49017
Filed Apr. 2, 1969, Ser. No. 16,553
Term of patent 14 years
Int. Cl. D7—*99, 06*
U.S. Cl. D4—29

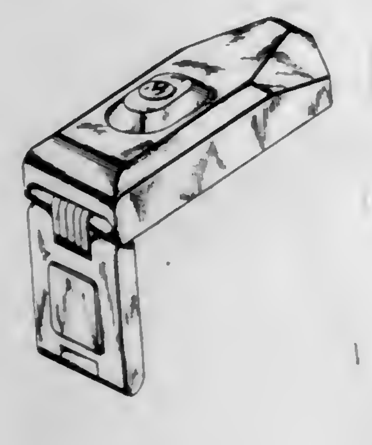


217,114

LOCKING HASP FOR DOOR OR SIMILAR ARTICLE

Gustav Bremicker, Werner Bremicker, and Siegfried Bremicker, Volmarstein, Germany, assignors to Aug. Bremicker Sohne, Volmarstein, Ruhr, Germany
Filed Nov. 1, 1968, Ser. No. 14,281
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—124

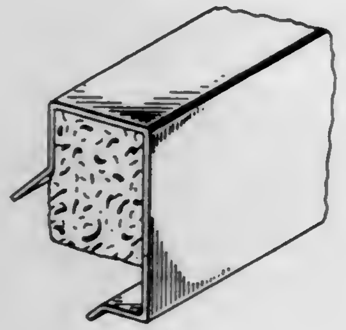


217,115

FASTENING PLATE FOR CONCRETE

Ignatius A. Chap, Oak Lawn, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 5, 1969, Ser. No. 16,073
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—228

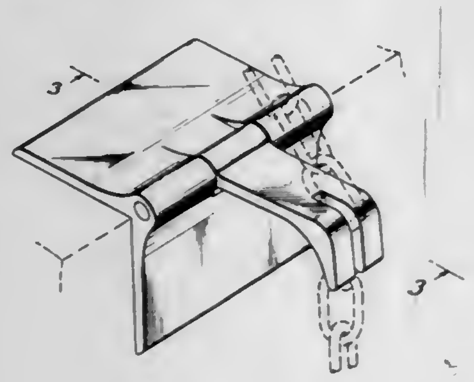


217,116

SIDEBINDER

John H. Pieper, 2730 Knotty Oaks Trail, Houston, Tex. 77045
Filed Feb. 5, 1969, Ser. No. 15,694
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—229

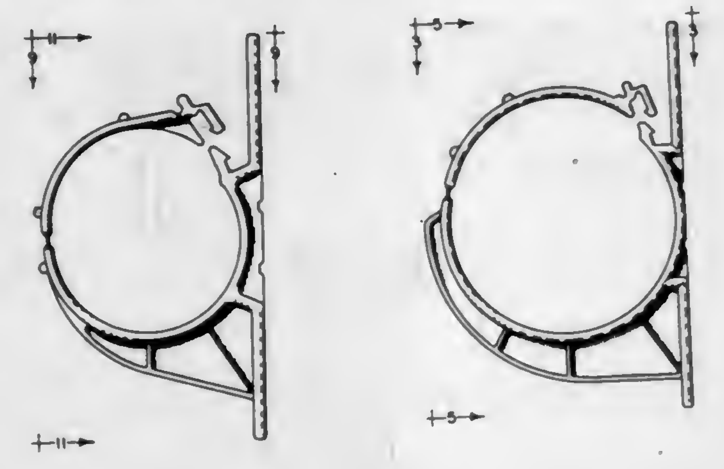


217,117

CABLE MOUNTING RING

Ronald O. Gordon, Rolling Meadows, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 20, 1969, Ser. No. 16,352
Term of patent 14 years
Int. Cl. D8—*03*

U.S. Cl. D8—229

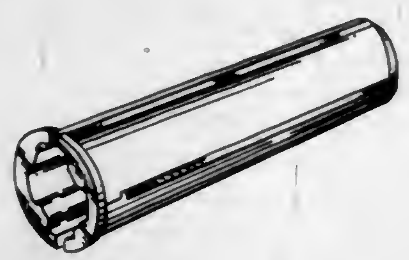


217,118

WALL PLUG

Robert G. Thake, Egham, England, assignor to The Rawlplug Company Limited, Kingston-upon-Thames, Surrey, England, a British company
Filed Mar. 20, 1969, Ser. No. 16,344
Claims priority, application Great Britain Oct. 4, 1968
Term of patent 14 years
Int. Cl. D8—*04*

U.S. Cl. D8—272

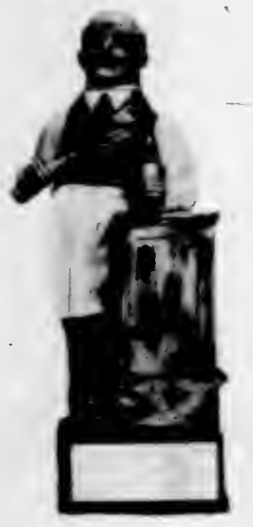


217,119

BOTTLE

John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,606
Term of patent 14 years
Int. Cl. D9—*01*

U.S. Cl. D9—33

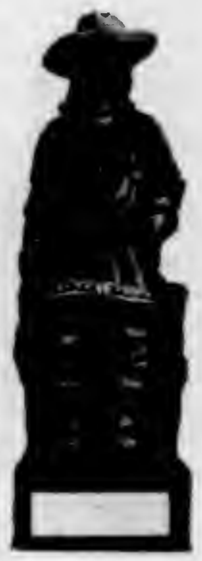


217,120

BOTTLE

John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,607
Term of patent 14 years
Int. Cl. D9—*01*

U.S. Cl. D9—33

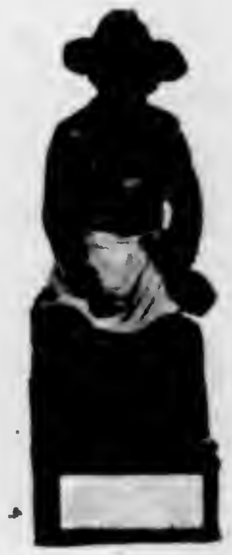


217,121

BOTTLE

John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,617
Term of patent 14 years
Int. Cl. D9—*01*

U.S. Cl. D9—33

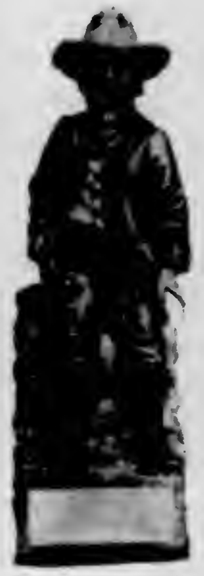


217,122

BOTTLE

John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,630
Term of patent 14 years
Int. Cl. D9—*01*

U.S. Cl. D9—33

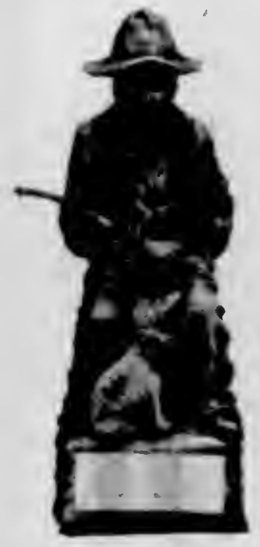


217,123

BOTTLE

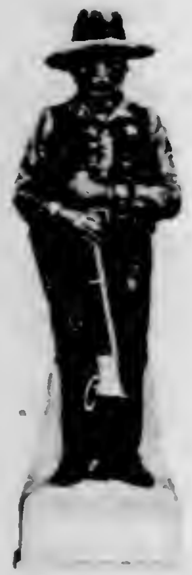
John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,631
Term of patent 14 years
Int. Cl. D9—*01*

U.S. Cl. D9—33



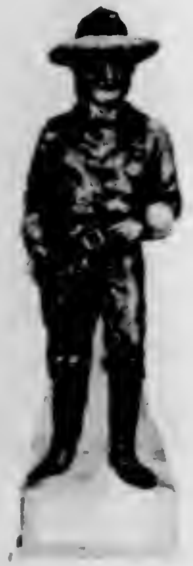
217,124
BOTTLE

John Segesman, Cascade, Mont., assignor to Heritage Art, Great Falls, Mont., a Montana partnership
Filed Apr. 7, 1969, Ser. No. 16,632
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—33



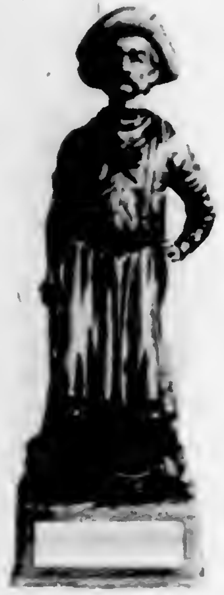
217,125
BOTTLE

John Segesman, Cascade, Mont., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed Apr. 7, 1969, Ser. No. 16,633
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—33



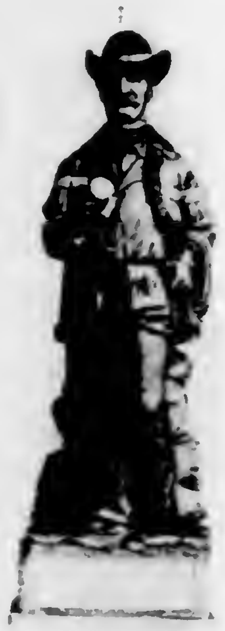
217,126
BOTTLE

Frederick R. Lammert, Green Bay, Wis., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed July 22, 1969, Ser. No. 18,283
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—33



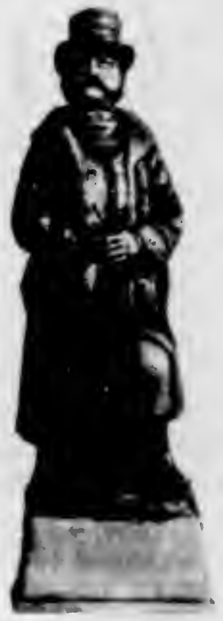
217,127
BOTTLE

Frederick R. Lammert, Green Bay, Wis., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed July 22, 1969, Ser. No. 18,318
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—33



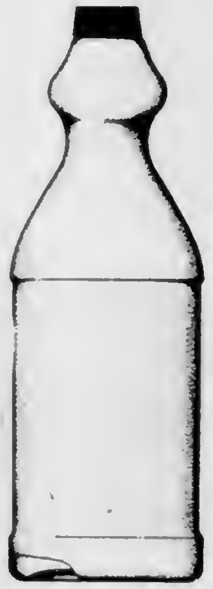
217,128
BOTTLE

Frederick R. Lammert, Green Bay, Wis., assignor, by mesne assignments, to National Heritage Corporation, Great Falls, Mont., a corporation of Utah
Filed July 22, 1969, Ser. No. 18,322
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—33



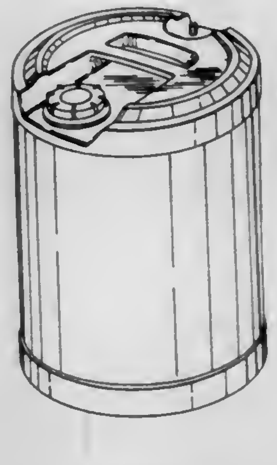
217,129
COMBINED BOTTLE AND CAP THEREFOR

John E. Beeby, Lafayette, Calif., assignor to The Clorox Company, Oakland, Calif., a corporation of Ohio
Filed Mar. 21, 1969, Ser. No. 16,383
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—96



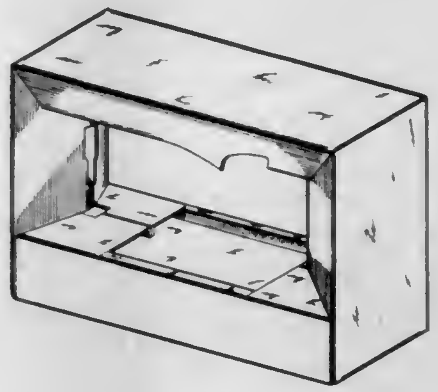
217,130
CONTAINER FOR LIQUIDS OR THE LIKE

Anthony J. Starr and Wolfgang Liebertz, Wilmington, Del., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Apr. 25, 1968, Ser. No. 11,627
Term of patent 14 years
Int. Cl. D9—*07*
U.S. Cl. D9—175



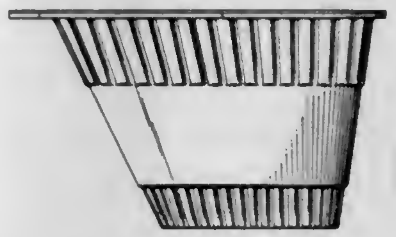
217,131
PACKAGING AND DISPLAY CARTON FOR A POWER TOOL OR THE LIKE

Arthur L. Shreve III, Butler, Lyell Bayne Norris, Jr., Phoenix, and Robert W. Beichler, Baltimore, Md., assignors, by direct and mesne assignments, to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Apr. 24, 1968, Ser. No. 11,599
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—191



217,132
CREAMER

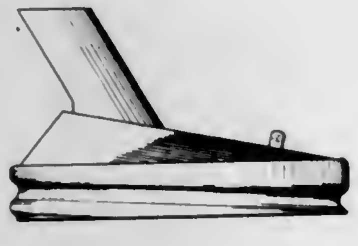
Ronald D. Argenta, Stafford Springs, Conn., assignor to Ready Food Products, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed July 16, 1969, Ser. No. 18,223
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—219



217,133
POURING CAP FOR A JAR

Frank D. O'Neill, 94 Willcocks St. W.,
Toronto, Ontario, Canada
Filed May 6, 1969, Ser. No. 17,029
Term of patent 14 years
Int. Cl. D9—*02*

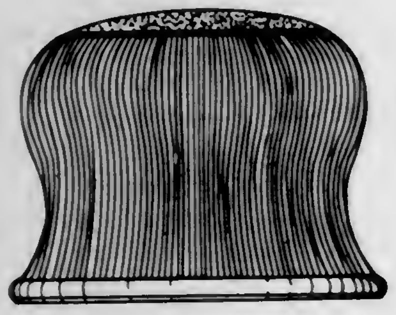
U.S. Cl. D9—275



217,134
CONTAINER CAP

John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 2, 1969, Ser. No. 17,441
Term of patent 14 years
Int. Cl. D9—*02*

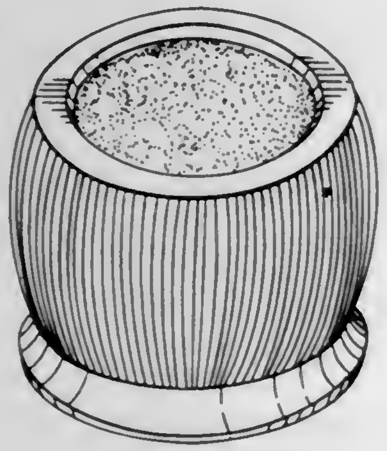
U.S. Cl. D9—284



217,135
CONTAINER CAP

John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 2, 1969, Ser. No. 17,442
Term of patent 14 years
Int. Cl. D9—*02*

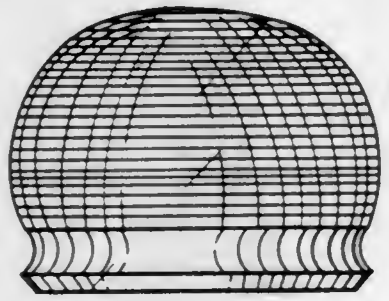
U.S. Cl. D9—285



217,136
CONTAINER CAP

John R. Howard, Lombard, and Conrad Thatcher Schwartz, Jr., Wheaton, Ill., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 2, 1969, Ser. No. 17,444
Term of patent 14 years
Int. Cl. D9—*02*

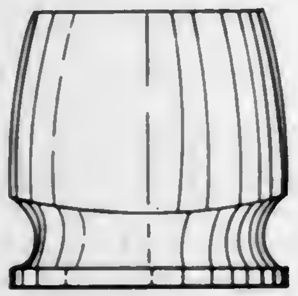
U.S. Cl. D9—285



217,137
CONTAINER CAP

John R. Howard, Lombard, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed June 3, 1969, Ser. No. 17,500
Term of patent 14 years
Int. Cl. D9—*02*

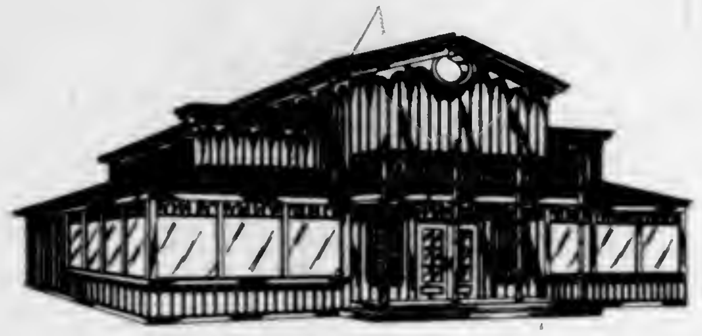
U.S. Cl. D9—285



217,138
RESTAURANT BUILDING

Coburn Morgan, Franklin County, Ohio, assignor to Bob Evans Farms, Inc., Columbus, Ohio, a corporation of Ohio
Filed Nov. 22, 1968, Ser. No. 14,605
Term of patent 14 years
Int. Cl. D25—*04*

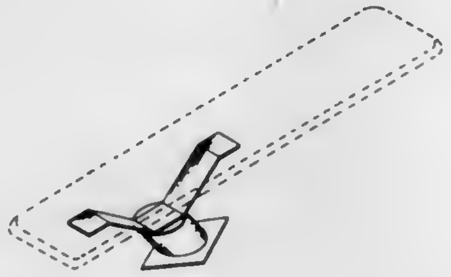
U.S. Cl. D13—1



217,139
PEDESTAL BASE

Carl R. Meyer, 2512 E. Vine St.,
West Covina, Calif. 91790
Filed Jan. 24, 1969, Ser. No. 15,498
Term of patent 14 years
Int. Cl. D25—*99*

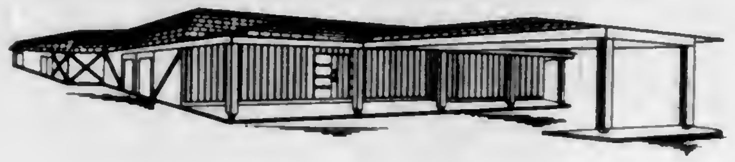
U.S. Cl. D13—1



217,140
RESTAURANT AND COCKTAIL LOUNGE BUILDING

Robert H. Spain, Fort Lauderdale, and Sidney R. Wilkinson, Bradenton, Fla., assignors to Chris McGuire Inc., Fort Lauderdale, Fla., a corporation of Florida
Filed June 24, 1969, Ser. No. 17,849
Term of patent 14 years
Int. Cl. D25—*04*

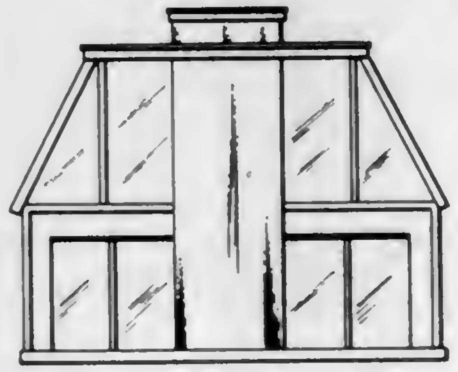
U.S. Cl. D13—1



217,141
BUILDING

Harold Weiss, 56 Dorian Way,
San Rafael, Calif. 94901
Filed June 27, 1969, Ser. No. 17,910
Term of patent 14 years
Int. Cl. D25—*04*

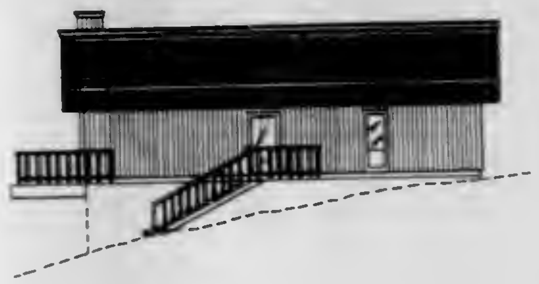
U.S. Cl. D13—1

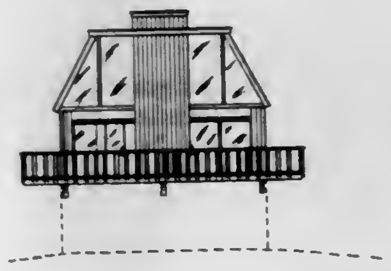


217,142
BUILDING

Harold Weiss, 56 Dorian Way,
San Rafael, Calif. 94901
Filed June 27, 1969, Ser. No. 17,911
Term of patent 14 years
Int. Cl. D25—*04*

U.S. Cl. D13—1

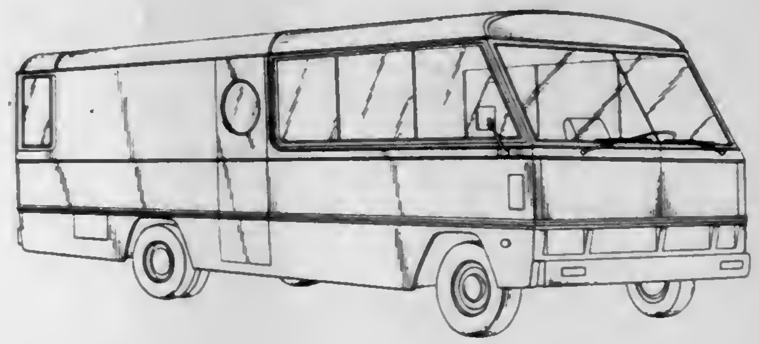




217,143
MOTOR HOME

Robert E. Bourke, Weston, Conn., assignor to Superior Coach Corporation, Lima, Ohio, a corporation of Ohio
Filed June 2, 1969, Ser. No. 17,471
Term of patent 14 years
Int. Cl. D12—*08*

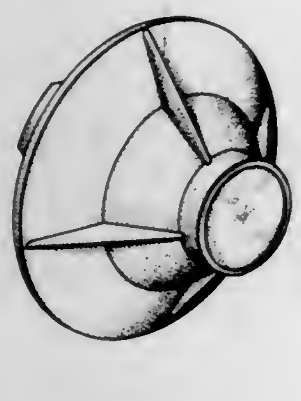
U.S. Cl. D14—3



217,144
HUB CAP

Alan D. Foster, Adrian, Mich.
(P.O. Box 1022, Dayton, Ohio 45401)
Filed June 12, 1969, Ser. No. 17,667
Term of patent 14 years
Int. Cl. D12—*14*

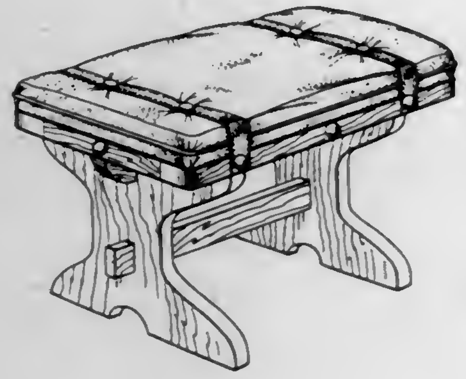
U.S. Cl. D14—30



217,145
BENCH

Orville B. Solie, Rockford, Ill., assignor to Kroehler Mfg. Co., Naperville, Ill., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 14,041
Term of patent 14 years
Int. Cl. D6—*01*

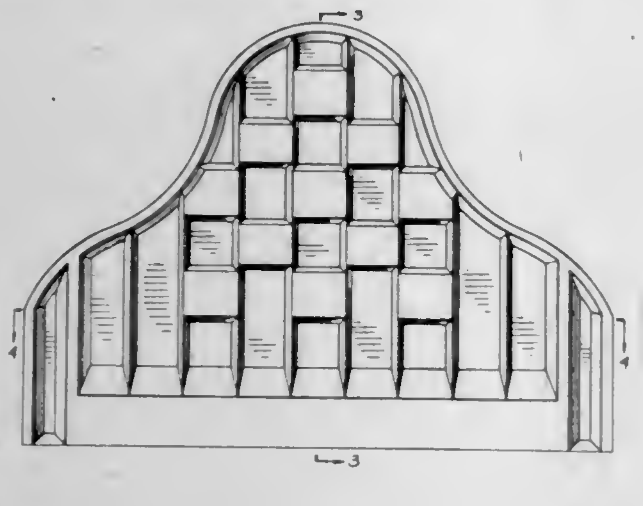
U.S. Cl. D15—11



217,146
SMALL GUNNERY TARGET

Vincent F. D'Agostino and Philip Brieff, Huntington Station, and Robert M. Schacher, Forest Hills, Queens, N.Y., assignors to RAI Research Corporation, Long Island City, N.Y., a corporation of New York
Filed Oct. 10, 1968, Ser. No. 13,937
Term of patent 14 years
Int. Cl. D22—*99*

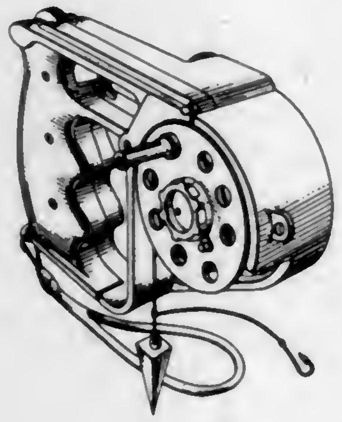
U.S. Cl. D22—15



217,147
HANDLINE SPORT FISHING REEL

Richard K. Sutz, 5800 Arlington Ave., Riverdale, N.Y. 10471
Filed Nov. 27, 1968, Ser. No. 14,694
Term of patent 14 years
Int. Cl. D22—*06*

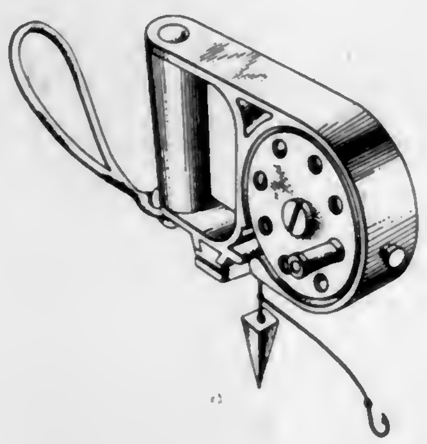
U.S. Cl. D22—25



217,148
SPORT FISHING REEL

Richard K. Sutz, 5800 Arlington Ave., Riverdale, N.Y. 10471
Filed Nov. 27, 1968, Ser. No. 14,705
Term of patent 14 years
Int. Cl. D22—*06*

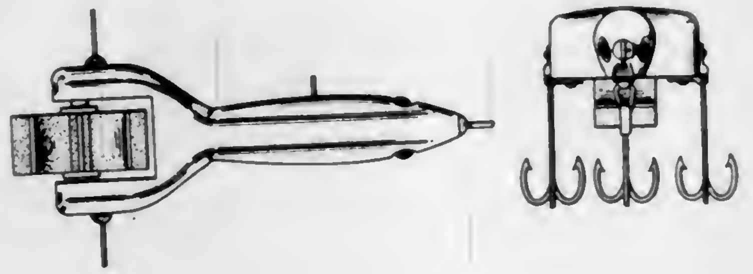
U.S. Cl. D22—25



217,149
FISHING LURE

Shelby C. McLendon, P.O. Box 235, Eustis, Fla. 32726
Filed May 26, 1969, Ser. No. 17,355
Term of patent 14 years
Int. Cl. D22—*07*

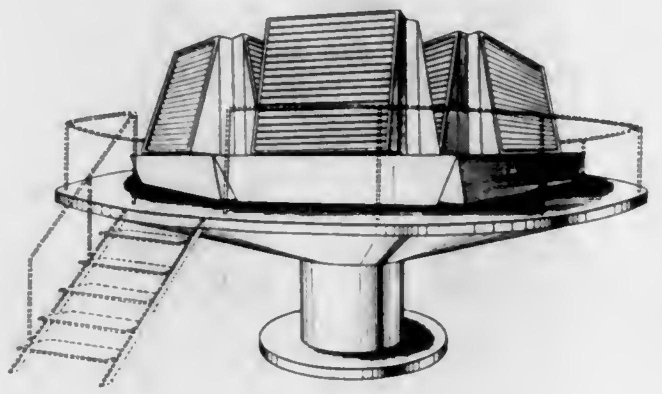
U.S. Cl. D22—27



217,150
FLUID HEAT EXCHANGER

William F. Shriver, Waynesboro, Pa., and Raymond A. Lo Turco, Columbus, Ind., assignors to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Jan. 2, 1968, Ser. No. 10,016
Term of patent 14 years
Int. Cl. D23—*04*

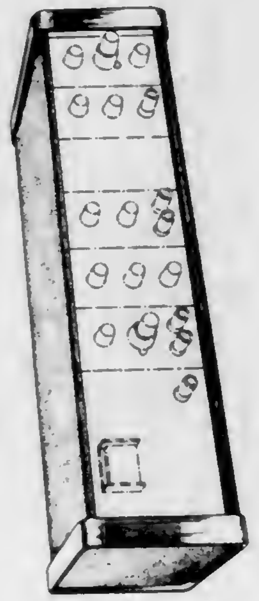
U.S. Cl. D23—153



217,151
ELECTRICAL EQUIPMENT HOUSING

Walter G. Hodsdon, Framingham, Mass., assignor to Space and Tactical Systems Corporation, Burlington, Mass., a corporation of Massachusetts
Filed June 3, 1968, Ser. No. 12,176
Term of patent 14 years
Int. Cl. D14—*99*

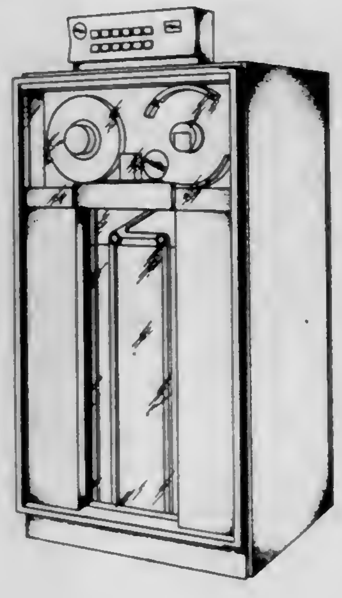
U.S. Cl. D26—1



217,152
TAPE UNIT

Robert M. Hofland, Boulder, and Jack W. Stringer, Hygiene, Colo., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 15, 1968, Ser. No. 12,781
Term of patent 14 years
Int. Cl. D14—*02*

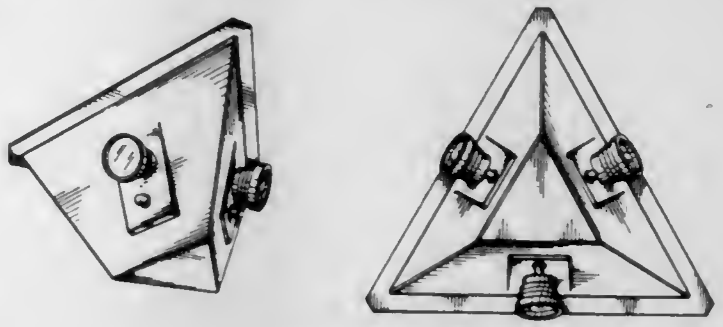
U.S. Cl. D26—5



217,153
CAMERA HOUSING FOR SURVEILLANCE SYSTEM

Robert B. Adkins, 7620 S. Wilkeson, Tacoma, Wash. 98408, and Joseph C. Byers, 12010 Densmore N., Seattle, Wash. 98115
Filed Nov. 26, 1968, Ser. No. 14,677
Term of patent 14 years
Int. Cl. D14—*03*

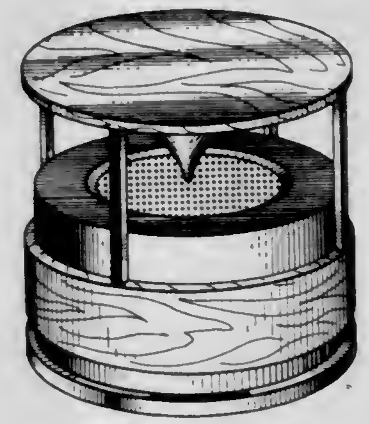
U.S. Cl. D26—14



217,154
LOUDSPEAKER UNIT

Melvin H. Boldt, Glenview, and Kendrick T. Parsell, Chicago, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed July 2, 1969, Ser. No. 18,025
Term of patent 14 years
Int. Cl. D14—*01*; D6—*01*

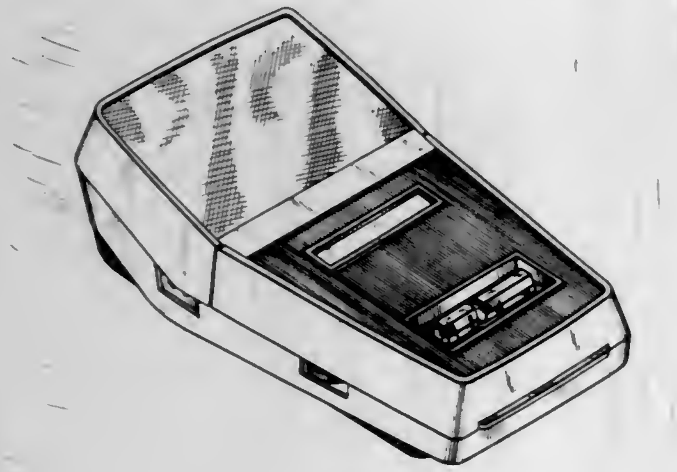
U.S. Cl. D26—14



217,155
CASSETTE TAPE PLAYER

Richard K. Althans, Long Grove, and Melvin H. Boldt, Glenview, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 27, 1969, Ser. No. 18,865
Term of patent 14 years
Int. Cl. D14—*01*

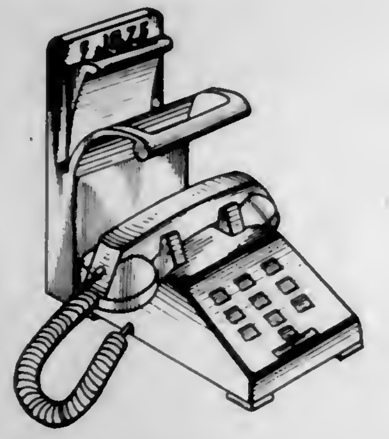
U.S. Cl. D26—14



217,156
PORTABLE TWO-WAY COIN OPERATED TELEPHONE

Susan M. Peoples, 701 Portland St.,
Baltimore, Md. 21200
Filed May 13, 1969, Ser. No. 17,141
Term of patent 14 years
Int. Cl. D19—*03*

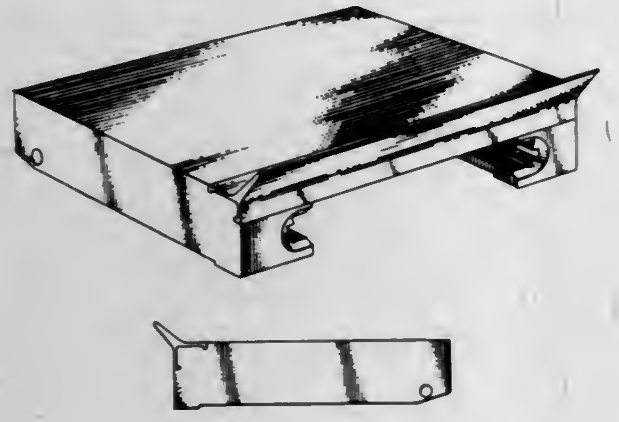
U.S. Cl. D26—14



217,157
RECORDING CASSETTE HOLDER

Edgar F. Trombly, Grosse Pointe Farms, Mich., assignor to Scanfax Systems Corporation, New York, N.Y., a corporation of New York
Filed Oct. 1, 1969, Ser. No. 19,367
Term of patent 14 years
Int. Cl. D14—*99*; D3—*99*

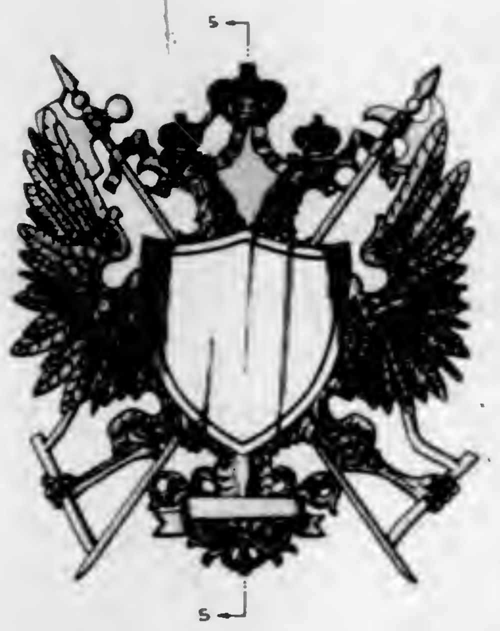
U.S. Cl. D26—14



217,158
PLAQUE OR SIMILAR ARTICLE

Devlin W. Dormer, Sr., P.O. Box 1231,
Pottsville, Pa. 17901
Filed Mar. 11, 1969, Ser. No. 16,176
Term of patent 14 years
Int. Cl. D11—*02*

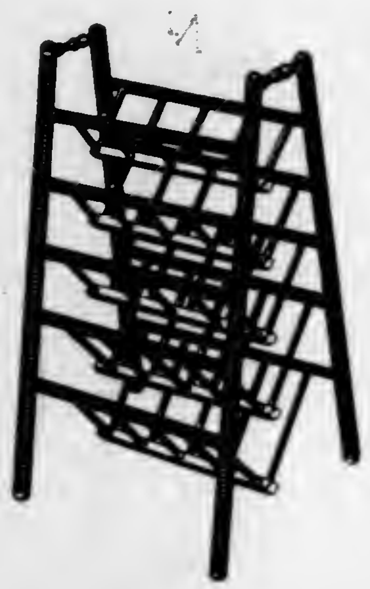
U.S. Cl. D29—23



217,159
MAGAZINE RACK OR SIMILAR ARTICLE

William Levy, Glen, N.H., assignor to Standard International Corporation, Andover, Mass., a corporation of Ohio
Filed Apr. 24, 1969, Ser. No. 16,881
Term of patent 14 years
Int. Cl. D6—*01*

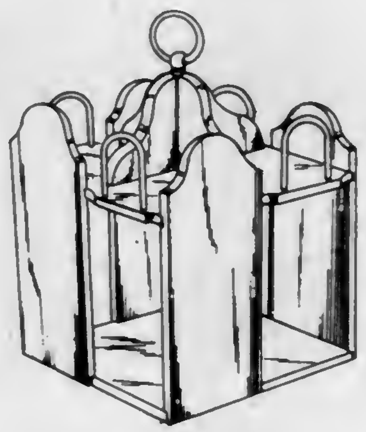
U.S. Cl. D33—2



217,160
ROTATABLE RACK FOR STEREO TAPES

William Levy, Glen, N.H., assignor to Standard International Corporation, Andover, Mass., a corporation of Ohio
Filed Mar. 7, 1969, Ser. No. 16,117
Term of patent 14 years
Int. Cl. D6—*01*

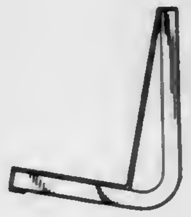
U.S. Cl. D33—3



217,161
SHELF

Theodore Sobel, South Orange, N.J., and Arthur Goldstein, Scarsdale, N.Y., assignors to Butler Industries, Inc., Newark, N.J., a corporation of New Jersey
Filed May 9, 1968, Ser. No. 11,855
Term of patent 14 years
Int. Cl. D6—*99*

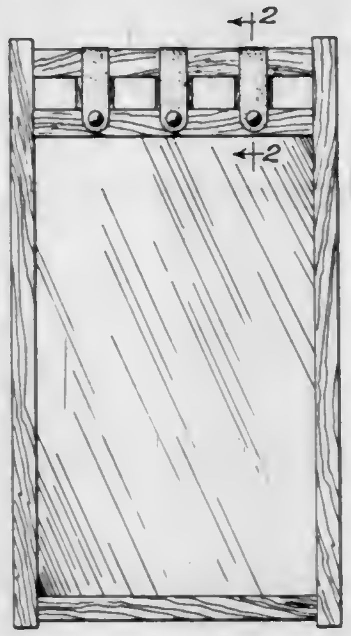
U.S. Cl. D33—3



217,162
MIRROR

Orville B. Solie, Rockford, Ill., assignor to Kroehler Mfg. Co., Naperville, Ill., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 14,037
Term of patent 14 years
Int. Cl. D6—*01*

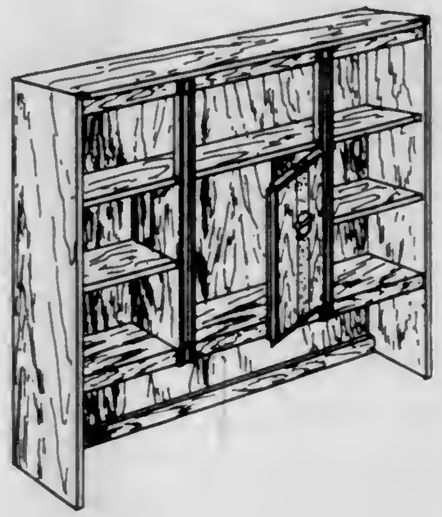
U.S. Cl. D33—9



217,163
COMBINED CABINET AND OPEN SHELF UNIT

Orville B. Solie, Rockford, Ill., assignor to Kroehler Mfg. Co., Naperville, Ill., a corporation of Delaware
Filed Oct. 17, 1968, Ser. No. 14,044
Term of patent 14 years
Int. Cl. D6—*01*

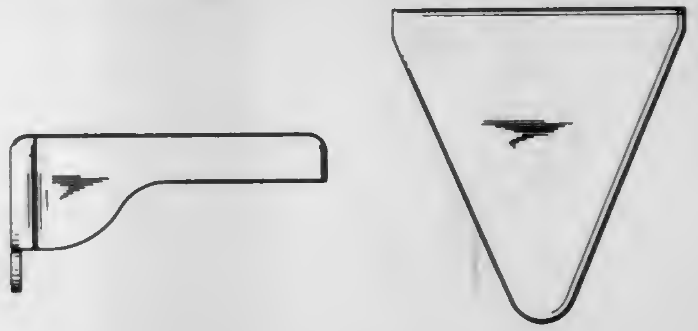
U.S. Cl. D33—19



217,164
MAGNETIC SOAP BAR HOLDER

Jan Jarema, 3360 E. 76th St.,
Cleveland, Ohio 44127
Filed Mar. 12, 1969, Ser. No. 16,206
Term of patent 14 years
Int. Cl. D6—*01*

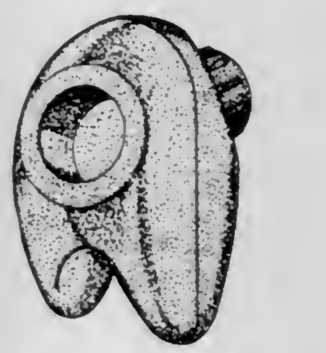
U.S. Cl. D33—25



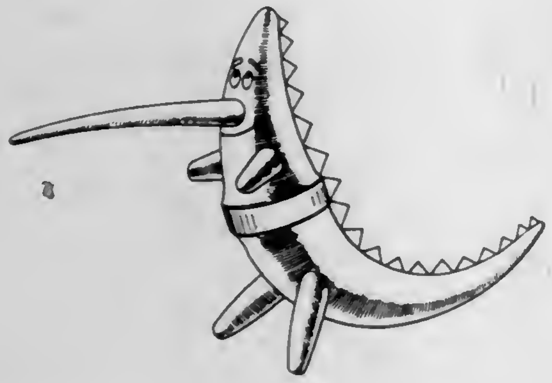
217,165
BODY COMPONENT FOR AN ANIMAL TOY OR THE LIKE

Reuben B. Klamer, 9460 Wilshire Blvd., Beverly Hills, Calif. 90212, and Robert Y. Allen, 2372 S. Veteran Ave. 90064, and Melvin Shaw, 232 S. Veteran Ave. 90024, both of Los Angeles, Calif.
Continuation-in-part of design application Ser. No. 7,790, July 13, 1967. This application May 3, 1968, Ser. No. 11,762
Term of patent 14 years
Int. Cl. D21—*02*

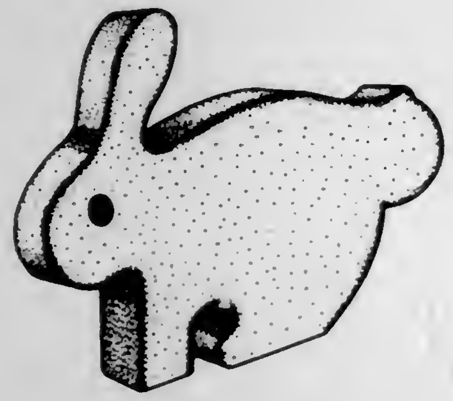
U.S. Cl. D34—2



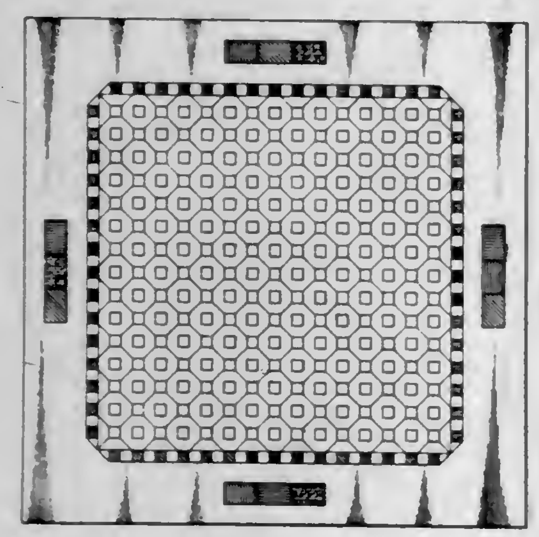
217,166
NOVELTY FIGURE
Francis B. Northup, 725 West End Blvd., Winston-Salem, N.C. 27101
Filed Aug. 27, 1969, Ser. No. 18,871
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—2



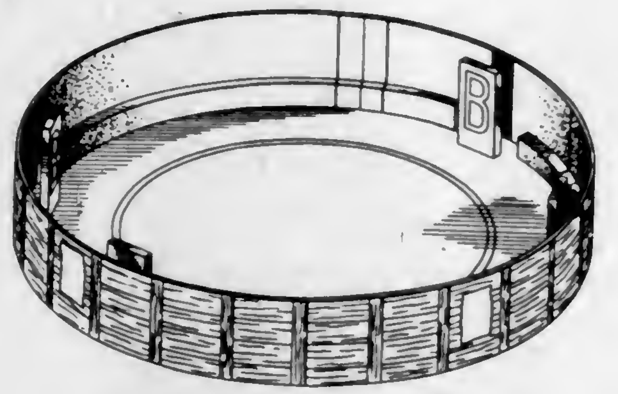
217,167
RABBIT FIGURE FOR PLAYGROUND APPARATUS
Peter N. G. Murdoch and David Lance Wyman, both of 257 E. 72nd St., New York, N.Y. 10021
Filed Mar. 14, 1968, Ser. No. 11,978
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



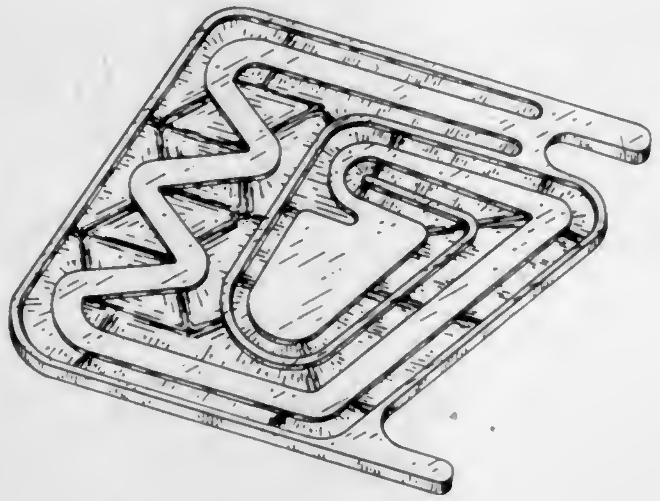
217,168
GAME BOARD
James P. Tillmann, 5916 63rd Ave. N., Brooklyn Park, Minn. 55429
Filed Feb. 20, 1969, Ser. No. 15,852
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



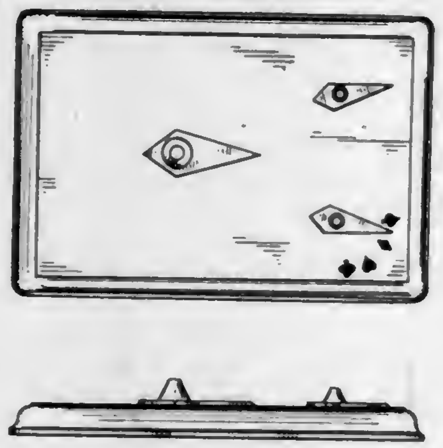
217,169
GAME BOARD
James A. Allen, 4966 College Ave., San Diego, Calif. 92115
Filed Apr. 9, 1969, Ser. No. 17,247
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



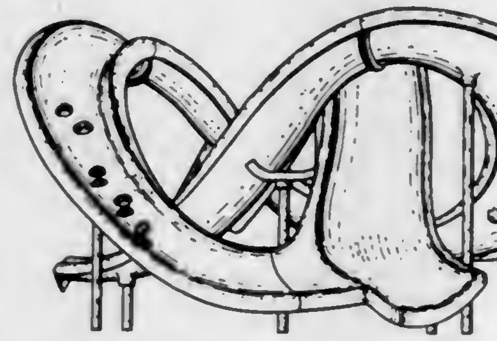
217,170
MOVING SURFACE GAME BOARD
Larry Charles Smith, 22916 Juniper Ave., Torrance, Calif. 90505
Filed Feb. 19, 1969, Ser. No. 15,847
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



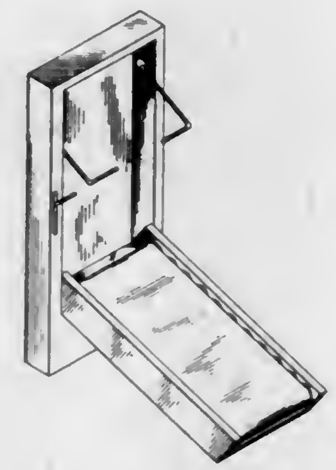
217,171
EUCHRE SCORER
Ernest Copeland, 7601 S. River Road, Marine City, Mich. 48039
Filed Mar. 6, 1969, Ser. No. 16,084
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



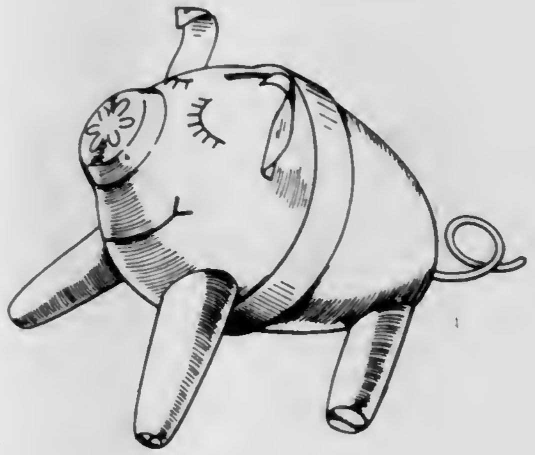
217,172
PLAYGROUND SLIDE
Fred Schumm, New York, N.Y., assignor to Childcraft Equipment Company, Inc., New York, N.Y., a corporation
Filed June 25, 1969, Ser. No. 17,878
Term of patent 14 years
Int. Cl. D21—*04*
U.S. Cl. D34—5



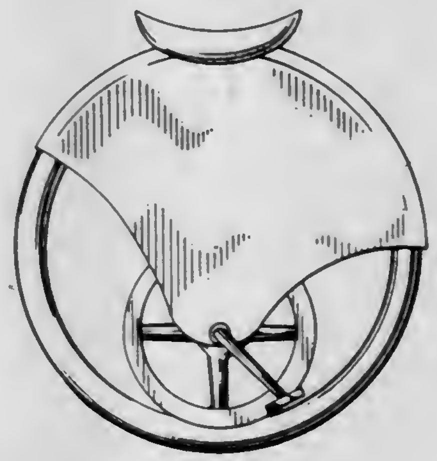
217,173
TREADMILL
Jordan D. Frasier, Orange, Calif., assignor to International Rectifier Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 21, 1969, Ser. No. 16,822
Term of patent 7 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



217,174
COIN BANK FIGURE OR THE LIKE
Francis B. Northup, 725 West End Blvd., Winston-Salem, N.C. 27101
Filed Aug. 27, 1969, Ser. No. 18,872
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—11

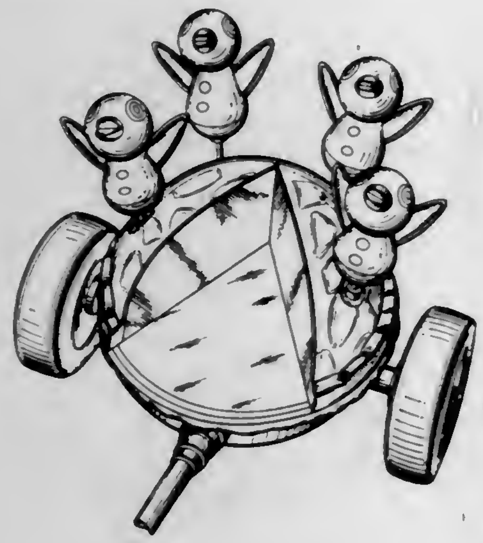


217,175
UNICYCLE OR SIMILAR ARTICLE
Elmer W. Swanberg, 1420 E. 58th Ave., Spokane, Wash. 99203
Filed July 22, 1969, Ser. No. 18,340
Term of patent 14 years
Int. Cl. D12—*13*
U.S. Cl. D34—15



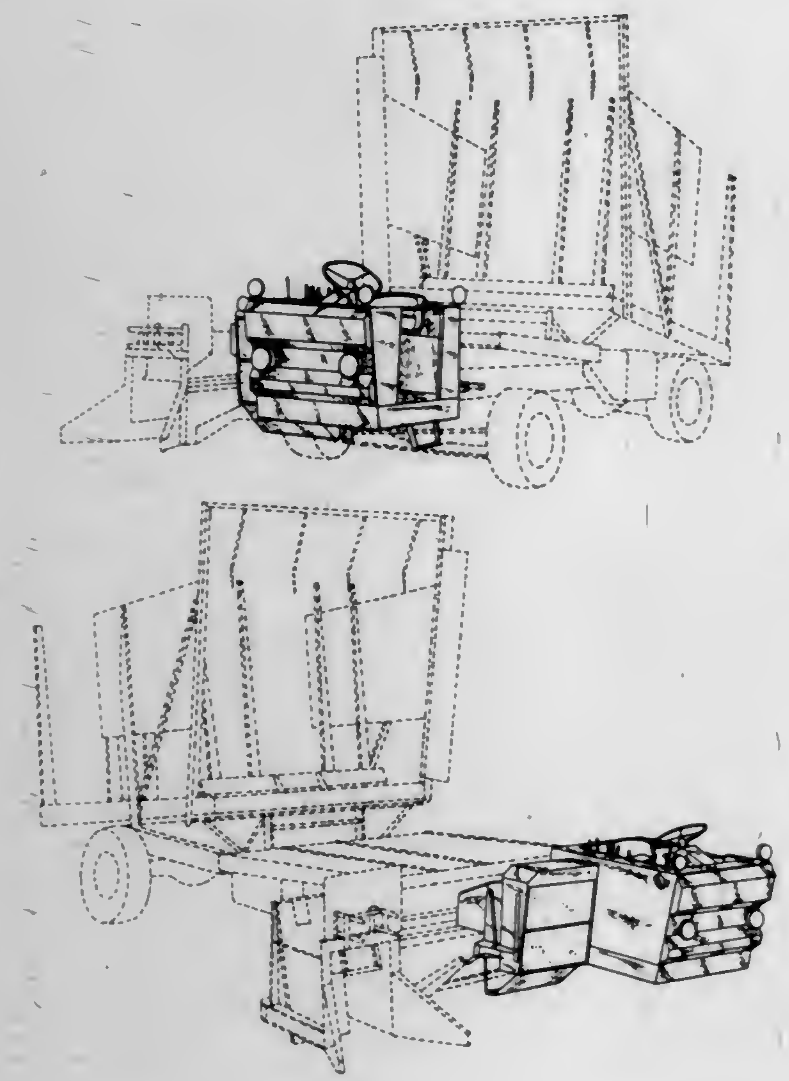
217,176
PUSH OR PULL TOY

Leslie Perhacs, Jr., Topanga, Calif., assignor to Cragstan Industries, Inc., New York, N.Y., a corporation of New York
Filed Mar. 12, 1969, Ser. No. 16,190
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



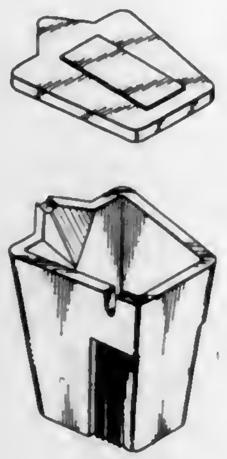
217,177
CAB FOR A BALE WAGON

Constantine J. Kermes, Lancaster County, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Apr. 9, 1969, Ser. No. 16,654
Term of patent 14 years
Int. Cl. D15—*03*
U.S. Cl. D40—1



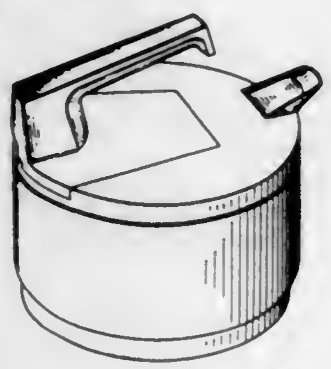
217,178
COMBINED PITCHER AND COVER THEREFOR

Ernest L. Crider, Shelby, Tenn.
(3949 Hedgerow Cove, Memphis, Tenn. 38109)
Filed Feb. 17, 1969, Ser. No. 15,817
Term of patent 14 years
Int. Cl. D7—*01*
U.S. Cl. D44—21



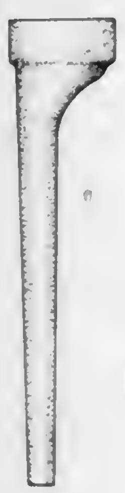
217,179
ELECTRIC TEA KETTLE

William J. Rakocy, Clifton, N.J., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Aug. 8, 1969, Ser. No. 18,597
Term of patent 14 years
Int. Cl. D7—*02*
U.S. Cl. D44—25



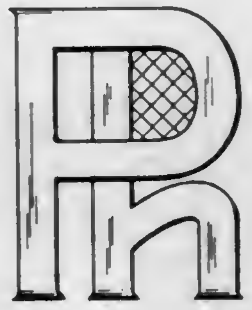
217,180
FUNNEL

Robert W. Holland, 34827 Beaver Drive, Sterling Heights, Mich. 48659
Filed June 30, 1969, Ser. No. 17,956
Term of patent 7 years
Int. Cl. D8—*99*
U.S. Cl. D44—29



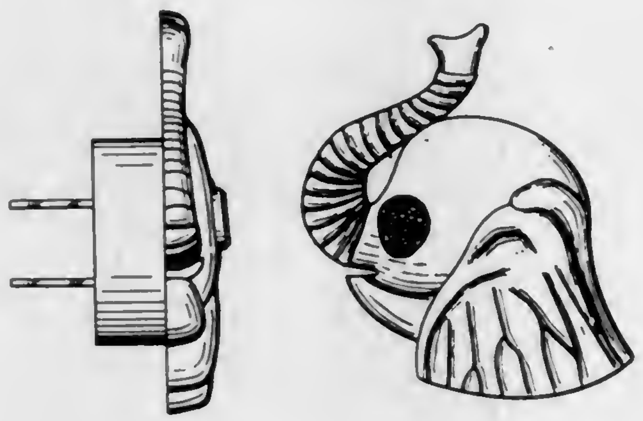
217,181
LAPEL PIN

William W. Manders, Salem, N.H.
(4815 Sierra Madre Drive, San Antonio, Tex. 78233)
Filed Jan. 29, 1969, Ser. No. 15,560
Term of patent 14 years
Int. Cl. D11—*01*
U.S. Cl. D45—19



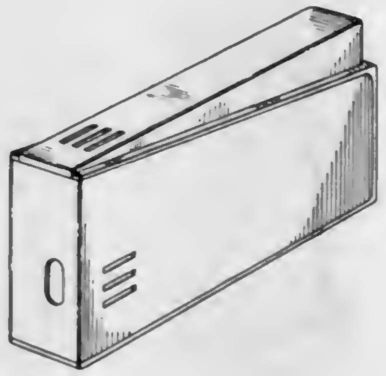
217,182
NIGHT LIGHT

Gloria Le Vaggi, South Attleboro, Mass., assignor to Cable Electric Products, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 19, 1969, Ser. No. 17,229
Term of patent 14 years
Int. Cl. D26—*02*
U.S. Cl. D48—20



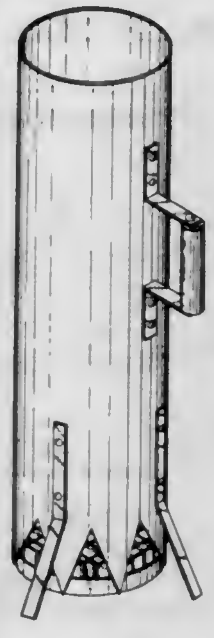
217,183
TABLE LIGHTER

Erwin Constantin Quednow, Lohmar, Germany, assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Oct. 22, 1968, Ser. No. 14,104
Term of patent 14 years
Claims priority, application Germany Apr. 25, 1968
Int. Cl. D27—*05*
U.S. Cl. D48—27



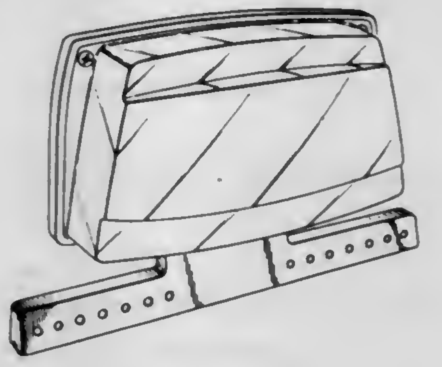
217,184
CHARCOAL AND BRIQUET STARTER

Morgan C. Davis, 340 Oak St., Barron, Wis. 54812
Filed July 22, 1969, Ser. No. 18,328
Term of patent 14 years
Int. Cl. D27—*05*
U.S. Cl. D48—27



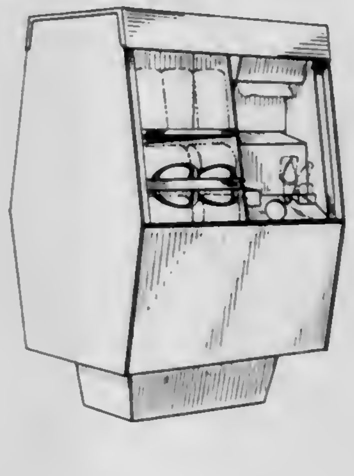
217,185
COMBINED TAIL-LIGHT LENS AND MOUNTING BASE THEREFOR

Hugo Magi, Etobicoke, Ontario, Canada, assignor to Dominion Auto Accessories Limited, Toronto, Ontario, Canada
Filed Mar. 10, 1969, Ser. No. 16,159
Term of patent 14 years
Int. Cl. D12—*99*
U.S. Cl. D48—32



217,186
COMBINED OIL CAN DISPLAY, TOWEL DISPENSING AND COLLECTION CABINET

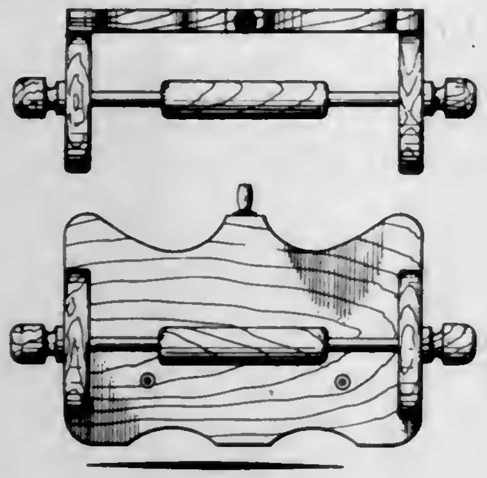
Harvey J. Smith, Greensboro, N.C., assignor to Modern Metal Products Company, Greensboro, N.C., a corporation of North Carolina
Filed Nov. 12, 1968, Ser. No. 14,381
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D52—2



217,187
PAPER ROLL HOLDER

James C. Andis, Rte. 1, Science Hill, Ky. 42553
Filed Jan. 17, 1969, Ser. No. 15,401
Term of patent 14 years
Int. Cl. D6—*01*

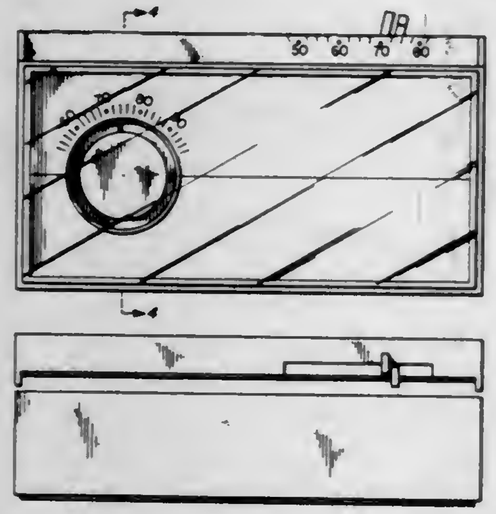
U.S. Cl. D52—2



217,188
CONDITION RESPONSIVE DEVICE

Wallace A. Monson, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Apr. 21, 1969, Ser. No. 16,821
Term of patent 14 years
Int. Cl. D10—*09*

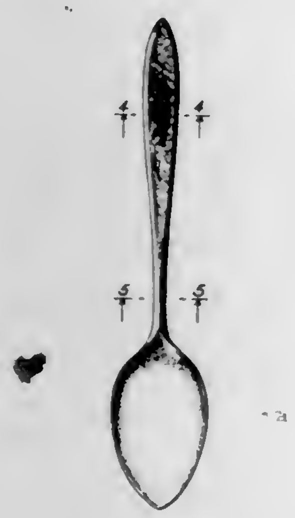
U.S. Cl. D52—7



217,189
SPOON OR SIMILAR ARTICLE

Frank R. Perry, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Dec. 26, 1968, Ser. No. 15,117
Term of patent 14 years
Int. Cl. D7—*03*

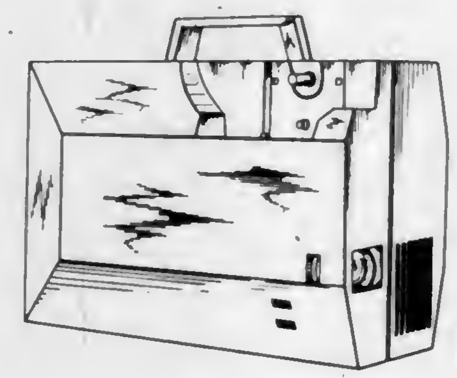
U.S. Cl. D54—12



217,190
MOTION PICTURE PROJECTOR

Reinhold Zwerger, Vienna, Austria, assignor to Karl Vockenhuber and Raimund Hauser, both of Vienna, Austria
Filed Mar. 17, 1969, Ser. No. 16,279
Term of patent 14 years
Claims priority, application Austria Sept. 20, 1968
Int. Cl. D16—*04*

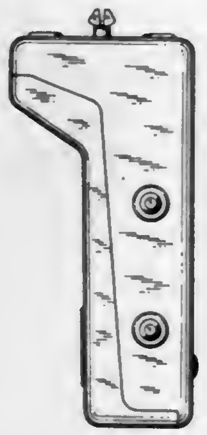
U.S. Cl. D61—1



217,191
FLASH DEVICE

Dino A. Liverano, Brooklyn, N.Y., assignor to Whitehouse Products, Inc., Brooklyn, N.Y., a corporation of New York
Filed June 13, 1969, Ser. No. 17,687
Term of patent 14 years
Int. Cl. D16—*99*

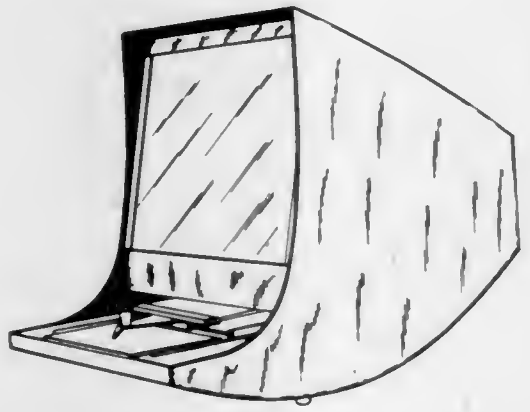
U.S. Cl. D61—1



217,192
MICROFICHE VIEWER

Thomas P. Zemblowski, Germantown, Wis., assignor to Micro-Design, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 14, 1969, Ser. No. 18,691
Term of patent 14 years
Int. Cl. D16—*03*

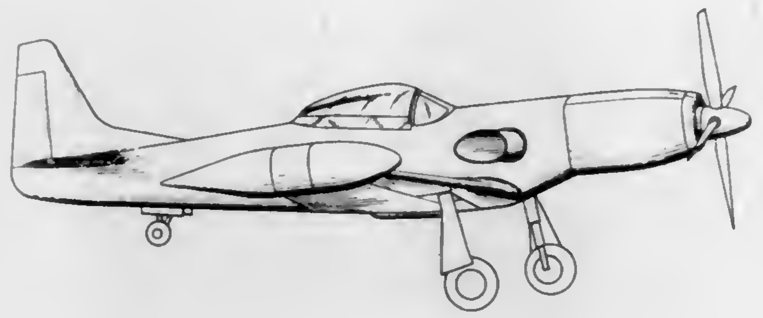
U.S. Cl. D61—1



217,193
AIRPLANE

David B. Lindsay, Jr., Box 1719, Sarasota, Fla. 33578
Filed Sept. 27, 1968, Ser. No. 13,744
Term of patent 14 years
Int. Cl. D12—*07*

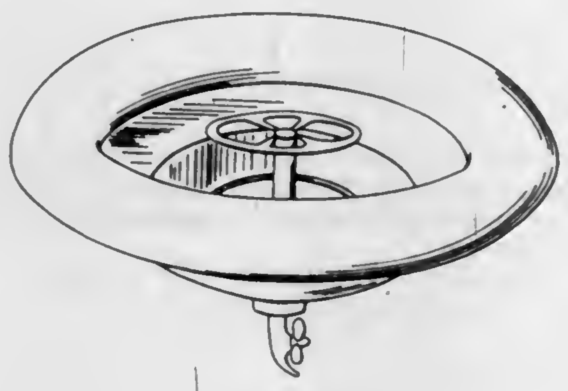
U.S. Cl. D71—1



217,194
CIRCULAR WATER CRAFT

Jeffrey J. Taylor, 1689 Kilmer Road, Vancouver, British Columbia, Canada
Filed Oct. 23, 1968, Ser. No. 14,147
Term of patent 14 years
Int. Cl. D12—*06*

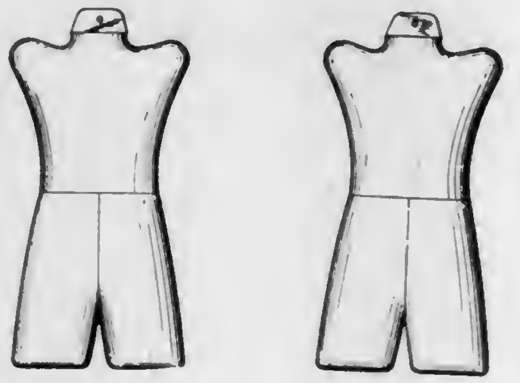
U.S. Cl. D71—1



217,195
INFLATABLE DISPLAY FORM

James Henry Burrell, Palmerston North, New Zealand, assignor to Patent Service Corporation of America, New York, N.Y., a corporation of New York
Filed Mar. 12, 1969, Ser. No. 16,217
Claims priority, application New Zealand Sept. 16, 1968
Term of patent 14 years
Int. Cl. D20—*99*

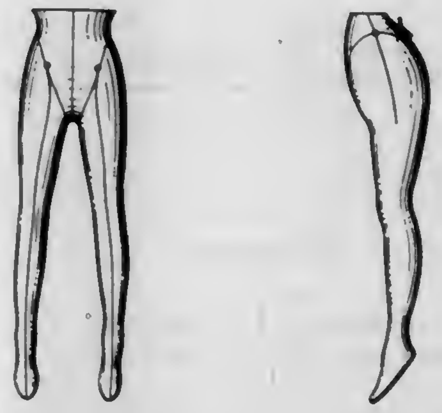
U.S. Cl. D80—8



217,196
INFLATABLE DISPLAY FORM

James H. Burrell, Palmerston North, New Zealand, assignor to Patent Service Corporation of America, New York, N.Y., a corporation of New York
Filed Mar. 13, 1969, Ser. No. 16,224
Term of Patent 14 years
Int. Cl. D20—*02*

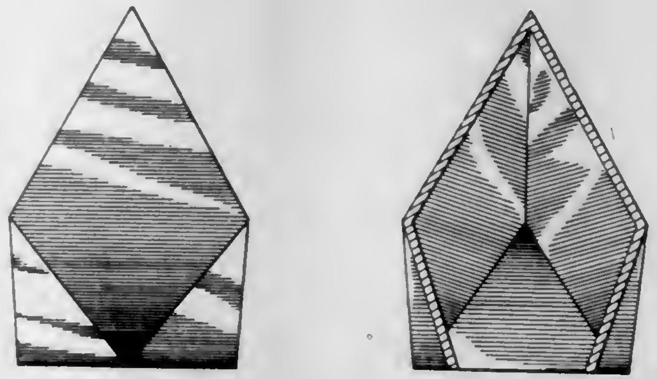
U.S. Cl. D80—8



217,197
DISPLAY STAND

Sidney Phillips, 934 Geers Ave., Columbus, Ohio 43206
Filed Apr. 8, 1969, Ser. No. 16,628
Term of patent 14 years
Int. Cl. D6—*01*

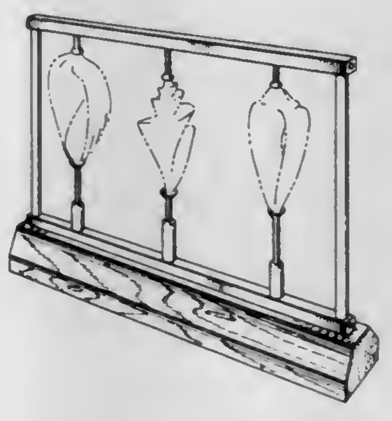
U.S. Cl. D80—9



217,198
DISPLAY STAND FOR ART OBJECTS OR THE LIKE

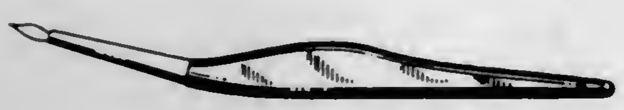
Joan P. Gardner, 2637 Buchanan St., San Francisco, Calif. 94115
Filed July 22, 1969, Ser. No. 18,282
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D80—9



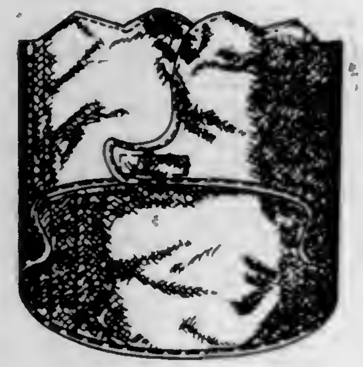
217,199
EYELINER-BRUSH

Irene Kaufman, 400 E. 56th St., Apt. 11E, New York, N.Y. 10022
Filed Mar. 11, 1969, Ser. No. 16,183
Term of patent 14 years
Int. Cl. D4—*02*
U.S. Cl. D86—10



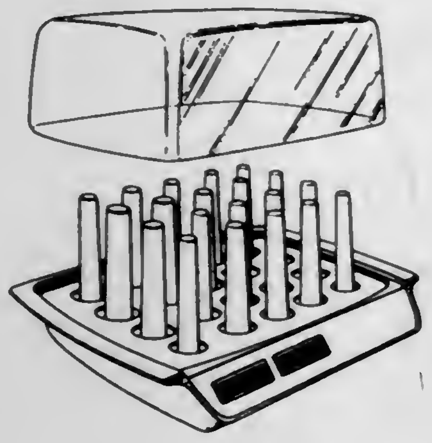
217,200
HAIR-DO PROTECTOR

Mario Lupo, 3318 W. Peterson Ave., Chicago, Ill.
Filed Dec. 26, 1967, Ser. No. 9,918
Term of patent 14 years
Int. Cl. D28—*02*
U.S. Cl. D86—10



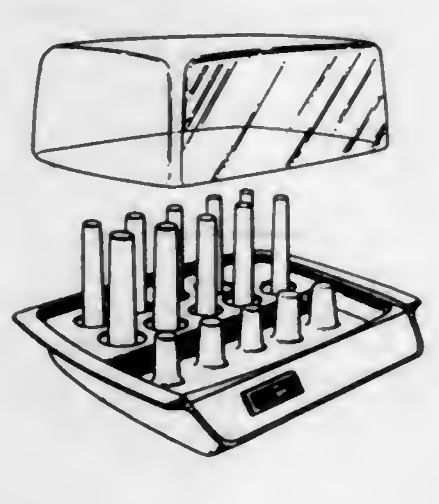
217,201
HEATER HOUSING FOR HAIR CURLERS

Glenn Murray Moffatt, Thornhill, Ontario, Canada, assignor to Samson-Dominion Limited, Scarborough, Ontario, Canada
Filed Nov. 15, 1968, Ser. No. 14,478
Term of patent 7 years
Int. Cl. D28—*02*
U.S. Cl. D86—10



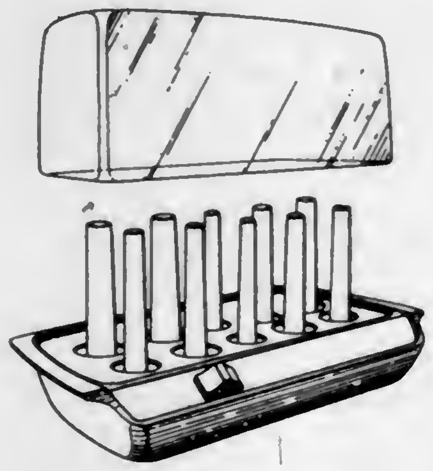
217,202
HEATER HOUSING FOR HAIR CURLERS

Glenn Murray Moffatt, Thornhill, Ontario, Canada, assignor to Samson-Dominion Limited, Scarborough, Ontario, Canada
Filed Nov. 15, 1968, Ser. No. 14,488
Term of patent 7 years
Int. Cl. D28—*02*
U.S. Cl. D86—10



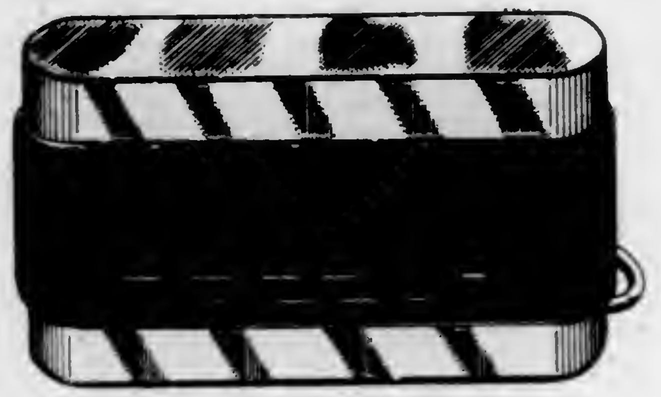
217,203
HEATER HOUSING FOR HAIR CURLERS

Glenn Murray Moffatt, Thornhill, Ontario, Canada, assignor to Samson-Dominion Limited, Scarborough, Ontario, Canada
Filed Nov. 15, 1968, Ser. No. 14,498
Term of patent 7 years
Int. Cl. D28—*02*
U.S. Cl. D86—10



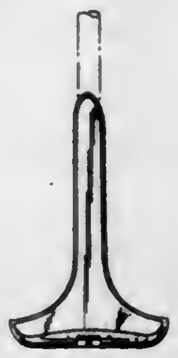
217,204
HEATER HOUSING FOR HAIR CURLERS

Arne B. Pedersen, Kalundborg, Denmark, assignor to Carmen Curler Caribe Corporation, a Puerto Rican corporation
Filed Apr. 2, 1968, Ser. No. 11,264
Claims priority, application Denmark Jan. 10, 1968
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—10



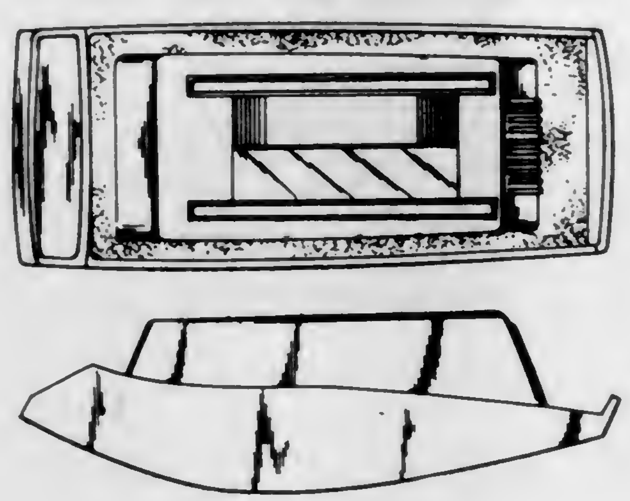
217,205
HANDLE FOR FOLDABLE-FLAT UMBRELLA

Paul Kraft, Geislingen, Steige, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany
Filed Apr. 10, 1968, Ser. No. 11,386
Claims priority, application Canada Jan. 26, 1968
Term of patent 7 years
Int. Cl. D3—*03*
U.S. Cl. D88—3



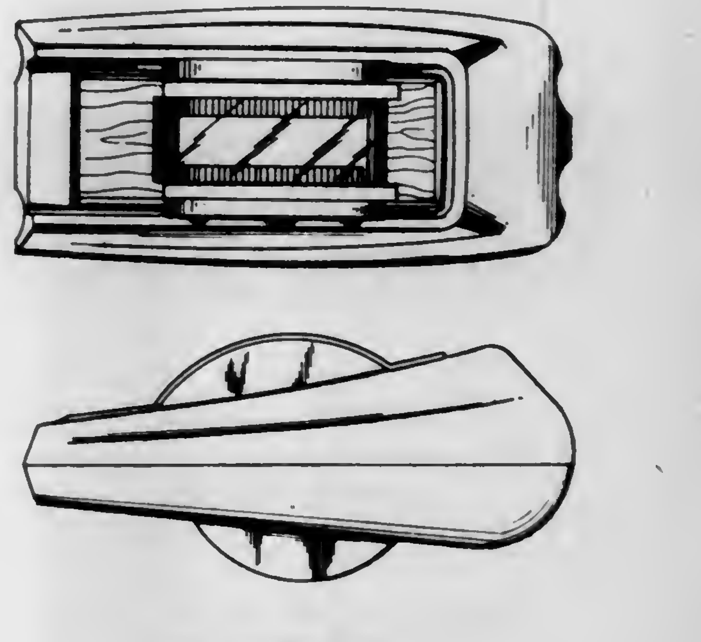
217,206
GEAR SHIFTING CONSOLE FOR A BICYCLE

Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Apr. 11, 1969, Ser. No. 16,693
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—1



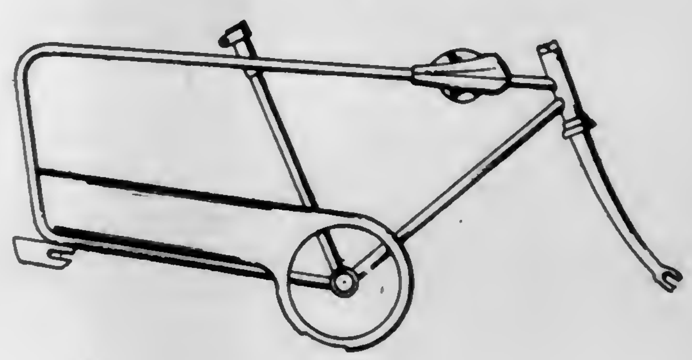
217,207
GEAR SHIFTING CONSOLE FOR A BICYCLE

Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Apr. 11, 1969, Ser. No. 16,694
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D90—1



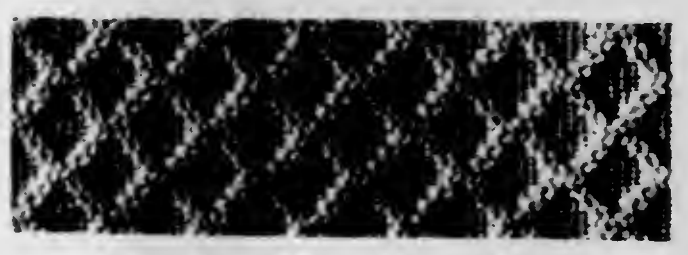
217,208
BICYCLE FRAME

Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed Apr. 11, 1969, Ser. No. 16,700
Term of patent 14 years
Int. Cl. D12—*11*
U.S. Cl. D90—8



217,209
TEXTILE FABRIC

Werner W. Rost, Walhalla, S.C., assignor to Cone Mills Corporation, Greensboro, N.C., a corporation of North Carolina
Filed Mar. 3, 1969, Ser. No. 15,995
Term of patent 7 years
Int. Cl. D5—*02*
U.S. Cl. D92—1



217,210
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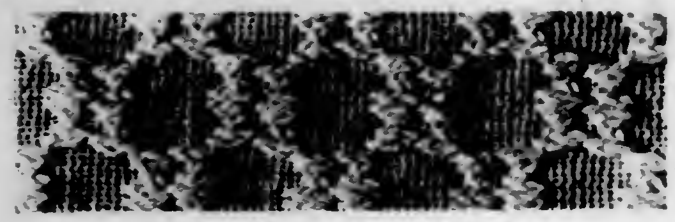

217,211
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Filed Mar. 3, 1969, Ser. No. 15,999
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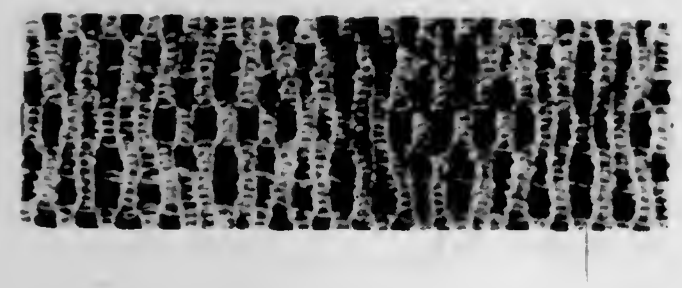


217,212
TOWEL OR SIMILAR ARTICLE

Nancy Ann Scherer, Plainfield, N.J., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed June 2, 1969, Ser. No. 17,451
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26

217,213
SHEET OR SIMILAR ARTICLE OF BED LINEN

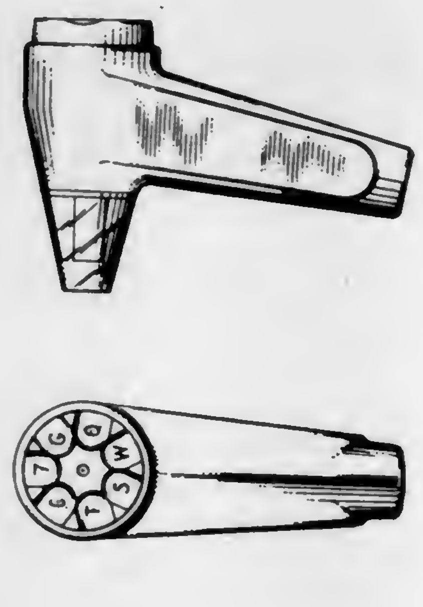
Edward C. Taiman, Tarrytown, N.Y., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed Feb. 10, 1969, Ser. No. 15,713
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26

217,214
TOWEL OR SIMILAR ARTICLE

Connie C. Willoughby, New York, N.Y., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed June 2, 1969, Ser. No. 17,448
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26

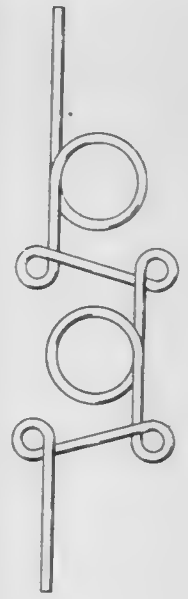
217,215
DISPENSING HEAD FOR LIQUIDS

Clifford C. Carse, Las Vegas, Nev.
(8880 Kewen Ave., Sun Valley, Calif. 91352)
Filed June 2, 1969, Ser. No. 17,439
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D94—3



217,216
DRINKING STRAW

Nathan Cohen, 342 Herzl St.,
Brooklyn, N.Y. 11212
Filed Mar. 26, 1969, Ser. No. 16,459
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D94—3



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  - Demler, Henry William, Sr., and Hoffman, Joseph Willard, 3,506,029.
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  - Andersen, Harold Willids, Andersen, Harold W., and Harrison, Charles H., 3,505,775.
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- Angelica Corporation: *See—*
  - Israel, Milton W., 3,505,681.
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  - Holley, James E., 3,505,944.
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  - Mellott, Robert N., 3,506,853.
  - Rosener, Harvey J., 3,506,812.
- Burda, Alfred A., and Brandow, Donn E., to Whittaker Corporation, mesne. Removable rack for cargo containers. 3,506,136, Cl. 211-177.
- Burk, George A., to Dow Chemical Company, The. Preparation of polybrominated 2- pyrimidineacetonitriles. 3,506,664, Cl. 260-251.
- Burkart, Alan R., and Mudge, John H., to Aluminum Company of America. Method of continuous casting. 3,506,059, Cl. 164-082.
- Burke, James J., Jr., and Ruggieri, Dominic J., to Optics Technology, Inc. Apparatus for measuring light absorption of a sample. 3,506,359, Cl. 356-093.
- Burmeister, Robert A., Jr., and Loebner, Egon E., to Hewlett-Packard Company. Luminescent boron subphosphide semiconductor device. 3,506,869, Cl. 313-108.
- Burness, Donald M.: *See—*
  - Haist, Grant M., and Burness, Donald M. 3,506,444.
- Burnfield, Eric Alexander Magill, to Cochran and Company. Boilers. 3,505,980, Cl. 122-149.
- Burroughs Corporation: *See—*
  - Klinikowski, James J., 3,506,816.
  - MacDonald, Duncan N., and Grabl, Sebastian, 3,506,814.
  - Sakurai, Richard S., 3,506,971.
  - Templeton, William B., 3,506,970.
- Buschbom, Wilbur Lyle: *See—*
  - McFarland, Walter O., and Buschbom, Wilbur Lyle 3,506,072.
- Bush Boake Allen Limited: *See—*
  - Johnson, John D., Gibbs, Egbert M., and Unwin, Neville, 3,506,685.
- Bush, Elizabeth T.: *See—*
  - Hansen, David L., and Bush, Elizabeth T. 3,506,828.
- Butcosk, Richard A., and Giammaria, John J., to Mobil Oil Corporation. Greases containing a hydrogenated olefin polymer vehicle, organophilic clay thickener and calcium acetate dispersion. 3,506,573, Cl. 252-021.
- Buterbaugh, John N.: *See—*
  - Toffler, Jerome E., Winters, Paul N., and Buterbaugh, John N. 3,506,856.
- Buzova, Zoja Mikhailovna: *See—*
  - Nabiullin, Faat Khatovich, Buzova, Zoja Mikhailovna, Gertsik, Efim Mikhailovich, Marfin, Boris Vasilyevich, Rabinovich, Vyacheslav Anatolievich, and Koval, Ivan Ivanovich 3,506,750.
- Buzzelli, Edward S., to Standard Oil Company, The. Solid electrolyte battery having lithium or lithium alloy anode. 3,506,490, Cl. 136-006.
- Buzzelli, Edward S., to Standard Oil Company, The (Ohio). Solid electrolyte battery having lithium or lithium alloy anode. 3,506,491, Cl. 136-006.
- Buzzelli, Edward S., and Rightmire, Robert A., to Standard Oil Company, The. Solid electrolyte battery having lithium or lithium alloy anode. 3,506,492, Cl. 136-006.
- Byers, Clifton A., to Goodyear Tire & Rubber Company, The. Ultrasonic testing apparatus. 3,505,859, Cl. 073-067.5
- Byron Jackson Inc.: *See—*
  - Dickmann, John L., and Nicolson, Garth F., 3,505,913.
- Bystrom, Karl Erik Olof: *See—*
  - Kihlberg, Gunnar Axel, and Bystrom, Karl Erik Olof 3,505,865.

Cadiou, Jean, to Societe Anonyme Automobiles Citroen. Engine cooling arrangements. 3,506,082, Cl. 180-054.

Caesar, Philip D., to Mobil Oil Corporation. Method for making electrodes. 3,506,561, Cl. 204-290.

Cagigal Gutierrez, Jesus Alberto. Systems of construction of terraces. 3,505,764, Cl. 052-011.

Caillette, Georges Edmond, and Vidal, Jean Amable, to Sud-Aviation Societe Nationale de Constructions Aeronautiques. One-man aircraft with jet-powered lift and propul- sion. 3,506,221, Cl. 244-023.

Calderon, Nissim, to Goodyear Tire & Rubber Company, The. Polyalkylene oxide polymerization catalyst. 3,506,592, Cl. 252-431.

Caldwell, John P., and Fisher, Thomas F., to Xerox Corporation. Electrostatic sheet detaching apparatus. 3,506,259, Cl. 271-051.

Cam Gears, Ltd.: *See—*
Bradshaw, Kenneth, 3,505,898.

Cambridge Acoustical Associates, Inc.: *See—*
Junger, Miguel C., 3,506,089.

Camras, Marvin, to IIT Research Institute. Signal transducer systems. 3,506,780, Cl. 178-006.6

Canada Packers Limited: *See—*
Koh, Teow Y., and Bharucha, Kekhusroo R., 3,506,642.

Cannon, William N., to Lilly, Eli, and Company. Novel oxiodinium and thiaiodinium compounds. 3,506,719, Cl. 260-612

Cantrill, James E., to General Electric Corporation. Graft copolymer of aliphatic polycarbonate on polymeric backbone having pendant hydroxy, carboxy or amine groups. 3,506,739, Cl. 260-873.

Cantwell, Hugh Francis, to Rolls-Royce Limited. Valve control apparatus. 3,505,817, Cl. 060-226.

Capowski, Julius, and Andress, Harry J., Jr., to Mobil Oil Corporation. Quaternary amine salts useful as fuel stabilizers. 3,506,712, Cl. 260-567.6

Cardenas, Armando, and Martindale, John W., to Goodrich, B. F., Company, The. Tire curing apparatus and method. 3,506,748, Cl. 264-094.

Carder, Frank B., Stumpe, Warren R., Frassetto, Bruno S., and Bell, Charles H., to Dorr-Oliver Incorporated. Cargo handling. 3,506,144, Cl. 214-038.

Cardon, Christian: *See—*
Parigot, Andre, and Cardon, Christian 3,506,146.

Carli, Roberto, Gervasio, Vincenzo, and Spallanzani, Giorgio, to SNAM S.p.A. Electronic simulator for cylinders of reciprocating compressors. 3,506,819, Cl. 235-184.

Carlisle, Shirley Gillian, to Eaton T. Company Limited, The. Method of teaching the use of business machines. 3,505,745, Cl. 035-005.

Carlson, Chester F., to Xerox Corporation, mesne. Duplex xerographic reproduction apparatus. 3,506,347, Cl. 355-003.

Carlson, Donald A., to Ampex Corporation. Apparatus for reproducing color television signals wherein a pilot signal is utilized for eliminating hue errors due to time base variations. 3,506,777, Cl. 178-005.4

Carlstrom, Carl F., to General Industries, Inc. One-piece sheet metal hollow ball for ball valves. 3,505,718, Cl. 029-157.1

Carr, William F., to McDonnell Douglas Corporation. Structure release system. 3,505,925, Cl. 089-001.

Carre, Pierre, Tanguy, Pierre, and Le Boulbouech, Jean. Apparatus for making tube-shaped food products. 3,505,948, Cl. 099-353.

Carrier Corporation: *See—*
Endress, James W., 3,506,375.
McNeely, Lowell A., and Murphy, Patrick L., 3,505,827.

Carroll, Patrick C.: *See—*
Dunn, John P., and Carroll, Patrick C. 3,506,217.

Carrow, Donald J.: *See—*
Patinkin, Seymour H., Verdol, Joseph A., and Carrow, Donald J. 3,506,625.

Carter, Andrew G. Full-control safety-belt buckle. 3,505,711, Cl. 024-230.

Carter, Cecil O.: *See—*
Hutson, Tom, Jr., and Carter, Cecil O. 3,506,409.

Carter, Mary E., Price, John A., and Mervine, Robert P., to FMC Corporation. Hexafluorosilicate additives in polyester preparation. 3,506,618, Cl. 260-075.

Castelli, Pier Paolo: *See—*
Gardi, Rinaldo, and Castelli, Pier Paolo 3,506,650.

Caterpillar Tractor Company: *See—*
Hays, Raymond H., Sansom, Jack E., and Gladden, Kenneth D., 3,506,501.

C.A.V. Limited: *See—*
Kemp, Kenneth Albert Walters, 3,506,381.

Cavalla, John F., and Brown, Kevan, to Wyeth, John, & Brother Limited, mesne. 2,5- and 4,5-Diarylthiazolyl lower fatty acids and derivatives thereof. 3,506,679, Cl. 260-302.

Ceckowski, Donald H., Goodrich, George W., and Meyer, Andrew J., to Bendix Corporation, The. Positive-type electron multiplier channels connected in series. 3,506,868, Cl. 313-103.

Celanese Corporation: *See—*
Chen, Catherine S. H., and Baylis, Anthony, 3,506,614.
Chen, Catherine S. H., 3,506,615.

Cello Chemical Company, The: *See—*
Baker, Irvin, and Robins, Charles, 3,506,603.

Centre National de Recherches Metalluriques: *See—*
Meunier, Henry Gilbert, 3,505,856.

Ceskoslovenska akademie ved: *See—*
Hrdina, Jiri, 3,506,366.

Chabrier, Henri-Pierre, to SETARAM Societe d'Etudes d'Atomatisation de Regulationet et d'Etudes d'Atomatisation de. Distributor device for fluids. 3,506,035, Cl. 137-625.48

Chadbourn, Inc.: *See—*
Bryson, Henry, Pruitt, Rufus Preston, and Slagle, Roy Clyde, 3,505,834.

Chalco Engineering Corporation: *See—*
Bevis, Jeffrey M., 3,506,910.

Champagne, Harry J. Spreader for conveyor. 3,506,205, Cl. 241-283.

Champion, Ronald Cheyney, to Kenco Coffee Company, Limited. Process for conditioning freshly roasted coffee. 3,506,446, Cl. 099-068.

Charle, Roger, Kalopissis, Gregoire, and Gascon, Jean, to Societe Anonyme dite, l'Oreal. Hair dyeing with couplers and a 1-amino-4-substituted -alkylamino-benzene. 3,506,389, Cl. 008-010.2

Chemische Fabrik Kalk G.m.b.H.: *See—*
Jenkner, Herbert, 3,506,571.

Chemische Fabrik Pfersee, G.m.b.H.: *See—*
Enders, Heinz Werner, and Deiner, Hans, 3,506,661.

Chemische Werke Huels A.G.: *See—*
Seeliger, Wolfgang, 3,506,623.

Chemtrox Corporation: *See—*
Tometsko, Andrew M., 3,506,237.

Chen, Catherine S. H., to Celanese Corporation. Polymerization of oxymethylene and methylene sulfide forming monomers by metal acetylacetonates. 3,506,615, Cl. 260-067.

Chen, Catherine S. H., and Baylis, Anthony, to Celanese Corporation. Preparation of oxymethylene and methylene sulfide polymers. 3,506,614, Cl. 260-067.

Chen, Richard J., to Polaroid Corporation. Photographic apparatus. 3,506,349, Cl. 355-029.

Chenneour, Raymond: *See—*
Savage, Jack Palmer, and Chenneour, Raymond 3,506,455.

Chenoweth, David V., to Baker Oil Tools, Inc. Differential pressure liquid level control apparatus. 3,506,379, Cl. 417-116.

Cherry Electrical Products Corporation: *See—*
Cherry, Walter L., 3,506,798.

Cherry, Walter L., to Cherry Electrical Products Corporation. Multiposition break-before-make snap-action switch. 3,506,798, Cl. 200-063.

Chevron Research Company: *See—*
Annesser, Richard J., and Weber, Heinz P., 3,506,568.
Miller, Leonard E., and Danzik, Mitchell, 3,506,704.
Miron, Roy R. H., Huggins, Donald G., Rinne, John E., and Summerfelt, Vernon E., 3,505,769.
White, Robert J., and Egan, Clark J., 3,506,565.

Chinoin Gyogyszer es Vegyeszeti Termekek Gyara: *See—*
Harsanyi, Kalman, Takacs, Kalman, Korbonits, Dezso, and Szathmary, Csaba, 3,506,675.

Christensen, Borge Houman, to Rolles Fabriker V/U.S. Christensen. Shopping bag. 3,506,185, Cl. 229-055.

Christie, James J.: *See—*
Vincent, William R., Christie, James J., and Griffin, John L. 3,506,397.

Christie, Theodore, and Juodikis, Peter, to Precision Scientific Company, mesne. Automatic titration instrument. 3,506,405, Cl. 023-253.

Chulak, William, to Northern Electric Company Limited. Tandem testing of telephone lines. 3,506,794, Cl. 179-175.2

Cisco, Edward S., to Evans Products Company. Vehicle having convertible floor structure and latch. 3,505,962, Cl. 105-422.

Clachan, Margaret L.: *See—*
Abbott, Terence A., Clachan, Margaret L., Shephard, Basil R., and Kennedy, David R. 3,506,445.

Clark Adams Corporation: *See—*
Johnson, John H., 3,505,727.

Clark, Gregor Fyfe: *See—*
Appleyard, Alfred Noel, and Clark, Gregor Fyfe 3,506,064.

Clark, Joseph W. Phillips Petroleum Company Temperature control. 3,506,715, Cl. 260-609.

Clark Metal Products, Inc.: *See—*
Tristine, Martin A., 3,506,150.

Clark, Richard U., to Bendix Corporation, The. Electrical pin jacks. 3,506,948, Cl. 339-126.

Clark-Reliance Corporation, The: *See—*
Goellner, Allan R., 3,505,868.

Claus, Kurt, Gehring, Eckard, Geier, Ulf, and Marx, Werner, to Schloemann Aktiengesellschaft. Regulating the feeding of metal particles to the roll gap of a rolling mill. 3,506,439, Cl. 075-226.

Claus, Kurt, Gehring, Eckard, Geier, Ulf, Marx, Werner, and Kaiser, Oswald, to Schloemann Aktiengesellschaft. Apparatus for producing continuous steel strip or other section. 3,505,706, Cl. 018-009.

Clemm, Peter J., to General Electric Company. Apparatus for vacuum-casting a plurality of metal parts in a single mold. 3,506,061, Cl. 164-254.

Clifford, Cecil Frank. Tuning fork with frequency adjustment. 3,506,897, Cl. 318-128.

Cloud, Charles E., to Cloud Machine Corporation. Packaging machine. 3,505,776, Cl. 053-051.

Cloud, Charles E., and Cloud, Donald E., to Cloud Machine Corporation. Method of and apparatus for providing a spout-like discharge for a sealed package. 3,505,778, Cl. 053-180.

Cloud, Donald E.: *See—*
Cloud, Charles E., and Cloud, Donald E. 3,505,778.

Cloud Machine Corporation: *See—*
Cloud, Charles E., 3,505,776.
Cloud, Charles E., and Cloud, Donald E., 3,505,778.

Coackley, Peter, to Motherwell Bridge and Engineering Company Limited, The. Dewatering of sludge. 3,506,562, Cl. 204-300.

Coates, Nicholas F., to Rockwell Manufacturing Company. Weid end fittings. 3,506,285, Cl. 285-173.

Cobbs, James H.: *See—*
Scisson, Sidney E., and Cobbs, James H. 3,505,821.

Cochran and Company: *See—*
Burnfield, Eric Alexander Magill, 3,505,980.

Cohen, Nathan, Eckenrode, James H., and Brashear, Donald W., to Hamilton Watch Company. Contact index system. 3,505,805, Cl. 058-028.

Cohen, Saul M.: *See—*
Young, Raymond H., Jr., Cohen, Saul M., Markhart, Albert H., and Serlin, Irving 3,506,470.

Cohen, Stanley I.: *See—*
Zocco, Natale C., and Cohen, Stanley I. 3,506,600.

Colby, James E. System for replacing deteriorated wood piling. 3,505,825, Cl. 061-054.

Colchester, John Edward, and Entwisle, John Hubert, to Imperial Chemical Industries Limited. Process for the separation of N:N'-dialkyl-4:4'- bipyridylium halide salts from N-alkyl pyridinium halide salts by extraction with chloroform. 3,506,677, Cl. 260-296.

Cole, Saxon, to American Air Filter Company, Inc. Fluid flow damper arrangement. 3,506,193, Cl. 236-038.

Cole, Stephen F., Jr. Modularly constructed heating elements for electric furnaces. 3,506,771, Cl. 013-025.

Coleman, Benny R. System frequency response analyzer and plotter. 3,505,738, Cl. 033-001.

Colgate-Palmolive Company: *See—*
Costello, Christopher Hollet, 3,506,001.
Epstein, Morton Batlan, and Gerecht, John Fred, 3,506,758.
Rubinfeld, Joseph, and Ouw, Willem Bian Gwan, 3,506,580.
Salzmann, Gerhard Martin, 3,506,757.

Collardeau, Georges, and Robin, Jean, to Phone-Poulenc S.A. Polyurethanes from polyadipates, bis-(4- isocyanalocyclohexyl)-methane, and 1,2- diaminopropane. 3,506,617, Cl. 260-075.

Collins Radio Company: *See—*
Gantick, Noel A., 3,506,930.
Sloate, Mark A., 3,506,786.
Stone, James S., 3,506,815.

Columbia Broadcasting System, Inc.: *See—*
Gabor, Dennis, Bauer, Benjamin B., and Gorman, Frank B., 3,506,952.
McMann, Renville H., Jr., 3,506,775.

Combustion Engineering, Inc.: *See—*
Gilbert, Lyman F., 3,506,831.

Compagnie des Compteurs: *See—*
Rolland, Jean-Noel Gaston Andre, 3,505,855.

Comstock & Wescott, Inc.: *See—*
Fogg, Robert E., 3,505,932.

Concentric Pump Limited: *See—*
Walter, Robert Dennis, and Pitcher, William Frederick, 3,505,982.

Concrete Development Corporation: *See—*
Varnell, William R., and Mitchell, Mance R., 3,506,752.

Conductron Corporation: *See—*
Munster, Allen C., 3,506,781.

Cone, Roy T., to Phillips Petroleum Company. Viscosity control in liquid-solids systems. 3,506,564, Cl. 208-033.

Conrad, Oswald, to Daimler-Benz Aktiengesellschaft. Gas turbines for the drive of vehicles. 3,506,372, Cl. 415-061.

Consolidated Kinetics Corporation: *See—*
Holben, Wilbur D., and Reams, Arthur E., 3,506,233.

Conti, Mario William: *See—*
Dowling, Edward Camp, Conti, Mario William, and Thomas, John Breniser 3,506,965.

Contigea, Societe anonyme: *See—*
Vilbajo, Jean, 3,505,958.

Continental Can Company, Inc.: *See—*
Cook, Roy B., 3,506,523.
Fallis, Harold E., 3,506,863.
Lurie, Randolph D., 3,506,751.

Continental Gummi-Werke Aktiengesellschaft: *See—*
Wittneben, Hermann, 3,506,052.

Cook, Roy B., to Continental Can Company, Inc. Machine for forming bags from thermoplastic tubing. 3,506,523, Cl. 156-436.

Coolen, Lambertus: *See—*
Tichauer, Ernest J., Hughes, Stanley G., and Coolen, Lambertus 3,505,957.

Cooper, Hal B. H., to New Jersey Zinc Company, The. Structure and method for heating corrosive fluids. 3,506,249, Cl. 263-020.

Cooper, Paul: *See—*
Danker, Otto J., and Cooper, Paul 3,506,373.

Cope, Geoffrey W., and Skinner, George C., to Dresser Industries, Inc. Automatic electric coupler. 3,506,139, Cl. 213-001.3

Coppola, Patrick Steve, Perry, Richard Mark, and Rinde, John Elmer, to General Electric Company. Redundant flight control servoactuator. 3,505,929, Cl. 091-001.

Corbett, Robert J. Bathtub. 3,505,693, Cl. 004-173.

Corenzwit, Ernest, Geballe, Theodore H., Longinotti, Louis D., and Matthias, Bernd T., to Bell Telephone Laboratories, Incorporated. High transition temperature superconductor and devices utilizing same. 3,506,940, Cl. 335-216.

Cornelison, Boyd, Millis, Edwin G., and Romberg, Frederick E., to Texas Instruments, Incorporated. Material flow gravity meter. 3,505,873, Cl. 073-382.

Corning Glass Works: *See—*
Blanding, Wendell S., 3,506,431.
Lange, Richard, Jr., 3,506,006.
Overman, Kenneth T., 3,506,429.

Corts, Gerardus J. B., to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Steheeman & Pharmacia. Esters. 3,506,705, Cl. 260-484.

Costello, Christopher Hollet, to Colgate-Palmolive Company. Eye-spraying device having mirror. 3,506,001, Cl. 128-173.

Coupe, George W. Seat for a golf cart or the like. 3,506,280, Cl. 280-047.19

Courtaulds Limited: *See—*
Brens, Leon Frank Haddon, and Garratt, William Charles, 3,506,479.
Strang, Alastair, 3,506,244.

Cowdroy, John: *See—*
O'Malley, Laurence, Cowdroy, John, and Vanzanten, Richard 3,505,719.

Cowley, John James, to Abbott Laboratories, mesne. High pressure gas storage and discharge apparatus. 3,505,996, Cl. 128-145.8

Cowley, John James, to Abbott Laboratories, mesne. Oxygen breathing apparatus. 3,505,997, Cl. 128-145.8

Cragoe, Edward J., Jr., and Bicking, John B., to Merck & Co., Inc. Process for preparation of pyrazinoyl- and pyrazinamidoguanidines. 3,506,662, Cl. 260-250.

Craig, Roger R.: *See—*
Ortwerth, Paul J., and Craig, Roger R. 3,505,867.

Crawford, Arthur R., to Electronics Marketing Corporation. Engine timer. 3,505,864, Cl. 073-118.

Crawford, Winford M., to United States of America, Air Force. Apparatus for measuring fluid level in a container. 3,505,869, Cl. 073-313.

Creger, Paul L., to Parke, Davis & Company. Process for the production of steroidal lactone compounds and intermediates thereof. 3,506,652, Cl. 260-239.57

Creskoff, Jacob J., to Vacuum Concrete Corporation of America. Vacuum lifter with prestressing action. 3,506,297, Cl. 294-065.

Creskoff, Jacob J., to Vacuum Concrete Corporation of America. Method and apparatus for treating concrete with a partial vacuum. 3,506,747, Cl. 264-087.

Cressman, George W.: *See—*
Weber, Kurt H., and Cressman, George W. 3,506,385.

Crombie, Terence G. Perforated steel belt conveyor. 3,506,129, Cl. 210-401.

Crosby, David Winston, to ICI Fibres Limited. Reversible non-woven needled fabrics and methods of making them. 3,506,530, Cl. 161-067.

Cross, Alexander D.: *See—*
Throop, Lewis J., and Cross, Alexander D. 3,506,549.

Cross, John T.: *See—*
Hayes, Lawrence W., and Cross, John T. 3,506,543.

Cross, Walter George, and Ivens, William Ralph Coleman, to Rolls-Royce Limited. Gas turbine engine. 3,505,818, Cl. 060-242.

Crowley, Don E., and Tabler, Donald C., to Phillips Petroleum Company. Cyclic diene adsorption with activated zinc oxide- silica-alumina adsorbents. 3,506,732, Cl. 260-681.5

Cumpston, Edward H., Jr. Pulper. 3,506,202, Cl. 241-097.

Currie, Robert M., to Ford Motor Company. Method of manufacturing automotive glass thicker at the top than at the bottom thereof. 3,506,425, Cl. 065-062.

Curry, Walter John. Method for making lap joints. 3,505,725, Cl. 029-451.

Curtenius, Frederick B. High speed grass mower. 3,505,797, Cl. 056-025.

Curtis Development & Mfg. Co.: *See—*
Leskosek, Thomas F., 3,506,947.

Cutler-Hammer, Inc.: *See—*
Harris, David J., and Pastori, William E., 3,506,915.
Offutt, Warren B., 3,506,838.

Dahlem, Francis E., to American Air Filter Company, Inc. Self-cleaning filter. 3,505,792, Cl. 055-294.

Dahms, Harald: *See—*
Ambrosia, Alphonse, and Dahms, Harald 3,506,547.

Daicel Ltd.: *See—*
Kageyama, Osamu, Kawano, Akira, Yokoo, Hiroshi, and Ohmori, Yasushi, 3,506,408.

Daido Keori Kabushiki Kaisha: *See—*
Okada, Sadayuki, and Nomura, Seinosuke, 3,505,802.

Daimler-Benz Aktiengesellschaft: *See—*
Conrad, Oswald, 3,506,372.

Dain, Richard James, to Ashmore, Benson, Pease & Company Limited. Continuous casting. 3,506,063, Cl. 164-281.

Dakin, Robin Michael, and Moss, Richard Henry, to Rolls-Royce Limited. Fuel system for a gas turbine power plant. 3,505,812, Cl. 060-039.16

Dalke, Herbert. Outboard motor mount attachment for inboard-outboard motors. 3,505,971, Cl. 115-034.

Danfoss A/S: *See—*
Petersen, Jorgen Hartvig, and Sturlason, Leif Viggo, 3,506,276.

- Dangauthier, Marcel, to Automobiles Peugeot. Method and apparatus for regulating a compressed gas producer. 3,506,376, Cl. 417-014.
- Danker, Otto J., and Cooper, Paul, to TRW Inc. Hydrodynamically balanced centrifugal impeller. 3,506,373, Cl. 415-106.
- Danzik, Mitchell: *See—*
  - Miller, Leonard E., and Danzik, Mitchell 3,506,704.
- Dart Industries, Inc.: *See—*
  - Mann, Seymour H., and Margolies, Marvin H., 3,506,004.
- Dauster, Grace Elle: *See—*
  - Bell, Donald E., Dauster, John F., deceased, and Dauster, Grace Elle, executrix 3,506,497.
- Dauster, Grace Elle, executrix: *See—*
  - Katz, Norman H., Beam, Roger N., and Dauster, Grace Elle, executrix 3,506,235.
- Dauster, John F.: *See—*
  - Bell, Donald E., Dauster, John F., deceased, and Dauster, Grace Elle, executrix 3,506,497.
- D'Avello, Faust S., and Eves, Donald J., to Goodyear Tire and Rubber Company, The. Method of building plies and tires. 3,506,514, Cl. 156-132.
- Davis, Burns, and Nealy, David L., to Eastman Kodak Company. Additives useful in preparing spinning dopes of spandex type polymers. 3,506,620, Cl. 260-075.
- Davis, Herman E.: *See—*
  - Elam, Edward U., and Davis, Herman E. 3,506,717.
- Davis, Martin A., to American Home Products Corporation. Novel N-carbalkoxy dibenzocycloheptene-5- carboxamides. 3,506,703, Cl. 260-471.
- Davison, Thomas M., to Dresser Industries, Inc. Strong motion recorder using velocity geophone. 3,506,957, Cl. 340-015.5
- Davy, John R., and Houston, Oswald J., to Barr and Stroud Limited. Apparatus for winding coherent glass fibre strips. 3,506,208, Cl. 242-018.
- Dean, John I., to Dymo Industries, Inc. Composite contrast color embossed displays. 3,506,528, Cl. 161-044.
- Dean, Robert B., to Borden Inc. Foaming acid-curable plastics. 3,506,599, Cl. 260-002.5
- Deane, Norman. Prosthesis for chronic access to the peritoneum. 3,505,988, Cl. 128-001.
- deAngeli, Christopher, to Norma Fag Bearing Corporation. Antifriction bearing. 3,506,317, Cl. 308-236.
- De Biasse, Richard L. Piston for internal combustion engine. 3,505,934, Cl. 092-239.
- Decatur Pump Company: *See—*
  - Kaebich, William K., 3,506,374.
- De Claire, James H., and Dully, Floyd I., to General Motors Corporation. Retainer including two interfitting parts. 3,505,772, Cl. 052-511.
- Deering Milliken Research Corporation: *See—*
  - Gagarine, Dmitry M., Mauldin, William L., McDowell, Fred L., Jr., and Pittman, Edgar H., 3,506,391.
  - Klein, Norman E., 3,506,518.
- Defauw, Marcel, to Rheem Manufacturing Company. Plastic collar for the orifice of a vessel. 3,506,286, Cl. 285-203.
- De Fisher, Fletcher. Stratifier for separating ore. 3,506,124, Cl. 209-456.
- De Hart, Dale M., to Barber-Colman Company. Method and apparatus to provide zero angle firing of a static latching switch in a noise-free electric controller. 3,506,852, Cl. 307-252.
- Deiner, Hans: *See—*
  - Enders, Heinz Werner, and Deiner, Hans 3,506,661.
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- Delamater, Charles E., to Diebold, Incorporated. Pneumatic system carrier closure construction. 3,506,216, Cl. 243-035.
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- Denkowski, Walter J., to King of Prussia Research and Development Corporation. Rotary and linear dual motion valve operator. 3,505,888, Cl. 074-089.15
- Denner, James Railton, to Howson, W. H., Limited. Photographic apparatus and their calibration. 3,506,352, Cl. 355-068.
- Denner, James R., to Howson, W. H., Limited. Photographic enlarger for half-tone color printing. 3,506,350, Cl. 355-040.
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- Desaulniers, Charles W., and Splitz, Stephen A., to Grace, W. R., & Co. Laminate having a low permeability to gases. 3,506,477, Cl. 117-076.
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- Di Drusco, Giovanni, and Pace, Franco, to Montecatini Edison S.p.A. Method of removing the reaction heat during copolymerization reactions and simultaneously controlling the composition of the copolymer produced at a predetermined, constant value. 3,506,634, Cl. 260-088.2
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- Halasa, Adel F., to Firestone Tire & Rubber Company, The. Process for preparing copolymers of conjugated dienes with alkanyl aryl compounds. 3,506,631, Cl. 260-083.7
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- Hanafusa, Tutomu, to Terasaki Denki Sangyo Kabushiki Kaisha. Movable contact unit of circuit interrupter. 3,506,937, Cl. 335-016.
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- Haney, Stanley C., to Sinclair Research, Inc. Conversion of clarified hydrocarbon oil to distillate hydrocarbon fuel oil of low pour point in two catalytic stages. 3,506,566, Cl. 208-060.
- Hanna, Delbert L., to Velsicol Chemical Corporation. Process for the production of heptabromocyclopentene and hexabromo-cyclopentadiene. 3,506,726, Cl. 260-648.
- Hannah, Jack W. Sound track selector. 3,506,269, Cl. 274-001.
- Hannan, Roy Barton, to American Cyanamid Company. Printing and readout system utilizing coding components for symbols, each component having materials which absorb resonantly different gamma rays and cause scattered reradiation, the readout system including a source of different gamma rays corresponding to each of the coding components. 3,506,829, Cl. 250-083.3
- Hannauer, George, III, and Fyfe, Thomas A., to Electronic Associates, Inc. Track-hold circuitry having wide band-width response. 3,506,922, Cl. 328-151.
- Hansen, David L., and Bush, Elizabeth T., to Nuclear-Chicago Corporation. Quaternary ammonium bases and liquid scintillation counting solvent. 3,506,828, Cl. 250-071.5
- Hansen, Omar, Jr., Littlefield, Carl, and Haddix, Allen R., to Franklin Electric Company, Inc. Wrapping machine. 3,505,780, Cl. 053-210.
- Hanson, John R., and Phillips, Bernard C., to Tillotson Manufacturing Company, The. Charge forming device. 3,506,247, Cl. 261-056.
- Hanson, Roddney C., Teague, Clyde E., and Urdea, Myron G., to United States of America, Air Force. Liquid propellant expulsion control mechanism. 3,506,037, Cl. 138-030.
- Hanson, Theodore L., and Wamsley, Clyde E., to Vendo Company, The. Cup dropper with automatic control of replacement stack. 3,506,156, Cl. 221-011.
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- Hare, Gerald Edward, and Neighbour, Frank, to United Kingdom Atomic Energy Authority. Method of making thermoelectric modules. 3,505,728, Cl. 029-573.
- Hare, Terence G., to Miller Manufacturing Company. Single handle faucet valve. 3,506,036, Cl. 137-636.3
- Harms, Jack L., to Zimmer Manufacturing Company. Keyless chuck adapter. 3,506,277, Cl. 279-001.
- Harmstorf, Rudolf. Apparatus for embedding a pipeline into a water bed. 3,505,826, Cl. 061-072.4
- Harper, Leonard Roy, to International Business Machines Corporation. Incrementing drive for rotary print wheel in on-the-fly printers. 3,505,950, Cl. 101-093.
- Harr, George B., and Mattson, Virgil J., to Firestone Tire & Rubber Company, The. Supporting structure for a self-sealing fuel tank. 3,506,224, Cl. 244-135.
- Harris, David J., and Pastori, William E., to Cutler-Hammer, Inc. Calibrator system for automatic noise figure indicators. 3,506,915, Cl. 324-057.
- Harris, Halbert M., Jr., to Xerox Corporation. Synchronized asynchronous facsimile communication system. 3,506,785, Cl. 178-069.5
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- Hartmann, Jurg, to Sulzer Brothers Limited. Orbiting type irradiation device with rotary sluice means. 3,506,825, Cl. 250-052.
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- Keith, Jack G., to Duke, Inc. Simplified continuous rendering system. 3,506,407, Cl. 023-280.
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- Kerwin, Robert E., to Bell Telephone Laboratories, Incorporated. Photomask modification and registration test methods. 3,506,442, Cl. 096-041.
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- Kleinschmidt, Albert W., and Viren, Sigurd T., to Short, J. R., Milling Company. Bread improving composition and method. 3,506,448, Cl. 099-091.
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- Lamb, Charles Paul: *See—*
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  - Hoff, Dale R., and Peterson, Louis H., 3,506,678.
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- Merla Tool Corporation: *See—*
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  - Nonnenmacher, Friedrich Karl, 3,506,066.
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- Meunier, Henry Gilbert, to Centre National de Recherches Metallurigues. Methods of measuring the permeability of particulate material. 3,505,856, Cl. 073-038.
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- Miller, Leonard E., and Danzik, Mitchell, to Chevron Research Company. Ester process. 3,506,704, Cl. 260-476.
- Miller, Leonard E., and Murfin, Donald L., to Lubrizol Corporation, The. Preparation of acrylamidoalkanesulfonic acids. 3,506,707, Cl. 260-513.
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- Miller, Roger A., and Issenmann, Edward S., to United States of America, Air Force. Installation of inertial dust filter on airport runway and/or street cleaning. 3,505,703, Cl. 015-340.
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- Miron, Roy R. H., Huggins, Donald G., Rinne, John E., and Summerfelt, Vernon E., to Chevron Research Company. Corrosion-resistant storage tank and method of forming. 3,505,769, Cl. 052-249.
- Mitchell, Mance R.: *See—*
  - Varnell, William R., and Mitchell, Mance R. 3,506,752.
- Mitsubishi Chemical Industries Limited: *See—*
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- Mitsui Toatsu Chemicals Incorporated: *See—*
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- Moll, Edward W. Speed and distance indicator for a ski device. 3,505,878, Cl. 073-490.
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- Mordhorst, Hans, to West Coast Concrete Supply Ltd. Concrete mixing plant. 3,506,246, Cl. 259-167.
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  - Patterson, Harvey G., 3,506,117.
  - Simon, Julius L., and Salners, Edward A., 3,506,951.
- Motter, Robert F., to Eastman Kodak Company. Color photographic elements and process. 3,506,443, Cl. 096-055.

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Mouille, Rene, and Bourquardez, Gaston, to Sud-Aviation Societe Nationale de Constructions Aeronautiques. Helicopter steering and propelling device. 3,506,219, Cl. 244-017.21

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Warawa, Edward John, and Mueller, Nancy Jean 3,506,673.

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Muller, Arthur. Holder for spray cans and the like. 3,506,159, Cl. 222-135.

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Mulvey, Gerard Edmund, and Boake, George Elliott. Universal air handling troffer frame. 3,506,822, Cl. 240-009.

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Mutsch, Edward L., to Minnesota Mining and Manufacturing Company. Aromatic fluoroalkyl sulfides. 3,506,718, Cl. 260-609.

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Nabiullin, Faat Khatovich, Buzova, Zoja Mikhailovna, Gertsik, Efim Mikhailovich, Marfin, Boris Vasilyevich, Rabinovich, Vyacheslav Anatolievich, and Koval, Ivan Ivanovich. Method for manufacture of galvanic cells. 3,506,750, Cl. 264-104.

Nagata, Wataru, to Shionogi & Co., Ltd. Dialkylaminoalkyl estrone oxime derivatives. 3,506,648, Cl. 260-239.5

Nagel, Heinrich, to Eltro GmbH & Co. Compact arrangement of two optical objectives for transmitting and receiving radiation. 3,506,355, Cl. 356-004.

Nagel, Peter, Haasis, Gerhard, and Schweizer, Michael. Electrolytic rotary honing tools. 3,506,558, Cl. 204-212.

Naito, Kakuji, to Kabushiki Kaisha Seisan Nihon Sha. Method and apparatus for manufacturing synthetic resin bags having occludent means in the inside surface thereof. 3,506,517, Cl. 156-251.

Najvar, Daniel J., to Dow Chemical Company, The. Thermosetting resins from polyepoxides, unsaturated polyesters and ethylenically unsaturated carboxylic acids. 3,506,736, Cl. 260-835.

Nakamura, Keiichi, to Sony Corporation. Method of making a glass passivated mesa semiconductor device. 3,506,502, Cl. 148-174.

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Naps, Marguerite, to Shell Oil Company. Process of reacting cellulosic fibers with sultones and optionally with other creaseproofing agents and resulting products. 3,506,390, Cl. 008-115.7

Nashan, Gerd. Huttenwerk Oberhausen Aktiengesellschaft Manufacture of aynthesis-, hydrogenating-, or reduction-gas. 3,506,590, Cl. 252-373.

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Nelson, Charles W. Optional digger for garden and lawn. 3,506,296, Cl. 294-050.7

Nelson, Richard B., to Varian Associates. Microwave tubes employing ceramic comb supported helix derived slow wave circuits and methods of fabricating same. 3,505,730, Cl. 029-600.

Nes, Per Sigurd. Device for holding together a bundle of paper sheets. 3,506,371, Cl. 402-063.

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Nestor, David William, to Rucker Company, The. Ground fault circuit interrupter with inadvertent ground sensor. 3,506,906, Cl. 321-018.

Neuffer, Ingemar, Buder, Eugen, Dirr, Rudolf, and Waldmann, Hermann, to Siemens Aktiengesellschaft. System for regulation of three-phase machines. 3,506,900, Cl. 318-237.

Neuhaus, Theodore A., and Marcis, Andrew, to SCM Corporation. Wrinkle coating compositions comprising particulate thermoplastic resin dispersed therein and methods. 3,506,474, Cl. 117-041.

Neville, Roy G., to North American Rockwell Corporation. Diepoxy polyaryl monomers and polymers and method for making same. 3,506,612, Cl. 260-047.

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Nickel, Horst, Suckfull, Fritz, Seidel, Bernhard, and Bockly, Erich, to Agfa-Gevaert Aktiengesellschaft. Photographic material for the silver-dye-bleach process. 3,506,450, Cl. 096-099.

Nickl, Julius, to Siemens Aktiengesellschaft. Use of gas etching under vacuum pressure for purifying silicon. 3,506,508, Cl. 156-017.

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Nikki, Masao: *See—*
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Nilsen, Norman P. Poultry operated waterer with back flow check means. 3,505,978, Cl. 119-075.

Nippon Carbide Kogyo Kabushiki Kaisha: *See—*
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Nippon Electric Company, Limited: *See—*
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Nippon Kokuyu Tetsudo: *See—*
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Nippon Mining Co., Ltd.: *See—*
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Nobach, Edward J., to Motor Wheel Corporation. Vehicle wheel. 3,506,311, Cl. 301-063.

Nolte, Robert K., to Metalwash Machinery Company. Conveyor filter apparatus for article washing apparatus. 3,506,022, Cl. 134-104.

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Nomura, Yoshio, and Sookawa, Hisakazu, to Nippon Kokuyu Tetsudo, known in English as Japanese National Railways. Dynamic and eddy current railway brake device. 3,506,862, Cl. 310-093.

Nonnenmacher, Friedrich Karl, to Metallgesellschaft Aktiengesellschaft. Screw conveyor. 3,506,066, Cl. 165-087.

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Noschinski, Rudiger, and Tuckmantel, Joachim, to Maschinenfabrik J. S. Petzholdt. Mixing apparatus. 3,506,245, Cl. 259-008.

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Nukem Nuklear-Chemie und -Metallurgie Gesellschaft mbH: *See—*
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Nunez, Carlos, to Hydraulic Safety Valve, Inc. Hydraulic safety device. 3,506,977, Cl. 060-054.5

Nunn, Ewing D., to Hamilton, Douglas L. P. Barricade with flashing signal. 3,506,959, Cl. 340-114.

Nutter, Raymond W., and Sitter, Frederick M., to Van-Air Incorporated. Air filter. 3,505,794, Cl. 055-487.

N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Steheeman & Pharmacia: *See—*
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Nye, Cuyler T. Fruit harvester. 3,505,801, Cl. 056-329.

Ockinga, Virgil M. Chain wrench. 3,505,914, Cl. 081-066.

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O'Connor, Thomas J. Quick-change tool for electroerosive machining. 3,506,800, Cl. 219-069.

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  - Bohm, Klaus, and Rumold, Gerhard, 3,506,909.
  - Groschwitz, Eberhard, 3,506,925.
  - Neuffer, Ingemar, Buder, Eugen, Dirr, Rudolf, and Waldmann, Hermann, 3,506,900.
  - Nickl, Julius, 3,506,508.
  - Poschl, Klaus, and Veith, Werner, 3,506,866.
  - Rohloff, Ebbe, 3,506,844.
  - Siebertz, Karl, and Hofmeister, Ernst, 3,506,888.
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  - Tracy, Robert A., 3,506,934.
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- Snyder, Stephen L. Opening shock inhibitor for parachutes. 3,506,225, Cl. 244-149.
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- Tapscott, Jesse J., to Rietz Manufacturing Co. Discharge apparatus for processing equipment. 3,506,021, Cl. 134-104.
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- Taylor, Jack William, to Venner Limited. In combination a plug and cylinder type lock mechanism and a key. 3,505,842, Cl. 070-365.
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LIST OF DEFENSIVE PUBLICATIONS

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DEFENSIVE PUBLICATIONS WERE ISSUED ON THE 14TH DAY OF APRIL, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O. G. 687.

Bennett, Alistair P., and J. P. Grove, to Imperial Chemical Industries Ltd. Method and apparatus for the production of extruded tubing. 873,007, 4–14–70, Cl. 264—90.
Campbell, Robert B., and C. H. Gaffin II. Method of coating of hydrophobic materials. 873,009, 4–14–70, Cl. 96—85.
Du Pont de Nemours, E. I., and Co.: *See*—
Taraschi, Frederic T. 873,008.
Gaffin, Charles H., II: *See*—
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Saunders, Robert H. 873,006.
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Saunders, Robert H., to Hercules Inc. Use of polyolefins as textile finishing agents. 873,006, 4–14–70, Cl. 117—139.4.
Taraschi, Frederic T., to E. I. du Pont de Nemours and Co. Method of inspecting the interior of small holes. 873,008, 4–14–70, Cl. 240—2.18.

LIST OF REISSUE PATENTEES

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Auwarter, Max, to Optical Coating Laboratory, Inc. Process for manufacture of thin films. Re. 26,857, 4–14–70, Cl. 117—33.3.
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Whitmore, Charles H., to Continental Machines, Inc. Fluid energy translating device. Re. 26,856, 4–14–70, Cl. 103—5.
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Design Patents

6 :	217,109
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6 :	2,967
34 :	2,969

DEFENSIVE PUBLICATIONS APPLICATIONS

(Notice of Dec. 16, 1969, 869 O.G. 687)

	T873,008
36 :	T873,009
42 :	T873,006
80 :	T873,007

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
April 14, 1970 Volume 873 Number 2

TRADEMARKS

NOTICES

Patent Office—Postal Service

In view of the return to normal operations of the United States postal service, the Notice of Mar. 19, 1970 (published in the OFFICIAL GAZETTE of Mar. 24, 1970, vol. 872, No. 4) is hereby revised.

After Apr. 15, 1970, the U.S. Department of Commerce Field Offices will no longer be designated as receiving stations for the U.S. Patent Office. Accordingly, after the abovenoted date, all letters or other papers relating to patent and trademark cases will be considered as received in the U.S. Patent Office only if they are filed in accordance with Rule 6 of the Rules of Practice in Patent Cases as amended Nov. 26, 1969.

All other provisions of the Notice of Mar. 19, 1970 and the Notice of Mar. 26, 1970, relating to Trademarks, remain in effect.

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents.

Mar. 27, 1970.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 268,217 (AO), American Optical Company, Ophthalmic mountings and parts therefor adapted to support and hold lenses before the eye; eye protectors for protecting the eye from glare, dust, and flying particles; ophthalmic lenses and blanks therefor, magnifying lenses, lenses for testing the errors of the eye, condensing lenses, spherical lenses, cylindrical lenses, toric lenses, compound lenses, instruments for measuring the refractive errors of the eye, instruments for measuring the powers of lenses, instruments for observing the refractive conditions of the eye, instruments for testing the refractive conditions of the eye, instruments for testing the refractive conditions of lenses, magnifiers, instruments provided with lenses for testing and examining the eye and other objects, instruments for measuring the physical dimensions and location of the eye, instruments for measuring the physical dimensions of lenses, instruments for reflecting a beam of light into the eye or on an object being examined, and parts for the aforesaid instruments; **Reg. No. 268,220**, same; **Reg. No. 435,140**, same, Cases for spectacles manufactured from metals, principally steel and aluminum, animal and vegetable fabrics, hides, skins and leathers, wood and plastics, sold empty in the trade; **Reg. No. 439,793**, same, Optical lens machine tools—namely, lens drills, lens cutters, edging machines, surfacing machines, lap truing machines, and parts for the aforesaid machines; **Reg. No. 440,893** (AO DESIGN), same, Natural and manufactured corundum and glass polishing compounds; **Reg. No. 441,000** (AO), same, Protective clothing—namely, men's and women's one-piece suits, coats, pants, leggings, spats, overalls, aprons, sleeves, gloves, mittens, handpads and finger guards of leather, asbestos and treated fabrics; **Reg. No. 443,356**, same,

CONDITION OF TRADEMARK APPLICATIONS AS OF FEBRUARY 28, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	20, 085
Date of oldest new application	March 25, 1969
Date of oldest amended application (filing date)	April 28, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	5-13-69	9-8-66
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	6-6-69	10-20-66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	8-21-69	4-28-66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3-25-69	6-15-67
Renewals (All Classes)	1-12-70	--------
Sec. 12(c) Publications (All Classes)	1-12-70	--------

Applications filed during the month of February 1970—2,618

Registrations Issued	325—No. 889,217 to No. 889,541
Renewals Issued	120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Diagnostic instruments, consisting of adaptometers, laryngoscopes, ophthalmoscopes, otoscopes, retinoscopes, tongue depressors and transilluminators used in the practice of ophthalmology, optometry and medicine and surgery, generally; for tonometers (measurement of intra-ocular pressure) color perception, malingering (detection of simulated blindness) and muscle tests; for cataract and ophthalmic lamps used in the practice of ophthalmology and optometry; for artificial eyes and respirators; **Reg. No. 444,749**, same, Group A: Ballistic scientific and ballistic laboratory apparatus; bibliofilm projectors, slide, film, and opaque projectors; optical instruments for examining and counting particles in blood, urine, milk, and mold; camera lucidas; colorimeter; optical projection profile comparators; microscope illuminators; finger print magnifiers; goniometers; haemacytometers; hemoglobinometers; mechanical hardness testers; mechanical and optical micrometers; microscope, telescope, condensing, photographic, and projection lenses; microtomes; microtome knives; spectrometers; refractometers; microscopes; photomicrographic apparatus and lenses; light polarizing apparatus; roof, porro, amici, head, constant deviation, and special bore sighting optical prisms; spectrometers; laboratory tissue freezers; Group B: Ophthalmic absorptive lenses; ophthalmic aphakic lenses; lenses for use in determining size errors of the eyes and for the correction of such size errors; hardened ophthalmic lenses; lenses for protecting the eyes; lenses and transparent plates for welding helmets and shields; lens centering instruments; and Group C: Instruments for photographing eye movement; **Reg. No. 631,105** (AO AND DESIGN), same, Abrasive and polishing materials including wax for polishers and pitch blocking materials used for blocking lenses during polishing; **Reg. No. 631,417**, same, Refracting chairs; stools; instrument stands; tables; cabinets; artificial eyes and orbital implants; sterile fluid pumps; centrifuges; instruments for exercising and/or treating the eyes, accessories and parts therefor; diagnostic instruments including laryngoscopes, pharyngoscopes, ophthalmoscopes, otoscopes, retinoscopes, tongue depressors, specula, illuminators, transilluminators and the like used in the practice of ophthalmology, optometry and medicine and surgery generally, the lamps, accessories and parts therefor; tonometers (measurement of intra-ocular pressure); malingering (detection of simulated blindness) and muscle tests; color perception tests; test charts; television trainers; bar separators; tissue freezers; respirators and parts therefor; **Reg. No. 631,699**, same, Optical lens machinery—namely, lens drills, broaching machines, lens chillers, lens markers, lens blockers, lens edgers, lens surfacers, lens polishers, lens cutters, lap truing machines, soldering machines, accessories and parts for the aforesaid machines and devices; small hand tools generally used in the optical and ophthalmic trades, such as pliers, screw drivers, mandrels, frame stretchers; auxiliary heaters for frame stretchers, protractors and the like; benches generally used with or for such machines; **Reg. No. 631,820**, same, Protective clothing such as men's and women's one-piece suits, coats, pants, leggings, spats, sweatbands, hats, hoods, overalls, aprons, sleeves, gloves, mittens, hand pads, and finger guards; **Reg. No. 632,197**, same, Ophthalmic mountings, spectacle frames, accessories and parts therefor; ophthalmic and optical lenses of all kinds generally and the blanks therefor; objectives; lens systems; corrector plates; occluders; prisms; mirrors, reflectors, and filters associated with or forming a part of optical devices; magnifiers; sunglasses and parts therefor; head and eye protective devices including helmets, shields, goggles, and eye protectors, and plates, lenses, and parts for said helmets, shields, goggles and eye protectors; projectors, parts and accessories therefor; cameras, parts and accessories therefor; equipment and devices for editing motion picture film, accessories and parts therefor; cases for spectacles, lenses and various instruments; drop ball testers; gauges; face and spectacle frame measuring devices and like devices used in prescribing and/or fitting spectacle frames to the facial requirements of wearers, such as nose gauges, face measures, temple measures and the like; eye testing, measuring and observing devices, accessories and parts therefor; lens testing, lens centering, lens inspecting and lens measuring devices, accessories and parts therefor; trial lens sets, the cases and lenses therefor; instruments provided with lenses for testing and examining the eye and other objects; ballistic scientific and ballistic laboratory apparatus, accessories and parts therefor; refracting instruments and parts therefor; tangent screens; refractometers and parts therefor; microfilm readers, accessories and parts therefor; illuminators, instruments for measuring optical properties, accessories and parts therefor; microscopes, accessories and parts therefor; devices such as periscopes; stereoscopes; loupes, colony counters; camera lucidas; colorimeters; profile comparators; microscope illuminators; fingerprint magnifiers; goniometers; haemacytometers; hemoglobinometers; hardness testers; micrometers; microtomes; microtome knives; photomicrographic apparatus; light polarizing apparatus and devices; spectrometers; optical instruments for examining and counting particles in blood, urine, milk and mold; perimeters; polariscopes; microscopic and drawing apparatus; microscope object slides; microscope cover glasses; microscope slide receptacles and holders; laboratory incubators; balances; helixometers; nephelometers; range finding apparatus; spectrographs; spectroscopes; spectrophotometers; surveying levels; telescopes; orthoptic devices; metallographs; and accessories and parts for such devices; **Reg. No. 633,645**, same, Lens hardening and heat treating furnaces; **Reg. No. 855,168**, same, Apparatus for diagnostic and treating purposes and components thereof—namely, cardiac monitors; defibrillators; heartbeat pacing apparatuses; alarm and recorder logic units; data storage systems; oscilloscopes; chart recorders; heart rate meters; electrodes; cardiac resuscitation instruments; diagnostic and monitoring systems; oximeters; fluid pumps, fluid pump drive modules; depolarization instruments; heart-lung machines, including components thereof and accessories therefor; oxygen exchange equipment, and accessories therefor, including size conversion kits, discs and spacers, leveling devices, catheters, filters, stopcocks, and clamps; heat exchangers; filter and bubble traps; reservoirs, crank handles; pressure gauges, hypothermia apparatuses; valves; bag masks; autoclaving boxes; cannulae and cannula sets; connectors, and tubing, **filed** Nov. 5, 1969, D.C., S.D.N.Y., Doc. 69–C–4828, *American Optical Corporation v. Alcebiades M. De Oliverira, doing business as A.O. International Co.* Consent judgment, defendant perpetually enjoined, Dec. 12, 1969.

Reg. No. 268,220. (See Reg. No. 268,217.)
Reg. No. 435,140. (See Reg. No. 268,217.)
Reg. No. 439,793. (See Reg. No. 268,217.)
Reg. No. 440,893. (See Reg. No. 268,217.)
Reg. No. 441,000. (See Reg. No. 268,217.)
Reg. No. 443,356. (See Reg. No. 268,217.)
Reg. No. 444,749. (See Reg. No. 268,217.)
Reg. No. 631,105. (See Reg. No. 268,217.)
Reg. No. 631,417. (See Reg. No. 268,217.)
Reg. No. 631,699. (See Reg. No. 268,217.)
Reg. No. 631,820. (See Reg. No. 268,217.)
Reg. No. 632,197. (See Reg. No. 268,217.)
Reg. No. 633,645. (See Reg. No. 268,217.)
Reg. No. 855,168. (See Reg. No. 268,217.)

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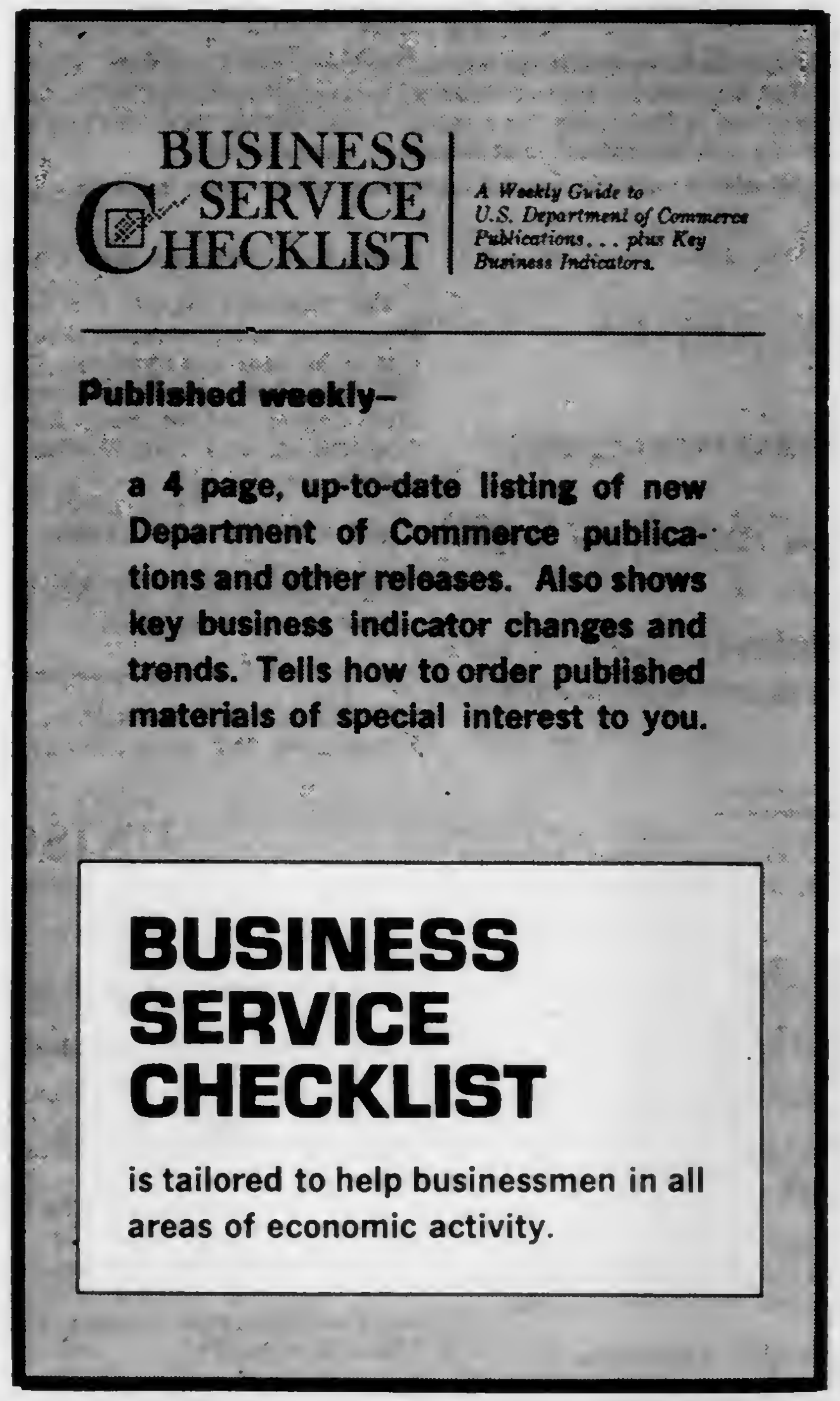

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MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 277,957. Atelier International, Led., New York, N.Y. Filed Aug. 10, 1967.

ai ATELIER INTERNATIONAL, LTD.

Class 21—Electrical Apparatus, Machines, and Supplies

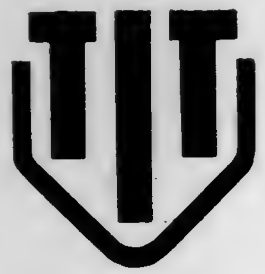
For Electrical Lighting Fixtures (Int. Cl. 9).

Class 32—Furniture and Upholstery

For Living Room, Dining Room and Bedroom Furniture for Domestic Use (Int. Cl. 20).

First use Jan. 4, 1967.

SN 283,628. Cobble Laboratory Company Limited, Shinjuku-ku, Tokyo, Japan. Filed Oct. 30, 1967.



Priority claimed under Sec. 44(d) on Japanese application filed May 24, 1967; Reg. No. 840,067, dated Dec. 5, 1969.

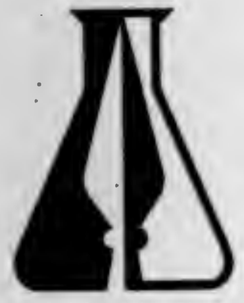
Class 26—Measuring and Scientific Appliances

For Scientific Apparatus and Instruments and Measuring Apparatus and Instruments—Namely, Calibrating Thermometers, Thermoanalyzers, and Table Electric Furnaces for Laboratory Applications (Int. Cl. 9).

Class 52—Detergents and Soaps

For Spot Removers (Int. Cl. 3).

SN 292,045. Lancer Chemical Corporation, Matawan, N.J. Filed Feb. 28, 1968.



Class 1—Raw or Partly Prepared Materials

For Reclaimed Rubber; Polyethylene Film; and Vulcanized Vegetable Oils, With and Without Mineral Oil (Int. Cls. 4 and 17).

Class 6—Chemicals and Chemical Compositions

For Peptizing Agents for Natural and Synthetic Rubber; Dispersing and Activating Agents for Reinforcing Fillers for Use in Natural and Synthetic Fibers; Plasticizers; Vulcanization Auxiliaries Including Cross-Linking Agents, Sulpher and Zinc Oxide; Accelerators; Anti-Oxidants and Non-Staining Sunchecking and Anti-Weathering Agents; and Anti-Static Agents (Int. Cl. 1).

Class 15—Oils and Greases

For Separating Agents and Mould Lubricants (Int. Cl. 4).

First use January 1968.

SN 300,860. North American Foreign Trading Corporation, New York, N.Y. Filed June 20, 1968.

UNISONIC

Class 2—Receptacles

For Jewelry Boxes (Int. Cl. 20).

Class 21—Electrical Apparatus, Machines, and Supplies

For Radios—Namely, Transistorized Radios, AM Radios, FM Radios, AM/FM Radios, Shortwave Radios, Solid-State Radios, Table Radios, Clock Radios, Radio Phonographs; Television Receivers; Telephone Receivers, Dry Cell Batteries, Portable Transmitters and Receivers, Speakers, Microphones, Condensers, Diodes, Resistors, Vacuum Tubes, Power Tubes, Volume Controls, Tuners, Interphones, Electric Lighting Fixtures and Parts Thereof, Phonograph Motors, Transceivers; and Electric Lamps—Namely, Flashlights; and Battery Lamps (Int. Cls. 9 and 11).

Class 26—Measuring and Scientific Appliances

For Cameras and Binoculars (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Tape Recorders, Tape Players, and Tape Playback Apparatus (Int. Cl. 9).

First use Apr. 1, 1968.

SN 302,579. Adrien Arpel, Inc., New York, N.Y. Filed July 12, 1968.

Adrien Arpel

The name "Adrian Arpel" is that of a living individual whose consent is of record.

Class 51—Cosmetics and Toilet Preparations

For Pads Impregnated With Make Up Remover, Skin Freshener, Astringent, Moisturizer, Under Eye Lightener, Cover Base, Liquid Powder; Make-Up Base—Namely, Cream, Liquid and Powder Cosmetic Foundation Base; Blush, Eye-Shadow, Matte Cake Liner for the Eyes, Eyeliner Seal, Mascara, Kit Containing Eyebrow Brush and Eyebrow Cake, Eyebrow Seal, Face Powder, Lipliner Pencil, Lipstick; Kit Containing Brush and Various Lip Colorings, Lip Moisturizer, Face Cream, Masque, Skin Cream, Eye Lid Oil, Liquid Lash Cleaner, and Body Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Skin Cleanser for Removing Dirt (Int. Cl. 3).

First use at least as early as November 1965.

SN 302,811. Harloc Products Corporation, West Haven, Conn. Filed July 16, 1968.

PACEMAKER

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Decorative Escutcheons and Door Closers (Int. Cl. 6). First use April 1953.

Class 25—Locks and Safes

For Door Locks and Latches (Int. Cl. 6). First use July 9, 1952.

SN 304,729. Clairol Incorporated, New York, N.Y. Filed Aug. 9, 1968.

SOFTENED

Owner of Reg. No. 630,611.

Class 51—Cosmetics and Toilet Preparations

For Hair Tinting, Dyeing and Coloring Preparation, Hair Conditioner and Hair Spray (Int. Cl. 3).

Class 52—Detergents and Soaps

For Hair Shampoo (Int. Cl. 3).

First use Apr. 30, 1968.

SN 306,417. Haverhill's, Inc., San Francisco, Calif. Filed Sept. 3, 1968.

haverhill's

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Spring-Powered Blade Razors; Magnetic Bottle Cap Openers; Jet Cork Ejectors—Namely, Devices to Remove Corks From Bottles by Injected Air Pressure; Pocket Knives; Scissors; Tool Kits; Comprising Hammers, Adjustable Wrenches, Pliers, Open End and Box Wrenches, Screwdrivers With Interchangeable Blades, and Metal Punches and Claws; and Paint Sprayers (Int. Cls. 7 and 8).

Class 26—Measuring and Scientific Appliances

For Sextants; Marine Compasses; Thermometers; Pedometers; Rain Gauges; Barometers; Magnifying Glasses; Telescopes; Binoculars; Miniature Cameras; Altimeters; Tape Measures; Range Finders; Manually Operable Calculating Machines; Prism Spectables; and Film Viewers (Int. Cl. 9).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Torch and Soldering Kits, Comprising Torches and Accessories Therefor, Including Paint Burning Attachments, Soldering Tips, Blow Torch Burner Heads, and Spark Lighters (Int. Cls. 8 and 11).

Class 44—Dental, Medical, and Surgical Appliances

For Manicure Kits, Comprising Cuticle Nippers, Finger Nail Scissors, and Finger Nail Files (Int. Cl. 8).

First use June 1967.

SN 310,515. Giffen Corp., Miami, Fla. Filed Oct. 25, 1968.

BURGESS TAPES

Applicant disclaims the word "Tapes" apart from the mark as shown.

Class 21—Electrical Apparatus, Machines, and Supplies

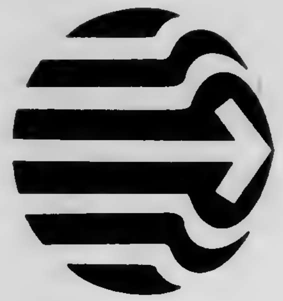
For Electric Irons for Heating Carpet Seaming Tape (Int. Cl. 9).

Class 40—Fancy Goods, Furnishings, and Notions

For Carpet Seaming Tapes (Int. Cl. 17).

First use August 1967.

SN 310,534. Bangor Punta Operations, Inc., New York, N.Y. Filed Oct. 25, 1968.



Class 31—Filters and Refrigerators

For Commercial Refrigerators and Parts Thereof (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Domestic and Commercial Air Conditioners and Coolers and Parts Thereof, and Heating Furnaces Using Gas, Electric, and Oil and Parts Thereof (Int. Cl. 11).

First use Oct. 5, 1965.

SN 315,515. Signatron, Inc., Lexington, Mass. Filed Jan. 2, 1969.

SIGNATRON

Owner of Reg. No. 846,025.

Class 21—Electrical Apparatus, Machines, and Supplies

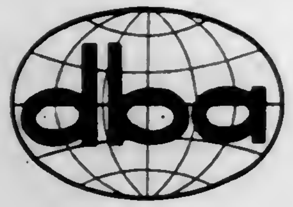
For Modulators, Signal Combiners, and Delay Lines (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Troposcatter Multipath Calibrators (Int. Cl. 9).

First use at least as early as Dec. 3, 1968.

SN 315,709. DBA Systems, Inc., Melbourne, Fla. Filed Jan. 3, 1969.



Class 26—Measuring and Scientific Appliances

For Data Handling and Electro-Optical Equipment—Namely, Microscopic Line Scanners, Automatic Target Image Trackers, Infrared Test Sources, Micron Comparators, and Pyrometers to Obtain Analog Rate Information Output (Int. Cl. 9).

Class 101—Advertising and Business

For Computer Programming and Systems Analysis Services (Int. Cl. 35).

First use November 1965.

SN 317,175. Pirelli S.p.A., Milan, Italy. Filed Jan. 22, 1969.

PIRELLI

Owner of Italian Reg. No. 141,020, dated Jan. 21, 1959.

Class 19—Vehicles

For Pneumatic Boats (Int. Cl. 12).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Cables (Int. Cl. 9).

Class 22—Games, Toys, and Sporting Goods

For Tennis Balls, Underwater Masks, and Diving Suits (Int. Cls. 9 and 28).

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Tires, Rubber Hose, and Belting (Int. Cls. 12 and 17).

Class 39—Clothing

For Waterproof Cloaks and Household Gloves (Int. Cl. 25).

Class 44—Dental, Medical, and Surgical Appliances

For Surgical Gloves, and Hot Water and Clyster Bags, (Int. Cl. 10).

SN 317,791. Columbia Broadcasting System, Inc., New York, N.Y. Filed Jan. 29, 1969.

MASTERWORK

Owner of Reg. Nos. 504,843, 663,406, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

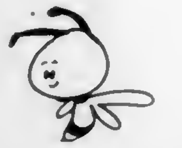
For Amplifiers for Musical Instruments (Int. Cl. 9).

Class 36—Musical Instruments and Supplies

For Magnetic Tapes, Pre-Recorded Magnetic Tapes, and Magnetic Tape Cartridges; Musical Instruments—Namely, Harmonicas, Recorders, Maracas, Bongos, Tambourines, Snare Drums, and Guitars (Int. Cls. 9 and 15).

First use at least as early as June 10, 1968.

SN 318,301. Gordon Jewelry Corporation, Houston, Tex. Filed Feb. 4, 1969.



Class 27—Horological Instruments

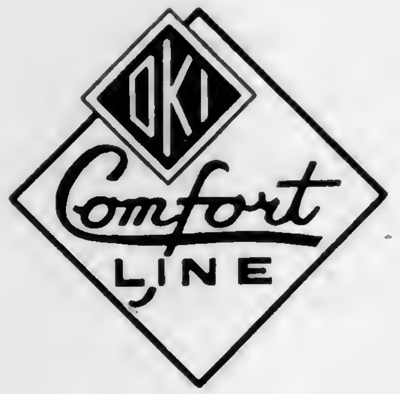
For Men's Wrist Watches and Pocket Watches; Ladies' Wrist Watches and Pendant Watches (Int. Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Diamond Wedding Bands and Engagement Rings; Gold Wedding Bands; Ladies' Pearl, Fraternal, Cameo, Diamond, Dome, Cocktail, Dinner, Novelty, Princess, Birthstone and Stone Rings; Men's Diamond, Initial, Birthstone, Cameo, Signet, Lodge and Stone Rings; Men's Jewelry—Namely, Cuff Links, Tie Bars, Tie Pins, and Identification Bracelets as Well as Key Chains and Money Clips Made in Whole or in Part of Precious Metals; Ladies' Jewelry—Namely, Identification Bracelets, Bracelets, Brooches, Pins, Gold Charms, Pearls, Earrings, Pendants and Necklaces (Int. Cl. 14).

First use Sept. 30, 1968.

SN 320,758. O.K.I. Supply Co., Cincinnati, Ohio. Filed Mar. 5, 1969.



The term "Line" is disclaimed apart from the mark as shown.
Owner of Reg. Nos. 607,266, 787,587, and 811,336.

Class 26—Measuring and Scientific Appliances

For Welding Equipment Accessories and Supplies—Namely, Eye Shields, Goggles, Goggle Lenses, Headgear, Helmets, Helmet Parts, Helmet Glass Holders, Helmet Lenses, Helmet Sweat Bands, Spectacles, Spectacle Lenses, Parts for Spectacles, and Headgear With Lenses (Int. Cl. 9).

Class 39—Clothing

For Asbestos Gloves, Leather Aprons, Leather Cape Sleeves, Leather Gloves, Leather and Rubber Knee Pads Worn as Clothing on the Person, Leather Sleeves, Welders' Caps and Headgear Without Lenses (Int. Cls. 17 and 25).

First use on or about May 7, 1964.

SN 321,360. Fränkische Pelzindustrie Märkle & Co., Furth, Bavaria, Germany. Filed Sept. 26, 1968.

STARLIGHT

Class 1—Raw or Partly Prepared Materials

For Fur Skins and Fur Pelts (Int. Cl. 18).

Class 39—Clothing

For Fur Coats and Fur Pieces (Int. Cl. 25).

First use Sept. 1, 1967; in commerce Sept. 1, 1967.

SN 323,986. Florida Cypress Gardens, Inc., Cypress Gardens, Fla. Filed Apr. 9, 1969.

FLORIDA CYPRESS GARDENS

Class 100—Miscellaneous

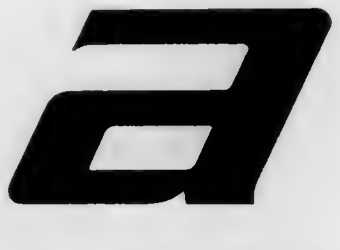
For Restaurant Services (Int. Cl. 42).

Class 107—Education and Entertainment

For Providing Botanical Garden Displays, Skiing Exhibits, and Boat Rides (Int. Cl. 41).

First use 1936.

SN 331,261. Automata Corporation, Richland, Wash. Filed June 30, 1969.



Class 26—Measuring and Scientific Appliances

For Electronic Scoring Machines for Automatically Scoring Response Indications Such as Student Examinations (Int. Cl. 9).

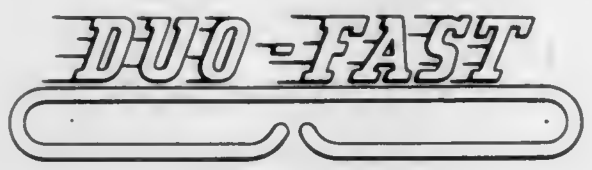
First use Apr. 2, 1969.

Class 38—Prints and Publications

For Printed Forms for Recording Indications To Be Scored by Electronic Scoring Machines (Int. Cl. 16).

First use May 23, 1969.

SN 337,218. Fastener Corporation, Franklin Park, Ill. Filed Sept. 8, 1969.



Owner of Reg. Nos. 516,900, 804,513, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

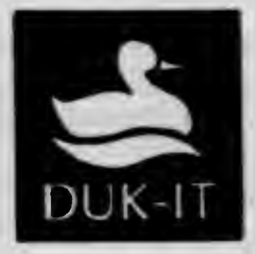
For Staples, Nails, Brads, Tacks, and the Like for Use in Stapling, Nailing or Tacking Tools (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tools for Driving Staples, Nails, Brads, and the Like, Which Tools may be Hand Operated, Fluid Operated, or Electrically Operated (Int. Cls. 7 and 8).

First use on or about Apr. 5, 1940.

SN 338,461. McDonald Products Corporation, Buffalo, N.Y. Filed Sept. 22, 1969.



Owner of Reg. Nos. 562,203, 757,131, and others.

Class 2—Receptacles

For Waste Baskets and Planters (Int. Cl. 21).
First use at least as early as Jan. 31, 1969.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays, Pipe Rest and Racks, and Lighters (Int. Cl. 34).
First use on or about Jan. 8, 1969.

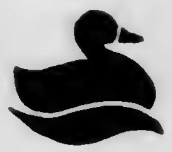
Class 32—Furniture and Upholstery

For Ash Receptacles—Namely, Floor Smokers and Wall and Floor Urns, Table Inserts, and Combination Ash and Trash Receivers, and Book Ends and Letter and Utility Trays (Int. Cl. 20).
First use at least as early as September 1968.

Class 37—Paper and Stationery

For Desk Sets and Accessories—Namely, Desk Pads, Pen Holders, Letter Openers, Letter Opener and Scissor Library Sets, Desk Calendars and Calendar Pads, Pencil Caddies, Memo Boxes and Telephone Indexes (Int. Cl. 16).
First use on or about Apr. 24, 1969.

SN 338,462. McDonald Products Corporation, Buffalo, N.Y. Filed Sept. 22, 1969.



Owner of Reg. No. 562,203.

Class 2—Receptacles

For Waste Baskets and Planters (Int. Cl. 21).
First use at least as early as Jan. 31, 1969.

Class 8—Smokers' Articles, Not Including Tobacco Products

For Ash Trays, Pipe Rest and Racks, and Lighters (Int. Cl. 34).
First use on or about Jan. 8, 1969.

Class 32—Furniture and Upholstery

For Ash Receptacles—Namely, Floor Smokers and Wall and Floor Urns, Table Inserts, and Combination Ash and Trash Receivers, and Book Ends and Letter and Utility Trays (Int. Cl. 20).
First use at least as early as September 1968.

Class 37—Paper and Stationery

For Desk Sets and Accessories—Namely, Desk Pads, Pen Holders, Letter Openers, Letter Opener and Scissor Library Sets, Desk Calendars and Calendar Pads, Pencil Caddies, Memo Boxes and Telephone Indexes (Int. Cl. 16).
First use on or about Jan. 31, 1969.

SN 339,068. Textron Inc., Providence, R. I. Filed Sept. 29, 1969.

GOLD BULLION

Class 51—Cosmetics and Toilet Preparations

For Toiletries—Namely, Cologne, After Shave Lotion, Hair Spray, Hair Cream, and Cosmetic Cleansing Cream (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use Sept. 18, 1969.

SN 339,643. Avon Products, Inc., New York, N.Y., Filed Oct. 3, 1969.

GOOD TIMES

Class 51—Cosmetics and Toilet Preparations

For Dusting Powder and Cologne (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[**NOTE:** For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 285,006. Epic Resins Corporation, Waukesha, Wis. Filed Nov. 16, 1967.

SEE-CURE

For Natural and Synthetic Casting Resins for Encapsulation of Electrical Apparatus (Int. Cl. 1).

First use Mar. 31, 1967.

SN 295,202. Verenigde Textielfabrieken K. Lambrecht, Courtrai, Belgium. Filed Apr. 8, 1968.

DALTOSKIN

Priority claimed under Sec. 44(d) on Belgian Reg. No. 4,002, dated Feb. 16, 1968.

For Synthetic Leather (Int. Cl. 18).

SN 301,263. The Sherwin-Williams Company, Cleveland, Ohio. Filed June 24, 1968.

VICRYL

For Synthetic Resin for Hair Spray (Int. Cl. 1).

First use May 10, 1968.

SN 316,709. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

SILASTIC LS-63

Owner of Reg. Nos. 438,195 and 578,636.

For Silicone Rubber (Int. Cl. 17).

First use June 15, 1959.

SN 322,103. Specialty Converters, Inc., East Braintree, Mass. Filed Mar. 18, 1969.

TUFCOTE FELT

Applicant disclaims the term "Felt" apart from the mark as shown. Owner of Reg. Nos. 732,612 and 819,682.

For Flexible Urethane Foam, Sold in Sheets or Rolls (Int. Cl. 17).

First use Sept. 20, 1968.

SN 323,699. General Electric Company, Schenectady, N.Y. Filed Apr. 4, 1969.

GENAL

For Thermoset Compound for Injection Molding (Int. Cl. 1).

First use Jan. 14, 1969.

SN 329,511. Reeves Brothers, Inc., New York, N.Y. Filed June 9, 1969.

STRATOMERIC

For Non-Woven Poromeric Substrates for Simulated Leather and Simulated Leather Products (Int. Cl. 18).

First use Sept. 20, 1968.

SN 334,766. Dow Badische Company, Williamsburg, Va. Filed Aug. 8, 1969.

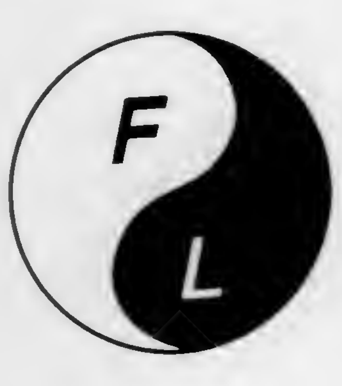
VIVANA

Owner Reg. Nos. 689,666 and 691,342.

For Synthetic Textile Fiber (Int. Cl. 22).

First use May 23, 1969.

SN 344,182. Flow Laboratories, Inc., Rockville, Md. Filed Nov. 21, 1969.

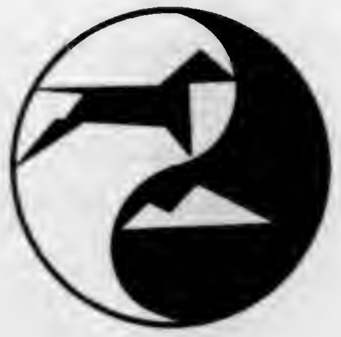


Owner of Reg. No. 781,589.

For Laboratory Research Animals, Including Dogs, Rats, Mice, and Guinea Pigs (Int. Cl. 31).

First use Nov. 10, 1969.

SN 344,183. Flow Research Animals, Inc., Dublin, Va. Filed Nov. 21, 1969.



For Laboratory Research Animals, Including Dogs, Rats, Mice, and Guinea Pigs (Int. Cl. 31).

First use Nov. 10, 1969.

SN 344,184. Flow Research Animals, Inc., Dublin, Va. Filed Nov. 21, 1969.

ready to go to work when they arrive

For Laboratory Research Animals, Including Dogs, Rats, Mice, and Guinea Pigs (Int. Cl. 31).

First use Nov. 10, 1969.

Class 2 — Receptacles

SN 316,195. Evans-Aristocrat Industries, Inc., Elizabeth, N.J. Filed Jan. 9, 1969.

ARISTOCRAT

For Compact and Vanity Cases, Sold Empty, and Made of Base and/or Plastic Materials (Int. Cl. 20).

First use April 1937.

SN 322,726. The Mead Corporation, Dayton, Ohio. Filed Mar. 25, 1969.

TUFF-GLO

For Plastic Coating Used as a Finish on Paperboard Cartons (Int. Cl. 16).

First use November 1968.

SN 327,814. Domtar Limited, Montreal, Quebec, Canada. Filed May 21, 1969.

DOMTAR

Owner of Canadian Reg. Nos. 107/25,361, dated Oct. 31, 1919, and 131,955, dated July 19, 1963; and U.S. Reg. No. 797,669.

For Cartons, Shipping Cases and Boxes, Fibre Cans, Milk and Liquid Containers, Plastic Boxes, Corrugated Paper Board Boxes and Special Purpose Bags and Boxes, Cylindrical Fibre Containers, Grocery Bags, Notion, Millinery, and Novelty Bags (Int. Cls. 16, 18 and 20).

First use July 19, 1963; in commerce July 19, 1963.

SN 333,836. Maryland Cup Corp., Owings Mills, Md. Filed July 29, 1969.

PRIDEMARK

For Paper and Plastic Cups (Int. Cl. 21).

First use on or about June 18, 1969.

SN 334,104. Mallinckrodt Chemical Works, St. Louis, Mo. Filed July 31, 1969.

POLYSTORMOR

Owner of Reg. No. 606,716.

For Polyethylene Bottles (Int. Cl. 21).

First use May 1, 1969.

SN 338,712. Ethyl Corporation, Richmond, Va. Filed Sept. 24, 1969.

GENIE BAGS

Applicant disclaims the word "Bags" apart from the mark as shown.

For Plastic Bags (Int. Cl. 20).

First use July 16, 1969.

SN 341,742. Gulf Oil Corporation, Pittsburgh, Pa. Filed Oct. 27, 1969.

GULF

Owner of Reg. No. 621,651 and others.

For Plastic Bags (Int. Cl. 20).

First use on or about July 22, 1969.

SN 342,191. Warnaco Inc., Bridgeport, Conn. Filed Oct. 30, 1969.

FABRICARTON

For Display Container Packages of Laminated Material (Int. Cl. 16).

First use Oct. 17, 1969.

Class 5 — Adhesives

SN 303,076. Sun Chemical Corporation, New York, N.Y. Filed July 18, 1968.

SUNCURE

Owner of Reg. No. 868,897.

For Radiation-Curable Adhesives (Int. Cl. 1).

First use Feb. 19, 1968.

SN 325,213. Ore-Lube Corporation, College Point, N.Y. Filed Apr. 22, 1969.

TIRE SAFE

For Liquid Chemical for Use as a Tire Sealant (Int. Cl. 1).

First use Sept. 2, 1968.

Class 6—Chemicals and Chemical Compositions

SN 278,628. The British Drug Houses Limited, London, England. Filed Aug. 16, 1967.

ARISTAR

Owner of British Reg. No. 891,101, dated Feb. 23, 1966.
For Highly Purified Chemicals for Laboratory and Industrial Use for Analytical, Research, and Other Applications in Which Extreme Purity is Critical (Int. Cl. 1).

SN 293,361. Consolidated Foods Corporation, New York, N.Y. Filed Mar. 15, 1968.

CONSO STAIN-GUARD

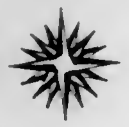
Owner of Reg. Nos. 351,582, 656,865, and others.
For Water-Repellent and Stain-Repellent Liquid to be Applied to Wearing Apparel, Curtains, Draperies, Upholstered Furniture, Rugs, and Other Household Fabrics (Int. Cl. 1).
First use Mar. 1, 1968.

SN 303,077. Sun Chemical Corporation, New York, N.Y. Filed July 18, 1968.

SUNCURE

Owner of Reg. No. 868,897.
For Radiation-Curable Chemicals and Chemical Compositions (Int. Cl. 1).
First use Feb. 19, 1968.

SN 312,889. Imaging Systems Corporation, Latrobe, Pa. Filed Nov. 22, 1968.



Ultra-Fax

For Toning Preparations for Electrostatic Printing (Int. Cl. 1).
First use July 9, 1968.

SN 313,735. Bernard J. Semel, Washington, D.C. Filed Dec. 5, 1968.

SnowCo

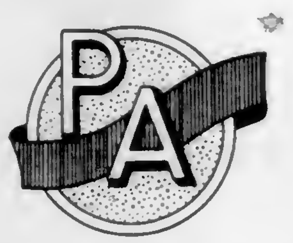
For Quick Acting Chemical Composition for Melting Snow and Ice, Which is Non-Acid Forming, Harmless to Concrete, Rugs, Grass, Shrubs, Floors and Pets, Free From White Deposits (Int. Cl. 1).
First use on or about September 1966.

SN 315,289. Celebrity, Inc., Bronx, N.Y. Filed Dec. 27, 1968.

LITTLE PAL

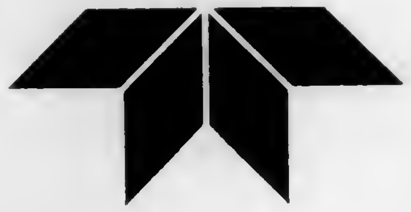
For Sachets and Sachets Shaped Like Little Animals (Int. Cl. 3).
First use April 1968.

SN 317,279. R.A. Chemical Corp., Brooklyn, N.Y. Filed Jan. 23, 1969.



The lining on the drawing is for shading purpose only and no claim is made to color.
For Chemical Compositions—Namely, Acrylic Polymer Emulsions (Int. Cl. 1).
First use Dec. 1, 1960.

SN 321,836. Teledyne, Inc., Los Angeles, Calif. Filed Mar. 14, 1969.



Owner of Reg. No. 819,762.
For Zirconium and Hafnium Oxides and Tetrachlorides; Tantalum and Columbium Oxides; Magnesium Chloride (Int. Cl. 1).
First use May 1967.

SN 323,328. Chemtrust Industries Corp., Maywood, Ill. Filed Apr. 1, 1969.

INHIBITRON

For Corrosion Inhibiter for Tanks (Int. Cl. 2).
First use Oct. 10, 1963.

SN 328,334. Pennwalt Corporation, Philadelphia, Pa. Filed May 26, 1969.

SCORCH

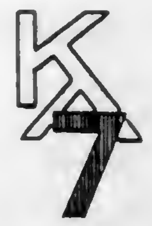
For Herbicide (Int. Cl. 5).
First use Apr. 25, 1969.

SN 328,397. Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany. Filed May 27, 1969.

REFINAL

Owner of German Reg. No. 844,573, dated Apr. 27, 1966.
For Photographic Developer (Int. Cl. 1).

SN 328,968. A.K. Electric Corp., Brooklyn, N.Y. Filed June 3, 1969.



The drawing is lined for the color red, but no claim is made to color.
For Combustible Mosquito Coils for Repelling or Destroying Mosquitoes and Other Insects (Int. Cl. 5).
First use Jan. 10, 1969.

SN 331,109. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed June 27, 1969.

CERTIFIRED

For Thick Film Resistor Compositions for Use in the Manufacture of Microcircuits, Resistors, and Other Electrical Components (Int. Cl. 1).
First use June 6, 1969.

SN 340,882. The Dow Chemical Company, Midland, Mich. Filed Oct. 16, 1969.

Dow

Owner of Reg. Nos. 140,588, 861,230, and others.
For Chemicals and Chemical Compositions (Int. Cl. 1).
First use at least as early as 1910; 1895 as to "Dow."

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 331,471. Colt's Inc., Hartford, Conn. Filed June 24, 1969.
For Pistols and Revolvers (Int. Cl. 13).

LAWMAN

First use June 4, 1969.

SN 333,097. Commercial Solvents Corporation, New York, N.Y. Filed July 22, 1969.

HYDRATOL

For Nitrocarbonitrate Blasting Agents (Int. Cl. 13).
First use Feb. 21, 1969.

Class 10—Fertilizers

SN 336,838. Occidental Petroleum Corporation, Los Angeles, Calif. Filed Sept. 2, 1969.

OXYCHEM

For Fertilizers (Int. Cl. 1).
First use on or before Jan. 1, 1969.

SN 336,841. Occidental Petroleum Corporation, Los Angeles, Calif. Filed Sept. 2, 1969.

BEST NUTRA WET

For Fertilizers (Int. Cl. 1).
First use on or about Sept. 23, 1968.

Class 11—Inks and Inking Materials

SN 296,015. Formulabs, Incorporated, Escondido, Calif. Filed Apr. 19, 1968.

THE CHEMISTRY OF COLOR

The word "Color" is disclaimed apart from the mark as shown.
For Ball Pen Inks, Wire Coding Inks, Chart Recorder Inks, Porous Tip Marker Inks, and Stamp Pad Inks (Int. Cl. 16).
First use Mar. 20, 1968.

SN 296,524. A. B. Dick Company, Niles, Ill. Filed Apr. 25, 1968.

MIMECON

Owner of Reg. No. 155,220.
For Stencil Duplicating Inks (Int. Cl. 16).
First use Sept. 9, 1921.

SN 306,653. Eaton Allen Corp., Brooklyn, N.Y. Filed Sept. 5, 1968.

girl friday

Owner of Reg. No. 701,620.
For Typewriter Ribbons and Carbon Paper (Int. Cl. 16).
First use Aug. 3, 1966.

Class 12—Construction Materials

SN 322,501. Union Carbide Corporation, New York, N.Y. Filed Mar. 21, 1969.

UCAR

Owner of Reg No. 864,455.
For Carbon Brick (Int. Cl. 19).
First use on or about Feb. 5, 1968.

SN 327,551. Inmont Corporation, New York, N.Y. Filed May 19, 1969.

INMONT

For Puttying, Caulking, Glazing, Sealing, Insulating and Bonding Materials; Adhesive Wrap Around Tape for Insulating Pipes, Vibration and Sound Dampening Materials; Expansion Joints for Concrete Construction; Plastic Filler for Uneven Metal Surfaces; Pyroxylin Glazing Putty for Use Particularly on Automobiles (Int. Cl. 17).
First use on or about Apr. 12, 1969.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 328,355. Sheets Radiflex Corporation, Sun Valley, Calif. Filed May 26, 1969.

RADIFLEX

For Connectors and Seals for Fluid Ducts (Int. Cl. 6).
First use Jan. 20, 1969.

SN 337,114. Wolverine Brass Works, Grand Rapids, Mich. Filed Sept. 4, 1969.

Turbo·massage

For Shower Heads (Int. Cl. 11).
First use Aug. 18, 1969.

SN 337,558. Robert E. Marshburn, d.b.a Seper-Air Products, Raleigh, N.C. Filed Sept. 10, 1969.

SEPER-AIR

For Floating Diaphragms Which Separate Liquid From Air Within Tanks (Int. Cl. 11).
First use at least as early as Nov. 26, 1967.

Class 14—Metals and Metal Castings and Forgings

SN 345,256. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 4, 1969.

3M

Applicant claims no registration rights in the word "Tape" apart from the mark as shown.
For Thin Metallic Strips for Concealment in Books or Periodicals (Int. Cl. 6).
First use Nov. 6, 1969.

Class 15—Oils and Greases

SN 309,226. The Bendix Corporation, Detroit, Mich. Filed Oct. 9, 1968.

Bendix

Owner of Reg. Nos. 525,126 and 875,923.
For Aerosol Spray Starting Fluids for Gasoline and Diesel Engines (Int. Cl. 4).
First use Sept. 9, 1968.

SN 314,143. Diamond Shamrock Corporation, Cleveland, Ohio. Filed Dec. 11, 1968.

TRIPLE ACTION

For Motor Oil (Int. Cl. 4).
First use Apr. 16, 1952.

SN 316,705. Dow Corning Corporation, Midland, Mich. Filed Jan. 16, 1969.

DOW CORNING 11

Owner of Reg. Nos. 571,013 and 576,946.
For Nonmelting Silicone Lubricant (Int. Cl. 4).
First use Feb. 22, 1946.

SN 318,030. Chessco Industries, Inc., Fairfield, Conn. Filed Jan. 31, 1969.

CHESSCO

For Fuel Oil Additives (Int. Cl. 1).
First use Sept. 1, 1965.

SN 322,365. Turtle Wax, Inc., Chicago, Ill. Filed Mar. 20, 1969.

HOT WHEELS

For Motor Oil Additive (Int. Cl. 1).
First use Mar. 10, 1969.

SN 323,238. The British Petroleum Company Limited, London, England. Filed Apr, 1, 1969.

AUTRAN

Owner of British Reg. No. 925,964, dated May 30, 1968.
For Industrial Oils and Greases (Other Than Edible Oils and Fats and Essential Oils), and Lubricants (Int. Cl. 4).

SN 332,089. Contour Chemical Co., Woburn, Mass. Filed July 9, 1969.

NONSTICKENSTOFFE

For Mold Release Compound (Int. Cl. 4).
First use Nov. 10, 1967.

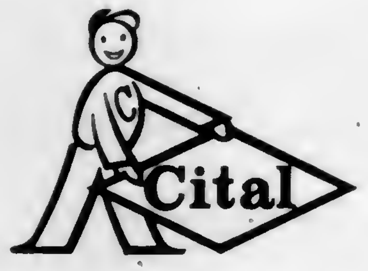
SN 337,719. Sun Oil Company, Philadelphia, Pa. Filed Sept. 11, 1969.

SIOUX

For Lubricating Oils for Bearings and Gears (Int. Cl. 4).
First use June 11, 1951.

Class 16—Protective and Decorative Coatings

SN 288,677. Citosan A.G., Guttingen, Switzerland. Filed Jan. 12, 1968.



For Paint-Like Coatings (Int. Cl. 2).
First use in 1956; in commerce May 1965.

SN 311,536. Walles Dove Bitumastic Limited, Hebburn, County Durham, England. Filed Nov. 6, 1968.

EPIMASTIC

Owner of British Reg. No. 752,008, dated Mar. 16, 1956.
For Paints, Varnishes, Lacquers and Anti-Corrosive Protective Coatings in the Nature of a Paint for Use on Metals, Concrete and Other Surfaces (Int. Cl. 2).

Class 17—Tobacco Products

SN 324,206. Larus & Brother Company, Richmond, Va. Filed Apr. 10, 1969.

HENRICO

For Cigarettes (Int. Cl. 34).
First use Apr. 3, 1969.

SN 338,322. Philip Morris Incorporated, New York, N.Y. Filed Sept. 19, 1969.

LIMELITE

Owner of Reg. No. 848,109.
For Cigarettes (Int. Cl. 34).
First use July 28, 1969.

SN 342,433. Wally Frank, Ltd., New York, N.Y. Filed Nov. 3, 1969.

OLD KING COLE

For Pipe Tobacco (Int. Cl. 34).
First use Oct. 21, 1969.

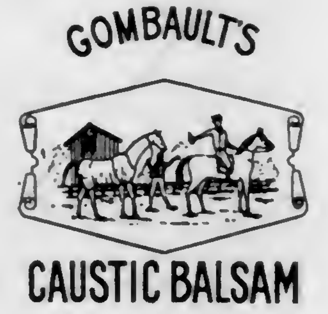
SN 342,799. Philip Morris Incorporated, New York, N.Y. Filed Nov. 6, 1969.

OLD SUNLAND

For Cigarettes (Int. Cl. 34).
First use Oct. 13, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 288,151. Gombault Products Corporation, Newark, N.J. Filed Jan. 10, 1968.



Without waiving its common law rights, applicant disclaims exclusive rights in the words "Caustic Balsam" apart from the mark as shown.
For Preparation for Lameness, and Other Ailments of Horses, Cattle, and Other Animals (Int. Cl. 5).
First use 1879.

SN 299,777. Daniel B. Langley, M.D., d.b.a. Langyn Laboratories, Naples, Fla. Filed June 5, 1968.

LANGYN

For Cleansing Preparations to be Used in Feminine Hygiene—Namely, Vaginal Douche Preparations (Int. Cl. 5).
First use in or around January 1956.

SN 305,785. Spofa-Spojene Podniky Pro Zdravotnickou Vyrobu, Prague, Zizkov, Czechoslovakia. Filed Aug. 23, 1968.

SPOFA

Owner of Czechoslovakian Reg. No. 97,790, dated Sept. 23, 1947.
For Antiseptics; Sterilizing Agents for Use on the Person; Medicinal Oils; Diagnostic Agents for Use on the Person in Surgical or X-Ray Operations; Parasympatholytic Agents; Vitamins in Solid or Liquid Form; Ascorbic Acid Injections for Intravenous or Intramuscular Use; Anticoagulant Agents; Medicated Adhesive Plasters; Herbs for Medicinal Teas; Medicinal Protective Skin Creams; Eye Drops; Digestive Aids; Antacids; Laxatives; Food Supplements Containing Vitamins or Minerals; Anaesthetics; Analgesics; Sedatives; Narcotics; Antibiotics; Medicinal Dextrose and Dextrose Solutions; Insulin Preparations; Antirheumatic or Antiphlogistic Agents; Steroids; Local Tissue Stimulants; Oral Disinfectants; Oxytocic Agents; Cardiac Tonics or Stimulants; Vasodilators; Diuretics; Antiallergenic Agents; and Antipyretics (Int. Cl. 5).

SN 316,323. Medic-Fair, Inc., Villanova, Pa. Filed Jan. 10, 1969.

MEDIC-FAIR

For Dietary Supplement of B-Complex Vitamins, Vitamin C and Iron (Int. Cl. 5).
First use Dec. 3, 1968.

SN 316,842. Stayner Corporation, Berkeley, Calif. Filed Jan. 16, 1969.

STAYNER

For Pharmaceutical and Medicinal Preparations (Int. Cl. 5).
First use Sept. 25, 1958.

SN 321,194. Cobe Laboratories, Inc., Denver, Colo. Filed Mar. 10, 1969.

RENALYTE

For Dialysis Concentrate for Use in Artificial Kidney Functioning (Int. Cl. 5).
First use Dec. 23, 1968.

SN 322,929. USV Pharmaceutical Corporation, New York, N.Y. Filed Mar. 26, 1969.

ACNESPAN

For Pharmaceutical Preparation for Treatment of Allergic Dermatoses (Int. Cl. 5).
First use Feb. 20, 1969.

SN 323,785. Bristol-Myers Company, New York, N.Y. Filed Apr. 7, 1969.

EXCEDRIN P.M.

Owner of Reg. No. 696,323.
For Analgesic/Sleeping Aid (Int. Cl. 5).
First use Feb. 3, 1969.

SN 324,504. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Apr. 14, 1969.

ASMATANE MIST

The word "Mist" is disclaimed apart from the mark as shown.
For Preparation for Relief of Bronchial Asthma (Int. Cl. 5).
First use Mar. 28, 1969.

SN 324,898. Drug City, Incorporated, Bloomfield, Conn. Filed Apr. 18, 1969.

DRUG CITY

For Pharmaceutical Preparations, for the Relief of Diarrhea, Nausea, Stomach Upset, and Coughs and Colds (Int. Cl. 5).
First use January 1964.

SN 326,480. Richardson-Merrell Inc., New York, N.Y. Filed May 6, 1969.

FACE IT

Applicant disclaims the word "Face" apart from the mark as shown.
For Medicated Preparations for Use in the Treatment of Acne, Pimples, and other Skin Conditions (Int. Cl. 5).
First use Mar. 19, 1969.

SN 326,483. Richardson-Merrell Inc., New York, N.Y. Filed May 6, 1969.

CITY GIRL

For Medicated Preparations for Use in the Treatment of Acne, Pimples, and Other Skin Conditions (Int. Cl. 5).
First use Mar. 19, 1969.

SN 328,841. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 2, 1969.

MARIDYL

For Preparation for the Relief of Premenstrual Distress (Int. Cl. 5).
First use May 14, 1969.

SN 328,842. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 2, 1969.

PRIOL

For Preparation for the Relief of Premenstrual Distress (Int. Cl. 5).
First use May 14, 1969.

SN 329,106. Merck & Co., Inc., Rahway, N.J. Filed June 4, 1969.

DICLOSURIC

For Medicinal Preparation for Use in the Treatment of Hypertension, Hyperuricemia and as a Diuretic (Int. Cl. 5).
First use Apr. 18, 1969.

SN 329,107. Merck & Co., Inc., Rahway, N.J. Filed June 4, 1969.

LINTANIL

For Psychoterapeutic Preparation (Int. Cl. 5).
First use Apr. 18, 1969.

SN 329,108. Merck & Co., Inc., Rahway, N.J. Filed June 4, 1969.

PERIACTIN-VITA

Owner of Reg. No. 703,169.
For Pharmaceutical Preparation Containing an Appetite Stimulant and Vitamins for Use in Promoting Growth and the Prevention and Treatment of Metabolic Deficiencies (Int. Cl. 5).
First use Apr. 18, 1969.

SN 329,109. Merck & Co., Inc. Rahway, N.J. Filed June 4, 1969.

DICHLOSURIC

For Medicinal Preparation for Use in the Treatment of Hypertension, Hyperuricemia and as a Diuretic (Int. Cl. 5).
First use Apr. 18, 1969.

SN 331,480. Parke, Davis & Company, Detroit, Mich. Filed July 1, 1969.

NATABEC RX

Applicant disclaims the symbol "RX" separate from the mark as shown. Owner of Reg. No. 830,109.
For Vitamin-Mineral Preparation (Int. Cl. 5).
First use on or before June 12, 1969.

SN 331,541. A. H. Robins Company, Incorporated, Richmond, Va. Filed July 1, 1969.

DIVESTIN

For Anorexigenic Medical Preparation (Int. Cl. 5).
First use June 25, 1969.

SN 333,230. Kimberly-Clark Corporation, Neenah, Wis. Filed July 23, 1969.

KOTEX FRESH 'N CLEAN

No claim is made to the terminology "Fresh 'N Clean" apart from the mark as shown. Owner of Reg. Nos. 134,900, 847,673, and others.
For Vaginal Douche Preparation (Int. Cl. 5).
First use May 21, 1969.

SN 336,512. Bristol-Myers Company, New York, N.Y. Filed Aug. 28, 1969.

NALDEGESIC

Owner of Reg. Nos. 692,726, 840,321, and others.
For Analgesic, Antipyretic, Decongestant, Antihistaminic Pharmaceutical Preparations (Int. Cl. 5).
First use July 28, 1969.

SN 341,739. Carter-Wallace, Inc., New York, N.Y. Filed Oct. 27, 1969.

TODAY

For Preparation for Use as a Smoking Deterrent (Int. Cl. 5).
First use Sept. 26, 1969.

SN 341,893. Bristol-Myers Company, New York, N.Y. Filed Oct. 28, 1969.

RESPAIRE

For Mucolytic Agent (Int. Cl. 5).
First use June 13, 1969.

SN 344,048. Beecham Inc., Clifton, N.J. Filed Nov. 20, 1969.

ENO

Owner of Reg. Nos. 32,315, 441,033, and others.
For Antacid (Int. Cl. 5).
First use in the year 1874.

SN 344,081. Rotta Research Laboratorium S.p.A., Milan, Italy. Filed Nov. 20, 1969.

MILID

Owner of Italian Reg. No. 173,773, dated Dec. 11, 1965.
For Antiulcer, Gastrotrophic and Gastroprotective Parmaceutical Preparations (Int. Cl. 5).

Class 19—Vehicles

SN 302,810. Heath Tecna Corporation, Kent, Wash. Filed July 9, 1968.

HEATHAIR

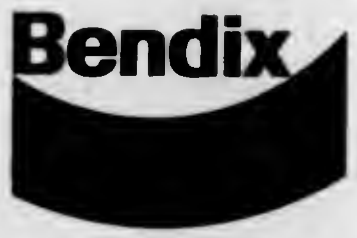
For Aircraft Cargo Containers and Parts Thereof (Int. Cl. 12).
First use May 31, 1967.

SN 307,831. Dynabulk Corporation, Bellevue, Wash. Filed Sept. 20, 1968.

DYNABULK

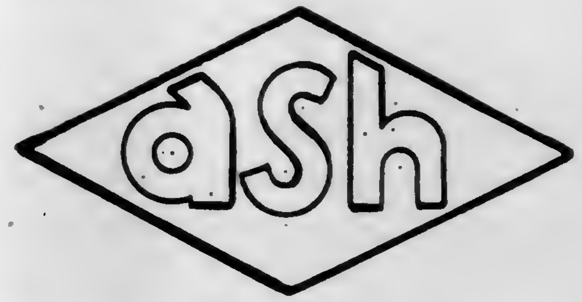
For Railcars (Int. Cl. 12).
First use Oct. 6, 1966.

SN 309,228. The Bendix Corporation, Detroit, Mich. Filed Oct. 9, 1968.



Owner of Reg. Nos. 214,284, 570,083, and 574,023.
For Motor Vehicle and Aircraft Brakes and Parts Thereof and Operating Connections therefor; Motor Vehicle Brake Systems Incorporating Power Brakes of the Differential Air Pressure Type, Brake Control Valves, Differential Air Pressure Cylinders for Brake Systems, Hydraulic Brake Systems; Full Power and Power Assisted Hydraulic Brake Systems; Motor Vehicle Steering Apparatus or Mechanism; Power Steering Systems and Parts thereof for Motor Vehicles and Aircraft Landing Gear; Tie Bars for Helicopter Rotors; Master Cylinders and Wheel Cylinders for Use on Motor Vehicles; Oil Reservoirs Used in Hydraulic Brake Systems on Motor Vehicles and Aircraft; Shock Absorbers; Motor Vehicle and Aircraft Wheels and Hubs; Aircraft Landing Gear; and Bicycle Coaster Brakes (Int. Cls. 7 and 12).
First use Sept. 20, 1968; Feb. 28, 1925, as to "Bendix" in other forms.

SN 311,002. Ash Precision Equipment, Inc., Detroit, Mich. Filed Oct. 31, 1968.



For Hand Trucks and Dolly Carts (Int. Cl. 12).
First use March 1962.

SN 320,074. Nautilette, Inc., Fort Wayne, Ind. Filed Feb. 25, 1969.

NAUTILETTE

For Powered Underwater Craft (Int. Cl. 12).
First use Feb. 1962.

SN 323,883. Assemblers, Inc., West Liberty, Iowa. Filed Apr. 2, 1969.

Porta-Stor

For Trailers for Storing and Transporting Hot Asphalt (Int. Cl. 12).
First use Apr. 6, 1968.

SN 326,341. Cacci Craft, Inc., Tampa, Fla. Filed May 5, 1969.

CACCI CRAFT

Applicant disclaims the word "Craft" apart from the mark as shown.
For Fiberglass Boats (Int. Cl. 12).
First use June 1, 1952.

SN 327,687. John A. Schroeder, d.b.a. Will-Win Associates, Milwaukee, Wis. Filed May 19, 1969.

FOG BUSTER

The term "Fog" is disclaimed separate and apart from the mark as shown.
For Glare Reducing Shield Adapted for Mounting Over the Headlights of Vehicles to Improve Visibility for Night Driving in Fog and Snow (Int. Cl. 12).
First use on or prior to Feb. 1, 1966.

SN 329,793. Bridgestone Tire Company Limited, Chuo-ku, Tokyo, Japan. Filed June 12, 1969.

BRIDGESTONE M II RS

Owner of U.S. Reg. Nos. 850,901, 857,819, and 857,821.
For Motorcycles, Bicycles, and Their Parts (Int. Cl. 12).
First use Jan. 10, 1969; in commerce Jan. 10, 1969.

SN 334,675. Textron, Inc., Providence, R.I. Filed Aug. 7, 1969.

POLARIS

Owner of Reg. No. 767,029.
For Racing Cars (Int. Cl. 12).
First use May 26, 1969.

SN 341,172. Edwin R. Michelsen, Clinton, Minn. Filed Oct. 20, 1969.

PINTO

For Automobiles (Int. Cl. 12).
First use Aug. 27, 1968.
Subj. to Intf. with SN 332,005.

SN 343,221. Lowe's Companies, Inc., Wilkesboro, N.C. Filed Nov. 12, 1969.

RANCHETTE

For Mobile Homes (Int. Cl. 12).
First use July 31, 1969.

SN 343,689. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Nov. 17, 1969.

EMPRESS

For Bicycles and Structural Parts Thereof (Int. Cl. 12).
First use Aug. 26, 1969.

SN 343,749. Poloron Products, Inc., New Rochelle, N.Y. Filed Nov. 17, 1969.

POLORON

Owner of Reg. Nos. 854,158, 861,101, and others.
For Snowmobiles (Int. Cl. 12).
First use at least as early as March 1968.

SN 345,194. Northland Camps, Inc., Nampa, Idaho. Filed Dec. 3, 1969.

Gentry

For Mobile Trailer Homes (Int. Cl. 12).
First use Sept. 9, 1969.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 265,659. Dale T. Smith, Jr., d.b.a. Smith Laboratories, Tipp City, Ohio. Filed Feb. 28, 1967.

CHROMARA

For Electronic Devices for Interpreting Sound and Music and Presenting Them in Multi-Color Display Patterns (Int. Cl. 9).
First use Nov. 29, 1965.

SN 266,468. Edmond Bordeaux Szekely, d.b.a. Hydrodynamics Research and Development Co., San Diego, Calif. Filed Mar. 10, 1967.

SLIMMING POOL GEYSER

The word "Pool" is disclaimed apart from the mark as shown.
For Electric Agitator for Water Such as That in a Swimming Pool (Int. Cl. 7).
First use Feb. 16, 1967.

SN 294,535. Souriau & Cie., Coulogne-Billancourt, Seine, France. Filed Mar. 29, 1968.

SOURIAU

For Electrical Connectors (Int. Cl. 9).
First use Feb. 1, 1946; in commerce Mar. 1, 1957.

SN 295,124. Data Products Corporation, Culver City, Calif. Filed Apr. 8, 1968.

dP data products corporation

The words "Data Products Corporation" are disclaimed.
For Computer Output Printers, and Computer Memories (Int. Cl. 9).
First use July 1, 1962.

SN 295,720. Compagnie de Caoutchouc Manufacture Dynamic, Paris, France. Filed Apr. 16, 1968.

VEGART

Priority claimed under Sec. 44(d) on French Reg. No. 733,293, dated Dec. 19, 1967.
For Microporous Screens for Use as Separators for Electric Batteries (Int. Cl. 9).

SN 299,083. Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, Filed May 27, 1968.

COMBIFLEX

Owner of Swedish Reg. No. 122,923, dated Mar. 22, 1968.
For Insertion Units, Comprising Racks, Stands, Frames and the Like for Mounting and Electrical Connection of Relays, Components and Apparatus; Electric Switchboards or Connection plates or panels and Connections (Int. Cl. 9).

SN 310,974. Pass & Seymour, Inc., Syracuse, N.Y. Filed Oct. 31, 1968.

Owner of Reg. Nos. 542,610, 764,991, and others.
For Ground Fault Circuit Interrupters (Int. Cl. 9).
First use Sept. 24, 1968.

SN 312,197. Harvey Hubbell, Incorporated, d.b.a Shalda Lighting Products Company, Bridgeport, Conn. Filed Nov. 14, 1968.

SHALDA

For Recreational, Industrial, Protective, Decorative and Residential Outdoor Electrical Lighting Equipment—Namely, Lighting Fixtures, General Purpose Floodlights, Building Floodlights, Walkway Lights, Area Lights, Garden Lights and Components Thereof (Int. Cl. 11).
First use latter part of 1965.

SN 314,320. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 12, 1968.

DUAL SHOWMAN

For Amplifier Loudspeaker Systems for Electrical Musical Instruments (Int. Cl. 9).
First use in 1967.

SN 317,289. Admiral Corporation, Chicago, Ill. Filed Jan. 23, 1969.

MAGNA·BRITE

Applicant disclaims the term "Brite" apart from the mark as shown.
For Television Picture Tubes (Int. Cl. 9).
First use Nov. 27, 1968.

SN 318,201. Kysor Industrial Corporation, Cadillac, Mich. Filed Feb. 3, 1969.

TEM·PRESSURE

For Temperature and Pressure Responsive Alarm and Shutdown Apparatus for Vehicle Engines (Int. Cl. 9).
First use Sept. 16, 1960.

SN 322,719. Luminous Ceilings, Inc., Chicago, Ill. Filed Mar. 25, 1969.

LITESHAPES

For Light Troffers (Int. Cl. 9).
First use Sept. 22, 1967.

SN 324,392. The H. J. Ashe Company, Inc., South Norwalk, Conn. Filed Apr. 14, 1969.

ASH FLASH SOLAR

Applicant disclaims the terms "Flash" and "Solar" apart from the mark as shown. Owner of Reg. No. 646,018.
For Electric Batteries (Int. Cl. 9).
First use at least May 1967.

SN 335,780. Stanley E. Sorenson, d.b.a. Sorenco Products, Edmonds, Wash. Filed Aug. 20, 1969.

TYLESCENT

For Electrical Lighting Fixtures (Int. Cl. 11).
First use November 1961.

SN 336,493. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Aug. 27, 1969.

National

For Electric Rice Cookers (Int. Cl. 11).
First use at least as early as Apr. 28, 1960; in commerce at least as early as Apr. 28, 1960.

SN 336,940. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Sept. 3, 1969.

HPF

For Magnetic Heads for Tape Recorder and Video Tape Recorder (Int. Cl. 9).
First use November 1967; in commerce November 1967.

SN 337,276. Cunningham Corporation, Honeoye Falls, N.Y. Filed Sept. 8, 1969.

HYSTAREED

For Reed Relay Switches (Int. Cl. 9).
First use Apr. 22, 1969.

SN 337,277. Cunningham Corporation, Honeoye Falls, N.Y. Filed Sept. 8, 1969.

HYSTAREED

For Reed Relay Switches (Int. Cl. 9).
First use Apr. 22, 1969.

SN 337,565. Motorola, Inc., Franklin Park, Ill. Filed Sept. 10, 1969.

MOCOM

Owner of Reg. Nos. 706,237 and 864,169.
For Radio Receivers and Radio Transmitters (Int. Cl. 9).
First use June 12, 1967.

SN 337,659. Graphex, Inc., Lawrence, Mass. Filed Sept. 11, 1969.

PROCESSOTRON

For Automatic Photographic Processing Machines (Int. Cl. 9).
First use May 25, 1969.

SN 337,673. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka Prefecture, Japan. Filed Sept. 11, 1969.

SPEED-O-VISION

For Television Receiving Sets (Int. Cl. 9).
First use March, 1968; in commerce April 1968.

SN 337,833. S & EI Manufacturing, Northridge, Calif. Filed Sept. 12, 1969.

S&EI

For Electrical Capacitors (Int. Cl. 9).
First use Apr. 10, 1969.

SN 338,107. Airpax Electronics Incorporated, Fort Lauderdale, Fla. Filed Sept. 17, 1969.

CEL-GARD

For Semiconductor Fuses (Int. Cl. 9).
First use Sept. 5, 1969.

SN 338,691. Power Designs, Inc., Westbury, N.Y. Filed Sept. 23, 1969.

UNIPLY

For Electronic Power Supplies for Use With Electronic Instruments (Int. Cl. 9).
First use Aug. 15, 1969.

SN 339,900. Kai It Battery Factory Ltd., Victoria, Hong Kong. Filed Oct. 6, 1969.

FLYING BOMB

For Flashlight Batteries (Int. Cl. 9).
First use Dec. 30, 1949; in commerce on or about Mar. 1, 1957.

SN 340,423. Reach Electronics, Inc., Lexington, Nebr. Filed Oct. 10, 1969.

VIP

For Pager for Receiving Radio Signals (Int. Cl. 9).
First use June 12, 1967.

SN 344,065. Oreck Corporation, Stamford, Conn. Filed Nov. 20, 1969.

XL

For Vacuum Cleaners (Int. Cl. 9).
First use Oct. 27, 1969.

SN 344,140. The Scott & Fetzer Company, Lakewood, Ohio. Filed Nov. 20, 1969.

VIRDEN

Owner of Reg. Nos. 635,848 and 636,412.
For Electrical Light Fixtures (Int. Cl. 11).
First use in or before 1928.

SN 344,938. Xynetics, Inc., Canoga Park, Calif. Filed Dec. 1, 1969.

XYNETICS

For Etched Circuit Boards With Components Connected in Circuit Therewith for Use in Automatic Drafting Systems (Int. Cl. 9)
First use Nov. 13, 1969.

Class 22 — Games, Toys, and Sporting Goods

SN 334,939. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1969.

DOLL-MATES

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use June 23, 1969.

SN 345,766. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

RATTLER

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,767. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

OVERTAKER

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,768. Mattel, Inc. Hawthorne, Calif. Filed Dec. 10, 1969.

ROD REVVER

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,769. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

SPEED BELT

For Power Booster for Toy Miniature Automobiles (Int. Cl. 28).
First use Nov. 11, 1969.

SN 346,029. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

SPEED BREED

For Toy Miniature Automobiles and Motorcycles (Int. Cl. 28).
First use Oct. 29, 1969.

SN 346,030. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

HOT PIPES

For Toy Miniature Automobile (Int. Cl. 28).
First use Oct. 30, 1969.

SN 346,033. Mattel, Inc., Hawthorne, Calif. Filed Dec. 12, 1969.

SPEED CENTER

For Service Building Accessory for Toy Miniature Automobiles (Int. Cl. 28).
First use Nov. 11, 1969.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 282,178. Copy-Rite Corporation, Chicago, Ill., Filed Oct. 10, 1967.

COPY-RITE

For Spirit Process Duplicating Machines (Int. Cl. 16).
First use at least as early as February 1941.

SN 286,690. Henri E. Leflon, Crugers, N.Y. Filed Dec. 11, 1967.

MINET

For Belt Conveyors and Parts Thereof (Int. Cl. 7).
First use December 1955.

SN 293,160. Henry J. Modrey, d.b.a. Modrey Associates, Stamford, Conn. Filed Mar. 13, 1968.

PINTREX

For Automatic Pin Inserting Machines and Parts Thereof (Int. Cl. 7).
First use Jan. 26, 1968.

SN 294,294. Lomag Corporation, Roosevelt, N.Y. Filed Mar. 27, 1968.

FLOmatic

For Machine Parts—Namely, Gears, Wheels, Lever Blanks, Linkages and Bearing Plates; and tools—Namely, Wrenches (Int. Cls. 7 and 8).
First use August 1965.

SN 295,618. The Cleveland Automatic Machine Company, Cincinnati, Ohio. Filed Apr. 15, 1968.

CLEVELAND

For Automatic Screw Machines, Chucking Machines, Die Casting Machines, Milling Machines, and Injection Molding Machines (Int. Cl. 7).
First use at least as early as 1891.

SN 299,204. William R. Blackwood, d.b.a. The Royston Co., Topsfield, Mass. Filed May 28, 1968.

ROI-CODER

For Kit Containing Hand Coding Stamps and Stamping Guide (Int. Cl. 16).
First use December 1967.

SN 302,068. Gearmaster, Inc., McHenry, Ill. Filed July 5, 1968.

GEARMASTER

For Gear-Type Speed-Reducing Units and Gear-Motor Assemblies (Int. Cl. 7).
First use Sept. 28, 1960.

SN 305,311. The Challenge Machinery Company, Grand Haven, Mich. Filed Aug. 16, 1968.

CHALLENGE

Owner of Reg. Nos. 438,846, 718,209, and others.
For Various Types of Machines, Machine Accessories, Components and Parts Thereof—Namely, Paper Drilling Machines and Parts Thereof, Paper Drills, Drill Sharpeners, Slotting Attachments, and Cornering Attachments Used on Paper Drilling Machines, Lever and Power Actuated Paper Cutting Machines and Parts Thereof, Paper Cutter Knives, Cutting Sticks, Three Knife Trimmers, Paper Joggers, Folding Machines, Perforating Machines, Printers' Proof Presses and Parts Thereof, Printer's Quoins, Printers' Quoin Keys, Printers' Galleys, Printers' Furniture, Printers' Imposing Surfaces, Toolmakers' Knees, Height Blocks, Planer and Boring Mill Parallels, Tooling Blocks, Machine Set-Up Plates, Machine Sub-Plates, Work Benches, and Granite Plates (Int. Cls. 7, 16 and 20).
First use on or about June 1, 1967.

SN 306,125. The Edge-Rite Corporation, Brownwood, Tex. Filed Aug. 28, 1968.

WHIRL-KING

For Fertilizer Spreader (Int. Cl. 7).
First use July 17, 1968.

SN 307,561. Daniel Lamar Christy, Fremont, Ohio. Filed Sept. 17, 1968.

COAT-O-MATIC

For Industrial Dispensing Machines for Coating and Dusting Articles With Comminuted, Powdered and Granular Materials (Int. Cl. 7).
First use Aug. 16, 1968.

SN 307,773. Utica Cutlery Company, Utica, N.Y. Filed Sept. 19, 1968.

SPRITELY ROSE

Applicant disclaims the right to exclusive use of the word "Rose" apart from the mark.
For Stainless Steel Flatware—Namely, Knives, Forks and Spoons (Int. Cl. 8).
First use Aug. 13, 1968.

SN 307,997. Fukui & Company, Ltd., Higashi-ku, Osaka, Japan. Filed Sept. 23, 1968.

DELICA

For Office Supplies in General—Namely, Numbering Machines; Dater Stamps; Number Stamps; Word Stamps; Check Writing Machines; Eyelet Punching Machines; Punching Machines; Perforators; Paper Trimmers; Stapling Machines; Pencil Sharpeners; Tape Dispensers (Int. Cl. 16).
First use no later than Feb. 22, 1935; in commerce Mar. 15, 1966.

SN 308,318. Rockwell Manufacturing Company, Pittsburgh, Pa. Filed Sept. 26, 1968.

VERSA-PLANE

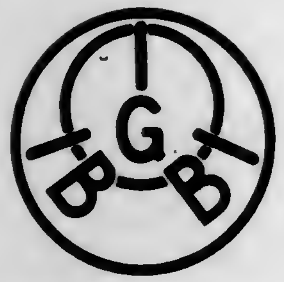
For Portable Hand Planes (Int. Cl. 8).
First use Nov. 30, 1967.

SN 309,269. Litton Business Systems, Inc., New York, N.Y. Filed Oct. 9, 1968.

FLEETWOOD

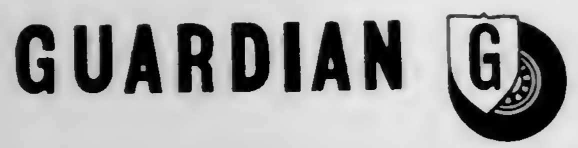
For Typewriters and Parts Thereof (Int. Cl. 16).
First use Sept. 12, 1968.

SN 309,369. Gebr. Becker Gesellschaft mit beschrankter Haftung, Wuppertal-Barmen, Germany. Filed Oct. 10, 1968.



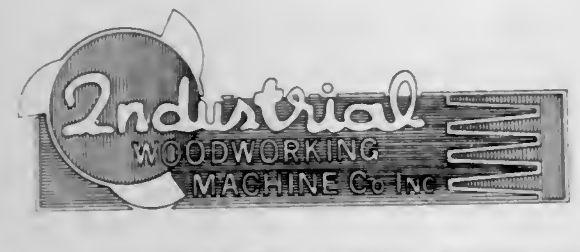
For Vacuum Pumps, Air Compressors, Combined Air and Vacuum Pumps and Centrifugal Pumps (Int. Cl. 7).
First use July 12, 1926; in commerce Dec. 12, 1955.

SN 310,092. Guardian Export Corp., New York, N.Y. Filed Oct. 21, 1968.



Applicant disclaims the representation of a wheel, apart from the mark as shown.
For Automotive Parts—Namely, Camshafts (New and Rebuilt), Carburetors (New and Rebuilt), Clutch Covers and Plates, Clutch Rebuilder Parts, Clutch Release Bearings, Crankshafts (New and Rebuilt), Cylinder Heads (New and Rebuilt), Engine Bearings, Fans for Engines and Blades Therefor, Fuel Lines, Fuel Pumps, Fuel Pump Kits and Parts, Gears, Oil Pumps (New and Rebuilt), Oil Pump Kits and Parts, Pistons (With Pins), Piston Pins, Rocker Arms, Rocker Arm Parts, Timing Gears, Timing Chains, Universal Joints, Valves and Parts Thereof, Water Pumps, Water Pump Repair Kits (Int. Cl. 12).
First use Mar. 25, 1968.

SN 312,297. Industrial Woodworking Machine Co., Inc., Garland, Tex. Filed Nov. 15, 1968.



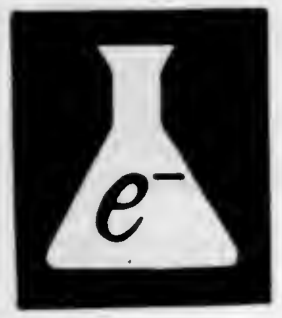
The words "Industrial Woodworking Machine Co., Inc.," are disclaimed apart from the mark as shown. The drawing is lined for the colors red and blue.
For Woodworking Machines—Namely, Scarfing Machines, Finger Joint Assembly Machines, Defect Saws, Conveyors and Multi-Blade Rip Saws (Int. Cl. 7).
First use on or about Dec. 15, 1962.

SN 312,880. Edelbrock Equipment Company, El Segundo, Calif. Filed Nov. 22, 1968.

EDELBROCK

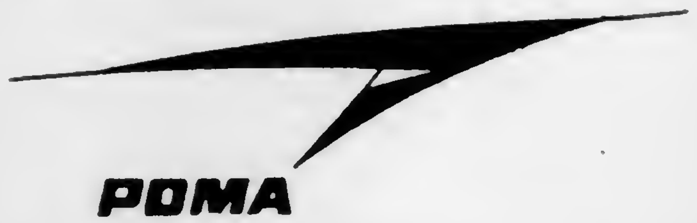
Owner of Reg. Nos. 755,954, 765,428, and 768,159.
For Automotive and Marine Accessories—Namely, Manifolds, Valve Covers, Engine Mounts, Linkage Kits, and Fuel Blocks (Int. Cls. 7 and 12).
First use at least as early as 1946.

SN 313,253. Applied Materials Technology, Inc., Santa Clara, Calif. Filed Nov. 29, 1968.



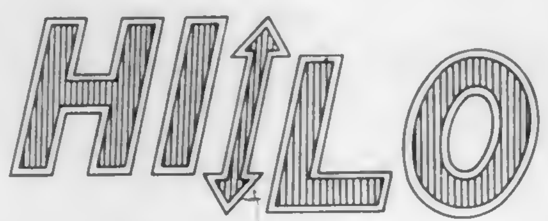
For Chemical Vapor Deposition Reactors and Components Thereof (Int. Cl. 7).
First use Apr. 23, 1968.

SN 313,584. Jean Pomagalski S.A., Fontaine-Grenoble, France. Filed Dec. 4, 1968.



For Cable Transport or Towing Apparatus and Installations—Namely, Cable Cars, Gondola-Lifts, Chair-Lifts, Ski-Lifts, and Water-Ski Towers (Int. Cl. 12).
First use Nov. 13, 1967; in commerce Jan. 15, 1968.

SN 315,282. B. E. Wallace Products Corp., Exton, Pa. Filed Dec. 26, 1968.



The drawing is lined for the color red.
For Portable Demountable Adjustable Gantry for Maintenance and Service Work (Int. Cl. 7).
First use Oct. 9, 1968.

SN 316,627. Dayco Corporation, Dayton, Ohio. Filed Jan. 15, 1969.

WEAR-TEC

For Bottling and Container Filling Machinery and Parts Therefor (Int. Cl. 7).
First use on or about June 3, 1968.

SN 317,260. Shine Boy, Inc., Rock Island, Ill. Filed Jan. 22, 1969.

SHINE BOY

Applicant disclaims the word "Shine" apart from the mark.
For Electrically Coin Operated Machine for Spraying Wax on Shoes for the Purpose of Shining Same (Int. Cl. 7).
First use Nov. 17, 1965.

SN 317,566. Hyster Company, Portland, Oreg. Filed Jan. 27, 1969.

LANDSAVER

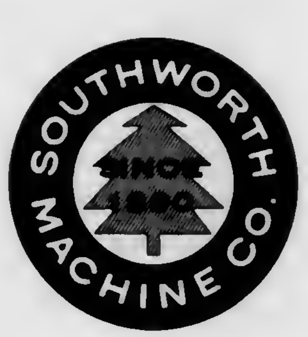
For Earth Compactors Adapted for Use in Land-Filling Operations (Int. Cl. 7).
First use Dec. 5, 1968.

SN 322,271. Chicago Wheel & Manufacturing Co., Chicago, Ill. Filed Mar. 20, 1969.

TRADEMASTER

For Abrading Machines, Rotary Hand Grinders and Tool Attachments Therefor (Int. Cl. 7).
First use on or about Feb. 1, 1969.

SN 322,492. Southworth Machine Company, Portland, Oreg. Filed Mar. 21, 1969.



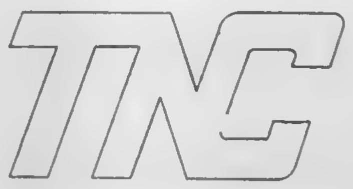
The drawing is lined for the color brown, but no claim is made to color. Owner of Reg. No. 539,853.
For Machinery—Namely, Punching Machines and Parts Thereof, Cornering Machines and Parts thereof, Perforating Machines and Parts Thereof, Power Corner Cutting Machines and Parts Thereof, Paper Jogging Machines and Parts Thereof, Mechanical Humidifiers Having a Motor Driven Vaporizer and Fan Paper Hangers in the Nature of Mechanical Clamps for Conditioning Paper, Paper Conditioning Machines and Parts Thereof, Automatic Skid Lifts, Air Lift Tables, Carton Sealers, Lift Tables, Skid Turners, Palletizers, Turn Tables, Adhesive Dispensers, and Ream Collecting Devices (Int. Cl. 7).
First use during the year 1900.

SN 323,186. Richard A. Carlyon, Jr., Carson City, Nev. Filed Apr. 1, 1969.

SPRAY BABY

The word "Spray" apart from the mark as a whole is disclaimed.
For Agricultural Spraying Machines Which may be Used to Spread Mulch, Fertilizer and Seed (Int. Cl. 7).
First use Dec. 26, 1968.

SN 326,012. Textron, Inc., Cheshire, Conn. Filed Apr. 30, 1969.



For Lathes, Including Numerically Controlled Lathes (Int. Cl. 7).
First use Mar. 5, 1969.

SN 326,977. Baker Perkins Inc., Saginaw, Mich. Filed May 12, 1969.

UNIDOR

For Power-Operated Industrial Mixers (Int. Cl. 7).
First use Mar. 18, 1969.

SN 327,515. Speedfam Corporation, Des Plaines, Ill. Filed May 16, 1969.

FAM

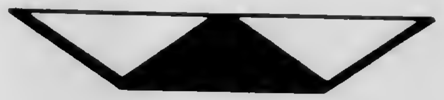
For Lapping Machines, Free Abrasive Machines, Polishing Machines, Abrading Machines, Grinding Machines, and Machines for Reclamation of Abrasive Vehicle; and Parts and Fixtures for Such Machines (Int. Cl. 7).
First use at least as early as April 1967, on Abrading Machines.

SN 330,178. Neirad Industries, Inc., Saugatuck, Conn. Filed June 16, 1969.

SOS

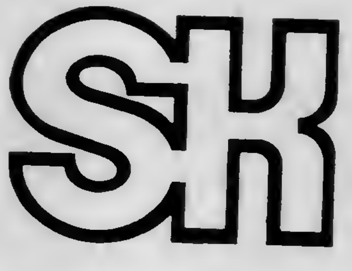
For Oil Recovery Systems and Equipment—Namely, Confining Booms Oil Skimming Devices, Oil Boom Stowage Boxes and Parts Therefor (Int. Cl. 7).
First use Mar. 24, 1969.

SN 330,677. Waukesha Foundry Company, Inc., Waukesha, Wis. Filed June 23, 1969.



For Sanitary and Industrial Pumps; Colloid Mills and Mayonnaise Manufacturing Apparatus Comprising Flow Control Pumps, Homogenizers, Mixing and Storage Tanks and Colloid Mills (Int. Cl. 7).
First use Aug. 11, 1966.

SN 331,427. Safety-Kleen Corporation, Elgin, Ill. Filed June 30, 1969.



For Mechanical Parts Cleaning Units and Parts Thereof Including a Solvent Circulating Pump, Sink and Drum Reservoir (Int. Cl. 7).
First use Nov. 4, 1968.

SN 333,922. Gloucester Engineering Co., Inc., Gloucester, Mass. Filed July 30, 1969.

VERTRUDER

For Extruders for Plastic Materials (Int. Cl. 7).
First use at least as early as Dec. 12, 1967.

SN 334,604. The National Screw & Manufacturing Company, Mentor, Ohio. Filed Aug. 6, 1969.

HY-CLAMP

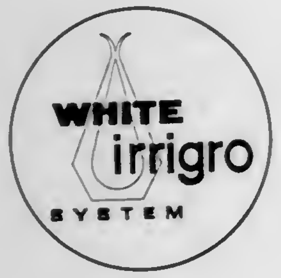
Owner of Reg. No. 694,782.
For Tools—Namely, Tools for Installing Blind Fasteners (Int. Cl. 8).
First use June 12, 1959.

SN 335,101. White Motor Corporation, Cleveland, Ohio. Filed Aug. 11, 1969.

WHITE IRRIGRO SYSTEM

The word "System" is disclaimed apart from the mark.
For Agricultural and Large-Area Irrigation Units Including a Mobile Sprinkler and a Motor Driven Winch and Hose Reel Unit (Int. Cl. 7).
First use May 23, 1969.

SN 335,102. White Motor Corporation, Cleveland, Ohio. Filed Aug. 11, 1969.



The word "System" is disclaimed apart from the mark.
For Agricultural and Large-Area Irrigation Units Including a Mobile Sprinkler and a Motor-Driven Winch and Hose Reel Unit (Int. Cl. 11).
First use May 23, 1969.

SN 335,343. Hollis Engineering, Inc., Nashua, N.H. Filed Aug. 14, 1969.

AUTOLINE

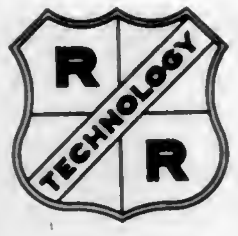
For Printed Circuit Board Cleaning Machine (Int. Cl. 7).
First use May 16, 1969.

SN 336,603. Richards of Rockford, Inc., Rockford, Ill. Filed Aug. 28, 1969.

RICH-AIRATOR

For Water and Waste Treatment Machinery—Namely, Liquid Aerators (Int. Cl. 7).
First use Jan. 7, 1966.

SN 336,604. Richards of Rockford, Inc., Rockford, Ill. Filed Aug. 28, 1969.



For Water and Waste Treatment Equipment—Namely, Liquid Aerators and Sludge Removers (Int. Cl. 7).
First use Aug. 1, 1968.

SN 336,605. Richards of Rockford, Inc., Rockford, Ill. Filed Aug. 28, 1969.

HYDRO-SWEEP

For Water and Waste Treatment Machinery—Namely, Sludge Removers (Int. Cl. 7).
First use July 8, 1967.

SN 336,606. Richards of Rockford, Inc., Rockford, Ill. Filed Aug. 28, 1969.

KOOL-FLOW

For Water and Waste Treatment Machinery—Namely, Liquid Aerators (Int. Cl. 7).
First use Mar. 23, 1969.

SN 337,015. Dana Corporation, Toledo, Ohio. Filed Sept. 4, 1969.

CON-VEL

Owner of Reg. No. 748,404.
For Universal Joints and Parts Thereof (Int. Cl. 7).
First use July 1, 1969.

SN 337,149. Buck Tool Company, Kalamazoo, Mich. Filed Sept. 5, 1969.

BUCK

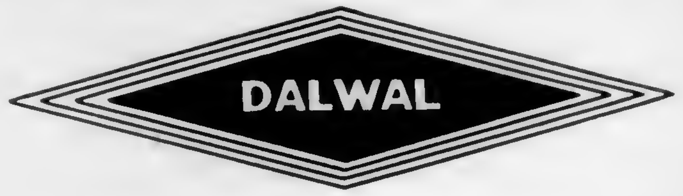
For Chucks, Expanding Arbors, Collets and Parts Thereof (Int. Cl. 7).
First use May 1942.

SN 339,519. Zayre Corp., Natick, Mass. Filed Oct. 2, 1969.

ZAYRE

For Screw Drivers (Int. Cl. 8).
First use at least as early as July 1969.

SN 343,089. Dalwal Enterprises, Inc., Benton, Ill. Filed Nov. 10, 1969.



For Drill Bits (Int. Cl. 7).
First use at least as early as June 23, 1967.

Class 24 — Laundry Appliances and Machines

SN 328,752. Western Automation Corporation, Seattle, Wash. Filed May 29, 1969.

VIBRA-STEAMER

For Garment Steaming and Dewrinkling Equipments and Associated Garment Conveying and Storage Mechanisms (Int. Cl. 7).
First use in or about January 1956.

Class 26 — Measuring and Scientific Appliances

SN 288,362. Sperry Rand Corporation, New York, N.Y. Filed Jan. 8, 1968.

REMINGTON

Owner of Reg. No. 233,910.
For Electrostatic Copier (Int. Cl. 16).
First use Oct. 23, 1967.

SN 316,010. Induchem Laboratory Glass Co., Inc., Roselle, N.J. Filed Jan. 7, 1969.

Induchem

For Laboratory Glassware (Int. Cl. 9).
First use June 12, 1968.

SN 319,921. Leeds & Northrup Company, North Wales, Pa. Filed Feb. 24, 1969.

SURTEMP

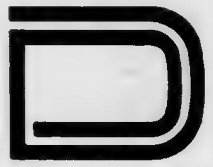
For Surface Temperature Sensor, Including a Surface Temperature Probe (Int. Cl. 9).
First use Dec. 19, 1968.

SN 333,583. Lumitron Corp., Los Angeles, Calif. Filed July 25, 1969.

LUMITRON

For Fiber Optic Lamps (Int. Cl. 11).
First use June 20, 1969.

SN 334,213. Durrum Instrument Corporation, Palo Alto, Calif. Filed Aug. 1, 1969.



For Spectropolarimeters, Stopped-Flow Temperature Jump Spectrophotometers, Spectrophotometers, Spectro-Irradiators, Variable Volume Displacement Tubing Pumps for Laboratory Use (Int. Cl. 9).
First use May 1963.

SN 334,214. Durrum Instrument Corporation, Palo Alto, Calif. Filed Aug. 1, 1969.

DURRUM

For Spectropolarimeters, Stopped-Flow Temperature Jump Spectrophotometers, Spectrophotometers, Spectro-Irradiators, Variable Volume Displacement Tubing Pumps for Laboratory Use (Int. Cl. 9).
First use May 1963.

SN 335,629. Vexilar Engineering Incorporated, Minneapolis, Minn. Filed Aug. 18, 1969.

DEPTHERM

For Water Depth and Temperature Indicator for Fishermen (Int. Cl. 9).
First use at least as early as Mar. 20, 1969.

SN 335,692. Fedtro, Inc., Rockville Centre, N.Y. Filed Aug. 19, 1969.

GUIDE-O-MATIC

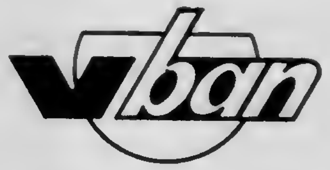
For Suction Mounted Compasses (Int. Cl. 9)..
First use Aug. 12, 1969.

SN 335,965. Fidelity Manufacturing Company, Sun Valley, Calif. Filed Aug. 22, 1969.

LISCO

For Film Holders (Int. Cl. 9).
First use in or before January 1949.

SN 342,210. Minoco Lens Company, Inc., St. Cloud, Minn. Filed Oct. 31, 1969.



For Optical Lenses (Int. Cl. 9).
First use Oct. 6, 1969.

SN 342,589. Dwyer Instruments, Inc., Michigan City, Ind. Filed Nov. 4, 1969.

MICROTECTOR

For Manometers With Electrical Readout (Int. Cl. 9).
First use Oct. 17, 1969.

Class 27 — Horological Instruments

SN 306,499. Mondia S.A., La Chaux-de-Fonds, Switzerland. Filed Sept. 3, 1968.

STELLARIS

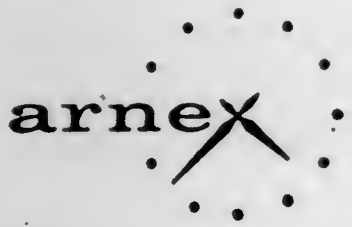
Owner of Swiss Reg. No. 196,542, dated Feb. 22, 1963.
For Watches (Int. Cl. 14).

SN 320,053. N. Engel & Company, Inc., New York, N.Y. Filed Feb. 25, 1969.

AVALON AVA-TRON

Owner of Reg. No. 231,753.
For Men's Wrist Watches (Int. Cl. 14).
First use May 21, 1968.

SN 334,273. Arnex Time Co. Inc., New York, N.Y. Filed Aug. 5, 1969.



The representation of a watch or clock face is disclaimed apart from the mark as shown. The mark consists of the word "Arnex" together with the representation of a clock or watch face.

For Watches and Clocks and Parts Thereof (Int. Cl 14).
First use October 1963.

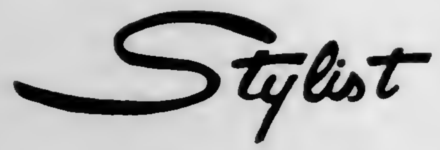
Class 28 — Jewelry and Precious-Metal Ware

SN 323,470. Pearls By Slutsky Ltd., New York, N.Y. Filed Apr. 2, 1969.

SEABORNE

For Jewelry (Int. Cl. 14).
First use on or before Mar. 17, 1969.

SN 331,426. Ripley and Gowen Company Incorporated, Attleboro, Mass. Filed June 30, 1969.



Owner of Reg. No. 770,803.

For Ladies' Jewelry Consisting of Bracelets, Necklets, Brooches, Lockets, Bar Pins, Finger Rings, and Other Jewelry for Ladies' Wear or Adornment, Such as, Necklaces, Clips, Pins, and Earrings; and Men's Jewelry Consisting of Tie Slides, Tie Tacks, Collar Pins, Cuff Buttons Made of Precious Metal, Dress Sets Which Consist of a Pair of Cuff Links and Three Studs for Men's Dress Shirts, Watch Chains, and Other Jewelry for Men's Personal Wear or Adornment, Such as Cuff Links, Tie Bars, and Key Chains Made of Precious Metal, not Including Watches (Int. Cl. 14).

First use in or about May 1966.

SN 333,782. Walco Jewelry Company, d.b.a. Wallach Manufacturing Company, Culver City, Calif. Filed July 28, 1969.

WALCO

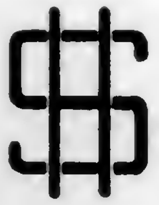
For Jewelry Mountings (Int. Cl. 14).
First use January 1956.

SN 333,951. Textron, Inc., Providence, R.I. Filed July 30, 1969.

TATTOO

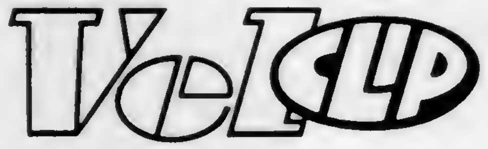
For Bracelets Including Identification Braceleta (Int. Cl. 14).
First use July 10, 1969.

SN 334,641. Stuckey & Speer, Inc., Houston, Tex. Filed Aug. 6, 1969.



The mark consists of a representation of the letters "HS."
For Articles of Jewelry (Int. Cl. 14).
First use Apr. 15, 1969.

SN 334,802. American Velcro, Inc., Manchester, N.H. Filed Aug. 8, 1969.



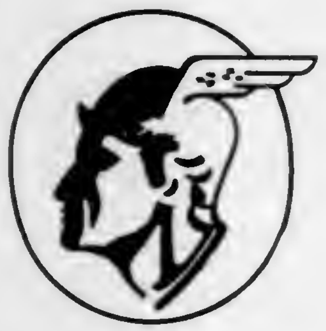
Applicant disclaims the word "Clip" apart from the mark as shown. Owner of Reg. Nos. 661,700, 810,913, and others.

For Tie Clip Containing a Hook and Loop Fastener for the Tie (Int. Cl. 14).
First use May 11, 1969.

SN 335,719. M. Belmont Ver Standig, Inc., d.b.a. Ver Standig, Inc., Washington, D.C. Filed Aug. 19, 1969.

For Jewels and Jewelry (Int. Cl. 14).
First use Oct. 25, 1966.

SN 337,561. Mercury Ring Corporation, New York, N.Y. Filed Sept. 10, 1969.



For Jewelry Consisting of Rings, Pendants, Brooches, Earrings, Tie Tacs, Festoons and Lover's Knots (Int. Cl. 14).
First use Apr. 1, 1943.

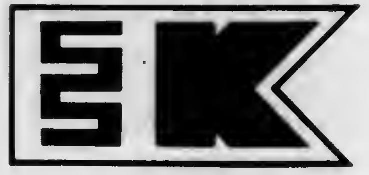
SN 340,217. Fairdeal Manufacturing Co., Providence, R.I. Filed Oct. 9, 1969.

INTRIGUE

For Jewelry for Personal Wear and Adornment, Not Including Watches (Int. Cl. 14).
First use Sept. 23, 1969.

Class 29 — Brooms, Brushes, and Dusters

SN 333,929. S. S. Kresge Company, Detroit, Mich. Filed July 30, 1969.



For Chamois Polishing Cloths (Int. Cl. 21).
First use on or before Mar. 10, 1969.

Class 30 — Crockery, Earthenware, and Porcelain

SN 325,514. The Scio Pottery Company, Scio, Ohio. Filed Apr. 24, 1969.

ENGLISH SWIRL

The term "English" is disclaimed apart from the mark as shown.

For Non-Decorated White Dinnerware Pottery (Int. Cl. 21).
First use on or about Apr. 21, 1969.

SN 336,806. Interpace Corporation, Los Angeles, Calif. Filed Sept. 2, 1969.

MOON GLOW

For Tableware—Namely, Dinnerware and Dinnerware Accessories of China (Int. Cl. 21).
First use in about November 1965.

Class 31 — Filters and Refrigerators

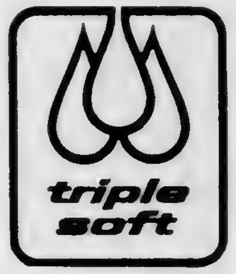
SN 319,409. Degremont S.A., Suresnes, Seine, France. Filed Jan. 21, 1969.

CANNON

Priority claimed under Sec. 44(d) on French Reg. No. 747,326, dated July 19, 1968.

For Filters for the Filtration of Liquids (Int. Cl. 11).

SN 323,485. Triple Soft Corporation, Oklahoma City, Okla. Filed Apr. 2, 1969.



The word "Soft" is disclaimed apart from the mark as shown.

For Automatic Ion-Exchange Water Softening Equipment (Int. Cl. 11).
First use on or about Jan. 15, 1968.

SN 335,881. Lehigh, Inc., Easton, Pa. Filed Aug. 21, 1969.

HUMODOR

For Unit That Contains a Desiccant for Stabilizing Humidity and Absorbing Odors in Refrigeration Units (Int. Cl. 11).
First use Mar. 1, 1968.

SN 338,534. Cambridge Filter Corporation, Syracuse, N.Y. Filed Sept. 22, 1969.

CAM-VAC

For Air and Lint Filters (Int. Cl. 11).
First use Sept. 12, 1969.

SN 344,795. Neotek Associates, Miami, Fla. Filed Nov. 28, 1969.

CRYSTAL REEF

For Carbon Purifier Cartridge for Aquariums (Int. Cl. 11).
First use June 15, 1969.

SN 345,047. Flanders Filters, Inc., Washington, N.C. Filed Dec. 2, 1969.

SUPERSEAL

For Air Filters (Int. Cl. 11).
First use during January 1969.

Class 32 — Furniture and Upholstery

SN 321,726. Prelude Corporation, High Point, N.C. Filed Mar. 14, 1969.

PRELUDE

For Cushions (Int. Cl. 20).
First use June 1962.

SN 325,282. Lear Siegler, Inc., Kalamazoo, Mich. Filed Apr. 23, 1969.

TUFF-TOP

For Counter Decks (Int. Cl. 20).
First use in or about July 1968.

SN 333,258. The Englander Company, Inc., New York, N.Y. Filed July 23, 1969.

DREAMER

For Mattresses and Box Springs (Int. Cl. 20).
First use on or about Aug. 3, 1945.

SN 334,564. Eclipse Sleep Products Inc., Brooklyn, N.Y. Filed Aug. 6, 1969.

TURNS DAY-INTO NIGHT

For Mattresses (Int. Cl. 20).
First use June 26, 1969.

SN 335,491. Zoladz Pere & Fils, Société Anonyme, Paris, France. Filed Aug. 15, 1969.

ZOL

Owner of French Reg. No. 424,846, dated Jan. 7, 1953 (Seine); Natl. Inst. No. 3880.
For Furniture Articles, More Particularly, Seats, Beds, Folding Beds, Easy Chairs and Sofa Beds (Int. Cl. 20).

SN 335,864. Holland Maid, Inc., Holland, Mich. Filed Aug. 21, 1969.

For Mattresses and Box Springs (Int. Cl. 20).
First use Aug. 1, 1967.

SN 336,897. Jarke Corporation, Chicago, Ill. Filed Sept. 3, 1969.

QUIKTRAY

For Material Storage Rack Having Sling Clearance (Int. Cl. 20).
First use May 1, 1968.

SN 338,199. Vogel-Peterson Co., Elmhurst, Ill. Filed Sept. 17, 1969.

VARA·PLAN

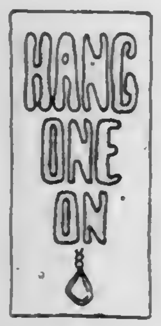
For Space Dividers for Use in Subdividing Offices, Classrooms and Work Areas (Int. Cl. 20).
First use Feb. 15, 1969.

SN 340,564. Kewaunee Scientific Equipment Corporation, Adrian, Mich. Filed Oct. 13, 1969.

For Laboratory Furniture and Equipment—Namely, Wall Mounted and Floor Mounted Cabinets and Cases, Component Parts of Such Cabinets and Cases, and Assemblies Thereof (Int. Cl. 20).
First use Apr. 7, 1969.

Class 33 — Glassware

SN 332,124. Morgantown Glassware Guild, Incorporated, Morgantown, W. Va. Filed July 9, 1969.



The stippling on the drawing is part of applicant's design and is not for the purpose of indicating color.
For Glassware—Namely, Drinking Glasses and Flasklike Glass Containers (Int. Cl. 21).
First use June 20, 1969.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 304,079. Fedders Corporation, Edison, N.J. Filed Aug. 1, 1968.

VECTORMATIC

For Connector Assemblies for Use With Air Conditioning Equipment (Int. Cl. 11).
First use at least as early as 1961.

SN 306,234. Fedders Corporation, Edison, N.J. Filed Aug. 29, 1968.

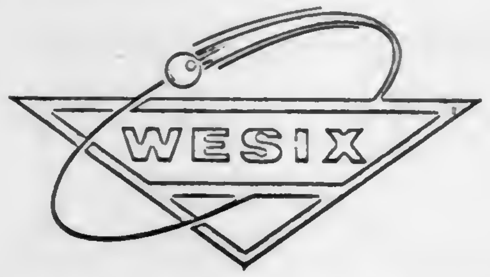
DUO-FLEX

For Air Conditioning Equipment—Namely, Cooling and Dehumidifying Units (Int. Cl. 11).
First use at least as early as June 19, 1968.

SN 325,124. Industrial Boiler Company, Inc., Chattanooga, Tenn. Filed Feb. 28, 1969.

The mark is a half-moon on which the word "Chattanooga" is presented. Applicant disclaims the word "Chattanooga" apart from the mark as shown.
For Heavy Metal Equipment for the Paving Industry—Namely, Asphalt Heaters and Heated Asphalt Silos and Bins (Int. Cl. 11).
First use July 1959.

SN 333,956. Wesix Electric Heater Co., Burlingame, Calif. Filed July 30, 1969.



Owner of Reg. Nos. 169,966, 591,069, and 743,327.
For Residential and Commercial Air Heating and Cooling Equipment—Namely, Automatic Wall Convectors, Automatic Forced Air Wall Heaters, Baseboard Heating Panels, Bathroom Heaters, Automatic Portable Heaters, Perimeter Convectors, Ceiling Heat Cable, Air Thermostats, Centralized Control Systems for Electric Heating Systems, Electric Air Conditioning Systems, Unit Heaters; Industrial Heating Equipment—Namely, Unit Heaters, Space Heating Equipment, Controls for Industrial Electrical Heating Equipment, Longitudinal Thin Duct Heaters, Insert Duct Type Heaters, Open Coil Duct Heaters, Explosion Proof Convectors, and Automatic Unit Ventilators (Int. Cl. 11).
First use Dec. 15, 1961.

SN 338,544. Crown-X, Inc., Cleveland, Ohio. Filed Sept. 22, 1969.

INSTAMATIC

Owner of Reg. No. 836,724.
For Convection Ovens (Int. Cl. 11).
First use Sept. 6, 1967.

SN 339,662. Consolidated Foods Corporation, Old Greenwich, Conn. Filed Oct. 3, 1969.

ELECTROLUX

Owner of Reg. Nos. 195,691, 562,427, and others.
For Air Blowers (Int. Cl. 11).
First use in or before 1928.

SN 340,018. Insto-Gas Corporation, Detroit, Mich. Filed Oct. 7, 1969.

SUNDOWNER

For Gas Heaters (Int. Cl. 11).
First use Apr. 10, 1969.

SN 345,111. Mid-Continent Metal Products Co., Chicago, Ill. Filed Dec. 3, 1969.

UNIPOWER

For Gas Burners, Gas/Oil Burners and Oil Burners (Int. Cl. 11).
First use July 3, 1969.

SN 345,894. Hamilton Humidity, Inc., Chicago, Ill. Filed Dec. 11, 1969.

VAPOTRON-4000

Owner of Reg. Nos. 759,669 and 824,230.
For Industrial Humidifiers (Int. Cl. 11).
First use on or about Oct. 10, 1969.

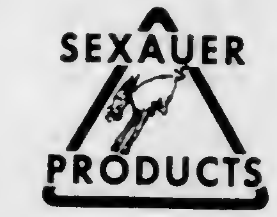
Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 296,904. Warenzeichenverband der Reifenwerke der Deutschen Demokratischen Republik E.V., Fuerstenwalde (Spree), Germany. Filed Apr. 29, 1968. COLLECTIVE MARK.

PNEUMANT

For Tires and Inner Tubes for Motor-Powered and Non-Motor Powered Vehicles—Namely, Airplanes, Automobiles, Deep Loaders, Agricultural Machines, Tractors and Carriages Used in Agriculture, Ground-Levelling Machines, Wheelbarrows, and Handbarrows (Int. Cl. 12).
First use May 1961; in commerce Jan. 15, 1968.

SN 328,599. J. A. Sexauer Mfg. Co., Inc., White Plains, N.Y. Filed May 28, 1969.



The word "Products" is disclaimed apart from the mark without waiver of any common law rights. Owner of Reg. Nos. 375,977, 861,261, and others.
For Non-Metallic Faucet Repair Parts—Namely, Washers, Cushions, Packing, Gaskets, and Leathers (Int. Cl. 17).
First use during 1966; 1921 as to the mark "Sexauer."

SN 337,043. The Hercules Tire & Rubber Company, Findlay, Ohio. Filed Sept. 4, 1969.

HERCUMILE

For Pneumatic Tires and Tubes (Int. Cl. 12).
First use July 8, 1969.

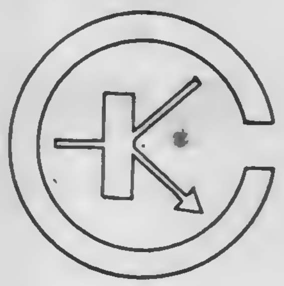
SN 340,830. W. S. Shamban & Co., Los Angeles, Calif. Filed Oct. 15, 1969.

EXCLUDER

For Seals for Hydraulic and Pneumatic Actuators (Int. Cl. 17).
First use June 27, 1969.

Class 36 — Musical Instruments and Supplies

SN 314,533. Crumar di Mario Crucianelli-F. Marchetti & C. S.a.S., Castelfidardo, Ancona, Italy. Filed Dec. 16, 1968.

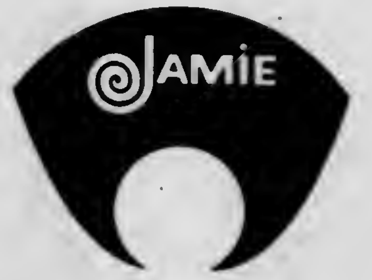


Priority claimed under Sec. 44(d) on Italian application, filed Oct. 26, 1968; Reg. No. 235,739, dated Feb. 26, 1969.
For Accordions (Int. Cl. 15).

SN 324,167. Bego Enterprises, Inc., McAllen, Tex. Filed Apr. 10, 1969.

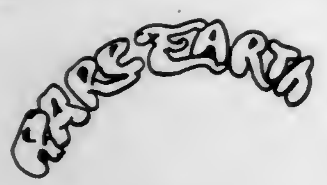
For Phonograph Records, Phonographs, Magnetic Tapes, Cartridge Tapes, Cassette Cartridge Tapes, and Phonograph Record Albums (Int. Cl. 9).
First use Oct. 1, 1963.

SN 325,758. Jamie Record Co., Philadelphia, Pa. Filed Apr. 28, 1969.



Applicant disclaims the word "Records" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use July 16, 1968.

SN 334,858. Motown Record Corporation, Detroit, Mich. Filed Aug. 8, 1969.



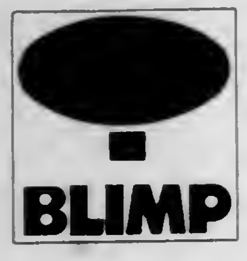
For Phonograph Records (Int. Cl. 9).
First use July 16, 1969.

SN 343,285. M. Hohner Inc., Hicksville, N.Y. Filed Nov. 12, 1969.

LANCER

For Harmonicas (Int. Cl. 15).
First use Oct. 10, 1969.

SN 343,384. Blimp Productions, Inc., Beverly Hills, Calif. Filed Nov. 13, 1969.



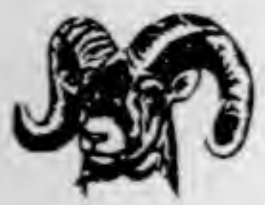
For Phonograph Recordings and Tapes (Int. Cl. 9).
First use May 11, 1969.

SN 343,693. G.H.S. Corporation, Battle Creek, Mich. Filed Nov. 17, 1969.

formula strings

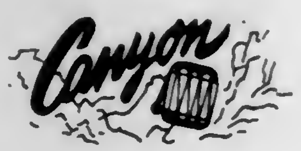
The word "Strings" is disclaimed apart from the mark, but applicant waives none of its common law rights in the mark as shown.
For Strings Used on Musical Instruments (Int. Cl. 15).
First use June 1968.

SN 344,207. Aries Record Productions, Inc., Chicago, Ill. Filed Nov. 21, 1969.



For Grooved Phonograph Records (Int. Cl. 9).
First use Sept. 9, 1969; November 1967 in a different form.

SN 344,677. Canyon Records, Phoenix, Ariz. Filed Nov. 26, 1969.



For Phonograph Records (Int. Cl. 9).
First use 1951.

SN 344,814. Budget Sound, Inc., d.b.a. Grit Records, Burbank, Calif. Filed Nov. 28, 1969.

GRIT

For Pre-Recorded Magnetic Tape and Phonograph Records (Int. Cl. 9).
First use Nov. 5, 1969.

Class 37—Paper and Stationery

SN 299,484. Louis Reichman America Corp., New York, N.Y. Filed May 31, 1968.

buffalo

For Photo Albums, Diaries, Address and Telephone Books, Marking Pens, Artists' Coloring Pens and Felt Tip Pens (Int. Cl. 16).
First use Jan. 2, 1968.

SN 313,239. Nu-Film Products Company Inc., New York, N.Y. Filed Nov. 29, 1968.

BLUFILM

For Plastic Film Supported on a Carrier Sheet Used in the Preparation of Silk Screen Stencils (Int. Cl. 16).
First use Jan. 8, 1937.

SN 317,775. Tuckersharpe Pen Company, Inc., Richmond, Va. Filed Jan. 28, 1969.

BONANZA

For Writing Instruments—Namely, Ball Point Pens (Int. Cl. 16).
First use at least as early as about February 1962.

SN 317,893. R. & W. Watson Limited, Linwood, Renfrewshire, Scotland. Filed Jan. 29, 1969.

Snolin

For Non-Woven Bookbinding Material for Soft Cover Books (Int. Cl. 16).
First use February 1967; in commerce September 1968.

SN 319,005. R. & W. Watson Limited, Linwood, Renfrewshire, Scotland. Filed Feb. 12, 1969.

Fabroleen

For Bookbinding Materials—Namely, Treated Paper Coverings for Books (Int. Cl. 16).
First use April 1938; in commerce February 1967.

SN 319,041. Fort Howard Paper Company, Green Bay, Wis. Filed Feb. 13, 1969.

PAMMY

For Disposable Paper Products—Namely, Towels, Napkins, Toilet Paper, Facial Tissue, Wipers, Tablecovers, and Tray Covers (Int. Cl. 16).
First use Dec. 6, 1968.

SN 319,044. Fort Howard Paper Company, Green Bay, Wis. Filed Feb. 13, 1969.

POSY

For Disposable Paper Products—Namely, Towels, Napkins, Toilet Paper, Facial Tissue, Wipers, Tablecovers, and Tray Covers (Int. Cl. 16).
First use Dec. 6, 1968.

SN 320,449. Defiance-Azon Corporation, Johnson City, N.Y. Filed Mar. 3, 1969.

AZOVEL

For Tracing Paper (Int. Cl. 16).
First use Aug. 19, 1966.

SN 322,142. Bradner Central Company, Chicago, Ill. Filed Mar. 19, 1969.

COLORBALLOO

For Writing Tablets, Note Books, Composition Books, Blank Spelling Books, Blank Music Books, Blank Drawing Books, Stenographic Notebooks, Memorandum Books, Blank Filler Sheets for Use With Loose Leaf Note Books, Filler Pads for Use with Loose Leaf Books, Typewriter Paper and Second Sheets Both Padded and not Padded, Scratch Pads, Index Cards, Index Guides, Art Paper, Packages of Note Sheets and/or Envelopes, Box Stationery Containing Writing Paper and Envelopes, and Folders for Containing Paper and/or Envelopes (Int. Cl. 16).
First use Feb. 3, 1969.

SN 327,706. Wausau Paper Mills Company, Brokaw, Wis. Filed May 19, 1969.

CANDID

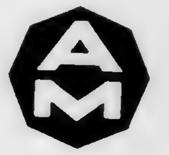
For Bond, Offset, Mimeograph and Duplicator Paper (Int. Cl. 16).
First use June 14, 1940.

SN 331,184. The C. R. Gibson Company, Norwalk, Conn. Filed June 27, 1969.

UNIMOUNT

Owner of Reg. No. 838,813.
For Photograph Albums and Album Pages (Int. Cl. 16).
First use April 1967.

SN 331,839. Addressograph-Multigraph Corporation, Cleveland, Ohio. Filed July 7, 1969.



Owner of Reg. No. 612,564 and others.
For Business Forms (Int. Cl. 16).
First use Feb. 11, 1969.

SN 332,453. Cory Corporation, Chicago, Ill. Filed July 14, 1969.

POCKET PEEPER

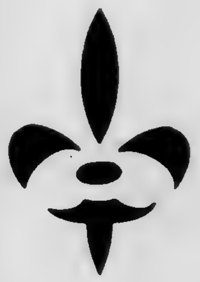
For Writing Instruments--Namely, Pens (Int. Cl. 16).
First use June 16, 1969.

SN 332,620. Imperial Methods Co., Forest Park, Ill. Filed July 15, 1969.

FILE-IT

Owner of Reg. No. 762,898.
For Filing Folders and Index Cards (Int. Cl. 16).
First use May 1, 1961.

SN 333,708. Groveton Papers Company, Groveton, N.H. Filed July 28, 1969.



For Toilet Tissue, Facial Tissue and Paper Towels (Int. Cl. 16).
First use 1946.

SN 334,285. S. E. Rykoff & Co., Los Angeles, Calif. Filed Aug. 4, 1969.

SERCOSOFT

Owner of Reg. Nos. 770,093 and 798,347.
For Paper Napkins (Int. Cl. 16).
First use Apr. 22, 1969.

SN 335,973. Georgia-Pacific Corporation, Portland, Oreg. Filed Aug. 22, 1969.

FORMFOLD

Owner of Reg. No. 797,237.
For Business Form Paper (Int. Cl. 16).
First use Mar. 18, 1969.

SN 338,331. Smith, MacVaugh & Hodges, Inc., Philadelphia, Pa. Filed Sept. 19, 1969.

Unilar

For Drafting Film in Sheet or Roll Form (Int. Cl. 16).
First use Jan. 15, 1964.

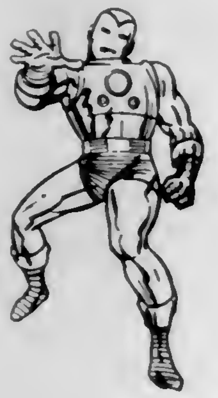
SN 339,087. Kimberly-Clark Corporation, Neenah, Wis. Filed Sept. 29, 1969.

KALEIDOSCOPE

For Cleansing Tissue, Toilet Tissue, Paper Table Napkins, and Paper Towels (Int. Cl. 16).
First use Sept. 24, 1969.

Class 38 — Prints and Publications

SN 278,225. Magazine Management Co., Inc., d.b.a. Marvel Comics Group, New York, N.Y., assignee, by mesne assignment of Magazine Managament Company, d.b.a. Marvel Comics Group, New York, N.Y. Filed Aug. 14, 1967.



For Publications, Particularly Comic Magazines (Int. Cl. 16).
First use on or about Jan. 3, 1967; on or about March 1963 in a different form.

SN 293,150. Barbara Kirchner, Jarrettsville, Md. Filed Mar. 13, 1968.

BK

For Paintings (Int. Cl. 16).
First use 1954.

SN 302,308. Dun & Bradstreet Publications Corp., New York, N.Y. Filed July 9, 1968.

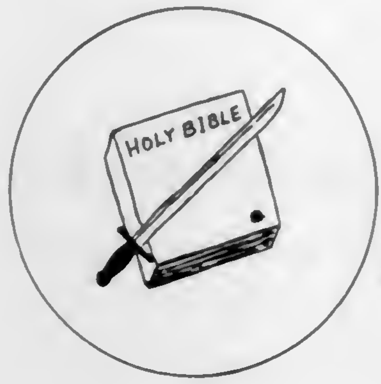
Owner of Reg. Nos. 790,731 and 828,011.
For Periodical Newsletter (Int. Cl. 16).
First use in or before January 1967.

SN 302,801. Chronicle Publishing Company, St. Charles, Ill. Filed July 9, 1968.

TELEPHONE MINI-DATE

For Calendars (Int. Cl. 16).
First use May 15, 1968.

SN 306,208. James T. Alsup, d.b.a. Alpha and Omega Publications Co., Brighton, Colo. Filed Aug. 29, 1968.



Applicant makes no claim to the exclusive right to use of the words "Holy Bible."
For Printed Charts Containing Holy Bible Calendar Events and Explanation of Prophetic Modern Happenings (Int. Cl. 16).
First use July 8, 1968.

SN 310,155. Visual Education Association, Inc., Dayton, Ohio. Filed Oct. 21, 1968.

THINK FRENCH

For the purpose of this application only and without waiver of common law rights, applicant makes no claim to the word "French" used apart from the mark as shown.
For Study-Aids for Self-Teaching Language, Comprising Visual Textual Cards and Accompanying Phono-Records (Int. Cl. 16).
First use Aug. 30, 1968.

SN 311,062. Reproducta Company, Inc., New York, N.Y. Filed Oct. 31, 1968.

REPRODUCTA

For Greeting Cards, Art Prints, and Religious Prints (Int. Cl. 16).
First use in or before 1940.

SN 317,009. Burton C. Dillon, d.b.a. Fishing in Maryland, Baltimore, Md. Filed Jan. 21, 1969.

FISHING in Maryland

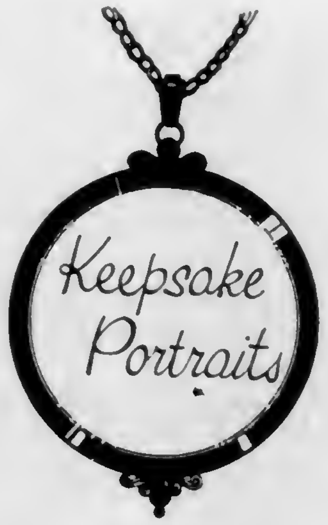
For Magazine and Booklet (Int. Cl. 16).
First use May 15, 1953.

SN 328,651. Jovanna Ceccarelli, d.b.a. Theatre Arts, Ossining, N.Y. Filed May 29, 1969.

THEATRE ARTS

For Magazine (Int. Cl. 16).
First use Nov. 16, 1916.

SN 329,246. Keepsake Portraits, Inc., Baltimore, Md. Filed June 5, 1969.



Applicant disclaims the terminology "Portrait" apart from the mark as shown.
For Photographs (Int. Cl. 16).
First use Jan. 13, 1967.

SN 332,740. Rodale Press, Inc., Emmaus, Pa. Filed July 16, 1969.

EXECUTIVE FITNESS

Owner of Reg. No. 859,341.
For Newsletter (Int. Cl. 16).
First use June 20, 1969.

SN 333,955. The Viking Press, Inc., New York, N.Y. Filed July 30, 1969.

A STUDIO BOOK

The word "Book" is disclaimed apart from the mark as a whole. Owner of Reg. No. 309,300.
For Hard Cover and Paperback Books (Int. Cl. 16).
First use at least as early as March 1959; at least as early as 1933 as to the word "Studio."

SN 337,191. Orell Industries, Inc., Gaithersburg, Md. Filed Sept. 5, 1969.

"SKETCH-IT"

For Graphic Displays of Teeth for Insrtuctional Aids (Int. Cl. 16).
First use Oct. 21, 1968.

SN 337,214. Zoological Society of San Diego, Inc., San Diego, Calif. Filed Sept. 5, 1969.

ZOONOOZ

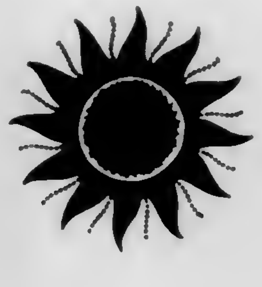
For Monthly Magazine (Int. Cl. 16).
First use January 1926.

SN 337,415. Air Review Publishing Corporation, Dallas, Tex. Filed Sept. 9, 1969.

FLIGHT

For Magazine (Int. Cl. 16).
First use January 1951.

SN 339,994. Country Club Enterprises, Inc., Harrisburg, Pa. Filed Oct. 7, 1969.



For Magazines (Int. Cl. 16).
First use May 1, 1969.

SN 340,435. Southern Press, Inc., Macon, Ga. Filed Oct. 10, 1969.

Florida VACATION FUN-TIMES

For Monthly Newspaper (Int. Cl. 16).
First use in May 1969.

SN 340,711. GAF Corporation, New York, N.Y. Filed Oct. 15, 1969.

VIEW-MASTER

Owner of Reg. No. 529,224.
For Transparencies for Use in Connection With Stereoscopes, Discs Carrying a Plurality of Stereoscopic Pairs of Transparencies (Int. Cl. 9).
First use Mar. 1, 1939.

SN 341,524. The Journal Company, Milwaukee, Wis. Filed Oct. 23, 1969.

INSIGHT

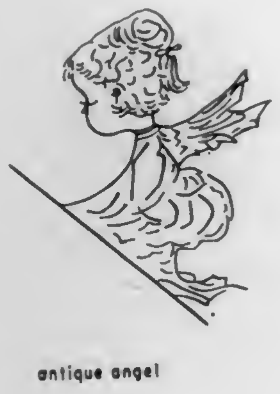
For Magazine Section of a Sunday Newspaper (Int. Cl. 16).
First use Oct. 12, 1969.

SN 341,652. Richard J. Gould, d.b.a. Jaico, Saginaw, Mich. Filed Oct. 24, 1969.

Jaico

For Books (Int. Cl. 16).
First use Aug. 22, 1968.

SN 342,873. Kirchcarpenter, Madison, Wis. Filed Nov. 6, 1969.



For Greeting Cards (Int. Cl. 16).
First use Oct. 29, 1969.

SN 344,996. Kalamazoo Label Company, Kalamazoo, Mich. Filed Dec. 1, 1969.

KAL-NAMEL

For Printed Labels (Int. Cl. 16).
First use Jan. 31, 1969.

SN 345,035. Watt Publishing Co., Mount Morris, Ill. Filed Dec. 1, 1969.

INDUSTRIA AVICOLA

The words "Industria Avicola," when translated into English mean "poultry industry." Owner of Reg. No. 668,805.
For Monthly Trade Magazine (Int. Cl. 16).
First use Aug. 1, 1957.

Class 39 — Clothing

SN 300,673. Angelica Corporation, St. Louis, Mo. Filed June 18, 1968.

WEAR-A-WAY

For Uniforms—Namely, Dresses, Aprons, Blouses, Pinafores, Smocks, Women's Blazers, Tunics, Women's Jackets, Skirts, Slacks, Laboratory Coats, Hospital Coats, Hospital Smocks, Men's Jackets, Cummerbunds, Bow-Ties, Men's Service Coats, Men's Blazers, Men's Shirts, Men's Work Suits, Shoe Covers, Gloves, Patient Gowns, Scrub Suits and Operating Gowns Made of Disposable Throw-Away Material (Int. Cl. 25).
First use May 27, 1968.

SN 319,939. Oxxford Clothes, Inc., Chicago, Ill. Filed Feb. 24, 1969.

SETA DE NOVARRA

The word "Seta" meaning "silk" is disclaimed apart from the mark as shown.
For Men's and Boys' Suits, Coats, Vests, Slacks, Overcoats and Outercoats (Int. Cl. 25).
First use Oct. 1, 1968.

SN 324,288. Gerbo Footwear Corporation, Huntingdon, Pa. Filed Apr. 11, 1969.

Gymnastics

For Vulcanized Rubber-Soled Canvas Shoes (Int. Cl. 25).
First use Feb. 3, 1969.

SN 329,321. Adidas-Fabrique de Chaussures de Sport, Landersheim, France. Filed June 6, 1969.

SOFTPROTECT

Owner of French Reg. No. 740,715, dated Mar. 28, 1968.
For Boots, Shoes, Slippers (Int. Cl. 25).
First use October 1967; in commerce October 1967.

SN 331,506. Franklin Stores Corporation, d.b.a. Barkers, New York, N.Y. Filed July 1, 1969.

SPORTRON

For Men's Rain Suits and Ponchos (Int. Cl. 25).
First use December 1968.

SN 342,368. Le Roi Hosiery Co., Inc., New York, N.Y. Filed Nov. 3, 1969.

Peek-A-Nee

Hosiery and Panties Sold in Sets (Int. Cl. 25).
First use June 30, 1969.

SN 344,161. V. F. Corporation, Reading, Pa. Filed Nov. 20, 1969.

UN-BRA

For Foundation Garments—Namely, Brassieres (Int. Cl. 25.)
First use Nov. 5, 1969.

SN 344,179. Arcade Trading Corp., New York, N.Y. Filed Nov. 21, 1969.

MISCA

For Knitted Garments—Namely Sweaters, Skirts, Dresses, Coats and Jackets (Int. Cl. 25).
First use Mar. 1, 1961.

Class 41 — Canes, Parasols, and Umbrellas

CN 343,804. Reva Ostrow, d.b.a. Reva, New York, N.Y. Filed Nov 18, 1969.

Reva

For Umbrellas and Umbrella Cases (Int. Cl. 18).
First use Sept. 2, 1966.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 332,814. E. E. Elfrig Distributing Company, Inc., Maywood, Ill. Filed July 17, 1969.

TOMAHAWK

For Carpeting (Int. Cl. 27).
First use on or about June 2, 1969.

Class 43 — Thread and Yarn

SN 331,478. Glen Raven Mills, Inc., Glen Raven, N.C. Filed June 30, 1969.

REAKTION

For Yarn of Natural or Synthetic Fibers or Combinations Thereof (Int. Cl. 28).
First use May 9, 1969.

Class 44 — Dental, Medical, and Surgical Appliances

SN 261,442. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 27, 1966.

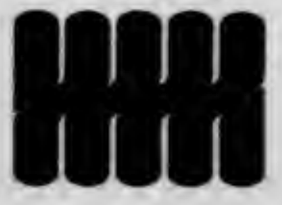
Applicant disclaims the words "Hospital Supply" apart from the mark as shown.
For Stethoscopes; Thermometers; Surgical Knives, Scissors, Forceps, Needle Holders, Vein Strippers, Gall Stone Scoops, Duct Dilators, Trocars, Clamps, Spur Crushers, Bone Saws and Chisels, Retractors, Curettes, Biopsy Punches, Nasal Snares, Bone Drills, Rib Spreaders and Plaster Shears; Bandages; Patient Identification Bands and Beads; Syringes and Needles; Stretcher-Beds, Walkers, and Supports for Patients; Elastic Stockings; Stockinettes; Urinals and Urinal Covers; Bed Pans and Commodes; Medical and Surgical Tubes and Tubing; Metal Jars for Ointments, Surgical Dressings, Surgical Forceps, and Medicament Applicators; Metal Trays and Pans for Holding Surgical Instruments; Metal Bowls and Cups for Surgical Sponges and Treatment Solutions; Paper and Plastic Cups for Pills and Liquid Medicines; Metal and Plastic Thermometer Holders; Surgical and Examination Gloves; Surgical Binders; Body and Limb Holders; Tongue Blades and Cotton-Tipped Applicators; Diathermy Units; Galvanic, Low Voltage, and Ultrasonic Generators; Oxygen Tent Canopies and Oxygen Masks; Sanitary Belts and Pads; Shut-Off Clamps, Stopcocks, and Adapters; Emesis Basins; Enema Sets; Maternity Care Kits Containing Absorbent Obstetrical Pads, Sanitary Napkins, and Napkin Belts for Post-Partum Care; Plastic Infant Baskets and Metal Basket Frames for Hospital Nurseries; Protective Plastic Tops for Hospital Cribs; Irrigators and Irrigating Sets; Specula, Catheters, and Catheterization Sets; Antiseptic and Wash Packets Consisting of Packages of Swabs or of Absorbent Pads Saturated With Antiseptic Solutions; Orthopedic Padding and Webbing; Suture Removal Sets; Umbilical Tape; Mortuary Packs Consisting of Plastic Shroud Sheets, Chin Straps, Identification Tags and Tie Straps as Used in Hospitals in the Handling of Dead Patients; Perineal Lamps; Muscle Exercise Equipment Consisting of Metal Weights, Stall Bars, Parallel Bars, Exercise Stairs, Extension-Flexion Devices, Hand Exercisers, and Exercise Chairs for Physical Therapy Following Medical and Surgical Treatment (Int. Cls. 5, 9, and 10).
First use on or before Sept. 1, 1964.

SN 300,912. Depuy Manufacturing Co., Inc., Warsaw, Ind. Filed June 20, 1968.

DE PUY

Owner of Reg. No. 561,114.
For Orthopedic, Surgical and Fracture Equipment for Humans (Int. Cl. 10).
First use 1895.

SN 326,678. Parke, Davis & Company, Detroit, Mich. Filed May 7, 1969.



For Adhesive Tape, Prepared Bandages, Cotton Balls, Roll Cotton, Gauze Bandages, Cellulose Tissues, Underpads, Nursing Pads, Cellulose Cleaning Cloths, and Gauze Pads (Int. Cl. 5).
First use on or before June 1, 1968.

SN 327,874. Exel Oy, Helsinki, Finland. Filed May 21, 1969.

SILENTA

Owner of Finnish Reg. No. 52,729, dated June 20, 1968.
For Auditory Protecting Devices of the Earmuff Type. (Int. Cl. 10).

SN 333,898. H. W. Andersen Products, Inc., Oyster Bay, N.Y. Filed July 30, 1969.

VENOMETER

Owner of Reg. No. 812,381.
For Instruments for the Constant Measurement of Venous Blood Pressure Comprising a Manometer Tube and Means for Connecting the Tube to a Fluid Container and to an Intra-Venous Catheter, Cannula or Needle (Int. Cl. 10).
First use Nov. 15, 1968.

SN 334,815. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Aug. 4, 1969.

ANDORAN

Owner of German Reg. No. 497,036, dated Oct. 27, 1937.
For Plastic Material for Production of Dentures (Int. Cl. 5).

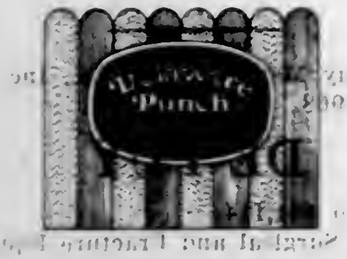
Class 45 — Soft Drinks and Carbonated Waters

SN 321,641. Duffy-Mott Company, Inc., New York, N.Y. Filed Mar. 18, 1969.

PJ

For Prune Juice Drink Containing Water and Prune Drink Containing Water (Int. Cl. 32).
First use Mar. 8, 1969.

SN 331,169. Delaware Punch Company, San Antonio, Tex. Filed June 27, 1969.



No claim is made to the words "Punch" and "Non Carbonated" apart from the mark as shown. The drawing is lined for the colors purple and red. Owner of Reg. Nos. 568,722, 882,964, and 882,967.

For Soft Drinks (Int. Cl. 32).

First use Jan. 1, [illegible] 1969, as to "Delaware Punch."

Class 46—Foods and Ingredients of Foods

SN 281,815. Perk Foods Co., Chicago, Ill. Filed Oct. 4, 1967.

VETS' BURGER

Without waiving any common law rights in respect of the mark, applicant disclaims the word "Burger" apart from the mark as shown. Owner of Reg. Nos. 437,510 and 601,110.

For Dog Food (Int. Cl. 31).

First use on or about Sept. 10, 1964; Feb. 1, 1946, as to "Vets'."

SN 281,816. Perk Foods Co., Chicago, Ill. Filed Oct. 4, 1967.

VETS'

Owner of Reg. Nos. 437,510 and 601,110.

For Pet Food—Namely, Dog and Cat Food (Int. Cl. 31).

First use on or about Feb. 1, 1946.

SN 303,606. Food Facilities Management Corporation, Chicago, Ill. Filed July 25, 1968.

THE PICNIC TREE

For Prepared, Takeout, Drive-In Restaurant Food and Snacks—Namely, Hot Sandwiches of Meat and Fish, French Fried Potatoes, Ice Cream and Various Food Drinks Such as Malts and Shakes (Int. Cls. 29 and 30).

First use July 1, 1968.

SN 308,339. Wilson Products Company, Salt Lake City, Utah. Filed Sept. 26, 1968.

LYNN WILSON'S

Owner of Reg. Nos. 583,607 and 702,367.

For Fresh or Frozen Chili Bricks, Fruit Salad and Bean Salad, Canned Meat Gravy, Rendered Beef Fat, Canned Beef Stew, Fresh or Frozen Tortillas, Sandwiches, Pizza, Frozen Enchiladas, Frozen Tacos, Canned or Frozen Taco Filling of a Meat Nature, Taco Shells, Frozen Beef With Gravy, Taco Sauce, Puddings, and Canned Re-Fried Beans (Int. Cls. 29 and 30).

First use in or about April 1939, on chili bricks.

SN 310,138. Geo. Leslie Smith, Denver, Colo. Filed Oct. 21, 1968.

DAFFY DILLY POP-ETTE

No claim of exclusive right is made to the word "Pop-Ette" apart from the mark as shown. Owner of Reg. Nos. 596,859, 704,722, and 719,001.

For Hard Candy Suckers (Int. Cl. 30).

First use Oct. 1, 1968.

SN 313,492. Catz American Co., Inc. New York, N.Y. Filed Dec. 3, 1968.

JAFFA DELIGHT

For Salad Comprised of Citrus Fruit Sections, Sold in Jars (Int. Cl. 29).

First use Nov. 27, 1968.

SN 316,473. Schleider Foods, Inc., Baltimore, Md. Filed Jan. 13, 1969.

For Frozen Kosher Foods—Namely, Stuffed Kishke (Sausage Casings Stuffed With Flour, Beef Fat, and Bread Crumbs), Potato Knishes (Potatoes and Onions in a Pastry Crust), Meat Kreplach (Chopped [illegible] Vegetables Wrapped in a Thin Layer of Dough), [illegible] (Chopped Beef and Vegetables in a Pastry [illegible]), Stuffed Cabbage (Meat Stuffed) (Int. Cls. 29 and [illegible]).

First use Mar. 11, 1968.

SN 316,783. Falstaff Brewing Corporation, St. Louis, Mo. Filed Jan. 16, 1969.

FALSTAFF

Owner of Reg. No. 37,901.

For Live Stock Feeds and Live Stock Feed Supplements Primarily of a Food Nature (Int. Cl. 31).

First use Dec. 3, 1965.

SN 321,986. Royal City Foods Ltd., New Westminster, British Columbia, Canada. Filed Mar. 17, 1969.

BRENTWOOD

Owner of Canadian Reg. No. 126,341, dated Apr. 27, 1962.

For Canned, Preserved, Frozen, Pickled, Dehydrated, and Freeze-Dried Fruits and Vegetables (Int. Cl. 29).

SN 324,307. Plough, Inc., Memphis, Tenn. Filed Apr. 11, 1969.

PETER PAAS

The name "Peter Paas" is fanciful, and to the best of applicant's knowledge is not the name of any particular living individual.

Owner of Reg. No. 716,938.

For Bubble Gum (Int. Cl. 30).

First use Mar. 20, 1969.

SN 324,308. Plough, Inc., Memphis, Tenn. Filed Apr. 11, 1969.

PAAS

Owner of Reg. No. 716,938.

For Bubble Gum (Int. Cl. 30).

First use Mar. 20, 1969.

SN 324,724. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Apr. 16, 1969.

PLATOLENE

For Food Colors (Int. Cl. 2).

First use Aug. 10, 1961.

SN 324,863. John Morrell & Co., Chicago, Ill. Filed Apr. 18, 1969.

PEYTON'S

For Fresh, Frozen, Canned, Smoked and Carcass Meat, Meat Trimmings, Lard and Prepared Meat Products (Int. Cl. 29).

First use 1917.

SN 324,936. SCM Corporation, d.b.a. Durkee Famous Foods, Cleveland, Ohio. Filed Apr. 18, 1969.

STA-NUT

For Peanut Butter Stabilizer (Int. Cl. 30).

First use July 26, 1967.

SN 326,082. Duffy-Mott Company, Inc., New York, N.Y. Filed May 1, 1969.

BEEFAMATO

Owner of Reg. Nos. 699,430, 875,274, and 878,341.

For Beef and Tomato Juice Flavored Food Beverage (Int. Cl. 32).

First use Apr. 22, 1969.

SN 326,982. Beatrice Foods Co., d.b.a. Chocolate Company of America, Chicago, Ill. Filed May 12, 1969.

TRAIL BLAZERS

For Candy (Int. Cl. 30).

First use Apr. 25, 1969.

SN 329,248. The Kroger Co., Cincinnati, Ohio. Filed June 5, 1969.

COUNTRY OVEN

Owner of Reg. Nos. 750,974 and 769,664.

For Potato Chips, Cookies and Snack Curls Flavored With Cheese, Butter, and Ham 'N Cheese (Int. Cls. 29 and 30).

First use at least as early as Dec. 14, [illegible]

SN 329,258. C. F. Mueller Company, Jersey City, N.J. Filed June 5, 1969.

KLOPS

Egg Noodles (Int. Cl. 30).

First use on or about Feb. 5, 1969.

SN. 329,752. Peavey Company, Minneapolis, Minn. Filed June 11, 1969.

NEPTUNE

For Prepared Doughnut Mix (Int. Cl. 30).

First use July 31, 1967.

SN 330,318. Wilson & Co., Inc., Chicago, Ill. Filed June 17, 1969.

PORKETTES

For Pork Sausage (Int. Cl. 29).

First use Mar. 14, 1969.

SN 331,352. Deer Park Baking Co., Hammonton, N.J. Filed June 30, 1969.

NODS

For Cookies (Int. Cl. 30).

First use April 1963.

SN 331,911. Keebler Company, Elmhurst, Ill. Filed July 7, 1969.

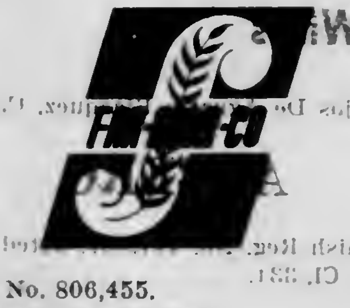
MATEY'S

Owner of Reg. No. 846,894.

For Cookies (Int. Cl. 30).

First use May 1, 1969.

SN 332,468. Far-Mar Co., Inc., Hutchinson, Kans. Filed July 14, 1969.



Owner of Reg. No. 806,455.

For Soybean Meal (Int. Cl. 29).

First use June 17, 1968.

SN 333,639. Ralston Purina Company, St. Louis, Mo. Filed July 28, 1969.

FARMBLEND

For Hog Feed (Int. Cl. 31).

First use July 3, 1969.

SN 334,094. Kenai Salmon Packing Co., d.b.a Parks Canning Company, Seattle, Wash. Filed July 31, 1969.

ROYAL RED

The word "Red" is disclaimed apart from the mark as shown.

For Canned and Frozen Seafoods (Int. Cl. 29).

First use June 2, 1969.

SN 334,095. Kenai Salmon Packing Co., d.b.a Parks Canning Company, Seattle, Wash. Filed July 31, 1969.

ROYAL PINK

The word "Pink" is disclaimed apart from the mark as shown.

For Canned and Frozen Seafoods (Int. Cl. 29).

First use June 2, 1969.

SN 334,302. California Almond Growers Exchange, Sacramento, Calif. Filed Aug. 4, 1969.

SMOKEHOUSE

Owner of Reg. No. 733,185.

For Shelled Almonds (Int. Cl. 29).

First use Oct. 1, 1958.

SN 334,739. Old Mansion, Incorporated, Richmond, Va. Filed Aug. 7, 1969.

TASTE IS THE TEST

For Coffee and Tea (Int. Cl. 30).
First use April 1923.

SN 335,155. Villamarin Guillen, S.A., Seville, Spain. Filed Aug. 12, 1969.

AMIGO

For Spanish Olives (Int. Cl. 31).
First use June 25, 1969; in commerce June 25, 1969.

SN 342,595. Ralston Purina Company, St. Louis, Mo. Filed Nov. 4, 1969.

HI-TEM

For Poultry Feed (Int. Cl. 31).
First use February 1969.

Class 47 — Wines

SN 326,532. Hijos De Agustin Blazquez, Cadiz, Spain. Filed May 6, 1969.

ALBERO

Owner of Spanish Reg. No. 117,587, dated July 30, 1964.
For Wine (Int. Cl. 33).

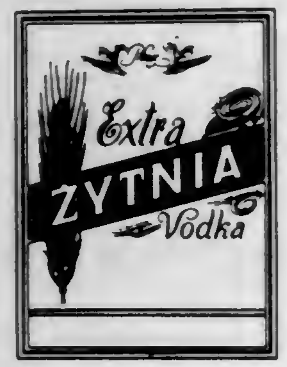
SN 331,527. Pedro Domecq, S.A., Jerez de la Frontera, Cadiz, Spain. Filed July 1, 1969.

IDEAL PALE

Applicant disclaims exclusive rights to the word "Pale" apart from the mark as shown.
For Wine (Int. Cl. 33).
First use as early as 1933; in commerce Jan. 27, 1934.

Class 49 — Distilled Alcoholic Liquors

SN 313,441. Przedsiebiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Dec. 2, 1968.
Warsaw, Poland. Filed Dec. 2, 1968.



No claim is made to the words "Extra," "Zytnia," or "Vodka" separately and apart from the mark. The English translation of "Zytnia" is "rye."
Owner of Polish Reg. No. 47,363, dated Mar. 7, 1968; and U.S. Reg. Nos. 757,016, 868,237, and others.
For Vodka (Int. Cl. 33).

Class 50 — Merchandise Not Otherwise Classified

SN 320,479. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

AMERICA THE BEAUTIFUL

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,482. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

MARK THE LANDMARK

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,494. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

RACE TO OUTER SPACE

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,500. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

STAR TREK

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,539. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPIRIT OF '76

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,547. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

CAVALCADE OF SPORTS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 327,093. Fiberplastics, Inc., Sausalito, Calif. Filed May 12, 1969.

HANDI-STRAWS

For Disposable Plastic Drinking Straws (Int. Cl. 20).
First use July 31, 1968.

SN 328,692. The Franklin Mint, Inc., Yeadon, Pa. Filed May 29, 1969.

PRESIDENTIAL HALL OF FAME

Applicant disclaims the exclusive right to the use of "Presidential" apart from the mark as shown without prejudice to any common law rights therein.
For Non-Monetary Coined Tokens (Int. Cl. 14).
First use May 14, 1969.

SN 332,284. Data Packaging Corporation, Cambridge, Mass. Filed July 11, 1969.

HYDROSPHERES

For Flotation Balls for Marine Vehicles (Int. Cl. 20).
First use May 12, 1969.

Class 51 — Cosmetics and Toilet Preparations

SN 301,074. Richard Hudnut, Morris Plains, N.J. Filed June 21, 1968.

POLISHED CREAMS

Applicant disclaims the word "Creams" apart from the mark as shown.
For Nail Enamel (Int. Cl. 3).
First use June 17, 1968.

SN 310,357. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 23, 1968.

EXTRAVA-LASH

For Mascara (Int. Cl. 3).
First use Oct. 4, 1968.

SN 311,298. Parfumerie Lubin, Paris, France. Filed Nov. 1, 1968.

SCARAMOUCHE

The mark is translated in English to mean "a stock character" in 17th Century Italian comedy.
Owner of French Reg. No. 439,178, dated Feb. 19, 1954 (Seine); Natl. Inst. No. 29,638.
For Perfumes; Toilet Water; Cologne; Cosmetic Skin Creams and Lotions for the Face, Body, and Hands; Bath Salts and Oil; Foundation Make-Up, Mascara; Liquid Eye-Liner; Lipstick; and Rouge (Int. Cl. 3).

SN 312,832. Viviane Woodard Corporation (Delaware corporation), White Plains, N.Y., assignee of Viviane Woodard Corporation (California corporation), Panorama City, Calif. Filed Nov. 21, 1968.

TOUCH OF PRIMEVAL

Owner of Reg. No. 714,816.
For Scented Body Lotion (Int. Cl. 3).
First use Dec. 28, 1965.

SN 312,836. Viviane Woodard Corporation (Delaware corporation), White Plains, N.Y., assignee of Viviane Woodard Corporation, d.b.a Woodard for Men (California corporation), Panorama City, Calif. Filed Nov. 21, 1968.

GENTLEMAN'S CHOICE

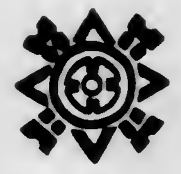
For After Shave Lotion (Int. Cl. 3).
First use Sept. 5, 1968.

SN 316,998. Cook United, Inc., Maple Heights, Ohio, by change of name from Cook Coffee Company, Maple Heights, Ohio. Filed Jan. 21, 1969.

BUBBLE QUEEN

The word "Bubble" is disclaimed apart from the mark as shown but the applicant waives none of its common law rights therein.
For Bubbling Bath Oil (Int. Cl. 3).
First use Oct. 22, 1968.

SN 218,845. Larry Wright, d.b.a. Cocofino, Inc., Los Angeles, Calif. Filed Feb. 10, 1969.



Cocofino

For Creams for Hands, Body and Face, Astringents, Eye Pads Impregnated With Cosmetic Cleaner, Hand and Body Lotions, Tanning Creams and Oils for Face and Body, After Tanning Lotions for Face and Body, Perfumes, and Bath Oils (Int. Cl. 3).
First use Oct. 22, 1968.

SN 321,359. Barnangens Tekniska Fabrikers Aktiebolag, Stockholm-Bromma, Sweden. Filed Nov. 7, 1968.

MANIOL

Owner of Swedish Reg. No. 47,183, dated Oct. 19, 1936.
For Hand Creames, Hand Lotions, eau de Cologne and Perfume (Int. Cl. 3).

SN 325,062. Micro-Therapeutics, Inc., New York, N.Y. Filed Apr. 21, 1969.

MICRO-MAGIC

For Foot Deodorizing and Moisturizing Lotion (Int. Cl. 5).
First use Mar. 27, 1969.

SN 328,019. Irma Shorell, Inc., New York, N.Y. Filed May 22, 1969.

Irma Shorell's
MOISTURE/35

"Irma Shorell" identifies "Irma Shorell Lightman," a living individual whose consent is of record. Applicant disclaims the word "Moisture" separate and apart from the mark as shown.
Owner of Reg. Nos. 798,778, 831,199, and 831,200.
For Firming and Moisturizing Cream (Int. Cl. 3).
First use August 1967.

SN 336,794. Ruby Gale Coiffeurs of P.R. Inc., d.b.a Ruby Gale, Santurce, Puerto Rico. Filed Sept. 2, 1969.

SURF-TAN

Applicant disclaims the word "Tan" apart from the mark as shown.
For Sun Tan Lotion (Int. Cl. 3).
First use Jan. 3, 1968; in commerce Jan. 3, 1968.

SN 338,559. The Fleetwood Co., Chicago, Ill. Filed Sept. 22, 1969.

NAILETTE

For Fingernail Toughener (Int. Cl. 3).
First use Sept. 11, 1968.

SN 339,349. Wanda Ethridge McGrew, d.b.a. The Ethridge Company, St. Paul, Minn. Filed Sept. 30, 1969.

YOUTH

For Personal Deodorant (Int. Cl. 5).
First use Sept. 6, 1969.

SN 339,542. John H. Breck, Inc., Wayne, N.J. Filed Oct. 2, 1969.

BREXCENE

Owner of Reg. Nos. 538,888 and 596,472.
For Hair Conditioner (Int. Cl. 3).
First use Sept. 16, 1969.

SN 340,995. Union Carbide Corporation, New York, N.Y. Filed Oct. 17, 1969.

WITNESS

For Personal Deodorant (Int. Cl. 5).
First use on or about Oct. 1, 1969.

SN 342,601. Union Carbide Corporation, New York, N.Y. Filed Nov. 4, 1969.

MARGIN

For Personal Deodorant (Int. Cl. 5).
First use on or about Oct. 14, 1969.

Class 52 — Detergents and Soaps

SN 304,953. Non-Tox Chemical Corp., Mamaroneck, N.Y. Filed Aug. 12, 1968.

HEX-O-WAY

For Detergent for Removing Ink From Fabrics and From Printing Rollers and Rubber Printing-Press Blankets (Int. Cl. 3).
First use March 1962.

SN 311,650. Lanvin-Charles of the Ritz, Inc., New York, N.Y. Filed Nov. 8, 1968.

GUEST COLLECTION

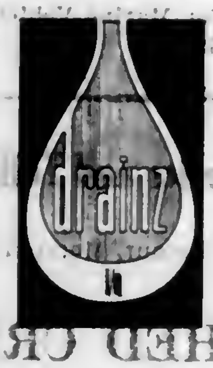
Applicant disclaims the term "Guest" apart from the mark as shown.
For Toilet Soap (Int. Cl. 3).
First use Oct. 25, 1968.

SN 314,984. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Dec. 20, 1968.

PENDETTE

For Alkaline Detergent Composition for Industrial and Commercial Use (Int. Cl. 3).
First use October 1965.

SN 315,975. Jancyn Manufacturing Corp., East Northport, N.Y. Filed Jan. 7, 1969.



The drawing is lined for the color red.
For Institutional Cleaning Products for Cesspools, Septic Tanks and Grease Traps (Int. Cl. 3).
First use Dec. 14, 1965.

SN 316,158. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Jan. 8, 1969.

ACTI-LAN

Owner of Reg. No. 656,927.
For Spray-Dried, General Alkaline Cleaner Particularly Useful in Dairy and Food Processing Plants (Int. Cl. 3).
First use Mar. 2, 1966.

SN 319,008. Wilcot (Parent) Co., Limited, Fishponds, Bristol, England, Filed Feb. 12, 1969.

NITROMORS

Owner of British Reg. No. 516,695, dated Oct. 7, 1930.
For Paint Removing Compositions (Int. Cl. 3).

SN 319,584. Clover Farm Stores Corporation, Cleveland, Ohio. Filed Feb. 19, 1969.

CLOVER FARM

Owner of Reg. Nos. 264,868, 631,536, and others.
For Powdered and Liquid Detergents for Dishes and Fine Fabrics (Int. Cl. 3).
First use October 1964.

SN 322,612. Owen Laboratories, Inc., Dallas, Tex. Filed Mar. 24, 1969.

MEDI-DAN

For Antiseborrheic Hair Shampoo (Int. Cl. 3).
First use Aug. 29, 1966.

SN 334,805. Armour-Dial, Inc., Chicago, Ill. Filed Aug. 8, 1969.

DO-ALL

Owner of Reg. No. 517,820.
For Detergent for Industrial and Institutional Use (Int. Cl. 3).
First use on or prior to April 1952.

SN 338,299. Colgate-Palmolive Company, New York, N.Y. Filed Sept. 19, 1969.

CARPET BRITE

Applicant disclaims the word "Carpet" apart from the mark as shown.
For Cleaner for Carpets and Rugs (Int. Cl. 3).
First use June 19, 1969.

SN 338,357. John H. Breck, Inc., Wayne, N.J., Filed Sept. 19, 1969.

MORNING GIRL

For Hair Shampoo (Int. Cl. 3).
First use Aug. 28, 1969.

SN 339,541. John H. Breck, Inc., Wayne, N.J. Filed Oct. 2, 1969.

BREXCENE

Owner of Reg. Nos. 538,888 and 596,472.
For Hair Shampoo (Int. Cl. 3).
First use Sept. 15, 1969.

SN 343,219. Lever Brothers Company, New York, N.Y. Filed Nov. 12, 1969.

NOVA

For Household Detergent for General Washing and Cleansing (Int. Cl. 3).
First use Oct. 28, 1969.

SN 343,220. Lever Brothers Company, New York, N.Y. Filed Nov. 12, 1969.

GYRO

For Household Detergent for General Washing and Cleansing (Int. Cl. 3).
First use Oct. 28, 1969.

SN 343,469. Knomark Inc., Jamaica, N.Y. Filed Nov. 14, 1969.

"THE LAST WORD"

For Toilet Cleaner (Int. Cl. 3).
First use Aug. 20, 1969.

SERVICE MARKS

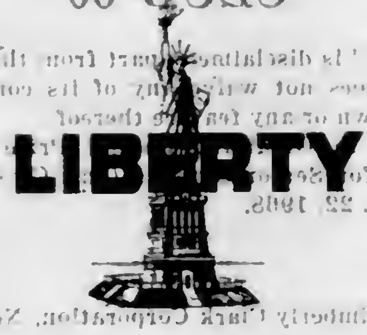
Class 100 — Miscellaneous

SN 287,745. Liberty Leasing Company, Inc., Chicago, Ill. Filed Dec. 28, 1967.

LIBERTY LEASING

The word "Leasing" is disclaimed apart from the mark as shown.
For Leasing and Lease-Purchase Arrangements of Commercial and Industrial Machinery and Equipment (Int. Cl. 42).
First use Oct. 10, 1961.

SN 287,746. Liberty Leasing Company, Inc., Chicago, Ill. Filed Dec. 28, 1967.



For Leasing and Lease-Purchase Arrangements of Commercial and Industrial Machinery and Equipment (Int. Cl. 42).
First use Oct. 10, 1961.

SN 287,747. Liberty Leasing Company, Inc., Chicago, Ill. Filed Dec. 28, 1967.

LIBERTY

For Leasing and Lease-Purchase Arrangements of Commercial and Industrial Machinery and Equipment (Int. Cl. 42).
First use Oct. 10, 1961.

SN 292,985. Veeder Industries Inc., Hartford, Conn. Filed Mar. 11, 1968.

INNOVATORS IN NUMERICS

For Engineering and Counselling Services Regarding the Application, Use and Design of Recording, Counting and Controlling Instrumentation and Numerical Presentation (Int. Cl. 42).
First use at least as early as April 1962.

SN 301,755. Miami Springs Villas, Inc., Miami Springs, Fla. Filed July 1, 1968.

JAPANESE STEAK HOUSE

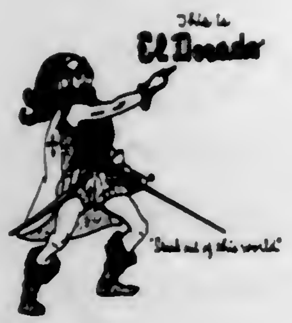
For Restaurant Services (Int. Cl. 42).
First use Feb. 15, 1962.

SN 301,852. Mars Technological Industries, Palisades Park, N.J., by merger from Mars Metal Products Co., Inc., Palisades Park, N.J. Filed July 2, 1968.

MARS METAL PRODUCTS CO INC

For Research, Development, Design Production and Consulting Services for Others in Regard to Accessory Items in the Fields of Electrical, Electronic and Mechanical Equipment (Int. Cl. 42).
First use in or about February 1954.

SN 304,975. Sonny's El Dorado, Inc., Wauwatosa, Wis. Filed Aug. 12, 1968.


This is
El Dorado
"Steak out of this world"

Applicant disclaims the wording "Steak Out of This World" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use on or about Feb. 23, 1955.

SN 306,563. Casa Grisanti, Inc., Louisville, Ky. Filed Sept. 4, 1968.

CASA GRISANTI

The translation of the mark "Casa Grisanti" is "house of grisanti."
For Restaurant Services (Int. Cl. 42).
First use at least as early as Mar. 31, 1959.

SN 308,239. Daniel Starch & Staff, Inc., Mamaroneck, N.Y. Filed Sept. 25, 1968.

STARCH

For Personal Services Rendered in Connection With Professional Research, Analysis and Consultation, the Providing of Confidential Information and the Preparation of Custom Responses to the Requests of Specific Clients, Concerning the Effect of Advertisements and Publicity of all Types (Int. Cl. 42).
First use in or about 1932.

SN 309,161. Class Student Services, Inc., Rockville, Md. Filed Oct. 8, 1968.

CLASS . . . THE KEY WORD ON CAMPUS

Owner of Reg. No. 879,108.
For Student Counselling Services (Int. Cl. 42).
First use Aug. 27, 1968.

SN 309,406. Taco Rancho, Inc., Orlando, Fla. Filed Oct. 10, 1968.

TACO
RANCHO

The word "Taco" is disclaimed apart from the mark as shown.
For Food Services in Connection With Restaurant and Carry-Out Orders (Int. Cl. 42).
First use Oct. 9, 1968.

SN 310,876. Win Schuler's, Inc., Marshall, Mich. Filed Oct. 28, 1968.

WIN SCHULER'S

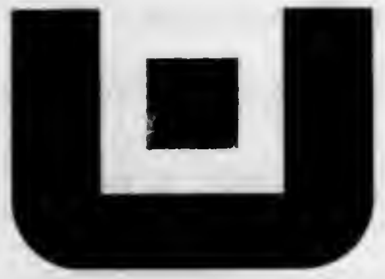
"Win Schuler" identifies a living individual whose consent is of record.
Owner of Reg. No. 791,111.
For Restaurant Services (Int. Cl. 42).
First use about 1955.

SN 314,131. Arcoa, Inc., Phoenix, Ariz. Filed Dec. 11, 1968.

U-HAUL

Owner of Reg. Nos. 746,084, 786,156, and 795,733.
For Truck and Automobile Trailer Rentals (Int. Cl. 42).
First use Oct. 15, 1945.

SN 314,132. Arcoa, Inc., Phoenix, Ariz. Filed Dec. 11, 1968.
The drawing is lined for the color red.



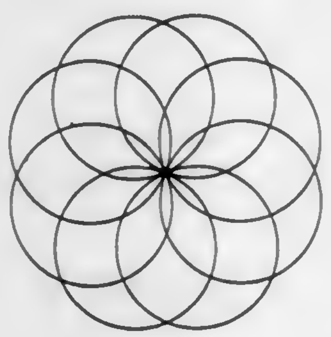
Owner of Reg. Nos. 746,084, 786,156, and 795,733.
For Truck and Automobile Trailer Rentals (Int. Cl. 42).
First use during January 1966.

SN 315,353. Club 60, Inc., Deerfield, Wis. Filed Dec. 30, 1968.

CLUB 60

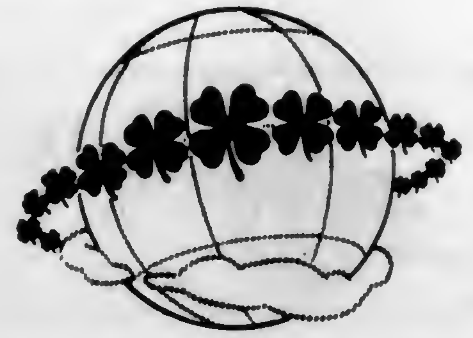
The word "60" is disclaimed apart from the mark as shown, but applicant does not waive any of its common law rights in the mark shown or any feature thereof.
For Services in Obtaining Special Price Reductions and Other Benefits for Senior Citizens (Int. Cl. 42).
First use Nov. 22, 1968.

SN 319,057. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 13, 1969.



For Educational Information Service Which Disseminates Information Dealing With Feminine Hygiene (Int. Cl. 41).
First use Jan. 8, 1968.

SN 324,214. National 4-H Club Foundation of America, Inc., Chevy Chase, Md. Filed Apr. 11, 1969.



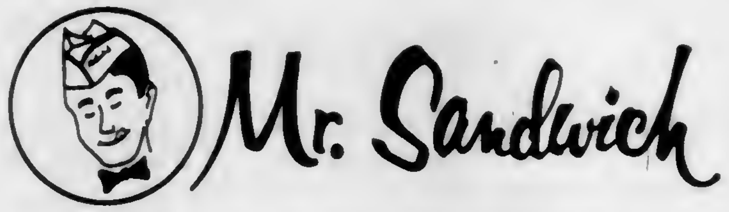
For Association Services—Namely, Sponsoring and Conducting Visits of Foreign Youth and Adults to the United States and the Sponsoring and Conducting Visits of American Youth and Adults to Foreign Countries; and, Special Study and Service Programs in Furtherance of Better International Understanding and Good Will, Expansion and Development of Rural Youth Educational Programs, and Dissemination of Agricultural Information (Int. Cl. 42).
First use Feb. 15, 1967.

SN 324,514. F. F. Schudy, Houston, Tex. Filed Apr. 14, 1969.

MR. CHICKEN

Applicant disclaims the word "Chicken" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Apr. 1, 1958.

SN 324,730. Mr. Sandwich U.S.A., Inc., New York, N.Y. Filed Apr. 16, 1969.



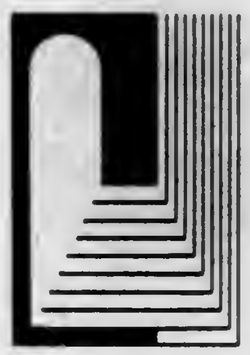
Applicant disclaims the word "Sandwich" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Dec. 13, 1966.

SN 325,175. Compusize Inc., Leonia, N.J. Filed Apr. 22, 1969.

COMPUSIZE

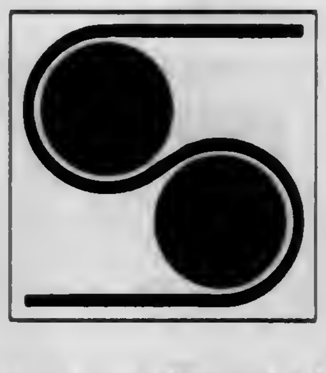
For Preparation of Scaled-Down and Full-Size Patterns and Markers, by Means of Computers, for Others in the Metal Cutting and Clothing Industries (Int. Cl. 42).
First use at least as early as Sept. 19, 1968.

SN 325,176. Compusize Inc., Leonia, N.J. Filed Apr. 22, 1969.



For Preparation of Scaled-Down and Full-Size Patterns and Markers, by Means of Computers, for Others in the Metal Cutting and Clothing Industries (Int. Cl. 42).
First use at least as early as Sept. 19, 1968.

SN 325,443. Rolamite, Incorporated, San Francisco, Calif. Filed Apr. 24, 1969.



The mark consists of a line resembling a flattened letter "S" with a solid circle appearing in each of its two curves, all of which design appears inside a square border line.
For Product Designing and Development Services (Int. Cl. 42).
First use Aug. 5, 1968.

SN 326,087. Fat Mike's Inc., Hasbrouck Heights, N.J. Filed May 1, 1969.

FAT MIKES

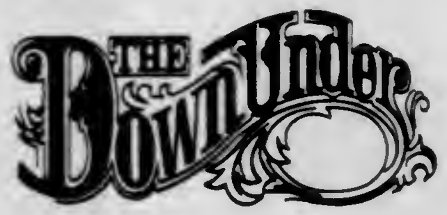
Owner of Reg. No. 867,626.
For Drive-In Restaurant Services (Int. Cl. 42).
First use May 6, 1964.

SN 326,451. Stanlinco, Ltd., Brooklyn, N.Y. Filed May 5, 1969.

STANLINCO

For Rental of Uniforms, Work Clothes and Linens (Int. Cl. 42).
First use Sept. 10, 1968.

SN 326,566. Waterway Restaurants, Inc., Fort Lauderdale, Fla. Filed May 6, 1969.



For Restaurant, Cocktail Lounge and Catering Services (Int. Cl. 42).
First use Dec. 11, 1968.

SN 330,772. The Pillsbury Company, Minneapolis, Minn. Filed June 23, 1969.

HUNGRY JACK

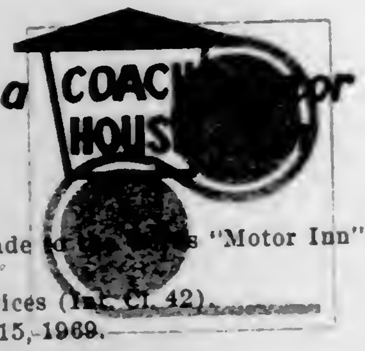
Owner of Reg. Nos. 339,297, 844,695, and others.
For Restaurant Services—Namely, Those of Preparing and Selling Fried Chicken for Carry Out (Int. Cl. 42).
First use at least as early as Feb. 12, 1968.

SN 333,498. The Harlee Company, Chicago, Ill. Filed July 25, 1969.

BIG TEE BURGER

Applicant disclaims the words "Big" and "Burger" apart from the mark as shown without waiving any common law rights therein.
Owner of Reg. No. 865,450.
For Restaurant and Carry-Out Services (Int. Cl. 42).
First use on or about Oct. 19, 1968.

SN 335,294. Phil Gunn, Helena, Mont. Filed Aug. 14, 1969.



No claim is made to the words "Motor Inn" apart from the mark as shown.
For Motel Services (Int. Cl. 42).
First use July 15, 1969.

SN 344,925. The American Automobile Association (Incorporated), d.b.a. American Automobile Association, Washington, D.C. Filed Dec. 1, 1969.

Without waiver of any of its common law rights, applicant disclaims exclusive right to use of the word "Reservations" except in the combination shown.
Owner of Reg. Nos. 547,321, 849,165, and others.
For Hotel and Motel Reservation Services (Int. Cl. 42).
First use Oct. 1, 1969.

Class 101 — Advertising and Business

SN 285,399. Curzon Display, Inc., Omaha, Nebr. Filed Nov. 22, 1967.

SILVER DOLLAR BINGO

Applicant disclaims the word "Bingo" apart from the mark as shown.
For Conduct of Advertising Contests or Games for Promoting Business (Int. Cl. 35).
First use Sept. 5, 1967.

SN 288,384. Systemation Consultants, Inc., Houston, Tex. Filed Jan. 8, 1968.

SYSTEMATIØN CONSULTANTS

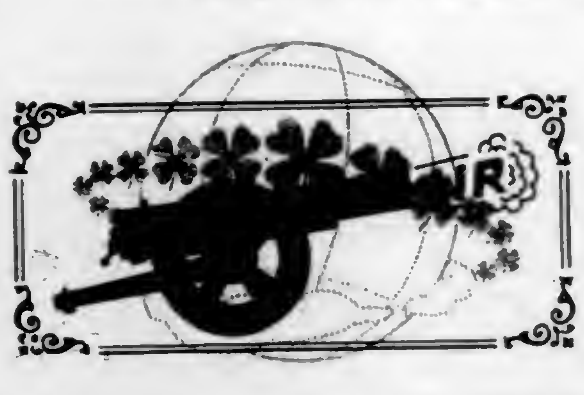
The word "Consultants" is disclaimed apart from the mark as shown.
For Employment Agency Services—Namely, Providing Employment Opportunities in the Scientific Commercial Computing Area (Int. Cl. 35).
First use May 6, 1967.

SN 289,400. Edward Hellier, Louisville, Ky. Filed Jan. 23, 1968.

$TAMP$ OFF

The word "Stamps" is disclaimed apart from the mark as shown.
For Promoting the Sale of the Goods and Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Programs (Int. Cl. 35).
First use Dec. 20, 1967.

SN 295,910. Cannon Air Corp., Raytown, Mo. Filed Apr. 18, 1968.



The word "Air" is disclaimed apart from the mark as shown.
For Retail Heating and Air Conditioning Unit Store Services (Int. Cl. 35).
First use Feb. 1, 1968.

SN 303,680. Inns of Happiness, Inc., Tulsa, Okla. Filed July 26, 1968.

INN OF HAPPINESS

Applicant disclaims the word "Inn" apart from the mark as shown.
For Promoting the Establishment of a Chain of Franchised Motels, Hotels, Restaurants, and Various Related Services (Int. Cl. 35).
First use summer of 1967.

SN 309,299. Robert-Carole, Inc., Elkins Park, Pa. Filed Oct. 9, 1968.

TRINELLA

For Promoting the Sale of the Services of Others Through the Distribution of Printed Materials and Advertising Designed for Promotional Contests (Int. Cl. 35).
First use Sept. 9, 1968.

SN 317,159. Stop & Shop, Inc., Boston, Mass. Filed Jan. 21, 1969.

BRADLEES

Owner of Reg. No. 801,502.
For Department Store Services (Int. Cl. 35).
First use Nov. 13, 1958.

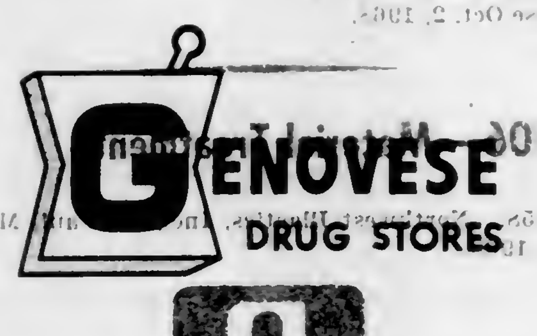
SN 320,083. Rogers Engraving Co., Inc., Long Island City, N.Y. Filed Feb. 25, 1969.

The words "Offset Separations" are disclaimed apart from the mark as shown.
Owner of Reg. No. 626,390.
For Offset Lithography Services (Int. Cl. 35).
First use August 1968.

SN 320,084. Rogers Engraving Co., Inc., Long Island City, N.Y. Filed Feb. 25, 1969.

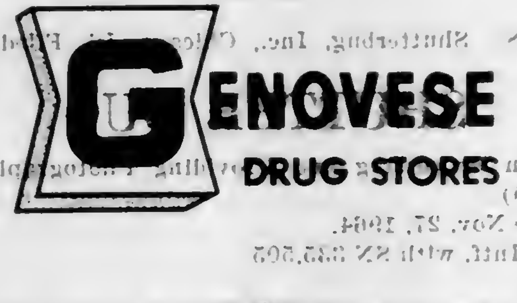
The word "Photoengraving" is disclaimed apart from the mark as shown.
Owner of Reg. No. 626,390.
For Photoengraving Services (Int. Cl. 35).
First use June 1966.

SN 320,583. Genovese Drug Stores, Inc., Long Island City, N.Y. Filed Mar. 3, 1969.



The words "Drug Stores" are disclaimed apart from the mark as a whole.
For Drug Store Services (Int. Cl. 35).
First use 1924.

SN 320,585. Genovese Drug Stores, Inc., Long Island City, N.Y. Filed Mar. 3, 1969.



The words "Drug Stores" are disclaimed apart from the mark as a whole.
For Drug Store Services (Int. Cl. 35).
First use 1924.

SN 321,331. William A. Lindelow, d.b.a. Lindelow Customer Promotions, Fort Washington, Pa. Filed Feb. 27, 1969.

SOCIAL CALL

For Solicitation of New Credit Card and/or Charge Card Customers for Oil Companies, Bank Credit Plans, Department and Specialty Stores, Mail Order Retailers and Other Retailers (Int. Cl. 35).
First use Sept. 1, 1965.

SN 321,532. Omni-Med, Inc., Springfield, Ill. Filed Mar. 12, 1969.

OMNI-MED

For Furnishing of Information to Tourists as to Names, Addresses, Telephone Numbers and Availability of English Speaking Foreign Doctors and Dentists (Int. Cl. 35).
First use on or about [illegible] 1969.

SN 321,552. Transcentury Corporation, Washington, D.C. Filed Mar. 12, 1969.

TRANSCENTURY

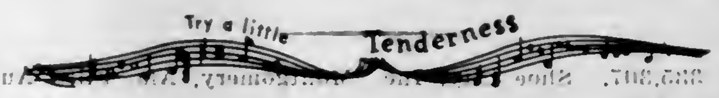
For Providing Management and Manpower Assistance to Agencies Charged With Improving Social and Economic Conditions (Int. Cl. 35).
First use on or before Feb. 28, 1967.

SN 323,164. Whiz-Print Copy Centers, Inc., Seattle, Wash. Filed Mar. 28, 1969.

WHIZ-PRINT

For Printing Services, Primarily the Reproduction of Substantially Completely Prepared Copy (Int. Cl. 35).
First use on or about Feb. 1, 1969.

SN 323,654. Rapid Foods, Inc., Miami, Fla. Filed Apr. 4, 1969.



For Preparation and Distribution of Frozen Meats for Others (Int. Cl. 35).
First use on or about Oct. 30, 1968.

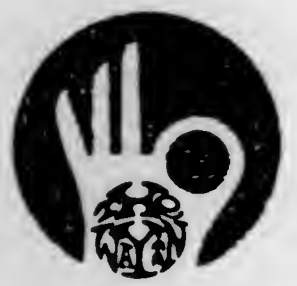
SN 325,077. Ralphs Grocery Company, Los Angeles, Calif. Filed Apr. 21, 1969.

For Retail Supermarket Store Services (Int. Cl. 35).
First use Mar. 21, 1960.

SN 325,886. A. C. Nielsen Company, Chicago, Ill. Filed Apr. 29, 1969.

For Marketing Research—Namely, Marketing Research With Reference to Sale of Consumer Goods Such as Foods, Drugs, Variety Goods, etc. (Int. Cl. 35).
First use Mar. 25, 1969.

SN 327,948. The May Department Stores Company, St. Louis, Mo. Filed May 21, 1969.



For Retail Clothing Department Store Services (Int. Cl. 35).
First use Nov. 21, 1968.

SN 332,225. El Chico Corporation, Dallas, Tex. Filed July 10, 1969.

EL CHICO

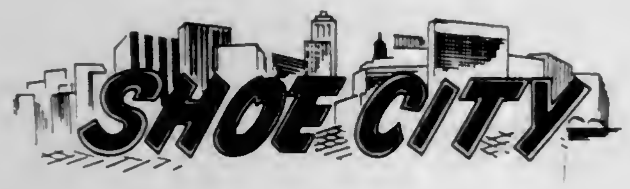
For Services to Others Involving the Establishment and Operation of Restaurants (Int. Cl. 35).
First use at least as early as Oct. 14, 1946.
Subj. to Intf. with SN 330,355.

SN 335,291. Data Central Incorporated, New Brighton, Minn. Filed Aug. 14, 1969.

DATA CENTRAL

For Computer Programming Services (Int. Cl. 35).
First use Jan. 23, 1969.

SN 335,307. Shoe City, Inc., Montgomery, Ala. Filed Aug. 14, 1969.



For Retail Shoe Stores Services (Int. Cl. 35).
First use Jan. 7, 1962.

SN 336,069. La Bouttica Pappagallo, Inc., Greenwich, Conn. Filed Aug. 25, 1969.

LA BOUTTICA

For Mail Order and Retail Store Services for Women's Clothing, Accessories, Jewelry and Boutique Merchandise (Int. Cl. 35).
First use Mar. 6, 1967.

SN 344,295. Pay'n Save Corporation, Seattle, Wash. Filed Nov. 24, 1969.

PAY'N SAVE

For Retail Drug and General Merchandise Store Services (Int. Cl. 35).
First use January 1947.

SN 344,522. Miscellaneous, Inc., Cleveland, Ohio. Filed Nov. 25, 1969.

For Gift Store Services (Int. Cl. 35).
First use July 30, 1969.

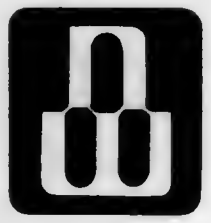
Class 103 — Construction and Repair

SN 317,290. Admiral Corporation, Chicago, Ill. Filed Jan. 23, 1969.

Applicant disclaims the word "Maintenance."
For Authorized Maintenance and Servicing of Home Electrical Appliances (Int. Cl. 37).
First use Oct. 2, 1968.

Class 106 — Material Treatment

SN 301,958. Northwest Plastics, Inc., St. Paul, Minn. Filed July 3, 1968.



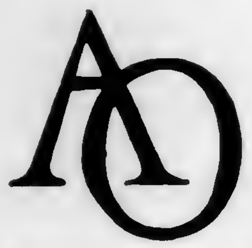
The mark includes a fanciful showing of the letters "N.W."
For Custom Molding Plastic Articles for Customers (Int. Cl. 40).
First use Oct. 12, 1965.

SN 335,068. Shutterbug, Inc., Chicago, Ill. Filed Aug. 11, 1969.

SHUTTER BUG

For Film Processing and Providing Photographic Prints (Int. Cl. 40).
First use Nov. 27, 1964.
Subj. to Intf. with SN 335,505.

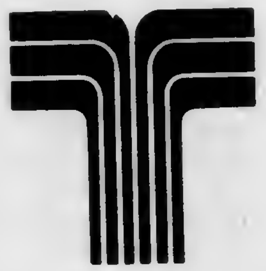
SN 335,674. American Optical Corporation, Southbridge, Mass. Filed Aug. 19, 1969.



Owner of Reg. Nos. 268,217 and 855,168.
For Material Treatment Service—Namely, Custom and Prescription Grinding and Fitting, Optical Lenses, Frames (Int. Cl. 40).
First use as early as 1946.

Class 107 — Education and Entertainment

SN 297,721. Transamerica Corporation, San Francisco, Calif. Filed May 8, 1968.



The mark consists of the fanciful representation of the letter "T."
For Production, Exhibition and Distribution of Motion Pictures; the Making of Recordings for Distribution to Others; and Educational Services—Namely, Organizing, Planning and Conducting Study Groups in Foreign Countries (Int. Cl. 41).
First use about March 1968.

SN 316,817. Gwendolyn Poindexter, Shaker Heights, Ohio. Filed Jan. 16, 1969.

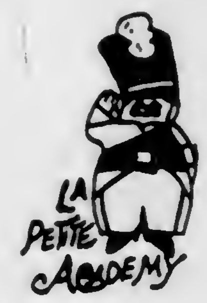
The word "Puppets" is disclaimed apart from the mark as shown.
For Entertainment Services in the Form of Puppetry (Int. Cl. 41).
First use Jan. 15, 1958.

SN 318,694. The Eleventh Hour, Inc., Chattanooga, Tenn. Filed Feb. 7, 1969.

THE ELEVENTH HOUR

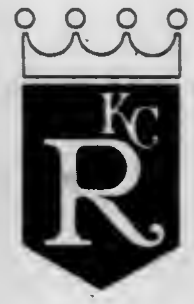
For Entertainment Services—Namely, a Religious Television Program (Int. Cl. 41).
First use Apr. 28, 1968.

SN 326,777. Les Petite Academies, Inc., d.b.a. La Petite Academy, Springfield, Ill. Filed May 8, 1969.



The word "Academy" is disclaimed apart from the mark as shown.
For Individualized Instructional Program for Pre-School Youngsters (Int. Cl. 41).
First use Jan. 15, 1969.

SN 327,388. Kansas City Royals Baseball Corporation, Kansas City, Mo. Filed May 15, 1969.



For Entertainment Services in the Nature of Baseball Exhibitions Rendered Live and Through the Media of Radio and Television (Int. Cl. 41).
First use Mar. 26, 1969.

SN 332,666. Suzanne M. Mork, Hopkins, Minn. Filed July 16, 1969.

19TH AMENDMENT

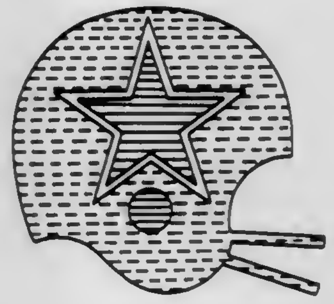
For Musical Entertainment Services Rendered by a Vocal and Instrumental Group (Int. Cl. 41).
First use in or before May of 1967.

SN 340,741. San Francisco Warriors, San Francisco, Calif. Filed Oct. 15, 1969.

SAN FRANCISCO WARRIORS

The word "San Francisco" is disclaimed apart from the mark as shown.
For Entertainment Services, in the Nature of Basketball Exhibitions (Int. Cl. 41).
First use Oct. 23, 1962.

SN 341,895. Dallas Cowboys Football Club, Inc., Dallas, Tex. Filed Oct. 28, 1969.

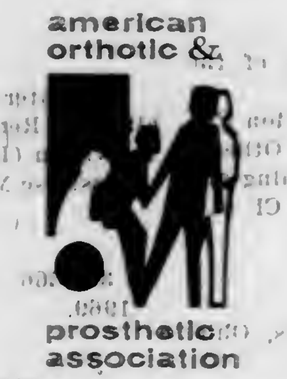


The drawing is lined to indicate the colors blue and silver.
For Entertainment Services—Namely, Football Exhibitions Rendered Live in Stadiums and Through the Media of Radio and Television Broadcasts (Int. Cl. 41).
First use 1962.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 302,881. American Orthotic and Prosthetic Association, Washington, D.C. Filed May 10, 1968.

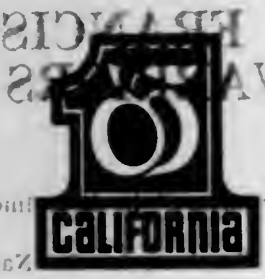


The drawing is lined for the color brown.
For Indicating Membership in Applicant.
First use June 1967.

CERTIFICATION MARKS

Class A — Goods

SN 343,135. Joint Cling Peach Advisory Board, San Francisco, Calif. Filed Nov. 10, 1969.



The mark certifies that the cling peaches used in the products specified above have been produced in California and that both the canning California cling peaches and the mixed fruit have been packed in California under quality standards set forth by applicant.

For Canned California Cling Peaches and Canned Mixed Fruit Containing California Cling Peaches.

First use Sept. 25, 1969.

Class B — Services

SN 280,082. McGraw-Edison Company, Elgin, Ill. Filed Sept. 11, 1967.

COUNTRY CLUB QUALITY
AT NEIGHBORHOOD PRICES

The mark certifies that the services in connection with which the mark is used have been performed in accordance with requirements set by applicant as to equipment, operation and maintenance.

For Dry Cleaning and Laundering Service.

First use Dec. 22, 1964.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

889,217. ERG AND DESIGN. Energy Research and Generation, Inc. SN 308,775. Pub. 1–27–70. Filed 10–3–68.

889,218. REX. Rex Asbestwerke, Graf Von Rex KG. MULTIPLE CLASS (Classes 1, 7, and 43). SN 316,267. Pub. 1–27–70. Filed 1–10–69.

889,219. THIOKOL. Thiokol Chemical Corporation. SN 322,009. Pub. 1–27–70. Filed 3–17–69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

889,220. LAVELLE. La Velle Corporation. SN 326,775. Pub. 12–30–69. Filed 5–8–69.

Class 5 — Adhesives

889,221. READYMELT. Readymelt Adhesive Products Corporation. SN 324,754. Pub. 1–27–70. Filed 4–16–69.

889,222. WAYBOND. W. S. Shamban & Co. SN 325,082. Pub. 1–27–70. Filed 4–21–69.

Class 6 — Chemicals and Chemical Compositions

889,223. BASOPHEN. Badische Anilin- & Soda-Fabrik, d.b.a. BASF. SN 292,043. Pub. 1–27–70. Filed 1–10–68.

889,224. NO. 16. Universal Oil Products Company. SN 302,784. Pub. 1–27–70. Filed 7–15–68.

889,225. NO. 17. Universal Oil Products Company. SN 302,785. Pub. 1–27–70. Filed 7–15–68.

889,226. TOTAL FINISH. Unelko Corporation. SN 318,688. Pub. 1–27–70. Filed 2–7–69.

889,227. NURGAPOL. Geigy Chemical Corporation. SN 321,212. Pub. 1–27–70. Filed 3–10–69.

889,228. TOPOGARD. Geigy Chemical Corporation. SN 321,213. Pub. 1–27–70. Filed 3–10–69.

889,229. SURGICIDE. Medical Chemical Corporation. SN 321,819. Pub. 1–27–70. Filed 3–14–69.

889,230. AMERIPOL. Goodrich-Gulf Chemicals, Inc. SN 321,930. Pub. 1–27–70. Filed 3–17–69.

889,231. 3M. Minnesota Mining and Manufacturing Company. SN 328,774. Pub. 1–27–70. Filed 6–2–69.

889,232. NL. Philadelphia Quartz Company. SN 333,059. Pub. 1–27–70. Filed 7–22–69.

889,233. NL–54. Philadelphia Quartz Company. SN 333,060. Pub. 1–27–70. Filed 7–22–69.

Class 7 — Cordage

889,218. (See Class 1 for this trademark.)

889,234. NEW HOLLAND. Sperry Rand Corporation. SN 311,310. Pub. 1–27–70. Filed 11–4–68.

Class 10 — Fertilizers

889,235. GREEN RAIN. Agway, Inc. SN 333,073. Pub. 1–27–70. Filed 7–22–69.

889,236. WHISPERING PINES. Shore Litter, Inc. SN 333,308. Pub. 1–27–70. Filed 7–23–69.

Class 12 — Construction Materials

889,237. CARDINAL AND DESIGN. Production Experts, Inc. SN 304,387. Pub. 1–27–70. Filed 8–5–68.

889,238. TRILON. Armstrong Cork Company. SN 326,617. Pub. 1–27–70. Filed 5–7–69.

889,239. PACKAGE AND DESIGN. Package Builders, Inc. SN 327,407. Pub. 1–27–70. Filed 5–15–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

889,240. DAN-SEAL. Dan Flange, Inc. SN 319,853. Pub. 1–27–70. Filed 2–24–69.

889,241. THERMO-KINETIC. The Trane Company. SN 324,251. Pub. 1–27–70. Filed 4–10–69.

889,242. CZ AND DESIGN. Cerzel Tool & Engineering Co. SN 325,004. Pub. 1–27–70. Filed 4–21–69.

889,243. DURASTAN. American Standard Inc. SN 325,947. Pub. 1–27–70. Filed 4–30–69.

889,244. PEM AND DESIGN. Penn Engineering & Manufacturing Corp. SN 331,935. Pub. 1–27–70. Filed 7–7–69.

Class 15 — Oils and Greases

889,245. THERMOS. King-Seeley Thermos Co. SN 318,430. Pub. 1–27–70. Filed 2–5–69.

Class 16 — Protective and Decorative Coatings

889,246. SIERRA. Standard T Chemical Company, Inc. SN 334,792. Pub. 1–27–70. Filed 8–8–69.

Class 17 — Tobacco Products

889,247. THE GALLERIE. Consolidated Cigar Corporation. SN 326,506. Pub. 1–27–70. Filed 5–6–69.

889,248. GRANDEUR. Consolidated Cigar Corporation. SN 326,507. Pub. 1–27–70. Filed 5–6–69.

889,249. GREAT ARTISTS. Consolidated Cigar Corporation. SN 326,508. Pub. 1–27–70. Filed 5–6–69.

889,250. HEMISPHERE. Consolidated Cigar Corporation. SN 326,510. Pub. 1–27–70. Filed 5–6–69.

889,251. MUSEUM PIECES. Consolidated Cigar Corporation. SN 326,511. Pub. 1–27–70. Filed 5–6–69.

889,252. ADAM. Liggett & Myers Incorporated. SN 331,830. Pub. 1–27–70. Filed 7–7–69.

Class 18—Medicines and Pharmaceutical Preparations

889,253. EFFER-COLCIN. Medical Chemicals Corporation. SN 320,834. Pub. 1–27–70. Filed 3–5–69.

889,254. DILOR–G. Savage Laboratories, Inc. SN 320,863. Pub. 1–27–70. Filed 3–5–69.

889,255. ACIFORM. William H. Rorer, Inc. SN 321,984. Pub. 1–27–70. Filed 3–17–69.

889,256. SINALERGE. Frontier Drug Company, Inc. SN 322,059. Pub. 1–27–70. Filed 3–18–69.

889,257. ELECTROID. Richardson-Merrell Inc. SN 322,480. Pub. 1–27–70. Filed 3–21–69.

889,258. TRUTOL. Sherwood Medical Industries Inc. SN 323,130. Pub. 1–27–70. Filed 3–28–69.

889,259. SPEC–T AND DESIGN. E. R. Squibb & Sons, Inc. SN 323,604. Pub. 1–27–70. Filed 4–3–69.

889,260. KETAJECT. Bristol-Myers Company. SN 323,788. Pub. 1–27–70. Filed 4–7–69.

889,261. JECTAMINE. Bristol-Myers Company. SN 323,784. Pub. 1–27–70. Filed 4–7–69.

889,262. COMBANTRIN. Chas. Pfizer & Co., Inc. SN 331,290. Pub. 1–27–70. Filed 6–30–69.

889,263. NEO-PURA-MYCIN. Ralston Purina Company. SN 331,481. Pub. 1–27–70. Filed 7–1–69.

889,264. VAREN. White Laboratories, Inc. SN 331,984. Pub. 1–27–70. Filed 7–8–69.

889,265. CAV-A-BAN. American Home Products Corporation. SN 332,405. Pub. 1–27–70. Filed 7–14–69.

889,266. CAVABAN. American Home Products Corporation. SN 332,406. Pub. 1–27–70. Filed 7–14–69.

889,267. YOUNG TEETH. American Home Products Corporation. SN 332,407. Pub. 1–27–70. Filed 7–14–69.

889,268. DAILY TAB. Montgomery Ward & Co., Incorporated. SN 333,055. Pub. 1–27–70. Filed 7–22–69.

Class 19—Vehicles

889,269. SEA GEE AND DESIGN. Goldbergs' Marine Distributors, Inc. SN 273,769. Pub. 1–27–70. Filed 6–13–67.

889,270. CADY. Ateliers de la Motobecane. SN 295,494. Pub. 1–27–70. Filed 4–12–68.

889,271. HOLLAND APGAR TRAILMASTER. Holland Hitch Company. SN 304,221. Pub. 1–27–70. Filed 8–2–68.

889,272. SKAT-KAT AND DESIGN. London Marina, Inc. SN 304,364. Pub. 1–27–70. Filed 8–5–68.

889,273. OUTER SPACE. R. E. Jackson Company, Inc. SN 309,176. Pub. 1–27–70. Filed 10–8–68.

889,274. WANDERER. McCoy Manufacturing and Sales Co. SN 313,377. Pub. 1–27–70. Filed 12–2–68.

889,275. GLASSMASTER G AND DESIGN. Glassmaster Plastics Company. SN 317,743. Pub. 1–27–70. Filed 1–28–69.

889,276. RIDGE RUNNER. Donald H. Hagen. SN 319,051. Pub. 1–27–70. Filed 2–18–69.

889,277. ALL PRO AND DESIGN. S. S. Kresge Company. SN 320,354. Pub. 1–27–70. Filed 2–28–69.

889,278. ROYAL PRINCE AND DESIGN. Tube Investments of India Limited. SN 326,328. Pub. 1–27–70. Filed 5–5–69.

889,279. FIRE BACK. Bright Star Industries, Incorporated. SN 327,116. Pub. 1–27–70. Filed 5–13–69.

889,280. IRVINGLIDE. Irvin Industries Inc. SN 328,553. Pub. 1–27–70. Filed 5–28–69.

889,281. AIR LEAF. Pacific Car and Foundry Company, d.b.a. Peterbilt. SN 330,621. Pub. 1–27–70. Filed 6–20–69.

889,282. SKAT-KITTY. Projects Unlimited, Inc. SN 332,189. Pub. 1–27–70. Filed 7–9–69.

889,283. TIARA. Ultra, Inc. SN 332,170. Pub. 1–27–70. Filed 7–9–69.

889,284. CARGO FLITE. Nutting Truck and Caster Company. SN 333,058. Pub. 1–27–70. Filed 7–22–69.

889,285. LOW SILHOUETTE. Clinton C. Douglass, Jr., d.b.a. Douglass. SN 334,062. Pub. 1–27–70. Filed 7–31–69.

Class 21—Electrical Apparatus, Machines, and Supplies

889,286. ZERO DRIVE. Textron Inc. SN 290,118. Pub. 1–27–70. Filed 2–1–68.

889,287. DEVPACK. Guest International Limited, by change of name from Guest Electronics Limited. SN 299,771. Pub. 1–27–70. Filed 6–5–68.

889,288. STEREO-EYE. Matsushita Electric Industrial Co., Ltd. SN 304,696. Pub. 1–27–70. Filed 8–8–68.

889,289. PROSPECTOR. Foresight Enterprises, Inc., d.b.a. X-Rite Label Company. SN 306,764. Pub. 1–27–70. Filed 9–6–68.

889,290. PICO-A. Pico Electronics, Inc. SN 307,042. Pub. 1–27–70. Filed 9–10–68.

889,291. STYLEKING. McGraw-Edison Company. SN 308,222. Pub. 1–27–70. Filed 9–25–68.

889,292. UNISTYLE. McGraw-Edison Company. SN 308,228. Pub. 1–27–70. Filed 9–25–68.

889,293. GRAPHIC SERIES 200 COPIER AND DESIGN. Graphic Communications Corporation. SN 308,890. Pub. 1–27–70. Filed 10–4–68.

889,294. POWER HOUSE. McGraw-Edison Company. SN 312,481. Pub. 1–27–70. Filed 11–18–68.

889,295. MICRO-LOY. Microdot Inc. SN 313,184. Pub. 1–27–70. Filed 11–27–68.

889,296. LIQUID GROUND. The Thermocor Company Incorporated. SN 313,742. Pub. 1–27–70. Filed 12–5–68.

889,297. NIMBIN. EG & G, Inc. SN 314,306. Pub. 1–27–70. Filed 12–12–68.

889,298. CR AND DESIGN. Circuit Research, Inc. SN 318,526. Pub. 1–27–70. Filed 2–6–69.

889,299. LENTICON. Sony Corporation. SN 324,842. Pub. 1–27–70. Filed 4–17–69.

889,300. LENTI-COLOR. Sony Corporation. SN 324,843. Pub. 1–27–70. Filed 4–17–69.

889,301. PENETRATOR. Kern L. Fischer, d.b.a. F & W Rallye Engineering. SN 325,478. Pub. 1–27–70. Filed 4–24–69.

889,302. DECI-DUCTOR. Nytronics, Inc. SN 327,085. Pub. 1–27–70. Filed 5–12–69.

889,303. DECI-CAP. Nytronics, Inc. SN 327,089. Pub. 1–27–70. Filed 5–12–69.

889,304. ALSUR. Surprenant Inc. SN 327,422. Pub. 1–27–70. Filed 5–15–69.

889,305. CHO-BOND. Chomerics, Inc. SN 333,332. Pub. 1–27–70. Filed 7–24–69.

889,306. THERMATRONIC. Fedtro, Inc. SN 336,642. Pub. 1–27–70. Filed 8–29–69.

889,307. WONDER-GLOW. Fedtro, Inc. SN 336,644. Pub. 1–27–70. Filed 8–29–69.

889,308. FLUORODESCENT. Fedtro, Inc. SN 336,645. Pub. 1–27–70. Filed 8–29–69.

889,309. ADJUSTA. Lumenetrics, Inc. SN 336,745. Pub. 1–27–70. Filed 9–2–69.

Class 22—Games, Toys, and Sporting Goods

889,310. SKI BUG. Totalmold, Inc. SN 308,848. Pub. 1–27–70. Filed 7–29–68.

889,311. THE FLYING-3 AND DESIGN. The Flying 3 Company. SN 303,990. Pub. 1–27–70. Filed 7–31–68.

889,312. GOODWIN AND DESIGN. Midland International Corporation. SN 304,869. Pub. 1–27–70. Filed 8–5–68.

889,313. KAWASAKI. Kawasaki Racket Co., Ltd. SN 306,919. Pub. 1–27–70. Filed 9–9–68.

889,314. A-BLADE. Karsten Solheim. SN 308,152. Pub. 1–27–70. Filed 9–24–68.

889,315. TAKE IT OFF. What-Cha-Ma-Call-It, Inc. SN 313,461. Pub. 1–27–70. Filed 12–2–68.

889,316. BONNY BOUNCER. Jolly Jumper Products of America Limited. SN 316,207. Pub. 1–27–70. Filed 1–9–69.

889,317. POLY PRINT. Empire Plastic Corp. SN 316,632. Pub. 1–27–70. Filed 1–15–69.

889,318. KALAH AND DESIGN. Kalah, Incorporated, d.b.a. Kalah Game Company. SN 318,558. Pub. 1–27–70. Filed 2–6–69.

889,319. AIR LIFT. Rico Inc. SN 318,980. Pub. 1–27–70. Filed 2–12–69.

889,320. ATM. Pittman Products, Inc., d.b.a. Sportsways. SN 321,078. Pub. 1–27–70. Filed 3–7–69.

889,321. ROLOMATIC BRIDGE. Milton Bradley Company. SN 322,264. Pub. 1–27–70. Filed 3–20–69.

889,322. SWAHILI. Milton Bradley Company. SN 322,267. Pub. 1–27–70. Filed 3–20–69.

889,323. JUNIOR SPACE ENGINEER. Miner Industries, Inc. SN 322,817. Pub. 1–27–70. Filed 3–20–69.

889,324. HERBIE'S MINNOW. Cordell Tackle, Inc. SN 323,090. Pub. 1–27–70. Filed 3–28–69.

889,325. IFO. General Sportcraft Company Ltd. (New Jersey corporation), assignee of General Sportcraft Company Ltd. (New York corporation). SN 323,951. Pub. 1–27–70. Filed 4–8–69.

889,326. TOPPY TURVY. Mattel, Inc. SN 325,438. Pub. 1–27–70. Filed 4–24–69.

889,327. TOPSY TURVY. Mattel, Inc. SN 325,439. Pub. 1–27–70. Filed 4–24–69.

889,328. BOUNCY BABY. Mattel, Inc. SN 326,045. Pub. 1–27–70. Filed 5–1–69.

889,329. SKI-CADDY. Ron-Vik, Incorporated. SN 326,725. Pub. 1–27–70. Filed 5–8–69.

889,330. WESTERN WORLD. Mattel, Inc. SN 327,209. Pub. 1–27–70. Filed 5–14–69.

889,331. INJECTOR. Mattel, Inc. SN 327,211. Pub. 1–27–70. Filed 5–14–69.

889,332. PRECIOUS PETS. I. S. Sutton & Sons, Inc. SN 327,696. Pub. 1–27–70. Filed 5–19–69.

889,333. CHOO-CHOO CHARLIE. Quaker City Chocolate & Confectionery Company. SN 330,832. Pub. 1–27–70. Filed 6–18–69.

889,334. AQUANAUT. Mattel, Inc. SN 334,177. Pub. 1–27–70. Filed 8–1–69.

889,335. UPSY-DOWNSY. Mattel, Inc. SN 334,178. Pub. 1–13–70. Filed 8–1–69.

889,336. SOMERSALTY. Mattel, Inc. SN 334,181. Pub. 1–27–70. Filed 8–1–69.

889,337. RAMBLEBUG. Mattel, Inc. SN 334,439. Pub. 1–27–70. Filed 8–5–69.

889,338. HAPPY TALK. Mattel, Inc. SN 334,440. Pub. 1–27–70. Filed 8–5–69.

889,339. PRETTY PAIRS. Mattel, Inc. SN 334,784. Pub. 1–20–70. Filed 8–8–69.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

889,340. MODU-PLEX. Union Tank Car Company. SN 306,699. Pub. 1–27–70. Filed 9–5–68.

889,341. XCHANGE. Pacific Car and Foundry Company, d.b.a. KW-Dart Truck Co. SN 307,129. Pub. 1–27–70. Filed 9–11–68.

889,342. HANTSCHO. George Hantscho Company, Inc. SN 307,472. Pub. 1–27–70. Filed 9–16–68.

889,343. FIELD FILL. Patrick C. Lucy Co. SN 308,705. Pub. 1–27–70. Filed 10–2–68.

889,344. WAL-DEL. Walter G. Delisle, d.b.a. Wal-Del Products. SN 309,028. Pub. 1–27–70. Filed 10–7–68.

889,345. NE AND DESIGN. Northeast Aircraft Corporation. SN 310,128. Pub. 1–27–70. Filed 10–21–68.

889,346. SPINDLTROL. Powers Regulator Company, assignee of The Powers Regulator Company. SN 312,221. Pub. 1–27–70. Filed 11–14–68.

889,347. RAPIFINE. Dorr-Oliver Incorporated. SN 312,441. Pub. 1–27–70. Filed 11–18–68.

889,348. WEED-B-GON. Chevron Chemical Company. SN 316,992. Pub. 1–27–70. Filed 1–21–69.

889,349. MISCELLANEOUS DESIGN. Nippon Accumulator Co., Ltd. SN 318,370. Pub. 1–27–70. Filed 2–5–69.

889,350. CIM-XCHANGER. The Cincinnati Milling Machine Co. SN 320,707. Pub. 1–27–70. Filed 3–4–69.

889,351. MISCELLANEOUS DESIGN. Cryplex Industries Inc. SN 321,780. Pub. 1–27–70. Filed 3–14–69.

889,352. STANDARD PLUS AND DESIGN. Standard Motor Products, Inc. SN 323,923. Pub. 1–27–70. Filed 4–8–69.

889,353. J & S TOOL CO., INC. AND DESIGN. J & S Tool Company, Inc. SN 324,188. Pub. 1–27–70. Filed 4–10–69.

889,354. DOLELAB. James Dole Engineering Co. SN 326,753. Pub. 1–27–70. Filed 5–8–69.

889,355. BAREFOOT BOY. Barefoot Boy Products Inc. SN 328,648. Pub. 1–27–70. Filed 5–29–69.

889,356. AJAX. Cooper Industries, Inc. SN 332,091. Pub. 1–27–70. Filed 7–9–69.

889,357. "TRANSWER." Burt K. Filer III, d.b.a. Transwer Company. SN 333,046. Pub. 1–27–70. Filed 7–22–69.

889,358. BAL HARBOUR. Whitney-Forbes, Inc. SN 336,657. Pub. 1–27–70. Filed 8–29–69.

Class 24—Laundry Appliances and Machines

889,359. FLOWLINE. Gebr. Poensgen Gesellschaft mit beschränkter Haftung. SN 317,552. Pub. 1–27–70. Filed 1–27–69.

Class 25—Locks and Safes

889,360. DIEBOLD VISUAL AUTO TELLER. Diebold, Incorporated. SN 305,212. Pub. 1–27–70. Filed 8–15–68.

Class 26—Measuring and Scientific Appliances

889,361. PROTO. Pendleton Tool Industries, Inc. SN 298,961. Pub. 1–27–70. Filed 5–23–68.

889,362. TALKING PAGE. McGraw-Edison Company. SN 300,286. Pub. 1–27–70. Filed 6–12–68.

889,363. KING PORTABLE ETC. AND DESIGN. King Tester Corporation. SN 309,053. Pub. 1–27–70. Filed 10–7–68.

889,364. ELMISONDE. Siemens Aktiengesellschaft. SN 309,187. Pub. 1–27–70. Filed 10–8–68.

889,365. ECON-HAYS-TROL AND DESIGN. The Hays Corporation. SN 310,328. Pub. 1–27–70. Filed 10–23–68.

889,366. METRODYNE. The Metrodynamics Corporation. SN 310,348. Pub. 1–27–70. Filed 10–28–68.

889,367. THE NUCLEUS. The Nucleus Inc. SN 316,544. Pub. 1–27–70. Filed 1–14–69.

889,368. P. Parker Instrument Corporation. SN 327,294. Pub. 1–27–70. Filed 5–14–69.

889,369. PERMAMELT. American Standard Inc. SN 327,466. Pub. 1–27–70. Filed 5–16–69.

889,370. UNISPECS. Rayex Corporation. SN 330,009. Pub, 1-27-70. Filed 6-13-69.

889,371. UNISPEX. Rayex Corporation. SN 330,010. Pub, 1-27-70. Filed 6-13-69.

889,372. CENTRIFICHEM. Union Carbide Corporation. SN 330,023. Pub, 1-27-70. Filed 6-13-69.

Class 27 — Horological Instruments

889,973. MARCO POLO. Bulova Watch Company, Inc. SN 327,118. Pub. 1-27-70. Filed 5-13-69.

Class 28 — Jewelry and Precious-Metal Ware

889,374. GLEAM N' GLISTEN. Textron Inc. SN 331,444. Pub. 1-27-70. Filed 6-30-69.

Class 29 — Brooms, Brushes, and Dusters

889,375. WORK HORSE. The Drackett Company. SN 312,987. Pub. 1-27-70. Filed 11-25-68.

889,376. O-CEDAR WORK HORSE. The Drackett Company. SN 313,083. Pub. 1-27-70. Filed 11-26-68.

889,377. DRACKETT WORK HORSE. The Drackett Company. SN 313,084. Pub. 1-27-70. Filed 11-26-68.

Class 31 — Filters and Refrigerators

889,378. SPERISTAR (DESIGN). Sperry Rand Corporation. SN 319,377. Pub. 1-27-70. Filed 2-17-69.

Class 32 — Furniture and Upholstery

889,379. ACCENT CUBES. Modern Industries, Inc. SN 308,026. Pub. 1-27-70. Filed 9-23-68.

889,380. LEVELIZER. National Mattress Company. SN 309,179. Pub. 1-27-70. Filed 10-8-68.

889,381. DOUBLE IMAGE. Christina Thierens, d.b.a. Double Image Enterprises. SN 317,264. Pub. 1-27-70. Filed 1-22-69.

889,382. FLEXI-CAB. Beltronix Systems Inc. SN 328,081. Pub. 1-27-70. Filed 5-22-69.

Class 33 — Glassware

889,383. KINSALE. Waterford Glass Limited. SN 328,468. Pub. 1-27-70. Filed 5-27-69.

889,384. INNISFAIL. Waterford Glass Limited. SN 328,470. Pub. 1-27-70. Filed 5-27-69.

889,385. KYLEMORE. Waterford Glass Limited. SN 328,471. Pub. 1-27-70. Filed 5-27-69.

889,386. KENMARE. Waterford Glass Limited. SN 328,472. Pub. 1-27-70. Filed 5-27-69.

889,387. GLENCREE. Waterford Glass Limited. SN 328,473. Pub. 1-27-70. Filed 5-27-69.

889,388. TEMPLEMORE. Waterford Glass Limited. SN 328,474. Pub. 1-27-70. Filed 5-27-69.

889,389. GLENMORE. Waterford Glass Limited. SN 328,475. Pub. 1-27-70. Filed 5-27-69.

889,390. ROYAL TARA. Waterford Glass Limited. SN 328,476. Pub. 1-27-70. Filed 5-27-69.

889,391. MAUREEN. Waterford Glass Limited. SN 328,479. Pub. 1-27-70. Filed 5-27-69.

889,392. SHEILA. Waterford Glass Limited. SN 328,480. Pub. 1-27-70. Filed 5-27-69.

889,393. COOKMATES. Corning Glass Works. SN 329,699. Pub. 1-27-70. Filed 6-11-69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

889,394. CESAS. Societe Francaise des Constructions Babcock & Wilcox. SN 278,829. Pub. 1-27-70. Filed 8-22-67.

889,395. TEMP-PLATE. Paul Mueller Company. SN 306,160. Pub. 1-27-70. Filed 8-28-68.

889,396. ROLL-O-MATIC. The McKay Company. SN 329,999. Pub. 1-27-70. Filed 6-13-69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

889,397. SPERISTAR (DESIGN). Sperry Rand Corporation. SN 319,379. Pub. 1-27-70. Filed 2-17-69.

889,398. WOODLAND. The Armstrong Rubber Company. SN 333,077. Pub. 1-27-70. Filed 7-22-69.

889,399. THIOKOL. Thiokol Chemical Corporation. SN 333,776. Pub. 1-27-70. Filed 7-28-69.

Class 36 — Musical Instruments and Supplies

889,400. TCT. Wiklund Enterprises, Inc. SN 316,033. Pub. 1-27-70. Filed 1-7-69.

Class 37 — Paper and Stationery

889,401. TIME SAVER CHECK. Time Saver Check, Inc. SN 284,760. Pub. 1-27-70. Filed 11-13-67.

889,402. B (STYLIZED). The BD Co. SN 292,465. Pub. 1-27-70. Filed 3-5-68.

889,403. X-5. Marsh Stencil Machine Company. SN 311,608. Pub. 1-27-70. Filed 11-7-68.

889,404. NU-FILM. Nu-Film Products Company Inc. SN 313,238. Pub. 1-27-70. Filed 11-29-68.

889,405. P AND DESIGN. Process Materials Corporation. SN 320,739. Pub. 1-27-70. Filed 3-4-69.

889,406. PENINSULAR AND DESIGN. Peninsular Paper Company. SN 328,332. Pub. 1-27-70. Filed 5-26-69.

889,407. QUALI-FORM. The Flesh Company. SN 328,687. Pub. 1-27-70. Filed 5-29-69.

889,408. QUALI-SNAP. The Flesh Company. SN 328,688. Pub. 1-27-70. Filed 5-29-69.

889,409. PACK-GRIP. Packaging Corporation of America. SN 335,728. Pub. 1-27-70. Filed 8-20-69.

889,410. MERITAG. Dennison Manufacturing Company. SN 336,051. Pub. 1-27-70. Filed 8-25-69.

Class 38 — Prints and Publications

889,411. BUY-LINES PRESS AND BUY 'N' SELL. B-L Press, Inc. SN 306,214. Pub. 1-27-70. Filed 8-29-68.

889,412. CPI AND DESIGN. Cardinal Press, Inc. MULTIPLE CLASS (Classes 38 and 101). SN 306,839. Pub. 1-27-70. Filed 9-9-68.

889,413. TC (DESIGN). Sperry Rand Corporation. SN 312,085. Pub. 1-27-70. Filed 11-13-68.

889,414. COMPUTURN. The Warner & Swasey Company. SN 314,838. Pub. 1-27-70. Filed 12-18-68.

889,415. BLACKFOOT AND DESIGN. Michael T. Smith, d.b.a. M.T.S. Productions. MULTIPLE CLASS (Classes 38 and 50). SN 323,623. Pub. 1-27-70. Filed 4-4-69.

889,416. F AND DESIGN. Follett Educational Corp. SN 326,222. Pub. 1-27-70. Filed 5-2-69.

889,417. WORDS OF ENCOURAGEMENT. Anne L. Coker, d.b.a. "Words of Encouragement." SN 328,037. Pub. 1-27-70. Filed 5-22-69.

889,418. TELEKETICS. St. Francis Theatre. SN 334,490. Pub. 1-27-70. Filed 8-5-69.

889,419. TOP OP. Farm Journal, Inc. SN 335,006. Pub. 1-27-70. Filed 8-11-69.

889,420. TOP OPERATOR. Farm Journal, Inc. SN 335,007. Pub. 1-27-70. Filed 8-11-69.

Class 39 — Clothing

889,421. DREAM GIRL. Storktowne Products, Inc. SN 286,770. Pub. 3-11-69. Filed 12-12-67.

889,422. DREAM GIRL. Ely & Walker, Inc. SN 288,203. Pub. 3-11-69. Filed 12-5-68.

889,423. SKI SKINS. Atlas Underwear Corporation. SN 299,197. Pub. 4-15-69. Filed 5-28-68.

889,424. LACREST DOUBLE KNIT AND DESIGN. Crest Uniform Co., Inc. SN 31[illegible] Pub. 1-27-70. Filed 1-22-69.

889,425. DANIEL DE VANLAY. Devanlay & Recoing & Cie, Devanlay Recoing Export. SN 324,802. Pub. 1-27-70. Filed 4-17-69.

Class 40 — Fancy Goods, Furnishings, and Notions

889,426. CARMEN. Bristol-Myers Company, assignee of Clairol Incorporated. SN 304,447. Pub. 1-27-70. Filed 8-6-68.

889,427. TEEN SET. Fred Eskenasy, d.b.a. Rubeda Imports, Ltd. SN 315,898. Pub. 1-27-70. Filed 1-6-69.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

889,428. ROYAL PAVILLION. E. T. Barwick Industries, Inc. SN 334,016. Pub. 1-27-70. Filed 7-31-69.

889,429. SWINGING STYLE. E. T. Barwick Industries, Inc. SN 334,019. Pub. 1-27-70. Filed 7-31-69.

889,430. WILD THING. E. T. Barwick Industries, Inc. SN 334,023. Pub. 1-27-70. Filed 7-31-69.

889,431. ROCOCO CLOTH. Stevcoknit Textile Co. SN 324,610. Pub. 1-27-70. Filed 4-15-69.

889,432. RIDGEWAY. Stevcoknit Textile Co. SN 324,611. Pub. 1-27-70. Filed 4-15-69.

889,433. BRIGHT FORECAST. Burlington Industries, Inc. SN 327,769. Pub. 1-27-70. Filed 5-20-69.

Class 43 — Thread and Yarn

889,218. (See Class 1 for this trademark.)

Class 44 — Dental, Medical, and Surgical Appliances

889,434. M-T. C. R. Bard, Inc. SN 316,974. Pub. 1-27-70. Filed 1-21-69.

889,435. LECTRO-DISC. The Burdick Corporation. SN 328,034. Pub. 1-27-70. Filed 5-22-69.

889,436. FORMULA 927 AND DESIGN. Unidon International, Inc. SN 330,067. Pub. 1-27-70. Filed 6-16-69.

Class 46 — Foods and Ingredients of Foods

889,437. BABYBEL. Fromageries Bel-La Vache Qui Rit, d.b.a. Fromageries Bel. SN 298,589. Pub. 1-27-70. Filed 5-20-68.

889,438. FLAPJACK. Lusk Candy Company, assignee of Beckham Candy Company, Inc. SN 317,524. Pub. 9-16-69. Filed 1-27-69.

889,439. GOURMAY. Great American Foods, Inc. SN 320,579. Pub. 1-27-70. Filed 3-3-69.

889,440. KATTOMEAT. Spillers Limited. SN 320,748. Pub. 1-27-70. Filed 3-4-69.

889,441. PURR MINI BITS. Westgate-California Foods, Inc. SN 321,308. Pub. 1-27-70. Filed 3-10-69.

889,442. FABULITE. Continental Coffee Company. SN 324,[illegible] Pub. 1-27-70. Filed 4-10-69.

889,443. ROXIE AND DESIGN. N. A. Pricola. SN 324,367. Pub. 12-2-69. Filed 4-14-69.

889,444. PETER PAN. Derby Foods, Inc. SN 326,859. Pub. 1-27-70. Filed 5-9-69.

889,445. COCOCITAS. Watson & Rae S.A. SN 326,931. Pub. 1-27-70. Filed 5-9-69.

889,446. SAUCERY. H. J. Heinz Company. SN 326,952. Pub. 1-27-70. Filed 5-12-69.

889,447. BEAUTY. Diehl, Inc., d.b.a. The Defiance Dairy Products Company, and The Defiance Milk Products Co. SN 327,009. Pub. 1-27-70. Filed 5-12-69.

889,448. SUN GLO AND DESIGN. Khyber Food Products Incorporated. SN 332,068. Pub. 1-27-70. Filed 7-9-69.

889,449. KEN-L RATION HEALTHO AND DESIGN. The Quaker Oats Company. SN 334,789. Pub. 1-27-70. Filed 8-8-69.

889,450. KEN-L RATION SOCIETY AND DESIGN. The Quaker Oats Company. SN 334,790. Pub. 1-27-70. Filed 8-8-69.

889,451. TOP MILKER. Ralston Purina Company. SN 335,112. Pub. 1-27-70. Filed 8-12-69.

Class 47 — Wines

889,452. CHATEAU-BON. Chateau-Gai Wines Limited. SN 315,056. Pub. 1-27-70. Filed 12-23-68.

889,453. MATCHES. Angus Aloysius Gillougley. SN 325,598. Pub. 1-27-70. Filed 4-25-69.

Class 48 — Malt Beverages and Liquors

889,454. WHITBREAD. Whitbread & Company Limited. SN 311,711. Pub. 1-27-70. Filed 11-8-68.

Class 49 — Distilled Alcoholic Liquors

889,455. ROYAL HUSSAR. James A. Robertson Company. SN 333,873. Pub. 1-27-70. Filed 7-30-69.

889,456. ROYAL HUNTSMAN. James A. Robertson Company. SN 333,874. Pub. 1-27-70. Filed 7-30-69.

889,457. ROYAL SOVEREIGN. James A. Robertson Company. SN 333,875. Pub. 1-27-70. Filed 7-30-69.

Class 50 — Merchandise Not Otherwise Classified

889,415. (See Class 38 for this trademark.)

889,458. DIAMOND-GRIP. The Goodyear Tire & Rubber Company. SN 314,338. Pub. 1-27-70. Filed 12-12-68.

889,459. PANTSBOY. Walter F. Jenne, d.b.a. Jenco. SN 328,507. Pub. 1-27-70. Filed 5-28-69.

889,460. DETECTOLIFT. Genesee Valley Paper Co., Inc. SN 328,696. Pub. 1-27-70. Filed 5-29-69.

889,461. FOTOMER. Polychrome Corporation. SN 330,950. Pub. 1-27-70. Filed 6-25-69.

889,462. TUFF TIP. Safe-T Pacific Company. SN 332,742. Pub. 1-27-70. Filed 7-16-69.

889,463. GLAS-TEX. Creative Builders, Inc. SN 332,923. Pub. 1-27-70. Filed 7-18-69.

889,464. DYNAMAT. Dynafab, Inc. SN 334,311. Pub. 1-27-70. Filed 8-4-69.

Class 51 — Cosmetics and Toilet Preparations

889,465. CALIFORNIA GIRL. Clairol Incorporated. SN 248,593. Pub. 2-7-67. Filed 6-21-66.

889,466. DEVOTION. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 310,170. Pub. 1-27-70. Filed 10-22-68.

889,467. ULTRA TRESS. Invincible Products Corporation. MULTIPLE CLASS (Classes 51 and 52). SN 316,309. Pub. 1-27-70. Filed 1-10-69.

889,468. DE L'AMOUR, Stendhal S.A. SN 320,979. Pub. 1-27-70. Filed 3-6-69.

889,469. BABORISAN. Dr. Babor and Company. SN 322,691. Pub. 1-27-70. Filed 3-25-69.

889,470. AZUREE. Estee Lauder Incorporated. SN 324,132. Pub. 1-27-70. Filed 4-10-69.

889,471. A CERTAIN LOOK. Avon Products, Inc. SN 329,592. Pub. 1-27-70. Filed 6-10-69.

889,472. ACT OF NATURE. John H. Breck, Inc. SN 330,711. Pub. 1-20-70. Filed 6-23-69.

889,473. CLAIRCOLOR. Clairol Incorporated. SN 331,337. Pub. 1-27-70. Filed 6-30-69.

889,474. BODIFI. Summit Laboratories, Inc. SN 331,838. Pub. 1-27-70. Filed 7-7-69.

889,475. SKI BUM. Ben Zeldin, d.b.a. Campus Research. SN 331,970. Pub. 1-27-70. Filed 7-7-69.

889,476. BROIDEREE. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,480. Pub. 1-27-70. Filed 7-25-69.

889,477. ROYAL TROON. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,488. Pub. 1-27-70. Filed 7-25-69.

889,478. SAMBURU. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,489. Pub. 1-27-70. Filed 7-25-69.

889,479. SCRIMSHAW. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,490. Pub. 1-27-70. Filed 7-25-69.

889,480. STARSTREAM. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,491. Pub. 1-27-70. Filed 7-25-69.

889,481. STONEHENGE. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,492. Pub. 1-27-70. Filed 7-25-69.

889,482. SURREAL. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,493. Pub. 1-27-70. Filed 7-25-69.

889,483. PROTEIN-21. The Mennen Company. SN 333,592. Pub. 1-27-70. Filed 7-25-69.

Class 52 — Detergents and Soaps

889,466. (See Class 51 for this trademark.)

889,467. (See Class 51 for this trademark.)

889,476. (See Class 51 for this trademark.)

889,477. (See Class 51 for this trademark.)

889,478. (See Class 51 for this trademark.)

889,479. (See Class 51 for this trademark.)

889,480. (See Class 51 for this trademark.)

889,481. (See Class 51 for this trademark.)

889,482. (See Class 51 for this trademark.)

889,484. VETS OWN AND DESIGN. Carter-Wallace, Inc., assignee, by mesne assignment, of Cardinal Laboratories, Inc., d.b.a. Arn-Ed Laboratories. SN 286,902. Pub. 1-28-69. Filed 12-14-67.

889,485. GREEN CLEAN. Adelaide H. Burke, d.b.a. National Irrigation Products Co. SN 329,832. Pub. 1-27-70. Filed 6-12-69.

889,486. PROTEIN-21. The Mennen Company. SN 333,593. Pub. 1-27-70. Filed 7-25-69.

Service Marks

Class 100 — Miscellaneous

889,487. TACO KID. Pizza Hut, Inc., assignee of Taco, Inc. SN 318,996. Pub. 1-27-70. Filed 12-9-68.

889,488. MISTER S'GETTI, ETC. AND DESIGN. Charles H. Sanderson. SN 322,033. Pub. 1-27-70. Filed 3-18-69.

889,489. BIMBO'S Bimbo's Franchises, Inc. SN 325,951. Pub. 1-27-70. Filed 4-30-69.

889,490. THE PRIME TIME. The Great Western Restaurant Company. SN 331,824. Pub. 1-27-70. Filed 7-7-69.

Class 101 — Advertising and Business

889,412. (See Class 38 for this trademark.)

889,491. BANDWAGON. Bandwagon U.S.A., Inc. SN 288,850. Pub. 1-27-70. Filed 11-1-67.

889,492. QUIK-GIFT. Premium Corporation of America, Inc. SN 301,249. Pub. 1-27-70. Filed 6-24-68.

889,493. TACO KING. Taco King, Inc. SN 301,863. Pub. 1-27-70. Filed 7-2-68.

889,494. UNIVAS. Societe Anonyme dite: Compagnie Univas, assignee of Societe Anonyme dite: Agence Havas. SN 308,450. Pub. 1-27-70. Filed 7-28-68.

889,495. SHE. Southern California Edison Company. SN 308,041. Pub. 1-27-70. Filed 9-28-68.

889,496. EDP MATCHMAKERS. Management Recruiters International, Inc. SN 314,023. Pub. 1-27-70. Filed 12-10-68.

889,497. OTI (DESIGN). Oti Services, Inc. SN 318,328. Pub. 1-27-70. Filed 2-4-69.

889,498. SYNERGON. Financial Services, Inc. SN 320,309. Pub. 1-27-70. Filed 2-28-69.

Class 102 — Insurance and Financial

889,499. MANUFACTURERS MUTUAL FIRE INSURANCE COMPANY. Manufacturers Mutual Fire Insurance Company. SN 301,538. Pub. 1-27-70. Filed 6-27-68.

889,500. AFIA WORLDWIDE INSURANCE AND DESIGN. AFIA. SN 307,954. Pub. 1-27-70. Filed 9-23-68.

889,501. MARINE BANK & TRUST COMPANY AND DESIGN. Marine Bank & Trust Company. SN 311,507. Pub. 1-27-70. Filed 11-6-68.

889,502. FANCIFUL DESIGN OF THE LETTER O. William O'Neil & Co. Incorporated. SN 314,903. Pub. 1-27-70. Filed 12-19-68.

889,503. MORE THAN JUST BROKERS. E. F. Hutton and Co., Inc. SN 326,651. Pub. 1-27-70. Filed 5-7-69.

889,504. AG. The Aims Group, Incorporated. SN 330,657. Pub. 1-27-70. Filed 6-23-69.

Class 103 — Construction and Repair

889,505. VETTE SHOP. The Vette Shop, Inc. SN 320,663. Pub. 1-27-70. Filed 3-3-69.

889,506. TECH-TURF. Tech-Turf, Incorporated. SN 335,153. Pub. 1-27-70. Filed 8-12-69.

Class 107 — Education and Entertainment

889,507. MILES AHEAD. Jeffrey Galion Inc., by change or name from Jeffrey Galion Manufacturing Company. SN 284,204. Pub. 1-27-70. Filed 11-6-67.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

889,525. Tompkins' Label Service, Philadelphia, Pa. SN 327,201. Filed P.R. 5-14-69; Am. S.R. 1-19-70.

TOTAL LABEL SYSTEMS

Class 38—Prints and Publications

For Printed Labels (Int. Cl. 16).
First use Jan. 5, 1967.

Class 101—Advertising and Business

For Custom Manufacture of Labels to the Orders of Others (Int. Cl. 35).
First use Apr. 25, 1966.

SECTION 2

Class 1 — Raw or Partly Prepared Materials

889,508. Geo. J. Ball, Inc., West Chicago, Ill. SN 321,893. Filed P.R. 3-17-69; Am. S.R. 1-7-70.

SUPER SEEDLINGS

For Annual Plants—Namely, Varieties of Petunia, Begonia, Coleus, Impatiens, Pansy, Snapdragon, Salvia, Verbena, and Vinca (Int. Cl. 31).
First use on or before Dec. 15, 1967.

Class 11 — Inks and Inking Materials

889,509. Sears, Roebuck and Co., Chicago, Ill. SN 299,165. Filed P.R. 5-27-68; Am. S.R. 10-20-69.

EASI-LOAD

For Typewriter Ribbons (Int. Cl. 16).
First use on or about Jan. 17, 1967.

Class 17 — Tobacco Products

889,510. Mendez Enterprises, Inc., Miami, Fla. SN 340,988. Filed 10-17-69.

DOM MENDEZ

For Cut Tobacco for Cigarettes and Cigars (Int. Cl. 34).
First use Nov. 3, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

889,511. A. J. J. Jochem-Holland N.V., Rotterdam, Netherlands. SN 315,233. Filed P.R. 12-26-68; Am. S.R. 12-22-69.

Jochem's

Owner of Dutch Reg. No. 155,815, dated May 17, 1965.
For Hair Preparation for Falling Hair and Dandruff (Int. Cl. 5).

889,512. A. H. Robins Company, Incorporated, Richmond, Va. SN 316,136. Filed 1-8-69.

COUGH CALMERS

For Antitussive Pharmaceutical Preparation (Int. Cl. 5).
First use Oct. 28, 1966.

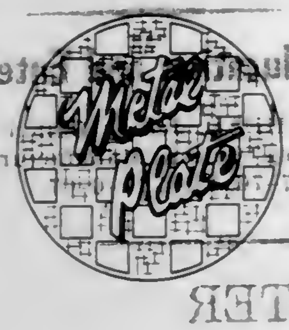
889,513. American Home Products Corporation, New York, N.Y. SN 319,762. Filed P.R. 2-24-69; Am. S.R. 2-17-70.

CLEAR & DRY

For Pharmaceutical Preparation for the Relief of Symptoms of Sinus Congestion (Int. Cl. 5).
First use Feb. 10, 1969.

Class 19—Vehicles

889,514. Metalplate & Coatings, Inc., Irondale, Ala. SN 312,212. Filed P.R. 11-14-68; Am. S.R. 1-9-70.



The drawing is lined for the color gold.
For Automobile Wheels (Int. Cl. 12).
First use Oct. 31, 1968.

Class 22—Games, Toys, and Sporting Goods

889,515. Brandell Products Corporation, Rosemont, Ill. SN 290,464. Filed P.R. 2-7-68; Am. S.R. 12-8-69.

HEAD CHEK

For Optical Device for Detecting and Indicating Head Movements of a Golfer During Ball Striking Club Movement (Int. Cl. 28).
First use on or about Oct. 25, 1967.

889,516. Milton Bradley Company, Springfield, Mass. SN 321,178. Filed P.R. 3-10-69; Am. S.R. 12-15-69.

COUNT YOUR CHANGE

For Set of Imitation Coins for Visually Illustrating Various Coin Combinations in the Teaching of the Art of Making Change (Int. Cl. 28).
First use Nov. 25, 1966.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

889,517. Washington Forge, Incorporated, Englishtown, N.J. SN 308,037. Filed P.R. 10-4-68; Am. S.R. 1-15-70.

DOUGLASS

For Stainless Steel Flatware (Int. Cl. 8).
First use on or about Aug. 1, 1968.

889,518. Bell Aerospace Corporation, Pacoima, Calif. SN 325,707. Filed P.R. 4-28-69; Am. S.R. 1-2-70.

HYDROSTATIC

For Actuators Adapted for Power Operation of Various Valve Types To Control Fluid Flow (Int. Cl. 7).
First use on or about Sept. 26, 1966.

Class 36—Musical Instruments and Supplies

889,519. Crumar Di Mario Crucianelli-F. Marchetti & C. S.A.S., Castelfidardo (Ancona), Italy. SN 314,535. Filed P.R. 12-16-68; Am. S.R. 9-12-69.

F.lli CRUCIANELLI

Priority claimed under Sec. 44(d) on Italian application filed Oct. 26, 1968; Reg. No. 235,737, dated Feb. 26, 1969. "F.lli" is the abbreviation for "Fratelli," the Italian word meaning "brothers."
For Accordions (Int. Cl. 15).

Class 38—Prints and Publications

889,525. See Section 1 (Combined Certificate).

889,520. B. J. Martin Company, Inc., Chicago, Ill. SN 293,290. Filed P.R. 8-14-68; Am. S.R. 12-24-69.

MODERN STORES AND OFFICES

For Illustrated Bimonthly Magazine (Int. Cl. 16).
First use February 1962.

889,521. The Progressive Farmer Company, Birmingham, Ala. SN 295,053. Filed P.R. 4-5-68; Am. S.R. 1-15-70.

SOUTHERN SUPERMARKETING

For Trade Service Publication—Namely, a Magazine Published Periodically (Int. Cl. 16).
First use Mar. 4, 1968.

889,522. National Education Association of the United States, Washington, D.C. SN 311,394. Filed P.R. 11-5-68; Am. S.R. 12-16-69.

TODAY'S EDUCATION

For Magazine (Int. Cl. 16).
First use July 19, 1968.

889,523. Cleworth Publishing Company, Inc., Cos Cob, Conn. SN 316,412. Filed P.R. 1-13-69; Am. S.R. 1-16-70.

MAINTENANCE ENGINEERING

For Monthly Magazine (Int. Cl. 16).
First use Jan. 6, 1969.

889,524. Hudson Publishing Company, Los Altos, Calif. SN 324,591. Filed P.R. 4-15-69; Am. S.R. 1-13-70.

Home BUILDING and REMODELING

For Trade Magazine (Int. Cl. 16).
First use December 1968.

889,526. The New Yorker Magazine, Inc., New York, N.Y. SN 344,567. Filed 11-25-69.

DEPT. OF STRAIGHT THINKING

For Column in a Weekly Magazine (Int. Cl. 16).
First use July 17, 1965.

Class 39—Clothing

889,527. Superba Cravats, Inc., Rochester, N.Y. SN 302,983. Filed P.R. 7-17-68; Am. S.R. 8-25-69.

ASCARF

For Neckwear (Int. Cl. 25).
First use Apr. 5, 1968.

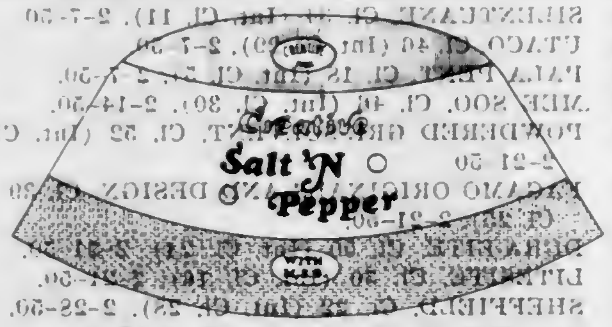
Class 46—Foods and Ingredients of Foods

889,528. Sub-Tropic Fruit Co., Inc., Goulds, Fla. SN 307,595. Filed P.R. 9-17-68; Am. S.R. 12-29-69.

TROPIC FROZEN

For Frozen Tropical and Citrus Fruits Including Limes, Lemons, Avocados, Mangos and Guavas; Natural Strength and Concentrated Frozen Citrus and Tropical Fruit Juices (Int. Cls. 29 and 32).
First use July 26, 1967.

889,529. Creative Foods International, Universal City, Calif. SN 310,070. Filed 10-21-68.



The drawing is lined for the colors red and gold.
For Combination Salt and Pepper Seasoning (Int. Cl. 30).
First use Oct. 15, 1967.

889,530. The H. R. Nicholson Company, Baltimore, Md. SN 315,328. Filed P.R. 12-27-68; Am. S.R. 1-19-70.

FREEZE 'N SQUEEZE

For Frozen Flavored Ices (Int. Cl. 30).
First use Dec. 5, 1968.

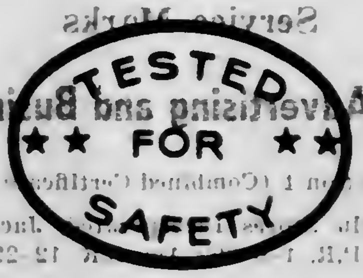
889,531. Farmers Union Grain Terminal Association, St. Paul, Minn. SN 324,861. Filed P.R. 4-18-69; Am. S.R. 12-4-69.

DARI-LIQ

For Liquid Livestock Feed Supplement of a Food Nature (Int. Cl. 31).
First use Aug. 16, 1968.

Class 50—Merchandise Not Otherwise Classified

889,532. R. D. Werner Co., Inc., Greenville, Pa. SN 319,654. Filed P.R. 2-19-68; Am. S.R. 12-30-69.



For Ladders, Stages, Planks and Platforms (Int. Cl. 20).
First use Jan. 13, 1964.

Class 51—Cosmetics and Toilet Preparations

889,533. Elizabeth Arden Sales Corporation, New York, N.Y. SN 292,364. Filed P.R. 8-4-68; Am. S.R. 3-25-69.

SUN SHADER

For Moisturizing Cream To Prevent Sunburn (Int. Cl. 3).
First use Jan. 31, 1968.

889,534. A. R. Williams and Co., Carteret, N.J. SN 297,116. Filed P.R. 5-1-68; Am. S.R. 1-23-70.

PATIENT CARE

For Hand and Body Lotion (Int. Cl. 3).
First use Sept. 9, 1965.

889,535. Emmanuel Ungaro, S.A.R.L., Paris, France. SN 307,563. Filed P.R. 9-17-68; Am. S.R. 1-15-70.

UNGARO

Owner of U.S. Reg. No. 858,292.
For Cosmetic Cleansing Oil (Int. Cl. 3).
First use Aug. 21, 1968.

889,536. Estrellita Jones, d.b.a. Paul Jones Perfumes, Piedmont, Calif. SN 308,786. Filed P.R. 10-8-68; Am. S.R. 1-5-70.

COOL CREAM

For Skin and Facial Cream (Int. Cl. 3).
First use 1935.

889,537. Shiseido Co. Ltd., Chuo-ku, Tokyo, Japan. SN 313,981. Filed P.R. 12-9-68; Am. S.R. 1-5-70.

BRUSH PACT

For Pressed Tinted Make-Up and Brush, Sold in a Compact (Int. Cl. 3).
First use June 28, 1967; in commerce Aug. 10, 1967.

889,538. Satin Soft Cosmetics of Delaware, Inc., Atlanta, Ga. SN 343,225. Filed 11-12-69.

SURE SHAVE

For Depilatory Cream (Int. Cl. 3).
First use at least as early as Apr. 8, 1968.

Service Marks

Class 101 — Advertising and Business

889,525. See Section 1 (Combined Certificate).

889,539. Tru-Valu Stores Incorporated, Jackson, Miss. SN 315,965. Filed P.R. 1-6-69; Am. S.R. 12-22-69.

TRU-VALU

For Department Store Services (Int. Cl. 35).
First use July 1, 1966.

Class 102 — Insurance and Financial

889,540. County Federal Savings and Loan Association, Westport, Conn. SN 315,884. Filed P.R. 1-6-69; Am. S.R. 11-21-69.

WHERE TIME WORKS FOR YOUR BEST INTEREST

For Banking Services (Int. Cl. 36).
First use on or about Jan. 2, 1968.

889,541. Pittsburgh National Bank, Pittsburgh, Pa. SN 323,727. Filed P.R. 4-4-69; Am. S.R. 1-12-70.

THE VARIABLE TRUST

For Management of Investment Funds of Others (Int. Cl. 36).
First use June 18, 1968.

TRADEMARK REGISTRATIONS RENEWED

33,707. RARUS. Cl. 15 (Int. Cl. 4). 11-7-1899.
76,369. MAGIC DOTS. Cl. 22 (Int. Cl. 28). 1-11-10.
76,370. DOWN AND OUT. Cl. 22 (Int. Cl. 28). 1-11-10.
78,484. BEHNING. Cl. 36 (Int. Cl. 15). 6-21-10.
78,513. GREEN SEAL. Cl. 16 (Int. Cl. 2). 6-21-10.
262,104. CHIEFTAIN AND DESIGN. Cl. 21 (Int. Cl. 9). 10-1-29.
263,410. THEY TAKE YOUR BREATH AWAY. Cl. 46 (Int. Cl. 30). 11-5-29.
264,327. ETTCO. Cl. 23 (Int. Cl. 7). 11-26-29.
264,891. DOUBLE EAGLE AND DESIGN. Cl. 21 (Int. Cl. 9). 12-10-29.
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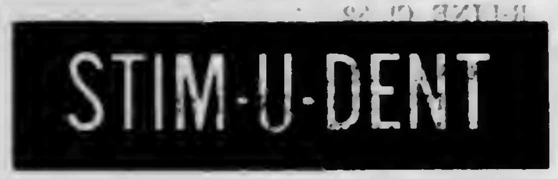
76,888. ENAMELINE AND SHIELD DESIGN. Cl. 37. 2-22-10. The Mead Pulp and Paper Co. The Mead Corporation, Dayton, Ohio. Amended to appear:

ENAMELINE

256,111. AG BRAND AND DESIGN. Cl. 46. 5-7-29. Associated Grocers Company, Inc. Associated Grocers' Company of St. Louis, Missouri, St. Louis, Mo. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, lines 1 and 2, "Associated Grocers Company, Inc." should be deleted and *Associated Grocers' Company of St. Louis, Missouri* should be inserted.

338,052. STIM-U-DENTS. Cl. 44. 8-25-36. Stim-U-Dents, Inc., Stim-U-Dent, Inc., Detroit, Mich. Amended to appear:



514,392. CALIFORNIA DEBS BY SOLCRAFT. Cl. 39. 8-30-49. Ben Solnit, doing business as Solnit Shoe Co. Volume Shoe Corporation, Topeka, Kans. Amended to appear:

CALIFORNIA DEBS

517,715. THE GRAND MACNISH. Cl. 49. 11-22-49. Robert McNish and Company Limited, Dumbarton, Scotland. Amended to appear:

GRAND MACNISH

709,402. STIM-U-DENTS. Cl. 44. 1-3-61. Stim-U-Dents, Inc. Stim-U-Dent, Inc., Detroit, Mich. Amended to appear:

STIM-U-DENT

877,183. FISH DESIGN. Cl. 100. 9-16-69. Orca, Inc., Cambridge, Mass. Corrected: In the statement, column 1, line 1, "Massachusetts" should be deleted and *Delaware* should be inserted.

885,562. SIMON FISCHER. Cl. 46. 2-3-70. Globe Products Company, Inc., Clifton, N.J. Corrected: In the statement, column 1, line 1, "Glove" should be deleted and *Globe* should be inserted:

886,420. HUNZA. Cl. 46. 2-17-70. H & J Foods, Inc., Los Angeles, Calif. Corrected: In the heading "326,298" should be deleted and *312,195* should be inserted.

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Afia, New York, N.Y. 889,500, pub. 1-27-70. Cl. 102.
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American Brake Shoe Co., to Abex Corp., New York, N.Y. 519,766, ren. 4-14-70. Cl. 34.
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Beckley-Cardy Co.: *See*—
  Costello, Weber Co.
Beckman Instruments, Inc., Fullerton, Calif. 765,449, canc. Cl. 26.
Beech-Nut, Inc.: *See*—
  Life Savers, Inc.
Behning Piano Co., New York, to Kohler & Campbell, Inc., Granite Falls, N.Y. 78,484, ren. 4-14-70. Cl. 36.
Bell Aerospace Corp., Pacoima, Calif. 889,518. Cl. 23.
Beltronix Systems Inc., Hauppauge, N.Y. 889,382, pub. 1-27-70. Cl. 32.
Bendix Corp., The: *See*—
  Scott Testers, Inc.
Bereison, D. B., & Co.: *See*—
  Kuster Laboratories, Inc.
Berlitz Schools of Languages of America, Inc., The, New York, N.Y. 524,786, ren. 4-14-70. Cl. 38.
Beltz Laboratories, Inc.: *See*—
  Westvaco Chemical Corp.
Bimbo's Franchise, Inc., Ann Arbor, Mich. 889,489, pub. 1-27-70. Cl. 100.
Biofarma, Neuilly-sur-Seine, France. 765,374, canc. Cl. 18.
Blue Gem Mfg. Co., Greensboro, N.C. 765,550, canc. Cl. 39.
Bonne Bell, Inc., Lakewood, Ohio. 765,375, canc. Cl. 18.
Brach, E. J., & Sons, Chicago, Ill., to American Home Products Corp., New York, N.Y. 522,183, ren. 4-14-70. Cl. 46.
Bradley, Milton, Co., Springfield, Mass. 76,369-70, ren. 4-14-70. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 521,503-4, ren. 4-14-70. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 525,658, ren. 4-14-70. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 889,321-2, pub. 1-27-70. Cl. 22.
Bradley, Milton, Co., Springfield, Mass. 889,516. Cl. 22.
Bragg, Paul C., d.b.a. Live Food Products Co., to Live Food Products Co., Burbank, Calif. 519,772, ren. 4-14-70. Cl. 18.
Brandell Products Corp., Rosemont, Ill. 889,515. Cl. 22.
Breck, John H., Inc., Wayne, N.J. 889,472, pub. 1-27-70. Cl. 51.
Bright Star Industries, Inc., Clifton, N.J. 889,279, pub. 1-27-70. Cl. 19.
Bristol Laboratories Inc., Syracuse, to Bristol-Myers Co., New York, N.Y. 520,769, ren. 4-14-70. Cl. 18.
Bristol-Myers Co.: *See*—
  Bristol Laboratories Inc.
Bristol-Myers Co., New York, N.Y. 889,260-1, pub. 1-27-70. Cl. 18.
Bristol-Myers Co., from Clairol Inc., New York, N.Y. 889,426, pub. 1-27-70. Cl. 40.
British Overseas Airways Corp., London, England. 514,611-12, ren. 4-14-70. Cl. 105.
Brown, William, d.b.a. Holby Valve Co., to Holby Valve Co., Inc., New York, N.Y. 523,826, ren. 4-14-70. Cl. 26.
Budina, Mary J., d.b.a. East Coast Artpa Advertising, Boston, Mass. 765,661, canc. Cl. 101.
Bulova Watch Co., Inc., Flushing, N.Y. 889,373, pub. 1-27-70. Cl. 27.
Burdick Corp., The, Milton, Wis. 889,435, pub. 1-27-70. Cl. 44.
Burke, Adelaide H., d.b.a. National Irrigation Products Co., Eugene, Oreg. 889,485, pub. 1-27-70. Cl. 52.
Burlington Industries, Inc., Norristown, Pa. 889,433, pub. 1-27-70. Cl. 42.
C & O Mfg. Co., Dobbs Ferry, N.Y. 765,385, canc. Cl. 19.
Caesar Products, Inc., Barrington, Ill. 765,397, canc. Cl. 21.
California Prune & Apricot Growers Association, to Sunsweet Growers Inc., San Jose, Calif. 270,425, ren. 4-14-70. Cl. 46.
Callaway Mills Co., La Grange, Ga., to Deering Milliken, Inc., New York, N.Y. 524,474, ren. 4-14-70. Cl. 42.
Carborundum Co., to The Carborundum Co., Niagara Falls, N.Y. 268,308, ren. 4-14-70. Cl. 4.
Carborundum Co., The: *See*—
  Honan-Crane Corp.
Cardinal Laboratories, Inc.: *See*—
  Carter-Wallace, Inc.
Cardinal Press, Inc., Richmond, Va. 889,412, pub. 1-27-70. Multiple Class (Classes 38 and 101).
Carole Accessories, Los Angeles, Calif. 765,481, canc. Cl. 28.
Caroline Baking Co., Inc., East Carnegie, Pa. 765,601, canc. Cl. 46.
Carroll-Walton Engineering Co. Inc., Chicago, Ill. 765,403, canc. Cl. 22.
Carter-Wallace, Inc., New York, N.Y., from Cardinal Laboratories, Inc., d.b.a. Arn-Ed Laboratories, Los Angeles, Calif. 889,484, pub. 1-28-69. Cl. 52.
Cast Aluminum & Brass Corp., San Leandro, Calif. 765,344, canc. Cl. 13.
Cat's Paw Rubber Co., Inc., Baltimore, Md. 526,890, ren. 4-14-70. Cl. 50.
Certain-Teed Products Corp.: *See*—
  Gustin-Bacon Mfg. Co.
Cerzel Tool & Engineering Co., Broadview, Ill. 889,242, pub. 1-27-70. Cl. 13.
Chase Groves, Inc.: *See*—
  Chase Investment Co.

Chase Investment Co., to Chase Groves, Inc., Sanford, Fla. 522,189, ren. 4–14–70. Cl. 46.

Chateau-Gai Wines Ltd., Toronto, Ontario, Canada. 889,452, pub. 1–27–70. Cl. 47.

Chemetron Corp. : *See*—
National Cylinder Gas Co.

Chevron Chemical Co., San Francisco, Calif. 889,348, pub. 1–27–70. Cl. 23.

Chicago Flexible Shaft Co., to Sunbeam Corp., Chicago, Ill. 267,557, ren. 4–14–70. Cl. 21.

Chomerics, Inc., Arlington, Mass. 889,305, pub. 1–27–70. Cl. 21.

Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 889,350, pub. 1–27–70. Cl. 23.

Circuit Research, Inc., Monterey Park, Calif. 889,298, pub. 1–27–70. Cl. 21.

Clairol Inc. : *See*—
Bristol-Myers Co.

Clairol Inc., New York, N.Y. 889,465, pub. 2–7–67. Cl. 51.

Clairol Inc., New York, N.Y. 889,473, pub. 1–27–70. Cl. 51.

Cleworth Publishing Co., Inc., Cos Cob, Conn. 889,523. Cl. 38.

Cluett, Peabody & Co., Inc. : *See*—
Van Raalte Co.

Cochran, Jacqueline, Inc., New York, N.Y. 765,686, canc. Cl. 51.

Coker, Anne L., d.b.a. "Words of Encouragement", Dallas, Tex. 889,417, pub. 1–27–70. Cl. 38.

Cole, B. E., Co., Norway, Maine 521,189, ren. 4–14–70. Cl. 39.

Colgate-Palmolive Co. : *See*—
Colgate-Palmolive-Peet Co.

Colgate-Palmolive-Peet Co., Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 267,683, ren. 4–14–70. Cl. 52.

Columbian Rope Co. : *See*—
Plymouth Cordage Co.

Comex Trading Co., Inc., to Alona Corp., New York, N.Y. 383,996, canc. Cl. 46.

Computer Design Publishing Corp., Boston, Mass. 765,679, canc. Cl. 38.

Continental Mdse, Co. Inc., New York, N.Y. 765,392, canc. Cl. 21.

Cooper Industries Inc. : *See*—
Lufkin Rule Co., The.

Cooper Industries, Inc., Houston, Tex. 889,856, pub. 1–27–70. Cl. 23.

Cooper's, Inc., Kenosha, Wis. 765,556, canc. Cl. 39.

Consolidated Cigar Corp., New York, N.Y. 889,247–51, pub. 1–27–70. Cl. 17.

Continental Coffee Co., Chicago, Ill. 889,442, pub. 1–27–70. Cl. 46.

Cordell Tackle, Inc., Hot Springs, Ark. 889,324, pub. 1–27–70. Cl. 22.

Corning Glass Works, Corning, N.Y. 889,393, pub. 1–27–70. Cl. 33.

Costello, Weber Co., Chicago Heights, to Beckley-Cardy Co., Chicago, Ill. 521,811, ren. 4–14–70. Cl. 50.

County Federal Savings & Loan Association, Westport, Conn. 889,540. Cl. 102.

Creative Builders, Inc., Baldwin Park, Calif. 889,468, pub. 1–27–70. Cl. 50.

Creative Foods International, Universal City, Calif. 889,529. Cl. 46.

Crest Uniform Co., Inc., New York, N.Y. 889,424, pub. 1–27–70. Cl. 39.

Crumar Di Mario Crucianelli-F. Marchetti & Co. S.A.S., Castelfidardo (Ancona) Italy. 889,519. Cl. 36.

Cryplex Industries Inc., Flushing, N.Y. 889,351, pub. 1–27–70. Cl. 23.

Curtis, Helene, Industries, Inc., Chicago, Ill. 523,808, ren. 4–14–70. Cl. 51.

Cutts, Richard M., Jr., Quantico, Va., to The Leisure Group, Inc., Los Angeles, Calif. 268,328, ren. 4–14–70. Cl. 9.

Dakin, R., Co., San Francisco, Calif. 840,377, canc. Cl. 22.

Dale, Edward C., Jr., d.b.a. Caribbean Plastics Co., St. Croix, Virgin Islands. 616,818, canc. Cl. 26.

Davis, Les, Fishing Tackle Co. : *See*—
Davis, Lester M.

Davis, Lester M., d.b.a. Davis Fishing Tackle Co., to Les Davis Fishing Tackle Co., Tacoma, Wash. 527,897, ren. 4–14–70. Cl. 22.

Decca Records, Inc., New York, N.Y., to MCA Inc., Universal City, Calif. 524,950, ren. 4–14–70. Cl. 36.

Deering Milliken, Inc. : *See*—
Callaway Mills Co.

Dejournette Enterprises, Inc., d.b.a. Dejournette Mfg. Co., Atlanta, Ga. 765,402, canc. Cl. 22.

DeLaval Turbine California Inc. : *See*—
Enterprise Engine & Foundry Co.

Delisle, Walter G., d.b.a. Wal-Wel Products, Monroe, Mich. 889,344, pub. 1–27–70. Cl. 28.

Dennison Mfg. Co., Framingham, Mass. 889,410, pub. 1–27–70. Cl. 37.

Dentists' Supply Co. of New York, The, New York, N.Y., to Dentsply International Inc., York, P. 520,256, ren. 4–14–70. Cl. 44.

Dentsply International Inc. : *See*—
Dentists' Supply Co. of New York, The.

Derby Foods, Inc., Chicago, Ill. 889,444, pub. 1–27–70. Cl. 46.

Detergents, Inc., Columbus, Ohio, to Lever Brothers Co., New York, N.Y. 528,159, ren. 4–14–70. Cl. 52.

Detrex Chemical Industries, Inc. : *See*—
Detrex Corp.

Detrex Corp., to Detrex Chemical Industries, Inc., Detroit, Mich. 524,335, ren. 4–14–70. Cl. 21.

Dettra Flag Co., Inc., Oaks, Pa. 521,143, ren. 4–14–70. Cl. 50.

Dettra Flag Co., Inc., Oaks, Pa. 523,983, ren. 4–14–70. Cl. 50.

Dettra Flag Co., Inc., Oaks, Pa. 526,122–3, ren. 4–14–70. Cl. 50.

Devanlay & Recoing & Cie, Devanlay Recoing Export, Troyes (Aube), France. 889,425, pub. 1–27–70. Cl. 39.

Diebold, Inc., Canton, Ohio. 889,360. pub. 1–27–70. Cl. 25.

Diehl, Inc., d.b.a. The Defiance Dairy Products Co., & The Defiance Milk Products Co., Defiance, Ohio. 889,447, pub. 1–27–70. Cl. 46.

Direct Image Corp., Montebello, Calif. 765,506, canc. Cl. 37.

Dr. Babor & Co., Bad Aachen, Germany. 889,469, pub. 1–27–70. Cl. 51.

Dohrmann Co. : *See*—
Dohrmann Hotel Supply Co.

Dohrmann Hotel Supply Co., San Francisco, to Dohrmann Co., Los Angeles, Calif. 509,903, ren. 4–14–70. Cl. 28.

Dole, James, Engineering Co., Redwood City, Calif. 889,354, pub. 1–27–70. Cl. 23.

Doric Corp., Fredericksburg, Ohio. 819,375, canc. Multiple Class (Classes 12 and 13).

Dorr-Oliver Inc., Stamford, Conn. 889,347, pub. 1–27–70. Cl. 23.

Douglass, Clinton C., Jr., d.b.a. Douglass, Bakersfield, Calif. 889,285, pub. 1–27–70. Cl. 19.

Dowst Mfg., Co., Chicago, Ill. 765,412, canc. Cl. 22.

Drackett Co., The, Cincinnati, Ohio, 889,875–7, pub. 1–27–70. Cl. 29.

Dresser Industries, Inc., Dallas, Tex. 765,447, canc. Cl. 26.

Druit Hill Park Seed Corp., Baltimore, Md. 765,287, canc. Cl. 1.

Duralastic Lamp Products, Inc., Detroit, Mich. 765,493, canc. Cl. 34.

Dwyer, Paul K., Denver, Colo. 765,047, canc. Cl. 52.

Dynafab, Inc., Lester, Pa. 889,464, pub. 1–27–70. Cl. 50.

EG & G, Inc., Bedford, Mass. 889,297, pub. 1–27–70. Cl. 21.

E-Z Animal Products Co., Inc., Boulder, Colo. 765,684, canc. Cl. 51.

Eastern Tube & Tool Co. Inc., Brooklyn, N.Y., to Ettco Tool & Machine Co., Inc., York, Pa. 264,327, ren. 4–14–70. Cl. 23.

Economic Machinery Co., Worcester, Mass. 747,831, canc. Cl. 23.

Edelbrock Equipment Co., Los Angeles, Calif. 765,428, canc. Cl. 28.

Ely & Walker, Inc., Wilmington, Del. 889,422, pub. 3–11–69. Cl. 39.

Empire Plastic Corp., New York, N.Y. 889,317, pub. 1–27–70. Cl. 22.

Emser Werke A.G., Domat (Ems.), Switzerland. 765,278, canc. Cl. 1.

Energy Research & Generation, The, Oakland, Calif. 889,217. Cl. 1.

Englert Mfg. Co., d.b.a. Chieftain Storage Battery Co., Pittsburgh, Pa. 262,104, ren. 4–14–70. Cl. 21.

Enterprise Engine & Foundry Co., San Francisco, to De Laval Turbine California Inc., Oakland, Calif. 443,660, ren. 4–14–70. Cl. 18.

Equipment Imports, Inc., Grand Rapids, Mich. 765,441, canc. Cl. 24.

Eskenasy, Fred., d.b.a. Rubeda Imports, Ltd., Santa Clara, Calif. 889,427, pub. 1–27–70. Cl. 40.

Estee Lauder Inc., New York, N.Y. 889,470, pub. 1–27–70. Cl. 51.

Ettco Tool & Machine Co., Inc. : *See*—
Eastern Tube & Tool Co. Inc.

Guest Electronics Ltd. : *See*—
Guest International Ltd.

Everstick Anchor Co., to Iowa Malleable Iron Co., Fairfield, Iowa. 525,271, ren. 4–14–70. Cl. 18.

Fair Lady, Inc., New York, N.Y. 765,541, canc. Cl. 39.

Farm Journal, Inc., Philadelphia, Pa. 889,419–20, pub. 1–27–70. Cl. 38.

Farmers Union Grain Terminal Association, St. Paul, Minn. 889,531. Cl. 46.

Feature Ring Co., Inc., New York, N.Y. 526,593, ren. 4–14–70. Cl. 28.

Federal Liquors Ltd., Cambridge, Mass. 765,637, canc. Cl. 49.

Fedtro, Inc., Rockville Centre, N.Y. 889,806–8, pub. 1–27–70. Cl. 21.

Filer, Burt K., III, d.b.a. Transwer Co., New York, N.Y. 889,857, pub. 1–27–70. Cl. 28.

Financial Services, Inc., Bala Cynwyd, Pa. 889,498, pub. 1–27–70. Cl. 101.

Fischer, Kern L., d.b.a. F & W Rallye Engineering, Utica, Mich. 889,801, pub. 1–27–70. Cl. 21.

Flange, Dan, Inc., Detroit, Mich. 889,240, pub. 1–27–70. Cl. 13.

Flesh Co., The, St. Louis, Mo. 889,407–8, pub. 1–27–70. Cl. 37.

Flying 8 Co., The, Beatrice, Nebr. 889,811, pub. 1–27–70. Cl. 22.

Follett Educational Corp., Chicago, Ill. 889,416, pub. 1–27–70. Cl. 38.

Foresight Enterprises, Inc., Grand Rapids, Mich. 889,289, pub. 1–27–70. Cl. 21.

Forge, Washington Inc., Englishtown, N.J. 889,517. Cl. 28.

Foster, Benjamin, Co., Inc., Philadelphia, to Amchem Products, Inc., Ambler, Pa. 269,112, ren. 4–14–70. Cl. 12.

Foy Paint Co., Inc., The, d.b.a. The R. F. Johnston Paint Co., to Foy-Johnston, Inc., Cincinnati, Ohio. 522,752, ren. 4–14–70. Cl. 16.

Foy-Johnston, Inc. : *See*—
Foy Paint Co., Inc., The.

Freestone, H. W., Co. : *See*—
Freestone, W. D., & H. W.

Freestone, W. D., & H. W., to H. W. Freestone Co., Bangor, Mich. 518,101, ren. 4–14–70. Cl. 46.

Frieder, S., & Sons Co., The, Philadelphia, Pa. 526,072, ren. 4–14–70. Cl. 17.

Fromageries Bel-La Vache Qui Rit, d.b.a. Fromageries Bel, Paris, France. 889,437, pub. 1–27–70. Cl. 46.

Frontier Drug Co., Inc., Dallas, Tex. 889,256, pub. 1–27–70. Cl. 18.

G.M.S. Inc., Lexington, N.C. 765,549, canc. Cl. 39.

Gala, Inc., Minneapolis, Minn. 765,553, canc. Cl. 39.

Gamble-Skogmo, Inc., Minneapolis, Minn. 527,184, ren. 4–14–70. Cl. 42.

Gebr. Poensgen Gesellschaft mit beschrankter Haftung, Dusseldorf-Rath, Germany. 889,359, pub. 1–27–70. Cl. 24.

Geigy Chemical Corp., Ardsley, N.Y. 889,227–8, pub. 1–27–70. Cl. 6.

General Battery Corp. : *See*—
Monark Battery Co., Inc.

General Sportcraft Co. Ltd., from General Sportcraft Co. Ltd., Bergenfield, N.J. 889,325, pub. 1–27–70. Cl. 22.

General Water Heater Corp., Los Angeles, Calif. 765,495, canc. Cl. 34.

Genesco Inc., Nashville, Tenn. 765,531, canc. Cl. 39.

Genesee Valley Paper Co., Inc., Rochester, N.Y. 889,460, pub. 1–27–70. Cl. 50.

Gilbert, A. C., Co., The, New Haven, Conn. 765,676, canc. Cl. 22.

Gillougley, Angus A., Renfrewshire, Scotland. 889,453, pub. 1–27–70. Cl. 47.

Glassmaster Plastics Co., Lexington, S.C. 889,275, pub. 1–27–70. Cl. 19.

Globe Products Co., Inc., Clifton, N.J. 885,562, cor. Cl. 46.

Goldbergs' Marine Distributors, Inc., Philadelphia, Pa. 889,269, pub. 1–27–70. Cl. 19.

Goodrich-Gulf Chemicals, Inc., Cleveland, Ohio. 889,230, pub. 1–27–70. Cl. 6.

Goodyear Tire & Rubber Co., The, Akron, Ohio. 264,891, ren. 4–14–70. Cl. 21.

Goodyear Tire & Rubber Co., The, Akron, Ohio. 889,458, pub. 1–27–70. Cl. 50.

Grand Bag & Paper Co., Inc., New York, N.Y. 540,330, canc. Cl. 2.

Grand Union Co, The, East Paterson, N.J. 765,629, canc. Cl. 46.

Graphic Communications Corp., Moonachie, N.J. 889,293, pub. 1–27–70. Cl. 21.

Graphite Metallizing Corp., Yonkers, N.Y. 265,826, ren. 4–14–70. Cl. 21.

Great American Foods, Inc., Philadelphia, Pa. 889,439, pub. 1–27–70. Cl. 46.

Great Western Restaurant Co., The, Greenwich, Conn. 889,490, pub. 1–27–70. Cl. 100.

Grumman Allied Industries, Inc., Garden City, N.Y. 765,387–9, canc. Cl. 19.

Guest International Ltd., from Guest Electronics Ltd., Surrey, England. 889,287, pub. 1–27–70. Cl. 21.

Gulf Oil Corp., Pittsburgh, Pa. 765,504, canc. Cl. 35.

Gustin-Bacon Mfg. Co., Kansas City, Mo., to Certain-Teed Products Corp., Ardmore, Pa. 517,942, ren. 4–14–70. Cl. 12.

Guthrie, Balfour & Co., San Francisco, Calif., to Wald & Co., Inc., Kansas City, Mo. 266,163, ren. 4–14–70. Cl. 9.

H & J Foods, Inc., Los Angeles, Calif. 886,420, cor. Cl. 46.

Hagen, Donald H., Minneapolis, Minn. 889,276, pub. 1–27–70. Cl. 19.

Hanna Chemical Coatings Corp. : *See*—
Hanna Paint Mfg., Co., The.

Hanna Paint Mfg. Co., The, to Hanna Chemical Coatings Corp., Columbus, Ohio. 78,513, ren. 4–14–70. Cl. 16.

Hantscho, George, Co., Inc., Mount Vernon, N.Y. 889,342. pub. 1–27–70. Cl. 23.

Harco Chemical Co., E. Cranford, N.J. 443,735, ren. 4–14–70. Cl. 52.

Hat Corp. of America : *See*—
Knox Hat Co., Inc.

Hays Corp., The, Michigan City, Ind. 889,365, pub. 1–27–70. Cl. 26.

Health Magazines, Inc., New York, N.Y. 765,523, canc. Cl. 38.

Hearst Corp., The, New York, N.Y. 525,778, ren. 4–14–70. Cl. 38.

Heinz, H. J. Co., Pittsburgh, Pa. 889,446, pub. 1–27–70. Cl. 46.

Heller Brothers Co., to Wallace-Murray Corp., d.b.a. Heller Tool Division, Newark, N.J. 525,738, ren. 4–14–70. Cl. 23.

Hisashi Kuroi, Shimogyo-ku, Kyoto, Japan. 765,675, canc. Cl. 21.

Hoikusha Publishing Co., Ltd., Higashi-ku, Osaka, Japan. 765,522, canc. Cl. 38.

Holby Valve Co., Inc. : *See*—
Brown, William.

Holland Hitch Co., Holland, Mich. 889,271, pub. 1–27–70. Cl. 19.

Holsum, Virginia, Bakeries, Inc., Bluefield, W. Va. 870,675, canc. Cl. 46.

Holt Freres et Fils, Paris, France. 765,634, canc. Cl. 47.

Honan-Crane Corp., Lebanon, Ind., to The Carborundum Co., Niagara Falls, N.Y. 520,560, ren. 4–14–70. Cl. 23.

House of Herbs, Inc., to Republic Foods, Inc., Salisbury, Conn. 521,970, ren. 4–14–70. Cl. 46.

Hudson Publishing Co., Los Altos, Calif. 889,524. Cl. 38.

Humphreys, Laura L., Flushing, N.Y. 765,655, canc. Cl. 100.

Hutton, E. F., & Co., Inc., New York, N.Y. 889,503, pub. 1–27–70. Cl. 102.

Hypo Surgical Supply Corp., New York, N.Y. 765,593, canc. Cl. 44.

Imperial International Corp., New York, N.Y. 765,295, canc. Multiple Class (Classes 2 and 28).

Indesit Industria Elettrodomestici Italiana S.p.A., Orbassano, Turin, Italy. 765,442, canc. Multiple Class (Classes 24 and 31).

Indian Head Inc. : *See*—
Linen Thread Co., Inc., The.

Industrial Marking Equipment Co., Inc., Brooklyn, N.Y. 765,438, canc. Cl. 23.

Invincible Products Corp., Chicago, Ill. 889,467, pub. 1–27–70. Multiple Class (Classes 51 and 52).

Iowa Malleable Iron Co. : *See*—
Everstick Anchor Co.

Irvin Industries Inc., Lexington, Ky. 889,280, pub. 1–27–70. Cl. 19.

J & S Tool Co., Inc., Livingston, N.J. 889,353, pub. 1–27–70. Cl. 23.

Jackson, R. E., Co., Inc., Greenville, Mich 889,273, pub. 1–27–70. Cl. 19.

Jeffrey Galion Inc., from Jeffrey Galion Mfg. Co., Columbus, Ohio. 889,507, pub. 1–27–70. Cl. 107.

Jeffrey Galion Mfg. Co. : *See*—
Jeffrey Galion Inc.

Jenkin-Guerin, Inc. : *See*—
Jenkin-Guerin Oil Co.

Jenkin-Guerin Oil Co., to Jenkin-Guerin, Inc., St. Louis, Mo. 269,882, ren. 4–14–70. Cl. 15.

Jenne, Walter F., d.b.a. Jenco, Chicago, Ill. 889,459, pub. 1–27–70. Cl. 50.

Johnson, Theodore C., d.b.a. T. C. Johnson Co., Chagrin Falls, Ohio. 741,159, canc. Cl. 14.

Jolly Jumper Products of America Ltd., Toronto, Ontario, Canada. 889,316, pub. 1–27–70. Cl. 22.

Jones, Estrellita, d.b.a. Paul Jones Perfumes, Piedmont, Calif. 889,536. Cl. 51.

Kaiser Aluminum & Chemical Corp. : *See*—
Mexico Refractories Co.

Kalah, Inc., d.b.a. Kalah Game Co., Holbrook, Mass. 889,318, pub. 1–27–70. Cl. 22.

Kaufmann Department Stores, Inc., Pittsburgh, Pa. to The May Department Stores Co., St. Louis, Mo. 267,370, ren. 4–14–70. Cl. 39.

Kawasaki Racket Co. Ltd., Tokyo, Japan. 889,313, pub. 1–27–70. Cl. 22.

Khyver Food Products Inc., Fullerton, Calif. 889,448, pub. 1–27–70. Cl. 46.

Kidde Mfg. Co., Inc., Bloomfield, N.J. 765,432, canc. Cl. 23.

King Tester Corp., Philadelphia, Pa. pub. 1–27–70. Cl. 26.

King's Department Stores, Inc., Newton, Mass. 765,356, canc. Cl. 16.

King-Seeley Thermos Co., Ann Arbor, Mich. 889,245, pub. 1–27–70. Cl. 15.

Kiwi Polish Co. Proprietary Ltd., The, Victoria, Australia. 765,300, canc. Cl. 6.

Kleen-Air, Inc., Payne, Ohio. 765,382–3, canc. Cl. 19.

Knox Hat Co., Inc., to Hat Corp. of America, New York, N.Y. 268,299, ren. 4–14–70. Cl. 39.

Koehring Co. : *See*—
Thew Shovel Co., The.
Schield Bantam Co.

Kohler & Campbell, Inc. : *See*—
Behning Piano Co.

Kops Bros., Inc., New York, N.Y. 765,528, canc. Cl. 39.

Kosty, Ernest, d.b.a. Montana Post Card & Souvenir Co., Miles City, Mont. 765,476, canc. Cl. 28.

Kresge, S. S., Co., Detroit, Mich. 889,277, pub. 1–27–70. Cl. 19.

Kuster Laboratories, Inc., to D. B. Berelson & Co., San Francisco, Calif. 521,070, ren. 4–14–70. Cl. 46.

Lake Erie Chemical Co., The, Wickcliffe, Ohio. 765,443, canc. Cl. 25.

Lamb Industries, Inc., Toledo, Ohio. 765,336, canc. Cl. 12.

Lampco Inc., Garfield, N.J. 765,401, canc. Cl. 21.

La Velle Corp., Gainesville, Ga. 889,220. Cl. 3.

Lehn & Fink Products Corp., Bloomfield, N.J., to Tussy Cosmetics, Inc., New York, N.Y. 520,688, ren. 4–14–70. Cl. 51.

Leisure Group, Inc., The : *See*—
Cutts, Richard M., Jr.

Les Parfums Sterle, Paris, France. 743,551–2, canc. Cl. 51.

Lever Bros. Co. : *See*—
Detergents, Inc.

Levin, Louis, & Son, Inc., Culver City, N.Y. 527,471, ren. 4–14–70. Cl. 23.

Life Savers, Inc., Port Chester, to Beech-Nut, Inc., New York, N.Y. 263,410, ren. 4–14–70. Cl. 46.

Life Savers Corp., Port Chester, to Beech-Nut, Inc., New York, N.Y. 518,249–50, ren. 4–14–70. Cl. 46.

Liggett & Myers Inc., New York, N.Y. 889,252, pub. 1–27–70. Cl. 17.

Linen Thread Co., Inc., The, to Indian Head Inc., New York, N.Y. 444,037, ren. 4–14–70. Cl. 7.

Lionel Toy Corp., The, d.b.a. Lionel-Porter, Hillside, N.J. 765,411, canc. Cl. 22.

Lisanne, Inc., Brooklyn, N.Y. 765,587, canc. Cl. 42.

Live Food Products Co. : *See*—
Bragg, Paul C.

London Marine, Inc., Durham, N.C. 889,272, pub. 1–27–70. Cl. 19.

Lucy, Patrick C., Co., Minneapolis, Minn. 889,343, pub. 1–27–70. Cl. 23.

Lufkin Rule Co., The, Saginaw, Mich., to Cooper Industries Inc., Houston, Tex. 520,586, ren. 4–14–70. Cl. 26.

Lumenetrics, Inc., Xenia, Ohio. 889,309, pub. 1–27–70. Cl. 21.

Lusk Candy Co., Davenport, Iowa, from Beckham Candy Co., Inc., Atlanta, Ga. 889,438, pub. 7–16–69. Cl. 46.

MCA Inc. : *See*—
Decca Records, Inc.

Maclennan & Maclennan Ltd., Isle of Lewis, Scotland. 765,583, canc. Cl. 42.

Magi Enterprises, Ltd., London, England. 765,525, canc. Cl. 38.

Management Recruiters International, Inc., Cleveland, Ohio. 889,496, pub. 1–27–70. Cl. 101.

Manufacturers Mutual Fire Insurance Co., Providence, R.I. 889,499, pub. 1–27–70. Cl. 102.

Marine Bank & Trust Co., Tampa, Fla. 889,501, pub. 1–27–70. Cl. 102.

Marine Hardware & Supply Co., Boston, Mass. 765,840, canc. Cl. 13.

Marsh Stencil Machine Co., Belleville, Ill. 889,408, pub. 1–27–70. Cl. 37.

Martin, B. J., Co., Inc., Chicago, Ill. 889,520. Cl. 38.

Matsushita Electric Industrial Co., Ltd., Osaka Prefecture, Japan. 889,288, pub. 1–27–70. Cl. 21.

Mattel, Inc., Hawthorne, Calif. 889,326–8, pub. 1–27–70. Cl. 22.

Mattel, Inc., Hawthorne, Calif. 889,330–1, pub. 1–27–70. Cl. 22.

Mattel, Inc., Hawthorne, Calif. 889,334–9, pub. 1–27–70. Cl. 22.

May Department Stores Co., The: *See*—
Kaufmann Department Stores, Inc.

McCoy Mfg. & Sales Co., Indianola, Iowa. 889,274, pub. 1–27–70. Cl. 19.

McGraw-Edison Co., South Milwaukee, Wis. 889,291–2, pub. 1–27–70. Cl. 21.

McGraw-Edison Co., Elgin, Ill. 889,294, pub. 1–27–70. Cl. 21.

McGraw-Edison Co., Elgin, Ill. 889,362, pub. 1–27–70. Cl. 26.

McKay Co., The, Pittsburgh, Pa. 889,396, pub. 1–27–70. Cl. 34.

McNish, Robert, & Co. Ltd., Dumbarton, Scotland. 517,715. Am. 7(d). Cl. 49.

Mead Pulp & Paper Co., The. The Mead Corp., Dayton, Ohio. 76,888. Am. 7(d). Cl. 37.

Medical Chemical Corp., Santa Monica, Calif. 889,229, pub. 1–27–70. Cl. 6.

Medical Chemicals Corp., Chicago, Ill. 889,253, pub. 1–27–70. Cl. 18.

Melville Shoe Corp., New York, N.Y. 765,576, canc. Cl. 39.

Melville Shoe Corp., New York, N.Y. 765,579, canc. Cl. 39.

Mendez Enterprises, Inc., Miami, Fla. 889,510. Cl. 17.

Mennen Co., The, Morristown, N.J. 889,483, pub. 1–27–70. Cl. 51.

Mennen Co., The, Morristown, N.J. 889,486, pub. 1–27–70. Cl. 52.

Merck & Co., Inc., Rahway, N.J. 765,289, canc. Cl. 2.

Merrimaker Corp.: *See*—
American Merri-Lei Corp.

Metaline Products, Inc., Elkhart, Ind. 845,396, canc. Cl. 23.

Metalplate & Coatings, Inc., Irondale, Ala. 889,514. Cl. 19.

Metrodynamics Corp., The, Oceanport, N.J. 889,306, pub. 1–27–70. Cl. 26.

Metrotek Electronics, Inc., Raleigh, N.C. 765,398, canc. Cl. 21.

Mexico Refractories Co., Mexico, Mo., to Kaiser Aluminum & Chemical Corp., Oakland, Calif. 520,323–4, ren. 4–14–70. Cl. 12.

Microdot Inc., South Pasadena, Calif. 889,295, pub. 1–27–70. Cl. 21.

Midland International Corp., North Kansas City, Mo. 889,312, pub. 1–27–70. Cl. 22.

Midway Chemical Co., Chicago, Ill., to American Home Products, New York, N.Y. 269,917, ren. 4–14–70. Cl. 6.

Miller Protective Coatings, Inc., Bridgeport, Conn. 765,334, canc. Cl. 12.

Millmaster Onyx Corp.: *See*—
Onyx Oil & Chemical Co.

Milton Industries Inc., Milton, Mass. 835,083, canc. Cl. 28.

Miner Industries, Inc., New York, N.Y. 889,323, pub. 1–27–70. Cl. 22.

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 765,451, canc. Cl. 26.

Minnesota Mining & Mfg. Co., St. Paul, Minn. 443,939, ren. 4–14–70. Cl. 16.

Minnesota Mining & Mfg. Co., St. Paul, Minn. 522,701, ren. 4–14–70. Cl. 5.

Minnesota Mining & Mfg. Co., St. Paul, Minn. 889,281, pub. 1–27–70. Cl. 6.

Minnesota & Ontario Paper Co., Minneapolis, Minn. 765,340, canc. Cl. 12.

Mirro Aluminum Co.: *See*—
Aluminum Goods Mfg. Co.

Mr. Boston Distiller Inc., Boston, Mass. 752,696, canc. Cl. 49.

Mobil Oil Corp.: *See*—
Vacuum Oil Co.

Modern Industries, Inc., Peru, Ind. 889,379, pub. 1–27–70. Cl. 32.

Monark Battery Co., Inc., Chicago, Ill., to General Battery Corp., Reading, Pa. 521,769, ren. 4–14–70. Cl. 21.

Montag Brothers, Inc., Atlanta, Ga., to Westab Inc., Dayton, Ohio. 520,555, ren. 4–14–70. Cl. 37.

Montag Brothers, Inc., Atlanta, Ga., to Westab Inc., Dayton, Ohio. 520,558, ren. 4–14–70. Cl. 37.

Montgomery Ward & Co., Inc., Chicago, Ill. 889,268, pub. 1–27–70. Cl. 18.

Monticello Life Insurance Co., Chicago, Ill. 765,662–4, canc. Cl. 102.

Mueller, Paul, Co., Springfield, Mo. 889,395, pub. 1–27–70. Cl. 34.

National Cylinder Gas Co., to Chemetron Corp., Chicago, Ill. 520,378, ren. 4–14–70. Cl. 34.

National Cylinder Gas Co., to Chemetron Corp., Chicago, Ill. 520,653, ren. 4–14–70. Cl. 34.

National Education Association of the United States, Washington, D.C. 889,522. Cl. 38.

National Growers, Inc., Gonzales, Calif. 765,617, canc. Cl. 46.

National Mattress Co., Huntington, W. Va. 889,380, pub. 1–27–70. Cl. 32.

Nebinger, Harry J., Associates, Inc., 765,658, canc. Cl. 100.

Nefco Filter Corp.: *See*—
Winslow Engineering Co.

New Yorker Magazine, Inc., The, New York, N.Y. 889,526. Cl. 38.

Nicholson, H. R., Co., The, Baltimore, Md. 889,580. Cl. 46.

Nippon Accumulator Co., Ltd., Shizuoka Prefecture, Japan. 889,349, pub. 1–27–70. Cl. 23.

Northeast Aircraft Corp., Bridgeport, Conn. 889,345, pub. 1–27–70. Cl. 23.

Nucleus Inc., The, Oakridge, Tenn. 889,367, pub. 1–27–70. Cl. 26.

Nu-Film Products Co., Inc., New York, N.Y. 889,404, pub. 1–27–70. Cl. 37.

Nutting Truck & Caster Co., Faribault, Minn. 889,284, pub. 1–27–70. Cl. 19.

Nytronics, Inc., Pelham Manor, N.Y. 889,302–3, pub. 1–27–70. Cl. 21.

O'Neil, William & Co. Inc., Beverly Hills, Calif. 889,302, pub. 1–27–70. Cl. 102.

Onyx Oil & Chemical Co., Jersey City, N.J., to Millmaster Onyx Corp., New York, N.Y. 521,589, ren. 4–14–70. Cl. 18.

Orca, Inc., Cambridge, Mass. 877,183, cor. Cl. 100.

Orcutt, Frances J., Feasterville, Pa. 765,591, canc. Cl. 44.

Otl Services, Inc., New York, N.Y. 889,497, pub. 1–27–70. Cl. 101.

Oulevay S.A., Morges, Vaud, Switzerland. 765,594, canc. Cl. 46.

Owens-Illinois Glass Co., Toledo, Ohio. 765,282, canc. Cl. 1.

Pacific Car & Foundry Co., d.b.a. Peterbilt, Renton, Wash. 889,281, pub. 1–27–70. Cl. 19.

Pacific Car & Foundry Co., d.b.a. KW-Dart Truck Co., Renton, Wash. 889,341, pub. 1–27–70. Cl. 23.

Package Builders, Inc., Shrewsbury, Mass. 889,239, pub. 1–27–70. Cl. 12.

Packaging Corp. of America, Evanston, Ill. 889,409, pub. 1–27–70. Cl. 37.

Parker Instrument Corp., Stamford, Conn. 889,388, pub. 1–27–70. Cl. 26.

Parlier, George S., d.b.a. Fresh Fry Co., Wilkesboro, N.C. 765,598, canc. Cl. 46.

Pasut, Robert C., d.b.a. Kom-pac Hand Truck Co., Hayward, Calif. 765,390, canc. Cl. 19.

Pendleton Tool Industries, Inc., Los Angeles, Calif. 889,361, pub. 1–27–70. Cl. 26.

Peninsular Paper Co., Ypsilanti, Mich. 889,406, pub. 1–27–70. Cl. 37.

Penn Engineering & Mfg. Corp., Doylestown, Pa. 889,244, pub. 1–27–70. Cl. 13.

Pennsalt Chemicals Corp., Philadelphia, Pa. 765,332, canc. Cl. 12.

Peterson & Sanborn, Geneva, Ohio. 852,782, canc. Cl. 39.

Pfizer, Chas., & Co., Inc., New York, N.Y. 889,262, pub. 1–27–70. Cl. 18.

Philadelphia Quartz Co., Philadelphia, Pa. 889,232–3, pub. 1–27–70. Cl. 6.

Pico Electronics, Inc., Mount Vernon, N.Y. 889,290, pub. 1–27–70. Cl. 21.

Pillsbury Co., The, Minneapolis, Minn. 765,608, canc. Cl. 46.

Pittman Products, Inc., Huntington Park, Calif. 889,320, pub. 1–27–70. Cl. 22.

Pittsburgh National Bank, Pittsburgh, Pa. 889,341. Cl. 102.

Pizza Hut, Inc., from Taco, Inc., Wichita, Kans. 889,487, pub. 1–27–70. Cl. 100.

Plato Mfg. Co., Cleveland, Ohio. 765,301, canc. Cl. 6.

Plymouth Cordage Co., North Plymouth, Mass., to Columbian Rope Co., Auburn, N.Y. 522,146, ren. 4–14–70. Cl. 7.

Polychrome Corp., Yonkers, N.Y. 889,461, pub. 1–27–70. Cl. 50.

Popich & Jurisich, to Popish & Jurisich, Inc., New Orleans, La. 523,781, ren. 4–14–70. Cl. 46.

Powers Chemco, Inc.: *See*—
Powers X-Ray Products, Inc.

Powers Regulator Co., from The Powers Regulator Co., Skokie, Ill. 889,346, pub. 1–27–70. Cl. 23.

Powers X-Ray Products, Inc., d.b.a. Powers X-Ray Service, to Powers Chemco, Inc., Glen Cove, N.Y. 524,828, ren. 4–14–70. Cl. 100.

Premium Corp. of America, Inc., Minneapolis, Minn. 889,492, pub. 1–27–70. Cl. 101.

Pricola, N. A., Brawley, Calif. 889,443, pub. 12–2–69. Cl. 46.

Process Materials Corp., Carlstadt, N.J. 889,405, pub. 1–27–70. Cl. 37.

Production Experts, Inc., Cleveland, Ohio. 889,237, pub. 1–27–70. Cl. 12.

Progressive Farmer Co., The, Birmingham, Ala. 889,521. Cl. 38.

Projects Unlimited, Inc., Dayton, Ohio. 889,282, pub. 1–27–70. Cl. 19.

Puritan Sportswear Corp., The, Altoona, Pa. 765,535, canc. Cl. 39.

Quaker City Chocolate & Confectionery Co., Philadelphia, Pa. 889,333, pub. 1–27–70. Cl. 22.

Quaker Oats Co., The, Chicago, Ill. 889,449–50, pub. 1–27–70. Cl. 46.

Radio Craftsmen, Inc., The, Chicago, Ill. 555,479, canc. Cl. 21.

Ralston Purina Co., St. Louis, Mo. 889,263, pub. 1–27–70. Cl. 18.

Ralston Purina Co., St. Louis, Mo. 889,451, pub. 1–27–70. Cl. 46.

Raoul Dubois-Prevost, Paris (Seine), France. 765,596–7, canc. Cl. 46.

Ravenna Products Corp., Seattle, Wash. 765,599, canc. Cl. 46.

Rayflex Exploration Co., Richardson, Tex. 765,450, canc. Cl. 26.

Raytex Corp., Flushing, N.Y. 889,370–1, pub. 1–27–70. Cl. 26.

Readymelt Adhesive Products Corp., Lee's Summit, Mo. 889,221, pub. 1–27–70. Cl. 5.

Redlum Research Corp., Redlands, Calif. 771,264, canc. Cl. 52.

Reliance Electric Co.: *See*—
Reliance Electric & Engineering Co., The.

Reliance Electric & Engineering Co., The, to Reliance Electric Co., Cleveland, Ohio. 521,725, ren. 4–14–70. Cl. 21.

Remco Industries, Inc., Newark, N.J. 765,414–15, canc. Cl. 22.

Rendell, W. J., Ltd., London, England. 765,590, canc. Cl. 44.

Republic Foods, Inc.: *See*—
House of Herbs, Inc.

Rex Asbestwerke, Schwaebisch Hall, Germany. 889,218. Multiple Class (Classes 1, 7, and 43).

Richardson-Merrell, Inc., New York, N.Y. 889,257, pub. 1–27–70. Cl. 18.

Rico, Inc., Warsaw, Ind. 889,319, pub. 1–27–70. Cl. 22.

Rieder Bros., Inc., Philadelphia, Pa. 765,487, canc. Cl. 32.

Robertson, James A., Co., Seattle, Wash. 889,455–7, pub. 1–27–70. Cl. 49.

Robins, A. H., Co., Inc., Richmond, Va. 889,512. Cl. 18.

Roller Derby Skate Corp., Litchfield, Ill. 744,047, canc. Cl. 22.

Ron-Vik, Inc., Minneapolis, Minn. 889,329, pub. 1–27–70, Cl. 22.

Rorer, William H., Inc., Fort Washington, Pa. 889,265, pub. 1–27–70. Cl. 18.

Rummonds Bros. Ranch, Thermal, Calif. 765,625–6, canc. Cl. 46.

Safe-T Pacific Co., Redwood City, Calif. 889,462, pub. 1–27–70. Cl. 50.

St. Francis Theatre, Los Angeles, Calif. 889,418, pub. 1–27–70. Cl. 38.

Sanderson, Charles H., Fort Wayne, Ind. 889,488, pub. 1–27–70. Cl. 100.

Satin Soft Cosmetics of Delaware, Inc., Atlanta, Ga. 889,538. Cl. 51.

Savage Laboratories, Inc., Houston, Tex. 889,254, pub. 1–27–70. Cl. 18.

Schield Bantam Co., Waverly, Iowa, to Koehring Co., Milwaukee, Wis. 527,691, ren. 4–14–70. Cl. 23.

Schott, Andrew F., Green Lake, Wis. 765,461, canc. Cl. 26.

Schwinn Bicycle Co.: *See*—
Arnold, Schwinn & Co.

Scott Testers, Inc., Providence, R.I., to The Bendix Corp., Southfield, Mich. 518,487, ren. 4–14–70. Cl. 26.

Sears, Roebuck & Co., Chicago, Ill. 889,509. Cl. 11.

Seaside Oil Co., Santa Barbara, Calif. 523,183, ren. 4–14–70. Cl. 21.

Shamban, W. S., & C., Los Angeles, Calif. 889,222, pub. 1–27–70. Cl. 5.

Shell Oil Co., New York, N.Y. 765,308, canc. Cl. 6.

Sherwin-Williams Co., The, Cleveland, Ohio. 443,750, ren. 4–14–70. Cl. 37.

Sherwood Medical Industries Inc., Chicago, Ill. 889,258, pub. 1–27–70. Cl. 18.

Shiseido Co. Ltd., Tokyo, Japan. 889,537. Cl. 51.

Shore Litter, Inc., Salisbury, Md. 889,236, pub. 1–27–70. Cl. 10.

Siemens Aktiengesellschaft, Berlin, Germany. 889,364, pub. 1–27–70. Cl. 26.

Simonds Saw & Steel Co., Fitchburg, Mass. 765,433, canc. Cl. 23.

Smith, Michael T., d.b.a. M.T.S. Productions, Cincinnati, Ohio. 889,415, pub. 1–27–70. Multiple Class (Classes 38 and 50).

Smith, Seymour & Son, Inc., Oakville, Conn. 523,455, ren. 4–14–70. Cl. 23.

Societe Anonyme Dite: Comagnie Univas, from Societe Anoyme Dite: Agence Havas, Paris, France. 889,494, pub. 1–27–70. Cl. 101.

Societe Francaise Des Constructions Babcock & Wilcox, Paris, Seine, France. 889,394, pub. 1–27–70. Cl. 34.

Solheim, Karsten, Phoenix, Ariz. 889,314, pub. 1–27–70. Cl. 22.

Solnit, Ben, d.b.a. Solnit Shoe Co., to Volume Shoe Corp., Topeka, Kans. 514,392. Am. 7(d). Cl. 39.

Sony Corp., Tokyo, Japan. 889,299–300, pub. 1–27–70. Cl. 21.

Southern California Edison Co., Los Angeles, Calif. 889,495, pub. 1–27–70. Cl. 101.

Sperry Rand Corp., New Holland, Pa. 889,234, pub. 1–27–70. Cl. 7.

Sperry Rand Corp., New York, N.Y. 889,378, pub. 1–27–70. Cl. 31.

Sperry Rand Corp., New York, N.Y. 889,397, pub. 1–27–70. Cl. 35.

Sperry Rand Corp., Troy, Mich. 889,413, pub. 1–27–70. Cl. 38.

Spiller Ltd., London, England. 889,440, pub. 1–27–70. Cl. 46.

Squibb, E. R., & Sons, Inc., New York, N.Y. 889,259, pub. 1–27–70. Cl. 18.

Standard Motor Co. Ltd., The, Coventry, England. 765,288, canc. Cl. 2.

Standard Motor Products, Inc., Long Island City, N.Y. 889,352, pub. 1–27–70. Cl. 23.

Standard T. Chemical Co., Inc., Chicago, Ill. 889,246, pub. 1–27–70. Cl. 16.

Sta-Rite Ginnie-Lou, Inc., Shelbyville, Ill. 526,341–2, ren. 4–14–70. Cl. 40.

Stendhal S.A., Paris, France. 889,468, pub. 1–27–70. Cl. 51.

Sterling Drug Inc.: *See*—
Winthrop-Stearns Inc.

Stevcoknit Textile Co., New York, N.Y. 889,431–2, pub. 1–27–70. Cl. 42.

Stiefel Feed Co., Inc., Syracuse, Ind. 765,614, canc. Cl. 46.

Stim-U-Dents, Inc., to Stim-U-Dent, Inc., Detroit, Mich. 338,052. Am. 7(d). Cl. 44.

Stim-U-Dents, Inc., to Stim-U-Dent, Inc., Detroit, Mich. 709,402. Am. 7(d). Cl. 44.

Storktowne Products, Inc., Chicago, Ill. 889,421, pub. 3–11–69. Cl. 39.

Strauss, Levi & Co., San Francisco, Calif. 523,665, ren. 4–14–70. Cl. 39.

Stumpf-Ernst Productions, Cleveland, Ohio. 765,404, canc. Cl. 22.

Sub-Tropic Fruit Co., Inc., Goulds, Fla. 889,528. Cl. 46.

Summit Laboratories, Inc., Indianapolis, Ind. 889,474, pub. 1–27–70. Cl. 51.

Sunbeam Corp.: *See*—
Chicago Flexible Shaft Co.

Sunsweet Growers Inc.: *See*—
California Prune & Apricot Growers Association.

Superba Cravats, Inc., Rochester, N.Y. 889,527. Cl. 39.

Surprenant Inc., Jaffrey, N.H. 889,304, pub. 1–27–70. Cl. 21.

Sutton, I. S., & Sons, Inc., New York, N.Y. 889,332, pub. 1–27–70. Cl. 22.

Taco, Inc.: *See*—
Pizza Hut, Inc.

Taco King, Inc., St. Louis, Mo. 889,493, pub. 1–27–70. Cl. 101.

Taconic Corp., Yonkers, N.Y. 765,474, canc. Cl. 28.

Techni-Builders, Inc., Phoenix, Ariz. 765,400, canc. Cl. 21.

Tech-Turf, Inc., Maplewood, N.J. 889,506, pub. 1–27–70. Cl. 103.

Tele-Film Electronics Engineering Corp., Denver, Colo. 765,505, canc. Cl. 36.

Textron Inc., Providence, R.I. 889,286, pub. 1–27–70. Cl. 21.

Textron Inc., Providence, R.I. 889,374, pub. 1–27–70. Cl. 28.

Thermocor Co. Inc., The, Erlanger, Ky. 889,296, pub. 1–27–70. Cl. 21.

Thew Shovel Co., The, Lorain, Ohio, to Koehring Co., Milwaukee, Wis. 522,118, ren. 4–14–70. Cl. 23.

Thierens, Christina, d.b.a. Double Image Enterprises, El Cajon, Calif. 889,381, pub. 1–27–70. Cl. 32.

Thiokol Chemical Corp., Bristol, Pa. 889,219. Cl. 1.

Thiokol Chemical Corp., Bristol, Pa. 889,399, pub. 1–27–70. Cl. 35.

Tilemaster Corp.: *See*—
A. 1. Plastic Molders, Inc.

Time-Saver Check, Inc., Irving, Tex. 889,401, pub. 1–27–70. Cl. 37.

Tomkins' Label Service, Philadelphia, Pa. 889,525. Multiple Class (Classes 38 and 101).

Totalmold, Inc., Denver, Colo. 889,310, pub. 1–27–70. Cl. 22.

Trane Co., The, La Crosse, Wis. 889,241, pub. 1–27–70. Cl. 13.

Tru-Valu Stores Inc., Jackson, Miss. 889,539. Cl. 101.

Tube Investments of India Ltd., Madras, India. 889,278, pub. 1–27–70. Cl. 19.

Tussy Cosmetics, Inc.: *See*—
Lehn & Fink Products Corp.

Uddo & Taormina Co., Brooklyn, N.Y., to Uddo & Taormina Corp., Jersey City, N.J. 520,739, ren. 4–14–70. Cl. 46.

Ultra, Inc., Hutchinson, Kans. 889,283, pub. 1–27–70. Cl. 19.

Unelko Corp., Chicago, Ill. 889,226, pub. 1–27–70. Cl. 6.

Ungaro, Emmanuel, S.A.R.L., Paris, France. 889,535. Cl. 51.

Unidon International, Inc., Omaha, Nebr. 889,436, pub. 1–27–70. Cl. 44.

Union Carbide Corp., New York, N.Y. 889,372, pub. 1–27–70. Cl. 26.

Union Tank Car Co., Chicago, Ill. 889,340, pub. 1–27–70. Cl. 23.

United Gas Corp., Shreveport, La. 765,456, canc. Multiple Class (Classes 26 and 34).

United Metal Products Corp., Detroit, Mich. 765,413, canc. Cl. 22.

United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 267,902, ren. 4–14–70. Cl. 12.

United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 267,938, ren. 4–14–70. Cl. 12.

United States Gypsum Co., to United States Gypsum Co., Chicago, Ill. 267,991, ren. 4–14–70. Cl. 12.

United States Rubber Co., New York, N.Y. 765,499, canc. Cl. 35.

United States Rubber Co., New York, N.Y. 765,568, canc. Cl. 39.

Universal Oil Products Co., Des Plaines, Ill. 889,224–5, pub. 1–27–70. Cl. 6.

Utility Co., Inc., The, New York, N.Y. 521,114, ren. 4–14–70. Cl. 52.

V.I.P. Car Leasing Corp., Los Angeles, Calif. 765,657, canc. Cl. 100.

Vacuum Oil Co., Rochester, to Mobil Oil Corp., New York, N.Y. 33,707, ren. 4–14–70. Cl. 15.

Van Raalte Co., New York, to Cluett, Peabody & Co., Inc., Troy, N.Y. 267,609, ren. 4–14–70. Cl. 39.

Vette Shop, Inc., The, Detroit, Mich. 889,505, pub. 1–27–70. Cl. 103.

Vitasafe Corp., New York, N.Y. 765,677, canc. Cl. 22.

Wald & Co., Inc.: *See*—
Guthrie, Balfour & Co.

Walker, Lowell J., Waterloo, Iowa. 523,107, ren. 4–14–70. Cl. 18.

Wallace-Murray Corp.: *See*—
Heller Bros. Co.

Warner & Swasey Co., The, Cleveland, Ohio. 889,414, pub. 1–27–70. Cl. 38.

Waterford Glass Ltd., Johnstown, Waterford, Ireland. 889,383–92, pub. 1–27–70. Cl. 33.

Watson & Rae S.A., San Jose, Costa Rica. 889,445, pub. 1–27–70. Cl. 46.

Wellcome Foundation Ltd., The, London, England. 765,360, canc. Cl. 18.

Welmaid Products, Inc., Chicago, Ill. 765,291, canc. Multiple Class (Classes 2, 24, 29, and 50).

Wen-Mac Corp., Los Angeles, Calif. 743,333, canc. Cl. 22.

Werner, R. D., Co., Inc., Greenville, Pa. 889,532. Cl. 50.

Wernet Dental Mfg. Co., Inc., Jersey City, N.J., from The Phillips & Benjamin Co., Boston, Mass. 310,067, canc. Cl. 51.

West Chemical Products, Inc.: *See*—
West Disinfecting Co.

West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 523,007, ren. 4–14–70. Cl. 21.

West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 523,507, ren. 4–14–70. Cl. 6.

West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 524,371, ren. 4–14–70. Cl. 2.
West Disinfecting Co., to West Chemical Products, Inc., Long Island City, N.Y. 525,944, ren. 4–14–70. Cl. 21.
West Virginia Pulp & Paper Co., to Westvaco Corp., New York, N.Y. 527,174, ren. 4–14–70. Cl. 31.
Westab Inc.: *See*—
  Montag Bros., Inc.
Westgate-California Foods, Inc., San Diego, Calif. 889,441, pub. 1–27–70. Cl. 46.
Westinghouse Electric Corp., Pittsburgh, Pa. 520,722, ren. 4–14–70. Cl. 34.
Westvaco Chemical Corp., New York, N.Y., to Betz Laboratories, Inc., Trevose, Pa. 528,882, ren. 4–14–70. Cl. 6.
Westvaco Corp.: *See*—
  West Virginia Pulp & Paper Co.
What-Cha-Ma-Call-It, Inc., New York, N.Y. 889,315, pub. 1–27–70. Cl. 22.
Whitbread & Co. Ltd., London, England. 889,454, pub. 1–27–70. Cl. 48.
White Laboratories, Inc., Kenilworth, N.J. 889,264, pub. 1–27–70. Cl. 18.
Whitney-Forbes, Inc., Chicago, Ill. 889,358, pub. 1–27–70. Cl. 23.
Wiklund Enterprises, Inc., Atlanta, Ga. 889,400, pub. 1–27–70. Cl. 36.
Williams, A. R., & Co., Carteret, N.J. 889,534. Cl. 51.
Winslow Engineering Co., Oakland, Calif., to Nefco Filter Corp., Stoughton, Wis. 517,832, ren. 4–14–70. Cl. 31.
Winthrop-Stearns Inc., to Sterling Drug Inc., New York, N.Y. 523,929, ren. 4–14–70. Cl. 18.
Winthrop-Stearns Inc., to Sterling Drug Inc., New York, N.Y. 526,148, ren. 4–14–70. Cl. 18.
Wittlin, Albert, d.b.a. Allin Mfg. Co., Chicago, to Allin Mfg. Co., Inc., Skokie, Ill. 524,425, ren. 4–14–70. Cl. 26.
Wood, J. B., d.b.a. Wood Mfg. Co., El Dorado, to Woody Burney, Conway, Ark. 448,878, ren. 4–14–70. Cl. 22.
Woody Burney: *See*—
  Wood, J. B.
Wool, F. G., Packing Co., San Jose, Calif. 765,630, canc. Cl. 46.
Zeldin, Ben, d.b.a. Campus Research, Great Neck, N.Y. 889,475, pub. 1–27–70. Cl. 51.

U.S. GOVERNMENT PRINTING OFFICE: O—1970

A UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
April 21, 1970 Volume 873 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1970

Examiner affirmed	142
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RICHARD A. WAHL,
Mar. 17, 1970. *Acting Commissioner of Patents.*

Notice of Daylight Saving Time

The Patent Office will operate on Daylight Saving Time from April 26, 1970 through October 25, 1970.

Disclaimer

3,236,971.—*Albert Cotsworth*, Oak Park, Ill. COMBINATION ON-OFF SWITCH AND CIRCUIT-BREAKER. Patent dated Feb. 22, 1966. Disclaimer filed Oct. 6, 1969, by the assignee, *Zenith Radio Corporation*.

Hereby enters this disclaimer to claims 1, 2 and 5 of said patent.

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D. 213,911
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New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

April 21, 1970

Patents	1301	—No. 3,506,978 to No. 3,508,278, incl.
Designs	104	—No. 217,217 to No. 217,320, incl.
Reissues	8	—No. 26,858 to No. 26,865, incl.
Def. Pub	4	—No. T873,010 to No. T873,013, incl.
Total	1417	

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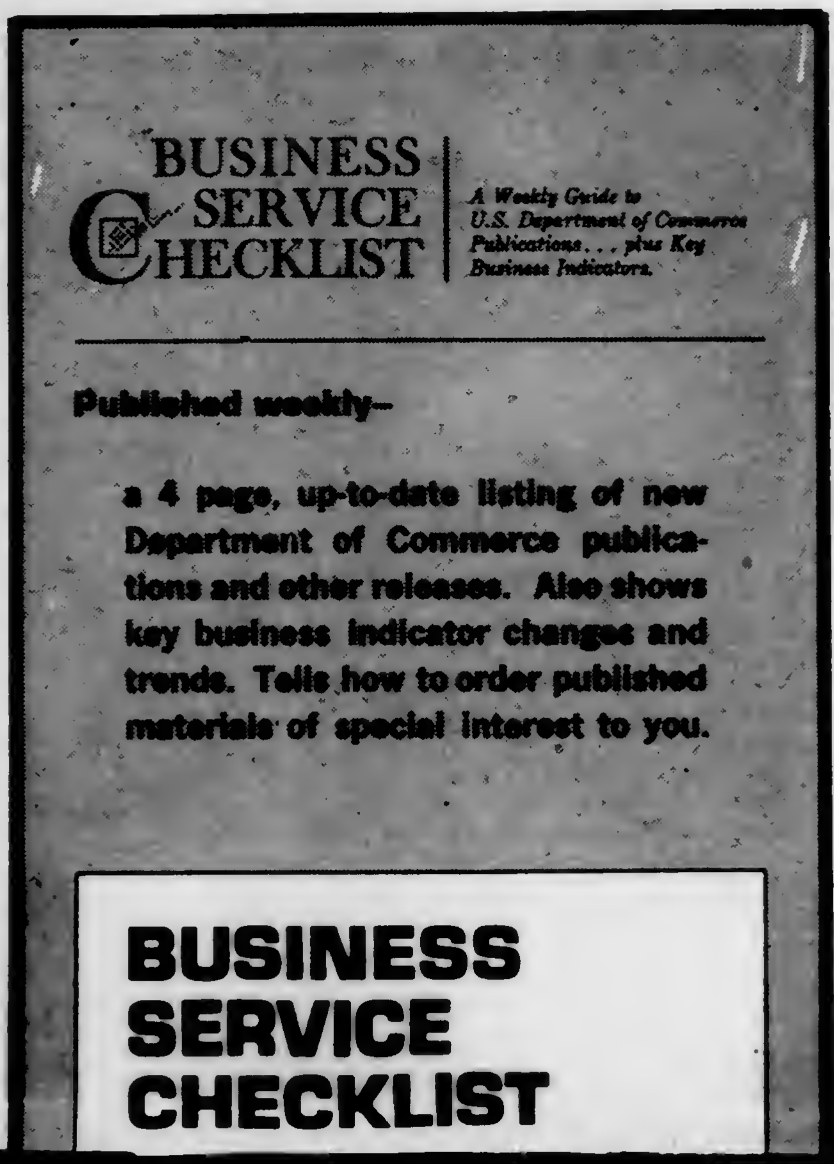

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BUSINESS SERVICE CHECKLIST

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 7, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	3-20-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	6-11-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-12-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	2-15-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	10-24-68
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-10-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*4-01-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	7-09-68
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-10-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-20-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines	*7-01-68

Board of Appeals Decisions Rendered in the Month of March 1970

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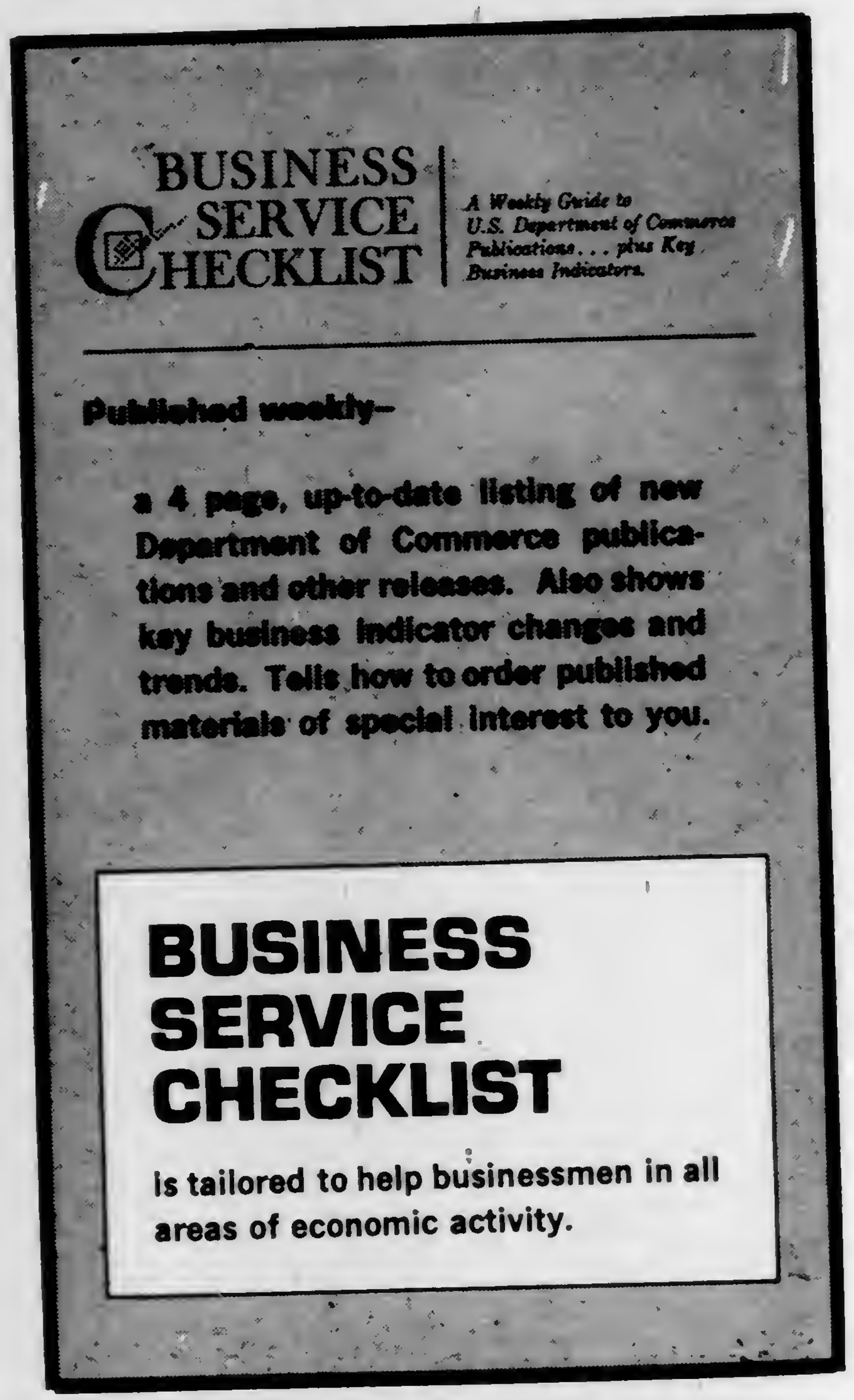
to help business



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PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 7, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
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GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	3-20-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	6-11-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-12-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	2-15-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	10-24-68
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-10-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*4-01-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	7-09-68
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-10-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-20-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*7-01-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-10-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	2-14-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	11-26-68

Total number of pending applications (excluding Designs)	182, 512
Total number of Design applications pending	3, 281

Expiration of patents: The patents within the range of numbers indicated below expire during April 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents .... Numbers 2,633,571 to 2,637,028, inclusive
Plant Patents .... Numbers 1,178 to 1,181, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM C. ANTHONY

No. 8166. Decided September 11, 1969

[56 CCPA —; 414 F.2d 1383; 162 USPQ 594]

1. Appeal to U.S. Court of Customs and Patent Appeals—Remand—Affidavit Filed After Board Decision.

"With respect to claims 11 and 12, directed to the d- and l-isomers of etryptamine *per se*, appellant acknowledges here that those claims are unpatentable on the record since 'under existing law a stereoisomer is not patentable over its known racemic mixture unless it possesses unexpected properties not possessed by the racemic mixture.' He asks this court to remand the case to the Patent Office for consideration of new evidence in the form of an affidavit of one Stucki, filed after the Board's decision, which appellant apparently believes now shows that the d- and l-isomers have different, perhaps unexpected, properties. The Board refused to consider the affidavit because, in its view, appellant had neither proceeded in accordance with the governing Rules of Practice of the Patent Office nor timely filed that document. We agree with the Board's stated reasons for refusing to consider the affidavit, and appellant does not ask us to consider it in the first instance here. * * * Inasmuch as appellant seemingly was aware of the necessity for such evidence early in the prosecution, and the affidavit does not appear to be in response to any new ground of rejection under § 103 advanced for the first time by the Board, appellant's request for remand is denied, although he perhaps is not without further recourse. The rejection of claims 11 and 12 under § 103 is affirmed."

2. Patentability—Composition—Obviousness—Therapeutic Compositions.

"In our view, absent a disclosure by Young or Snyder [references] of specific therapeutic or pharmaceutical uses for etryptamine, the addition of a pharmaceutical carrier to that compound and the determination of suitable unit dosage forms is not obvious. We do not think it is reasonable to assume, as the Patent Office seemingly has, that researchers would as a matter of course incorporate chemical compounds in specific amounts into pharmaceutically acceptable carriers and dosage unit forms unless they had some reasonably specific pharmaceutical use in mind. The recitation in the claims of certain amounts of active ingredient in combination with the carrier provides some further measure of distinction over the art, inasmuch as the references do not suggest the use of *any* particular amounts of etryptamine."

3. Same—References—Obscure Expressions of Pharmacological Utility.

"Neither the Examiner nor Board has provided us with *any* indication or evidence that the art knew what *particular* uses Young or Snyder [references] had in mind for the compounds disclosed by them, if indeed such uses even existed before appellant's filing date. Under the circumstances, we do not think it is appropriate for us to speculate as to what uses those might have been. * * * That such obscure expressions as 'pharmaceutical products,' 'physiological activity,' and others like them, have in the past been regarded by the Patent Office and this court alike to provide no explicit or implicit indication to those in the art of the specific usefulness of particular chemical compounds, or how to use them, is clear from *In re Kirk*, 54 CCPA 1119, 376 F.2d 936, 153 USPQ 48 (1967) and *In re Diedrich*, 50 CCPA 1355, 318 F.2d 946, 138 USPQ 128 (1963), as well as the 'Guidelines for Considering Disclosures of Utility in Drug Cases,' promulgated by the Commissioner of Patents on March 19, 1968, 849 O.G. 567–68."

4. Same—Utility—Safety—35 U.S.C. 101.

"We note that § 101 says nothing about safety."

5. Same—Same—Same—Pharmaceuticals—35 U.S.C. 101.

"Although the patent statutes do not establish 'safety' as a criterion for patentability of any of the statutory classes of patentable subject matter mentioned in § 101, yet it is undoubtedly true, as demonstrated by some of the

cases cited by the Examiner, that the Patent Office and the courts over the years have considered 'safety' as an aspect of the broader question of whether certain inventions—pharmaceuticals in particular—are 'useful' within the meaning of § 101 and its predecessors. No one, we suppose, would seriously maintain that, as a matter of policy, a composition unsafe for use by reason of extreme toxicity to the point of immediate death under *all* conditions of its sole contemplated use in treating disease of the human organism would nevertheless be useful within the meaning of the patent laws."

6. Same—Same—Same—Same—FDA Approval Not Required for Utility in Patent Law.

"* * * the Board recognized, correctly we think, that approval by the FDA 'is not a prerequisite' for the patenting of a new drug (and whether the drug here is 'useful' is the *only* prerequisite to patentability with which we are here concerned). To put it another way, the FDA need not necessarily determine that a drug is commercially useful or usable before it may be 'useful' in the patent law sense. The Board also correctly recognized that the fact that many 'useful' drugs exhibit some degree of toxicity or side effects 'would not provide a basis for refusal of a patent on such drug as without utility' under § 101. The presence of a certain degree of danger or risk attendant on the use of a drug does not necessarily mean that the subject matter is not useful within the meaning of the patent law because of that danger or risk."

7. Same—Same—Pharmaceuticals—Commercial Usefulness Irrelevant—35 U.S.C. 101.

"* * * 'commercial usefulness,' i.e. progress in the development of a product to the extent that it is presently commercially salable in the market place, has never been a prerequisite for a reduction to practice and the subsequent patentability of any of the classes of patentable subject matter set forth in § 101, much less the particular class of compositions of matter called drugs."

8. Same—Same—Same—Evidence—*Brenner* v. *Manson* Distinguished.

"* * * we think appellant's quest for a chemical composition which is useful has been successful. In contrast to the situation in *Brenner* v. *Manson*, where *no* specific use or useful property was disclosed for the claimed compounds, here a useful property of etryptamine has been discovered in animal tests, compositions containing it have been subjected to extensive clinical trials in humans, and those compositions have even been commercially marketed. The evidence of record incontrovertibly establishes that appellant's compositions are effective in treating various types of mental depressions in humans. And the Anglin affidavit is also sufficient to establish, we think, that the compositions have been, and can be, administered safely (though perhaps not with absolute safety) to human patients by qualified, knowledgeable medical experts. The fact that compositions containing etryptamine, as demonstrated by the data in the second Anglin affidavit, have been administered to over 400,000 patients with little or no reported or apparent serious ill effect in each, other than the 12 reported cases of agranulocytosis, is telling evidence of the practical safety and consequent usefulness of the compositions."

9. Same—Same—Same—Commercial Usefulness Irrelevant.

"That further research may be necessary before the claimed [therapeutic] compositions are once again marketed on a commercial scale is not really material to whether those compositions are now useful, nor is it fatal to appellant's case. * * * As appellant points out, one of the fundamental purposes of the patent system, as recognized by the recent Report of the President's Commission on the Patent System, is to stimulate, in the Commission's words, 'the investment of additional capital needed for the further development and marketing of the invention.' To deny appellant his patent grant *because* further research and development may be necessary before marketing may again take place would effectively defeat that objective of the patent system."

10. Same—Same—Same—FDA Findings Regarding Safety—21 U.S.C. 372(d)—35 U.S.C. 101.

"In view of 21 U.S.C. 372(d), it is no doubt true that an unequivocal finding by the FDA that a drug is totally unsafe in all circumstances of contemplated use should not be lightly regarded by the Patent Office as an aid in its determination of whether a drug is useful under 35 U.S.C. 101. But what has the FDA found here? In concluding that the FDA has ruled 'Monase' to be 'unsafe,' without further qualification, we think the Board has painted with too broad a brush, and has drawn inferences from the Suspension Order that are not justified by its specific language. The order does not contain any broad, pervasive finding, nor has Upjohn in any way 'admitted,' that 'Monase' is *completely* and *absolutely* unsafe under *all* conditions of use, i.e., that 'Monase' is medically 'useless.' What it does say, and what we understand appellant to concede here, is that *under the conditions of use upon the basis of which the application became 'effective,'* 'Monase' is unsafe for use to a degree justifying its withdrawal from the market and suspension of the effectiveness of the New Drug Application."

11. SAME—SAME—SAME—SAME.

"And what are those conditions of use upon which Upjohn's New Drug Application [which was later suspended] became effective? The Anglin affidavit and appellant tell us, and the Patent Office has not disagreed, that those conditions included, among others, a lack of warning attached to the label or package insert that 'Monase' may produce agranulocytosis or at least has been associated with such a toxic effect, a condition which seems to relate more to the manner of marketing etryptamine than to its ultimate worth. We agree with the Board that we should not speculate whether Upjohn can ever market 'Monase' again with its particular postulated warning labels and restrictions, for it is unnecessary to do so. It is sufficient, we think, that the record fails to show that the FDA has ruled that 'Monase' cannot be used with reasonable safety as a practical matter. The record shows that it can. In view of the limited and specific language of the finding contained therein, the Suspension Order, in our view, is not sufficient to overcome the expert testimony of Anglin, who concluded that etryptamine has been and could still be used safely by a practicing physician in spite of the possible, very low incidence of side effect that may be associated with it, so long as the physician has knowledge of that possible side effect."

APPEAL from the Patent Office. Serial No. 387,513.

MODIFIED.

Joseph K. Andonian (*Eugene O. Retter*, of counsel) for appellant.

Joseph Schimmel (*Leroy B. Randall*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, HOLTZOFF and MCLAUGHLIN, *Judges*, sitting by designation, ALMOND and BALDWIN, *Associate Judges*

BALDWIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Patent Office Board of Appeals affirming the Examiner's rejections of claims 1–12 [1] "for lack of utility under 35 U.S.C. 101" and of claims 1–6, 11, and 12 as obvious under 35 U.S.C. 103 in view of certain prior art.

The invention relates to particular chemical compounds, the d- and l-isomers of α-ethyltryptamine (hereafter denoted by its generic name, etryptamine); therapeutic compositions containing certain amounts of one of the two pure isomers or their racemic mixture in combination with a pharmaceutical carrier; and methods of using those compositions in treating mental depression in humans. Claims 1 and 7 are representative:

> 1. A therapeutic composition comprising: as the primary active ingredient, from about 5 to about 300 mg. of a compound selected from the group consisting of α-ethyltryptamine and physiologically acceptable acid addition salts thereof, dispersed in a pharmaceutical carrier.
>
> 7. A method for treating mental depression which comprises: administering, in unit dosage form, a composition containing from about 5 to about 300 mg. of a compound selected from the group consisting of α-ethyltryptamine and the physiologically acceptable acid addition salts thereof, dispersed in a pharmaceutical carrier to a depressed subject.

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[1] Appearing in Serial No. 387,513, filed August 4, 1964, for "Composition of Matter and Process" as a continuation-in-part of Serial Nos. 792,704 and 68,677, filed February 12, 1959 and November 14, 1960, respectively.

Inasmuch as the issues are quite diverse, we shall treat them separately.

The Section 103 Rejection

The references are:

British specification (Young), 807,876, Jan. 21, 1959.
Snyder, J. Am. Chem. Soc., vol. 69, pages 3140–3142 (1947).
Karrer, Organic Chemistry, 2nd ed., pages 92–102 (1946).

Appellant has acknowledged, both below and here, that Young and Snyder each disclose the racemic mixture of etryptamine *per se* to be known to the art. Young, for example, discloses a process for preparing various indoles including, inter alia, 3-beta-aminobutylindole, another name for etryptamine. The indole compounds in general are said to be useful "as pharmaceutical products and also as intermediates in the manufacture of compounds of pharmacological utility, particularly of 5-hydroxytryptamine." Snyder, on the other hand, discloses techniques for the preparation of various derivatives of tryptamine including, among other things, the acetate of etryptamine. The various derivatives of tryptamine disclosed by Snyder are said to be "of interest * * * because of the physiological activity of the parent base."

The Examiner rejected claims 1–6, 11 and 12 as obvious in view of either Young or Snyder alone or considered with Karrer. In the Examiner's view, Young and Snyder state that etryptamine is "useful as a pharmaceutical product" and that the acetates of etryptamine are of interest "because of their physiological activity." Under those circumstances, it would be a routine matter, the Examiner thought, for one of ordinary skill in the art to prepare therapeutic compositions containing a pharmaceutical carrier and the racemic mixture of etryptamine or, in light of Karrer's discussion of separating optical isomers of a racemic mixture, to isolate the individual isomers and prepare therapeutic compositions containing them. The Board agreed.

[1] With respect to claims 11 and 12, directed to the d- and l-isomers of etryptamine *per se*, appellant acknowledges here that those claims are unpatentable on the record since "under existing law a stereoisomer is not patentable over its known racemic mixture unless it possesses unexpected properties not possessed by the racemic mixture." [2] He asks this court to remand the case to the Patent Office for consideration of new evidence in the form of an affidavit of one Stucki, filed after the Board's decision, which appellant apparently believes now shows that the d- and l-isomers have different, perhaps unexpected, properties. The Board refused to consider the affidavit because, in its view, appellant had neither proceeded in accordance with the governing Rules of Practice of the Patent Office nor timely filed that document. We agree with the Board's stated reasons for refusing to consider the affidavit, and appellant does not ask us to consider it in the first instance here. Cf. *In re Pantzer*, 52 CCPA 1135, 341 F.2d 121, 144 USPQ 415 (1965). Inasmuch as appellant seemingly was aware of the necessity for such evidence early in the prosecution, and the affidavit does not appear to be in response to any new ground of rejection under § 103 advanced for the first time by the Board,[3] appellant's request for remand is denied, although he perhaps is not without further recourse.[4] The rejection of claims 11 and 12 under § 103 is *affirmed.*

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[2] That position is but an echo of the position he took below in his letter of November 3, 1965, submitted after the Examiner's final rejection, as well as in his brief before the Board:

> It is submitted that the individual isomers would be patentable if they differed significantly in properties over the racemic mixture. The applicant hopes to provide such data before prosecution is terminated. Alternatively, the claims will be canceled.

The Board agreed with appellant:

> In absence of unobvious properties (and no showing has been made) the optically active isomer is unpatentable over an inactive isomer or the racemic compound itself. *Brenner et al.* v. *Ladd* [247 F. Supp. 51], 147 USPQ 87.

See also *In re Adamson,* 47 CCPA 839, 275 F.2d 952, 125 USPQ 233 (1960).

Insofar as the rejection of claims 1–6 is concerned, appellant argues that the two prior art references employed by the Patent Office do not suggest any general or specific therapeutic use for any specific compound, and are so vague as not to provide any meaningful teaching by which the claimed compositions are rendered obvious to one of ordinary skill in the art. The Board's reliance on *In re Rosicky*, 47 CCPA 859, 276 F.2d 656, 125 USPQ 341 (1960) in support of its position is misplaced, appellant says, because there composition claims similar in form to those here were held unpatentable over a group of prior art compounds, including the active ingredients of the claims, which, in contrast to the present case, were disclosed to have the *very same specific pharmaceutical utility* as did the active compounds of the claimed compositions. It was in those circumstances the court held that the mere formulation of pharmaceutical compositions containing certain amounts of the active ingredients of the prior art and a pharmaceutical carrier would be obvious to one of ordinary skill in the art.

We agree with appellant. Snyder's disclosure that the "derivatives" of tryptamine are merely "of interest" because "of the physiological activity of the parent base" is no indication at all that etryptamine itself necessarily *has* some nebulous "physiological activity" of the parent base (tryptamine) *in fact*, much less what specific activity that would be. Similarly, Young's disclosure that many widely divergent indoles which can be prepared by his process are useful as "pharmaceutical products" is no clear suggestion that etryptamine itself necessarily has such utility, whatever that may be.[5] **[2]** In our view, absent a disclosure by Young or Snyder of specific therapeutic or pharmaceutical uses for etryptamine, the addition of a pharmaceutical carrier to that compound and the determination of suitable unit dosage forms is not obvious. We do not think it is reasonable to assume, as the Patent Office seemingly has, that researchers would as a matter of course incorporate chemical compounds in specific amounts into pharmaceutically acceptable carriers and dosage unit forms unless they had some reasonably specific pharmaceutical use in mind. The recitation in the claims of certain amounts of active ingredient in combination with the carrier provides some further measure of distinction over the art, inasmuch as the references do not suggest the use of *any* particular amounts of etryptamine. Cf. *In re Wiggins*, 55 CCPA 1356, 397 F.2d 356, 158 USPQ 199 (1968).

The rejection of claims 1–6 under § 103 is *reversed.*

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[3] Compare *In re Wiechert*, 54 CCPA 957, 370 F.2d 927, 152 USPQ 247 (1967).

[4] See *In re Herr*, 54 CCPA 1315, 377 F.2d 610, 153 USPQ 548 (1967); *In re Craig* (PA 8142), 56 CCPA —, — F.2d —, 162 USPQ 157 (1969).

[3] [5] Neither the Examiner nor Board has provided us with *any* indication or evidence that the art knew what *particular* uses Young or Snyder had in mind for the compounds disclosed by them, if indeed such uses even existed before appellant's filing date. Under the circumstances, we do not think it is appropriate for us to speculate as to what uses those might have been. *In re Rosicky*, supra; *In re Cofer*, 53 CCPA 830, 354 F.2d 664, 148 USPQ 268 (1966). That such obscure expressions as "pharmaceutical products," "physiological activity," and others like them, have in the past been regarded by the Patent Office and this court alike to provide no explicit or implicit indication to those in the art of the specific usefulness of particular chemical compounds, or how to use them, is clear from *In re Kirk*, 54 CCPA 1119, 376 F.2d 936, 153 USPQ 48 (1967) and *In re Diedrich*, 50 CCPA 1355, 318 F.2d 946, 138 USPQ 128 (1963), as well as the "Guidelines for Considering Disclosures of Utility in Drug Cases," promulgated by the Commissioner of Patents on March 19, 1968, 849 O.G. 567–68.

The Section 101 Rejection

This issue—which relates in general to the safety and concomitant usefulness of appellant's compositions and process in treatment of mental depression in humans—appears to be one of first impression. The following background information will facilitate an understanding of our resolution of that issue.

Appellant's present specification sets forth the usefulness of his compositions as follows:

> In extensive *clinical* studies on compositions containing a representative α-ethyltryptamine salt, both *its clinical effectiveness and safety* have been demonstrated in the treatment of mental depressions of the endogenous, organic, involutional and reactive types, as well as in undefined psychosomatic disorders characterized by a depressive phase. Significant success has also been obtained in treating angina pectoris, rheumatoid arthritis and other conditions.[6]
>
> In the clinical investigations conducted with α-ethyltryptamine acetate no evidence of liver toxicity has been observed, in contradistinction to experience with certain of the hydrazine compounds. *An extremely low incidence of agranulocytosis has been associated with its use, but investigators have reported its safety generally to be one of its outstanding characteristics.* Of particular importance clinically is the rapid reversibility of activity, effects being dissipated in 24–48 hours after cessation of therapy. This factor, coupled with the early onset of the desired psychic energization or mood enhancement which follows initiation of therapy, provides a high degree of positive control. Following is a summary of results obtained in the treatment of some of the clinical conditions in which the present compositions have proved significantly effective:
>
> | Clinical Condition | Investigators Reporting | Number of Patients | Percent Benefit |
> |---|---|---|---|
> | Endogenous depression | 21 | 141 | 82 |
> | Reactive depression | 12 | 47 | 74 |
> | Unclassified depressions | 20 | 207 | 66 |
>
> * * * * * * *
>
> [Emphasis supplied.]

As corroborating evidence of the assertions of usefulness in his 1960 parent application, appellant submitted the affidavit of a Dr. Anglin[7] on February 14, 1961, apparently in an attempt to convince the Examiner that his compositions and method were "useful" in compliance with 35 U.S.C. 101. Anglin discussed the clinical experience of various investigators in 1960 and 1961 with "Monase," a form of the compositions claimed by appellant. At that time, Anglin averred in pertinent part (all emphasis supplied):

> The term "Monase" refers herein to tablet compositions containing 3, 5, 10, 15 or 25 mg. of α-ethyltryptamine acetate (generic designation, etryptamine acetate).

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[6] As to the latter two asserted uses, appellant states:

> Whether the present invention is useful in treating angina pectoris or rheumatoid arthritis is immaterial to the disposition of the present appeal. The appellant is relying on one utility, i.e., antidepressant use * * *.

It is also apparent that appellant does not rely here on his disclosure of usefulness of the claimed compositions in animals for purposes of satisfying section 101, but relies solely on the sufficiency of clinical evidence of usefulness in humans. Cf. *In re Krimmel*, 48 CCPA 1116, 292 F.2d 948, 130 USPQ 215 (1961); *In re Dodson*, 48 CCPA 1125, 292 F.2d 943, 130 USPQ 224 (1961).

[7] Dr. Anglin qualified himself as follows:

> THAT, I received the degree of Doctor of Medicine from Western Reserve University, Cleveland, Ohio, in 1949;
>
> THAT, I served my internship at the Valley Forge General Hospital, Philadelphia, Pennsylvania, in 1949–1950;
>
> THAT, I served my residency in psychiatry at Letterman General Hospital and Mount Zion Psychiatric Clinic, both in San Francisco, California, in 1950–1953;
>
> THAT, I served as a military psychiatrist with the United States Army in 1954–1957;
>
> THAT, I engaged in the private practice of psychiatry in 1957–1958 and again in 1961–1963;
>
> THAT, I have been a member of the Medical Division of The Upjohn Company in the remaining period from 1958 to the present date; * * *.

The factual contents of the 1961 Anglin affidavit were resubmitted as part of a more extensive affidavit, discussed infra, presented in the application on appeal on November 3, 1965. Dr. Anglin's qualifications to state the opinions and conclusions expressed in his affidavits have not been challenged.

> Because of the properties recognized in Monase based on laboratory studies the participants in the clinical evaluation program were selected to include psychiatrists, internists, dermatologists, pediatricians and general practitioners in order that the actions of Monase could be observed from various viewpoints and in a number of psychological and clinical entities.
>
> A number of studies were conducted on Monase in which control groups on placebo medication were observed concomitantly in order that the results attributable to Monase could be isolated from environmental or suggestive factors.
>
> *Prior to September 12, 1960,* 72 independent clinical investigators (all being physicians and none being in the employ of The Upjohn Company) have submitted reports to me concerning their experiences in treating *a total of 1172 patients with Monase.*
>
> Human tolerance studies were conducted by 3 clinical investigators on a total of 60 human volunteers for periods up to three months, said volunteers being given daily amounts up to 300 mg. (ten-day periods at this dose *without serious side effects in any subject and without any side effects necessitating withdrawal of any subjects from the studies*). [There follow the favorable comments of the latter 3 investigators with respect to their experience with "Monase."]

* * * * * * *

> Results of the use of Monase in therapy as reported to me by the participating clinical investigators are accurately summarized as of September 12, 1960 in the following table:

Diagnostic Category	No. of Investigators	Total Patients Treated	Percent Patients Benefited
Endogenous depression	21	141	82
Reactive depressions	12	47	74
Schizophrenic disorders	12	45	33
Organic depressions	12	114	50
Unclassified depressions	20	207	66
Psychosomatic disorders	16	214	60
Character and behavior disorders	8	67	66
Menopausal and involutional depressions	7	16	56

[The remainder of the table reports results in treating conditions not now relied on, footnote 6, supra.]

* * * * * * *

> A total of 112 side effects were reported in the treatment of 1172 cases with Monase, an incidence of approximately 9.5%, *such side effects being non-serious in nature* and including only 11 cases of blood pressure alteration (of which 9 were mild orthostatic hypotension and 2 were hypertension), with no evidence of liver toxicity. [There follow excerpts from reports accompanying the clinical data summarized above and received by Dr. Anglin from some of the 72 investigators participating in the clinical evaluation of "Monase." The investigators, in general, commented favorably on both the effectiveness of "Monase" against depression in patients and the minimal side-effect rate.]

* * * * * * *

Anglin continued:

> The number of patients who are *now* [February 1961] receiving or have received Monase for therapeutic purposes *is approximately 5000.*
>
> Subsequent to the compilation of data summarized in the table above, I have received numerous additional reports of extensions of already reported studies and other studies previously unreported, *there being no substantial change in the indicated effectiveness of Monase in the clinical categories of the said foregoing table or in the incidence or severity of side effects hereinbefore noted.* [Emphasis supplied.] [There follow excerpts from clinical reports received subsequent to the compilation of data summarized in the table above, again reporting favorably as to effectiveness and low incidence of side effects with use of "Monase."]

* * * * * * *

Anglin concluded as of February 1961:

> It is my opinion, based on the hereinbefore stated facts and on discussions with clinical investigators participating in the evaluation program, that *Monase is a safe and effective agent for the clinical treatment of a variety of depressive states * * *.* [Emphasis supplied.]

Subsequently, it appears the Examiner withdrew his rejection of the claims for lack of usefulness under 35 U.S.C. 101. Sometime in the middle of 1961, the Upjohn Company, appellant's assignee, received approval from the Food and Drug Administration (FDA) of its New Drug Application to introduce "Monase" on prescription as a safe anti-depressant drug, and its application became "effective." Presumably, Upjohn had complied with 21 U.S.C. 355(a), (b), and (d) (1958) then in effect, and had satisfied the FDA, inter alia, that sufficiently full reports of investigations had been submitted to establish that the drug was safe for use under the conditions prescribed or suggested in the proposed labeling thereof. Some nine months after the introduction of "Monase," Upjohn reported to the FDA its suspicions that "Monase" may have been implicated in a small number of cases of agranulocytosis [8] found among many thousands of patients who had been receiving it, and *requested* suspension of its then effective New Drug Application covering "Monase" pending evaluation of the problem. The FDA, per a "Suspension Order" signed by the Commissioner of Food and Drugs, ordered suspension of Upjohn's New Drug Application, effective April 9, 1962, in language sufficiently important to merit quotation in full:

> The Upjohn Company, Kalamazoo, Michigan, the applicant for and the holder of effective New Drug Application No. 12–632 applying to Coated Compressed Tablets "Monase," having requested the suspension of the effectiveness of said application, *on the ground that clinical experience shows that the drug is unsafe for use under the conditions of use upon the basis of which the said application became effective,* and thereby having waived Notice of Hearing as provided by Section 505(e) of the Federal Food, Drug, and Cosmetic Act, prior to such suspension;
>
> The Commissioner of Food and Drugs, by virtue of the authority vested in the Secretary by the provisions of the Federal Food, Drug, and Cosmetic Act [Section 505(c); 52 Stat. 1052; 21 U.S.C. 355(c)] and delegated to the Commissioner by the Secretary (20 FR 1996) finds that clinical experience shows that Coated Compressed Tablets "Monase," are unsafe for use *under the conditions of use upon the basis of which the application became effective;*
>
> WHEREFORE, on the foregoing finding of fact and the request of the applicant, the effectiveness of New Drug Application No. 12–632 applying to Coated Compressed Tablets "Monase," is suspended, effective April 9th, 1962. [Emphasis supplied.]

As a consequence of that order, Upjohn removed "Monase" from the prescription drug market and, insofar as we are informed, it has remained off the market to the present time.

Faced with that set of facts, the Examiner reinstated his rejection of appellant's claims for lack of usefulness under 35 U.S.C. 101. He did not challenge appellant's proofs as to the "effectiveness" or "operativeness" of the claimed compositions for treating mental depression, but did hold that appellant had failed to prove the compositions are "safe in treating human beings." As evidence of that, the Examiner placed in the record newspaper articles from the March 21, 1962 edition of the New York Times[9] and the April 16, 1962 edition of The Washington Daily News, reporting withdrawal of "Monase" from the market and reasons therefor.

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[8] "Agranulocytosis" is defined by Dorland's Medical Dictionary, 23rd edition, as: An acute disease characterized by marked leukopenia and neutropenia and with ulcerative lesions of the throat and other mucous membranes, of the gastrointestinal tract and of the skin. It frequently follows the use of aminopyrine, the sulfonamides, or other drugs.

Appellant then submitted the second affidavit (1965) of Dr. Anglin, heretofore mentioned. Anglin averred:

> In my opinion, Monase can still be classified medically as a *safe* and effective drug.
>
> It is true that there has been a serious toxic reaction associated with the use of this drug since the date of my original affidavit, namely agranulocytosis. However, in *all such cases reported to or known by The Upjohn Company (twelve in number, or an estimated probability rate of one case out of each 35,000 patients who used the drug)*, Monase was not the only drug employed in the treatment, nor were the patients suffering only from a depressed state. *It is not at all certain that Monase alone was the causative agent for this reaction.*
>
> There has been some research done to determine whether Monase can cause this reaction, and although the work is not yet complete enough to exonerate Monase, the results thus far are negative.
>
> It is also true that the drug has been withdrawn from the market as a direct result of this reported reaction. However, the issues involved in withdrawal naturally transcend the simple virtue and hazard of the drug itself. Likewise, the attitude of the Food and Drug Administration with respect to marketing the drug is relative to such facts as the manner and the purpose for which the drug is marketed. For example, *the attitude could be different if the drug were recommended only for severe depressions and suitable warnings were used to alert the medical profession of the possibility of agranulocytosis.* [Emphasis supplied.]
>
> In fact, a physician, properly informed about the properties of a drug and the probability of harm which may result from its use, must always weigh the probability that a given patient will be benefited by its use against the probability that he will be harmed.
>
> There is some danger in the use of all potent drugs and agranulocytosis is one type of serious disorder that has been associated with the use of several currently marketed drugs, including Tofranil, one of the most widely used anti-depressants. The following statement has appeared in the package insert accompanying this product:
>
> > Bone marrow depression, including agranulocytosis has been associated with the use of the drug in rare instances. Leukocyte and differential counts should be performed in any patient who develops fever and sore throat during therapy, and the drug should be discontinued if there is evidence of pathological neutrophil depression.
>
> A similar course of action could be followed in the case of Monase and in my own opinion, as well as that of many of my colleagues, would be sufficient to enable a practicing physician to use Monase safely and effectively in many depressed patients. * * *
>
> * * * * * * *
>
> Thus, Monase has proven extremely useful in clinical practice and would be used if it were available today. Like many of my colleagues in medical practice, I realize that depression is *also* a serious disease and can be fatal, and that none of the other available methods of therapy are without their own form of hazard.

The Examiner was not convinced of the safety, and hence the legal "usefulness," of the claimed compositions and of "Monase" in particular. In his answer he stated:

> All the claims stand rejected as failing to comply with 35 U.S.C. 101, applicant having failed to establish the claimed material is safe in treating human beings. The record is replete (New York Times, Washington Daily News, Am. J. of Psychiatry) with data that clearly demonstrates "Monase" is not safe for its alleged use. Accordingly, it lacks the utility required by 35 U.S.C. 101. [Citing *In re Citron*, 51 CCPA 852, 325 F.2d 248, 139 USPQ 516; *In re Novak*, 49 CCPA 1283, 306 F.2d 924, 134 USPQ 335; *Commonwealth Engineering Co.* v. *Ladd*, 199 F. Supp. 51, 131 USPQ 255 and *Isenstead* v. *Watson*, 157 F. Supp. 7, 115 USPQ 408.]
>
> * * * * * * *
>
> Utility within the meaning of 35 U.S.C. 103 [sic, § 101 intended] requires that a therapeutic be both *safe* and *effective* for its intended use. * * * Appellant has submitted the affidavit of Dr. Anglin, which is conclusionary in nature, * * * in support of the alleged utilities of anti-depressant treatment * * *. These documents seek to establish the effectiveness of Monase, but are not sufficient to establish the *safety* of this compound. The affidavit of Dr. Anglin even recognizes "that there has been a serious toxic reaction associated with the use of this drug . . . , namely agranulocytosis". * * * There is no evidence of record to date to show that Monase alone is free from the above toxic effect. It is the Examiner's position that where a drug, which has a recognized toxic reaction associated with its use coupled with the fact that the nation's safeguarding agent, the Food and Drug Administration, has banned such drug from the market as being unsafe and to date has not lifted such ban; that such drug is not *safe* for use within the meaning of 35 U.S.C. 101.

[4] We note that § 101 says nothing about safety. Further, it is not clear to us what evidence would have convinced the Examiner that the claimed subject matter was "useful," which is the statutory requirement, save reapproval by the FDA of Upjohn's New Drug Application covering "Monase" for the commercial market as a commercially useful drug and/or evidence that "Monase" does not possess the side effect of agranulocytosis at all, viz is *absolutely* safe.

The Board appears to have retreated somewhat from the doctrinaire approach taken by the Examiner, although in end result the effect was the same, and added some new concepts of its own. It said:

> Appellant has responded to the preceding rejection by pointing out that the incidence of agranulocytosis is very small, i.e., the drug is useful in most cases and that various drugs on the market have the same adverse side effect. Such drugs, however, are sold only with restrictive labeling carrying warnings of the side effect. Appellant speculates the "Monase" might also be released with recommendations for use only in severe depressions and with suitable warnings of possible agranulocytosis. Up to the present time no attempt appears to have been made by appellant or his assignee to obtain approval, with such restrictions, from the Commissioner of Food and Drugs; consequently this argument cannot be taken seriously considering that some 4½ years have elapsed since

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[9] The New York Times reported in pertinent part:

> A drug used in treatment of depressed patients has been ordered off the market by the Government after adverse effects were discovered.
>
> The Food and Drug Administration confirmed today that it had requested the Upjohn Company of Kalamazoo, Mich., to remove Monase from the market.
>
> Officials said the order had been made after the company reported *that seven patients using the drug had contracted an acute blood disease and four of them had died.* [Emphasis supplied.]
>
> The disease, agranulocytosis, is marked by the destruction of the white corpuscles, which among other things combat disease organisms. As a result, the patient may succumb to infections. Symptoms are general weakness and ulcers in the mouth and other mucous membranes. The disease is often caused by other drugs, such as the sulfonamides and aminopyrine.
>
> Monase is a "psychic energizer" drug used to stimulate depressed people, including mental patients, according to Food and Drug officials. The drug has been on the market about a year and has had national distribution.
>
> The Upjohn Company sent letters to the nation's doctors several days ago, asking them to halt use of Monase because it had been discovered that some unfavorable blood conditions had developed among patients using the drug.
>
> Whiton B. Rankin, assistant to the Food and Drug Commissioner, said Upjohn officials "got in touch with us promptly after they discovered the adverse effects." He said they sent representatives to Washington to discuss the matter with the Food and Drug Administration.
>
> Drug manufacturers are not required to notify the administration of their own discoveries of adverse effects of drugs. However, many manufacturers make a practice of this.

The Examiner also cited an article by a Dr. Azima in the Am. J. of Psychiatry, vol. 117, No. 11, p. 1029, which reported the results of a "multi-blind" study of "Monase" on 30 depressed patients:

> *Side effects were, on the whole, relatively few and not very severe.* These consisted of feelings of "jumpiness," increase in anxiety and irritability in 5 patients, sleepiness in 2, dizziness in 2, headaches in 2, nausea in 1, and blurred vision in 1. Biochemical studies consisting of white blood count and differential, alkaline phosphatase, transaminase, and urine analysis, once weekly, T.P.R. and blood pressure b.i.d. did not show any abnormalities *with the exception of 1 case because of leukopenia (WBC 3000) in which the drug was discontinued and leukopenia disappeared.* [Emphasis supplied.]

Azima classified "Monase" as "an adequately potent antidepressant."

> the original order of suspension. Nor has appellant brought the record up to date as to what additional serious side effects and fatalities have been observed since the banning order. The statement in the specification, page 2, with reference to "Monase" that an "extremely low incidence of agranulocytosis has been associated with its use, but investigators have reported its safety generally to be one of its outstanding characteristics" is hardly in accord with the present state of facts and cannot be reconciled with assignee's voluntary withdrawal of the drug as "unsafe for use" (see Suspension Order supra).
>
> While approval by the Commissioner of Food and Drugs is not a prerequisite for the patenting of a new drug, the Commissioner of Patents is by statute (21 U.S.C. 372, Sec. 702(d) as amended 1962) on a consulting basis with the Secretary of Health, Education and Welfare in respect to questions that may arise in patent applications on drugs. Since the Secretary through the Commissioner of Food and Drugs has ruled "Monase" to be unsafe and as of today still considers the drug unsafe this finding should not be lightly regarded by the Patent Office. It is true that many useful drugs exhibit toxicity or produce a certain incidence of side effects, including agranulocytosis. This alone would not provide a basis for refusal of a patent on such a drug as without utility within the meaning of 35 U.S.C. 101. However, on the basis of the record before us, we feel compelled to sustain the rejections of all claims under this section. This is because of assignee's own admission of unsafeness of the drug as demonstrated in the cited Suspension Order, his failure to bring the record up-to-date on the incidence of toxicity (agranulocytosis), and his failure during the past 4½ years to take any action with respect to securing withdrawal of the Suspension Order by his postulated warning labels and restriction as to use. All of this seems to add up to an abandonment of "Monase" as a useful drug.

In a request for reconsideration under Rule 197(b), appellant took issue with the Board's statement that the record was not up-to-date on the incidence of toxicity, pointing out that Dr. Anglin's second affidavit had been filed in November 1965, but 19 days prior to filing of appeal to the Board, and that the evidence "was as up-to-date as it could reasonably be expected to be under the Patent Office Rules of Practice." The Board responded:

> We heard this case September 15, 1966. Obviously the record is not up-to-date insofar as this tribunal is concerned. The reporting of adverse reactions in cases of this kind is a continuing responsibility. It is not improbable that other detrimental effects, besides agranulocytosis, may by now have been revealed. In any case the record is devoid of any report on the results of the additional research undertaken to "determine whether Monase can cause this reaction" (page 9 of the above Anglin affidavit).

We have quoted extensively from those portions of the opinions of the Examiner and Board which are directed to appellant's efforts to establish the usefulness of his compositions and process. We now set forth our reasons for concluding that the Board erred in failing to hold that the claimed subject matter is "useful" within the meaning of that term in 35 U.S.C. 101.

[5] Although the patent statutes do not establish "safety" as a criterion for patentability of any of the statutory classes of patentable subject matter mentioned in § 101, yet it is undoubtedly true, as demonstrated by some of the cases cited by the Examiner, that the Patent Office and the courts over the years have considered "safety" as an aspect of the broader question of whether certain inventions—pharmaceuticals in particular—are "useful" within the meaning of § 101 and its predecessors.[10] No one, we suppose, would seriously maintain

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[10] For an earlier case, see *Canadian-American Pharmaceutical Co.* v. *Coe*, 75 App. D.C. 313, 126 F.2d 847, 53 USPQ 92 (C.A.D.C. 1942), although there it was not so much a question of usefulness under then 35 U.S.C. 31 (R.S. 4886) as a question whether the invention, a drug, was "sufficiently useful and important" under 35 U.S.C. 36 (R.S. 4893). See also *Schindler* v. *Commissioner of Patents*, 269 F. Supp. 630, 153 USPQ 838 (D.Ct.D.C. 1967); *In re Hartop*, 50 CCPA 780, 311 F.2d 249, 135 USPQ 419 (1962); *Twentieth Century Motor Car & Supply Co.* v. *Holcomb Co.*, 220 F. 669 (2nd Cir. 1915) (windshield for automobile "dangerous," not "useful"); *Mitchell* v. *Tilghman*, 86 U.S. 287, 396–7, 412 (1873).

that, as a matter of policy, a composition unsafe for use by reason of extreme toxicity to the point of immediate death under *all* conditions of its sole contemplated use in treating disease of the human organism would nevertheless be useful[11] within the meaning of the patent laws.

But at the same time it must be recognized that "safety" is a relative matter, and that absolute proof of complete safety is realistically impossible. As this court pointed out in *In re Hartop*, supra note 9:

> With regard to the * * * nature of "safety" in the field of drugs and medicaments, we take judicial notice that many valued therapeutic substances or materials with desirable physiological properties, when administered to lower animals or humans, entail certain risks or may have undesirable side effects. True it is that such substances would be *more* useful if they were not dangerous or did not have undesirable side effects, but the fact remains that they *are* useful, useful to doctors, veterinarians and research workers, useful to patients, both human and lower animal, and so are useful within the meaning of 35 U.S.C. 101. The use of drugs in medicine is frequently a matter of balancing risks to save a life.

And Congress has given the responsibility to the FDA, not to the Patent Office, to determine in the first instance whether drugs are sufficiently safe for use that they can be introduced in the commercial market, under the conditions prescribed, recommended, or suggested in the proposed labeling thereof, as the majority of this court also noted in *Hartop*:

> However, regardless of the issuance of the patent under the circumstances of the case at bar, there is no question but that the public must be protected absolutely against the advertising and sale and other distribution of harmful drugs, medicines and the like in all situations, including this one if such be the case. We believe that Congress has recognized this problem and has clearly expressed its intent to give statutory authority and responsibility in this area to Federal agencies different than that given to the Patent Office. This is so because the standards established by statute for the advertisement, use, sale or distribution of drugs are quite different than the requirements under the Patent Act for the issuance of a patent. For example, the Federal Trade Commission has been given the responsibility of enforcing the Wheeler-Lea amendments to the Federal Trade Commission Act. Also, the Food and Drug Administration has been given the responsibility of enforcing the Federal Food, Drug, and Cosmetic Act.

The Board, if not the Examiner, seems to have been at least implicitly cognizant of the applicability of some of those principles to the factual situation here. **[6]** For example, the Board recognized, correctly we think, that approval by the FDA "is not a prerequisite" for the patenting of a new drug (and whether the drug here is "useful" is the *only* prerequisite to patentability with which we are here concerned). To put it another way, the FDA need not necessarily determine that a drug is commercially useful or usable before it may be "useful" in the patent law sense. The Board also correctly recognized that the fact that many "useful" drugs exhibit some degree of toxicity or side effects "would not provide a basis for refusal of a patent on such drug as without utility" under § 101. The presence of a certain degree of danger or risk attendant on the use of a drug does not necessarily mean that the subject matter is not useful within the meaning of the patent law because of that danger or risk.[12]

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[11] The classic definitions of what is "useful" in a patent law sense, propounded by Mr. Justice Story in *Lowell* v. *Lewis*, 15 Fed. Cas. 1018 (No. 8568) (C.C.D. Mass.), would themselves seem to preclude a finding of usefulness in those circumstances, if they indeed be viable today (cf. *Brenner* v. *Manson*, 383 U.S. 519, 533):

> All that the law requires is, that the invention should not be frivolous, or injurious to the well-being * * * of society. The word *useful*, therefore, is incorporated into the act in contradistinction to mischievous, or immoral. For instance, a new invention to poison people * * * is not a patentable invention.

And see *In re Ruschig*, 52 CCPA 1238, 1255, 343 F.2d 965, 978, 145 USPQ 274, 285 (1965), where this court stated in another context:

> * * * the compound had a blood sugar level lowering property * * * [but] was lethal * * *. Very high toxicity, in our view, cancels out any notion of anti-diabetic "utility."

Yet the reasons advanced by the Board in support of its refusal to find that appellant's compositions and process are useful within the meaning of § 101 seem to us to be basically at odds with its reasoning expressed above, and otherwise singularly lacking in persuasive force. As one reason, the Board seemed to feel that the fact that appellant's assignee had taken no action over a period of 4½ years to secure withdrawal of the FDA Suspension Order relating to its New Drug Application covering "Monase" (which it requested itself) had some bearing on the patentability of the present subject matter. If, as the Board says, approval by the FDA is not a necessity to patenting of the new drug composition in the first place, of what material or relevant significance is that inaction unless, in final analysis, the Board would indeed require commercial marketing, or at least approval therefor by the FDA, before authorizing a patent to issue? **[7]** But certainly "commercial usefulness," i.e. progress in the development of a product to the extent that it is presently commercially salable in the market place, has never been a prerequisite for a reduction to practice and the subsequent patentability of any of the classes of patentable subject matter set forth in § 101, much less the particular class of compositions of matter called drugs. See *Hildreth* v. *Mastoras*, 257 U.S. 27, 34 (1921); *The Telephone Cases*, 126 U.S. 1, 535 (1887); *Potter* v. *Tone*, 36 App. D.C. 181, 184–5 (1911); *Creamer* v. *Kirkwood*, 50 CCPA 715, 305 F.2d 486, 134 USPQ 330 (1962); *Tansel* v. *Higonnet*, 42 CCPA 732, 215 F.2d 457, 103 USPQ 58 (1954); *Van Cleef* v. *Tierney*, 28 CCPA 1039, 118 F.2d 911, 49 USPQ 274 (1941); *Leichsenring* v. *Freeman*, 26 CCPA 1153, 103 F.2d 378, 41 USPQ 478 (1939).

In the same vein, the Solicitor urges that appellant is, in effect, asking this court to authorize the grant of a patent "prior to the successful conclusion of the search" for usefulness of the claimed compositions and process, and that appellant is predicating his need for a patent on the incentive it would give for further research. The Solicitor draws our attention to *Brenner* v. *Manson*, supra, where the court stated, 383 U.S. 536:

> But a patent is not a hunting license. It is not a reward for the search, but compensation for its successful conclusion. And asks: Should the appellant be rewarded for his partial, incomplete development, which is of questionable benefit to the public?

[8] To the contrary, we think appellant's quest for a chemical composition which is useful has been successful. In contrast to the situation in *Brenner* v. *Manson*, where *no* specific use or useful property was disclosed for the claimed compounds, here a useful property of etryptamine has been discovered in animal tests, compositions containing it have been subjected to extensive clinical trials in humans, and those compositions have even been commercially marketed. The evidence of record incontrovertibly establishes that appellant's compositions are effective in treating various types of mental depressions in humans. And the Anglin affidavit is also sufficient to establish, we think, that the compositions have been, and can be, administered safely (though perhaps not with absolute safety) to human patients by qualified, knowledgeable medical experts.[13] The fact that compositions containing etryptamine, as demonstrated by the data in the second Anglin affidavit, have been administered to over 400,000 patients[14] with little or no reported or apparent serious ill effect in each, other than the 12 reported cases of agranulocytosis, is telling evidence of the practical safety and consequent usefulness of the compositions. That evidence of successful use has not been controverted either, but rather has seemingly been ignored. It is, as appellant points out, as if the Patent Office views the evidence of 12 possible cases of a serious side effect (a rate of 1 case for each 35,000 patients treated, an incidence of 0.003%) as "wiping out" the benefit to many which "Monase" has contributed. That incidence of side effect, in our opinion, does not lead to that result.

[9] That further research may be necessary before the claimed compositions are once again marketed on a commercial scale is not really material to whether those compositions are now useful, nor is it fatal to appellant's case. See *Land* v. *Regan*, 52 CCPA 1048, 342 F.2d 92, 144 USPQ 661 (1965). As appellant points out,[15] one of the fundamental purposes of the patent system, as recognized by the recent Report of the President's Commission on the Patent System, is

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[12] In *Burroughs Wellcome & Co.* v. *Eli Lilly & Co.*, 150 F.2d 946, 66 USPQ 346 (2nd Cir. 1945), the court stated:

> At the trial there was much evidence as to whether or not the patented globin-
> insulin preparation was useful in the control of diabetes, but the court found that
> it was and the evidence amply supported that finding. It was also shown that in the
> clear solution the preparation might be mistaken by the lay purchaser for insulin
> alone and *harmfully* used when standard insulin was needed. *Yet that danger, if real,*
> *but shows the need for regulated sale of it and does not negative its utility* * * *.
> [Emphasis supplied.]

Or, as the court noted in *Fuller* v. *Berger*, 120 F.274 (7th Cir., 1903), cert. denied 193 U.S. 668:

> With regard to the defense of no utility (available equally at law and in equity),
> we hold that the true inquiry is, Was the government improvident in making the
> grant? Does the opposing evidence, the grant itself being prima facie proof of utility,
> go to the extent of establishing not merely that the device has been used for pernicious
> purposes, *but that it is incapable of serving any beneficial end?* As the just criterion,
> we approve and adopt Mr. Walker's conclusion (section 82 (3d ed.)), with the ad-
> ditions to his text which we note by parentheses:
>
> > "An important question, relevant to utility in this aspect, may hereafter arise
> > and call for judicial decision. It is perhaps true, for example, that the inven-
> > tion of Colt's revolver was injurious to the morals, and injurious to the health,
> > and injurious to the good order of society. That instrument of death may have
> > been injurious to morals, in tending to tempt and to promote the gratification
> > of private revenge. It may have been injurious to health in that it is very liable
> > to accidental discharge, and thereby to cause wounds, and even homicide. It may
> > also have been injurious to good order, especially in the newer parts of the
> > country, because it facilitates and increases private warfare among frontiersmen.
> > On the other hand, the revolver, by furnishing a ready means of self-defense, may
> > sometimes have promoted morals and health and good order. By what test,
> > therefore, is utility to be determined in such cases? Is it to be done by balancing
> > the good functions with the evil functions? *Or is everything useful within the*
> > *meaning of the law, if it is used (or is designed and adapted to be used)*
> > *to accomplish a good result, though in fact it is oftener used (or is as well*
> > *or even better adapted to be used) to accomplish a bad one?* Or is utility nega-
> > tived by the mere fact that the thing in question is sometimes injurious to morals,
> > or to health, or to good order? The third hypothesis cannot stand, because if
> > it could, it would be fatal to patents for steam engines, dynamos electric rail-
> > roads, and indeed many of the noblest inventions of the nineteenth century.
> > [And what of such things as automobiles, airplanes, tires, power tools, ex-
> > plosives, lawn mowers, and drugs in the twentieth century?] The first hypothesis
> > cannot stand, because if it could, it would make the validity of the patents to
> > depend on a question of fact to which it would often be impossible to give a
> > reliable answer. *The second hypothesis is the only one which is consistent with*
> > *the reason of the case, and with the practical construction which the courts*
> > *have given to the statutory requirement of utility."*
>
> We deem the additions to the second hypothesis necessary to complete statement of the acceptable test, for, to continue with Colt's revolver as an example, if at the time of a suit for infringement the defendant should prove that the only uses to which "that instrument of death" had been put were vicious, the patent should not be held void for want to utility, if the court for itself should see, or be convinced by experts, that the instrument was susceptible of good uses, though in fact never put to such before the suit was begun. And, if utility is found, the cases seem to be uniform that courts will not set up a measure of utility which must be filled. [Emphasis supplied.]

[13] We do not think the FDA has found otherwise, as developed infra.

[14] Compare *Schindler* v. *Commissioner of Patents*, supra, where testimonial evidence that a certain drug had been used successfully, and without apparent harmful effect, to treat a few hundred patients suffering from mental depression was regarded as adequate to show the usefulness of the drug under 35 U.S.C. 101.

It is also clear from the record, we think, that appellant's invention "will attain the purpose and will * * * operate as disclosed and claimed by the inventor" and "has been thoroughly tested and successfully tried by more than one physician," the tests set forth in *Isenstead* v. *Watson*, supra.

[15] He also states "The most important consequence of the grant of a patent in this case is that it would tend to encourage the assignee or a licensee of the assignee to do further work to determine, inter alia, whether the claimed invention is in fact responsible for the side effect or whether a New Drug Application can be obtained with due consideration for the possible side effect in spelling out indications for use of the invention. This is the kind of investment the patent system was intended to encourage. This is the kind of investment that will best serve the public in providing safe medicaments to alleviate mankind's ever present medical problems."

to stimulate, in the Commission's words, "the investment of additional capital needed for the further development and marketing of the invention." To deny appellant his patent grant *because* further research and development may be necessary before marketing may again take place would effectively defeat that objective of the patent system.

As a second reason, the Board observed that appellant had not, as of the time of hearing (September 1966), brought the record up to date as to what additional cases of side effects, particularly agranulocytosis, and fatalities had been observed since the FDA Suspension Order of April 1962, and that it viewed the reporting of such reactions as "a continuing responsibility." Appellant questions the procedural due process aspect of the latter requirement inasmuch as there is no provision in the statute or Patent Office Rules of Practice relating to it. Wholly aside from that contention, we think the Board overlooked the fact that "Monase" had been withdrawn from the market in April 1962 or shortly thereafter, more than three years prior to the October 27, 1965 execution date of the second Anglin affidavit which reported the known incidence of agranulocytosis to that time as 12 cases. In neither of its decisions has the Board questioned the completeness of the Anglin affidavit as of its execution date. Nor has it given us cause to think or assume that there may have been significantly—indeed, any—more cases of side effects than those Anglin reported in a product that had been removed from the commercial market and unavailable for use since about April 1962 and particularly since October 1965, or to believe that appellant has not carried out whatever responsibility [16] he may have in the present regard.

The third reason advanced by the Board seems to us to lie at the heart of the matter. As evidence of the supposed lack of usefulness of the claimed subject matter, the Board relies on Upjohn's "voluntary withdrawal of the drug as unsafe 'for use,' " the latter's "own admission of unsafeness of the drug as demonstrated in the cited Suspension Order," as well as the Suspension Order itself which, in the Board's view, demonstrates that the FDA "has ruled 'Monase' to be unsafe and as of today still considers the drug unsafe."

[10] In view of 21 U.S.C. 372(d),[17] it is no doubt true that an unequivocal finding by the FDA that a drug is totally unsafe in all circumstances of contemplated use should not be lightly regarded by therefor by the FDA, before authorizing a patent to issue? **[7]** But certainly "commercial usefulness," i.e. progress in the development of a product to the extent that it is presently commercially salable in the market place, has never been a prerequisite for a reduction to practice and the subsequent patentability of any of the classes of patentable subject matter set forth in § 101, much less the particular class of compositions of matter called drugs. See *Hildreth* v. *Mastoras*, 257 U.S. 27, 34 (1921); *The Telephone Cases*, 126 U.S. 1, 535 (1887); *Potter* v. *Tone*, 36 App. D.C. 181, 184–5 (1911); *Creamer* v. *Kirkwood*, 50 CCPA 715, 305 F.2d 486, 134 USPQ 330 (1962); *Tansel* v. *Higonnet*, 42 CCPA 732, 215 F.2d 457, 103 USPQ 58 (1954); *Van*

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[16] In answer to the Board's contention of appellant's "continuing responsibility," appellant filed another affidavit of Anglin at the time of oral argument before this court, in which he averred that "The number of cases of agranulocytosis associated with the use of Monase is still considered by the Upjohn Company to be twelve."

[17] That provision, Section 702(d) of Public Law 87–781 enacted in 1962, reads:

> (d) The Secretary is authorized and directed, upon request from the Commissioner of Patents, to furnish full and complete information with respect to such questions relating to drugs as the Commissioner may submit concerning any patent application. The Secretary is further authorized, upon receipt of any such request, to conduct or cause to be conducted, such research as may be required.

The purpose of that provision is set forth in Senate Judiciary Commitee Report No. 1744 of July 19, 1962, accompanying S. 1552:

> Under the present patent laws in the United States inventions in the drug fields are entitled to full patent protection. Drug patent matters often involve complicated chemical, pharmacological, and medical questions. The Patent Office Examiners, most of whom are skilled and trained in fields other than medicine and pharmacy, could more effectively handle applications for drug patents if they were able to obtain advice from the medical and other technical officials within the Department of Health, Education, and Welfare, who deal with such matters day in and day out.
>
> Section 2 of the bill, as amended, would authorize and direct the Secretary of Health, Education, and Welfare to provide such assistance, upon request by the Commissioner of Patents. This would establish a cooperative relationship such as that between the Patent Office and the Department of Agriculture in connection with plant patents. This section would further provide the flexibility that is desirable in consultation between the Patent Office and the Department of Health, Education, and Welfare on any drug patent question. *It would help to insure that patents are promptly issued for those developments in the drug field that are true inventions which the patent system is designed to reward. It would not slow the pace of drug research which is so vital to the continued improvement in the public health.* [Emphasis supplied.]

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[12] In *Burroughs Wellcome & Co.* v. *Eli Lilly & Co.*, 150 F.2d 946, 66 USPQ 346 (2nd Cir. 1945), the court stated:

> At the trial there was much evidence as to whether or not the patented globin-insulin preparation was useful in the control of diabetes, but the court found that it was and the evidence amply supported that finding. It was also shown that in the clear solution the preparation might be mistaken by the lay purchaser for insulin alone and *harmfully* used when standard insulin was needed. *Yet that danger, if real, but shows the need for regulated sale of it and does not negative its utility* * * *. [Emphasis supplied.]

Or, as the court noted in *Fuller* v. *Berger*, 120 F.274 (7th Cir., 1903), cert. denied 193 U.S. 668:

> With regard to the defense of no utility (available equally at law and in equity), we hold that the true inquiry is, Was the government improvident in making the grant? Does the opposing evidence, the grant itself being prima facie proof of utility, go to the extent of establishing not merely that the device has been used for pernicious purposes, *but that it is incapable of serving any beneficial end?* As the just criterion, we approve and adopt Mr. Walker's conclusion (section 82 (3d ed.)), with the additions to his text which we note by parentheses:
>
>> "An important question, relevant to utility in this aspect, may hereafter arise and call for judicial decision. It is perhaps true, for example, that the invention of Colt's revolver was injurious to the morals, and injurious to the health, and injurious to the good order of society. That instrument of death may have been injurious to morals, in tending to tempt and to promote the gratification of private revenge. It may have been injurious to health in that it is very liable to accidental discharge, and thereby to cause wounds, and even homicide. It may also have been injurious to good order, especially in the newer parts of the country, because it facilitates and increases private warfare among frontiersmen. On the other hand, the revolver, by furnishing a ready means of self-defense, may sometimes have promoted morals and health and good order. By what test, therefore, is utility to be determined in such cases? Is it to be done by balancing the good functions with the evil functions? *Or is everything useful within the meaning of the law, if it is used* (*or is designed and adapted to be used*) *to accomplish a good result, though in fact it is oftener used* (*or is as well or even better adapted to be used*) *to accomplish a bad one?* Or is utility negatived by the mere fact that the thing in question is sometimes injurious to morals, or to health, or to good order? The third hypothesis cannot stand, because if it could, it would be fatal to patents for steam engines, dynamos electric railroads, and indeed many of the noblest inventions of the nineteenth century. [And what of such things as automobiles, airplanes, tires, power tools, explosives, lawn mowers, and drugs in the twentieth century?] The first hypothesis cannot stand, because if it could, it would make the validity of the patents to depend on a question of fact to which it would often be impossible to give a reliable answer. *The second hypothesis is the only one which is consistent with the reason of the case, and with the practical construction which the courts have given to the statutory requirement of utility.*"
>
> We deem the additions to the second hypothesis necessary to complete statement of the acceptable test, for, to continue with Colt's revolver as an example, if at the time of a suit for infringement the defendant should prove that the only uses to which "that instrument of death" had been put were vicious, the patent should not be held void for want to utility, if the court for itself should see, or be convinced by experts, that the instrument was susceptible of good uses, though in fact never put to such before the suit was begun. And, if utility is found, the cases seem to be uniform that courts will not set up a measure of utility which must be filled. [Emphasis supplied.]

position which is useful has been successful. In contrast to the situation in *Brenner* v. *Manson*, where *no* specific use or useful property was disclosed for the claimed compounds, here a useful property of etryptamine has been discovered in animal tests, compositions containing it have been subjected to extensive clinical trials in humans, and those compositions have even been commercially marketed. The evidence of record incontrovertibly establishes that appellant's compositions are effective in treating various types of mental depressions in humans. And the Anglin affidavit is also sufficient to establish, we think, that the compositions have been, and can be, administered safely (though perhaps not with absolute safety) to human patients by qualified, knowledgeable medical experts.[13] The fact that compositions containing etryptamine, as demonstrated by the data in the second Anglin affidavit, have been administered to over 400,000 patients[14] with little or no reported or apparent serious ill effect in each, other than the 12 reported cases of agranulocytosis, is telling evidence of the practical safety and consequent usefulness of the compositions. That evidence of successful use has not been controverted either, but rather has seemingly been ignored. It is, as appellant points out, as if the Patent Office views the evidence of 12 possible cases of a serious side effect (a rate of 1 case for each 35,000 patients treated, an incidence of 0.003%) as "wiping out" the benefit to many which "Monase" has contributed. That incidence of side effect, in our opinion, does not lead to that result.

[9] That further research may be necessary before the claimed compositions are once again marketed on a commercial scale is not really material to whether those compositions are now useful, nor is it fatal to appellant's case. See *Land* v. *Regan*, 52 CCPA 1048, 342 F.2d 92, 144 USPQ 661 (1965). As appellant points out,[15] one of the fundamental purposes of the patent system, as recognized by the recent Report of the President's Commission on the Patent System, is to stimulate, in the Commission's words, "the investment of additional capital needed for the further development and marketing of the invention." To deny appellant his patent grant *because* further research and development may be necessary before marketing may again take place would effectively defeat that objective of the patent system.

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[13] We do not think the FDA has found otherwise, as developed infra.

[14] Compare *Schindler* v. *Commissioner of Patents*, supra, where testimonial evidence that a certain drug had been used successfully, and without apparent harmful effect, to treat a few hundred patients suffering from mental depression was regarded as adequate to show the usefulness of the drug under 35 U.S.C. 101.

It is also clear from the record, we think, that appellant's invention "will attain the purpose and will * * * operate as disclosed and claimed by the inventor" and "has been thoroughly tested and successfully tried by more than one physician," the tests set forth in *Isenstead* v. *Watson*, supra.

[15] He also states "The most important consequence of the grant of a patent in this case is that it would tend to encourage the assignee or a licensee of the assignee to do further work to determine, inter alia, whether the claimed invention is in fact responsible for the side effect or whether a New Drug Application can be obtained with due consideration for the possible side effect in spelling out indications for use of the invention. This is the kind of investment the patent system was intended to encourage. This is the kind of investment that will best serve the public in providing safe medicaments to alleviate mankind's ever present medical problems."

As a second reason, the Board observed that appellant had not, as of the time of hearing (September 1966), brought the record up to date as to what additional cases of side effects, particularly agranulocytosis, and fatalities had been observed since the FDA Suspension Order of April 1962, and that it viewed the reporting of such reactions as "a continuing responsibility." Appellant questions the procedural due process aspect of the latter requirement inasmuch as there is no provision in the statute or Patent Office Rules of Practice relating to it. Wholly aside from that contention, we think the Board overlooked the fact that "Monase" had been withdrawn from the market in April 1962 or shortly thereafter, more than three years prior to the October 27, 1965 execution date of the second Anglin affidavit which reported the known incidence of agranulocytosis to that time as 12 cases. In neither of its decisions has the Board questioned the completeness of the Anglin affidavit as of its execution date. Nor has it given us cause to think or assume that there may have been significantly—indeed, any—more cases of side effects than those Anglin reported in a product that had been removed from the commercial market and unavailable for use since about April 1962 and particularly since October 1965, or to believe that appellant has not carried out whatever responsibility [16] he may have in the present regard.

The third reason advanced by the Board seems to us to lie at the heart of the matter. As evidence of the supposed lack of usefulness of the claimed subject matter, the Board relies on Upjohn's "voluntary withdrawal of the drug as unsafe 'for use,'" the latter's "own admission of unsafeness of the drug as demonstrated in the cited Suspension Order," as well as the Suspension Order itself which, in the Board's view, demonstrates that the FDA "has ruled 'Monase' to be unsafe and as of today still considers the drug unsafe."

[10] In view of 21 U.S.C. 372(d),[17] it is no doubt true that an unequivocal finding by the FDA that a drug is totally unsafe in all circumstances of contemplated use should not be lightly regarded by

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[16] In answer to the Board's contention of appellant's "continuing responsibility," appellant filed another affidavit of Anglin at the time of oral argument before this court, in which he averred that "The number of cases of agranulocytosis associated with the use of Monase is still considered by the Upjohn Company to be twelve."

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The purpose of that provision is set forth in Senate Judiciary Commitee Report No. 1744 of July 19, 1962, accompanying S. 1552:

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>
> Section 2 of the bill, as amended, would authorize and direct the Secretary of Health, Education, and Welfare to provide such assistance, upon request by the Commissioner of Patents. This would establish a cooperative relationship such as that between the Patent Office and the Department of Agriculture in connection with plant patents. This section would further provide the flexibility that is desirable in consultation between the Patent Office and the Department of Health, Education, and Welfare on any drug patent question. *It would help to insure that patents are promptly issued for those developments in the drug field that are true inventions which the patent system is designed to reward. It would not slow the pace of drug research which is so vital to the continued improvement in the public health.* [Emphasis supplied.]

the Patent Office as an aid in its determination of whether a drug is useful under 35 U.S.C. 101. But what has the FDA found here? In concluding that the FDA has ruled "Monase" to be "unsafe," without further qualification, we think the Board has painted with too broad a brush, and has drawn inferences from the Suspension Order that are not justified by its specific language. The order does not contain any broad, pervasive finding, nor has Upjohn in any way "admitted," that "Monase" is *completely* and *absolutely* unsafe under *all* conditions of use, i.e., that "Monase" is medically "useless." What it does say, and what we understand appellant to concede here, is that *under the conditions of use upon the basis of which the application became "effective,"* "Monase" is unsafe for use to a degree justifying its withdrawal from the market and suspension of the effectiveness of the New Drug Application.

[11] And what are those conditions of use upon which Upjohn's original New Drug Application became effective? The Anglin affidavit and appellant tell us, and the Patent Office has not disagreed, that those conditions included, among others, a lack of warning attached to the label or package insert that "Monase" may produce agranulocytosis or at least has been associated with such a toxic effect, a condition which seems to relate more to the manner of marketing etryptamine than to its ultimate worth. We agree with the Board that we should not speculate whether Upjohn can ever market "Monase" again with its particular postulated warning labels and restrictions, for it is unnecessary to do so. It is sufficient, we think, that the record fails to show that the FDA has ruled that "Monase" cannot be used with reasonable safety as a practical matter. The record shows that it can. In view of the limited and specific language of the finding contained therein, the Suspension Order, in our view, is not sufficient to overcome the expert testimony of Anglin, who concluded that etryptamine has been and could still be used safely by a practicing physician in spite of the possible, very low incidence of side effect that may be associated with it, so long as the physician has knowledge of that possible side effect.

We conclude that appellant's evidence is sufficient to establish that etryptamine is "useful." [18] The rejection of claims 1–12 under § 101 is reversed.

Summary

The rejection of claims 11 and 12 under § 103 is affirmed. The rejections of claims 1–6 under § 103 and of claims 1–12 under § 101 are reversed.

MODIFIED.

Judge McLaughlin dissents.

Judge Holtzoff participated in the hearing of this case but died before a decision was reached.

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[18] Indeed, it seems to us that the evidence amply fulfills the criteria developed by the Commissioner in the "Guidelines for Considering Disclosures of Utility in Drug Cases," supra:

> * * * the following procedures shall be followed in examining patent applications in the drug field with regard to disclosures relating to utility.
>
> *35 U.S.C. 101*
>
> Utility must be definite and in currently available form, not merely for further investigation or research but commercial availability is not necessary. * * *
>
> *   *   *   *   *   *   *
>
> Although *absolute safety* is not necessary to meet the utility requirement under this section, a drug which is not sufficiently safe under the conditions of use for which it is said to be effective will not satisfy the utility requirement. Proof of safety shall be required only in those cases where adequate reasons can be advanced by the Examiner for believing that the drug is unsafe, and shall be accepted if it establishes *a reasonable probability of safety.* [Emphasis supplied.]

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,753,663, D. F. Jones, PRODUCTION OF HYBRID SEED CORN, **filed** Apr. 10, 1963, D.C., N.D. Ill. (Chicago), Doc 63c597, *Research Corporation* v. *Pfister Associated Growers, Inc.* Judgment for class defendants, order of dismissal. Consent judgment order and judgment for class defendants, Jan. 22, 1970. **Same, filed** June 12, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c1081, *Research Corporation* v. *Cargill, Inc. et al.* Judgment for class defendants, Jan. 22, 1970.

2,773,119, L. W. Parker, TUNING SYSTEM FOR RADIO AND TELEVISION RECEIVERS, **filed** Feb. 5, 1970, D.C., S.D. Fla. (Miami), Doc. 70–144–C–JE, *Louis W. Parker* v. *General Electric Co.*

2,802,958, B. A. Curley, TERMINAL ARRANGEMENT FOR ELECTRIC APPARATUS, **filed** Jan. 30, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c226, *Molex Products Company et al.* v. *AMP, Incorporated.*

2,934,932, H. B. Wagner, HYDRAULIC CEMENT MORTAR COMPOSITIONS AND METHODS OF USE, **filed** Feb. 6, 1970, D.C., S.D. Tex. (Houston), Doc. CA–70–H–100, *Tile Council of America, Inc.* v. *Texas Cement Products, Inc.* **Same, filed** Feb. 13, 1970, D.C., N.D. Tex. (Dallas), Doc. 3–3650B, *Tile Council of America, Inc.* v. *J. W. Wyatt, doing business as Wonder Company.*

2,965,867, J. H. Greig, PHOTOSENSITIVE ELEMENT, **filed** Mar. 24, 1966, D.C., S.D.N.Y., Doc. 62–C–3281, *Clairex Corp.* v. *Photocell Corp. et al.* Stipulation and order of discontinuance and defendants' Morton Nesses and Robert Coleman dismissal of counterclaims with prejudice, Jan. 20, 1970.

2,988,848, J. H. Lemelson, NOISEMAKING TOYS, **filed** Feb. 5, 1970, D.C., S.D.N.Y., Doc. 70–465, *Jerome H. Lemelson* v. *Tico Toys.*

2,995,165, R. J. Menne, JUICER WITH POWER-DRIVEN GRATER AND CENTRIFUGE, **filed** Jan. 21, 1970, D.C., W.D. Wash. (Tacoma), Doc. 4037, *Gayelord Hauser* v. *Rilla Grau et al.*

3,018,968, G. S. Levey, CLOSED SYSTEM RECIRCULATING ASSEMBLY, **filed** June 2, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c1171, *Binks Manufacturing Company* v. *The Spee-Flo Manufacturing Corporation.* Order dismissing Spee-Flo Sales Corp.; order dismissing Spee-Flo Manufacturing Corp. Court declines to grant relief requested, Jan. 28, 1970.

3,020,945, S. W. Brunner, PORTFOLIO, **filed** June 24, 1963, D.C., S.D.N.Y., Doc. 63–C–1858, *Sam W. Brunner* v. *Peerless Plastics, Inc. et ano.* Consent judgment granting injunction ad. to Peerless Plastics only. Stipulation and order that action against defendant Edward Copen be dismissed, Jan. 20, 1970.

3,022,701, R. A. Potruch, PLASTIC ANCHOR-TYPE FASTENER AND DRIVER MEANS FOR EXPANDING SAME, **filed** Sept. 19, 1969, D.C., S.D.N.Y., Doc. 69–C–4136, *U.S. Expansion Bolt Co.* v. *USM Corporation.* Filed consent dismissal, Jan 28, 1970.

3,047,196, Levine and Phillips, GARMENT HANGER, **filed** May 19, 1965, D.C., S.D.N.Y., Doc. 65–C–1504, *Bernard Plastics Molding Corp.* v. *Yankee Plastics, Inc.* Judgment, unless specified by agreement in writing between parties, defendant be perpetually restrained and injoined, Feb. 3, 1970.

3,098,756, E. F. Haracz, PROCESS AND APPARATUS FOR APPLYING SILVER FILMS, **filed** Jan. 29, 1970, D.C.N.J. (Newark), Doc. C–131–70, *Century Engineering Co., Inc.* v. *Sommer & Maca Glass Machinery Co., Inc., London Laboratories Ltd.*

3,103,466, A. Farkas, TOPICAL MEDICAMENT INCLUDING POLYURONIDE DERIVED FROM ALOE, **filed** Jan. 22, 1970, D.C., S.D. Fla. (Miami), Doc. 70–92–C–JE, *Alexander Farkas* v. *Aloe Creme Laboratories, Inc., etc.*

3,107,867, Svensson and Brandt, WEAR LINING, **filed** Jan. 30, 1970, U.S. Ct. of App., 6th Cir., N.D. Ohio (Cincinnati), 19292, *Skega Aktiebolag and the Allen Pump Company* v. *The B. F. Goodrich Company.* The judgment of the District Court is affirmed, Jan. 30, 1970.

3,113,716, J. E. Howard, MAILING DEVICE, **filed** Feb. 2, 1970, D.C., E.D. Calif. (Sacramento), Doc. S–1507, *James E. Howard* v. *Sam Kounclias doing business as Bill-Well Envelope Co.*

3,114,349, S. Schuman, STERILIZATION INDICATORS, **filed** Sept. 16, 1968, D.C., E.D.N.Y. (Brooklyn), Doc. 68–C–933, *Propper Manufacturing Co., Inc.* v. *Surgicot, Inc. et al.* Consent judgment for injunction. Order on stipulation discontinuing action, Jan. 28, 1970. **Same, filed** Nov. 21, 1969, D.C., E.D.N.Y. (Brooklyn), Doc. 69–C–1469, *Suricot, Inc. et al.* v. *Propper Manufacturing Company, Inc. et al.* Stipulation of dismissal with prejudice as to all defendants, Jan. 29, 1970.

3,311,783, Gibbs and Warner, IGNITION SYSTEM WITH ELECTRONIC DISTRIBUTION AND CONTROL, **filed** Jan. 28, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–82, *Ambac Industries, Incorporated* v. *Economy Engine Co., Inc.*

3,315,041, S. O. Sampson, TRACK SELECTION CONTROL MEANS FOR MAGNETIC SIGNAL RECORDING AND REPRODUCING SYSTEMS, **filed** Sept. 18, 1967, D.C., S.D.N.Y., Doc. 67–C–3595, *Sidney O. Sampson* v. *Sony Corporation of America.* Judgment defendant against plaintiff dismissing complaint, Jan. 21, 1970.

3,340,630, R. F. Becker, WRIST TAB, **filed** Mar 17, 1969, D.C., Kans. (Wichita), Doc. W–4143, *MBM Company* v. *Joe F. Beaver, doing business as Handy Calendar Co.* Order and judgment, plaintiff MBM Company owner of patent which is valid; defendant has infringed and an injunction granted, Jan. 27, 1970.

3,392,914, R. Nienstaedt, CONTROL CIRCUIT ARRANGEMENT FOR CONTROLLING TEMPERATURE VARIATIONS OF A FLUID AND A COMPARISON CIRCUIT ARRANGEMENT FOR USE IN CONJUNCTION WITH THE CONTROL CIRCUIT ARRANGEMENT, **filed** Jan. 30, 1970, D.C.S.C. (Greenville), Doc. 70–15, *Deering Milliken, Inc.* v. *Dan River Mills, Inc. et al.*

3,460,495, W. L. Cobb, METHOD FOR EMBROIDERING TUFTS, **filed** Feb. 2, 1970, D.C., S.D.N.Y., Doc. 70–406, *Cobb Industries Inc.* v. *Park Schiffli Inc. et ano.*

3,473,251, R. D. Kahn, INSECT ELECTROCUTING DEVICE, **filed** Jan. 22, 1970, D.C., S.D.N.Y., Doc. 70–275, *Fedtro Inc.* v. *Chadwick-Miller et al.*

3,484,735, J. G. Fanelli, ELECTRIC TERMINAL ADAPTER, **filed** Feb. 10, 1970, D.C., N.D. Ind. (South Bend), Doc. 70S17, *Coleman Cable & Wire Company* v. *Trinetics, Inc.*

3,485,312, Swenson and Skime, SNOWMOBILE TREAD DRIVE AND SUSPENSION SYSTEM, **filed** Dec. 31, 1969, D.C., E.D. Wis. (Milwaukee), Doc. 69–C–637, *Arctic Enterprises, Inc.* v. *Moore Ambulance Service, Inc.* **Same, filed** Jan. 2, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–3, *Arctic Enterprises, Inc.* v. *Arctic Enterprises, Inc. and Richard P. Rohe.* **Same, filed** Jan. 2, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–4, *Arctic Enterprises, Inc.* v. *Huber Paint & Glass Inc.* **Same, filed** Feb. 9, 1970, D.C. E.D. Wis. (Milwaukee), Doc. 70–C–65, *Arctic Enterprises, Inc.* v. *Dolenshek Marine, Inc.* **Same, filed** Feb. 18, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–88, *Arctic Enterprises, Inc.* v. *Boulder Parts Corporation.*

Re. 24,017, J. A. Henricks, METHOD OF COATING AND DRAWING METAL AND COMPOSITION THEREFOR, **filed** Jan. 28, 1970, D.C. Del. (Wilmington), Doc. 3841, *Devex Corporation et al.* v. *Chrysler Corporation.*

D. 193,266, T. Wada, KNIFE OR THE LIKE, **filed** Oct. 11, 1966, D.C., S.D.N.Y., Doc. 66–C–3306, *Cutlers International Ltd. and Imperial International Corp.* v. *Rudolph Erenhouse, doing business as Cosmos Products Co.* Order of dismissal with predudice, Jan. 28, 1970.

D. 209,045, W. B. Parker, CHAIR, **filed** May 6, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–397, *Schlumberger Limited* v. *Shelby Dinettes, Inc.* Judgment, plaintiff's assignee Daystrom-Virtue, Inc. owner of D. 209,045 and is valid in law. Defendant has infringed and is enjoined, Feb. 6, 1970.

DEFENSIVE PUBLICATIONS

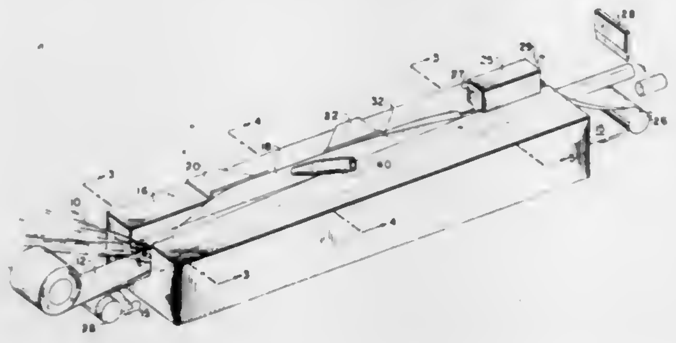
APRIL 21, 1970

Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T873,010
HOT MELT APPLICATOR AND SEAM COOLING

Charles E. Sandidge, P.O. Box 511,
Kingsport, Tenn. 37662
Filed Mar. 6, 1969, Ser. No. 804,879
Int. Cl. B31b *1/62;* **B31c** *5/00;* **B65b** *13/32*
U.S. Cl. 93—1
2 Sheets Drawing. 12 Pages Specification

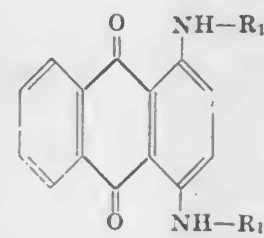


An applicator for providing a strip of hot melt adhesive (**32**) along a continuously advancing substrate (**12**) to form a seam. Apparatus is provided having a nozzle (**40**) which includes an orifice (**44**) and an edge portion adapted to deposit a bead of hot melt and immediately spread the bead along a tautly supported marginal portion of the continuously advancing (**15**) substrate. The nozzle has a predetermined angular relation with respect to the substrate to which the strip of hot melt is applied. Marginal portions (**18**) of the substrate are subsequently brought into overlapping position to form a seam. External cooling means (**25**) may also be used for quickly solidifying the hot melt.

T873,011
TRANSPARENT COLOURED POLYMERS OF 4-METHYL PENTENE-1

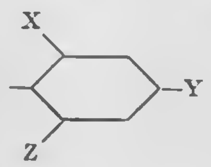
Robert John Taylor, Welwyn Garden City, and Raymond Deverell-Smith, Blackley, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed July 18, 1969, Ser. No. 843,191
Claims priority, application Great Britain, July 24, 1968, 35,404/68
Int. Cl. C08f *45/66*
U.S. Cl. 260—41
No Drawing. 10 Pages Specification

Transparent, colored polymers of 4-methyl pentene-1 and a hydrocarbon soluble quinone or azo dyestuff are disclosed. The quinone dye has the general formula:



(1)

wherein R_1— is an alkyl group, cycloalkyl group of at least 4 carbon atoms, or an aralkyl group of the formula:



X—may be hydrogen or alkyl,
Y—may be hydrogen or alkyl, and
Z—is a hydrogen, halide or alkyl group, providing the sum of the carbon atoms of X, Y and Z is at least 3.

The azo dye contains at least 4 carbon atoms and may be a monoazo dye, a primary diazo dye, or a diazo dye which is the product of coupling:

(a) an alkyl phenol or alkyl napthol with the alkyl group containing at least 4 carbon atoms, with (b) an aminoazobenzene, aminoazotoluene or aminoazoxylene or mixtures thereof.

The transparent, colored polymers of 4-methyl pentene-1 have a high melting point, good light transmission properties and are used as indicator light covers on cars and on instrument panels.

T873,012
PROPIOLACTONE-CYCLIC SULFIDE COPOLYMERS

Frank B. Moody, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del.
Filed Aug. 18, 1969, Ser. No. 851,064
Int. Cl. C08g *17/017*
U.S. Cl. 260—78.3
No Drawing. 12 Pages Specification

Cyclic sulfides are used as initiators and form copolymers with 2,2-disubstituted propiolactones; especially pivalolactone. Typical cyclic sulfides used are thiethane; 3,3-dialkylthiethanes; tetrahydrothiophene and substituted tetrahydrothiophenes; tetrahydrothiapyran; and thiacycloheptane. Generally about 0.01 to 10 mole percent is used to initiate the polymerization in solution or in bulk. The resultant polymers are useful in the preparation of shaped articles (e.g., fibers).

T873,013
PROCESS FOR SOLID PHASE POLYMERIZATION OF POLYETHYLENE TEREPHTHALATE

Charles J. Kibler, P.O. Box 511, Kingsport, Tenn. 37662
Continuation of application Ser. No. 693,769, Dec. 27, 1967. This application Oct. 23, 1969, Ser. No. 868,946
Int. Cl. C08g *17/003*
U.S. Cl. 260—75
No Drawing. 21 Pages Specification

Glycol (ethylene, primarily) terephthalate (may include small amount of other diacids) is partially polymerized to amorphous polyester prepolymer melt having an inherent viscosity of about 0.2–0.65 which is cooled rapidly (quenched to a solid), heated at about 120–140° C. to partially crystallize the solid, and particles of the solid are polymerized at about 200–235° C. to an inherent viscosity of at least about 0.6 and at least 0.15 unit higher than the prepolymer being polymerized. The polymerization can be in a vacuum with stirring, or in a fluidized state using an inert gas. The improved polyesters have sharp melting points, and fibers have low harsh count and very few slubs.

REISSUES

APRIL 21, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

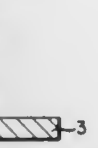
26,858
ANGLE EXPLOSION BONDING

Bruno Chudzik, Wenonah, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original No. 3,264,731, dated Aug. 9, 1966, Ser. No. 264,373, Mar. 11, 1963, which is a continuation-in-part of application Ser. No. 118,376, June 20, 1961. Application for reissue Mar. 26, 1968, Ser. No. 719,787

Int. Cl. B23k *21/00*

U.S. Cl. 29—470.1 **17 Claims**



Metal surfaces are metallurgically bonded together by arranging such surfaces at an angle to each other and explosively causing them to collide progressively under bonding conditions.

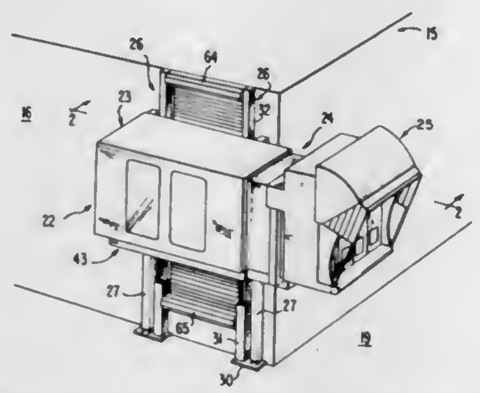
26,859
CONVEYANCE LOADER SYSTEM

William M. Riggles, Jr., Hialeah, Fla., assignor, by mesne assignments, to Wollard Aircraft Equipment, Inc., Miami, Fla., a corporation of Washington

Original No. 3,391,416, dated July 9, 1968, Ser. No. 565,175, July 14, 1966. Application for reissue Apr. 21, 1969, Ser. No. 822,062

Int. Cl. B65g *11/00*

U.S. Cl. 14—71 **16 Claims**



A conveyance loader system for incorporation into a building component in which a horizontal telescoping tunnel portion for connection with the conveyance is movable up and down along a vertical guideway mounted contiguous to the building component so as to register with conveyance doorways of varying heights and including a stairway or an elongated passageway connecting the tunnel portion with the floor level of the building.

26,860
METHOD AND APPARATUS FOR CLAMPING AN END OF A SHOE ASSEMBLY

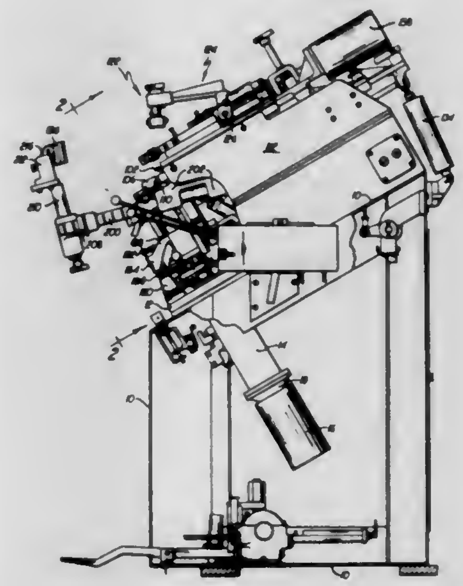
Michael M. Becka, Watertown, Mass., assignor to Jacob S. Kamborian, West Newton, Mass.

Original No. 3,422,476, dated Jan. 21, 1969, Ser. No. 632,032, Apr. 19, 1967. Application for reissue May 12, 1969, Ser. No. 842,408

Int. Cl. A43d *29/00*

U.S. Cl. 12—145 **6 Claims**

The disclosure is concerned with a machine for stretching a shoe upper about the toe end of the last and then wiping the upper to the toe end of an insole that is located on the last bottom by means of conventional wipers having a flat wiping surface. The machine includes a number of clamping instrumentalities adapted to clamp the shoe assembly in a predetermined configuration with respect to the wipers as well as devices for gripping and stretching the shoe upper about the last.



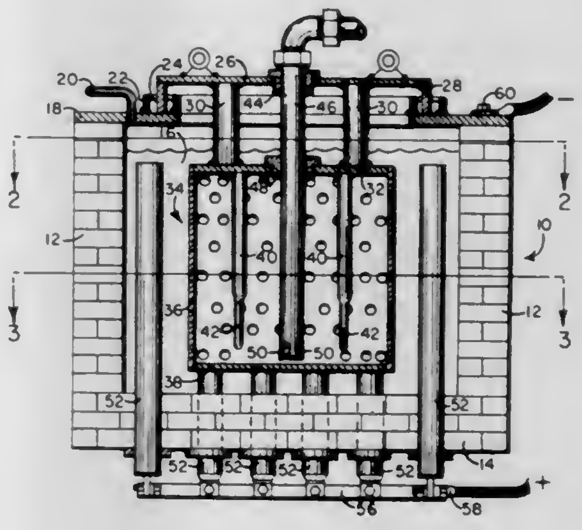
26,861
ELECTROLYTIC CELL FOR THE PRODUCTION OF TITANIUM

John C. Priscu, Las Vegas, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

Original No. 3,282,822, dated Nov. 1, 1966, Ser. No. 281,709, May 20, 1963, which is a continuation-in-part of application Ser. No. 197,958, May 28, 1962. Application for reissue May 31, 1967, Ser. No. 646,758

Int. Cl. C22d *3/00, 3/02*

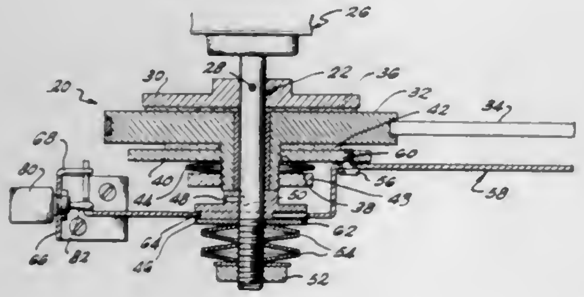
U.S. Cl. 204—246 **12 Claims**



A cell for use with a fused halide salt bath including a container for holding the salt bath which may be closed to exclude the ambient atmosphere. A cathode assembly *positioned within the container having a hollow structure and a plurality of vertical rods located within the structure and spaced from the sidewalls thereof and from one another. A feed pipe extending within the structure and spaced from the sidewalls thereof and from the rods. A plurality of vertical anode rods located within the container exteriorly of the cathode assembly and spaced from the sidewalls of the container and the walls of the hollow structure. An electrical connection between the cathode assembly and the negative pole of a current source and between the anode rods and a positive pole of the current source.*

26,862
ROTARY SPEED-CHANGE-SENSING MECHANISM

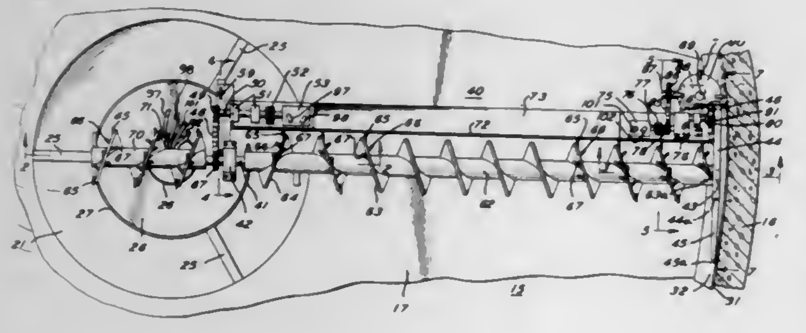
Moscow K. Richmond, 2819 Butler Ave.,
Los Angeles, Calif. 90064
Original No. 3,233,162, dated Feb. 1, 1966, Ser. No. 193,733, May 10, 1962. Application for reissue Jan. 26, 1968, Ser. No. 706,996
Int. Cl. H02p *5/00*
U.S. Cl. 318—264 18 Claims



The invention provides a speed-change-sensing mechanism equipped with first and second independently rotatable members which are adapted to be driven in rotation in unison. The rotary speed of the first member provides a reference speed, while the rotary speed of the second member is adapted to be changed independently of the rotary speed of the first member.

26,863
SILO UNLOADER

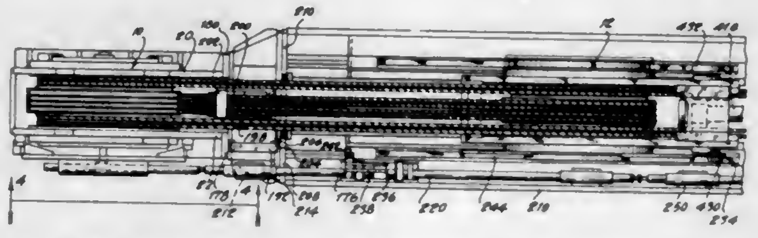
Richard L. Weaver, Rte. 1, and Benjamin K. Smoker, Rte. 3, both of Myerstown, Pa. 17067
Original No. 3,289,842, dated Dec. 6, 1966, Ser. No. 431,571, Feb. 10, 1965. Application for reissue Dec. 5, 1968, Ser. No. 786,785
Int. Cl. B65g *65/46*
U.S. Cl. 214—17 9 Claims



A silo bottom unloader which has an auger extending at least beyond the center of a bottom central opening in the silo to prevent the establishment of a central pillar of silage, the auger having a cutter at the silo wall to clear away the silage to promote downward silage movement.

26,864
HYDROSTATIC ENGINE AND SHEAVE ASSEMBLY

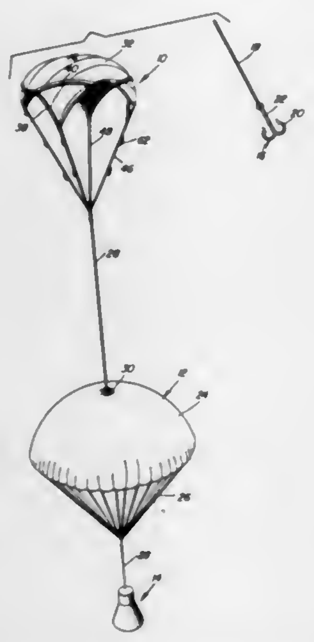
Charles E. Gregory, Anchorville, Mich., assignor to Jered Industries, Inc., Birmingham, Mich., a corporation of Michigan
Original No. 3,347,525, dated Oct. 17, 1967, Ser. No. 553,904, May 31, 1966. Application for reissue Dec. 9, 1968, Ser. No. 799,538
Int. Cl. B66d *3/08*
U.S. Cl. 254—189 12 Claims



A [My invention relates generally to] powered cable and sheave [assembly, and more particularly to a cable and sheave] assembly having hydrostatic pressure operated driving members, *movable and stationary compound sheaves,* and a [speed] control mechanism for regualting the [rate of] movement of driven portions of the mechanism.

26,865
AUXILIARY PARACHUTE FOR AERIAL RECOVERY

Otis B. Ferguson, Alamogordo, N. Mex., assignor to Recovery Research Systems, Inc., Alamogordo, N. Mex., a corporation of New Mexico
Original No. 3,227,403, dated Jan. 4, 1966, Ser. No. 333,301, Dec. 26, 1963. Application for reissue June 26, 1967, Ser. No. 659,823
Int. Cl. B64d *17/04, 17/08*
U.S. Cl. 244—145 11 Claims



Parachute air recovery apparatus having engagement means on canopy to form pickup areas or target while airborne and suspension portion associated with engagement means at spaced points and attached to payload to bear or support payload from above when engaged and carried by recovery forces. Main load bearing engagement means having portion on canopy and portion extending to payload to directly connect pickup device to payload and secondary portion of load bearing portion in a circumferential arrangement on canopy forming further pickup areas or target and extending in an over and under relation at spaced points of interconnection with portions of main engagement means distributing weight of payload and decreasing likelihood of breakage of engagement means during engagement and carriage by recovery aircraft.

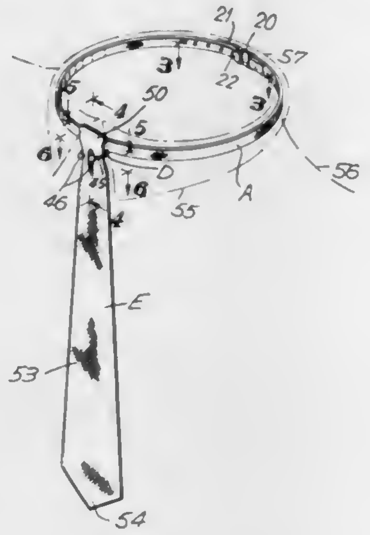
PATENTS

APRIL 21, 1970

GENERAL AND MECHANICAL

3,506,978
REVERSIBLE TIE CONSTRUCTION

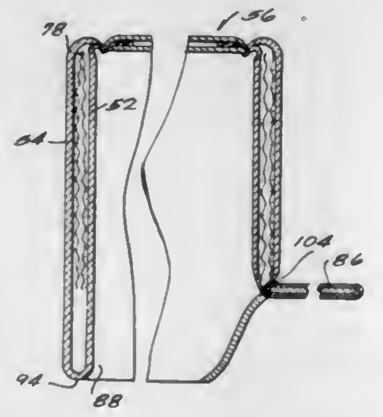
Aldo Santona, 1816 Madison St.,
Ridgewood, N.Y. 11227
Filed Mar. 26, 1969, Ser. No. 810,454
Int. Cl. A41d *25/02, 25/16*
U.S. Cl. 2—150 5 Claims



The disclosure of the present invention relates to a reversible tie construction in which there are separable portions, including a neck encircling portion and a tie portion. The neck encircling portion is held together by means of a loop and tongue connection, whereas the tie portion is looped over the encircling neck portion and is held in position by means of an encircling metal, plastic or other connection which will hold a knot in adjusted position. The tie itself is reversible and a wide variety of depending tie portions may be utilized in connection with the encircling neck portion. The clip may be permanently mounted upon a sliding member upon the neck encircling portion attached thereto by a chain and with an encircling U-shaped member having ornamental ends which will clip around the tie with the ends facing forwardly.

3,506,979
CAP

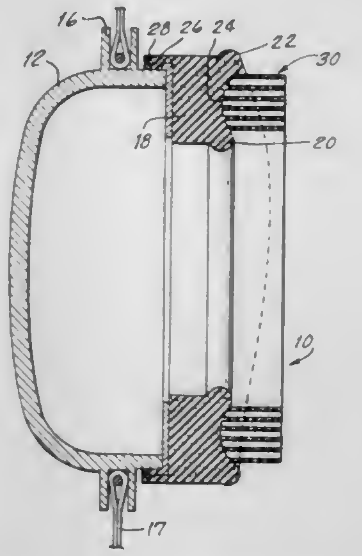
Allen D. Everitt, 2729 E. Belleview Place,
Milwaukee, Wis. 53211
Filed July 6, 1967, Ser. No. 651,583
Int. Cl. A42b *1/06*
U.S. Cl. 2—172 12 Claims



A cap construction which permits a single cap to accommodate a wide range of head sizes while retaining its basic shape. The cap body is provided with a concealed reinforcing member which expands with the cap body to accommodate head sizes but also provides support for the cap body so that the cap body retains its basic shape before, during and after such expansion. Furthermore, the main cap body is constructed from a single continuous knit tube, and includes a visor arrangement which permits allowance of sufficient material in the cap body to provide an adequate cuff.

3,506,980
SEAL FOR EARCUP OR THE LIKE

Jackson Anthony Aileo, Carbondale, Pa., assignor to Gentex Corporation, Lackawanna, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 730,264, May 20, 1968. This application Dec. 26, 1968, Ser. No. 786,978
Int. Cl. A42b *1/06*
U.S. Cl. 2—209 16 Claims

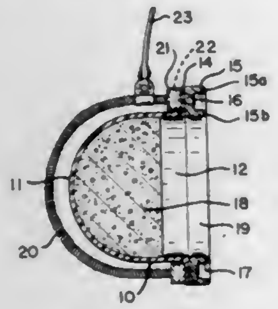


A resilient annular head-engaging seal for attachment to the rim of an earcup or like cup-shaped structure adapted to be pressed against a portion of the human head to enclose such head portion, the seal having at least one annular flange projecting toward and engageable with the head surface upon pressure of the cup against the head, and at least one thin flexible annular fin disposed inwardly of but extending generally parallel to the flange and projecting toward the head surface for engagement therewith. The seal may have inner and outer head-engaging annular flanges defining an annular channel between them, and a plurality of thin flexible annular fins disposed in this channel and projecting therefrom toward the head, the height of the fins being sufficient so that their edges engage and fold against the head surface when the cup is pressed against the head.

3,506,981
NOISE ABSORBING EARMUFFS

Kenneth C. Stewart, 344 Bellwalt Drive, McGran Hills, Bridgeville, Pa. 15017, and Ernest J. Burgi, Box 291–A, R.D. 21, Cheswick, Pa. 15024
Filed May 29, 1968, Ser. No. 733,051
Int. Cl. A42b *1/06*
U.S. Cl. 2—209 4 Claims

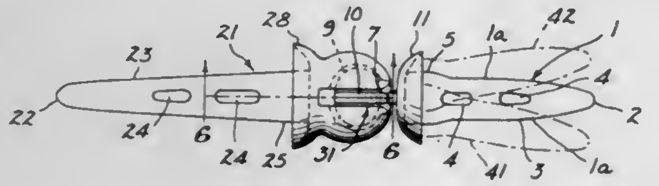
A noise attenuating earmuff structure is provided comprising a pair of muffs connected together by a headband by a compliant means, said earmuffs including a cylindrical portion open at one end and closed at the other by a



hemispheric member and containing an acoustical attenuating material.

3,506,982
ENDOPROSTHETIC JOINTS

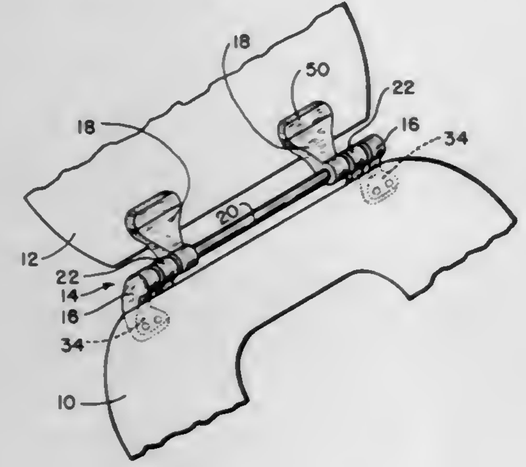
Arthur D. Steffee, Gates Mills, Ohio (% Cleveland Clinic, 2020 E. 93rd St., Cleveland, Ohio 44106)
Filed June 21, 1965, Ser. No. 465,358
Int. Cl. A61f *1/00*
U.S. Cl. 3—1 **20 Claims**



Endoprosthetic joints for natural ginglymus joints including phalangeal joints and the metacarpophalangeal joint, employing ball and socket articulation, the socket being of yieldable material and having flexible lip portions, the ball removably retained in the socket by such lips, the ball and socket each provided with a stem for insertion into intermedullary bone canals, the inner surface of the socket having a slot, a key mounted on the ball for slidable reception in the slot, guards mounted on such stems to mitigate against migration of the prosthesis into the supporting bone, the socket opening shaped to determine the limits of flexion, extension, hyperextension, adduction and abduction which the prosthesis shall be capable of approximating in usage.

3,506,983
TOILET SEAT AND COVER HINGES

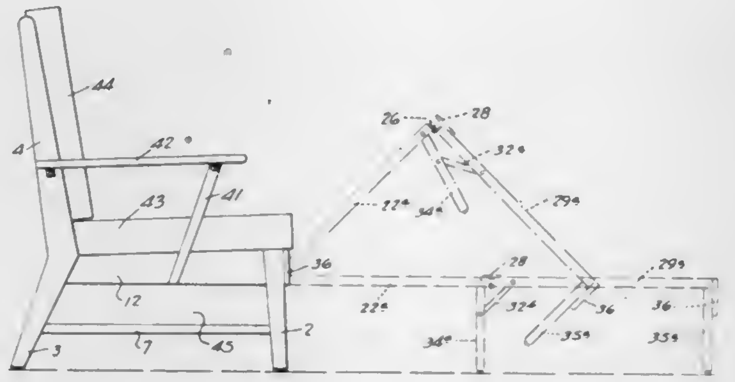
Leslie Harriman Coggins, Meriden, Conn., assignor to J. B. Coggins Mfg. Co., a corporation of Connecticut
Filed July 31, 1967, Ser. No. 657,229
Int. Cl. A47k *13/12*
U.S. Cl. 4—236 **5 Claims**



A hinge assembly for toilet seat and cover members having a pair of seat knuckles and a pair of cover knuckles screw fastened to the seat or cover support means and post means for mounting the assemblage to a commode, the knuckles being provided with cap means for concealing the screw fasteners.

3,506,984
CONVERTIBLE FURNITURE

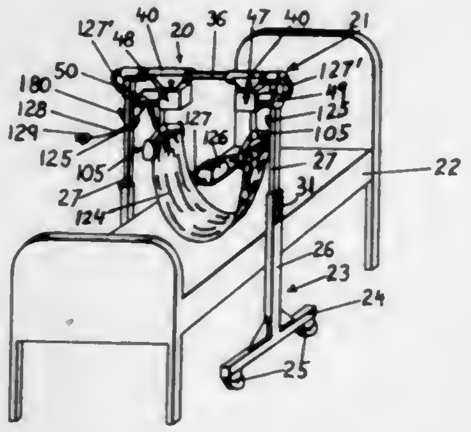
Weldon T. Ellis, Jr., 3813 Hillsboro Road, and Donald Cowan, 1215 Chickering Road, both of Nashville, Tenn. 37215
Filed Mar. 22, 1968, Ser. No. 715,427
Int. Cl. A47c *17/13*
U.S. Cl. 5—29 **8 Claims**



The present furniture is primarily a convertible chair-bed that can be used as either a chair or bed and two, three or more of said chair-beds can be assembled to provide love seat-beds or sofa-beds as desired. Each such chair-bed has three basic units, namely an outer chair frame, an inner folding frame serving as either the seat of the chair or springs of the bed and three cushions to be used as the seat and back of the chair or mattress of the bed.

3,506,985
APPARATUS FOR LIFTING AND TURNING A BED PATIENT

Frederic F. Lang, Daytona Beach, Fla. 32016
Filed July 15, 1968, Ser. No. 744,774
Int. Cl. A61g *7/10*
U.S. Cl. 5—81 **8 Claims**

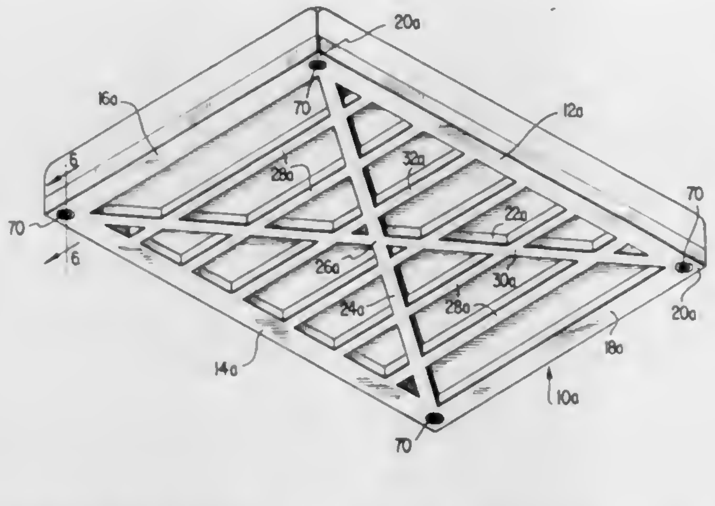


A portable apparatus capable of being readily positioned over and around a conventional bed and utilizing reversible electric motors for selectively raising or lowering the ends of a flexible sling which is positioned under the body of a patient occupying the bed, for gently raising the patient off of the bed and for turning the patient over in either direction.

3,506,986
FURNITURE SUBSTRUCTURE AND METHODS OF MAKING SAME

Henry Harper Lovette, High Point, N.C., assignor to Southland Bedding Company, Inc., High Point, N.C., a corporation of North Carolina
Filed June 7, 1967, Ser. No. 644,310
Int. Cl. A47c *19/00, 27/00*
U.S. Cl. 5—200 **11 Claims**

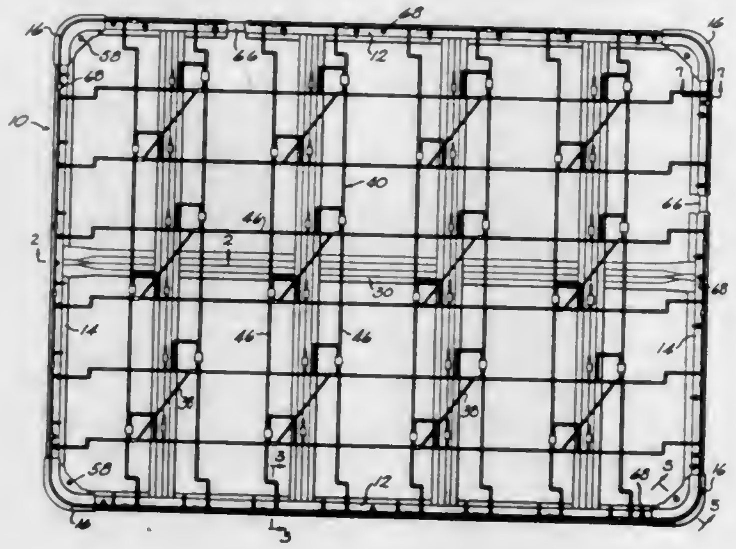
Frames and like assemblies of components useful in the furniture art, the frames including substructures formed of compressed blends of particulate fibrous material and resinous binders, the fibrous materials and binders being



blended and formed in a method involving compression and heat exchange.

3,506,987
BOX SPRING FRAME ASSEMBLY

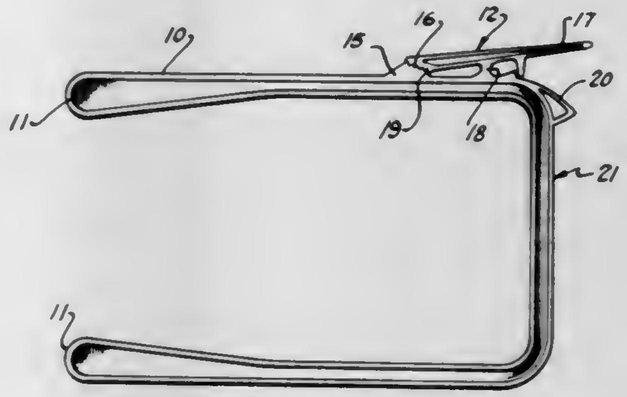
Frank A. Bielak, Lexington, Ky., assignor to Hoover Ball and Bearing Company, Saline, Mich., a corporation of Michigan
Filed Aug. 21, 1967, Ser. No. 662,140
Int. Cl. A47c *19/00*
U.S. Cl. 5—203 **11 Claims**



A box spring frame assembly consisting of four corner members and four rails which can be of any desired length so as to form a frame of desired size such as double bed size, king size, queen size, twin size, etc., and wherein the rails are of a shape in cross section to achieve a high strength to weight ratio. The rails are shaped so that they can be formed of any desired structural material such as metal or plastic and form supports for the springs and for the internal spring support members in the frame. Reinforcing bars can readily be attached to the rails for converting to a heavy duty frame that can also function as the primary bed support when legs are attached to the frame corner members, and two frames can be arranged side by side and connected by leg supports to form a king size box spring frame. Headboard mounting brackets can be attached directly to an end rail when the frame is used as a "Hollywood bed." The rails are also shaped to provide for the unique attachment thereto of the usual box spring fabric cover.

3,506,988
CLAMP FOR SECURING A PILLOW TO A HOSPITAL BED

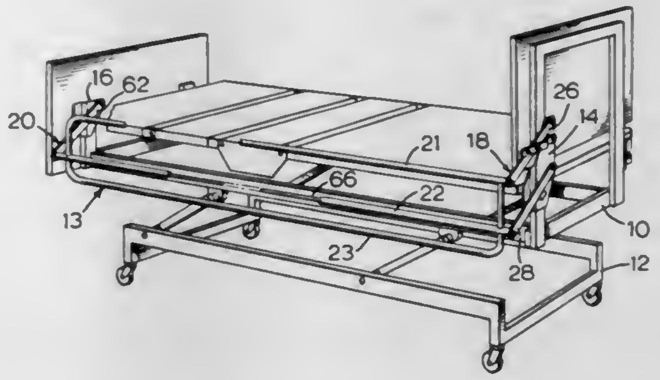
John H. Saddoris, Toledo, Ohio
(Rte. 1, Box 101A, Waterville, Ohio 43566)
Filed May 22, 1967, Ser. No. 639,947
Int. Cl. A47c *21/00*
U.S. Cl. 5—325 **2 Claims**



This invention consists of a U-shaped spring clamp which is made of plastic and to the upper surface of which is integrally formed a pressure type of clamp having a serrated jaw adapted to firmly hold a pillow when the aforesaid U-shaped spring clamp is placed on the upper end of the mattress of a hospital bed, thereby firmly holding the pillow no matter at what angle the mattress may be raised for the comfort of the patient.

3,506,989
GUARD RAIL FOR HOSPITAL BED

Oakland K. Ross, Erin, Ontario, Robert F. Knight, Etobicoke, Ontario, and Stanley Rachlinski, Oakville, Ontario, Canada, assignors to The Dominion Metalware Industries Limited, Port Credit, Ontario, Canada, a corporation of Canada
Filed Apr. 29, 1968, Ser. No. 725,091
Int. Cl. A47c *21/00*
U.S. Cl. 5—331 **8 Claims**



This invention relates to an improved counterbalanced guard rail for a bed which is pivotally connected at one end thereof to the bed by parallel linkage to maintain the rail in a substantially vertical plane in its raised and lowered positions and which it is being raised and lowered.

3,506,990

PROCESS FOR DYEING DRAWN FILAMENTS OF AROMATIC POLYAMIDES WITH BASIC DYESTUFFS IN THE PRESENCE OF AN ORGANIC DYE CARRIER

Arturo Jorge Richardson and Robert E. Walck, Jr., Waynesboro, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 16, 1966, Ser. No. 602,144
Int. Cl. D06p *5/06*
U.S. Cl. 8—172 2 Claims

A process for dyeing a textile formed from an aromatic polyamide containing a dye-associable copolymeric unit wherein a drawn filament of the said polyamide, e.g., poly(m-phenyleneisophthalamide) and poly[N,N'-m-phenylene bis(meta amino benzamide)isophthalamide], is heat-relaxed prior to dyeing the textile in a dye-bath containing (1) a dye to which the copolymeric unit is associable and (2) a dye carrier, e.g., an equal weight mixture of dimethyl terephthalate and benzilide.

3,506,991

DYE RECEPTIVE FIBERS AND METHOD OF PREPARING SAME

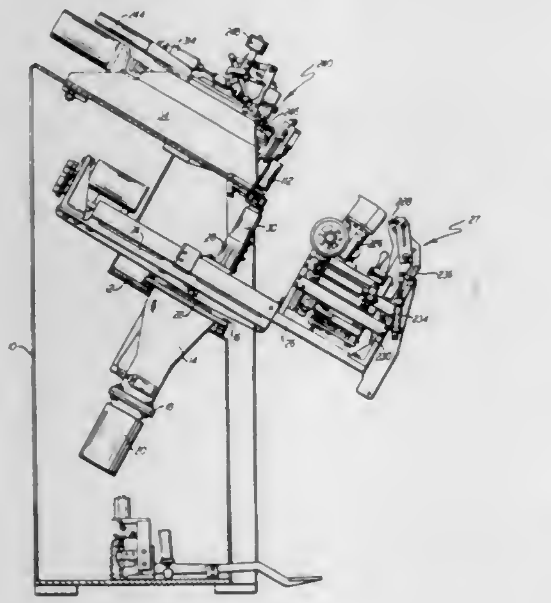
John R. Adams, Jr., and Victor S. Salvin, Charlotte, N.C., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 1, 1964, Ser. No. 379,723
Int. Cl. C09b *67/00*
U.S. Cl. 8—173 11 Claims

A method for improving the dye receptivity of synthetic fibers, especially resinous copolymers of vinylidene cyanide, by treating the fibers with an organic sulfonic acid such as naphthol sulfonic acids, phenol sulfonic acids and sulfo fatty acids. Preferably, the treatment is effected on preopened fibers using a swelling agent to effect preopening or alternatively, the fiber can be preopened by incorporating an ethylene oxide polymer into the fiber prior to spinning.

3,506,992

MECHANISM FOR PREPARING A SHOE ASSEMBLY FOR END WIPING

Jacob S. Kamborian, 70 Crestwood Road, West Newton, Mass. 01235
Filed May 17, 1968, Ser. No. 730,106
Int. Cl. A43d *21/00*
U.S. Cl. 12—10.5 17 Claims

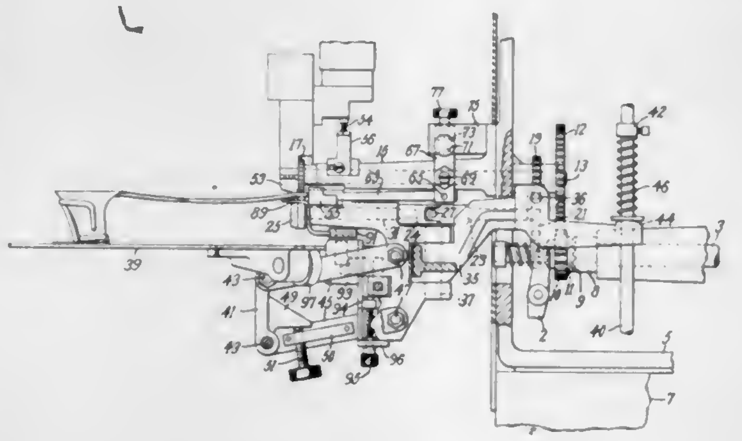


A heel seat lasting machine having breast line pincers mounted to the legs of a heel clamping pad.

3,506,993

APPARATUS FOR OPERATING ON SOLE AND HEEL UNITS

William A. Barker and Leslie A. Withers, Leicester, England, assignors to USM Corporation, Flemington, N.J., and Boston, Mass., a corporation of New Jersey
Filed Mar. 26, 1969, Ser. No. 810,657
Claims priority, application Great Britain, Apr. 11, 1968, 17,451/68
Int. Cl. A43d *25/00*
U.S. Cl. 12—17 4 Claims

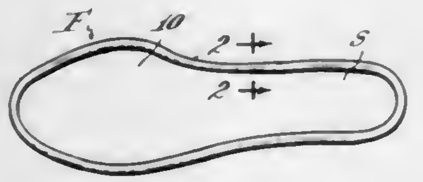


Apparatus for performing marginal operations, such as adhesive applying, on sole and heel units having relatively thin sole portions and relatively thick heel portions has work supporting and feeding means comprising a driven upper feed roll, a lower feed roll cooperative therewith in operative disposition for gripping said thin portions, a table for supporting the heel portion of units and means for automatically swinging the lower roll out of the way of the heel portions as they approach the lower roll, the table moving with the lower roll to present a roller thereof beneath the upper roll.

3,506,994

METHOD OF MAKING SHOE SOLE

Emil R. Ouimet, 31 Country Club Drive, Brockton, Mass. 02401
Original application June 5, 1967, Ser. No. 643,501. Divided and this application Mar. 26, 1969, Ser. No. 811,690
Int. Cl. A43d *00/00*
U.S. Cl. 12—146 6 Claims



A method of making a sole element for shoes having an edge band of thermoplastic material in lieu of a textile or other tape.

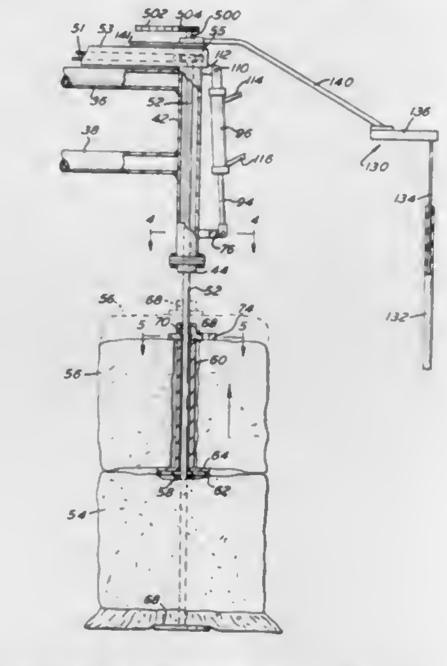
3,506,995

VEHICLE WASHER

Sherman L. Larson, Palmyra, N.J., and Carl C. Beer, Philadelphia, Pa., assignors to Sherman Car Wash Equipment Company, Palmyra, N.J., a corporation of New Jersey
Filed Mar. 20, 1968, Ser. No. 714,660
Int. Cl. B60s *3/06;* A46b *13/02*
U.S. Cl. 15—21 9 Claims

A vehicle washer of the wrap-around brush type wherein the brush units can be selectively divided into two sections consisting of a first section which continuously rotates during the operation of the vehicle washer and a second section which is selectively rotated by engaging it

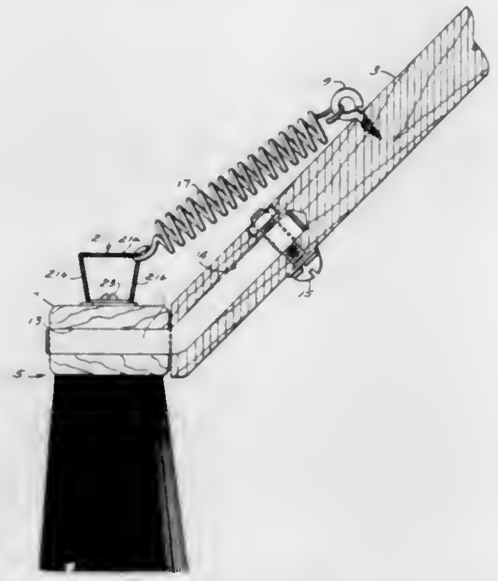
to the first section in response to deflection of a vehicle sensing means. The brush units are used to wash the side and rear windows of vehicles and yet avoid damaging antennas and other vehicle projections.



3,506,996

CLEANING IMPLEMENT WITH SWIVEL-MOUNTED HEAD

Martin J. Brennan, 7341 Wellington Ave., St. Louis, Mo. 63130
Filed July 5, 1968, Ser. No. 742,575
Int. Cl. B25g *1/06, 3/38*
U.S. Cl. 15—144 5 Claims



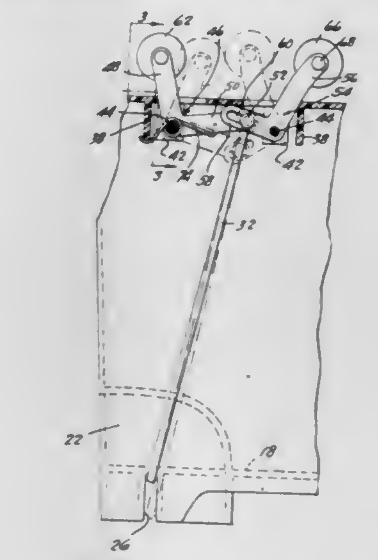
A push broom having a handle and an elongate head removably mounted on a pivot pin at one end of the handle to permit swinging movement of the head about an axis at an angle to the handle, and a tension spring interconnecting the head and the handle for biasing the head to a position at right angles to the handle on pivoting the head in either direction away from the right angle position.

3,506,997

BUCKET DEVICE AND WRINGER

Manuel Jalon Coraminas, % Manufacturas Rodex S.A., Carretera de Logrono, Km. 1, Zaragoza, Spain
Filed June 21, 1968, Ser. No. 738,906
Int. Cl. A47l *13/58*
U.S. Cl. 15—262 4 Claims

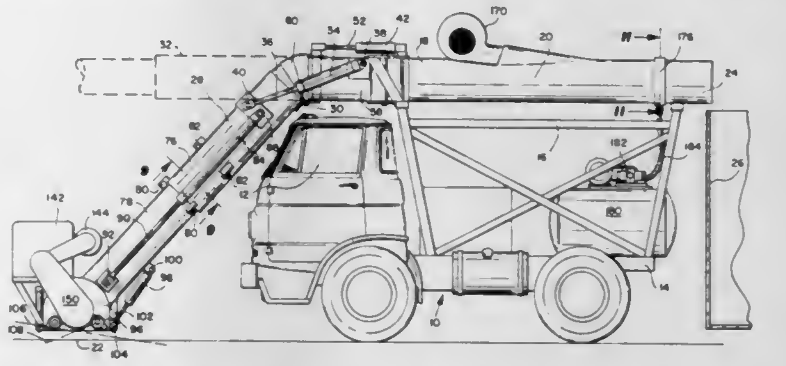
Apparatus comprising a container for holding a cleaning fluid therein with a recess in the lower portion thereof, and a cross bar extending across said recess, and upwardly on opposite sides of the container and pivotally connected to two-L-shaped members disposed in opposite directions and pivotally secured to the sides of said container, and having wringer members secured to the upper ends of said L-shaped members so that depressing of the cross bar extending through the recess in the container will cause the wringer members to move toward each other and to extract water or cleansing fluid from a mop that is disposed between said wringer members.



3,506,998

TRASH GATHERING, CUTTING, AND DISPOSING MACHINE

James W. Perry, 302 W. Coulter, Phoenix, Ariz.
Filed Aug. 14, 1967, Ser. No. 660,285
Int. Cl. E01h *1/08*
U.S. Cl. 15—339 7 Claims



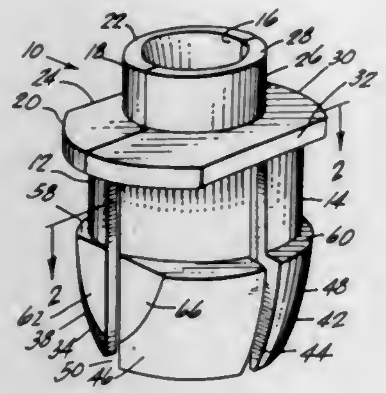
A trash gathering, cutting and disposing machine comprising a vehicle having a frontal operator's compartment, and having a hollow duct means movable upward, downward, sideways, and longitudinally extendable to various positions at the front of the vehicle and at the front of the operator's compartment so as to pick up trash on the ground, the duct structure being hollow and having an open end disposable adjacent the ground, and carrying rotary cutters which are adapted to cut trash and impel the trash upwardly into the open duct, and where the duct structure carries power operated means for rotating the cutters.

3,506,999

FAIR-LEAD GROMMET

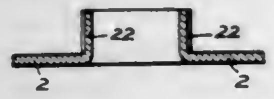
Clarence W. Neher, Long Beach, Calif., assignor to McDonnell Douglas Corporation, a corporation of Maryland
Continuation-in-part of application Ser. No. 707,085, Feb. 21, 1968. This application Aug. 5, 1968, Ser. No. 756,082
Int. Cl. B65d *11/26;* B66d *1/36*
U.S. Cl. 16—2 10 Claims

A generally tubular, diametrically divided, fair-lead grommet including two symmetrically interlocking halves forming an assembled grommet which normally supports a cable therein. Each tubular half of the grommet has a radially extending flange located axially a predetermined distance from a normally upper end thereof. A slotted skirt spaced concentrically about each tubular half of the grommet is dependent from the flange and extends axially a predetermined distance therefrom. The slotted skirts are appropriately shaped and cooperate with the flanges to permit proper installation of the interlocked tubular halves of the grommet in a suitable hole of a fairlead plate structure.



3,507,000
HINGE FITTINGS FOR SEATS WITH ADJUSTABLE BACK RESTS

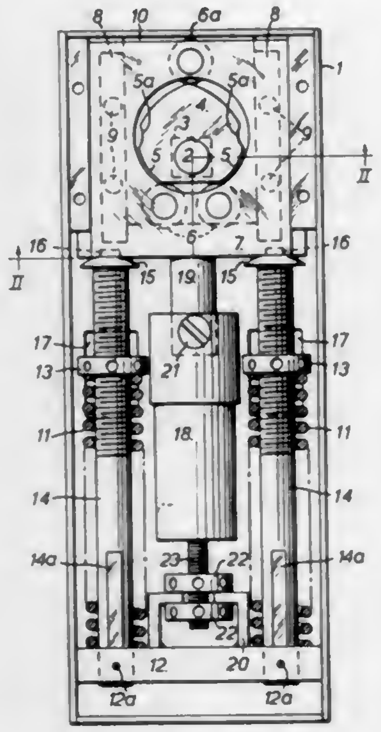
Werner Strien, Stuttgart-Heumaden, and Karl Cless, Weilheim an der Teck, Germany, assignors to Recaro AG., Glarus, Switzerland, a Swiss joint-stock company
Filed Dec. 2, 1966, Ser. No. 598,859
Int. Cl. E05d *11/10*
U.S. Cl. 16—146 5 Claims



A hinge fitting for a seat with an adjustable back rest, especially for a motor vehicle, which comprises a first hinge member adapted to be secured to the back rest, and a second hinge member adapted to be secured to the seat and pivotably connected to said first hinge member. A first locking member is rigid on the second hinge member and has an outer surface. A shaft is rotatably mounted in the first locking member, and a tubular second locking member is mounted on the shaft so as to be nonrotatable thereon but movable in the axial direction thereof. The second locking member has an inner surface adapted to engage with or to discharge from the outer surface of the first locking member when the second locking member is shifted in one direction or the other. Means are provided on the outer surface of the first locking member and/or the inner surface of the second locking member for preventing one locking member from rotating relative to the other locking member, when the two locking members are engaged with each other, means are arranged for securing the shaft against movement in its axial direction, and means are also arranged for shifting the second locking member in its axial direction from one position in engagement with the second locking member to another position in which it is disengaged from the second locking member, and vice versa, and the improvement consists of the fact that the first locking member comprises a collar formed on the second hinge member.

3,507,001
DOOR CLOSING SPRINGS AND CHECKS

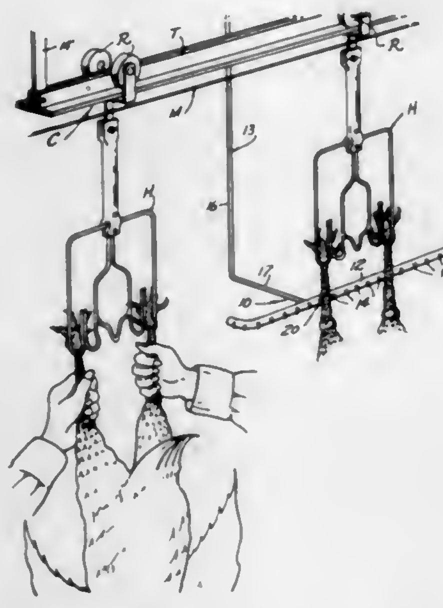
John Wharton, Wolverhampton, England, assignor to James Gibbons Limited, Wolverhampton, Staffordshire, England, a British company
Filed Feb. 2, 1968, Ser. No. 702,738
Claims priority, application Great Britain, Apr. 12, 1967, 16,863/67
Int. Cl. E05f *3/20*
U.S. Cl. 16—55 3 Claims



A door closing spring and check mechanism comprises a box capable of being mounted in a door transom or lintel and containing a rectangular bridle encircling and engaging a double-acting cam to slide in the box on rotation of the cam on opening and closing a door attached to the cam spindle, a sealed hydraulic check, which opposes sliding of the bridle as the door closes, and a pair of springs arranged in parallel one on each side of the check and urging the bridle to cause closing rotation of the cam.

3,507,002
APPARATUS FOR QUIETING POULTRY INCIDENT TO PREPARATION FOR MARKETING

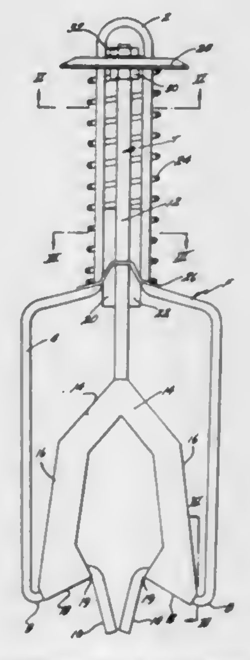
Emery L. McDonald, 10395 Wunderlich Drive, Cupertino, Calif. 95014
Filed Mar. 4, 1968, Ser. No. 710,066
Int. Cl. A22c *21/00*
U.S. Cl. 17—11 10 Claims



Apparatus for pacifying birds into a state of calm during conveyance toward a slaghtering station. Apparatus operatively associated with a conveyor for touching the legs of birds carried thereby for quieting the birds into a state of non-resistance. A device for engaging the legs of the birds suspended thereby from hangers on a conveyor for lulling the birds into a state of tranquillity to thereby minimize undue wing flapping and resulting injury and bruising of the birds.

3,507,003
POULTRY SHACKLE

George R. Shadley, Ottumwa, Iowa, assignor to International Agri Systems, Inc., Ottumwa, Iowa, a corporation of Iowa
Filed Oct. 9, 1967, Ser. No. 673,888
Int. Cl. A22c *15/00, 21/100*
U.S. Cl. 17—44.1 11 Claims

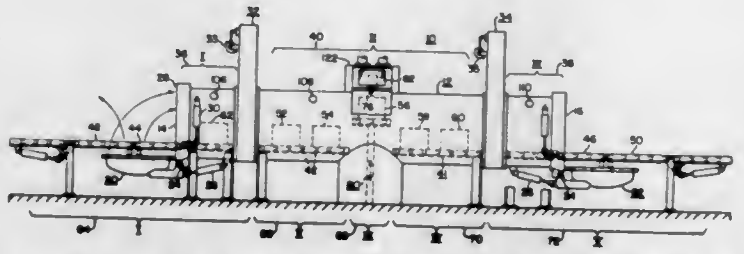


This disclosure relates to a poultry shackle having a frame adapted to be carried by a shackle conveyor and a traveler carried by the frame, moveable vertically therewith. The frame and traveler have cooperating leg engaging elements which define receiving slots for the legs of an animal. The leg engaging elements of the frame are moveable away from the traveler and are biased toward the leg engaging elements of the traveler. The frame has cam surfaces formed on the ends of the leg engaging elements which cooperate with the traveler and are supported solely by the leg engaging elements.

In one embodiment a neck engaging loop is attached to one end of the frame and has a lower slot which is positioned between the traveler leg engaging elements.

3,507,004
ENCAPSULATING APPARATUS

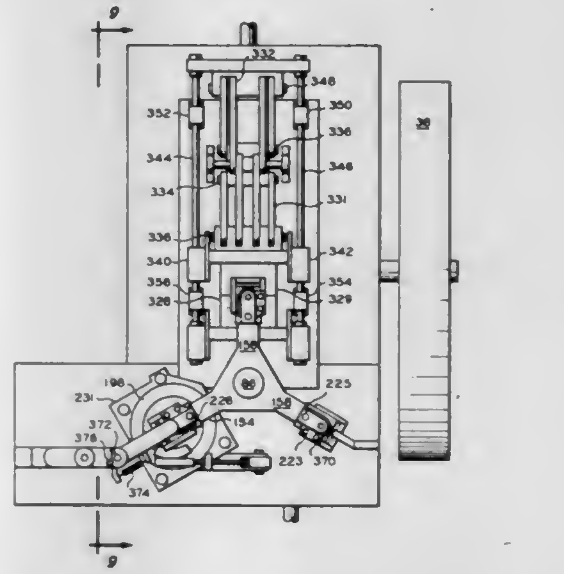
Alexander Taleff, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 17, 1967, Ser. No. 675,815
Int. Cl. B29c *6/00*
U.S. Cl. 18—4 14 Claims



Apparatus for encapsulating electrical conductors in a castable electrical insulating system, where molds containing the electrical apparatus to be encapsulated are indexed through a vacuum chamber having three zones. The first and third zones are connected to a first vacuum system, for selectively providing a predetermined vacuum therein, and the second zone is maintained at this predetermined vacuum by a second vacuum system. The vacuum chamber includes sealable doors at each end thereof, and controllable gate valves between the zones, which are all controlled in a predetermined sequence, along with the first vacuum system, to enable a mold to be loaded into the first zone, indexed through the second zone, where it is filled with the castable electrical insulating material, and unloaded from the third zone, without removing the vacuum from the second zone.

3,507,005
BLOW MOLDING IN MULTI-STATION BLOW MOLDING DEVICE

Fred E. Wiley, Longmeadow, Mass., and Joseph C. Fantone, West Hartford, Conn., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Nov. 27, 1967, Ser. No. 685,818
Int. Cl. B29c *17/07;* **B29d** *23/03*
U.S. Cl. 18—5 11 Claims

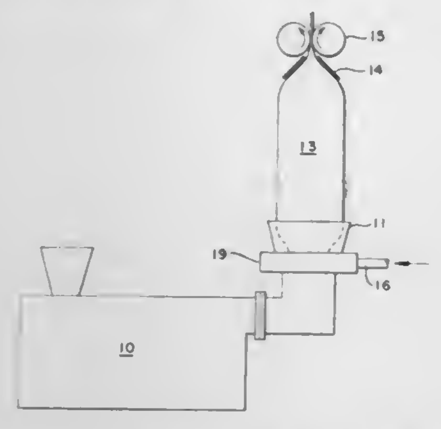


A blow molding apparatus has a supply hopper, a feeding system for transferring hollow parisons from the hopper to a feeding device which moves parisons into a heating means, for example into holes in a heating wheel containing two concentric rows of heating holes, means for removing heated parisons from the heating device and transferring the parisons to a multi-station blow molding device in which each parison is pinched off, stretched, and blown to form a final article. In the first station the article is pinched off and stretched longitudinally. In the second station the article is blown, and thereafter the blown article is ejected.

3,507,006
APPARATUS FOR PRODUCING THERMOPLASTIC FILM

Hermanus H. Princen, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 26, 1968, Ser. No. 740,354
Claims priority, application Great Britain, June 26, 1967, 29,290/67
Int. Cl. B29d *23/00*
U.S. Cl. 18—14 10 Claims

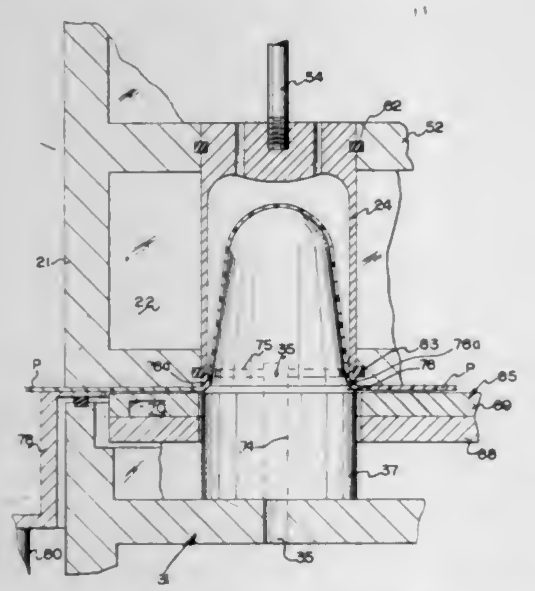
An apparatus for extruding lay-flat thermoplastic film from an annular die as an inflated tubular film bubble comprises means for cooling the bubble by a concurrent flow of gaseous cooling fluid confined in a passage between the bubble and a guide means. The guide means is of a construction which permits its shape to be varied by adjusting means. The shape of the guide means and consequently the flow path of said gaseous cooling fluid



can thus be varied to provide efficient cooling for bubbles of various dimensions at various production rates.

3,507,007
DIFFERENTIAL PRESSURE PLASTIC FORMING EQUIPMENT

Raymond H. Martin, Beaverton, Mich., assignor to Brown Machine Company of Michigan, Inc., a corporation of Michigan
Filed May 8, 1967, Ser. No. 636,913
Int. Cl. B29c *17/00*
U.S. Cl. 18—19 **22 Claims**

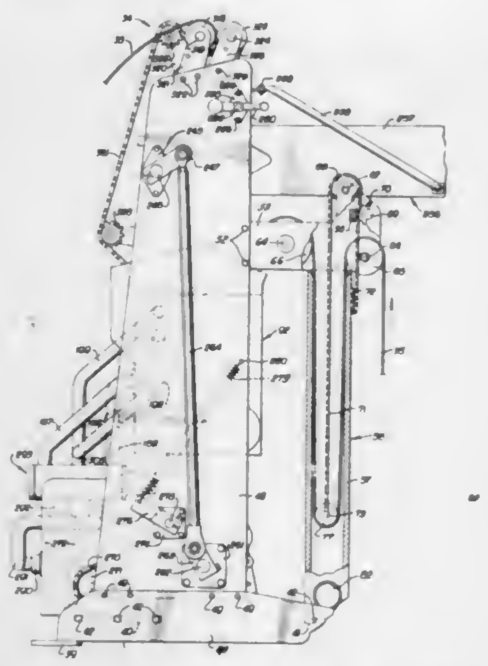


Differential pressure plastic forming machinery comprising: a female mold assembly having a plurality of mold cavities, a male mold assembly having plug assist members in alignment with the mold cavities, means for supporting a deformable thermoplastic web between the mold assemblies, means for relatively moving the mold assemblies into mated relationship, a reduced thickness lip-forming squeezing ring for each of the plug assist members, a temperature controlling plate intermediate the ends of the plug assist members surrounding the squeezing rings, and means for creating a differential pressure on opposite sides of the web.

3,507,008
MACHINE FOR MAKING SHAPED WORK PIECES FROM A WEB OF THERMOPLASTIC MATERIAL

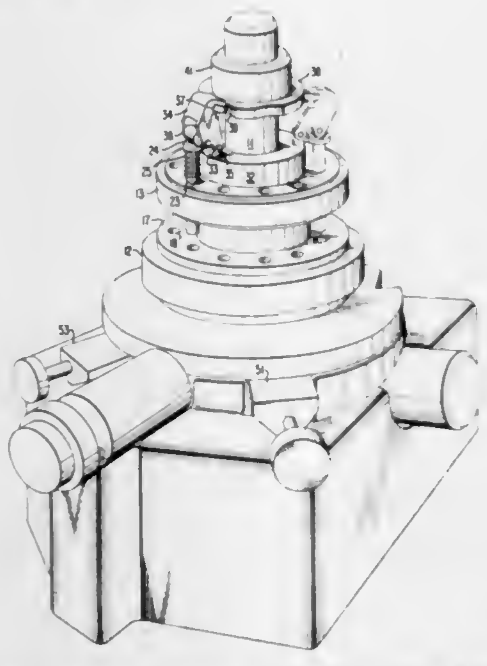
Jere F. Irwin, Yakima, Wash., assignor to Boise Cascade Corporation, Boise, Idaho, a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,817
Int. Cl. B29c *17/00*
U.S. Cl. 18—19 **10 Claims**

Thermoplastic material such as expanded sheet styrene is first extruded in a long web which is about an inch and one-half wider than a pocket forming fruit packing tray to be made therefrom, the flat web being stored in rolls which are then fed one at a time through a machine so as to travel first downwardly and upwardly through a preheating bath of water and then downwardly and upwardly through a second bath of hot water and through a hydro-vacuum forming mold submerged therein which shapes the area of said web corresponding to each tray to be formed therefrom with the pockets required in said tray. This occurs during each of an endless series of cyclic pauses in the travel of the web through the machine, the web then resuming its travel between a die and cutter so that each area in the web shaped as aforesaid to produce a tray, arrives at and is halted between said die and cutter and has a tray cut therefrom during a successive pause in the travel of said web through said machine. Incidental to the reciprocation of the hydro-vacuum mold in the vacuum shaping of each tray, a trademark is die stamped by the machine on the tray thus shaped while it still remains a part of said web.



3,507,009
ROTARY PRESSING MACHINE FOR MANUFACTURE OF TOROIDAL CORES AND ANALOGOUS DISCS

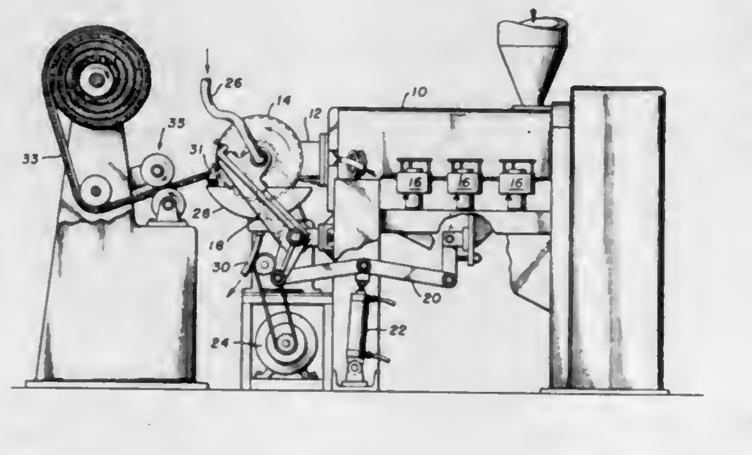
Elwood H. Comly, 2065 Bennett Road, Philadelphia, Pa. 19116
Filed Aug. 18, 1967, Ser. No. 661,658
Int. Cl. B29c *3/02*
U.S. Cl. 18—20 **12 Claims**



A compacting apparatus consisting of a base, a center post extending upwardly from the base, a plurality of dies adapted to rotate about the post, an upper and lower punch mounted coaxially to each die and adapted to rotate in conjunction therewith and means for causing the punches to enter the die. The means consists of a rocker arm pivotally mounted adjacent each punch in constant contact therewith. In operation, as the dies, punches and rocker arms rotate about the center post, the rocker arms are caused to contact a cam means which pivots the rocker arms causing them to move the punches into the die. The principle of the apparatus is especially useful in the manufacture of toroidal cores and analogous discs wherein the rotary pressing action increases production capacity.

3,507,010
CONTINUOUS MOLDING OF THERMOPLASTIC MATERIALS

Jack Doleman, Gulf Breeze, and William H. Hills, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed July 3, 1967, Ser. No. 650,986
Int. Cl. B29c *3/02;* **B29f** *1/06;* **B29h** *5/10*
U.S. Cl. 18—21 **28 Claims**

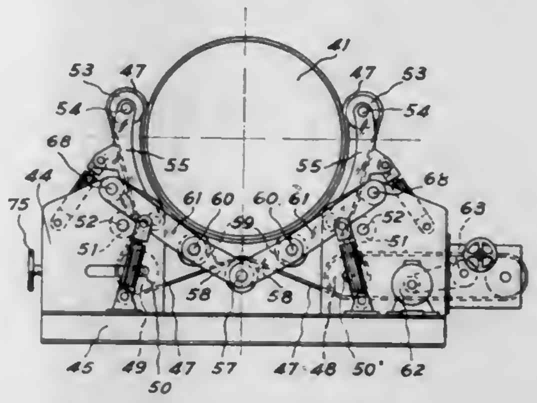


Three-dimensional molded products are made from thermoplastic materials in a continuous injection molding process wherein a mold surface having deep cavities therein is advanced with respect to a stationary extruder mated against the mold surface so that communication exists between the cavities and the extruder causing a flowable thermoplastic material to be forced into said cavities under high pressure by isolating the cavities from the remainder of the mold. On the mold surface a continuous matrix is formed having projections attached thereto and extending into the cavities of the mold. The matrix is formed under a lower pressure than the projections. After cooling, the product is stripped from the mold.

3,507,011
APPARATUS FOR MANUFACTURING REINFORCED TUBULAR PLASTICS MATERIAL

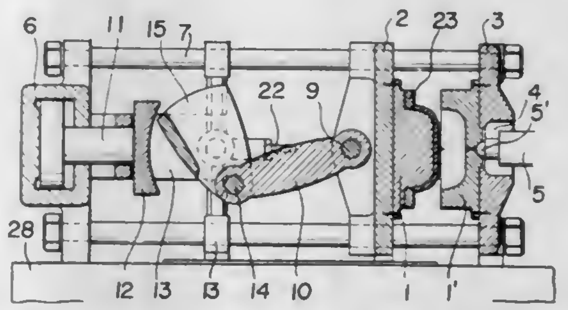
Carlos Fradera Pellicer and Mario Fradera Pellicer, both of Plaza del Conde de Rodezno 11, Pamplona, Spain
Original application Dec. 28, 1964, Ser. No. 421,444. Divided and this application Dec. 23, 1967, Ser. No. 695,828
Claims priority, application Spain, Jan. 9, 1964, 295,520, 295,521; Aug. 7, 1964, 302,905
Int. Cl. B29d *23/08*
U.S. Cl. 18—26 **3 Claims**

1. A drive and support mechanism for rotating an open or closed cylindrical mold used for producing tubular polymerized plastic material, said mechanism comprising a base, a pair of vertical spaced parallel support frames secured to said base, a driving pulley rotatably mounted on one of said frames, a pair of guide pulleys rotatably mounted on each of said frames, two pairs of arcuate arms disposed symmetrically on each of said frames, respectively, the arms of said pairs pivoted with their ends, to one of said respective frames, the free ends of said arms being provided with tensioning rollers, a deformable link assembly articulated on each of said frames provided with a plurality of guide rollers, a pair of driven endless belts, one of said belts extending over said driving pulley, over the pair of guide pulleys on one of said frames and the guide rollers on the deformable link assembly articulated on said one frame, and over said tensioning rollers, the other of said belts extending over the pair of guide pulleys on the other of said frames and the rotatable guide rollers on the link assembly articulated on said other frame and over said tensioning rollers for frictionally engaging each of said belts with the outer face of a cylindrical mold, and for driving and supporting the mold, and motive means for said driving pulley.



3,507,012
MOLD CLOSING APPARATUS FOR AN INJECTION MOLDING MACHINE

Katashi Aoki, 6037 Oaza Nanjo, Hanishina-gun, Sakaki-machi, Nagano-ken, Japan
Filed Sept. 21, 1967, Ser. No. 669,575
Int. Cl. B29f *1/00*
U.S. Cl. 18—30 **4 Claims**

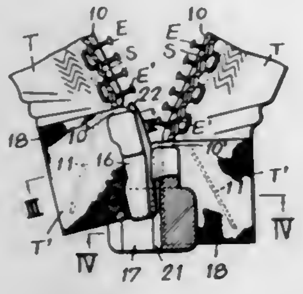


A mold closing and opening method of injection molding machine and apparatus thereof, which comprises driving a movable mold to or from a stationary mold by means of a rotation of a crank of a crank system for the greater part of the movement of the movable mold in prompt manner and thereafter, in a closing operation, pressing further the movable mold against the stationary mold by a hydraulic pressure means. Thus, the production cycle time is reduced as compared with an ordinary hydraulic pressure driven machine.

3,507,013
SLIDE FASTENERS

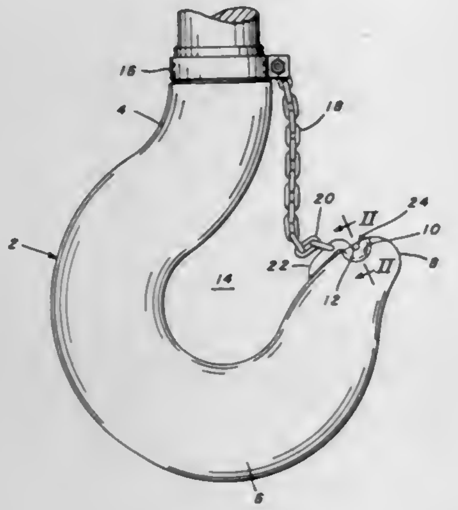
Mitsuo Inazawa, Kurobe-shi, Japan, assignor to Ustav pro vyzkum motorovych vozidel, Prague, Czechoslovakia
Original application Mar. 8, 1967, Ser. No. 621,508. Divided and this application July 24, 1968, Ser. No. 747,194
Claims priority, application Japan, Apr. 13, 1966, 41/34,070; Apr. 18, 1966, 41/24,490
Int. Cl. A44b *19/00*
U.S. Cl. 24—205.11 **3 Claims**

A slide fastener comprising a pair of stringer tapes carrying rows of continuous plastic fastener elements inter-lockable by a slider. A terminal fastener element on each stringer is provided with a blank, linear end portion extending crosswise of the bottom end section of the tape,



thereby reinforcing this tape section and at the same time, preventing the terminal element from shifting away from the stitching which holds it to the tape.

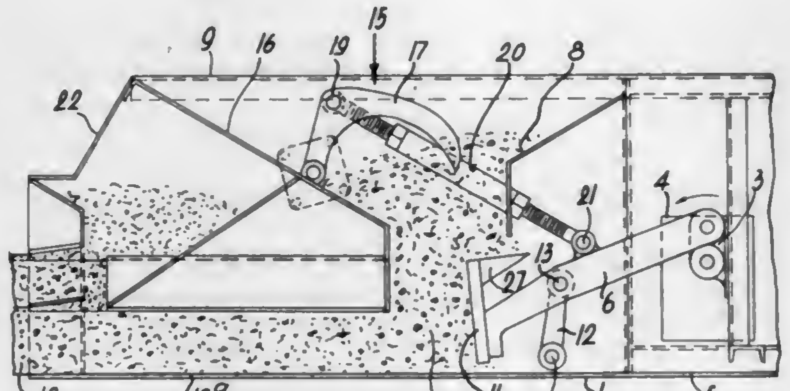
3,507,014
SAFETY LATCH FOR CRANE HOOK
William Rex McLain, Chicago, Ill., assignor to United States Steel Corporation, a corporation of Delaware
Filed July 25, 1968, Ser. No. 747,593
Int. Cl. A44b *13/00*
U.S. Cl. 24—241 **1 Claim**



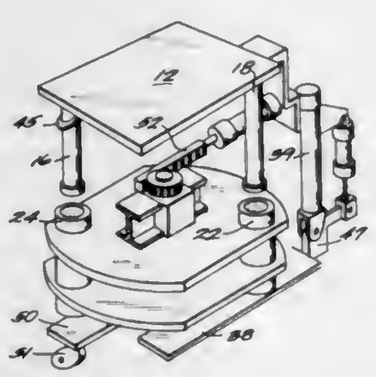
The safety latch of the invention comprises a chain which is attached by one end to the shank of a lift hook at a point substantially opposite the bill of the hook. The free end of the chain carries an elongated, substantially arcuately shaped connecting member having a hook-shaped end. The bill of the hook is provided with an opening adjacent the end thereof facing the hook shank. A rigid cross pin is provided in substantially the center of the bill opening extending transversely of the bill. The hook-end of the connecting member is adapted to detachably engage the rigid cross pin to thereby maintain the chain extended across and closing the open throat of the hook between the shank and the bill.

3,507,015
APPARATUS FOR MOLDING CONCRETE, ASPHALT, AND LIKE MIXES
John B. Heatlie, 21 Weller St., Geelong West, Victoria 3218, Australia
Filed Oct. 23, 1967, Ser. No. 677,487
Claims priority, application Australia, Oct. 28, 1966, 13,223/66
Int. Cl. B28b *1/04*
U.S. Cl. 25—1 **4 Claims**

An apparatus for molding concrete, asphalt, and like mixes, wherein the apparatus has a hopper for storing the mix, a supply port from the bottom of the hopper leading to a ramming chamber which has an open front and open back and end bottom portion. A ram plate actuated by at least one link and crank, compacts and extrudes the mix into and through the mold box. The ram plate is rigidly connected to at least one rod, and through mechanical linkage this rod and ram plate are subjected to a reciprocating movement within the ramming chamber, which movement has a longitudinal and vertical moment. Furthermore, a stoker blade may operate in conjunction with the ram plate to positively feed the mix into the ramming chamber when the ram plate is being withdrawn therefrom.



3,507,016
MACHINE FOR MAKING CONCRETE PIPES
Glenn F. Ruegsegger, 3447 W. North Union, Bay City, Mich. 48706
Filed May 9, 1967, Ser. No. 637,190
Int. Cl. B28b *21/24, 21/10*
U.S. Cl. 25—36 **11 Claims**



The tile machine is essentially comprised of an arc-shaped stationary frame, a vertically reciprocally movable head frame, and a rotatable turntable. The turntable is provided with two rows of multiple tile molds. The head frame is provided with one row of packer heads which are aligned with one of the rows of molds and with another row of push-out rods which are in turn aligned with the other row of molds. A conveyor is provided to feed concrete to half cylinder shaped funnels which are provided over the first row of molds.

3,507,017
ARTICLES FOR MORTICIANS' USE
Charles W. Rector, Seattle, Wash. (3304 Russell Road, Centralia, Wash. 98531)
Filed Aug. 30, 1967, Ser. No. 664,897
Int. Cl. A01n *1/00*
U.S. Cl. 27—21 **11 Claims**

Apparatus for morticians' use to maintain the covering of body apertures closed while corpse is on display. The

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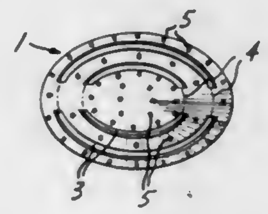
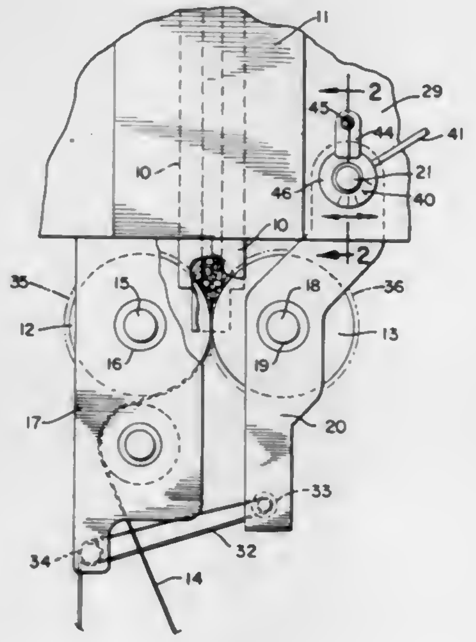
apparatus comprises a generally cup-shaped shield of thin, flexible material of a size to fit the largest corpse. The dimensions of the device may be decreased by manipulation to be suitable for use on a smaller corpse. The cup-shaped shield has at least one marginal portion joined to a central portion by short severable necks. The article is made of a severable material, preferably plastic formed by injection molding techniques. The device may be feathered at its edges and carries a plurality of short, more or less pointed studs distributed over the convex surface thereof to grip and hold the lips or the eyelids closed without piercing or lacing the mucous membrane. The device is placed in the eyes or mouth of a corpse and the upstanding studs engage the inner mucous surface of the eyelid or the inner surface of the lips to hold the eyelids or mouth closed.



3,507,018
DOUBLE ECCENTRIC ROLL MOUNTING
Joseph Melvin Mayfield, New Castle, Walter Shattuck Bailey, Penn Acres, and Donald Wilson McKinney, Wilmington, Del., assignors to Joseph Bancroft & Sons Co., Wilmington, Del., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,268
Int. Cl. D02g *3/00*
U.S. Cl. 28—1.6 **5 Claims**

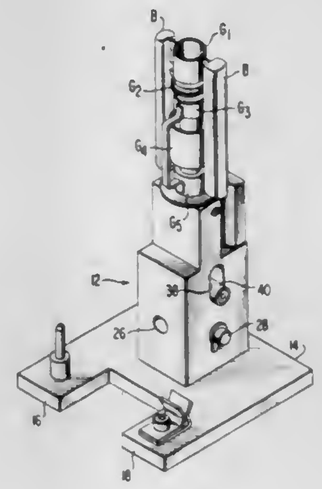


An adjustable support for at least one of the feed rolls of a stuffer crimper including a shaft carrying one of said rolls or carrying a bracket in which one of the said rolls is journalled. The shaft is journalled in at least one bushing having an eccentric inner bearing surface and the shaft carries an eccentric end bearing portion journalled in said bearing surface. The eccentricities of the end bearing surface of the shaft and of the inner bearing surface of the bushing are the same and the shaft and bushing are independently adjustable for varying the position of the axis of said shaft with respect to the axis of the bushing. The double eccentric mounting permits the axis of the shaft to be adjusted both horizontally and vertically into any given position.

3,507,019
METHOD FOR MANUFACTURING SCREENS FOR PAPERMAKING
Takuo Tate, Tokyo, Japan, assignor to Kabushiki Kaisha Sayama Seisakusho, Tokyo, Japan
No Drawing. Filed Apr. 10, 1968, Ser. No. 720,367
Int. Cl. D02j *1/22*
U.S. Cl. 28—75 **3 Claims**

A process for manufacturing endless screens for a papermaking machine from natural and artificial fibers characterized by impregnating and coating said yarn with a mixture of resin curable with a curing agent and a curing agent in amount enough to partly cross-link said resin to a thermoplastic state, heat-treating said yarn to partly cross-link, making an endless screen using said treated yarn at least as the wefts, applying a solution of curing agent to said screen and heating said screen while stretching the same in the warp direction to effect heat-setting and curing of the resin simultaneously, thereby to provide a smooth surface and wrinkleless and long life endless screen for papermaking machine.

3,507,020
METHOD OF MAKING AN ELECTRON GUN FOR A CATHODE RAY TUBE AND JIG ASSEMBLY THEREFOR
Howard H. Aiken, Fort Lauderdale, Fla., and Allan I. Parvin and Seymour Janowsky, Clifton, Charles M. Taitel, Lake Hiawatha, and Harold Skurnik, Bloomfield, N.J., assignors to Aiken Industries, Inc., Leonardtown, Md., a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,599
Int. Cl. H01j *9/18*
U.S. Cl. 29—25.16 **5 Claims**



An electron gun for a cathode ray tube is completely manufactured by a novel assembly line process on a unique jig assembly. The process includes assembling all electrodes on a transportable jig base by referencing central apertures of the electrodes on the jig, clamping the assembled electrodes on the jig and sending the jig through a beading operation. This is followed by removing the clamp and applying a steam holder with a glass stem to the jig prior to welding of the stem conductors to the electrodes. The jig assembly includes a jig base with a stepped cylindrical pin for the electrodes, a clamp which is removably attachable to the jig base, and a stem holder which is likewise removably attachable to the jig base and includes appropriate stops for aligning the glass stem with the electron gun body on the jig base.

3,507,021

TRIMMING TOOLS

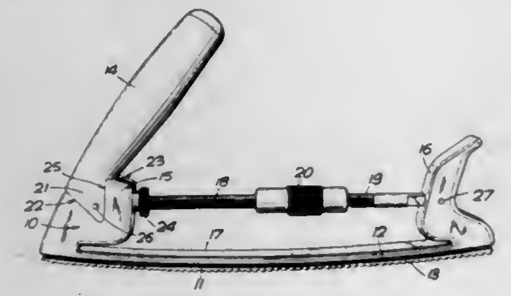
Wilfred Gell and Keith Wainwright, Sheffield, England, assignors to Hack Saws Limited, Sheffield, England, a British company

Filed Mar. 25, 1968, Ser. No. 715,824

Claims priority, application Great Britain, May 19, 1967, 23,346/67

Int. Cl. B23d *71/00, 71/04*

U.S. Cl. 29—78 **7 Claims**



A trimming tool comprising an elongated blade having a cutting surface on at least one side, and a holder for the blade, has a holder having at one end a hand rest and at the other end a handle, and means which connect the hand rest to the handle but which allow movement of the handle from a plane position to a file position without disconnection of the handle from the hand rest.

3,507,022

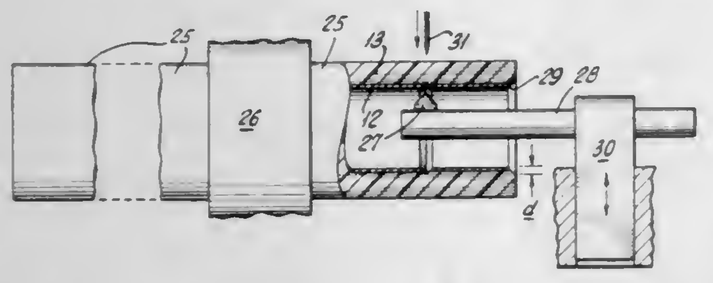
PLASTIC IMPREGNATED FABRIC JOURNAL BEARING

Harold Ward Conru, South Burlington, Vt., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware

Filed Feb. 7, 1968, Ser. No. 703,702

Int. Cl. B23p *11/00, 17/00*

U.S. Cl. 29—149.5 **15 Claims**



The invention contemplates an improved method of making fabric-lined journal bearings, of bore size determined by a mandrel. A piece of low-friction fabric material is cut from rectilinear stock, to such length between cut-off ends as to substantially equal the peripheral extent of the mandrel. A piece of bondable fabric is secured, as by sewing or clamping, to a cut-off end of the low-friction piece. The fabric composite, impregnated with hardenable material, is then wrapped onto the mandrel, beginning with the low-friction piece. The assembly is thereafter cured to hardness, and the mandrel removed.

3,507,023

PLASTIC-IMPREGNATED FABRIC JOURNAL BEARING

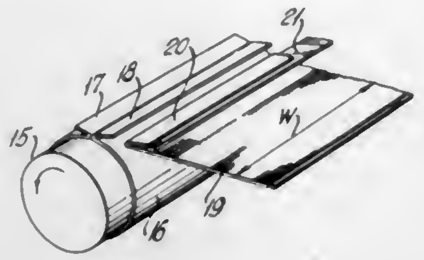
Richard J. Matt, West Simsbury, Conn., and Harold Ward Conru, South Burlington, Vt., assignors, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Delaware

Filed May 2, 1968, Ser. No. 726,099

Int. Cl. B21h *1/12*

U.S. Cl. 29—149.5 **20 Claims**

The invention contemplates an improved method of making fabric-lined journal bearings, of bore size determined by a mandrel. A piece of low-friction fabric material is cut from rectilinear stock, to such length between cut-off ends as to substantially equal the peripheral extent of the mandrel. The cut-off ends are sewn, to form an elongated sock, surrounding the mandrel, and leaving an angularly localized thickened portion at the seam. A piece of bondable fabric, impregnated with hardenable material, is then wrapped onto the mandrel, beginning at a point angularly offset from the locally thickened seam. The assembly is thereafter cured to hardness, and the mandrel removed.



3,507,024

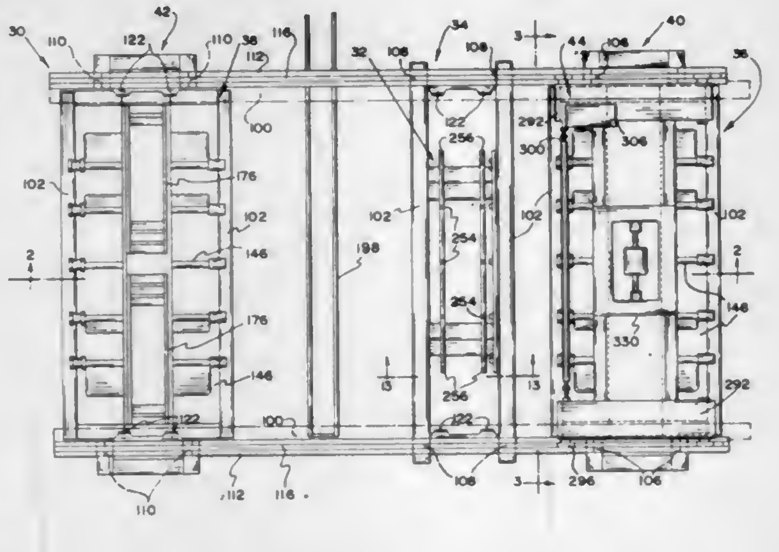
METHOD FOR ASSEMBLING WORKPIECE

Joseph E. Powers and Alfred F. Bastian, Napa, Calif., assignors to Kaiser Steel Corporation, Oakland, Calif., a corporation of California

Filed Mar. 27, 1967, Ser. No. 626,111

Int. Cl. P23p *21/00*

U.S. Cl. 29—155 **9 Claims**



A method for assembling a workpiece, especially a modular workpiece, wherein a group of elements of the workpiece is oriented in predetermined angular and spaced relationship in one location; wherein these elements, with their angular and spaced relationship under control, are transferred as a group to another location where they are assembled in said predetermined relationship with another element of the workpiece; and wherein the assembled elements are interconnected.

3,507,025

METHOD FOR DRILLING HOLES IN GIRDERS AND SPLICE PLATES

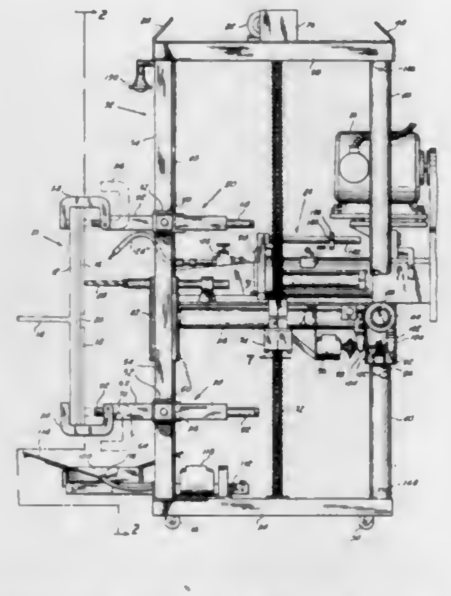
Keith S. Ankeney, Clive, Iowa, assignor to Pittsburgh-Des Moines Steel Company, Des Moines, Iowa, a corporation of Pennsylvania

Filed Jan. 18, 1968, Ser. No. 698,921

Int. Cl. B23p *17/00*

U.S. Cl. 29—155 **4 Claims**

The method of pre-aligning girders end to end and positioning splice plates relative thereto before actual installation and the simultaneous drilling of holes through the splice plates and girder. Includes a drill support to be attached to the material to be drilled and which includes a movable carriage on which the drill assembly is mounted with the carriage being both laterally and vertically adjustable for orienting the drill bit at the desired point of contact on the material to be drilled. Eliminates subdrilling and/or punching and the necessity for reaming at the time of actual installation.



3,507,026

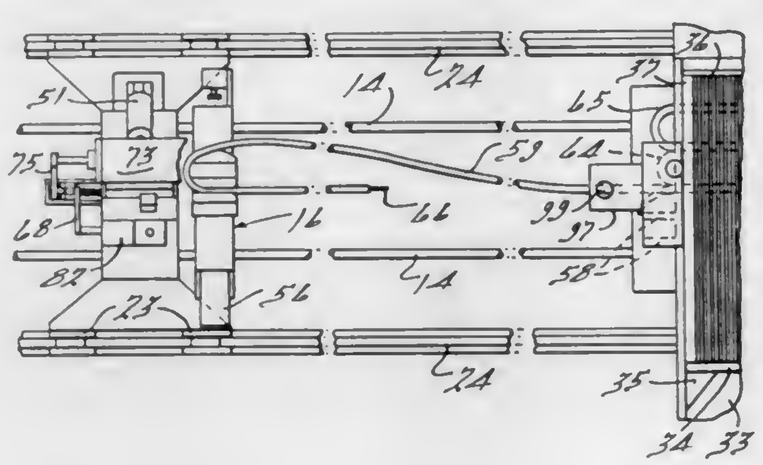
MACHINE AND METHOD OF EXPANDING TUBE SECTIONS

William A. Collins, Dowagiac, Mich., assignor to Rudy Manufacturing Company, Dowagiac, Mich., a corporation of Michigan

Filed Jan. 15, 1968, Ser. No. 702,490

Int. Cl. B21d *53/00;* **B23p** *15/26*

U.S. Cl. 29—157.3 **11 Claims**



The machine and method of the present application pertains to the threading of a continuous tube of conducting material back and forth through a stack of fins having a plurality of apertures which are in aligned relation to form a plurality of through openings. Within the tube is a wire having an expanding element on the trailing end which before the first and after each loop is formed is pulled a distance to draw the element through the straight portion located within an opening to conductively and fixedly engage the tube wall with the fins. The element is pulled a sufficient distance beyond the straight portion to be located within the tube at a point where the next straight portion begins after the loop is formed. The extending length of wire is cut off leaving and end extending from the tube of a length to be secured by pulling jaws.

3,507,027

PROCESS OF AND MACHINE FOR CENTERING SPOKED WHEELS

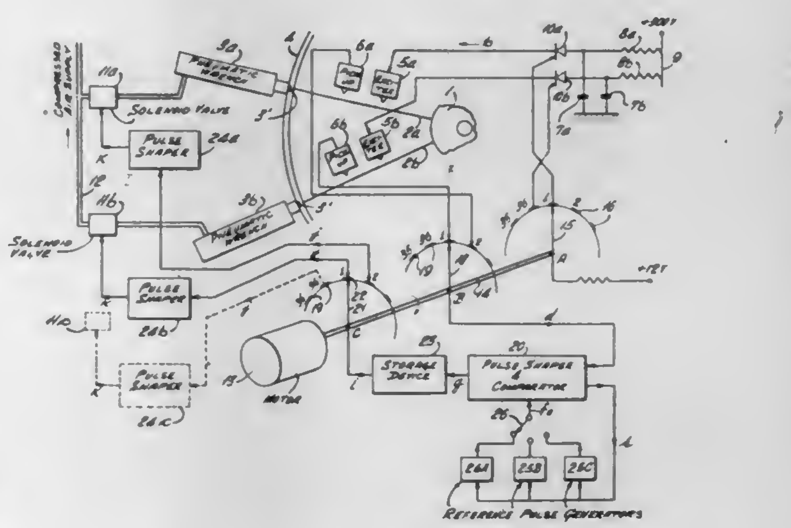
Eric Jaulmes, Paris, France, assignor to Ateliers de la Motobecane, a corporation of France

Filed Feb. 26, 1968, Ser. No. 708,412

Claims priority, application France, Feb. 27, 1967, 96,566

Int. Cl. B23p *19/00*

U.S. Cl. 29—159.02 **10 Claims**



In the centering of spoked wheels, the adjustment of the tensions of the spokes to a desired value, or value within a desired tolerance range, is effected by shock-exciting the spokes by an electromagnetic pulse, detecting the ensuing spoke oscillations by an electric pickup and utilizing the frequency of the detected oscillations for controlling the adjustment of the spoke tensions by means of a solenoid-operated pneumatic spoke tightening wrench. For this purpose, the spoke oscillating frequency is compared with one or preferably a series of reference frequencies. In a preferred embodiment, especially designed for effecting automatic spoke tensioning in conjunction with large-scale manufacture, the spoke oscillations, after conversion into a suitable square wave, are combined in a comparator with a series of step-by-step increasing reference frequencies, the comparator being designed to produce an output pulse only if the frequency of the spoke oscillation exceeds the respective reference frequency. The output pulse is converted into a predetermined operating pulse for the control of the wrench, whereby to result in fixed increments in the positive sense of the tensioning torque of the spokes by each reference frequency or comparator output pulse and, in turn, in an ever closer approximation of the spoke tensions towards a desired final value or tolerance range, as the reference frequency is increased during successive spoke tensioning steps or operations.

3,507,028

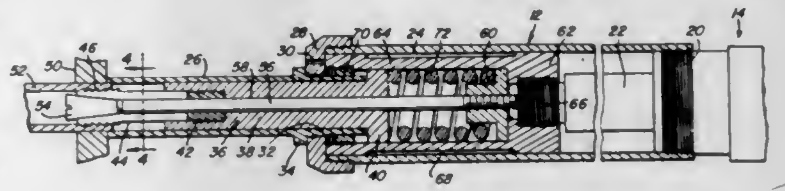
HYDRAULIC TUBE PULLER

Cosimo D. Stellatella, Lyndhurst, N.J., assignor to Nooter Corporation, St. Louis, Mo., a corporation of Missouri

Filed July 13, 1967, Ser. No. 653,190

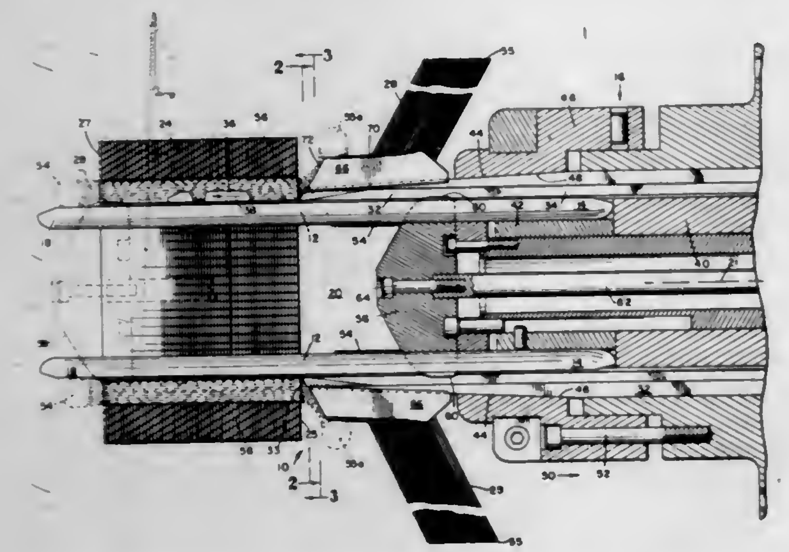
Int. Cl. B23p *15/26, 19/04*

U.S. Cl. 29—202 **10 Claims**



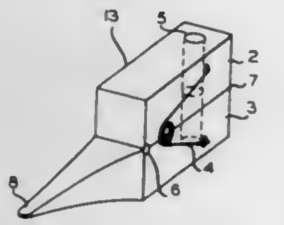
A device for extracting tubes from the tube sheet of a heat exchanger by radially expanding the serrated end portion of a tubular gripping member inserted into one end of a tube. A conical wedge element expands the gripping member which is urged into contact with the wedge element by a spring to permit contraction of the gripping member when being inserted into the tube before the housing from which it projects abuts the tube sheet. Activation of a piston device operates the wedge element to draw the tube from the tube sheet into the housing.

3,507,029
APPARATUS FOR INSERTING COILS AND SLOT WEDGES INTO A CORE MEMBER
Buddy S. Stuckey and Stefan Mannes, Fort Wayne, Ind., assignors to Fort Wayne Tool & Die, Inc., Fort Wayne, Ind., a corporation of Indiana
Filed Oct. 2, 1967, Ser. No. 672,151
Int. Cl. H02k *15/06, 15/09, 15/10*
U.S. Cl. 29—205 **3 Claims**



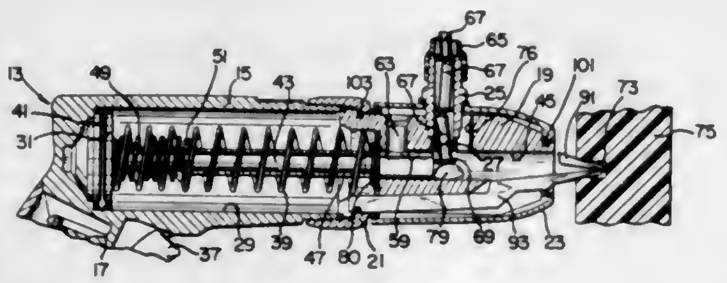
An improved apparatus for inserting coils and slot wedges into a core member wherein the improvement comprises a plurality of coil guiding means arranged to retain and confine the wire forming the sides of a coil in relatively narrow paths immediately prior to insertion of the coil sides into respective slots of the core member thereby to insure insertion of slot wedges over the coil sides, and also to hold and form the rear end turn of the coil radially outwardly thereby to provide clearance for the subsequent insertion of additional coils into the core member. Each forming means comprises a radially outwardly projecting portion carried on a slot wedge guide element, adjacent projecting portions defining relatively narrow, radially extending slots for retaining and confining the wire forming the coil sides, each projecting portion including a radially outer surface about which the rear end turns are formed.

3,507,030
ASSEMBLY MACHINE CONTAINING VACUUM BREAKER VALVE
Guy L. Kelly, Kansas City, Kans., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 19, 1967, Ser. No. 631,964
Int. Cl. B23p *19/04*
U.S. Cl. 29—208 **3 Claims**



An assembly machine containing a vacuum breaking valve assembly having two members, each of which has at least one smooth face, the members being juxtapositioned with the smooth face of one member facing, and in closed position, engaging the smooth face of the other member, the said members being hinged or otherwise held together at adjacent ends thereof to permit them to move away from and toward each other, said members being spring biased toward each other, at least one of said members being machined or drilled to provide using them both when in engaged relationship a continuous passage, said valve being adapted to be placed into a suction line and therein to break suction when a face is pivoted or moved away from the other as when an extended portion of one member is acted on by a physical force; in one embodiment in the assembly machine the valve serving to break suction in a paper disc and ring assembly mechanism wherein the paper disc is carried by a suction actuated device to the ring for placement therein upon breaking of suction by said valve as it is acted on by bringing said ring into assembly position of the assembly machine. In a now preferred modification, both members of the valve are machined or drilled to provide a continuous passageway which is broken when the members are separated.

3,507,031
STUD GUN
Jerome I. Rebold, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Dec. 8, 1967, Ser. No. 689,142
Int. Cl. B23q *7/10*
U.S. Cl. 29—212 **10 Claims**

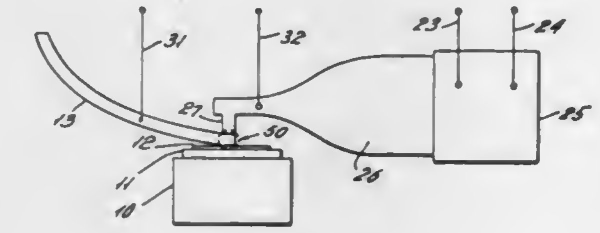


The device disclosed herein includes a housing having a pneumatic motor therein. A rod and sleeve assembly are associated with the motor and are movable generally in response to actuation thereof to respectively orient and insert a stud into a recess in an automotive tire. Means is provided to supply studs to the housing for handling by the sleeve and rod, and additional means automatically prepares the tire recess to receive the stud.

3,507,032
METHOD OF IMPROVING THE STRESS CORROSION RESISTANCE OF A SUSCEPTIBLE ALUMINUM ALLOY
George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 25, 1967, Ser. No. 663,241
Int. Cl. B22f *3/24*
U.S. Cl. 29—420.5 **6 Claims**

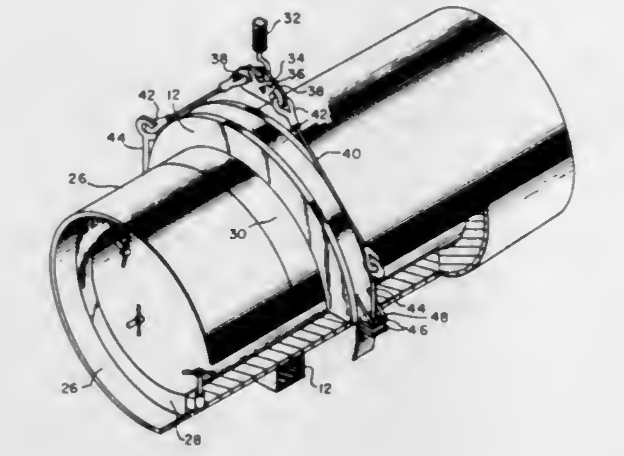
The present disclosure concerns a method of improving the stress corrosion resistance of a susceptible aluminum base alloy containing magnesium and zinc comprising fabricating the susceptible alloy in close homogeneous contact with a compatible insensitive aluminum base alloy, i.e., relatively insensitive to stress corrosion, by not working the mixture.

3,507,033
ULTRASONIC BONDING METHOD
Alexander Coucoulas, Bridgewater Township, Somerset County, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 423,746, Jan. 6, 1965. This application Aug. 31, 1966, Ser. No. 591,068
Int. Cl. B23k *27/00*
U.S. Cl. 29—470.3 **10 Claims**



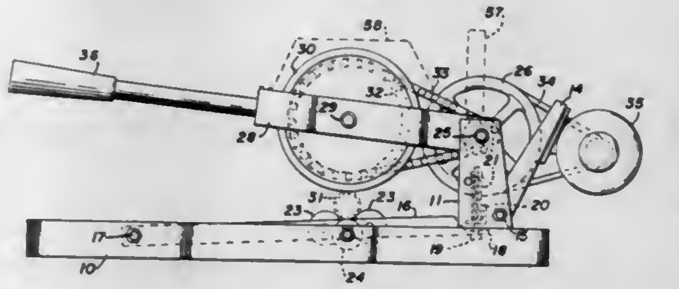
By carrying out ultrasonic bonding of copper or aluminum leads to substrates at a temperature above their respective recrystallization temperatures and in their hot working temperature ranges, bond strength and reliability are substantially improved. It has been discovered that by bonding under these conditions, the lead is substantially recrystallized during the bonding cycle.

3,507,034
METHOD AND APPARATUS FOR PRECISION SIZING AND JOINING OF LARGE DIAMETER TUBES
Robert J. Schwinghamer and J D Bennight, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 8, 1967, Ser. No. 637,882
Int. Cl. B23b *11/00;* **B21d** *26/14, 39/04*
U.S. Cl. 29—517 **12 Claims**



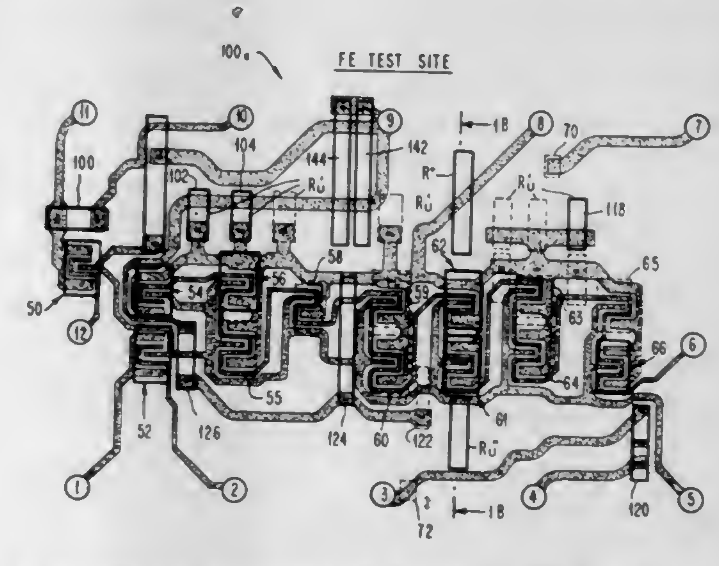
A method and apparatus for portable high precision magnetomotive bulging, constricting, and joining of large diameter tubes. The method allows decremental, very accurate changing of the diameter of very large tubes, as well as high quality joints obtained by either bulging or constricting overlapping ends of two tubes. The apparatus consists of a magnetomotive coil positioned either inside or outside of the tube and a non-conducting mandrel (or forming die) on the other side. The magnetomotive coil has square conductors which are recessed, and thus separated by an air gap, from the tube. The constricting coil has a split metal sleeve for withstanding hoop stress. The tube (workpiece) is insulated from the coil by a thin plastic sleeve. The power supply is an electrically floating system.

3,507,035
TUBING CUTTER
Harold J. Mann, Jr., 4424 E. Lancaster, Fort Worth, Tex. 76103
Filed June 13, 1968, Ser. No. 736,759
Int. Cl. B23b *5/16;* **B26d** *3/16*
U.S. Cl. 29—564 **4 Claims**



A portable power driven tubing cutter using a manually pressured roller to frictionally rotate the tubing against a cutting wheel, and including automatic de-burring and polishing of the cut ends of the tubing.

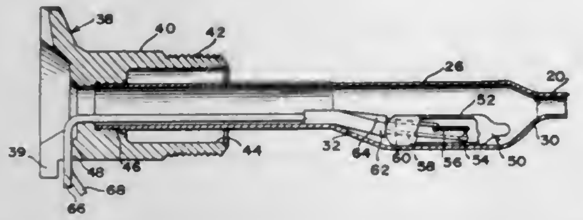
3,507,036
TEST SITES FOR MONOLITHIC CIRCUITS
Igor Antipov, Pleasant Valley, Irving Feinberg, Poughkeepsie, Charles H. Van de Zande, Lagrangeville, and Wailey L. Wing, Poughkeepsie, N.Y., and Horst H. Berger, Sindelfingen, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,752
Int. Cl. H01l *7/02*
U.S. Cl. 29—574 **12 Claims**



A process for producing monolithic integrated circuits whereby unique configurations of components are provided at test sites, while regular circuits are being formed, on semi-conductor wafers. Two different kinds of test patterns are furnished; at some sites a special test circuit is formed, while at others a special metallurgical pattern is produced. By properly correlating the information from the above test sites with information derived from the regular integrated circuits a complete picture can be obtained regarding the yield and the reliability that can be expected.

3,507,037
METHOD OF MAKING A THERMOSTAT TUBE ASSEMBLY
Theodore J. Dykzeul, Rolling Hills, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Continuation of application Ser. No. 528,542, Feb. 18, 1966. This application Apr. 16, 1968, Ser. No. 721,878
Int. Cl. H01h *11/00*
U.S. Cl. 29—592 **10 Claims**

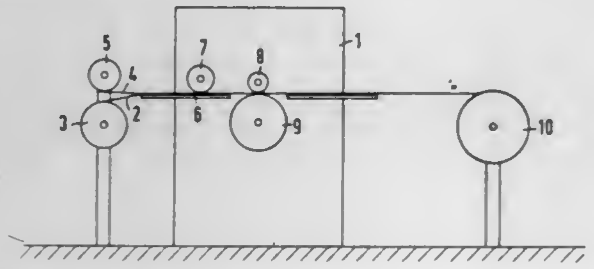
The process of assembling thermostat parts by forming a blank of thermally responsive material into a tube of two portions with an interior cavity formed in one of



the portions whereby a second thermostat is assembled therein.

3,507,038
METHOD OF MANUFACTURING CONDUCTORS HAVING COMPONENTS OF SUPER AND NORMAL CONDUCTIVITY

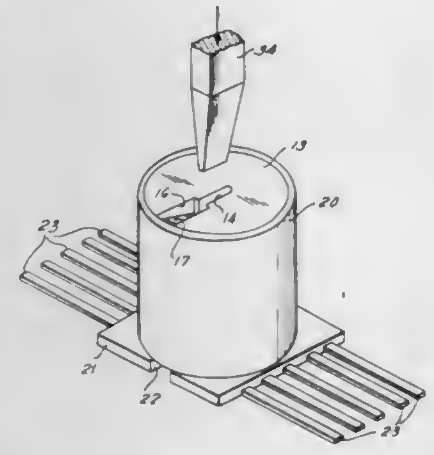
Helmut Moll, Nuremberg, Günther Bogner, Erlangen, Richard Dötzer, Nuremberg, and Richard Maier, Erlangen, Germany, assignors to Siemens Aktiengesellschaft
Filed Oct. 9, 1967, Ser. No. 673,569
Claims priority, application Germany, Oct. 25, 1966, S 106,692
Int. Cl. H01j *11/00*
U.S. Cl. 29—599 14 Claims



A method of manufacturing conductors having components of super and normal conductivity and particularly adapted for use as superconductive coils. At least one elongated superconductor is ultrasonically welded along its entire length to a normal conductor which may be made of a metal selected from the group consisting of copper or aluminium.

3,507,039
METHOD OF MAKING A MINIATURE INDUCTIVE DEVICE

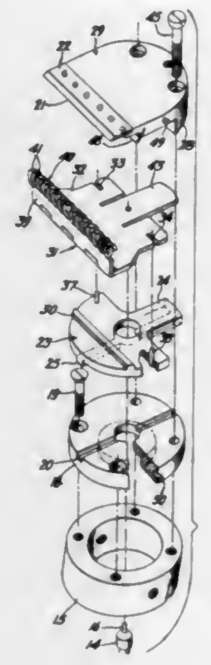
Theodore L. Craige, Roslyn Heights, N.Y., assignor to United Transformer Company, Division of TRW Inc., New York, N.Y., a corporation of Ohio
Filed Dec. 12, 1967, Ser. No. 689,864
Int. Cl. H01f *7/06*
U.S. Cl. 29—605 7 Claims



A miniature inductive device capable of operating at high power levels and having a precisely defined air gap and maximum utilization of space allocated to coil windings.

3,507,040
STRAIGHT EDGE RAZOR WITH RELATIVELY ORBITING BACK-UP TEETH

Richard W. MacCarthy, San Jose, Calif. (600 Pennsylvania Ave., Apt. 30, Los Gatos, Calif. 95030)
Filed Mar. 4, 1968, Ser. No. 710,029
Int. Cl. B26b *19/04, 19/42*
U.S. Cl. 30—34.2 9 Claims



A razor having a straight edge blade and a row of blade back-up teeth mounted along the inner face of the sharpened edge of the blade, each tooth having a cutting edge thereof directed toward, and disposed at an acute angle to, the slicing, leading edge of the blade. The back-up teeth are driven to orbit relative to the blade in a manner that will cause their cutting edges to move in successive recurring cycles first outwardly beyond the edge of the blade, and then inwardly toward and across the cutting edge of the blade so as to sever whiskers caught between the teeth and the blade. A stretcher bar preferably is provided to smooth and stretch the skin in advance of the cutting edge of the blade and to assist in erecting the whiskers.

3,507,041
COUPLING AGENT BETWEEN DENTAL ENAMEL AND RESTORATIVE MATERIAL

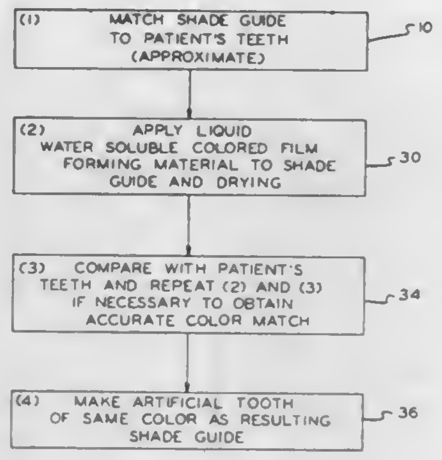
Harold C. Walraven, Jr., and Willis E. Moody, Jr., Atlanta, Ga., assignors to the United States of America as represented by the Secretary of Health, Education, and Welfare
No Drawing. Filed Apr. 30, 1968, Ser. No. 725,477
Int. Cl. A61k *5/02*
U.S. Cl. 32—15 4 Claims

Selected zirconium compounds are applied to the walls of cavities before the insertion of the restorative material used for the filling. The zirconium compounds act to create a bond between the tooth and the restorative material.

3,507,042
COLOR MATCHING SYSTEM FOR TEETH

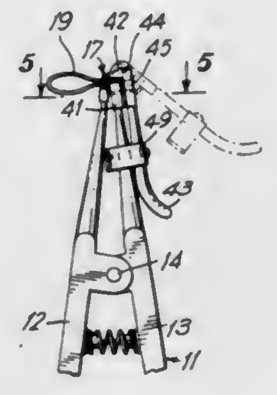
Norman A. Hana, Vancouver, Wash., assignor to Dahlin Dental Laboratory, Portland, Oreg., a corporation of Oregon
Filed Apr. 14, 1969, Ser. No. 815,627
Int. Cl. A61c *19/00*
U.S. Cl. 32—71 7 Claims

A method of making artificial teeth of the correct color to match a patient's teeth is disclosed in which a shade guide in the form of an artificial tooth having a shade approximating the desired shade is brought to such desired shade by comparison with the teeth of the patient following the application of a transparent water soluble colored film from a set of liquid film forming materials having pigments dispersed in a water miscible liquid medium to provide a coating which remains water soluble. The resulting colored shade guide is preserved and employed as a guide for making one or more artificial teeth of the correct color for incorporation, for example, in a bridge or a partial or complete denture.


(1) MATCH SHADE GUIDE TO PATIENT'S TEETH (APPROXIMATE)
10
(2) APPLY LIQUID WATER SOLUBLE COLORED FILM FORMING MATERIAL TO SHADE GUIDE AND DRYING
30
(3) COMPARE WITH PATIENT'S TEETH AND REPEAT (2) AND (3) IF NECESSARY TO OBTAIN ACCURATE COLOR MATCH
34
(4) MAKE ARTIFICIAL TOOTH OF SAME COLOR AS RESULTING SHADE GUIDE
36

3,507,043
ORTHODONTIC PLIERS

James M. Rubin, 141 W. 17th St., New York, N.Y. 10011
Filed Oct. 24, 1967, Ser. No. 677,627
Int. Cl. A61c *5/12*
U.S. Cl. 32—63 2 Claims



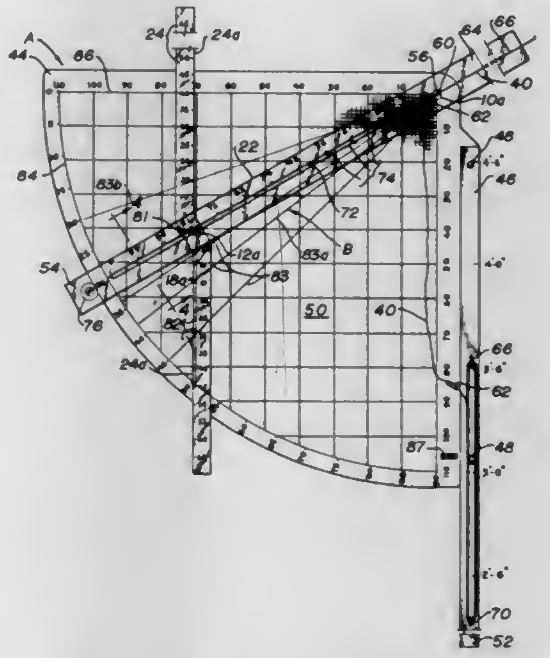
Orthodontic pliers for forming a tooth band around and in conformity with a tooth in which the free ends of the band material are clamped in the pliers by means which pierce the band material.

The band material is clamped to one jaw of the pliers and a forming beak is provided on the other jaw. The forming beak has a slot which receives the band material to work the band in a flattened position to form a loop end on the band snugly around a tooth.

3,507,044
SURVEYING INSTRUMENT

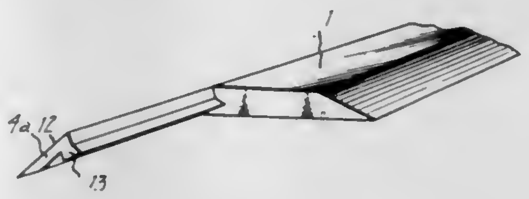
Clyde McCutcheon, Humboldt County, Calif., assignor to Francis E. (Frank) Morrell, Salyer, Calif.
Filed July 14, 1966, Ser. No. 565,152
Int. Cl. G01c *15/00*
U.S. Cl. 33—67 3 Claims

A surveying instrument including a plate having a face thereof inscribed with scale lines, an arm rotatably mounted to the plate and adapted to be aligned with a distant target, and an indicator rod rotatably carried by the arm at selective longitudinal positions thereon, in which the scale lines on the plate, and each of the arms are respectively adapted for alignment with separate sides of an imaginary vertical space triangle for determining the relative lengths thereof by geometrically similar triangles, wherein the components of the instrument represent a scaled down version of the space triangle. The indicator rod is supported on a pivot pin receivable at any of a series of notches along a slot in the alignable arm. A taut line from the target position to the plate is received in slots in an arm pivot pin and in the rod pivot pin, and held by one of a series of spaced protrusions on the line.



3,507,045
RULE WITH INTERCHANGEABLE SCALES

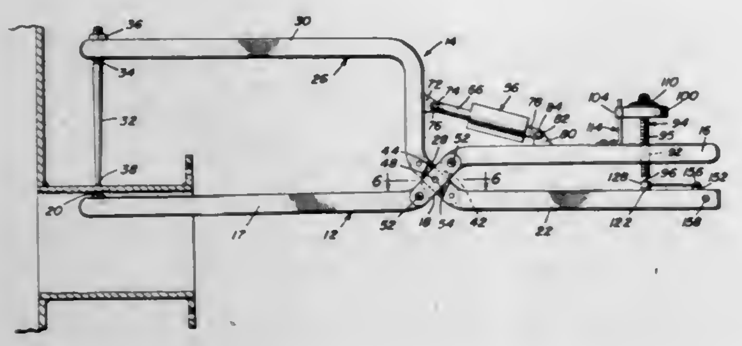
Francisco Carrero Rives, Calle Bruch 66, Barcelona, Spain
Filed Jan. 11, 1968, Ser. No. 697,056
Claims priority, application Spain, Jan. 11, 1967, 127,385
Int. Cl. B43l *7/00;* **G01b** *3/04*
U.S. Cl. 33—107 5 Claims



A rule to be used by draftsmen architects, and the like, and having a rule body capable of selectively receiving one of a plurality of different scales. The rule body is formed along one of its side edges with an elongated recess and groove means, while each of the several interchangeable scales has an elongated filler portion for filling the recess of the recess and groove means and an elongated tongue for filling the groove of the recess and groove means while being longitudinally slidable therealong. In this way any one of the several scales can be interchanged for any other one of the several scales simply by sliding one scale off the rule body and replacing it by another. With this arrangement only the selected scale will be available at the side of the rule body which is formed with the recess and groove means.

3,507,046
MICROMETER WITH INDICATING LIGHT

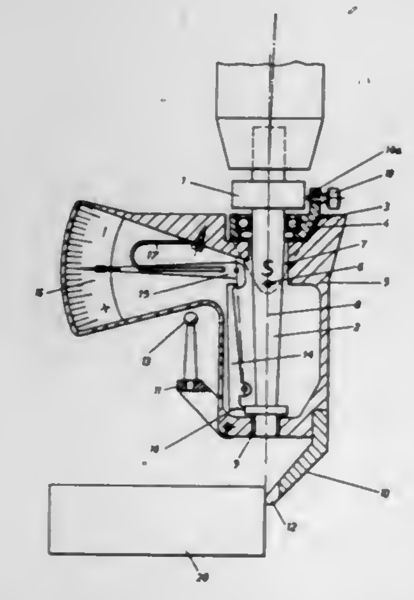
Leroy R. Smith, Freeport, and Charles A. Hearn, Sr., Clute, Tex. (both % 510 S. Ave. A, Freeport, Tex. 77541)
Filed June 18, 1968, Ser. No. 738,063
Int. Cl. G01b *3/16*
U.S. Cl. 33—149 **3 Claims**



A micrometer with one straight leg and one offset leg with each leg having a small ball type measuring point thereon. The particular contour of the legs along with the measuring points thereon permits measuring of the thickness of hitherto inaccessible areas of vessels and tubes, as well as the measurement of thickness of material left in such areas due to pitting or corrosion. The establishment of the thickness of material being measured closes a circuit in the micrometer which lights a bulb to indicate the exact point of measurement has been reached.

3,507,047
NIL GAUGING DEVICE FOR MACHINE TOOLS

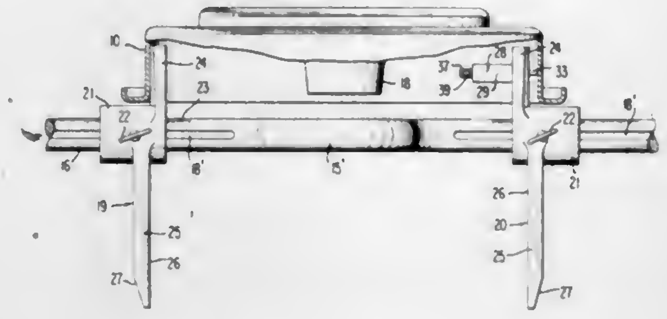
Erhard Städele, Bermatingen, Bondensee, Germany
Filed Feb. 3, 1967, Ser. No. 613,776
Claims priority, application Germany, Feb. 4, 1966, St 24,950
Int. Cl. G01b *3/22*
U.S. Cl. 33—172 **7 Claims**



In a nil gauge device for machine tools and for setting up milling machines, jig drilling machines or the like a reference mandrel is inserted in a chuck or clamping jaws so the axis of the mandrel is aligned with that of the machine tool and a housing is rotatably mounted about the mandrel and is arranged to pivot in planes which include the mandrel axis. The housing carries a feeler to bear on the work piece which is being gauged and the position of the feeler in relation to the reference mandrel is transmitted to a suitable measuring scale.

3,507,048
BRAKE ADJUSTING GAGE

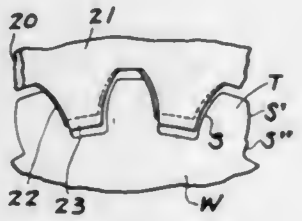
Walter K. Owens, Pensacola, Fla., assignor to Souri, Inc., Pensacola, Fla., a corporation of Florida
Filed Mar. 21, 1968, Ser. No. 714,849
Int. Cl. E21b *47/08*
U.S. Cl. 33—178 **3 Claims**



A highly simplified gage for use in adjusting and repairing automobile brakes and capable of accomplishing the work commonly requiring three separate gages or tools. The brake gage requires only one basic adjustment and is capable of establishing the proper clearance between brake shoes and drum, checking the drum for roundness and wear, and checking the condition of the wheel cylinder as to efficiency of operation and presence or absence of leaks.

3,507,049
SPLINE WEAR GAUGE

Michel P. Heldt, deceased, late of Detroit, Mich., by Odette Heldt, administratrix, Detroit, and Vernon A. Riddell, Farmington, Mich.; said Riddell assignor, by mesne assignments, to Delta Corporation, a corporation of Connecticut
Filed Apr. 22, 1968, Ser. No. 723,976
Int. Cl. G01m *13/02*
U.S. Cl. 33—179.5 **23 Claims**

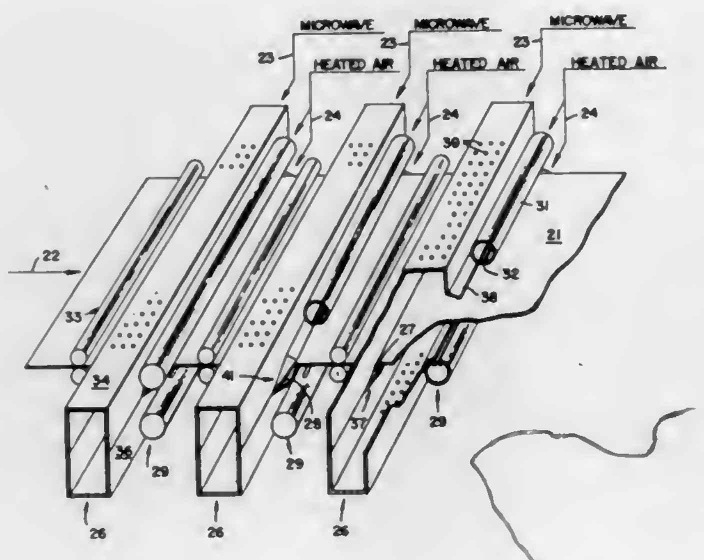


A spline wear gauge has two gauge members having circumferentially spaced spline teeth, the teeth on one of the members having an addendum longer than the teeth on the other of the members. The members are rotatable relative to one another so that when they are brought into position adjacent the spline being gauged and rotated relative to one another, one of the members contacts the spline teeth of the spline being gauged at a different position than the other of the members. Any wear on the teeth will be evident by a relative rotational movement that is shown visually by a dial indicator on the gauge body.

3,507,050
METHOD AND APPARATUS FOR DRYING SHEET MATERIALS

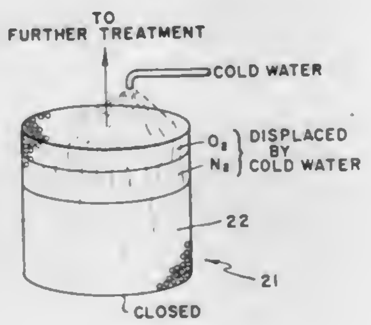
Franklin J. Smith, Diablo, and Klaus Silbermann, Danville, Calif., assignors to Cryodry Corporation, San Ramon, Calif., a corporation of California
Filed Nov. 14, 1967, Ser. No. 682,903
Int. Cl. B01k *5/00*
U.S. Cl. 34—1 **43 Claims**

Wood veneers or other flat materials are passed through successive sections of energized meander waveguides and through jets of heated air from air knives situated between the waveguide sections to effect a very rapid drying action in which relatively moist areas are dried more strongly than dryer areas to produce a finished product of uniform moisture content. The waveguide and air knife structure is disposed within an electrical conductor walled, thermally insulated cabinet with continuous feed conveyor means and an air recirculation system in an arrangement which optimizes operating efficiency and convenience.



3,507,051
REGENERATION PROCESS

Willard R. Calvert, 809 Teakwood Drive, Severna Park, Md. 21146, and James N. Little, 1022 Park Ave., Annapolis, Md. 21403
Filed Feb. 26, 1968, Ser. No. 708,359
Int. Cl. F26b *3/06*
U.S. Cl. 34—9 **5 Claims**

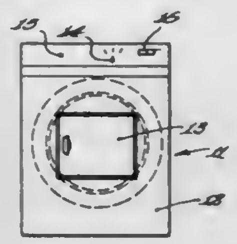


A process for regenerating an adsorbent of the type used in purifying contaminated air in an enclosed environment. The process uses an aqueous solution to prevent degradation of the adsorbent material during regeneration.

3,507,052
TUMBLE PATTERN SENSOR AND METHOD OF DRYING

William F. Robandt, St. Joseph, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Mar. 20, 1968, Ser. No. 714,581
Int. Cl. F26b *7/00, 13/10*
U.S. Cl. 34—12 **25 Claims**

A dryer apparatus in which materials are tumbled in a treatment zone and wherein sensing means sense variations in the tumble pattern of the materials so that the drive motor may be driven at a speed insuring an optimum tumble pattern. The control is effected by regulating either motor speed or by actuating a magnetic slip clutch as a function of changes in tumble pattern. Moisture sensing controls are also provided.



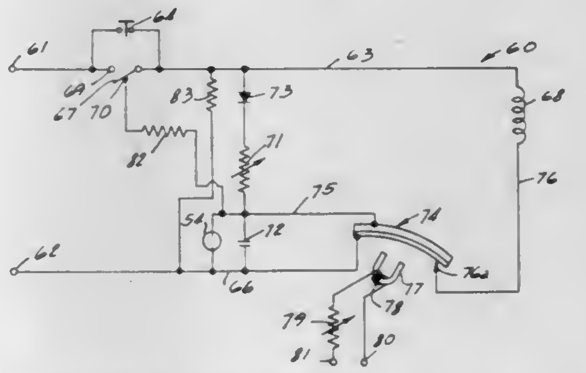
3,507,053
METHOD TO ACCELERATE DRYING OF WOOD

Marcel Goulet, 1529 Garnier St., Quebec 6, Quebec, Canada
No Drawing. Filed May 23, 1968, Ser. No. 731,626
Int. Cl. F26b *7/00*
U.S. Cl. 34—13.8 **18 Claims**

A method for accelerating drying of wood in which the wood is subjected to a perpendicular-to-grain compression at a pressure in the zone of the elastic limit of the wood and for a short period of time. Then the pressure is released and the wood dried at a temperature which is higher than the temperature at which the wood would normally be damaged when not subjected to such compression treatment.

3,507,054
ELECTRONIC CONTROL CIRCUIT FOR A DRYER USING A PIEZOELECTRIC CERAMIC

Donald E. Janke, Benton Harbor, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed Sept. 25, 1967, Ser. No. 670,129
Int. Cl. F26b *19/00*
U.S. Cl. 34—45 **2 Claims**



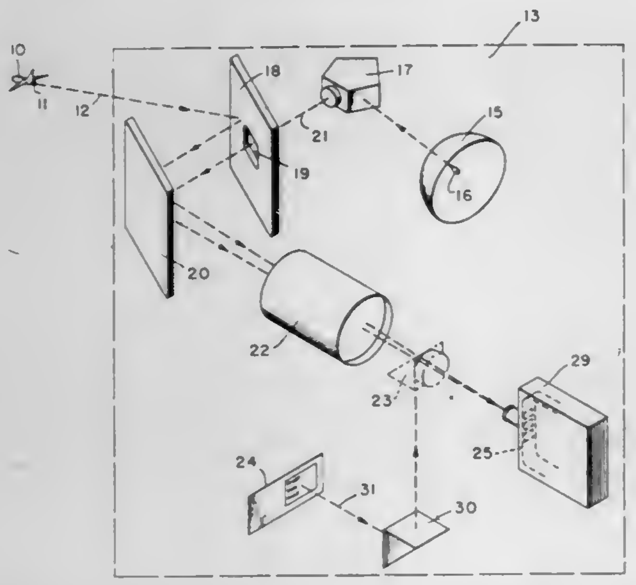
A control circuit for use in an appliance to control the termination of a sequence of the appliance or the termination of operation of the appliance in response to sensed conditions. A resistor, diode and capacitor are connected in series across a source of power to cause the capacitor to charge at a predetermined rate. A sensing element is positioned within the appliance to sense a predetermined condition within the appliance and is connected in parallel with the capacitor of the control circuit to control the charging rate of the capacitor. A piezoelectric ceramic constituting a transducer is also connected in parallel with the capacitor and the sensing element. The transducer senses the charge across the capacitance and converts the electrical signal information sensed across the capacitance to mechanical movement. The mechanical movement of the transducer is used to actuate a switching element, which is formed as an integral part of the transducer, to control the operation of the appliance. Furthermore, the impedance of the transducer is sufficiently high so as to exhibit practically no load across the capacitor.

ERRATUM

For Class 34—171 see:
Patent No. 3,507,061

3,507,055
MISSILE TRACKING SIMULATOR

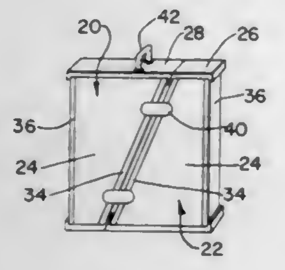
M Wayne Claunch, William A. Arriola, and Ephraim Regelson, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Jan. 10, 1968, Ser. No. 696,731
Int. Cl. G09b *9/00;* **F41g** *3/26*
U.S. Cl. 35—25 **4 Claims**



A means for simulating missile tracking comprising a pinlight mounted along the optical axis at the most forward tracking element of a missile seeker unit, and associated optics capable of superimposing the pinlight image on the image of a target being tracked for recording on film or visual observation.

3,507,056
EDUCATIONAL DISPLAY CASE

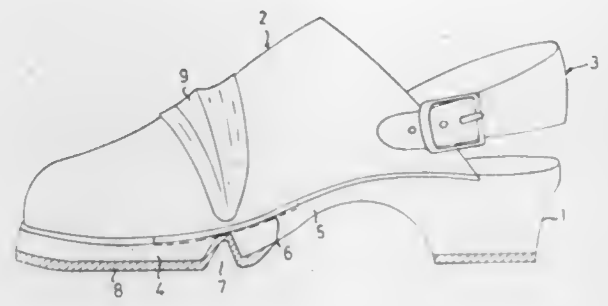
Richard Finkel, Newton, Mass., assignor of one-half to Bernard T. Sendor, Westbury, and Mortimer S. Sendor, Queens Village, N.Y.
Filed Nov. 15, 1967, Ser. No. 683,243
Int. Cl. G09b *1/28*
U.S. Cl. 35—60 **10 Claims**



An educational display case formed of a pair of identical hexahedrons each having two faces that are trapezoidal in parallel planes while the other faces are rectangular, clamps being provided for nesting the hexahedrons so as to form a rectanguloid case. A pair of the opposed rectangular faces of each hexahedron are provided as sliding panels which can be reversed, and the panel surfaces have a variety of finishes and are of a variety of materials to provide flexibility in the use of display materials. The interior of each hexahedron is preferably compartmented for storage of materials and devices intended for display on the panels.

3,507,057
WOODEN SHOES

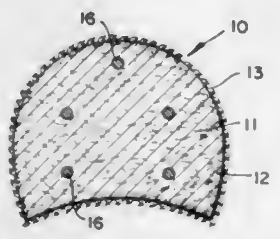
Olof Göte Olsson, Norrsundet, Sweden, assignor to Geons Traskofabrik Olsson & Co.
Filed June 14, 1968, Ser. No. 737,083
Int. Cl. A43b *00/00*
U.S. Cl. 36—2.5 **3 Claims**



A shoe comprises a wooden sole and an upper leather mounted thereon. The wooden sole has a joint at the position thereof which corresponds to the ball of the foot, while a bellows element is inserted in the upper leather above said joint of the wooden sole.

3,507,058
PAPIER MACHE SHOE HEEL CONSTRUCTION

Chrystya T. Olenska, Jamaica, N.Y. (% I. Miller Inc., 450 5th Ave., New York, N.Y. 10018)
Filed Jan. 18, 1968, Ser. No. 698,953
Int. Cl. A43b *21/02*
U.S. Cl. 36—34 **4 Claims**

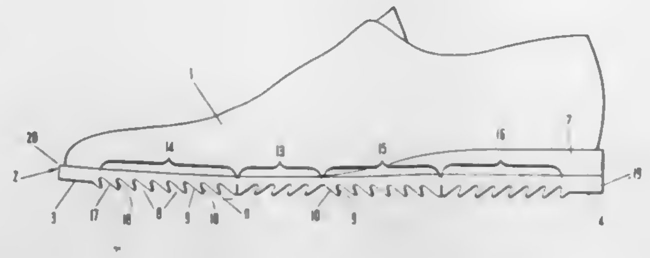


The present invention is directed to improved, light weight shoe heel construction having increased cushioning ability and favorable strength to weight ratios in comparison with conventional wooden and plastic heels. More particularly, the new shoe heels are formed by machining molded blocks of a special papier mache composition comprised predominantly of shredded uncoated and unsized tissue paper of the type commonly characterized as "toilet paper."

3,507,059
SHOE SOLE

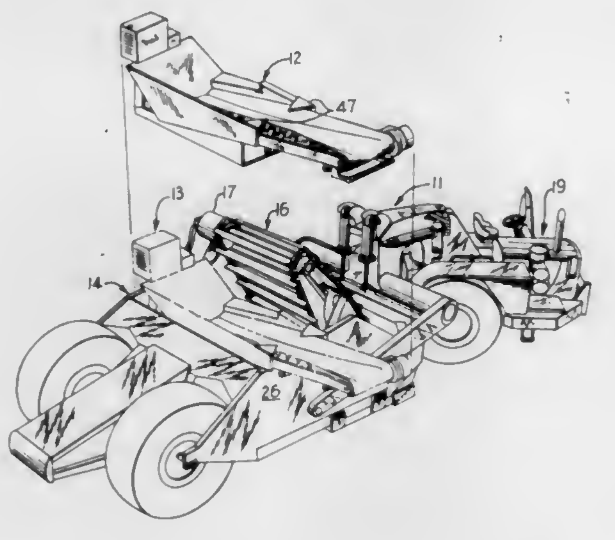
Frank Vietas, Bedford, Mass., assignor to A. R. Hyde & Sons Co., Cambridge, Mass., a corporation of Massachusetts
Filed May 14, 1968, Ser. No. 729,087
Int. Cl. A43b *13/06, 23/28*
U.S. Cl. 36—59 **3 Claims**

A shoe sole of flexible resilient material adapted for use on synthetic turf or running material. The lower surface of the sole is formed with a series of ridges extending across the sole. The ridges are each defined by walls lying in planes angular to one another with similar ridges arranged in a plurality of groups. The ridges of one group each have the planes bisecting the angle defined by its wall inclined toward the toe of the sole and the ridges of the other group each having the planes bisecting the angle defined by its walls inclined toward the heel of the sole. A series of longitudinal or lengthwise extending grooves cut across the ridges.



3,507,060
SIDE CASTING CONVEYOR ATTACHMENT FOR SELF-LOADING SCRAPERS

James E. Gee and Dorwin R. Larsen, Washington, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Sept. 25, 1967, Ser. No. 670,298
Int. Cl. B60p *1/36*
U.S. Cl. 37—8 **1 Claim**

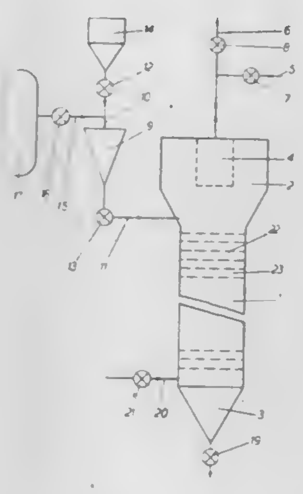


A side casting conveyor attachment for association with a conventional elevator scraper, the attachment having a hopper for disposition in the scraper bowl to be loaded by the elevator, a conveyor forming the bottom of the hopper and extending outwardly past a sidewall of the bowl, self-contained motor means for the conveyor disposed in counter-balancing relation to the conveyor and pyramid shaped restricting members extending inwardly and outwardly over the endless conveyor to regulate but not to block passage of material out of the hopper upon the conveyor.

3,507,061
APPARATUS FOR BRINGING PULVERULENT SOLID MATERIALS INTO CONTACT WITH GASEOUS MATERIALS

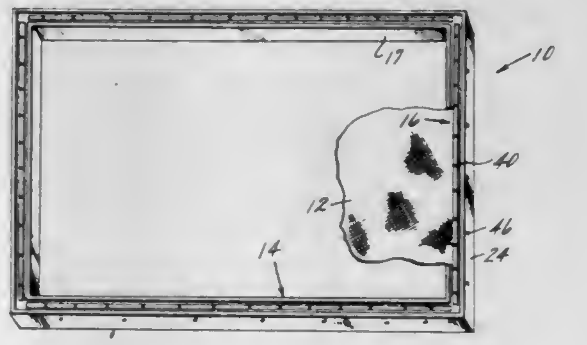
Jean-Jacques Charrin, Lyon, and Pierre Joseph Frechet, Caluire, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
Filed Feb. 23, 1968, Ser. No. 707,642
Claims priority, application France, Feb. 27, 1967, 96,683
Int. Cl. F26b *17/00*
U.S. Cl. 34—171 **5 Claims**

The specification describes an apparatus for treating pulverulent solids with gases or vapors, in which the solid material is fed to the upper region of a chamber having a plurality of vertically spaced, apertured, horizontal baffles. Gas or vapor is passed up through the chamber to exit via a filter, and then a gas or vapor, e.g. an inert gas is fed via the filter to the lower end. This cycle may be repeated a number of times and the solids are then discharged through the lower end.



3,507,062
ADJUSTABLE SCREEN CHASE FRAME ASSEMBLY

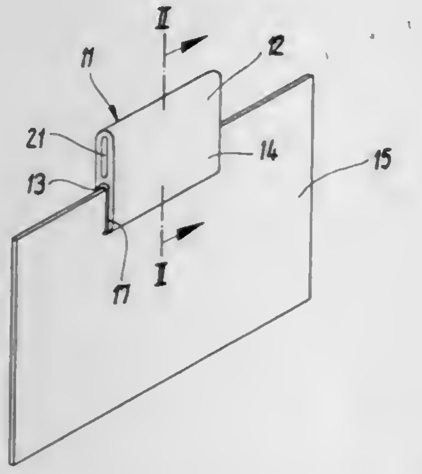
Wilmer L. Moyer, Washington Township, Montgomery County, Ohio, assignor to Cincinnati Printing and Drying Systems, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 25, 1968, Ser. No. 762,408
Int. Cl. D06c *3/08*
U.S. Cl. 38—102.91 **3 Claims**



A screen chase frame comprising a U-shaped channel member on and as part of each side of the frame, a continuous channel thereby formed around the frame, a clamping means disposed in the channel of each member and comprising a bar, a thin strip having runners for gripping the bar at its upper corners and about itself, and means for securing strip to bar, and means for laterally moving the clamping means in a plane parallel to the plane of a screen mounted in the frame. Such moving means is mounted horizontally across the channel and attached to the legs of the U-shaped channel member. The marginal areas along the edges of a screen or the like is passed over the bar disposed in the channel of each member, the thin strip secured thereto, and thereafter the means for laterally moving the clamping means is adjusted thereby tightening the screen or the like across the edge of the inner leg of the U-shaped channel member thereby stretching or tensing the screen or the like within the framework of the chase frame.

3,507,063
REFERENCE TABS FOR FILE INDEXING AND THE LIKE

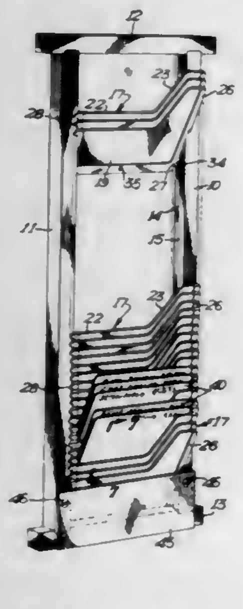
Hans Jochheim, Goethestrasse, Iserlohn, Westphalia, Germany
Filed Jan. 15, 1968, Ser. No. 697,690
Claims priority, application Germany, Jan. 17, 1967, H 61,579
Int. Cl. G09f *3/16*
U.S. Cl. 40—23 **3 Claims**



A reference tab suitable for use with filing cards, file covers and the like comprises a foot portion having two resilient clamping limbs which embrace a U-shaped metallic spring. The tab is made of plastics material which is injection moulded around the metallic spring.

3,507,064
CARDHOLDER RACK AND CARDHOLDER THEREFOR

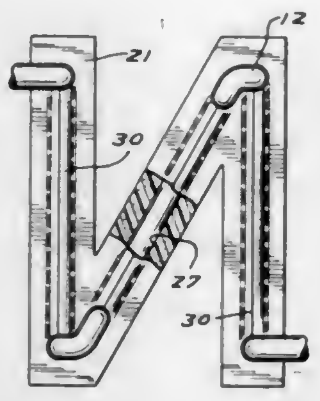
Richard N. Hammero, Cottage Grove, Minn., assignor to Farmers Union Central Exchange, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Feb. 7, 1968, Ser. No. 703,738
Int. Cl. G09f *1/10*
U.S. Cl. 40—124.2 **13 Claims**



A cardholder rack, and a cardholder for such a rack, in which there are a plurality of such cardholders held between two supporting grooved bars, the cardholders being flexible and having two spaced ears at each end, the lower ear extending into the groove of the adjacent bar and the upper ear extending in front of the adjacent bar so that the cardholders are inclined with respect to the longitudinal axes of the bars and held in uniformly staggered relationship so that each cardholder projects above the one immediately in front of it.

3,507,065
OVERLAY FOR ILLUMINATING TUBING

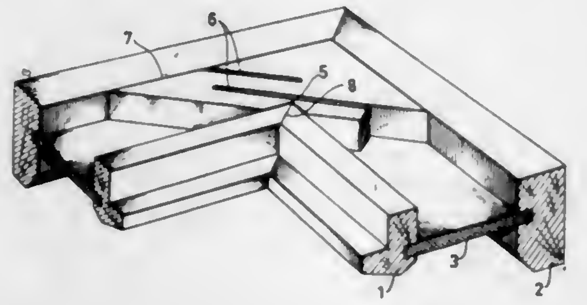
William S. Fullerton, St. Paul, Minn., assignor to Technical Ordnance, Inc., St. Louis Park, Minn.
Filed Dec. 21, 1967, Ser. No. 692,442
Int. Cl. G09f *13/06*
U.S. Cl. 40—130 **1 Claim**



This invention relates to an overlay for tubular lighting means, such as neon tubing, to be carried by said tubing and to comprise a translucent fluorescent flexible substance as a covering material taking on the configuration generally of the character or design formed by the tubing. The overlay is conveniently formed of an elastomeric silicone resin impregnated with suitable pigment and arranged to form a self holding overlay.

3,507,066
PICTURE OF MIRROR FRAMES

Sven Holger Widigs, Enbacka, Gustafs, Sweden
Filed Dec. 28, 1967, Ser. No. 694,298
Claims priority, application Sweden, Jan. 3, 1967, 253/67
Int. Cl. G09f *1/12*
U.S. Cl. 40—152 **4 Claims**

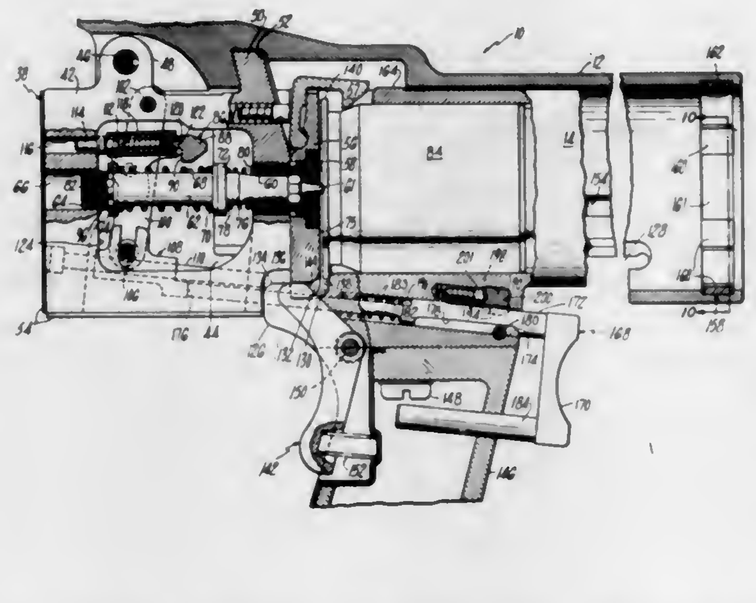


A composite frame for a picture or mirror has rectangular inner and outer framework moldings between which a flattened sheet or board is disposed. The corner joints are reinforced by a triangular block, which may be slotted for resiliency and thereby prevent deformation of the framing members by temperature or humidity changes.

3,507,067
GRENADE LAUNCHER HAVING A ROTATABLE FORWARDLY SLIDING BARREL AND REMOVABLE FIRING MECHANISM

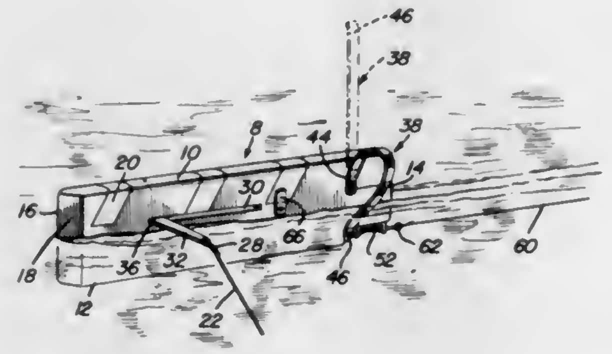
Henry A. Into, Rocky Hill, Conn., assignor to Colt's Inc., Hartford, Conn., a corporation of Arizona
Filed Dec. 14, 1967, Ser. No. 690,672
Int. Cl. F41c *11/02*
U.S. Cl. 42—10 **23 Claims**

A firearm comprising a rotary locked, concentric barrel assembly including an outer housing having a cartridge loading opening and an inner barrel received for sliding movement between an extended loading position and an unlocked telescoped position, a double action firing mechanism disposed rearwardly of the barrel and removably fixed to the housing, and a trigger carried on the barrel for operating the firing mechanism when the barrel is in a locked firing position, the barrel being rotatable from said locked firing position to said unlocked telescoped position for automatically disconnecting the trigger from the firing mechanism during cartridge loading and unloading.



3,507,068
OTTER BOARD FOR TROLLING

Roy C. Roberts, Box 688, Washburn, Wis. 54891
Filed July 30, 1968, Ser. No. 748,879
Int. Cl. A01k *93/00, 97/12*
U.S. Cl. 43—17 **9 Claims**

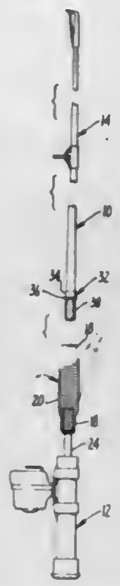


A distinctively colorful, substantially rectangular otter board is provided with a beveled leading end and provided at a trailing end with a latch pin. The latch pin serves to conduct a fishing line. It also provides a keeper for an elongate flexibly resilient bite-signalling finger. A towline, independent of the fishing line, is connected at an outer end to an arm which is foldably mounted in a slot provided in a side portion of the otter board.

3,507,069
CASTING ROD

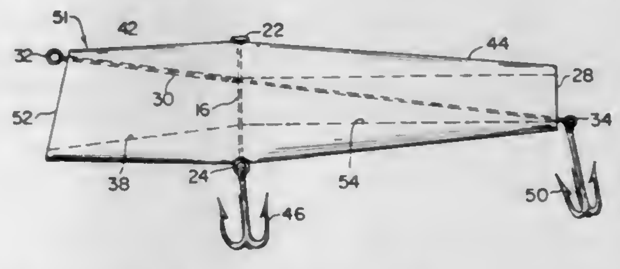
William A. Borba, Sr., 524 Spruce Ave., South San Francisco, Calif. 94080
Filed Aug. 2, 1968, Ser. No. 749,757
Int. Cl. A01k *87/00*
U.S. Cl. 43—18 **5 Claims**

An improved short-coupled casting rod having a handle portion, a rod portion, and an intermediate cylindrically-shaped coil spring member having an enlarged central portion, the handle and rod portions being provided with cylindrically-shaped terminal members adapted to be fitted into and locked to reduced ends of the coil spring.



3,507,070
ARTIFICIAL FISH LURE

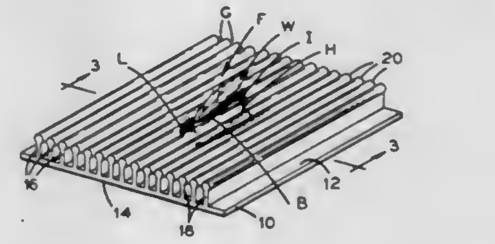
Anthony Rossello, 326 Benson Ave., Elmont, N.Y. 11003
Filed May 27, 1968, Ser. No. 732,356
Int. Cl. A01k *85/00*
U.S. Cl. 43—42.06 **12 Claims**



The invention is an artificial fish lure having an elongated body with a longitudinal through opening and a transverse strut to which a longitudinal member, having means to attach a fishing line leader thereto, is slideably connected. The longitudinal member may move laterally within the through opening, thereby causing the body of the fish lure to move in various directions to produce lifelike "swimming action" when the lure is drawn through the water by means of the leader.

3,507,071
HOLDER FOR FISHERMAN'S FLIES

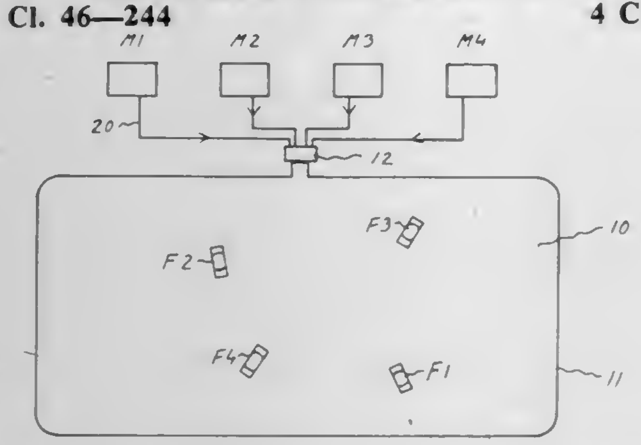
Newton O. Bryson, 1801 Huldy St., Apt. 7, Houston, Tex. 77019
Filed Aug. 8, 1968, Ser. No. 751,298
Int. Cl. A01k *97/06*
U.S. Cl. 43—57.5 **6 Claims**



A holder having a sheetlike base and a multiplicity of elongated projecting legs integrally secured to the base, the entire holder preferably being formed as a plastic extrusion. In a type adapted to hold flies and other objects which must have a portion protruding for ready withdrawal, the legs are closely spaced and have lateral protrusions or knobs which grip, e.g., the hook of a fly and prevent it from moving in any direction. In a type adapted for use as a shipping container the legs are shaped to receive the objects, sometimes with knobs and sometimes with grooves in the legs, and spacers may be added between legs to separate objects of short length. The legs may have simple straight sides for specially shaped objects.

3,507,072
INDUCTION OPERATED VEHICLE GAME

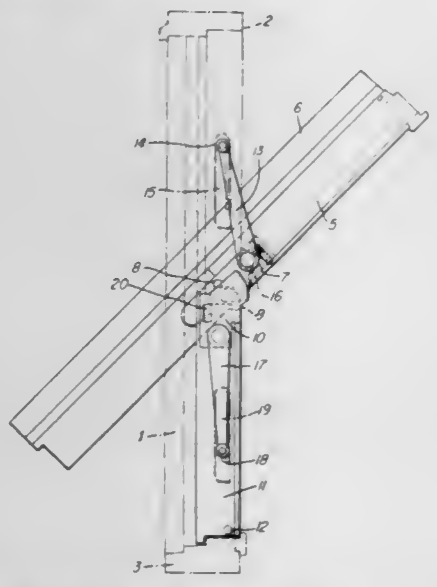
Lars Hammarberg, Linkoping, Sweden, assignor to Mr. Kurt Ohnborn, Linkoping, Sweden
Filed June 26, 1967, Ser. No. 648,850
Claims priority, application Sweden, June 29, 1966, 8,820/66
Int. Cl. A63h *33/26;* **A63b** *67/00*
U.S. Cl. 46—244 **4 Claims**



A traffic game comprising a number of remotely controlled carriages such as motor car models, which are driven on a plane surface such as a floor or the like. The plane surface is surrounded by an electrically conducting loop, and electronic circuitry is provided for supplying to the loop alternating currents of different frequencies, viz one particular frequency for each carriage and each function which should be performed by said carriage. Each carriage is provided with a driving source of its own and with magnetically sensitive receiving means which are frequency selective in correspondence to the different frequencies supplied to said loop.

3,507,073
REVERSIBLE WINDOWS

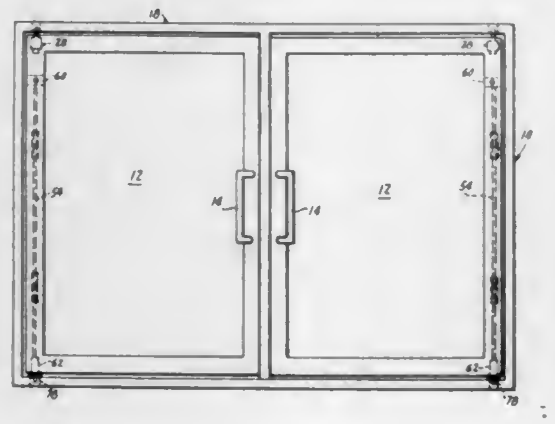
Per Egon Wegefelt,, Trelleborg, Sweden, assignor to Olof Anderssons Eftr, Industrigatan, Trelleborg, Sweden
Continuation-in-part of application Ser. No. 516,994, Dec. 28, 1965. This application Apr. 4, 1968, Ser. No. 718,804
Claims priority, application Sweden, Apr. 20, 1967, 5,538/67
Int. Cl. E05d *15/52*
U.S. Cl. 49—192 **2 Claims**



A window with frame and sash therein pivotable on a median horizontal axis and on a horizontal axis near its bottom with a member connected between the frame and sash and movable in relation to both by a swinging of the sash more or less far from the shut position about the median horizontal axis defined by the pivots on the sash. Also frictional resistance is applied to said member to retain it in the position into which it has been moved by the preparatory swinging of the sash about the median axis.

3,507,074
REFRIGERATOR DOOR HINGE

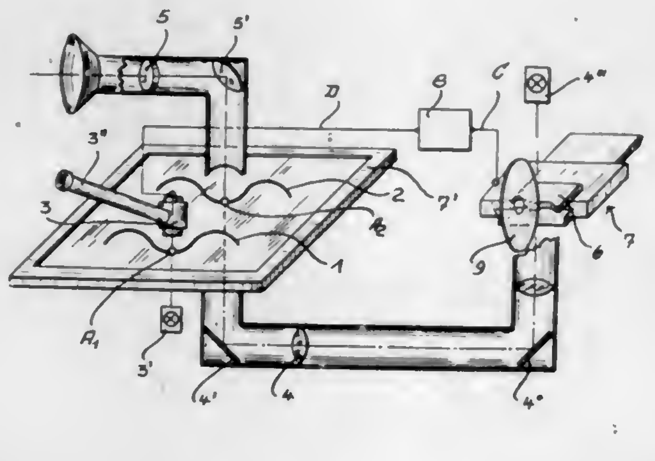
Sam C. Gallegos, 27593 Capri Ave., Hayward, Calif. 94545
Filed Oct. 8, 1968, Ser. No. 765,907
Int. Cl. E05f *1/12*
U.S. Cl. 49—386 **1 Claim**



A door for a relatively large cabinet such as a large refrigerator or freezer, particularly of the walk-in type, is hinged at the top and bottom at one vertical edge to swing between open and closed positions, and a torque rod is arranged in the pivot axis of the hinges and is fixed at its respective ends to the cabinet and to the door so that the swinging of the door to open position builds up a torque in the torque rod so that the door is self-closing when released.

3,507,075
SHAPE GRINDING MACHINE WITH DUAL OPTICAL DEVICES

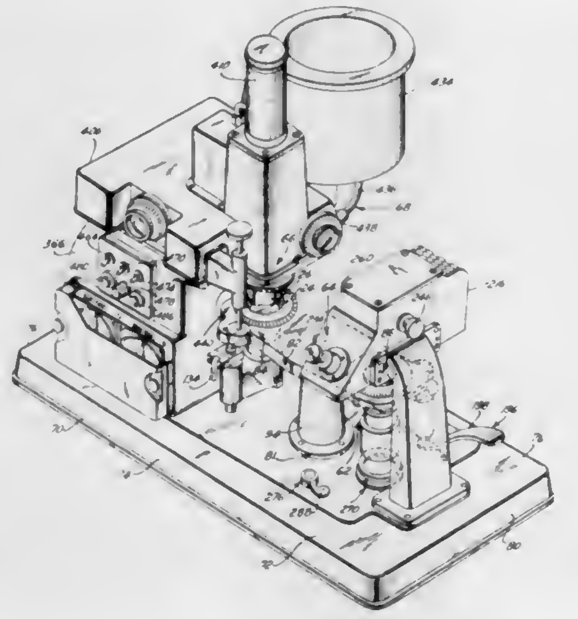
Hans Schmidt, Mannheim-Feudenheim, Germany, assignor to Hommelwerke Gesellschaft mit beschrankter Haftung, Mannheim-Kafertal, Germany
Filed Dec. 28, 1966, Ser. No. 605,466
Claims priority, application Germany, Jan. 3, 1966, H 58,130
Int. Cl. B24b *49/12*
U.S. Cl. 51—165 **5 Claims**



A shape grinding machine equipped, in addition to a known optical scanning device, with a second optic projecting the shape profile to be ground from a pattern. An observing instrument, e.g., a microscope, may be attached to both optics.

3,507,076
APPARATUS FOR PROCESSING OF OPHTHALMIC LENS

Milo O. Rudd, Vision Park, and Alexander M. Woronoff, both of Fort Lauderdale, Fla. (Yacht Haven, Stamford, Conn.)
Original application Feb. 4, 1965, Ser. No. 430,315, now Patent No. 3,431,688. Divided and this application Mar. 26, 1968, Ser. No. 736,869
Int. Cl. B24b *19/00*
U.S. Cl. 51—277 **22 Claims**

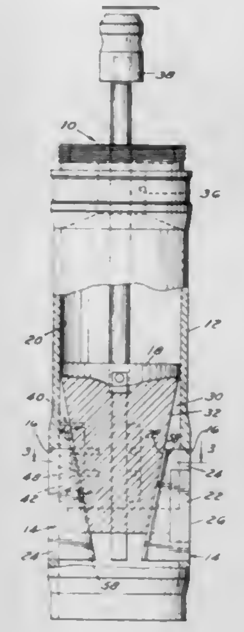


A blocker is designed to apply an indexing plug to the finished side of a semi-finished lens blank. A support is provided for receiving the lower concave side of the blank. An outer die member is positioned on the upper convex finished side of the blank which serves to contour the formed block with an optical axis reference. An inner mold is lowered onto the convex side of the blank within the outer mold for contouring the block with the mechanical center reference. Means are associated with both of these molds for aligning them azimuthally in accordance with the prescribed cylinder axis. Moldable blocking material is dispensed from an appropriate dispenser between the dies for forming a block in one molding operation in a secure manner on the lens blank having both a mechanical center reference and a optical center reference. Simultaneously, an index is formed on the block relative to the ultimate horizontal alignment of the finished lens. Means are also provided for removing the blocked lens from the dies upon setting of the blocking material. A turntable arrangement is also provided whereby another lens blank may be aligned and eventually associated with the two die members for having a blocking material subsequently introduced and secured thereto with references permitting the concave side of the lens blank to be finished according to prescription.

3,507,077
HONING ELEMENT RETAINER

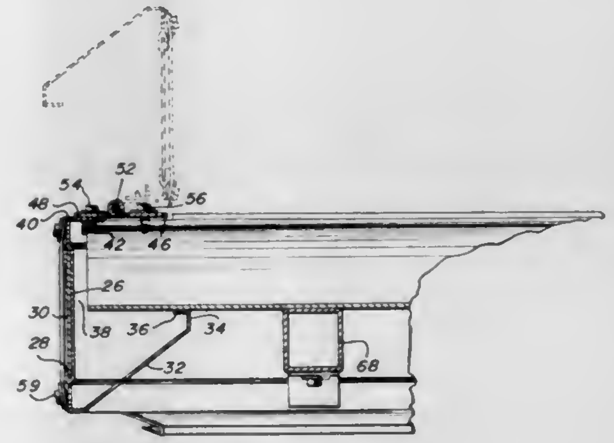
Manly A. Magsig, Durand, Mich., assignor to MWA Company, Owosso, Mich., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,790
Int. Cl. B24b *9/02*
U.S. Cl. 51—338 **8 Claims**

The honing assembly comprises a hollow head or shell provided with a plurality of circumferentially spaced slots, honing elements projecting from the slots, and an adjusting member for the honing elements within the head. The honing elements are seated in grooves in the adjusting member, and carrier blocks mounted on the adjusting member alongside the grooves support spring pressed balls which frictionally engage the honing elements to retain them in radially adjusted position.



3,507,078
HINGED GUTTER FASCIA

Herbert D. Sayers, Sr., 603 12th St., Radford, Va. 24141
Filed Mar. 8, 1968, Ser. No. 711,800
Int. Cl. E04d *13/035*
U.S. Cl. 52—15 **6 Claims**

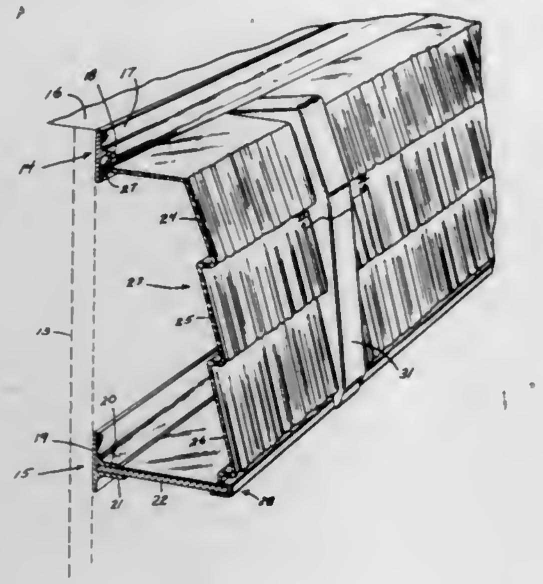


A hinged gutter fascia attached to the edge of a roof structure enabling pivotal movement thereof from an operative position to an inverted or dumping position to enable cleaning of the gutter, removal of leaves, debris and the like therefrom in an expeditious manner. Various types of hinge structures may be employed which pivotally support the gutter fascia from the top surface of the roof or from the bottom surface thereof.

3,507,079
ROOF OVERHANG STRUCTURE

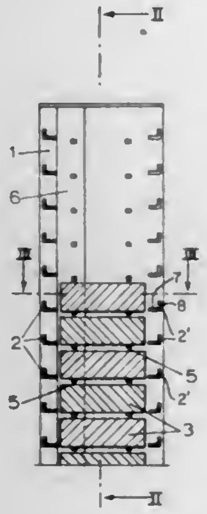
Henry E. George, Dryden, Mich., assignor to Champion Home Builders Co., Dryden, Mich., a corporation of Michigan
Filed Dec. 28, 1967, Ser. No. 694,138
Int. Cl. E04c *1/39;* **E04d** *1/08;* **E04f** *19/08*
U.S. Cl. 52—74 **5 Claims**

A mansard-like decorative roof overhang structure for trailer or building structures which consists of interlocking plastic roof panels and soffit closure panels supported in their use position by use of extruded support channels which are mounted along the upper portions of the trailer or building structure walls in a horizontally oriented parallel spaced apart position.



3,507,080
MULTIPLE STORY BUILDING

Adrianus E. Q. van Hezik, Staringstraat 11,
Nijmegen, Netherlands
Continuation-in-part of application Ser. No. 458,103, May 24, 1965. This application Mar. 6, 1968, Ser. No. 729,097
Int. Cl. E04b *1/348;* E04h *1/04*
U.S. Cl. 52—79 2 Claims

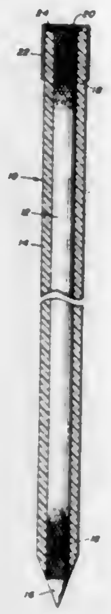


A multi-story building has at the level of each story only at the fore-front and the back-front of the building horizontal longitudinal beams of angular section for serving as balconies or galleries, said beams being connected to each other by vertical transverse walls carrying removable supports for supporting prefabricated box-shaped blocks each constituting a home unit.

3,507,081
SURVEYOR'S PIN

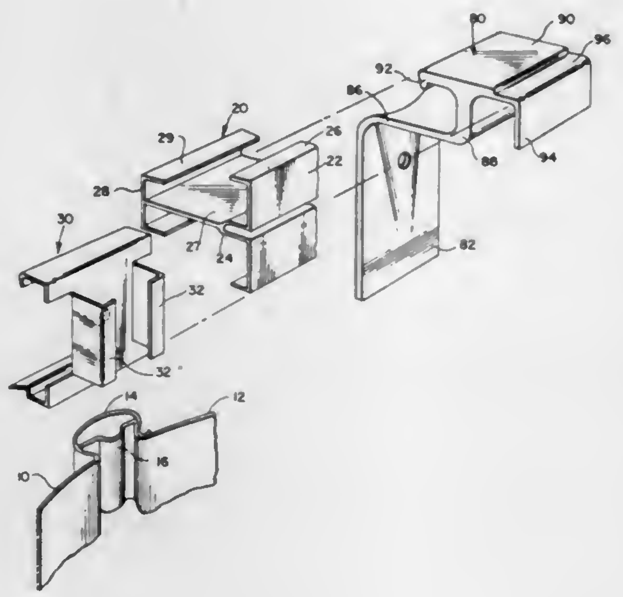
Bruce B. Gallup, 1052 Chinquapin Lane,
Virginia Beach, Va. 23451
Filed Aug. 14, 1968, Ser. No. 752,652
Int. Cl. E04h *13/00;* F16b *19/00*
U.S. Cl. 52—103 2 Claims

A surveyor's pin comprising a central pointed metal rod for structural strength and an external brightly colored plastic sheath for visibility. The inner metal core extends above the plastic covering at the upper end to permit the pin to be driven into the ground without damaging the covering, and a plastic cap is thereafter adhesively secured to the pin to prevent corrosion of the metal core. The pin may be provided with a hollowed out portion adapted to receive radioactive material for location of the pin by means of a radiation detector.



3,507,082
BRACKETS FOR SECURING SUPPORTING STRUCTURE TO A WALL

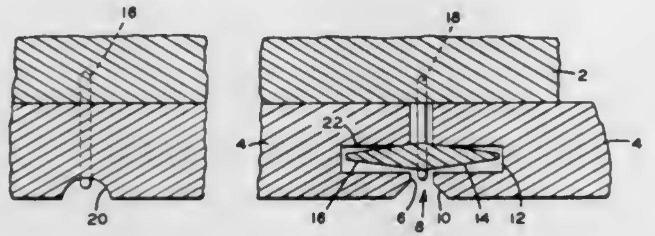
William C. Heirich, 515 S. 15th St.,
Muskogee, Okla. 74401
Continuation-in-part of application Ser. No. 603,281, Dec. 20, 1966. This application Apr. 22, 1969, Ser. No. 818,377
Int. Cl. E04b *2/88, 2/00*
U.S. Cl. 52—489 11 Claims



Bracket assemblies for securing supporting structure to a building wall permitting the supporting structure to be snapped in place so as to avoid the use of permanent fasteners, the assembled supporting structure floating in relation to the bracket assemblies and the wall compensating for movements in the building wall and for differences in thermal expansion and contraction between the building wall and panels attached to the supporting structure covering the wall.

3,507,083
SPLINE JOINT FOR CEILING BOARDS

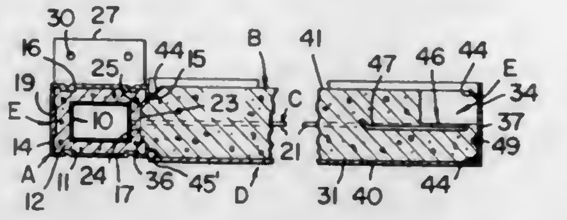
William T. Fish, Jr., Millersville, and Norman A. Johnson, Lititz, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 31, 1968, Ser. No. 788,290
Int. Cl. E04c *1/10, 1/30*
U.S. Cl. 52—586 2 Claims



Large size panels are used in mobile homes to form the ceiling. A spline is positioned in a kerf between the adjacent edges of two adjacent boards. Staples passing through the spline hold the spline and boards in position. The panels are additionally provided with groove structures through which staples pass to further hold the boards in position.

3,507,084
TILT-UP WALL CONSTRUCTION

James C. Jay, Alameda, Glenn W. Pownder, Los Altos, and Ralph C. Smith, Huntington Beach, Calif., assignors, by mesne assignments, to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 4, 1967, Ser. No. 687,834
Int. Cl. E04c *2/04;* E04b *2/00;* E04g *21/14*
U.S. Cl. 52—601 4 Claims

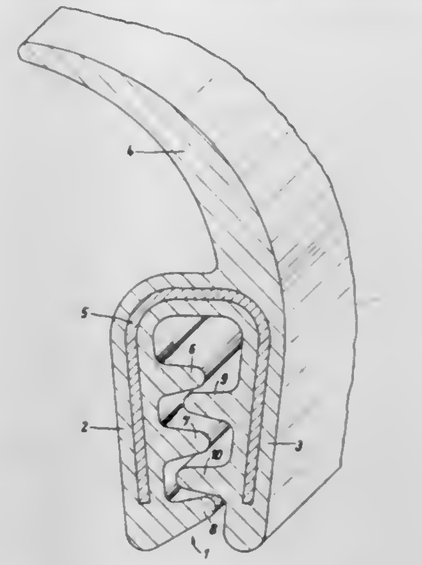


A method and apparatus for erecting building walls utilizing prefabricated wall sections, which wall sections comprise poured and cured panels integrally attached to preformed columns. The wall sections are formed in typically horizontal panel molds. These molds have placed adjacent thereto preformed column members. The column members have attached embedding members protruding therefrom into the mold, which embedding members attach to the panel as subsequently poured and cured interior of the mold. When poured and cured, the wall sections are tilted, raised on otherwise moved to the erected disposition on the building foundation. In such disposition the wall sections are capable of being attached to the building foundation, accommodating beams of the finished building structure, and being permanently attached to other adjoining wall sections.

3,507,085
FLANGE MOUNTING CLAMPING SECTION

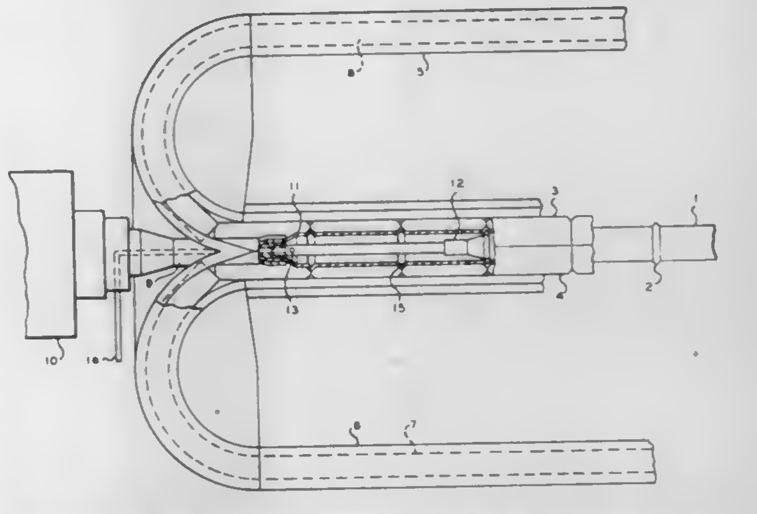
Werner Kruschwitz, 79 Brehmstrasse,
4 Dusseldorf, Germany
Filed Feb. 5, 1968, Ser. No. 703,120
Claims priority, application Germany, Feb. 10, 1967,
D 35,066
Int. Cl. E04b *1/66;* E04f *19/06*
U.S. Cl. 52—716 3 Claims

This specification discloses a flange mounting clamping section of resilient material and of U shaped cross section with the sides of the U converging towards the free edges. One flange carries three inwardly extending ribs and the other two ribs with the ribs being interleaved when the section is unstressed but portions of ribs on the flanges being in opposed relation when the section is distorted to bring the flanges into a substantially parallel relation.



3,507,086
CONTAINER FABRICATION

Estil N. Barnes and Tom J. Windle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 27, 1967, Ser. No. 618,795
Int. Cl. B65b *43/00*
U.S. Cl. 53—29 2 Claims

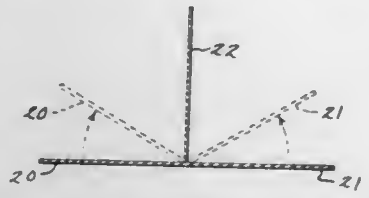


A method of manufacturing container bodies by forming an elongated tube of plastic material having at least one equal spaced ridge about its periphery, severing the tube into segments, each having at least one open-flared end, by cutting through the apex of each of the ridges. A container can be formed, for example, by crimping a metal closure around the flanges on the flared ends at one or both ends of each segment as desired.

3,507,087
ARTICLE-SEPARATING PACKAGES FOR FLAT ARTICLES SUCH AS SURGICAL SUPPLIES

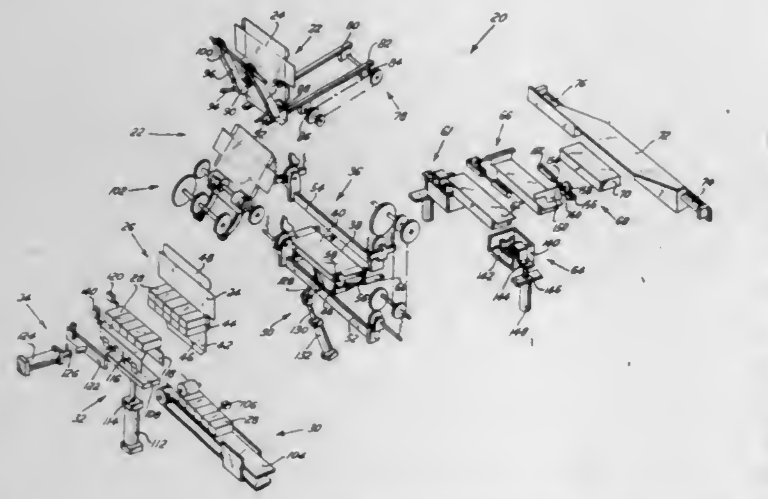
Robert H. Pratt, Milwaukee, Wis., assignor to Pratt Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Original application July 27, 1967, Ser. No. 656,409. Divided and this application Feb. 24, 1969, Ser. No. 805,982
Int. Cl. B65b *43/06*
U.S. Cl. 53—29 4 Claims

A package having top and bottom panels, at least one of which is of paper having such porosity that steam sterilization is effective therethrough, and there being an intermediate panel separating surgical supplies on each side thereof, the intermediate panel being of heat-sealable film, and the top and bottom panels being heat sealed to the intermediate panel.



3,507,088
CARTONER

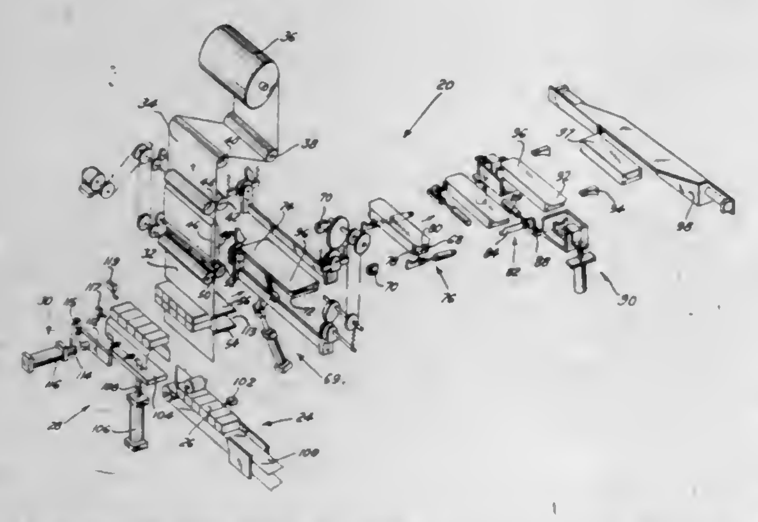
Adrian C. Mizelle and Robert D. Gillespie, Petersburg, Va., assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed June 21, 1967, Ser. No. 647,743
Int. Cl. B65b *11/12, 49/08, 61/20*
U.S. Cl. 53—53 **8 Claims**



A cartoner for automatically enclosing a group of packages, such as cigarette packages, within a carton blank and sealing the blank. This apparatus is used with a carton blank having a top and side end tabs to automatically, quickly and efficiently seal this type of carton blank around a group of packages to obtain a low cost carton of packages.

3,507,089
BUNDLING MACHINE

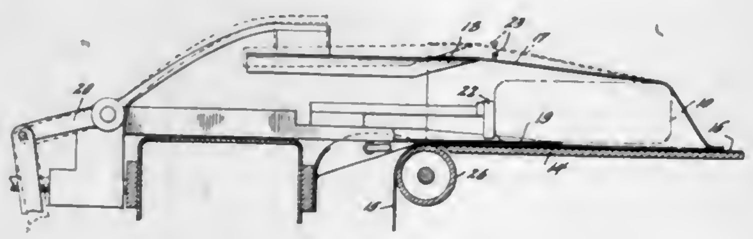
Adrian C. Mizzelle and Robert D. Gillespie, Petersburg, Va., assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed May 11, 1967, Ser. No. 637,752
Int. Cl. B65b *11/12, 35/52*
U.S. Cl. 53—61 **8 Claims**



A bundling machine for bundling articles such as packages of cigarettes into a low cost, moisture proof bundle by automatically placing a predetermined group of packages into contact with a predetermined length of bundling material and then automatically enclosing the group within the length of bundling material. The resultant bundle is quickly and efficiently produced with a great reduction in labor costs and will protect the enclosed package for long periods of time in hot, dry, warm or cold weather.

3,507,090
BAG LOADING MACHINE

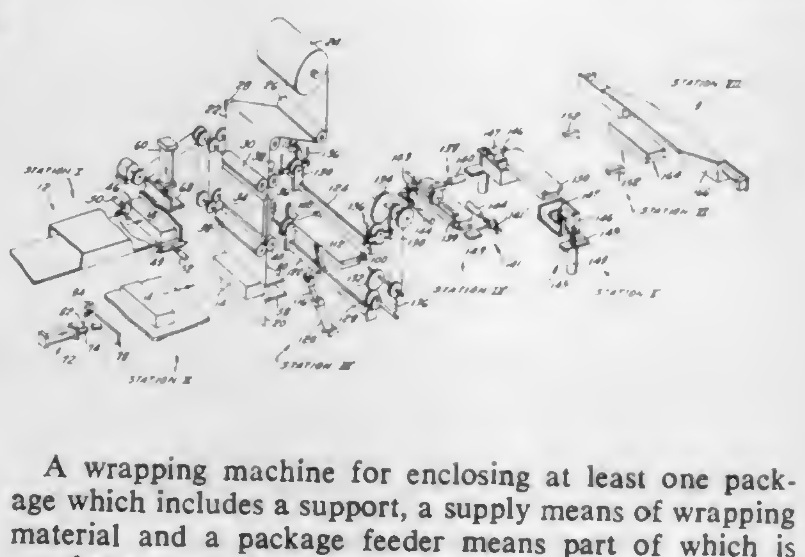
Joseph D'Angelo, Wyckoff, N.J., assignor to Roto American Sales Corporation, New York, N.Y., a corporation of New York
Filed Aug. 25, 1967, Ser. No. 663,310
Int. Cl. B65b *57/12*
U.S. Cl. 53—-74 **8 Claims**



Machinery is disclosed for filling a series of long open ended bags affixed or glued to a shingled strip with each bag overlying the open end of the next bag. For example, long, narrow bags receiving articles such as loaves of bread are positioned on a loading table where each bag is opened and the article is inserted thereinto from a conveyer line synchronized to present a new bag for each new article. A set of flanges or grippers is inserted into the open mouth of the bag to hold it open and to guide the article thereinto. The grippers are moved relative to the loading table and shingled strip to tear the bag away from the strip. To assure jamproof operation of the machine, the bags are sensed and indexed synchronously in position as articles are presented for filling the bags.

3,507,091
OVERWRAPPING MACHINE

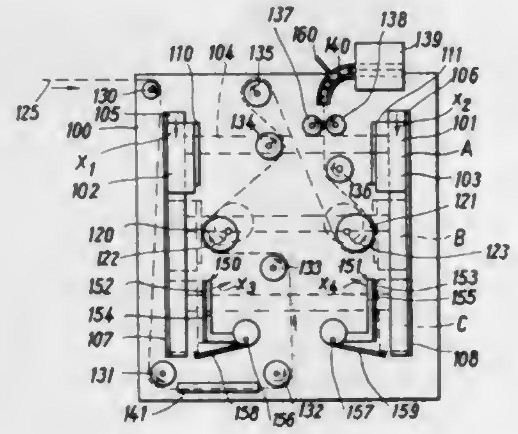
Adrian C. Mizelle and Robert D. Gillespie, Petersburg, Va., assignors to Brown and Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware
Filed Nov. 23, 1966, Ser. No. 596,667
The portion of the term of the patent subsequent to Oct. 15, 1985, has been disclaimed
Int. Cl. B65b *11/12, 49/08*
U.S. Cl. 53—131 **13 Claims**



A wrapping machine for enclosing at least one package which includes a support, a supply means of wrapping material and a package feeder means part of which is on the support for receiving and feeding packages. A wrapping material feeding means is also on the support for feeding a length of wrapping material to a location at which the package is wrapped therewith. Plunger means are positioned on the support for moving the package into engagement with the length of wrapping material and then moving the engaged package and length of wrapping material to a second location at which the length of wrapping material is partially enclosed about the package. Finally, pasting and folding means are employed on the support for applying paste to certain parts of the partially enclosing length of wrapping material and completing the folding of this length of wrapping material about the package to complete the package in which the package is enclosed by the length of wrapping material.

3,507,092
PACKAGING MACHINES

August Wickersheim, 4 Industriestrasse, Egenbuttel, near Hamburg, Germany
Original application Sept. 13, 1965, Ser. No. 486,992, now Patent No. 3,415,035, dated Dec. 10, 1968. Divided and this application June 18, 1968, Ser. No. 737,920
Claims priority, application Germany, Mar. 6, 1965, W 34,499; June 19, 1965, W 35,169
Int. Cl. B65b *61/00;* **B41f** *3/44*
U.S. Cl. 53—131 **5 Claims**

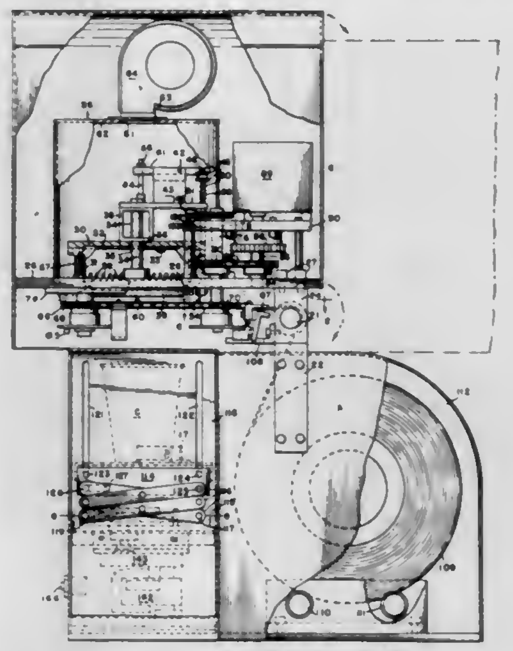


This invention relates to an apparatus for closuring a filled package and affixing thereto a tag. According to the invention the apparatus includes a closer head adapted to fasten a clamp about the packaging material at the neck of the filled package, and a device for printing indicia on strip material, severing from the printed-on strip material a length thereof, and feeding the severed length to the closer head such that it is inserted between the packaging material and the clamp to be applied, whereby when the clamp is fastened about the neck of the filled package the length of strip material is affixed thereto.

3,507,093
CONTAINER CAPPING MACHINE

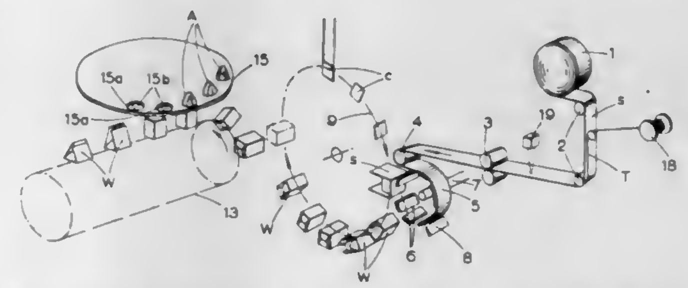
Thomas E. Marion, Baltimore, Md., assignor to Maryland Cup Corporation, Owings Mills, Md., a corporation of Maryland
Filed Aug. 16, 1967, Ser. No. 660,948
Int. Cl. B65b *47/02, 53/06, 61/02*
U.S. Cl. 53—141 **23 Claims**

A machine is provided for placing a shrink film closure on the open end of a container. It comprises sprocket chains on opposite sides of a sheet of shrink film having clamps which engage marginal edges of the sheet and draw it from a storage roll to a position above a container to be so capped when positioned on an elevator and below a hood for receiving the top of the container. Upon actuation of the elevator upwardly the container is raised to engage the sheet of film. The film is larger than the diameter of the container and it is moved into the hood. A linkage is actuated resulting in a knife blade being lowered to cut off an end portion of the sheet with a sufficient marginal portion to overhang the container. Also, a pin hole is made in the sheet to release excess air which may become trapped between the container and the sheet. An electrical heating element is then energized adjacent openings in the hood simultaneously with actuation of an air blower which causes air to pass, first over the heating element, and then into the hood through the openings. As a result, a marginal portion of the sheet of film is heat shrunk about the top of the container, whereupon the elevator is moved downward with the capped container in position to be removed manually.



3,507,094
APPARATUS FOR PACKING OR WRAPPING ARTICLES

Eric Neville Coles, 4 Balmoral Gardens, London W. 13, England
Continuation of application Ser. No. 380,394, July 6, 1964. This application July 7, 1967, Ser. No. 651,919
Int. Cl. B65b *1/02*
U.S. Cl. 53—183 **5 Claims**

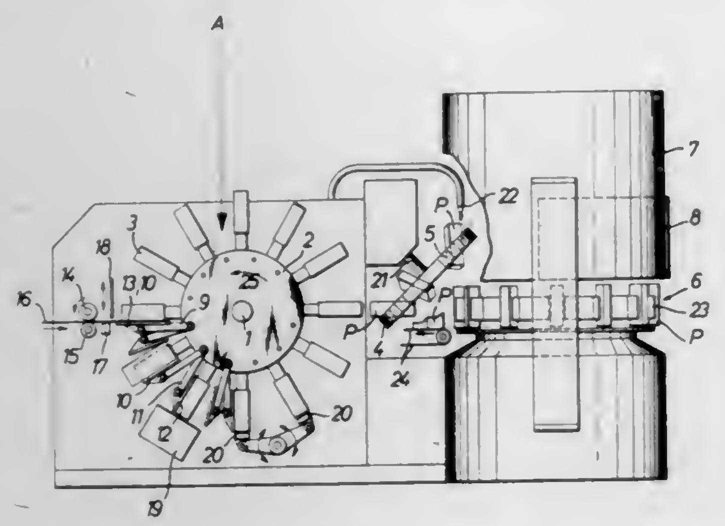


Packaging material is drawn from a supply source on to, and is retained on, a hollow rotatable serving drum by suction means with means provided to sever predetermined lengths of the material from the source. Turret mounted shapers are provided to operate on severed lengths to form bags sealed at an end thereof, the bags then being loaded through the open ends thereof and then sealed.

3,507,095
MACHINE FOR MAKING, FILLING AND CLOSING PACKAGING CONTAINERS

Paul Kuhnle, Winnenden, Wurttemberg, Germany, assignor to Fr. Hesser Maschinenfabrik Aktiengesellschaft, Stuttgart-Bad Cannstatt, Nauheimer, Germany, a corporation of Germany
Filed Feb. 9, 1968, Ser. No. 704,367
Claims priority, application Germany, Feb. 20, 1967, H 61,899
Int. Cl. B65b *1/02*
U.S. Cl. 53—183 **1 Claim**

A high-output packaging machine comprising a pair of package-making mandrel wheels arranged side by side and rotating in vertical planes, and a horizontal conveyor served by the two mandrel wheels and transporting the packages through filling and closing stations. An inclined intermediate conveyor plate may be used between each mandrel wheel and the horizontal conveyor to transfer packages from the former to the latter.



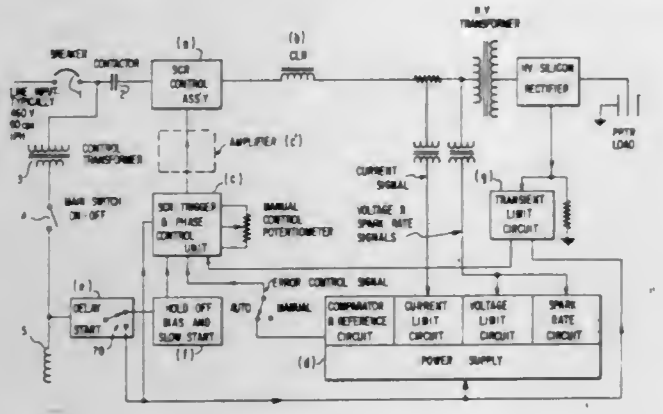
3,507,096
METHOD AND APPARATUS FOR AUTOMATIC VOLTAGE CONTROL OF ELECTROSTATIC PRECIPITATORS

Herbert J. Hall, Skillman, and Richard Jakoplic, Somerset, N.J., assignors to Research-Cottrell, Inc., Somerset, N.J., a corporation of New Jersey

Filed Mar. 7, 1967, Ser. No. 621,279

Int. Cl. B03c *3/68;* **G05f** *1/40*

U.S. Cl. 55—105 **17 Claims**



An apparatus which automatically controls an electrostatic precipitator by employing solid-state components in combination with a current limiting reactor. A firing signal means is provided for placing the solid-state components in a conductive state. A magnetic device whose state of magnetic core saturation governs the generation of the firing signals. A delayed start and soft start means is provided for applying line voltage to the solid-state components before firing signals are supplied to the solid-state components. A means is provided for making the firing signals responsive to operating parameters of an electrostatic precipitator, such as sparking rate, voltage and current. A linear reactor is provided to protect the solid-state components.

3,507,097
GAS FRACTIONATING APPARATUS

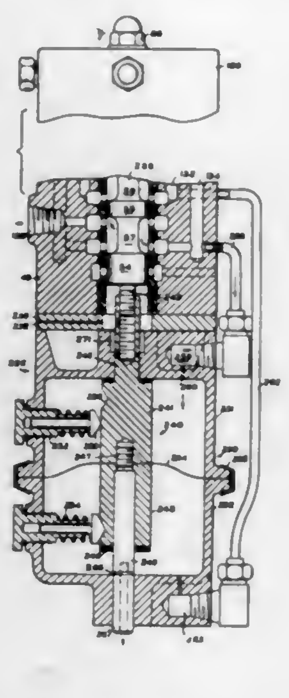
Richard P. Crowley, Milton, Victor T. Takata, Cambridge, and Edmund L. Pessa, Arlington, Mass., assignors to Abcor, Inc., Waltham, Mass., a corporation of Delaware

Original application Apr. 9, 1964, Ser. No. 358,480, now Patent No. 3,365,861. Divided and this application Jan. 23, 1968, Ser. No. 718,962

Int. Cl. B01d *53/04*

U.S. Cl. 55—162 **9 Claims**

Gaseous fractionating apparatus having a first and second zone in heat exchange relationship. A single valve means permits the alternate introduction of gas into each zone. A pneumatic activator and hydraulic timer move the valve in a predetermined timed sequence.



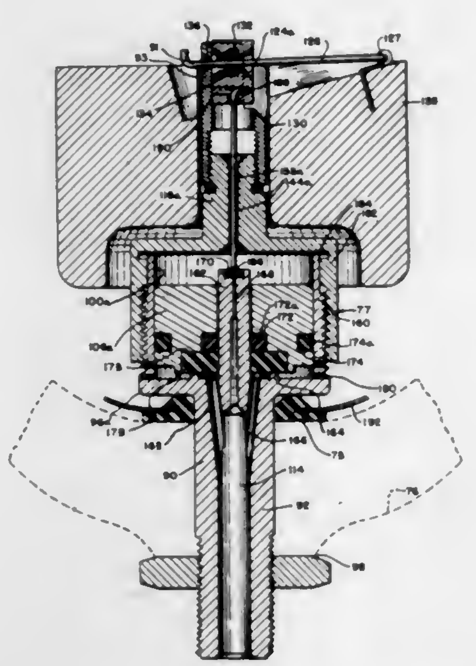
3,507,098
AIR LINE FILTER

Edward W. Veres, Walter E. Draxler, and Herbert G. Hanson, Arlington Heights, and Robert E. Poethig, Glenview, Ill., assignors, by mesne assignments, to Astro Controls, Inc., Chicago, Ill., a corporation of Delaware

Original application July 3, 1963, Ser. No. 292,597. Divided and this application Aug. 18, 1966, Ser. No. 594,293

Int. Cl. B01d *39/00*

U.S. Cl. 55—219 **11 Claims**



Air line filter drain in which a pressure reponsive reciprocating member driving a drain valve is subjected side to differential pressures derived from relative areas subjected independently to air line pressure and atmospheric pressure, and is subjected over the major area of the other side to a pressure which is changing from air line pressure to atmospheric pressure as controlled by a float driven valve to vent the other side to atmosphere whereby bowl pressure both opens and closes the drain valve.

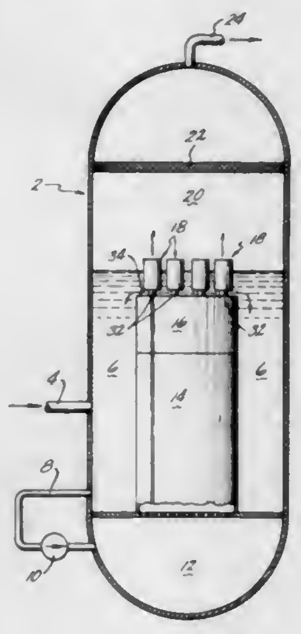
3,507,099
CENTRIFUGAL LIQUID-VAPOR SEPARATOR

Robert C. Marshall, West Avon, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Continuation-in-part of application Ser. No. 316,846, Oct. 17, 1963. This application Oct. 25, 1966, Ser. No. 596,375

Int. Cl. B01d *45/12;* **F22b** *37/26*

U.S. Cl. 55—456 **3 Claims**



A centrifugal separator for water-steam mixtures having a central vertical upflow pipe which is closed at the top, and a surrounding outer pipe open at both the top and bottom. A plurality a discrete round tubular elbows are located near the top of the central pipe at a plurality of elevations and arranged to discharge the water-steam mixture tangentially into the annular space. The elbows are vertically spaced a sufficient distance to permit the rotating steam to pass freely between the elbows. Distribution of the water-steam mixture to the elbows at various elevations may be improved by locating the elbows on a gradually reducing portion of the central pipe and by introducing a centrifugal action in the fluid flowing upwardly through the central pipe so that the water tends to favor the lower elbows.

3,507,100
THRUST GENERATING MEANS FOR PRESSING FILTER PACKS OR FILTER CELLS

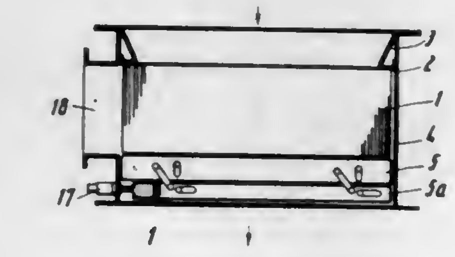
Gerhard Max Neumann, Berlin-Dahlem, Germany, assignor to Delbag Luftfilter G.m.b.H., Berlin-Halensee, Germany

Filed Dec. 11, 1967, Ser. No. 689,505

Claims priority, application Germany, Sept. 2, 1967, D 54,009

Int. Cl. B01d *46/54*

U.S. Cl. 55—502 **7 Claims**



A filtering device having the filter held in place in a filter casing by a thrust generating device, the thrust generating device having two sets of bars within the filter casing, one set moving vertically against the filter in response to horizontal movement of a further pair of bars, the horizontal moving bars being actuated by a screw shaft passing through the casing wall, the screw rod being substantially outside the casing when maximum vertical displacement of the one set of bars has been effected.

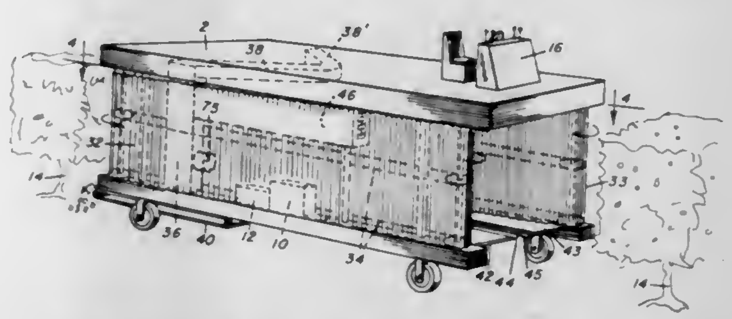
3,507,101
TREE FRUIT CULTIVATING AND HARVESTING SYSTEM

Fritz Bernshausen, 1109 W. G St., Elizabethton, Tenn. 37643

Filed Apr. 3, 1968, Ser. No. 718,552

Int. Cl. A01g *19/08*

U.S. Cl. 56—1 **6 Claims**



A multiple purpose machine for cultivating and harvesting fruit trees in an orchard. The machine is constructed to straddle a row of trees, and performs operations on trees interiorly of the machine as the machine continuously moves along a tree row. The basic machine may be equipped for pruning and hedging, spraying or harvesting. For harvesting, individual trees are surrounded by containers formed of extended flexible partitioning, the containers are filled with a cushioning material, the trees are shaken to dislodge the fruit therefrom, and a pneumatic conveying system withdraws the cushioning material from the container, allowing the fruit to gently settle on conveyor belts without bruise producing impacts. The cushioning material withdrawn from one container is deposited into a second container formed about a second tree, and as the first container is withdrawn from a harvested tree, a new container is formed around a third tree, so that the harvesting system operates continuously along the row of trees.

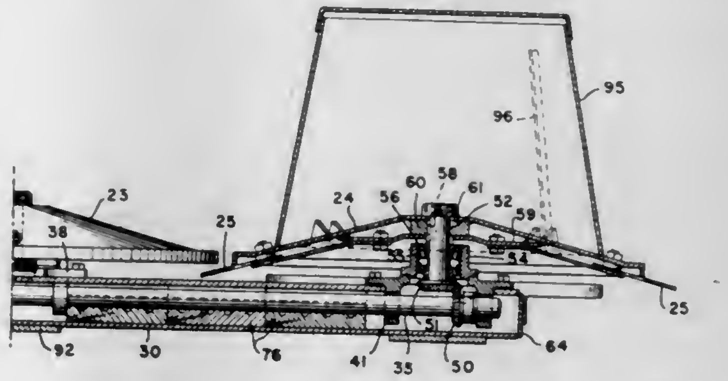
3,507,102
ROTARY MOWER DRIVE

Charles M. Kline, Reinholds, and Albert M. Best, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed May 25, 1967, Ser. No. 641,212

Int. Cl. A01d *35/26*

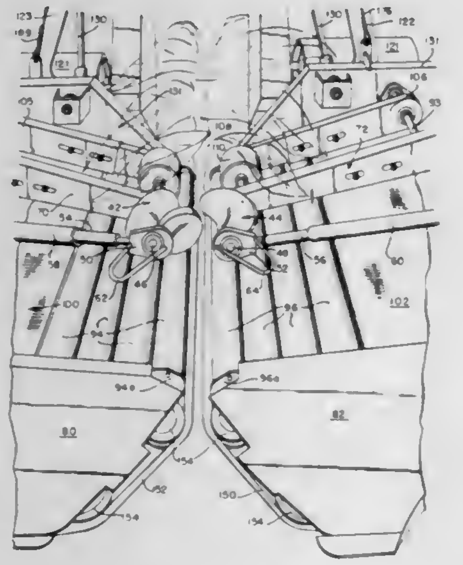
U.S. Cl. 56—25.4 **8 Claims**



A rotary mower having a plurality of side by side crop cutting elements rotatable about vertical axes and supported on top of a sealed housing containing a lubricant, each element being driven by a high speed drive shaft and a pair of bevel gears within the housing.

3,507,103
TOBACCO HARVESTER

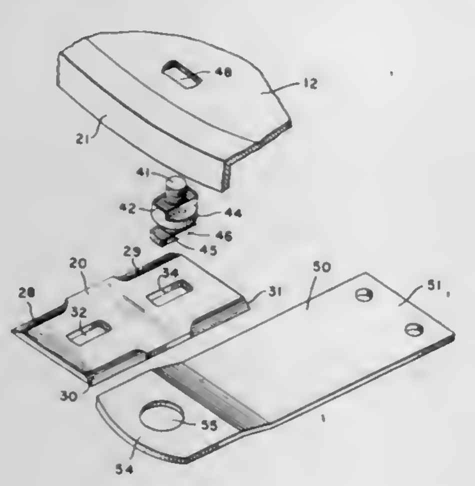
William L. Pickett, 101 Cherry St., and Linwood J. Cooper, Rte. 2, both of Scotland Neck, N.C. 27874, and Joseph J. Harrington, General Delivery, Lewiston, N.C. 27849
Filed Oct. 2, 1967, Ser. No. 672,165
Int. Cl. A01d *45/16*
U.S. Cl. 56—27.5 12 Claims



A tobacco harvester with defoliator means, stalk gripping means to assist during defoliation, conveyor means for carrying away loose leaves, and means to suspend the defoliator means so that it can swing laterally with respect to the longitudinal axis of the machine.

3,507,104
KNIFE MOUNTING

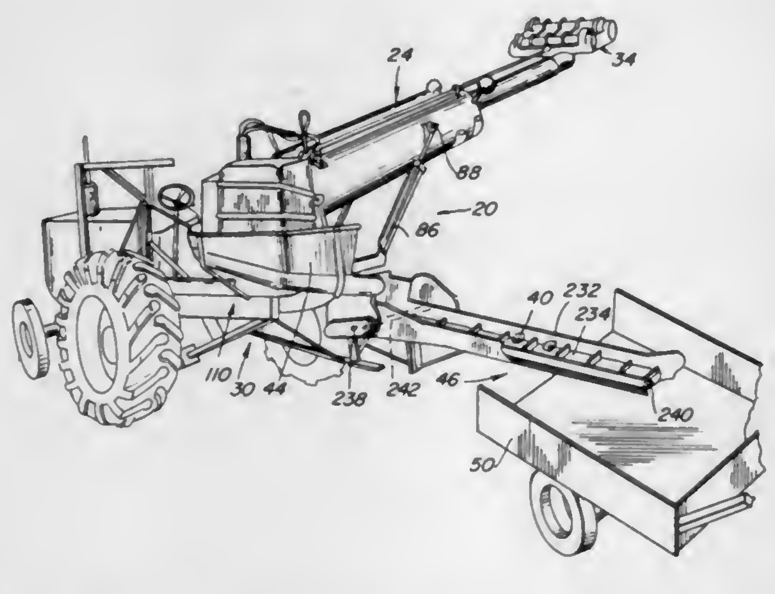
Charles M. Kline, Reinholds, and Neil W. Webster, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 25, 1967, Ser. No. 641,277
Int. Cl. A01d *55/18*
U.S. Cl. 56—295 7 Claims



In a rotary mower, a generally conical-shaped disc support has a stud bolted to the underside with a cylindrical intermediate shank and a transverse elongated lower member, a rectangular-shaped flat plate-like knife with a pair of elongated radial slots, one of which fits over the elongated member in a circumferential position for pivotally mounting the knife on the shank and a leaf spring fastened at the inner end to the disc support adjacent the center thereof and having a circular opening at the other end fitting over the elongated member to hold the knife on the stud on movement to the circumferential position during operation.

3,507,105
HARVESTING APPARATUS

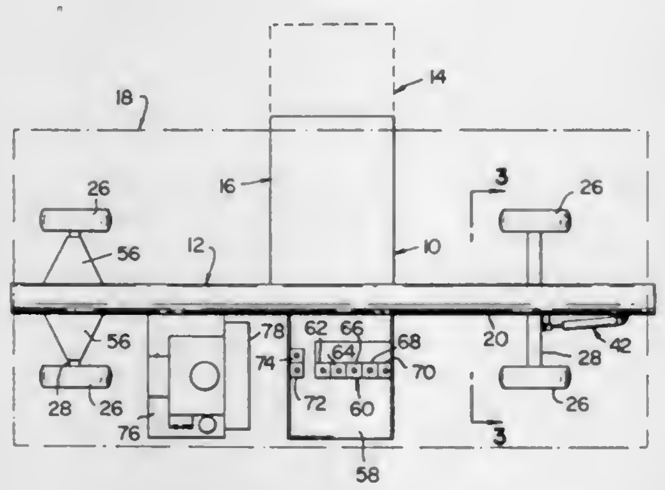
William T. Mays and John C. Mays, Vero Beach, Fla., assignors to Cooper-Mays Harvester, Inc., Vero Beach, Fla., a corporation of Florida
Filed Dec. 9, 1966, Ser. No. 600,410
Int. Cl. A01g *19/08*
U.S. Cl. 56—328 31 Claims



A mechanized harvesting apparatus for picking fruit and having a picker head including a gathering bar for directing fruit and fruit-laden branches to a picking zone adjacent parallely disposed, oppositely rotating picking rollers or picking discs of the picker head. The picker head is supported on an extensible and retractable boom assembly which carries conveying means for delivering picked fruit to a collector trough. A power line reel system carried by the boom assembly prevents formation of power line slack as the boom extends and retracts.

3,507,106
TREE CROP HARVESTER

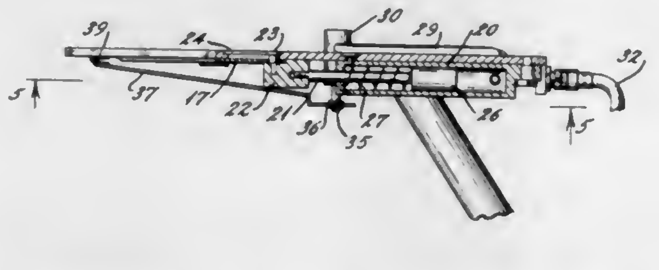
Albert V. Valente, P.O. Box 187, Vina, Calif. 96092
Filed May 15, 1967, Ser. No. 638,368
Int. Cl. A01g *19/00*
U.S. Cl. 56—328 7 Claims



Tree crop harvesting apparatus comprising a self-propelled vehicle having a shaker assembly attached to one side thereof for shaking the trunk of a tree when the vehicle is disposed adjacent to the tree. Power is supplied to the various components of the apparatus by hydraulic circuitry and the vehicle body includes a closed tube providing a fluid reservoir for the circuitry. The vehicle is steerable and has an operator platform aligned with the shaker assembly, the latter being movable horizontally and vertically to permit positioning of the same at a desired location on a tree trunk.

3,507,107
PORTABLE FRUIT PICKER

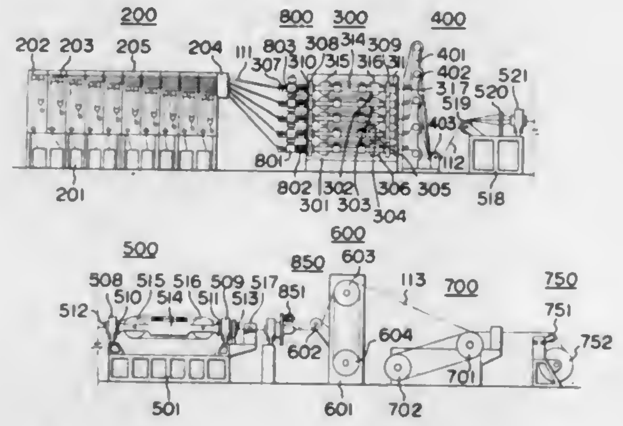
George C. Harms, 809 Munn Ave., and John B. McCutcheon, 1033 Marjorie St., both of Lakeland, Fla. 33801
Filed Jan. 25, 1968, Ser. No. 700,583
Int. Cl. A01g *19/08*
U.S. Cl. 56—336 3 Claims



A combination fruit picker with a delivery tube and a support by which the device can be held and moved into contact one after another with fruit hanging on a tree to detach the fruit from the supporting stems and allow it to gravitate with interrupted motion, without injury, to a receptacle or selected area. The picker includes a cutting knife operated by electric or other power means, as for example by a cylinder and piston controlled by contact of the picker with the fruit, and upon completion of the cutting action the device is instantaneously reset.

3,507,108
METHOD OF PRODUCING S–Z ALTERNATING TWISTS AND THE APPARATUS THEREFOR

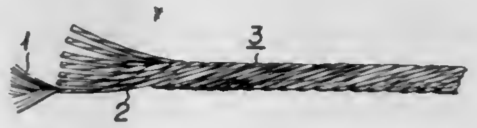
Masamichi Yoshimura, Tokyo, Toshihisa Takada, Sakurashi, and Shigenobu Tanaka, Tokyo, Japan, assignors to The Fujikura Cable Works Limited, Tokyo, Japan, a corporation of Japan
Filed Feb. 17, 1966, Ser. No. 528,129
Claims priority, application Japan, Mar. 1, 1965, 40/11,758
Int. Cl. H01b *13/04*
U.S. Cl. 57—34 11 Claims



The invention relates to a method and apparatus for producing alternately twisted wires by rotating two spaced twisting heads at the same speed and in the same direction and advancing the plurality of wires passing through the twisted heads at two different linear speeds repeated alternately, the arrangement being such that upstream and downstream of this twisting process other processes may be easily adopted to provide a continuous process for forming a cable from pairs or quads of twisted wire.

3,507,109
FISHING GILL NETS

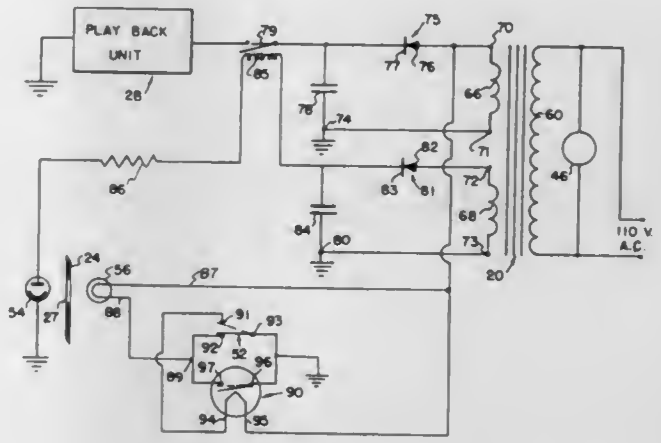
Mitsutake Nakazawa, Hakodate-shi, Japan, assignor to Hakodate Seimo Sengu Co., Ltd., Hokkaido, Japan, a corporation of Japan
Filed Aug. 14, 1967, Ser. No. 660,520
Claims priority, application Japan, Oct. 31, 1966, 41/71,633
Int. Cl. A01k *73/00;* **D02g** *3/44*
U.S. Cl. 57—140 1 Claim



A knotted fishing gill net formed of a plurality of net cords each including a number of fibers twisted in spiral arrangement in one direction.

3,507,110
AUDIO CLOCK

Norman C. Milatz, 2382 Casper, Detroit, Mich. 48209
Filed July 3, 1967, Ser. No. 650,753
Int. Cl. G04c *21/14*
U.S. Cl. 58—14 2 Claims

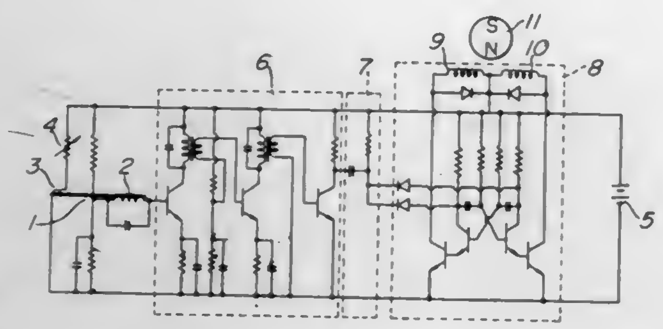


An audio clock having a timer that actuates a self-contained tape playback unit so as to announce the time, and deliver preselected messages at spaced intervals.

3,507,111
ELECTRIC CLOCK

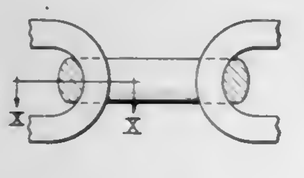
Kouichi Yoshimura, Kadoma-shi, and Masahiko Shioda, Hirakata-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Asaka, Japan, a corporation of Japan
Continuation of application Ser. No. 643,430, June 5, 1967. This application Oct. 1, 1968, Ser. No. 766,377
Claims priority, application Japan, June 7, 1966, 41/37,253; July 12, 1966, 41/46,303; Aug. 1, 1966, 41/51,292; Aug. 29, 1966, 41/57,467; Oct. 12, 1966, 41/67,745; Nov. 17, 1966, 41/75,998
Int. Cl. G04c *3/00*
U.S. Cl. 58—23 1 Claim

An electric clock energizing means wherein the magnetic field induced by commercial power is detected by an antenna coil and the clock mechanism is driven in synchronism with the detected signal. The magnetic field detecting means includes an antenna bar having a coil wound thereon with a magnetic bias applied thereto. The magnetic bias is modulated by the magnetic field of the



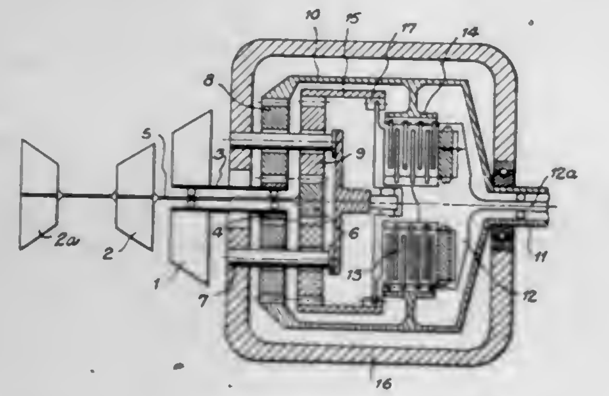
commercial power. Thus, the commercial power is detected by the electromotive force induced in the antenna coil whereby the detector may be of minimum dimensions with detection high in sensitivity.

3,507,112
CAST CHAINS WITH ELLIPTICAL LINKS
John S. Nelson, 3793 W. River Parkway, Grand Island, N.Y. 14072
Filed July 24, 1967, Ser. No. 655,402
Int. Cl. F16g *13/00;* **B22c** *9/24, 9/30*
U.S. Cl. 59—84 **2 Claims**



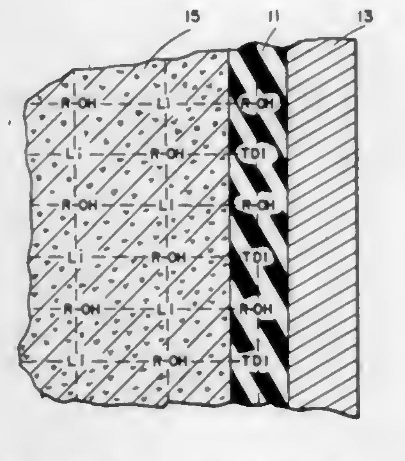
Chain with cast interengaging links in which the links in cross sectional shape are substantially elliptical.

3,507,113
DIFFERENTIAL GEAR FOR TWO-SHAFT GAS TURBINE
Bruno Herrmann, Bridgeport, Conn., and Klaus Hagemeister, Munich-Pasing, Germany, assignors to Motoren- und Turbinen-Union, Munich, Germany
Filed May 15, 1968, Ser. No. 729,302
Claims priority, application Germany, May 18, 1967, M 74,021
Int. Cl. F02c *7/02;* **F16h** *37/06;* **B60k** *3/04*
U.S. Cl. 60—39.16 **9 Claims**



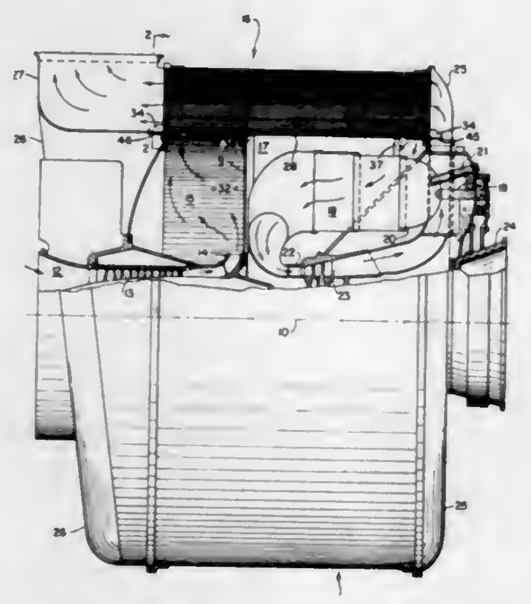
A power gas turbine and a compressor gas turbine each coupled to a special gear set. The two gear sets can be clutched together so that under partial load or braking conditions power is transmitted from the power turbine to the compressor turbine or vice versa.

3,507,114
SOLID PROPELLANT LINER
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Marvin W. Stark, Tripoli, Libya
Filed Nov. 27, 1967, Ser. No. 685,750
Int. Cl. F02c *3/26*
U.S. Cl. 60—39.47 **9 Claims**



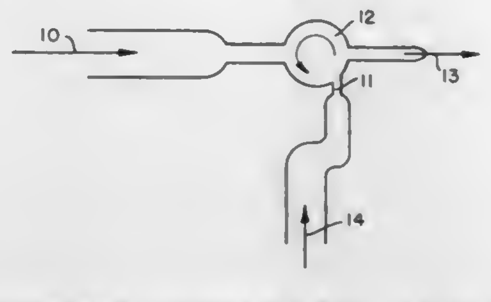
A liner for use with solid propellant formulations having hydroxy-terminated polybutadiene containing lithium particles, which liner will bind the propellant material to an outer motor casing. The liner is comprised of hydroxy-terminated polybutadiene and toluene diisocyanate. The liner composition can additionally contain a suitable catalyst and a strengthening agent such as carbon black, if needed.

3,507,115
RECUPERATIVE HEAT EXCHANGER FOR GAS TURBINES
Leon R. Wisoka, San Diego, Calif., assignor to International Harvester Company, a corporation of Delaware
Filed July 28, 1967, Ser. No. 656,872
Int. Cl. F02c *7/10;* **F28f** *3/00*
U.S. Cl. 60—39.51 **7 Claims**



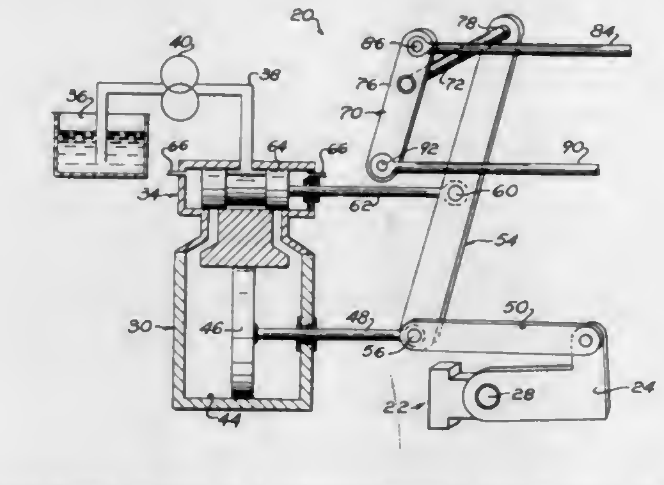
A heat exchanger for recovering heat from the hot exhaust gases of a gas turbine and imparting such recovered heat to the incoming air on its way to the combustion chambers of the turbine. The exchanger surrounds the turbine and combustion chambers, the latter being arranged annularly about the turbine, and provides a counter-flow of hot combustion products and fresh air from the compressor. Built in radially and axially directed turning vanes within the exchanger provide an even distribution of cold air entering and discharging from the exchanger with a minimum of headering ducts.

3,507,116
FLUERIC VARIABLE THRUST INJECTOR
Robert D. Berry, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 29, 1968, Ser. No. 732,981
Int. Cl. F02k *9/02;* **F15c** *1/14*
U.S. Cl. 60—39.74 **2 Claims**



A flueric valve to control the flow of fuel and oxidizer to an injector orifice comprising means for injecting gas into liquid propellants just behind the injector face at an orifice to create a vortex to throttle the propellants.

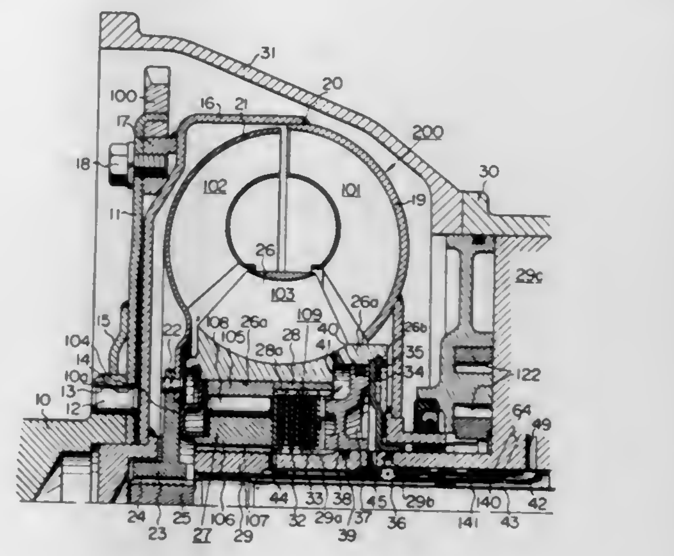
3,507,117
HYDROSTATIC TRANSMISSION CONTROL SYSTEM
Robert B. Lauck, Southfield, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 1, 1968, Ser. No. 725,650
Int. Cl. F15b *15/18;* **G05g** *11/00;* **F01b** *21/12*
U.S. Cl. 60—53 **25 Claims**



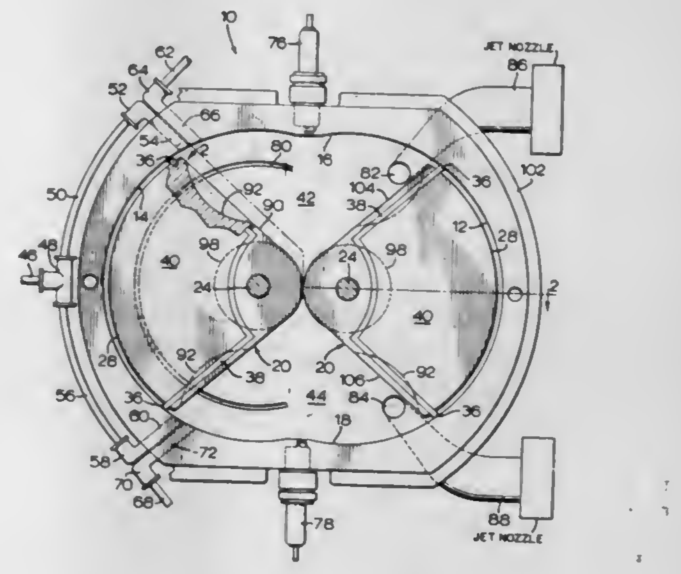
Disclosed herein is a control system for varying the rate of power transmission by a hydrostatic transmission. The control system includes a manually operable control assembly. A foot-operated control assembly is provided for varying to relatively limited extents the input to output speed ratio or drive ratio of the hydrostatic transmission independently of manually operable control assembly. The manually operable control assembly includes a manually movable lever which is selectively operable to a dump position in which the hydrostatic transmission is incapable of transmitting power.

3,507,118
TORQUE CONVERTER ASSEMBLY
Hiroji Yamaguchi, Noboru Murakami, and Koichiro Hirozawa, Kariya-shi, Japan, assignors to Aisin Seiki Company Limited, Aichi-ken, Japan
Filed July 22, 1968, Ser. No. 746,558
Claims priority, application Japan, July 21, 1967, 42/47,009
Int. Cl. F16d *33/00, 31/06*
U.S. Cl. 60—54 **4 Claims**

In a torque converter for automotive use including a drive part mechanically connected with an internal combustion engine, a pump impeller, a turbine runner, a stator wheel and a driven shaft, the improvement comprising the provision of a brake means adapted for holding the stator wheel in its stationary condition when a torque is transmitted inversely from the driven shaft to the drive part for increasing the fluid resistance to the circulating fluid through the working parts of the converter, thereby increasing the engine brake performance of the engine-converter combination.



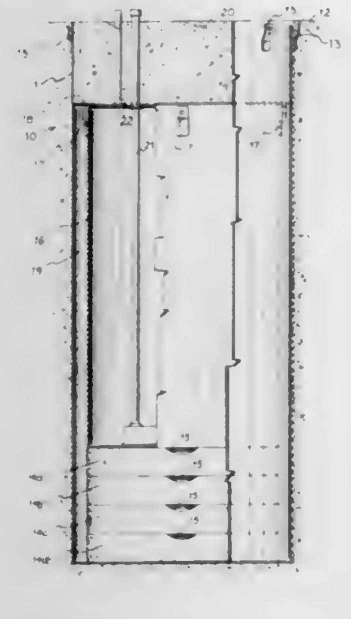
3,507,119
OSCILLATING ROTOR JET ENGINE
Alfred Karl Kayser, 2 Armada Court, Scarborough, Ontario, Canada
Continuation-in-part of application Ser. No. 690,817, Dec. 15, 1967. This application Oct. 24, 1968, Ser. No. 798,515
Int. Cl. F02b *53/08;* **F02k** *7/02*
U.S. Cl. 60—247 **8 Claims**



An engine having a rotor mounted for oscillation on a shaft within a casing. Oscillation of the rotor produces large quantities of exhaust gases at high pressure to provide a jet-like thrust. Apertures are provided through the casing for the flow of fuel and air and the rotor interrupts the flow when blocking the apertures thereby controlling the flow in timed relation with the oscillation of the rotor. After the engine has completed a small number of cycles the electrical ignition system may be shut down and combustion will be carried within a groove provided in the end wall of the casing.

3,507,120
PORTABLE VERTICAL UNDERGROUND STORAGE TANK

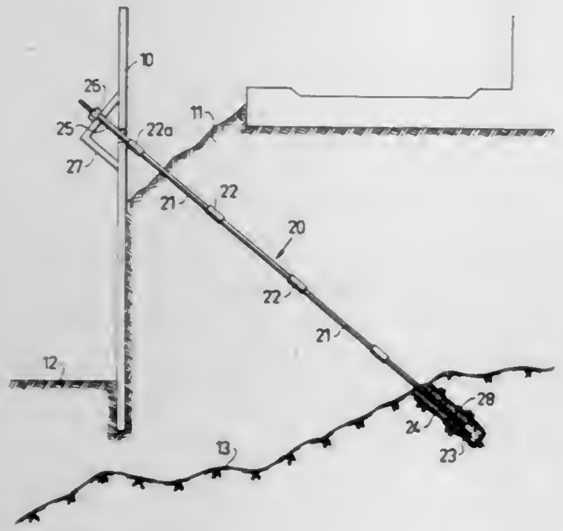
Richard H. Rohmer, 74 Sandringham Drive, Toronto 12, Ontario, Canada
Filed Feb. 7, 1968, Ser. No. 703,629
Int. Cl. B65g *3/02, 5/00*
U.S. Cl. 61—.5 **2 Claims**



A portable vertical underground storage tank for the storage of liquid and bulk materials such as at gasoline service stations, the tank being installed in a vertically dug hole and readily removable for reinstallation at a new site.

3,507,121
TIE ROD ANCHORING METHOD AND APPARATUS

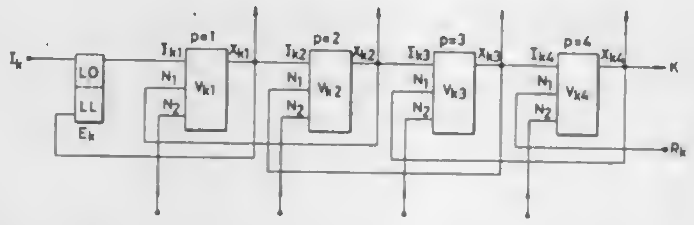
Carl-Olof Oskar Morfeldt, Lidingo, Sweden, assignor of one-half to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden, and one-half to Atlas Copco Aktiebolaget, Nacka, Sweden, a corporation of Sweden
Continuation of application Ser. No. 505,877, Nov. 1, 1965. This application May 20, 1968, Ser. No. 731,685
Claims priority, application Sweden, Nov. 11, 1964, 13,549/64
Int. Cl. E02d *5/74*
U.S. Cl. 61—39 **1 Claim**



According to the present invention, anchoring of a structural part in the ground is effected with the use of a hollow tie rod which at one end thereof is provided with an anchoring head which can (where the same is required) penetrate rock as well as loose earth. The tie rod is forced—anchoring head first—into the ground, being extended as desired by the addition of lengths of hollow tie rod to the initial rod, until the anchoring head has reached a desired anchoring locus; then, a fluid grouting composition is passed into and through the tie rod and through the anchoring head into the area surrounding the anchoring head and fore part of the tie rod. Once the grouting has hardened it adheres to the head and the adjacent part of the tie rod, thereby anchoring the rod in the ground. Finally, the rear end of the tie rod is connected to the structural part to be anchored.

3,507,122
LOGICAL SWITCHING SYSTEMS

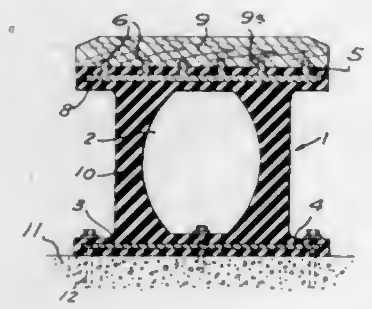
Helmut Schmidt, Essen-Haarzopf, Germany, assignor to Bergwerksverband G.m.b.H., Essen, Germany, a German company
Filed Sept. 11, 1968, Ser. No. 770,456
Claims priority, application Germany, Oct. 18, 1967, B 94,992
Int. Cl. E21d *23/20*
U.S. Cl. 61—45 **5 Claims**



A logical switching system serving more especially for the control of roof support frames or props of hydraulic longwall support arrangements in underground mine-workings, by means of which switching system a plurality of operations that are independent of each other are segregated with respect to each other by gate units each comprising an erasure-dominating storage device, an OR element connected in front of the erasure input of the storage device and two AND elements connected to each of two unconditional outputs of the storage device. The cutting-off of one operation can be effected by the erasure of the signal that initiated the operation, or it may be cut off upon the termination of the operation by means of a response signal indicative of such termination.

3,507,123
FENDER FOR DOCK WALL

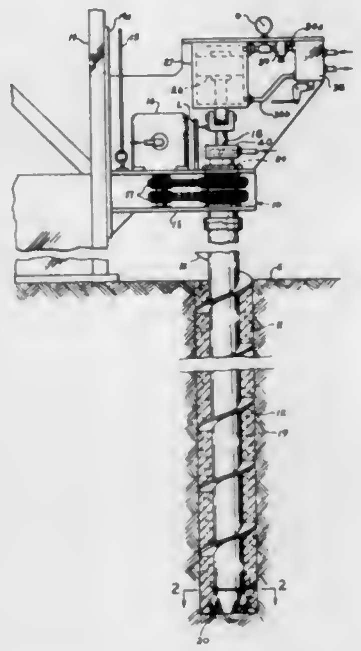
Misao Miura, Tokyo, Japan, assignor to Seibu Gomu Kagaku Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Feb. 20, 1968, Ser. No. 706,884
Claims priority, application Japan, Sept. 6, 1967, 42/56,938
Int. Cl. E02b *3/22;* **B63b** *21/04*
U.S. Cl. 61—48 **2 Claims**



A flexible hollow tubular fender for a dock wall is provided, having a base and a top buffer, and an intermediate resilient block which is hollow and has lateral sides which are each of a non-uniform cross-section.

3,507,124
METHOD FOR MAKING CONCRETE PILES

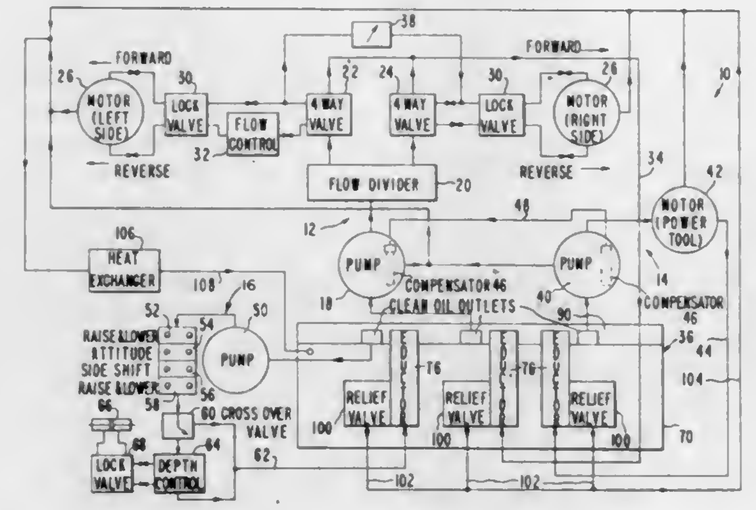
Lee A. Turzillo, Bath, Ohio (2078 Glengary Road, Akron, Ohio 44313)
Original application Sept. 19, 1967, Ser. No. 668,920. Divided and this application May 6, 1969, Ser. No. 822,172
Int. Cl. E02d *5/36;* **G01n** *3/08*
U.S. Cl. 61—53.64 **8 Claims**



Pile cavity of given diameter drilled in earth situs to selective depth, determined by load capacity, compressive strength tests of earth at inner end of cavity. Extension of testing member with manifested force at selective depth used to determine allowable pile bearing load. Pile body made by pumping pressurized fluid cement grout into cavity has load capacity corresponding to earth-resisting tests for selective depths.

3,507,125
HYDRAULIC POWER APPARATUS

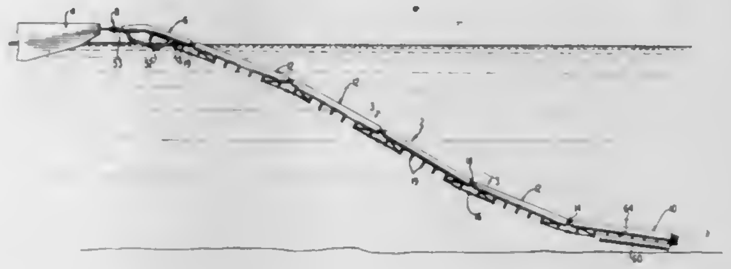
Donald R. Vaughan and Carl J. Falcon, Woodland, Calif., assignors to Woodland Manufacturing Company, Woodland, Calif., a corporation of California
Filed June 6, 1967, Ser. No. 643,979
Int. Cl. E02f *5/00;* **B60k** *1/00;* **F01k** *1/04*
U.S. Cl. 61—72.1 **10 Claims**



Hydraulic apparatus to drive a number of fluid-actuated power components wherein a number of hydraulic circuits, at least certain of which are provided with pumps of the variable flow type, are coupled to a common filter unit which not only filters the fluid flowing to the pump inlets but also assures that the pump inlet pressures will be at positive values to thereby prevent structural damage to the pumps, such as by cavitation, while at the same time, each pump is able to meet the fluid demands of its power component. A heat exchanger coupled to the circuits maintains the heat content of the fluid in the circuits within a safe temperature range. The apparatus is especially adapted for use with a vehicle having drive means, a power tool shiftably mounted on the vehicle, and power structure for shifting the power tool into any one of a number of operative positions.

3,507,126
MARINE APPARATUS FOR SUPPORTING FLEXIBLE ELONGATE PIPE MEANS DURING UNDERWATER LAYING THEREOF

William R. Rochelle, Joe C. Lochridge, and Ardeshir Rustomji Desai, Houston, Tex., assignors to Brown & Root, Inc., Houston, Tex., a corporation of Texas
Filed Jan. 5, 1968, Ser. No. 696,005
Int. Cl. F16l *1/00*
U.S. Cl. 61—72.3 **12 Claims**

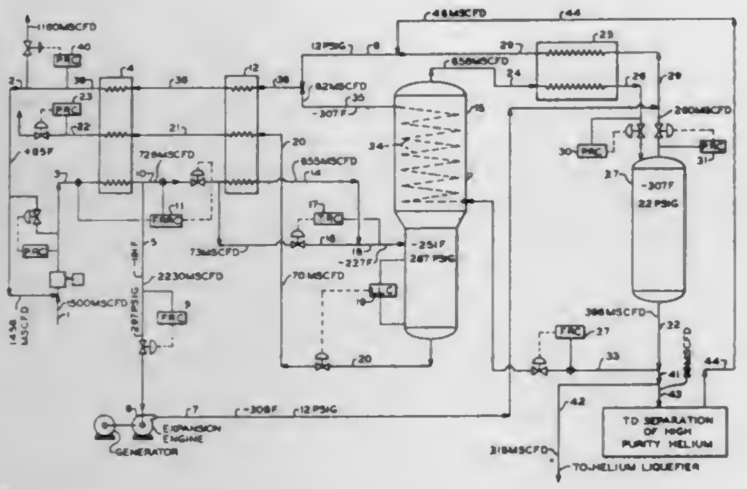


A marine apparatus for supporting flexible elongate pipe means during underwater laying thereof from a vessel floating on the surface of a body of water. The apparatus includes a longitudinally extending elongate ramp adapted to be secured at one end to the vessel extending away therefrom generally down into the water. The ramp includes a plurality of longitudinally spaced support members each provided with closed hollow chamber portions to provide each member with at least partial buoyancy. Means connecting adjacent support members together includes at least one pivotal connection means positioned between at least one pair of adjacent support members for permitting relative pivotal motion therebetween about a generally horizontal pivot axis. At least one torque applying means is connected with the hinge means for applying torque thereto to selectively vary and thus rigidly or fix the relative inclination of the adjacent support members. Pipe contacting means secured to and spaced along the ramp are adapted to underlie and support the pipe means. Flooding means is connected with the support members for selectively and separately causing the passage of water between the interior and exterior of the various hollow chamber portions of the various support members so that the torque acting about the pivotal connection means may be changed to reduce the effort required to be exerted by the torque applying means.

3,507,127
PURIFICATION OF NITROGEN WHICH CONTAINS METHANE

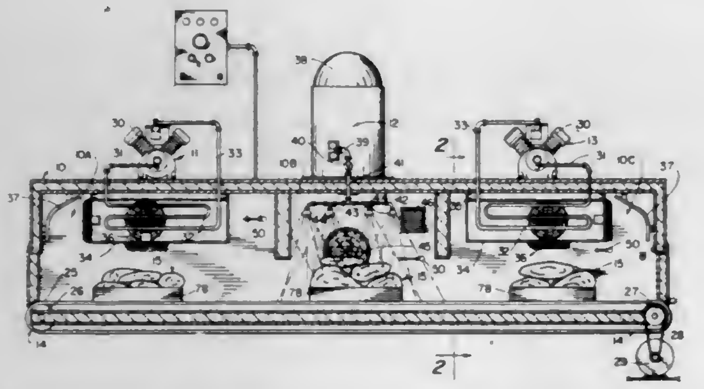
Salvador S. De Marco, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 26, 1967, Ser. No. 693,281
Int. Cl. F25j *3/02*
U.S. Cl. 62—28 **3 Claims**

In the purification of nitrogen by removing therefrom small amounts of methane in a distillation step, the temperature in the kettle of the distillation step is maintained within a very narrow range in order to avoid formation of methane crystals. Low temperature in the system is maintained by expansion of the compressed nitrogen feed.



3,507,128
CONTINUOUS CRYOGENIC PROCESS COMBINING LIQUID GAS AND MECHANICAL REFRIGERATION

Tom H. Murphy, N. 8616 Country Homes Blvd. 99208, and Don E. Tucker, E. 10515 Sinto Ave. 99206, both of Spokane, Wash.
Filed Dec. 22, 1967, Ser. No. 692,774
Int. Cl. F25d *3/10*
U.S. Cl. 62—63 **5 Claims**

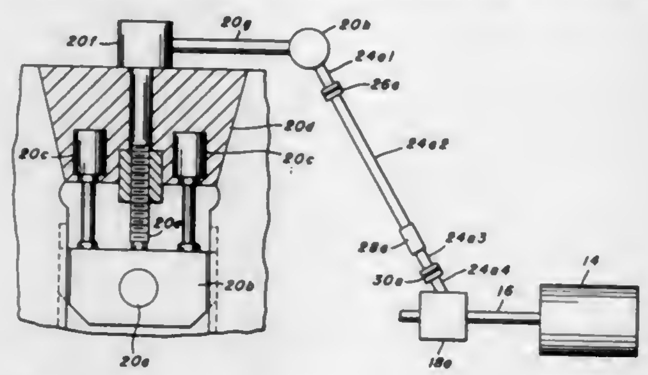


A continuous cryogenic process for freezing food products in an inert gas atmosphere by combined liquid gas and mechanical refrigeration including: the lowering of product temperature near its freezing point by mechanical refrigeration, rapid freezing of the product substantially by liquid gas refrigeration, and continued lowering of product temperature to the desired terminal point chiefly by mechanical refrigeration. The process is continuous and applies more expensive liquid gas refrigeration only at critical stages when its benefits are most pronounced, with more economical mechanical refrgeration removing heat at other times. The rapid freezing of product without regelation and in an inert atmosphere reduces product deterioration by both physical and chemical causes to produce a resultant superior product.

3,507,129
DRIVE MEANS

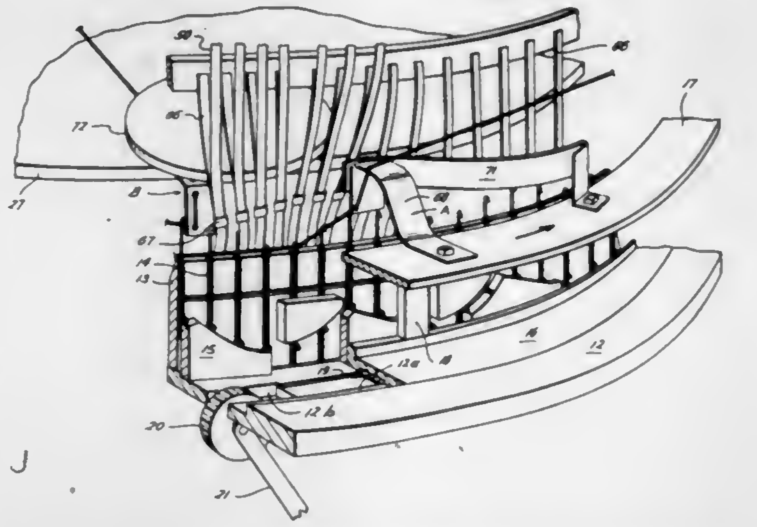
Theodore Tarenskeen, Oakmont, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 693,217, Dec. 26, 1967. This application Feb. 28, 1969, Ser. No. 803,266
Int. Cl. F16c *1/02*
U.S. Cl. 64—1 **21 Claims**

A drive means for positioning one end of a shaft member in a predetermined location a predetermined distance from a reference centerline. The drive means has a frame, a slidable member reciprocable in the frame, positioning means engageable with the slidable member for positioning one end in the predetermined location, a first gear box means disposed in spaced relation to the positioning means, a first connecting member connected to the positioning means, a second connecting member connected to the first gear box means, a quick disconnect coupling device for connecting the first connecting member to the second connecting member, and motor means connected to the first gear box means for driving the first gear box means.



3,507,130
METHOD AND APPARATUS FOR KNITTING FABRICS

Ronald H. Marks, Lawrence R. Goodman, and Luther E. Stokes, Dallas, Tex., assignors to Enterprise Incorporated, Dallas, Tex., a corporation of Texas
Filed Dec. 4, 1967, Ser. No. 687,540
Int. Cl. D04b *1/100*
U.S. Cl. 66—169 **15 Claims**

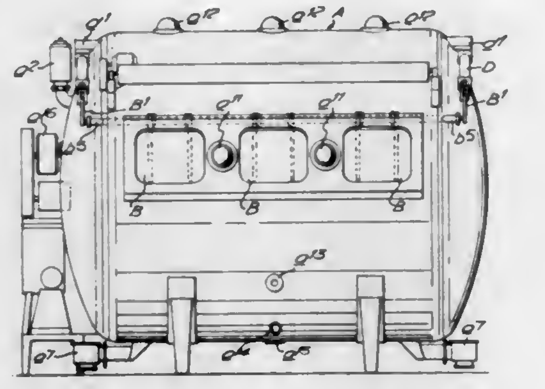


This specification discloses a method and apparatus for producing a fabric wherein knitted yarn or yarn-like elements have a plurality of insert elements interengaged or interlaced in a direction transversely of the courses of the knitted yarn or yarn-like elements to form a composite fabric material having novel and improved characteristics. This abstract is neither intended to define the invention of the application which, of course, is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

3,507,131
PRESSURIZED DYEING MACHINES

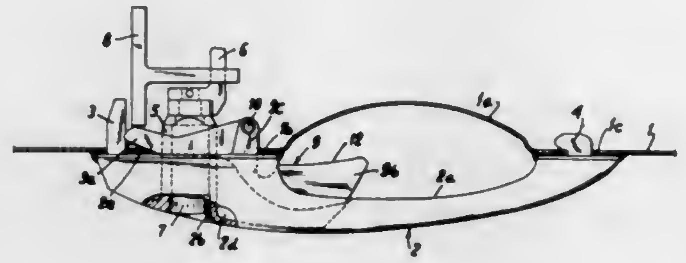
Edward Stanway, 34 Ryles Park Road, Macclesfield, Chester, England
Filed Oct. 27, 1967, Ser. No. 678,642
Int. Cl. D06f *17/00*
U.S. Cl. 68—196 **6 Claims**

A pressurized dyeing machine in which the doors open inwards and are held on their seats during operation by the internal pressure, a pneumatic or hydraulic cylinder being provided to open the doors to give access to the interior when the internal pressure has been reduced to atmospheric.



3,507,132
DOOR HANDLE CONSTRUCTION

Kurt Schwenk, Wolfsburg, Germany, assignor to Volkswagenwerk Aktiengesellschaft, Wolfsburg, Germany
Filed Dec. 22, 1967, Ser. No. 692,936
Int. Cl. E05c *3/06;* **B60r** *25/00*
U.S. Cl. 70—224 **5 Claims**

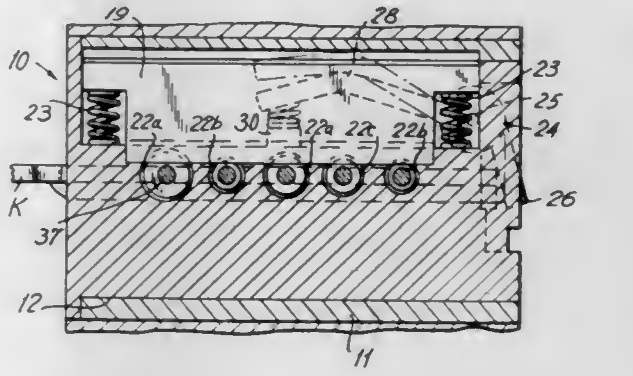


A door handle construction includes a latching lever which is pivotally mounted within an interior recess of the door handle for pivotal movement substantially about the center of gravity thereof. A feature of the construction is that the lever includes an arm portion having a finger engaging configuration which may be moved downwardly into a recess of the handle to pivot another arm portion to move it against a latch to move the latch into a non-operative or release portion. The finger engaging portion is advantageously made of a U-shaped configuration, and it includes outer cutting edges to permit it to cut away any ice formation, which may form in the recess of the handle, during its movement. The opposite arm of the latching lever is advantageously made of a U-shaped configuration in order that the same mechanism may be employed for displacing a latch element of a door latch regardless of which side of the vehicle the device may be employed.

3,507,133
PICK PROOF LOCKS

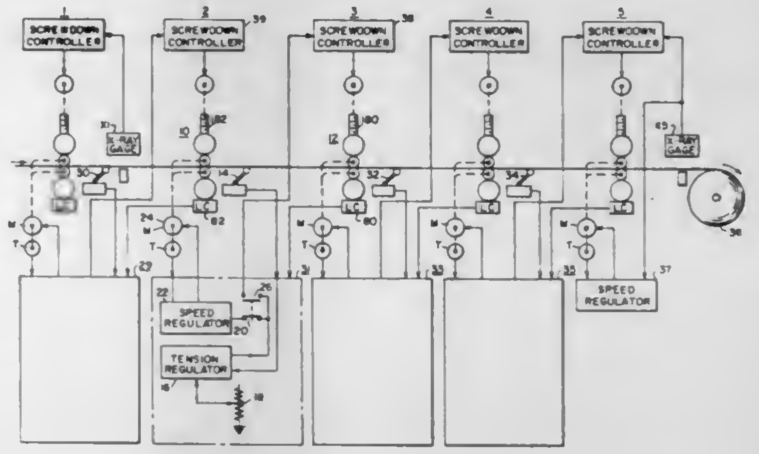
Mark T. Basseches, Pleasantville, N.Y., assignor to Ilco Corporation, a corporation of Massachusetts
Continuation-in-part of application Ser. No. 683,166, Nov. 15, 1967. This application Apr. 3, 1968, Ser. No. 718,576
The portion of the term of the patent subsequent to July 15, 1986, has been disclaimed
Int. Cl. E05b *15/14, 27/10*
U.S. Cl. 70—421 **2 Claims**

An improved pick proof lock utilizing tumbler pins contained within the plug and a side bar shiftable into engagement with said pins, the lock being released by alignment of the side bar with reduced diameter portions of the pins, the lock being characterized by tumbler pins of disparate diameters whereby at least some of said tumbler pins will be free to reciprocate in said cross bores notwithstanding engagement of other of said pins with portions of said side bar mechanism.



3,507,134
INTERSTAND TENSION CONTROL FOR TANDEM COLD ROLLING MILLS

Antonio Vicente Silva, Sloan, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1968, Ser. No. 707,393
Int. Cl. B21b *37/00*
U.S. Cl. 72—8 **7 Claims**

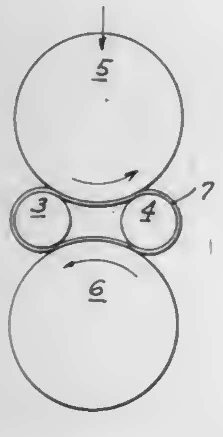


The method and apparatus for the control regulation of the respective interstand tensions and thereby the rolled strip thickness in a tandem rolling mill by a predetermined combination of stand screwdown adjustment and stand speed control. In the operation of a tendem rolling mill, adjacent stands are coupled by the strip tension; and during the desired operation of the rolling mill, whereby the final thickness of the strip delivered from the mill is held substantially constant, the respective interstand tensions should be controlled to be substantially constant such that the same volume of material should pass through each stand per given unit of time. When there is obtained this continuity condition on the volumetric flow of material through the rolling mill, with the interstand tensions held substantially constant, the following relationship exists between the thickness h of strip delivered from each stand and the speed v of the strip leaving each stand,

$$h1v1=h2v2=h3v3=h4v4=h5v5$$

3,507,135
METHOD AND APPARATUS FOR FORMING THIN METAL BELTS

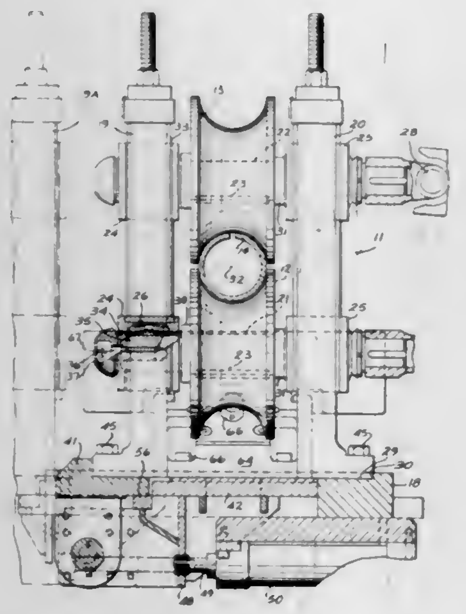
Natalis H. Polakowski, 226 Laurel Ave.,
Wilmette, Ill. 60480
Filed Mar. 14, 1968, Ser. No. 713,011
Int. Cl. B21b *19/14*
U.S. Cl. 72—110 3 Claims



The forming of thin metal belts from blanks of tubular material which includes inserting a pair of rolls of which at least one is a stretch roll of relatively small diameter through the interior of said tubing, engaging the tubing—stretch roll assembly between a pair of work rolls of large diameter rotatable about an axis parallel to each other and the stretch rolls, advancing one work roll in the direction towards the other to engage and roll the tubing between the stretch rolls and the work rolls and effect a displacement of the inserted rolls against the tension in the tube wall in the direction away from each other while rotating the work rolls thereby thinning and stretching the tubing to form a continuous belt.

3,507,136
SPINDLE BEARING SUPPORT

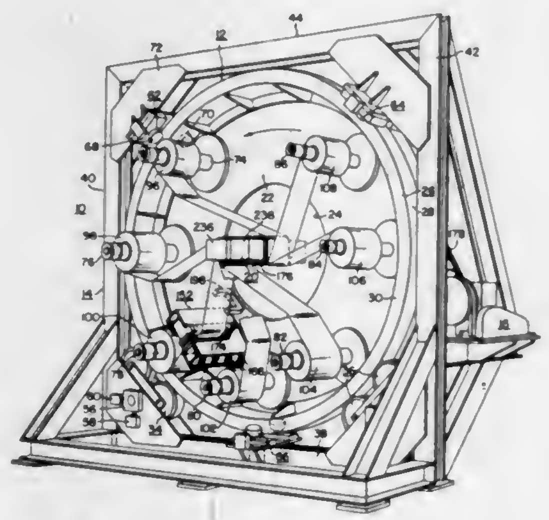
David Salzman, Euclid, Ohio, assignor to Wilson, Lee Engineering Company, a corporation of Ohio
Filed Mar. 13, 1967, Ser. No. 622,635
Int. Cl. B21b *31/08*
U.S. Cl. 72—238 18 Claims



The disclosure relates to an outboard bearing stand or support for one or two spindles journalled in the bearing support. The bearing stand may be moved parallel to the axis of the spindle to remove the bearing support from the spindle and then the bearing stand is swung through an arc to be out of the way of the first end of the spindle so as to permit ready access to the spindle to remove or replace rolls on the spindle.

3,507,137
WINDING MACHINE

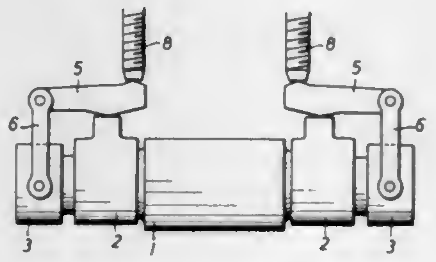
Alexander Taleff, Pittsburgh, and Chauncey G. Robinson, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 1, 1968, Ser. No. 709,736
Int. Cl. B21c *47/00*
U.S. Cl. 72—148 16 Claims



A winding machine for winding electrical coils of sheet material, including a rotatable, disc shaped carriage, means for supporting the carriage in a substantially vertical position, and drive means for rotating the carriage. A plurality of pay-off spindles are rotatably mounted on the carriage, at predetermined spaced circumferential positions, with the rotational axes of the spindles and carriage being parallel to each other. A mandrel is disposed at the rotational axis of the carriage, with the electrical coil being wound on the mandrel from rolls of sheet material disposed on the spindles, as the carriage is rotated by the drive means about the mandrel.

3,507,138
ROLLING MILL SUPPORT ARRANGEMENT

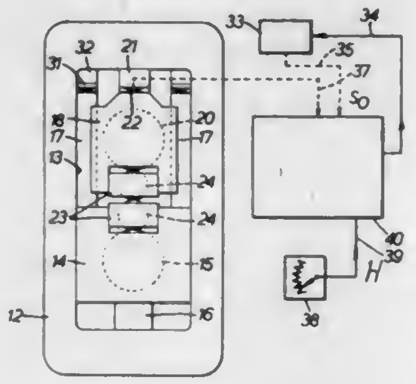
Kurt Neuber, 86 Westfalenstrasse,
4 Dusseldorf-Rath, Germany
Filed June 20, 1967, Ser. No. 647,557
Int. Cl. B21b *31/24*
U.S. Cl. 72—237 7 Claims



An arrangement for producing planar products in a rolling mill. Deflections ordinarily steming from forces exerted upon the rolling members, during the rolling process are compensated through a force and lever arrangement located at each end of the rollers. The curvature ordinarily prevailing in the rolling member and imparting a non-planar surface to the product being rolled, is compensated for by the lever arrangement so that a fully planar product results. The pressures exerted upon the supporting bearings of the rolling members are also transmitted to the lever arrangement which imparts the compensating effects.

3,507,139
ROLLING MILLS

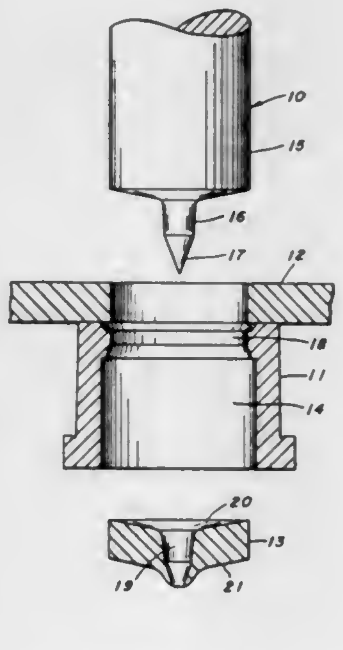
Clifford Sturdy, Chesterfield and Harry Laurence Fred Bond, Hathersage, near Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England
Filed May 17, 1967, Ser. No. 639,141
Int. Cl. B21b *31/30*
U.S. Cl. 72—244 9 Claims



The disclosure of the present invention relates to a rolling mill having a pair of spaced housings for rotatably supporting a pair of roll assemblies. The top roll assembly is adjusted by power driven wedges arranged between the housings and the roll assembly to place the housings under a stretched condition by forcing the roll assemblies together. Between the top roll assembly and the housings struts are located which after the housings are placed in the stretched condition are brought into engagement with the housings and the top roll assembly, so that the struts hold the housings in the stretched condition leaving the top roll assembly free to be adjusted to set the roll gap of the mill.

3,507,140
METAL SLUGS AND A METHOD OF PRODUCING THE SAME

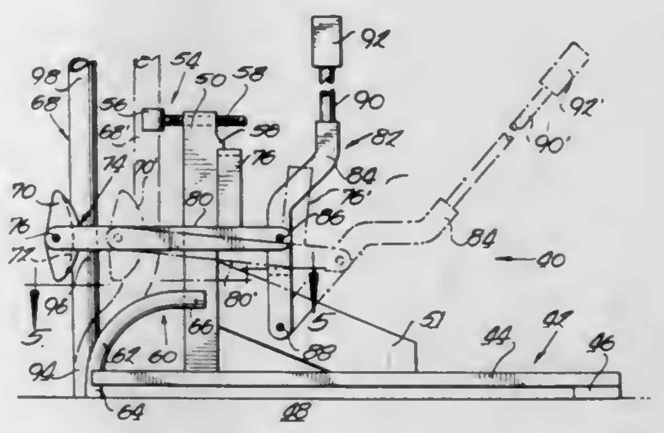
Alfred F. Tassaro, New Kensington, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1967, Ser. No. 640,923
Int. Cl. B21d *31/02, 31/00, 28/00;* B21c *37/02*
U.S. Cl. 72—327 3 Claims



Tubular products having a necked end portion, such as containers having a dispensing nozzle projecting from one end, may be impact extruded from pierced metal slugs. A slug that may be used for this extrusion is a dished slug having a pierced aperture located centrally therein which may be provided by piercing and blanking the slug from a sheet of metal by forcing a punch having a piercer projecting from its end, through the sheet and into a female die.

3,507,141
APPARATUS FOR BENDING PIPE

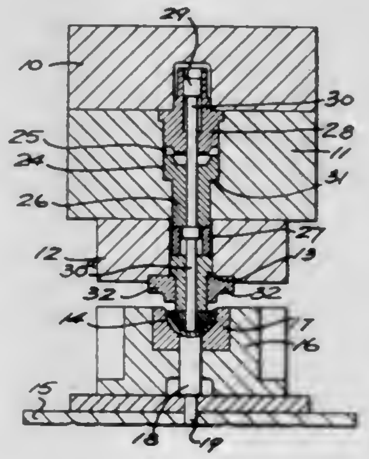
William J. Fisher, Lisle, Ill., assignor of one-half to Gerson Electric Construction Company, Chicago, Ill.
Filed Feb. 14, 1968, Ser. No. 705,433
Int. Cl. B21d *9/05*
U.S. Cl. 72—389 8 Claims



An apparatus for bending pipe so as to produce a lateral offset in a straight pipe.

3,507,142
POWER PRESSES

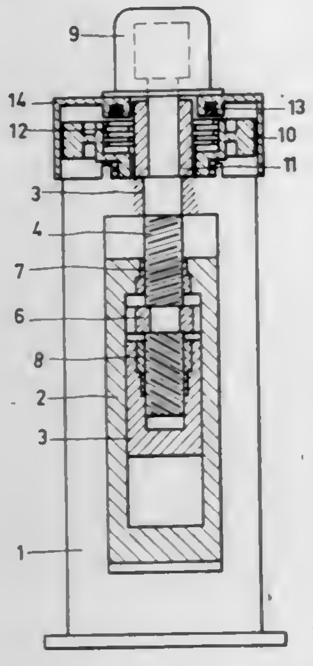
Ernest Coupland, deceased, late of Wolverhampton, England, by Midland Bank Executor and Trustee Company Limited, executor, London, and Sidney Blower, Wolverhampton, England, assignors to Rubery, Owen and Company Limited, Darlaston, Wednesbury, England, a British company
Filed July 19, 1966, Ser. No. 566,393
Claims priority, application Great Britain, July 24, 1965, 31,665/65
Int. Cl. B21d *37/14*
U.S. Cl. 72—415 2 Claims



In the manufacture of a pressing of channel, trough, or similar concave section having spaced upstanding edges, after the pressing has been formed between a punch and a die it is forced into close conformity with the die by a plurality of hammer blows applied to the upstanding edges of the pressing.

3,507,143
FORMING MACHINE

Otto Georg, 12 Oststrasse, 5805 Breckerfeld, Germany
Filed Dec. 4, 1967, Ser. No. 687,618
Claims priority, application Germany, Aug. 1, 1967, G 50,785
Int. Cl. B21j *11/00*
U.S. Cl. 72—443 **8 Claims**

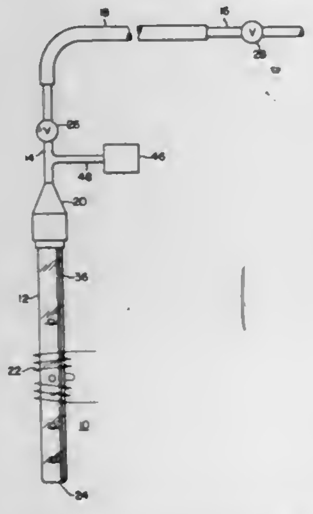


A forming machine selectably operable as a hammer or as a press which is provided with a pair of contrary reciprocally-movable tool members acting upon a workpiece in the known manner. In order to achieve the two operational states of the machine the effective resultant inertia of the tool members acting on the workpiece is variable. A simple way of varying the inertia is disclosed in the form of an additional mass which can be operably connected to a threaded spindle engaging the tool members.

An alternative embodiment uses a pressure medium to drive the tool members by means of pistons and cylinders and to vary the inertia the pressure medium can be supplied in different quantities at different pressures from two separate hydraulic systems.

3,507,144
GAS CONTENT ANALYSIS WITH A METAL LEVITATION SYSTEM

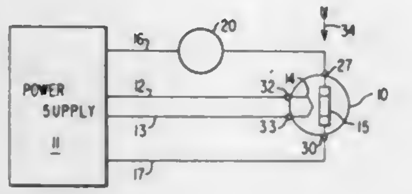
William M. Hickam, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 21, 1968, Ser. No. 714,944
Int. Cl. G01n *7/14*
U.S. Cl. 73—19 **6 Claims**



System for precisely determining the gas content of a material using a levitation melting apparatus for extracting from a material sample the gas content of the sample including a closed melting chamber with an inert atmosphere in which only the sample under test is fused and no component within the chamber is heated to any appreciable temperature, whereby no extraneous gases are introduced.

3,507,145
INDIUM SESQUIOXIDE THIN FILM COMBUSTIBLE GAS DETECTOR

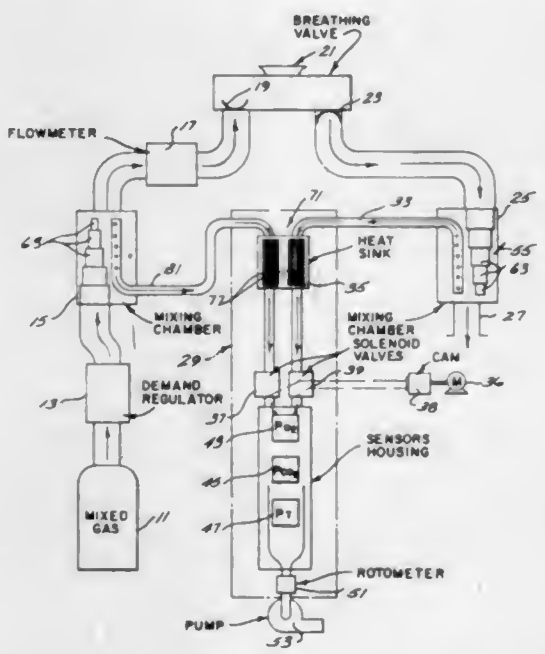
Jack C. Loh, Peabody, Mass., assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 596,869, Nov. 25, 1966. This application June 21, 1967, Ser. No. 647,735
Int. Cl. G01n *27/04*
U.S. Cl. 73—23 **4 Claims**



A combustible gas detector. The resistance of a thin indium sesquioxide film on a dielectric support is monitored when the thin film is heated to a semiconductive region. Gas is directed over the thin film to vary the resistance of the semiconductive region.

3,507,146
METHOD AND SYSTEM FOR RESPIRATION ANALYSIS

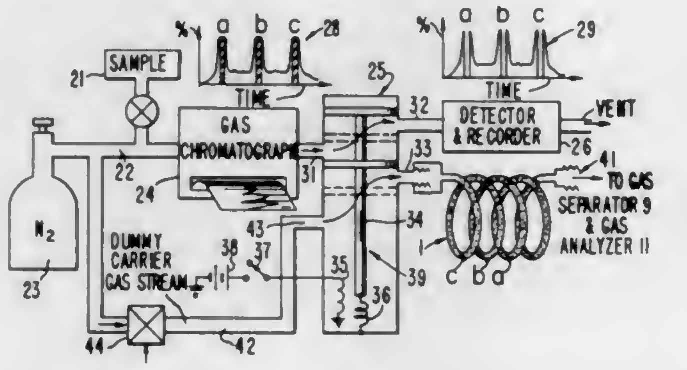
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Gordon W. Campbell, Redondo Beach, Calif. 90277, and Robert K. Breeze, Lynwood, Calif. 92311
Filed Feb. 9, 1968, Ser. No. 704,420
Int. Cl. G01n *7/02*
U.S. Cl. 73—23 **9 Claims**



A respiration analyzing method and apparatus for determining the oxygen consumption of an individual, having a mouthpiece and breathing valve to which are connected separate inlet and outlet lines. The volume of oxygen inhaled and the volume of oxygen exhaled are determined by alternately sampling for short periods of time small amounts of the inlet and outlet streams from the mouthpiece without in anyway interfering with the main flow of gas to the individual. The alternate stream samples are each directed to the same sensors which in turn sense the partial pressure of oxygen, the partial pressure of carbon dioxide, the total gas pressure. These measurements together with the use of a flow meter in the inlet line to indicate the total volume of gas inhaled by the individual will allow one by calculation to determine the amount of oxygen consumed.

3,507,147
SAMPLE INLET METHOD AND APPARATUS FOR GAS ANALYZERS EMPLOYING A STORAGE COLUMN AND GAS SEPARATOR

Peter M. Llewellyn, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 21, 1967, Ser. No. 661,869
Int. Cl. G01n *31/08, 1/22*
U.S. Cl. 73—23.1 **9 Claims**

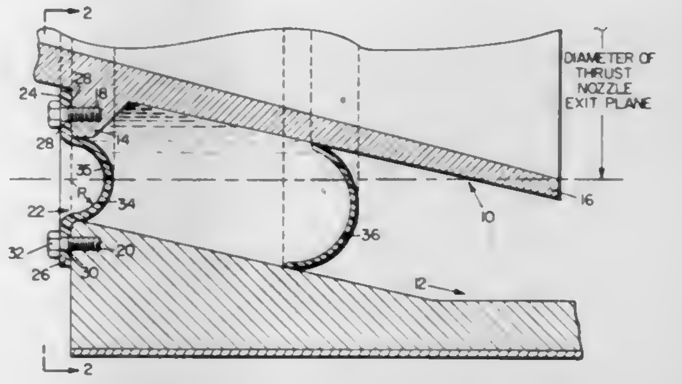


Sample inlet systems for gas analyzers are disclosed. The sample inlet system includes a storage column which may comprise, for example, a long length of small diameter tubing or a relatively short length of tubing packed with a liquid phase substrate material such as diatomaceous earth covered with liquid phase material such as wax or silicone. The body of gas to be sampled such as, for example, the earth's atmosphere or the fluid stream from a gas chromatograph is periodically sampled and the samples are pushed into the storage column by a carrier gas stream of permanent gas. Once the sample is inside the storage column the carrier gas stream is interrupted. The sample is then effectively stored in the column since the diffusion rate for diffusion of the gas sample out of the column is on the order of 10 cms. per day for a liquid phase packed column; thus, the sample may be stored in the column for days. Subsequent samples may also be stored in the column in a similar manner. Thus, various samples are stacked in the storage column and a number of such samples may be stored in the column. The storage column may be removed from the gas sampling device and transported to a remote station for gas analysis at a remote station. Successive ones of the stored samples are pushed through the storage column by connecting the storage column to a stream of carrier gas. As the various samples are pushed out of the storage column they are passed through a gas separator which separates gas to be analyzed from the permanent gases and feeds the gas to be analyzed to a mass spectrometer or other gas analyzer. The flow rate of the second carrier gas stream through the storage column may be adjusted as desired to optimize gas analysis.

3,507,148
ASSEMBLY FOR SEALING THRUST NOZZLE TO EXHAUST DIFFUSER

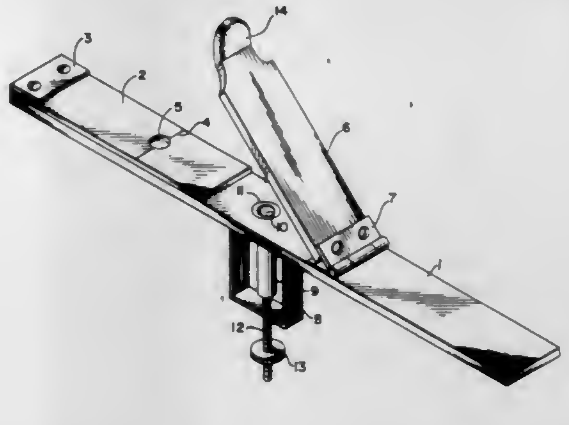
Charles H. Wright, Brigham City, Utah, and Charles E. Nelson, Redlands, Calif., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 680,613
Int. Cl. G01m *15/00*
U.S. Cl. 73—117.4 **24 Claims**

A rocket motor test apparatus wherein an exhaust diffuser, utilized to reduce nozzle back pressure during static testing, is adapted with a unique seal between it and the nozzle being tested to prevent air aspiration therein, while simultaneously permitting true thrust measurement of said motor.



3,507,149
SAMPLE HOLDER FOR WRINKLER RECOVERY TEST APPARATUS

Herbert R. Copeland, McLean George, and Anthony R. Markezich, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture
Continuation-in-part of application Ser. No. 768,148, Oct. 16, 1968. This application Feb. 4, 1969, Ser. No. 796,351
Int. Cl. G01n *33/36*
U.S. Cl. 73—159 **2 Claims**

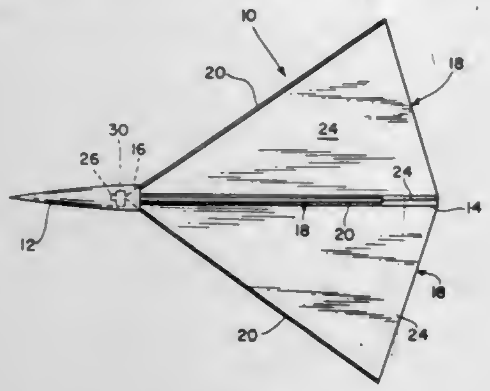


A holder used in a wrinkle recovery test has a spring leaf coextensive with a base plate over a distance sufficient to secure part of a fabric sample under the spring while another part of the sample is folded on top of the spring leaf. The spring leaf also has an index mark and an index hole to position accurately the fabric. A hinge locates the releasable flap on the base plate with the free end of the flap overlapping about one half of the spring leaf. The releasable flap is held closed by a permanent magnet that is movable through a hole in the base plate. Withdrawing the magnet from the hole in the base plate, releases the flap and the flap is then free to regain its uncreased condition.

3,507,150
WIND VELOCITY PROBING DEVICE AND METHOD

Robert F. Stengel, 41 Spring St., Princeton, N.J. 08540
Filed Jan. 24, 1966, Ser. No. 522,795
Int. Cl. G01w *1/08*
U.S. Cl. 73—189 **2 Claims**

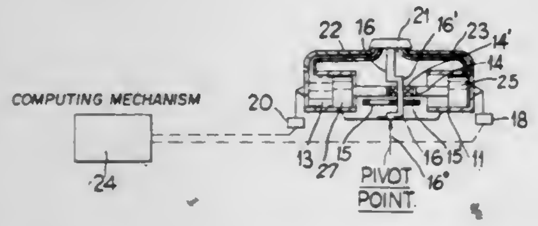
A method and apparatus for probing an altitude interval and obtaining profiles of wind velocities over the altitude interval including the release of a body having a low frontal and high lateral projected area over the test area and radar tracking of the body during its free-fall descent to obtain indications of lateral deviations of the



body from the vertical which is in turn a measure of the wind velocities at the various altitudes.

3,507,151
MASS FLOW METER

Peter Gillingham Williams, Kemsing, Sevenoaks, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England
Filed Aug. 23, 1967, Ser. No. 662,750
Claims priority, application Great Britain, Sept. 14, 1966, 41,080/66
Int. Cl. G01f *3/14*
U.S. Cl. 73—240 8 Claims

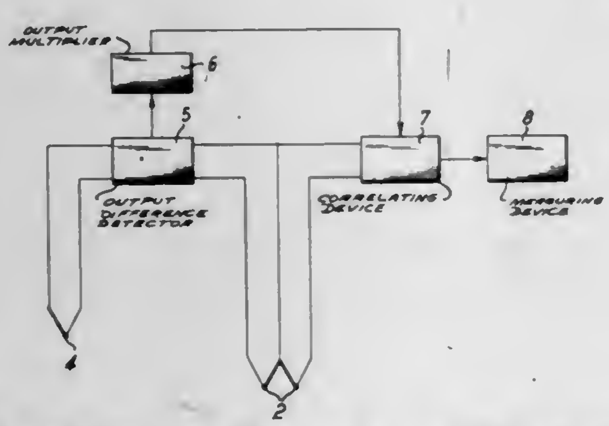


A piston displacement meter is supported on load cells to weigh fluid in the meter.

The meter is preferably balanced about a pivot so that the load cells have only to carry the small out of balance load which is due to variation in the density of the fluid.

3,507,152
METHOD AND APPARATUS FOR LOW-INERTIA OR INERTIA-FREE TEMPERATURE MEASUREMENT

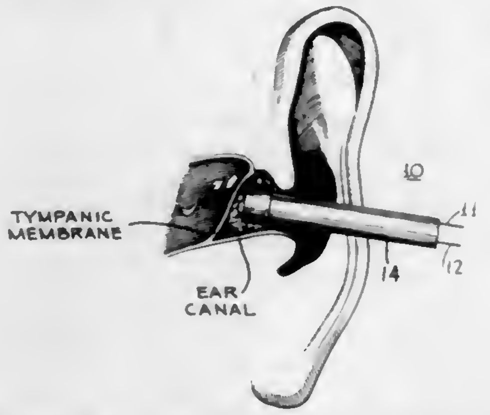
Werner Horst Gunther Ritscher, Baden-Wurttemberg, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a company of Germany
Filed Nov. 16, 1967, Ser. No. 683,727
Claims priority, application Germany, Dec. 22, 1966. W 43,033
Int. Cl. G01k *7/10*
U.S. Cl. 73—341 3 Claims



A temperature measuring probe for the low-inertia temperature measurement of a fluid medium. The probe includes a pair of temperature measuring elements having different degrees of thermal contact with the medium. A circuit associated with said elements adds a proportion of the difference in output between said elements to the output of one of the elements to provide a corrected temperature measurement.

3,507,153
TYMPANIC MEMBRANE THERMOMETER

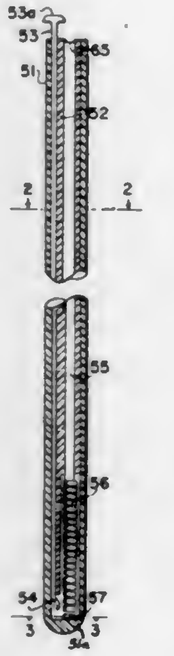
Louis R. Jones, Huntingdon Valley, George C. Mergner, Glenside, and Will McAdam, Blue Bell, Pa., assignors to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 12, 1968, Ser. No. 744,362
Int. Cl. G01k *1/16, 7/04*
U.S. Cl. 73—359 7 Claims



A thermometer for measuring the temperature of the tympanic membrane in an ear canal. A thermoplastic tube has a heat sensor of small dimensions positioned at the distal end of the tube. A pair of flexible electrically insulated leadwires connected at one end to the heat sensor extends out through the tube. A soft fibrous material is securely held and covers the distal end of the tube and extends beyond the end to form a substantially continuous covering over and around the end of the tube and the heat sensing means to provide a protective covering between the tympanic membrane and the heat sensor.

3,507,154
TEMPERATURE MEASURING APPARATUS

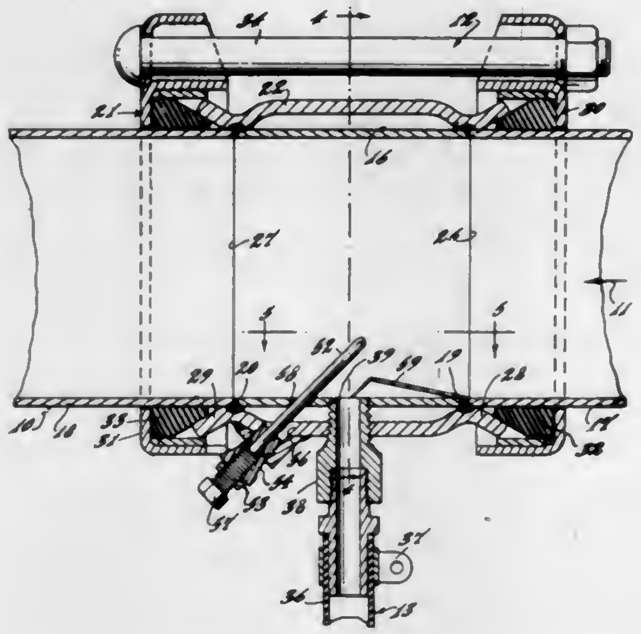
Milton Schonberger, Westwood, N.J., assignor to I.N.M. Industries Corporation, New York, N.Y., a corporation of Delaware
Original application Feb. 3, 1965, Ser. No. 431,771, now Patent No. 3,379,063, dated Apr. 23, 1968. Divided and this application Apr. 22, 1968, Ser. No. 722,880
Int. Cl. G01k *5/70*
U.S. Cl. 73—363.9 10 Claims



The invention provides a temperature measuring system in which a non-indicating heat receptor or probe is placed in heat-absorbing relation with a body or region whose temperature is to be measured, the receptor or probe storing heat at the temperature to be measured and responding to the rise in temperature by way of the rotation of a bimetallic coil. The receptor or probe during such time is not connected to a temperature indicating device, but is subsequently brought into temperature indicating relation with such device whereby the maximum degree of rotation of the coil is measured and the corresponding temperature indicated.

3,507,155
CONTINUOUS SAMPLER FOR GASEOUSLY CONVEYED PARTICULATE MATERIALS

Walter E. Segl, Jr., 36 Bruce Road, Red Bank, N.J. 07701
Filed May 22, 1968, Ser. No. 731,002
Int. Cl. G01n *1/04*
U.S. Cl. 73—422 7 Claims

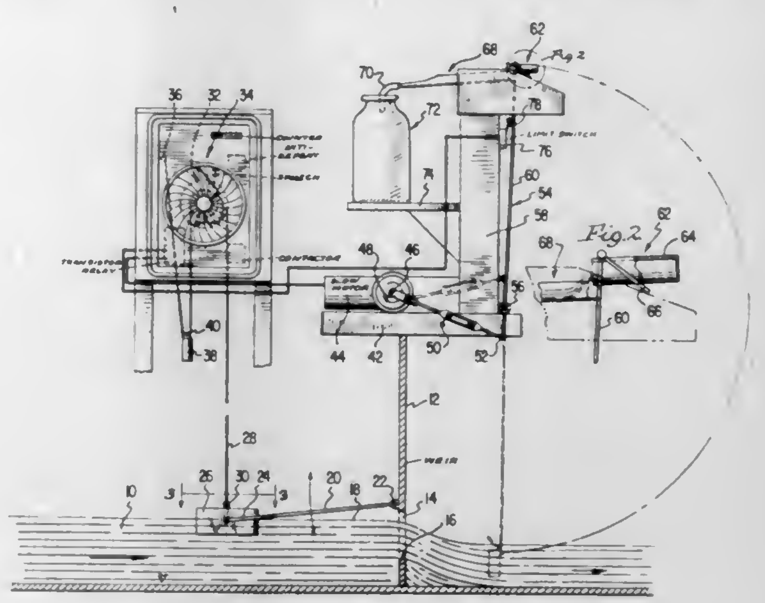


A continuous sample of particulate material being gaseously conveyed in a conduit is deflected by an elongated impingement pin into one end of an eductor. The impingement pin extends obliquely across the one end of the eductor in a direction opposite to the flow of the particulate material. The axis of the impingement pin and the axis of the eductor are substantially coplanar. The eductor leads to a collector and the collector is closed to maintain pressure generally equal to the static pressure in the conduit. A sample is taken by the particulated material impringing upon the impingement pin, rebounding into the eductor and being collected in the collector.

3,507,156
COMPOSITE SAMPLING SYSTEM FOR WASTE WATER DISPOSAL

William H. Merrill, Jr., 80 Huntington Court, Williamsville, N.Y. 14221
Filed Feb. 23, 1968, Ser. No. 707,504
Int. Cl. G01n *1/12*
U.S. Cl. 73—423 4 Claims

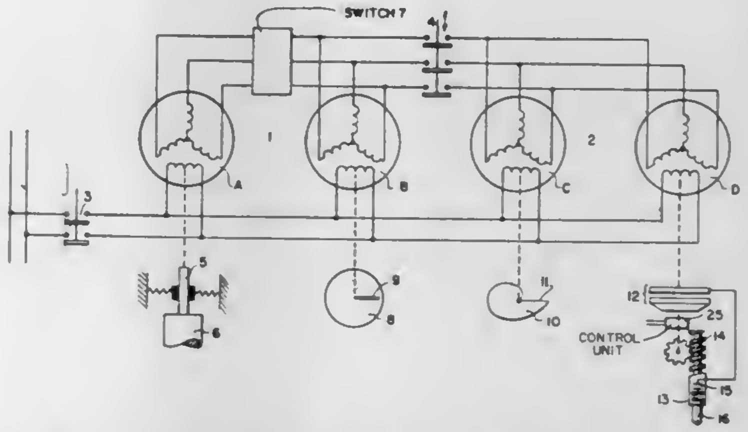
A waste water sampling system in which uniformly sized effluent samples are collected at the end of each period during which a predetermined volumetric flow of effluent has occurred. A flow indicating device in response to the predetermined volume flow actuates a switch to operate the sample collecting device which utilizes an arm having a sampling cup at one end and a link at the other, the arm being reciprocated by a motor near its link end. In this way, a composite of these samples accurately re-



flects the composition of the effluent over the collection period.

3,507,157
LIGHT BEAM UNBALANCE-INDICATING AND CORRECTING APPARATUS

Heinrich Hack, Darmstadt, Germany, assignor to Carl Schenck Maschinenfabrik GmbH, Darmstadt, Germany, a corporation of Germany
Filed Nov. 14, 1966, Ser. No. 593,976
Claims priority, application Germany, Nov. 13, 1965, Sch 38,024
Int. Cl. G01n *1/38*
U.S. Cl. 73—462 4 Claims

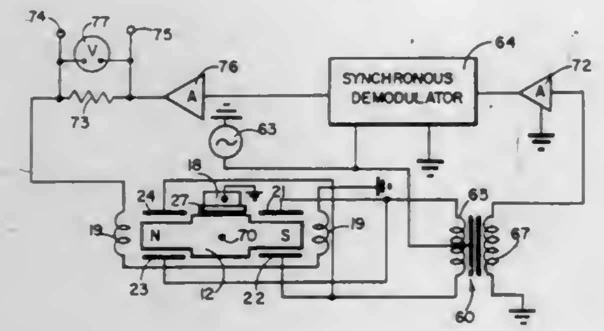


A mask provides a line of light rotatable with a workpiece on an indicating screen and representing the position of the workpiece relative to correcting apparatus. A light spot is projected on the screen for indicating the magnitude and location of unbalance of the workpiece relative to the correcting apparatus. An indicator mask of two-dimensional configuration has a linear edge and indicates the amount of correction applied to the workpiece relative to the total magnitude of correction required. The mask rotates with the correcting apparatus.

3,507,158
ACCELEROMETER

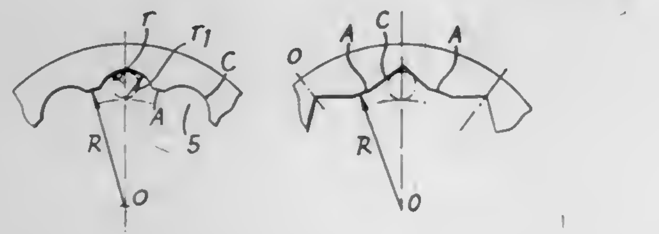
Doyle E. Wilcox, Puente, William M. Scarborough, Whittier, and Elliott R. Buxton, Downey, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Dec. 9, 1959, Ser. No. 858,523
Int. Cl. G01p *15/08, 15/02;* **F16c** *7/04*
U.S. Cl. 73—517 5 Claims

The disclosure is directed to an angular accelerometer in which an inertia member is supported for rotational movement by a pressurized fluid bearing. Electrical pick-off coils are disposed in coupling relationship to the inertia member to provide an electrical signal output, to



which output an electrical torquer is responsive in a manner to provide an output proportional to the acceleration to which the accelerometer is subjected.

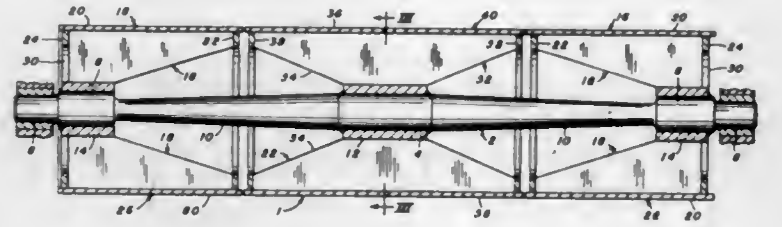
3,507,159
SPEED CHANGING MECHANISMS
Michael G. Batty, Uckfield, England, assignor to Patrick George Leeson, Rothley, England
Filed Oct. 20, 1967, Ser. No. 676,881
Claims priority, application Great Britain, Oct. 22, 1966, 47,484/66
Int. Cl. F16h *17/00*
U.S. Cl. 74—63 **20 Claims**



A speed changing mechanism having a rotary or linear motion and comprising a component provided with a recessed face consisting of a number of sections, each including a recess, which are all of one shape and are joined together end-to-end, a component provided with a cam, and either one array or two interconnected arrays of rollers of spherical or cylindrical form which, in operation, is or are respectively in constant contact with the recessed face and the cam, the number of rollers in the or each array being different to the number of recesses, whereby in operation relative movement between any two of the three parts of the mechanism causes the rollers in contact with the recessed face to move seriatim into and out of driving engagement with the recesses under the control of the cam, so that the third part of the mechanism is driven. The shape of each section of the recessed face is decided upon by reference to various practical mechanical design considerations and consists of at least two differently shaped portions, and then the shape of the cam is determined by a process of generation from the recessed face.

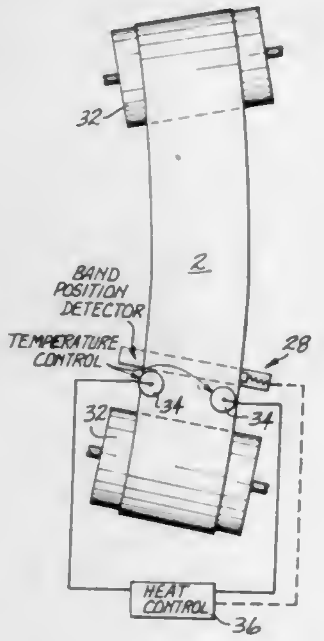
3,507,160
SELF-CENTERING ROLL
George E. McPherson, Ross Township, Allegheny County, and James J. Fatula, Perry Township, Lawrence County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Aug. 8, 1968, Ser. No. 751,222
Int. Cl. F16h *7/18;* **B65g** *45/00*
U.S. Cl. 74—241 **11 Claims**

A roll for centering strip including a shaft supporting two end strip supporting sections with a central strip supporting section therebetween. Each strip supporting section includes a plurality of spaced apart longitudinally extending radial webs secured to the shaft and a strip



supporting surface at the outer end of each web with a space between the supporting surfaces.

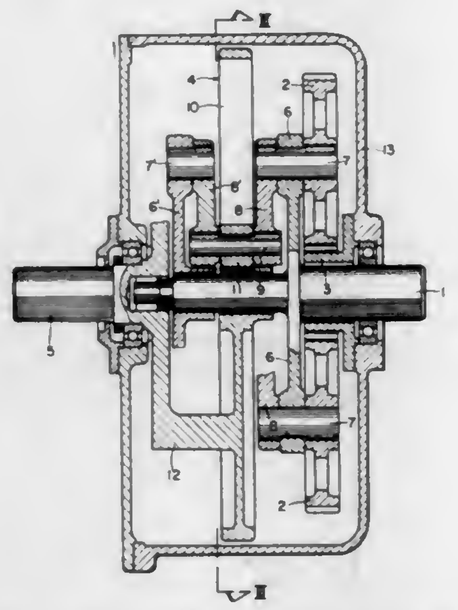
3,507,161
DRIVING ENDLESS METAL BANDS
Earl D. Hasenwinkle, Longview, Wash., assignor to The Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Nov. 29, 1968, Ser. No. 780,025
Int. Cl. F16h *7/18*
U.S. Cl. 74—241 **16 Claims**



A method and apparatus are disclosed for driving an endless metallic band in a controlled path. According to the method, the band is rotated in one circumferential direction thereof, and a temperature differential is generated between the edge portions of the band, so as to vary the relative lengths of the portions while the band is rotating. In this way the lateral displacement of the band is controlled so as to steer it in one lateral direction thereof; or to neutralize a tendency for the band to steer in one lateral direction thereof. The temperature differential is normally initiated after the band has commenced rotating.

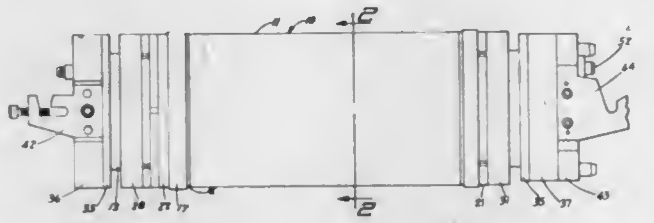
3,507,162
CYCLOPLANETARY GEARING HAVING A VARYING OUTPUT SPEED RATIO
Takeo Nomura, Koganei, Tokyo, and Takeo Ishijima, Funabashi, Japan, assignors to Nissei Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Dec. 28, 1967, Ser. No. 694,278
Int. Cl. F16h *35/02*
U.S. Cl. 74—394 **3 Claims**

Cycloplanetary gearing or a cycloid planetary gear assembly comprises an input shaft, one or more stationary sun wheels, and one or more planet wheels meshed with said stationary sun wheels so as to rotate without any slip. The cycloidal angular motion of a predetermined point on the periphery of the planet wheel with respect to the axis of the stationary sun wheel is used to drive an output shaft through the intermediary of a shaft coupled to the planet wheel and in turn driving a shaft via an arm,



the latter shaft being fitted in a slot in a wheel connected to the output shaft.

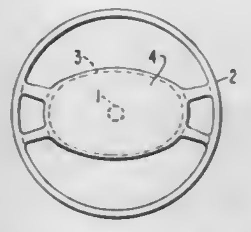
3,507,163
SEALED MANIPULATOR
Carleton E. Jennrich, St. Paul, and Demetrius G. Jelatis, Red Wing, Minn., assignors to Central Research Laboratories, Inc., Red Wing, Minn., a corporation of Minnesota
Filed Nov. 8, 1968, Ser. No. 774,468
Int. Cl. G05g *1/00*
U.S. Cl. 74—491 **11 Claims**



A sealed horizontal support or through tube for a remote control master-slave manipulator of the type in which motions are transmitted by rotatable shafts. The through tube is characterized by fluid filled seals each comprised of a double set of spaced apart seal rings at each end of the through tube engaging each of the rotatable elements extending through the barrier wall separating the master and slave environments. The structure of the through tube permits equalization of pressure on opposite sides of most seals. Where pressure differentials exist, the greater pressure is on the side insuring maintenance of the integrity of the seal. This adapts the through tube especially for use where the slave cell is at a different pressure from the operator's area.

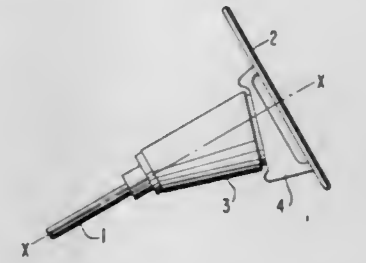
3,507,164
SAFETY STEERING FOR MOTOR VEHICLES
Karl Wilfert, Gerlingen-Waldstadt, and Béla Barényi, Stuttgart-Vaihingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 10, 1968, Ser. No. 720,047
Claims priority, application Germany, Apr. 11, 1967, D 52,758
Int. Cl. B62d *1/18*
U.S. Cl. 74—492 **15 Claims**

A safety steering device for motor vehicles which includes a plastically deformable deformation member between the steering wheel and the steering spindle and in which the cross-sectional surface of the deformation member adjacent the steering wheel has a shape that is different from the circular shape with the major axis



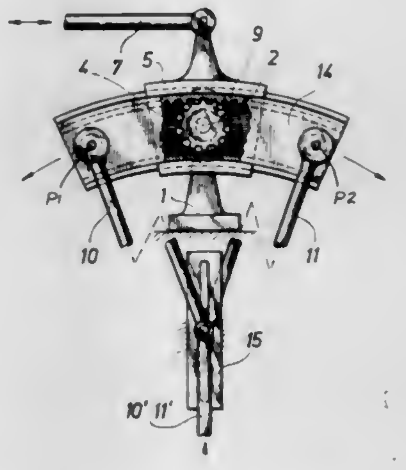
of the cross-sectional shape being substantially horizontal when the steering wheel is in the position corresponding to straight drive.

3,507,165
SAFETY STEERING DEVICE FOR MOTOR VEHICLES
Karl Wilfert, Gerlingen-Waldstadt, and Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 10, 1968, Ser. No. 720,048
Claims priority, application Germany, Apr. 11, 1967, D 52,757
Int. Cl. B62d *1/18*
U.S. Cl. 74—492 **12 Claims**



A safety steering device for motor vehicles with a plastically deformable deformation member arranged between the steering wheel and the steering spindle in which the center of the base surface of the deformation member facing the steering wheel is offset downwardly with respect to the center of the steering wheel.

3,507,166
VARIABLE LEVER TRANSMISSION FOR ACTUATING THE CONTROL SURFACES OF AIR AND WATER VEHICLES
Frank Arnold Nix, Frankfurt am Main, Germany, assignor to Vereinigte Flugtechnische Werke Gesellschaft mit beschrankter Haftung fruher "Weser" Flugzeugbau Focke-Wulf Heinkel-Flugzeugbau, Bremen, Germany
Filed Apr. 15, 1968, Ser. No. 721,229
Int. Cl. G05g *9/00*
U.S. Cl. 74—522 **3 Claims**

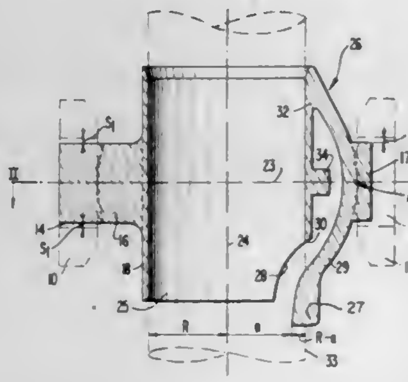


A variable lever transmission for the control of control surfaces of aircrafts and water vehicles in which the transmission ratio is variable by displacing the joint of one lever relative to the joint of another lever, two oppositely directed output movements being derived from a lever rail which latter is displaceably mounted in guiding means pivotally supported by stationary supporting means.

3,507,167

BEARING SUPPORT FOR A LINKAGE LEVER AT THE DRIVE PEDAL OF MOTOR VEHICLES

Karl Röder, Stuttgart-Monchfeld, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 28, 1968, Ser. No. 741,061
Claims priority, application Germany, July 1, 1967, D 53,498
Int. Cl. G05g *1/14*
U.S. Cl. 74—560 **31 Claims**

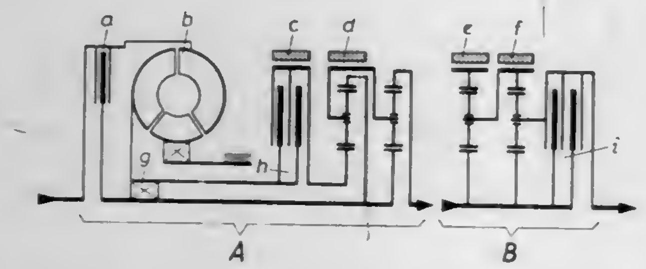


A bearing support for the linkage lever, which is coupled with the adjusting member for the driving torque, at the foot or drive pedal of vehicles in which the foot plate has a substantially rigid housing for the form-locking support of a joint body, that is provided with a springy clamping part and with an aperture into which the bearing portion of the linkage lever is form-lockingly inserted; the bearing portion of the linkage lever, when inserted into the aperture of the joint body, engages the clamping part in such a manner that the latter is spring-deflected and therewith elastically stressed with respect to the joint body into a locking position in which the joint body rests against a housing wall of the foot plate under force-locking action.

3,507,168

TRANSMISSION, ESPECIALLY FOR VEHICLES

Peter J. Carp, 16 Quai de Stalingrad, Hauts-de-Seine, Boulogne, France
Filed Jan. 24, 1968, Ser. No. 700,064
Claims priority, application Germany, Jan. 25, 1967, C 41,330
Int. Cl. F16h *47/08*
U.S. Cl. 74—688 **4 Claims**

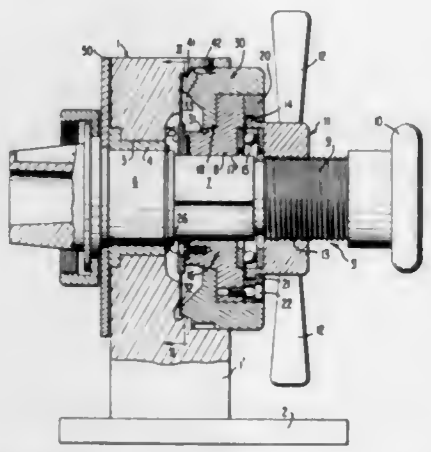


A transmission for automotive vehicles having a coupling converter with a clutch connected with an input shaft and the converter and clutch being connected to a planetary gearing through a drive line. The planetary gearing includes a gear shaft and drive-split gearing with a clutch between the drive lines and the converter and having a stall conversion of 2.8 or more with the drive splitting means having a hydraulic drive line.

3,507,169

POLYGON INDEXING DEVICE

Ernst R. Signer, Eastchester, N.Y., assignor to Stoffel-Fortuna, Inc., Tuckahoe, N.Y.
Filed Mar. 28, 1966, Ser. No. 538,015
Int. Cl. B23q *17/00;* **B23b** *29/24*
U.S. Cl. 74—826 **17 Claims**

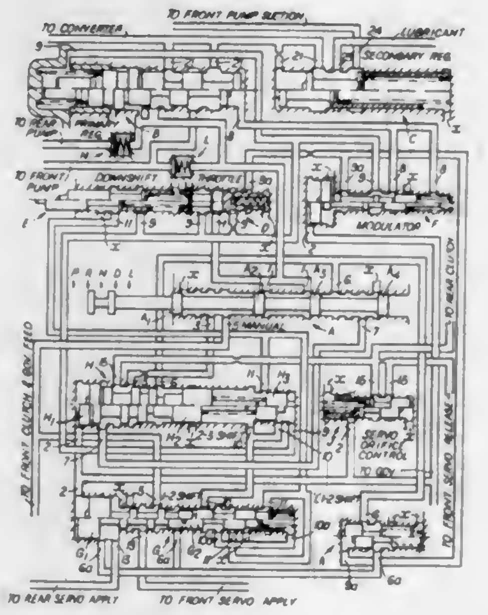


An indexing device including a plurality of relatively rotatable members arranged coaxially about a main shaft, one end of which shaft is adapted to support a chuck. The plurality of relatively rotatable members are constructed in the form of polygonal cylinders and are arranged to engage simultaneously with the external annular surface of one member mating with an internal annular surface of another. At least one of the members may have an external configuration differing from its internal configuration, the remaining members each being designed to mate with either the internal or external configuration thereof. The invention further contemplates appropriate manual or automatic control means to axially displace the members with respect to one another, the mating surfaces of said members being similarly tapered in the axial direction thereof, and further control means for rotating one or more of the members with respect to the others.

3,507,170

VARIABLE SPEED TRANSMISSION MECHANISM

Carl Wesley Hanzi, Hitchin, and Gordon Francis Hayden, Hinxworth, near Baldock, England, assignors to Borg-Warner Limited, Letchworth, England, a British company
Filed Mar. 18, 1968, Ser. No. 714,132
Int. Cl. B60k *21/06*
U.S. Cl. 74—869 **6 Claims**

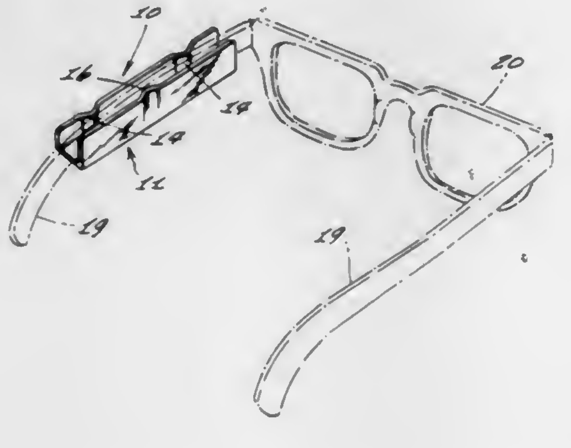


The invention relates to a hydraulic control mechanism for automobile automotive transmissions, which serves to oppose movement to a downshift position of a shift valve which controls change from top gear, until governor pressure has fallen below a given value. The mechanism also permits shift up from bottom to intermediate gear when the selector is in the low position.

3,507,171

REFORMING DEVICE FOR EYEGLASSES TEMPLE BARS

James Peters, R.D. 2, Hollsopple, Pa. 15935
Filed Apr. 17, 1967, Ser. No. 631,393
Int. Cl. B25b *1/00*
U.S. Cl. 81—3.5 **3 Claims**

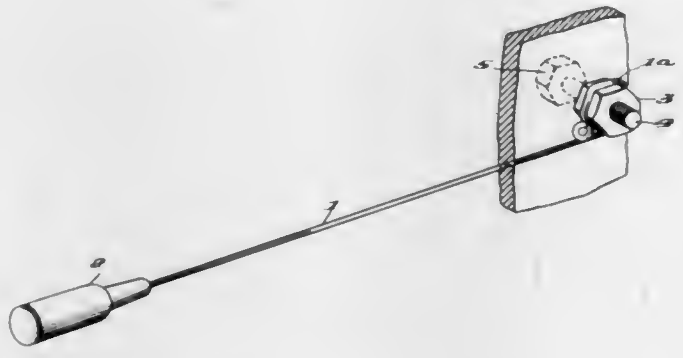


A form for placement of an eyeglass temple bar thereinto for the purpose of reshaping the temple bar to its original contour to snugly hold against a persons head, the form comprising a one piece, U shaped channel having protrusions therein between which the temple bar is forceably inserted and at the same time flexed toward a corrected direction.

3,507,172

NUT AND BOLT STARTERS

James H. Smith, Covington, Ga. 30209
Filed Nov. 28, 1967, Ser. No. 686,219
Int. Cl. B25b *9/00*
U.S. Cl. 81—13 **2 Claims**

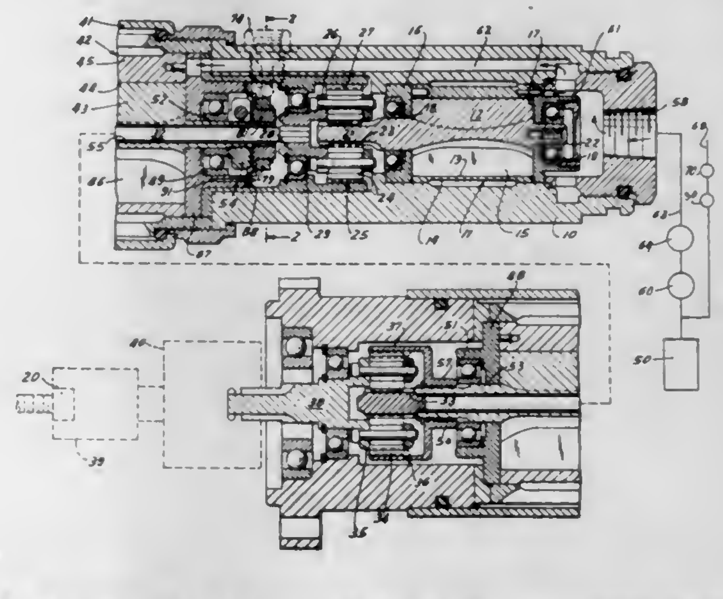


The tool is designed to enable the user to fit nuts to bolts and vice versa while working in cramped quarters, such as those too crowded for a man to insert an arm or hold a wrench or socket device. The essential features of this tool are a rod-like flexible shaft of suitable length, a handle at one end of the shaft, and at the opposite end a nut or bolt head engaging element such as the substantially closed loop. Such an element may be formed of an extension of the shaft or the shaft may carry a socket or other device to receive and hold a nut or bolt head.

3,507,173

TWO-SPEED NUT-RUNNER HAVING TWO AIR MOTORS ACTING AS MAIN AND AUXILIARY DRIVERS OF A DUAL-DRIVE PLANETARY GEAR SYSTEM

William K. Wallace, Barneveld, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed July 19, 1968, Ser. No. 746,099
Int. Cl. B25b *21/02;* **F16h** *37/06*
U.S. Cl. 81—52.4 **6 Claims**



A nut-running tool having an initial running-up phase and a final torquing phase accomplished by means of a pair of rotary air motors acting as main and auxiliary drivers of a dual-drive planetary gear system. The motors are caused to be pneumatically operated concurrently and in the same direction. The main motor is coupled to the work through less gear reduction than the auxiliary motor so that the work is rapidly run down by the main motor to the limits of its capacity, which will be when the torque built up in the work is about half of the required final torque. The main motor then stalls, and the auxiliary motor takes over to run the work down to a final degree of tightness. The stalled motor acts during the final tightening phase to hold stationary a ring gear of the dual-drive planetary gear system, permitting the auxiliary motor to drive through the gear system to the work. The torque delivered by the auxiliary motor continues until the torque built up in the work corresponds to the limit of the holding capacity of the main motor upon the ring gear of the dual-drive planetary gear system. When this occurs, the main motor will be forced to rotate backwards by the auxiliary motor.

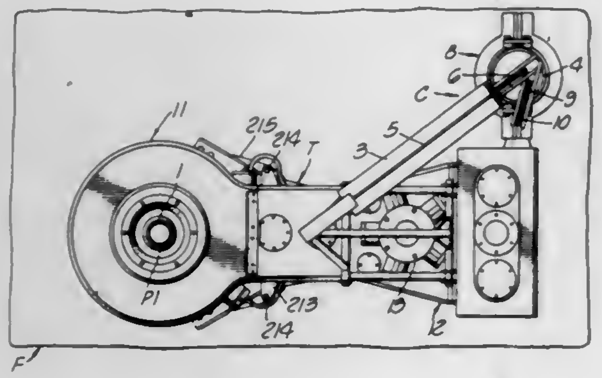
At about the time that the main motor starts to rotate backwards, a final torque value is delivered by the auxiliary motor, after which the work does not experience any further torque increase. The directional change of rotation of the main motor is used to cause actuation of control mechanism to shut off operating air to the tool after delivery of final torque has occurred. The value of final torque delivery can be varied by changing the pressure of operating air supplied to the main motor.

3,507,174

BACKUP TONG FOR POWER PIPE TONGS

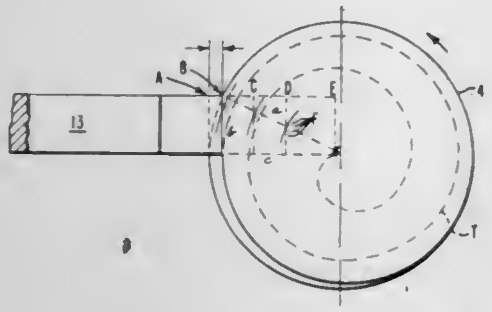
John L. Dickmann, Whittier, Calif., assignor to Byron Jackson Inc., Long Beach, Calif., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,810
Int. Cl. B25b *17/00*
U.S. Cl. 81—57.18 **13 Claims**

A backup tong for power well pipe tongs including pipe gripping jaws positively operable to grip pipe therebetween and positively retractable in response to rotation of a jaw carrying ring relative to a supporting structure, the supporting structure being supportable beneath a power-operated tong adapted to make up and break out pipe joints, one joint part of which may be gripped in the back-up tong, and a hydraulic cylinder being connected selectively to angularly spaced locations on the jaw carrying ring from a remote control point to enable actuation of the jaw carrying ring in opposite directions relative to the support structure.



3,507,175
APPARATUS FOR TRANSVERSELY CUTTING A PLURALITY OF SMALL HOLLOW PLASTIC TUBULAR ELEMENTS EMBEDDED IN A SOLID MATRIX OF PLASTIC MATERIAL TO MAINTAIN THE ENDS THEREOF OPEN

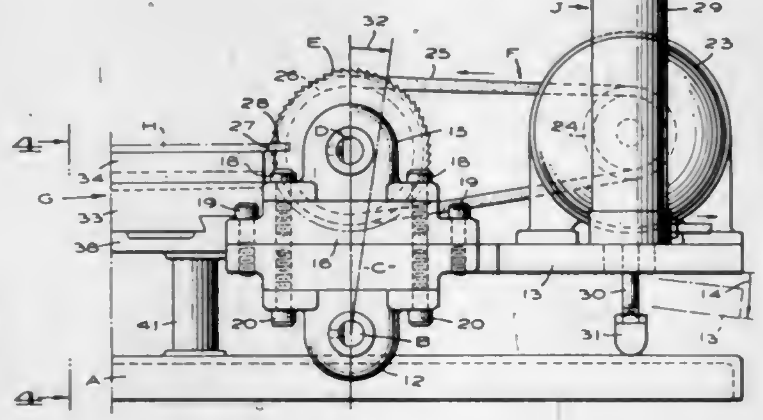
**Lennart Gerhard Swartling, 20 Rockrose Drive,
Newark, Del. 19711
Original application May 22, 1967, Ser. No. 640,183.
Divided and this application Mar. 14, 1969, Ser. No. 817,606
Int. Cl. B23b** *1/00*
U.S. Cl. 82—47 2 Claims



An arrangement for cutting hollow plastic filaments embedded in a solid plastic matrix generally comprising steps of and means for securing a cylindrical solid mass with hollow filaments embedded therein in a driven rotary means and rotating the mass about its longitudinal axis, coarse cutting the end of the rotating mass to square the face just outside the intended final surface, trimming the "squared" end face of the rotating mass with a chisel-shaped cutter beginning at the periphery and progressively advancing the cutter radially inward along the end face. The cutting edge of the cutter being positioned so that the edge length lies in the plane of the end face and is perpendicular to the rotational axis of the permeator with the lower corner of the edge traveling along a line that intersects the corner of rotation, and advancing the cutter at a continuously increasing rate to accommodate for the decreasing diameter of the ridge of material being removed and insure that a given point on the mass engaging a position on the cutter on one revolution of the mass will pass radially outward of the cutting edge without being contacted thereby on any succeeding revolution.

3,507,176
CIRCUIT BOARD SLOTTING MACHINE

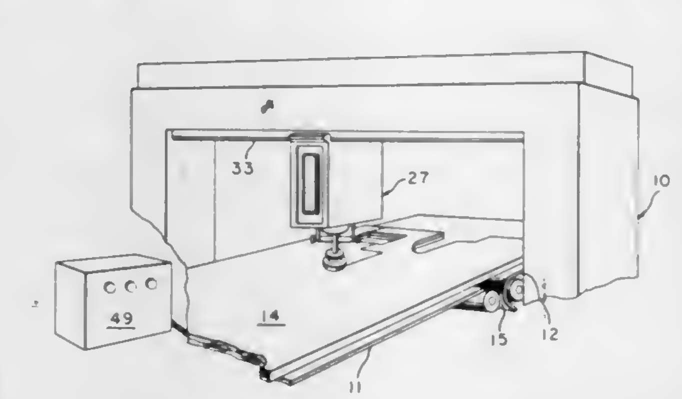
**Richard G. Hughes, % The Barnaby Co., 1690 Plymouth St., Mountain View, Calif. 94040
Filed May 31, 1968, Ser. No. 733,566
Int. Cl. B26d** *3/14, 3/18*
U.S. Cl. 83—1 5 Claims



A circuit board slotting machine having an adjustable table on which a circuit board may be mounted, and a swingable arbor shaft provided with spaced cutters thereon disposed for cutting slots in an end of the circuit board so that connectors may be coupled thereto. The cutters are disposed so that multiple slots may be cut at the same time, and the table provides screw adjustments so that the relationship of the board to the cutters can be finely established.

3,507,177
APPARATUS FOR SHARPENING RECIPROCATING CUTTING BLADE OF MATERIAL CUTTING MACHINE

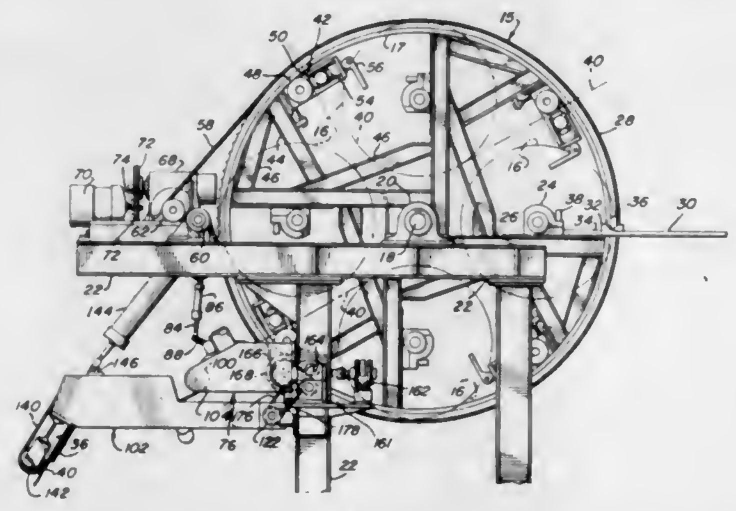
**Herman J. Baldwin, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 6, 1968, Ser. No. 726,697
Int. Cl. B26d** *7/12*
U.S. Cl. 83—174 15 Claims



A material cutting machine has means to sharpen a rotatably mounted reciprocating knife. The sharpening means comprises two grinding wheels, which are normally held in spaced relation to the knife when the knife is rotated by being rotated therewith. When the knife is to be sharpened, one of the grinding wheels is moved into engagement with the knife during removal of the knife from cutting engagement with the material and the other of the grinding wheels is moved into engagement with the other side of the knife when the knife is returned into cutting engagement with the material.

3,507,178
TURRET FEED

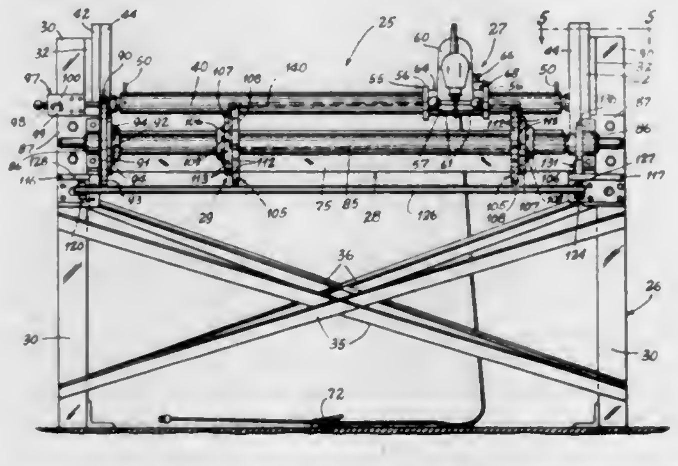
**David E. Lamon, Edward Fred Plach, Peter C. Radix, and Henry Paull, Jr., Appleton, Wis., assignors to Appleton Machine Company, a corporation of Wisconsin
Filed Aug. 31, 1965, Ser. No. 483,947
Int. Cl. B26d** *5/40*
U.S. Cl. 83—369 4 Claims



Apparatus for supporting a plurality of rolls of wrapping material and for supplying a selected amount of wrapping material from one of the rolls to a body or roll to be wrapped. The apparatus includes a turret structure supporting a plurality of rolls and having a web feed mechanism associated with each roll. The turret may be selectively positioned so that web from a selected roll may be passed through a threading mechanism which guides the web from the turret to a roll or body to be wrapped. As the web is advanced to the roll to be wrapped, adhesive is applied to the leading edge of the web, and after the desired amount of wrapping material is supplied, the web is severed and adhesive applied to the trailing edge of the web.

3,507,179
ROTARY DIE SAWING AND DRILLING MACHINE

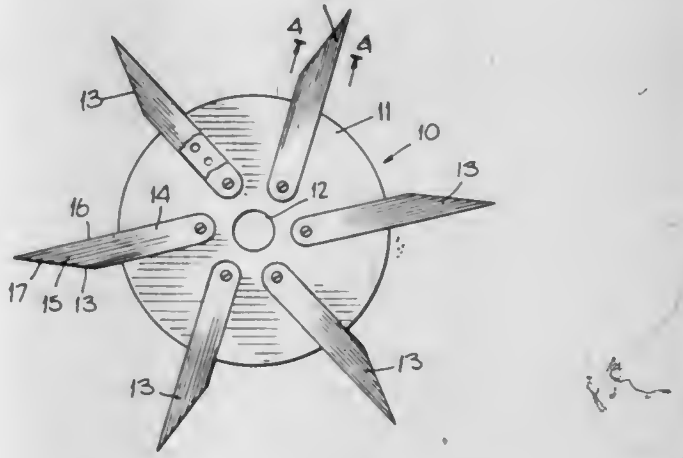
**Louis E. Sauer and Orville C. Miller, St. Louis, Mo., assignors to Centenary Central, Inc., St. Louis, Mo., a corporation of Missouri
Filed Feb. 2, 1967, Ser. No. 613,536
Int. Cl. B26d** *5/08*
U.S. Cl. 83—564 1 Claim



A rotary die sawing and drilling machine incorporating a rotatable arcurate workpiece support having releasable braking means, a saw mechanism including a supported saw manipulatable longitudinally of the workpiece support, a drilling structure for facilitating the drilling of mounting holes in the workpiece, and an indexing structure for insuring the proper selected fixed relationship of a supported workpiece and the drilling structure.

3,507,180
ROTARY CUTTER ASSEMBLY

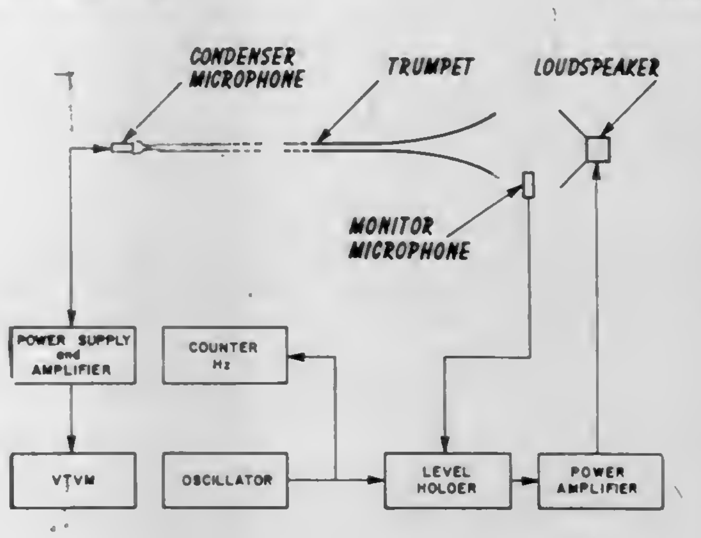
**Robert M. Greenberg, New York, N.Y., assignor to Phoenix Works, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 11, 1967, Ser. No. 674,559
Int. Cl. B26d** *5/08*
U.S. Cl. 83—592 5 Claims



A rotary cutter head with peripherally extending knives in which mounting slots for the knives are disposed in the head in a skew relationship to the rotary axis of the head and the knives have straight shank portions residing in the slots and fastening means are provided for longitudinal adjustment of the knives in the slots to compensate for wear on the cutting edges of the knives. The knives have angular cutting edges which provide a slicing action and provide for cutting of equal lengths of fiber material or the like conveyed through the cutting plane of the rotating knives.

3,507,181
CUP-MOUTHPIECE WIND INSTRUMENTS

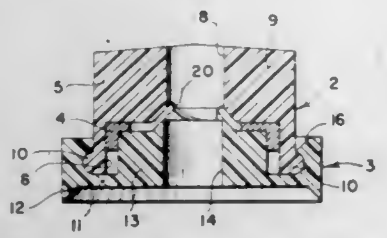
**William T. Cardwell, Jr., 16731 Ardita Drive, Whittier, Calif. 90603
Filed Oct. 25, 1967, Ser. No. 678,042
Int. Cl. G10d** *7/10*
U.S. Cl. 84—388 7 Claims



A method is described of determining an optimum shape for the air-column of a trumpet, trombone, or similar cup-mouthpiece wind instrument, so that the intonation of the instrument will approximate ideal intonation. The shape determination is ab initio; it does not merely correct, or improve known empirical shapes. The method involves initial measurements of the Helmholtz-resonator-termination effect of a mouthpiece representative of the mouthpiece to be used on the final instrument. The air-column, particularly the bell stem, is then shaped to give optimum intonation with that mouthpiece.

3,507,182
COMPOSITE PLURAL PART FASTENER

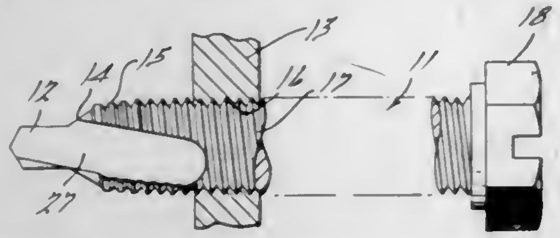
George A. Tinnerman, Lakewood, Ohio (3600 Stewart Ave., Miami, Fla. 33133)
Filed Jan. 27, 1967, Ser. No. 612,147
Int. Cl. F16b *37/00, 37/14*
U.S. Cl. 85—32 **8 Claims**



A composite molded plastic and metal stud-engaging fastener is made of a plurality of molded plastic components secured together with a metal nut element confined between them, the two members and the metal nut element having a stud-receiving opening. This fastener engages a stud passing through the opening, as by rotation, so that the metal nut element threads onto a threaded stud or cuts a spiral groove in the surface of a stud, or the metal nut element has stud-engaging elements which grip the stud when pressed thereon.

3,507,183
DRILL SCREW WITH SWAGING THREADS

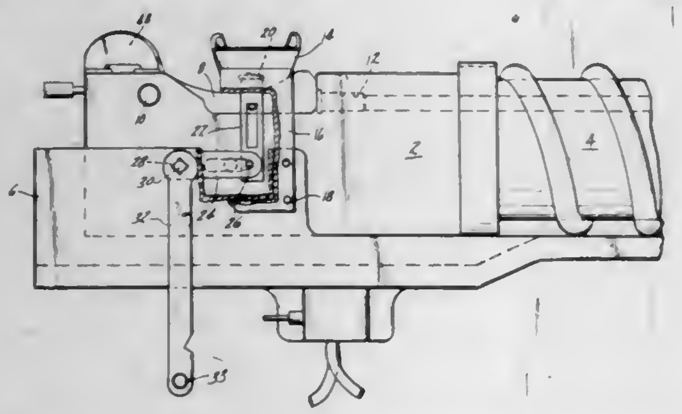
Raymond L. Thurston, Dearborn, Mich., assignor to Microdot Inc., New York, N.Y., a corporation of California
Filed Jan. 23, 1969, Ser. No. 793,259
Int. Cl. B21h *3/04;* **B23g** *7/02;* **B21k** *5/04;*
F16b *25/00, 33/02*
U.S. Cl. 85—47 **5 Claims**



A thread swaging screw has a body formed from a section of wire with a driving head at one end and a tapered section and drill on the opposite end containing flutes which extend into a rolled thread on the tapered section and body. The forward faces of the thread sections extend into the flutes to swage rather than cut a thread in the wall of the drilled hole.

3,507,184
KILN GUN AND SHELL FEED THEREFOR

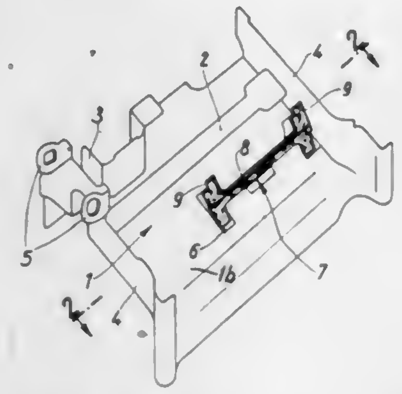
Frank A. Prybyla, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Sept. 3, 1968, Ser. No. 757,035
Int. Cl. F41d *9/00*
U.S. Cl. 89—33 **5 Claims**



A kiln gun wherein shells are automatically fed into the firing chamber from a magazine.

3,507,185
CARTRIDGE LINK GUIDE FOR MACHINE GUNS

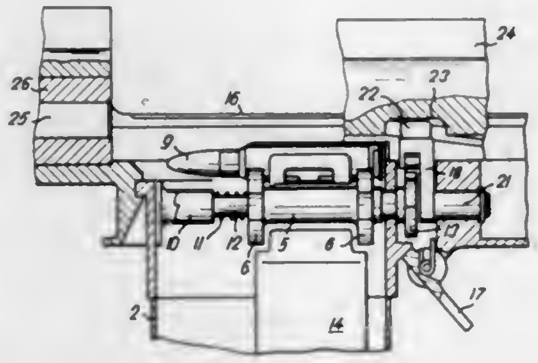
Hartmut Menneking and Karl-Wilhelm Lorenzini, Dusseldorf, Kurt Horn, Oberndorf-Lindenhof, and Gerd Blaas, Mullheim, Baden, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany, a corporation of Germany
Filed Nov. 22, 1967, Ser. No. 684,976
Claims priority, application Germany, Nov. 26, 1966, R 44,668
Int. Cl. F41c *9/22, 25/00;* **F41d** *9/00*
U.S. Cl. 89—33 **8 Claims**



A cartridge link guide for use in machine guns and the like, which comprises a machine gun housing including a cover, and a guide plate is framed by side walls on opposite sides thereof and has an opening adapted for stripping of cartridges. Stop means for a lateral limit of the belt is arranged and eye means are adapted for hingelike securing on and with, respectively, a feeder upper part on the machine gun housing. A spring-biased belt holding lever being the sole holding means for the cartridge on the guide plate is provided and the guide plate has a recess within the range of the path of the belt and receives the belt holding lever. The latter is submerged in the recess during the advance of the belt and is erected only upon cessation of the belt advance in order to lock the cartridge belt against the retrograde movement.

3,507,186
MAGAZINE FOR AUTOMATIC FIREARMS

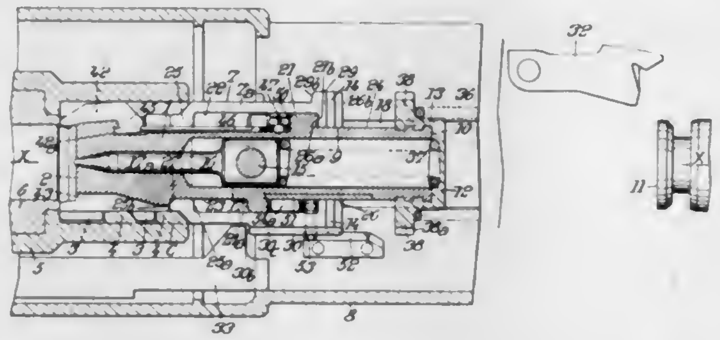
Jiri Cermak and Bohuslav Novotny, Brno, Czechoslovakia, assignors to Vyzkumny a vyvojovy ustav Zavodu vseobecneho strojirenstvi, Brno, Czechoslovakia
Filed June 29, 1967, Ser. No. 650,029
Int. Cl. F41d *9/02*
U.S. Cl. 89—34 **5 Claims**



A magazine, for belted ammunition, with an open mouthpiece, a rotatable feeder with a ratchet wheel and a starwheel, which is turned periodically by a rocking lever engaging a helical groove in the breech. The belt is guided by a guideway permitting also the discharge of the empty belt. The feeder may be driven by a feed wheel whose studs cooperate with two grooves in the breech, actuating the feed in two consecutive intervals. The magazine is secured by a pin forming the axis of rotation of the feeder, to ensure correct positioning of the cartridge.

3,507,187
BREECH MECHANISM

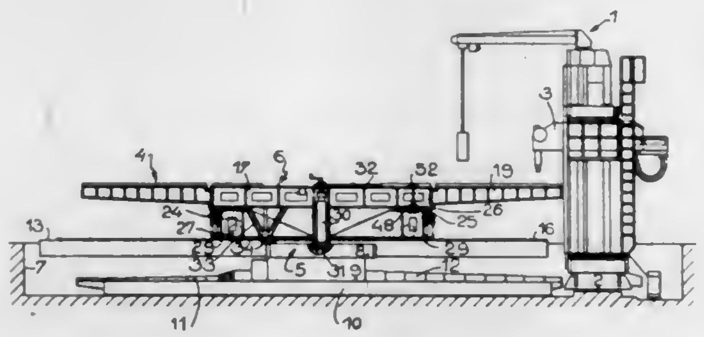
Bernard Maillard, Geneva, Switzerland, assignor to Brevets Aero-Mecaniques S.A., Geneva, Switzerland, a society of Switzerland
Filed Apr. 1, 1968, Ser. No. 717,621
Claims priority, application Luxemburg, June 30, 1967, 54,003
Int. Cl. F41d *1/08, 5/04*
U.S. Cl. 89—185 **24 Claims**



The breechblock slides in a casing which in turn slides non-rotatably in the breechcase. Mechanical means transform into rotary movement of the breechblock at least a part of the longitudinal movement of the casing, relative to the breechblock, when the breechblock has substantially reached its front closing position, for locking the breechblock by co-operation between the barrel and locking lugs formed on the breechblock. At least a portion of each one of (a) the external surface of the locking lugs, (b) the external surface of the casing and (c) the internal surface of the breechcase, lies on a common geometrical cylinder of revolution such that the breechblock is guided along the internal surface of the breechcase by the engagement both of the external surface of the lugs and the external surface of the casing on the internal surface of the breechcase.

3,507,188
WORKTABLE SUPPORTING AN INDEPENDENT LARGER TABLE FOR ROTATION AND LINEAR TRANSLATION THEREOF

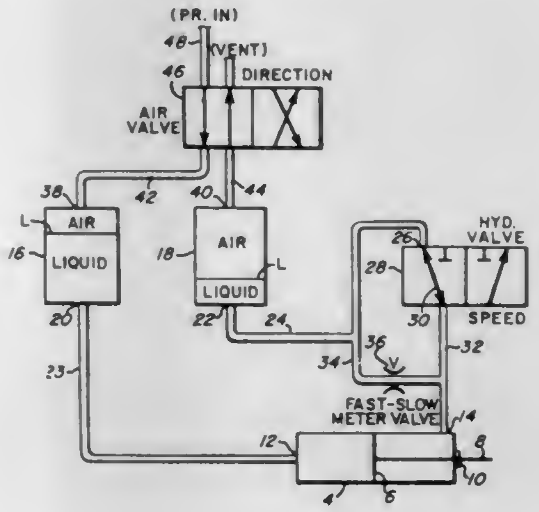
Charles William Berthiez, 5 Avenue Eglantine, Lausanne, Switzerland
Filed July 2, 1968, Ser. No. 742,013
Claims priority, application France, July 11, 1967, 113,858
Int. Cl. B23d *7/08*
U.S. Cl. 90—58 **10 Claims**



A workpiece supporting table arrangement for a machine tool in which the table arrangement comprises two independent tables of different sizes (that is a large table and a small table) with the large table disposed above the small table. A mechanism is provided for moving the large table relative to the machine tool and means is also provided for effecting rotation of the large table through the intermediary of the small table.

3,507,189
AIR-OVER-LIQUID HYDRAULIC SYSTEM

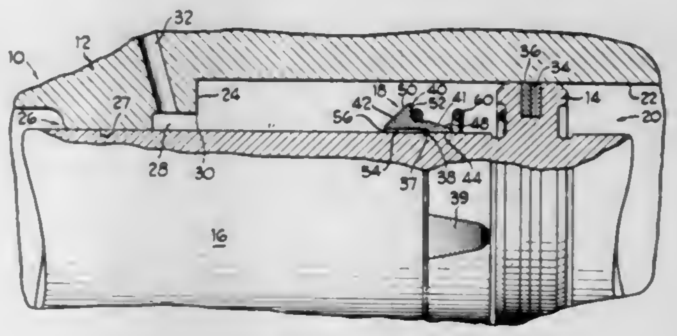
Donald E. Beckett and William N. Beckett, Wilmington, Ohio, assignors to Beckett-Harcum Company, Wilmington, Ohio, a corporation of Ohio
Filed May 3, 1968, Ser. No. 726,310
Int. Cl. F15b *21/04, 11/08, 13/04*
U.S. Cl. 91—4 **14 Claims**



In a hydraulic motor control system, the use of oil as the hydraulic fluid is dispensed with, in favor of a liquid having a lower surface tension, which liquid is hydrous and hygroscopic so as to assimilate moisture and condensate developed in or introduced into the system, thereby preventing the accumulation of free water which adversely affects control and motor operation. The hydraulic liquid used may be glycol or a material of the class of glycol, either undiluted or diluted with water, or a low surface tension liquid which is water-based.

3,507,190
SNUBBER MECHANISM

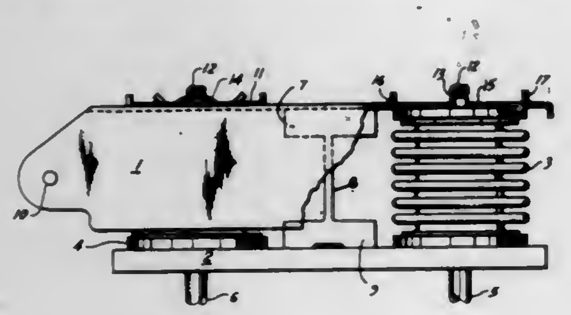
Mathew L. Kluczynski, Lakeview Terrace, and Charles M. Braley, Sylmar, Calif., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 16, 1968, Ser. No. 721,706
Int. Cl. F15b *15/22*
U.S. Cl. 91—395 **1 Claim**



A piston type actuator having means for deceleration of the piston upon reaching the limit of its stroke. The deceleration means includes a spring biased snubber slidable upon the piston shaft and defining therewith a variable area orifice. The snubber, at a predetermined position of piston movement traps a quantity of working fluid placing the orifice intermediate the trapped fluid and the fluid discharge. Further movement of the piston causes the fluid to flow through the orifice to decelerate the piston and effect movement of the snubber with respect to the shaft to vary the orifice size.

3,507,191
EFFECTIVE LENGTH OF LEVER ARM ADJUSTMENT IN CONDITION RESPONSIVE MECHANISM

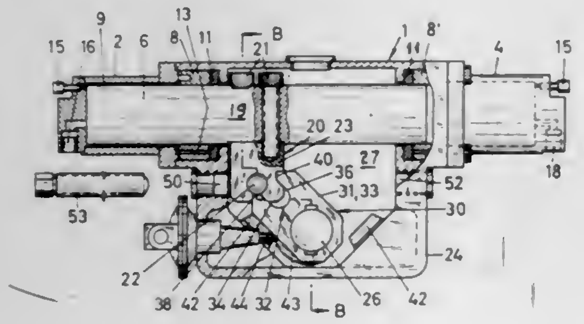
Kenneth L. Shelter, Chili, N.Y., assignor to Sybron Corporation, a corporation of New York
Filed Oct. 8, 1968, Ser. No. 765,811
Int. Cl. F16j *3/00;* **G01l** *7/06*
U.S. Cl. 92—34 **8 Claims**



A bellows has a stud on its free end. The stud goes through a slot in a beam. A circular disc is rotatably mounted off center on the stud. A pair of flat lugs or the beam straddle a diameter of the disc and are aligned with the slot. The disc is turned to shift the stud along the slot and itself normal to the length of the slot.

3,507,192
ACTUATOR FOR CONVERTING RECTILINEAR MOTION TO ROTARY MOTION

Erling Stokke, Drammen, Norway, assignor to A/S Rjukanmaskiner, Rjukan, Norway
Filed May 5, 1967, Ser. No. 636,318
Claims priority, application Norway, May 13, 1966, 163,019
Int. Cl. F01b *9/00;* **F16j** *15/18;* **F16h** *21/44*
U.S. Cl. 92—138 **4 Claims**

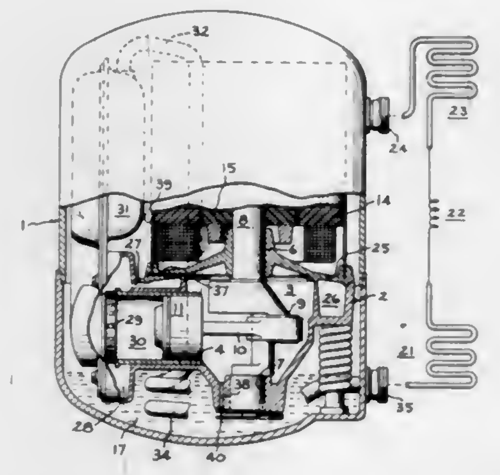


An actuating device for converting a rectilinear movement to a rotary movement with a fluid pressure cylinder supporting a piston, the rectilinear force of which is transferred to a moment arm on a shaft. The fluid pressure cylinder comprises two axially spaced parts supported by and integral with an interposed housing. A force transferring element is positioned on an intermediate part of the piston and in operative engagement with the moment arm on the shaft.

3,507,193
HERMETIC MOTOR COMPRESSOR CRANKCASE VENTING SYSTEM

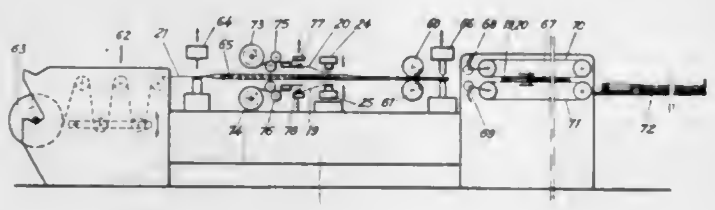
Günther T. Jensen, Tyler, Tex., assignor to General Electric Company, a corporation of New York
Filed Dec. 10, 1968, Ser. No. 782,570
Int. Cl. F04b *39/02*
U.S. Cl. 92—153 **10 Claims**

A hermetic compressor comprising a hermetic shell containing a body of oil in the bottom thereof and a reciprocating compressor including a substantially closed crankcase partially immersed in the oil has a restricted drain passage interconnecting the lower portion of the crankcase with the body of oil and a restricted vent interconnecting an upper portion of the crankcase with the interior of the shell above the level of the oil. The flow restrictions of the drain passage and vent are selected to prevent excessive circulation of hot gases from the crankcase to the compressor shell as well as to substantially prevent two way flow of oil between the crankcase and the oil sump during operation of the compressor.



3,507,194
PROCESS AND APPARATUS FOR MAKING A CARRYING BAG OF PLASTIC MATERIAL

August Schwarzkopf, Heinestrasse 2, Lengerich, Westfalen, Germany
Filed Oct. 31, 1966, Ser. No. 590,860
Int. Cl. B31b *1/00*
U.S. Cl. 93—8 **28 Claims**

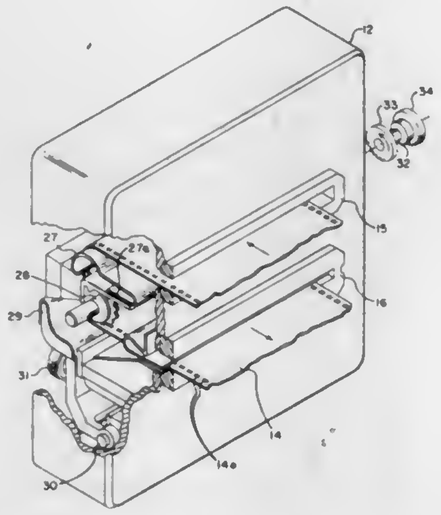


A process an apparatus for manufacturing a carrier bag from plastic material. The body of the bag is formed of a two-ply plastic web which intermittently moves along a path of travel. A U-shaped carrying handle having a central portion and a pair of leg portions is secured to each of the two plies so that the central portions of the two handles are folded downwardly in the same direction. The handles are welded to their respective plies in a manner that a welding together of confronting inside surfaces is avoided. The web is then severed so as to form the individual bags.

3,507,195
STRIP-FEED AND TAKE-UP MAGAZINE

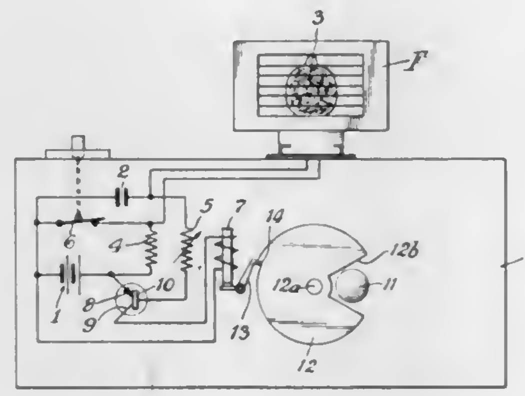
Igor Fisnar, Bayside, and Russell H. Lester, Jr., Commack, N.Y., assignors to Fairchild Camera and Instrument Corporation, a corporation of Delaware
Filed Aug. 28, 1967, Ser. No. 663,846
Int. Cl. G03b *17/26, 17/48, 19/04*
U.S. Cl. 95—4.5 **2 Claims**

A film transport includes a feed reel, a film-advancing and exposing unit, and a take-up reel unit. The use of guide rollers, dancer rollers, and the like is eliminated by a resilient arcuate cylindrical plate in the exposure unit engaging a film being exposed and a second resilient arcuate cylindrical plate extending from the periphery of a chamber housing the take-up reel to the reel hub which has a friction surface. The absence of rollers simplifies threading the transport, the take-up reel unit being self-threading.



3,507,196
PHOTOGRAPHIC CAMERA WITH FLASH UNIT

Hans Ruhle and Josef Schwahn, Stuttgart, Germany, assignors to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany, a corporation of Germany
Filed Feb. 8, 1967, Ser. No. 614,744
Claims priority, application Germany, Feb. 19, 1966, Z 12,042
Int. Cl. G03b *9/70*
U.S. Cl. 95—11.5 **6 Claims**

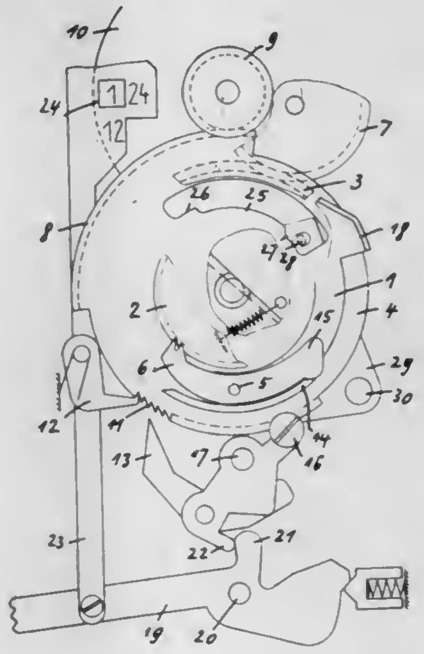


A photographic camera having an adjustable shutter, a flash unit for the camera, and an electrical circuit for controlling the speed of the shutter in response to operation of the flash unit. The electrical circuit for the flash unit includes a battery, a capacitor, a flash bulb, and a switch for actuating the flash bulb and producing an ignition current. The shutter speed is controlled by a separate electrical circuit consisting of an electromagnet and a transistor which is connected in parallel with the flash circuit and is activated by the ignition current produced in the flash circuit.

3,507,197
ROLLFILM CASSETTE

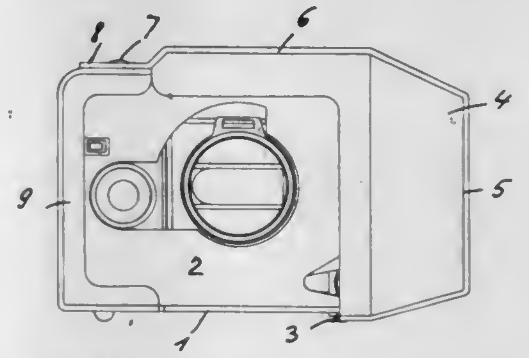
Claus Prochnow, and Kurt Bode, Braunschweig, Germany, assignors to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a German firm
Filed Aug. 25, 1967, Ser. No. 667,030
Claims priority, application Germany, Aug. 26, 1966, R 44,000
Int. Cl. G03b *19/04*
U.S. Cl. 95—31 **10 Claims**

A film cassette for attachment to a photographic camera. When the cassette is attached to the camera body, the film take-up spool in the cassette is driven from mechanism within the camera body, to advance the film from one frame position to the next frame position, the drive mechanism in the cassette being responsive to the amount of film already fed to decrease the amount of angular rotation of the take-up spool during successive feeding operations, to compensate for the increasing effective diameter of the spool as more film is wound thereon. A knob on the cassette is used for initial advance of the film to the first frame position. When the film is advanced to this first frame position, the feeding mechanism within the cassette is temporarily locked and cannot be operated by the mechanism within the camera body until the knob on the cassette has been pushed in to an inaccessible position, which unlocks the feeding mechanism so thereafter the feeding mechanism in the cassette can be operated by the operating mechanism in the camera body. The feeding knob on the cassette is restored to its accessible position when the counting mechanism shows that the last frame has been exposed, and also whenever the rear door of the cassette is opened. Removal of the cassette from the camera body restores the knob to its accessible position so it may be used for winding up the trailing end of the film.



3,507,198
CARRYING CASE FOR PHOTOGRAPHIC CAMERAS

Claus Prochnow, Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed Sept. 18, 1967, Ser. No. 668,555
Claims priority, application Germany, Sept. 29, 1966, R 44,230
Int. Cl. A45c *11/38*
U.S. Cl. 95—31 **2 Claims**

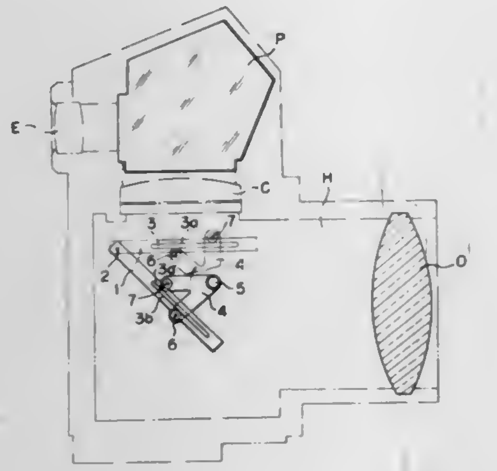


There is disclosed a carrying case for photographic cameras, in which the front of the case may be opened for taking pictures without removing the camera from the case, and in addition to this, the rear of the case may also be separately opened, so that without removing the camera from the case, the film cassette at the rear of the camera may be opened to take out the exposed film and insert a fresh supply of film, or the entire cassette may be removed from the body of the camera through the open rear end of the carrying case, and may be replaced by another cassette.

3,507,199

DAMPING MEANS FOR VIEWING MIRROR

Akihiko Sato, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed June 21, 1967, Ser. No. 647,703
Int. Cl. G03b *19/12*
U.S. Cl. 95—42 2 Claims

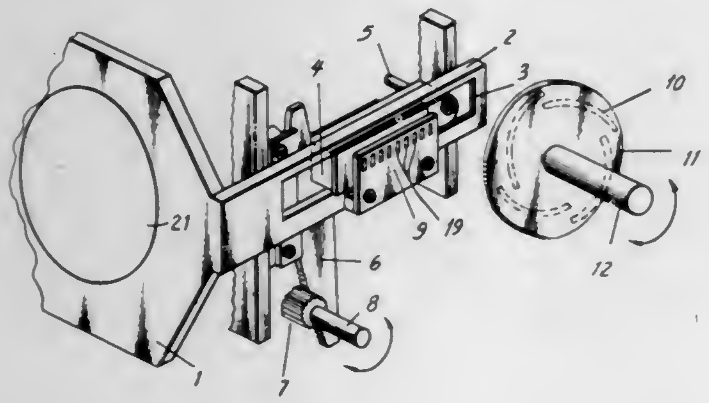


A damping device for a single lens reflex camera employing a dead center lever arranged to lessen the shock of impact when the mirror is raised from, or lowered to, its viewing position. The device also serves as limit stops for the mirror in its extreme positions.

3,507,200

PHOTOGRAPHIC CAMERA

Claus Prochnow and Richard Weiss, Braunschweig, Germany, assignors to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed Sept. 14, 1967, Ser. No. 667,800
Claims priority, application Germany, Sept. 14, 1966, R 44,110
Int. Cl. G03b *5/04*
U.S. Cl. 95—51 3 Claims

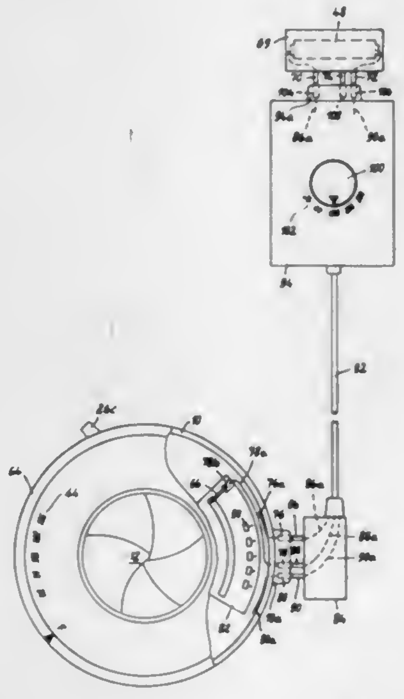


There is disclosed a photographic camera in which the lens is held by a carrier which is mounted for movement backwardly and forwardly, toward and away from the film plane, for purposes of focusing. The carrier is slidable along guide rails which are pivotally mounted on the camera body so as to swing upwardly and downwardly, thereby moving the lens carrier and its lens upwardly or downwardly when it is desired to obtain special photographic effects. The pivotal axis of the guide rails lies in or close to the film plane. Rack teeth projecting laterally from the lens carrier are engaged by spiral ribs on a focusing disk which rotates concentrically with the axis on which the guide rails swing, so that rotation of the disk will move the carrier longitudinally for focusing, and the focusing position is substantially independent of upward or downward swinging of the rails.

3,507,201

PHOTOGRAPHIC SHUTTER

Paul Fahlenberg, Baierbrunn, near Munich, and Rudolf Lang, Grafing, near Munich, Germany, assignors to Compur-Werk Gesellschaft mit beschrankter Haftung & Company
Filed Oct. 14, 1966, Ser. No. 586,760
Claims priority, application Germany, Oct. 21, 1965, C 37,221
Int. Cl. G03b *9/00*
U.S. Cl. 95—53 10 Claims



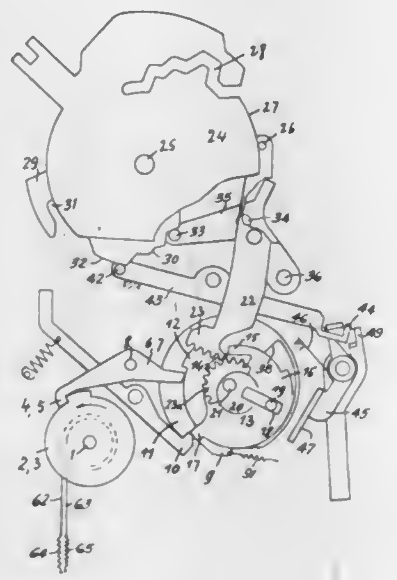
A photographic shutter apparatus coupled with an electrical circuit for controlling the exposure period. The circuit can be connected and controlled by either, (a) A first variable resistance mounted in the shutter housing or (b) A second variable resistance remote from the housing which can be plugged in to the shutter timing circuit.

3,507,202

PHOTOGRAPHIC CURTAIN-TYPE SHUTTER

Claus Prochnow, Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a firm of Germany
Filed Aug. 25, 1967, Ser. No. 667,029
Claims priority, application Germany, Aug. 27, 1966, R 44,009
Int. Cl. G03b *9/28*
U.S. Cl. 95—57 7 Claims

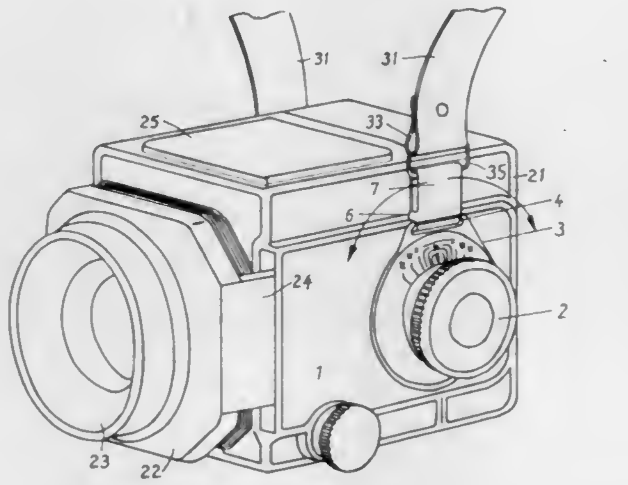
A focal plane shutter of the two-curtain type with separate latches to hold the two curtains in a tensioned or cocked position. A spring powered actuating mechanism, independent of the springs which drive the curtains, releases first one latch, to start the movement of the first curtain, and then the second latch, to start the movement of the second curtain. The second latch is released after the first latch, depending upon the desired length of exposure and independently of movement of the first curtain.



3,507,203

SUPPORTING MEANS FOR PHOTOGRAPHIC CAMERAS

Claus Prochnow, Braunschweig, Germany, assignor to Rollei-Werke Franke & Heidecke, Braunschweig, Germany, a German firm
Filed Sept. 25, 1967, Ser. No. 670,124
Claims priority, application Germany, Sept. 27, 1966, R 33,592
Int. Cl. G03b *17/56*
U.S. Cl. 95—86 7 Claims

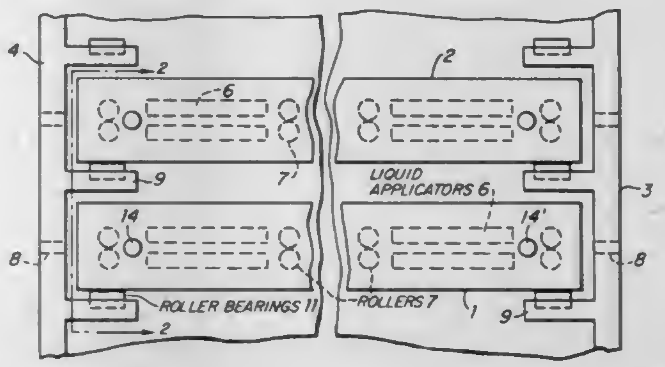


There is disclosed a photographic camera having strap eyes mounted on opposite sides of the camera body and rotatable about a transverse horizontal axis preferably intersecting the longitudinal optical axis and also passing as near as reasonably possible through the center of gravity of the camera. The axis on which the strap eyes rotate is preferably concentric with the axis of rotation of the focusing knob of the camera. The supporting or carrying strap is connected to the rotatable strap eyes by connections which are elongated in a circumferential direction so that the connections can not twist in a circumferential direction relative to the eyes, and movements of the ends of the strap backwardly and forwardly relative to the camera body accompanied by turning the strap eyes relative to the camera body, rather than by twisting of the straps.

3,507,204

PHOTOGRAPHIC FILM PROCESSOR

Robert Joseph Kohler, Jr., Sudbury, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Mar. 17, 1967, Ser. No. 624,685
Int. Cl. G03d *3/00, 13/04*
U.S. Cl. 95—89 5 Claims

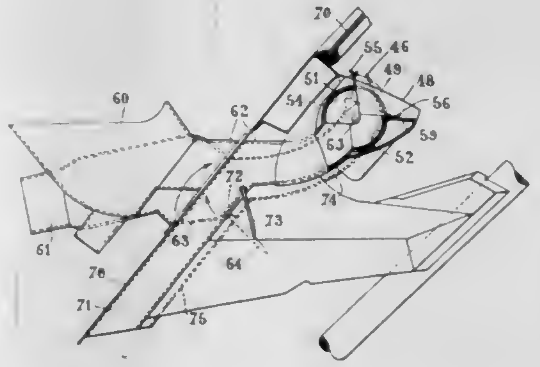


A processor for photograhic film consisting of a support structure, a plurality of vertically stacked processing modules, and guide rollers on the support structure for enabling the modules to be easily removed therefrom. The processing modules have fluid conduits extending therefrom with disconnect couplers thereon and are removed from the support structure in a horizontal direction for cleaning or replacement purposes.

3,507,205

AUTOMOBILE VENT OUTLET

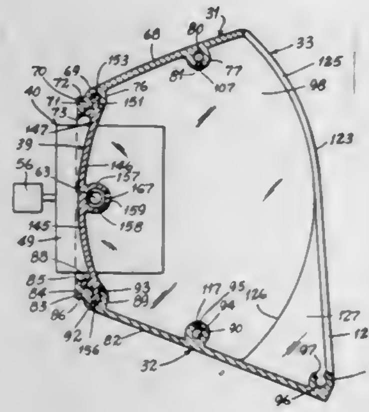
Edmond Henry-Biabaud, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a French company
Filed May 31, 1967, Ser. No. 642,442
Claims priority, application France, June 17, 1966, 65,900
Int. Cl. B60h *1/28*
U.S. Cl. 98—2 1 Claim



An air-conditioning box mounted in the interior of a vehicle, which comprises at least one pair of ducts respectively for delivering cold air and hot air, and at the end of the hot air duct a nozzle consisting of a cylindrical hollow member slotted longitudinally towards said duct and said interior, and of cylindrical shutters disposed coaxially in said hollow cylindrical member, other shutters adapted to adjust the outputs in said cold air and hot air ducts, control means adjacent to said shutters, and hot air guide means in the vicinity of said cold air nozzles.

3,507,206
EVAPORATOR CASING FOR VEHICLE AIR CONDITIONERS

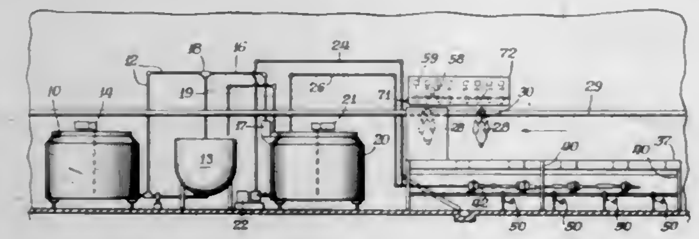
John W. Olson, Jr., Dallas, Tex., assignor to John E. Mitchell, Dallas, Tex., a corporation of Missouri
Filed Apr. 19, 1968, Ser. No. 722,590
Int. Cl. F24f *13/08*
U.S. Cl. 98—114 9 Claims



An evaporator casing assembled from panel extrusions cut to lengths as required for the size of the evaporator casing, which panel extrusions are interchangeable in various lengths for similar, differently sized evaporator casings. End caps are identical to end caps used for other differently sized evaporator casings, and louver units are interchangeable among differently sized evaporator casings. Interlocking fits between extrusion panels provide quick assembly of air-tight joints. Reduced inventory and rapid re-design with inventoried extrusions can be made for each vehicle model change.

3,507,207
SYSTEM FOR POULTRY INJECTION

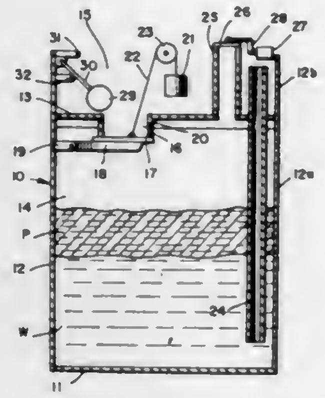
Alan B. Rogers, Palos Park, Donald V. Schwall, Glen Ellyn, and Russell W. Posegate, La Grange Park, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,104
Int. Cl. A23b *1/16*
U.S. Cl. 99—257 9 Claims



A system for injecting predetermined amounts of an edible fat mixture into turkeys includes apparatus for preparing the mixture under controlled conditions and pumping it to an elongated table above which the individual birds are conveyed. After an operator at a station adjacent the table inserts a set of needles into a predetermined location on a bird, he actuates apparatus including timing mechanism for forcing the mixture under pressure for a predetermined time into the bird. A visual display indicates the time during which the mixture is being injected; and when the preset time elapses, the visual display is de-energized thereby informing the operator that the needles may be removed without squirting the mixture. The sanitary conduit network circulating the injection mixture throughout the system is arranged so that it may be cleaned in-place. An electrical override, when actuated, allows continuous flushing of a cleaning solution through the injection heads and their associated flexible tubing for all stations simultaneously.

3,507,208
APPARATUS FOR FERMENTING WINE

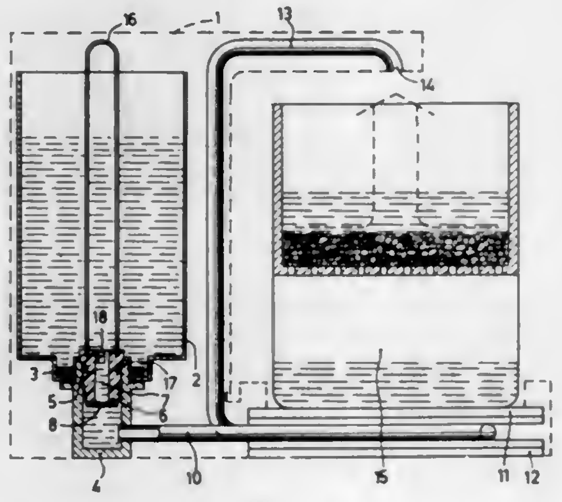
Lee H. Patchen, Knoxville, Ark., assignor to A. J. Industries, Inc., a corporation of Delaware
Filed Aug. 26, 1968, Ser. No. 755,028
Int. Cl. C12c *7/00*
U.S. Cl. 99—276 13 Claims



An apparatus for fermenting wine in which the wine is automatically circulated through the pomace. The apparatus includes a lower chamber for holding the wine and pomace and an upper chamber, the two chambers being separated by a normally-closed dump valve. In addition, the lower chamber is provided with a normally-closed exhaust valve. A conduit extends from below the wine level in the lower chamber into the upper chamber, and as the wine in the lower chamber ferments, the increase in pressure resulting from the generation of carbon dioxide gas forces the wine through the conduit into the upper chamber. When the wine reaches a predetermined level, the exhaust valve is automatically opened and the fermentation gases in the lower chamber are allowed to escape. The weight of the wine in the upper chamber causes the dump valve to open, permitting the wine to return to the lower chamber and filter through the floating pomace. The exhaust valve is then closed and the dump valve is returned to its original position to begin a new cycle.

3,507,209
COFFEE-MAKING MACHINE

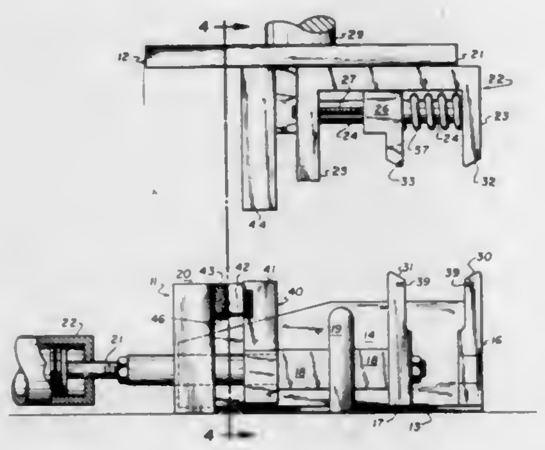
Willem Witziers, Karel Martin Tiemes, and Gerrit Starre, Drachten, Netherlands, assignors to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 29, 1968, Ser. No. 732,997
Int. Cl. A23f *1/00*
U.S. Cl. 99—307 5 Claims



A coffee-making machine with a nonreturn valve in the water container portion thereof. The valve has a conical valve support removably seated in a conical housing and contains a thin flexible material connected along part of its periphery to the valve support so as to permit passage of the water in one direction.

3,507,210
METHODS FOR CONTAINER TAPING

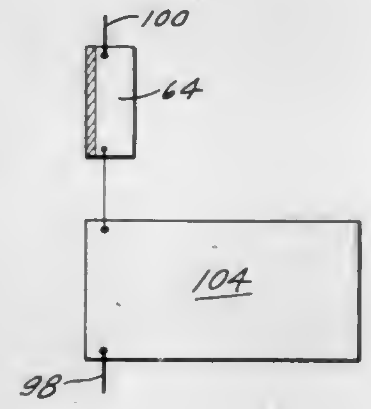
Thomas Barnickel, 265 Main St., Ridgefield Park, N.J. 07660
Continuation-in-part of application Ser. No. 660,863, July 27, 1967. This application Apr. 10, 1968, Ser. No. 720,054
Int. Cl. B65b *13/02, 13/24;* **B32b** *13/04*
U.S. Cl. 100—2 4 Claims



Apparatus and methods for applying and securing closure tape to containers wherein an endless tape is fed from a single source, wrapped around the container, fastened to itself and severed from the source.

3,507,211
MAILING PIECE SEPARATOR

Harry V. Kirk and Robert Dufour, Mundelein, Ill., assignors to Cheshire Incorporated, Mundelein, Ill., a corporation of Illinois
Original application June 2, 1965, Ser. No. 460,796, now Patent No. 3,458,383, dated July 29, 1969. Divided and this application Feb. 14, 1969, Ser. No. 816,855
Int. Cl. B65b *13/02*
U.S. Cl. 100—4 3 Claims

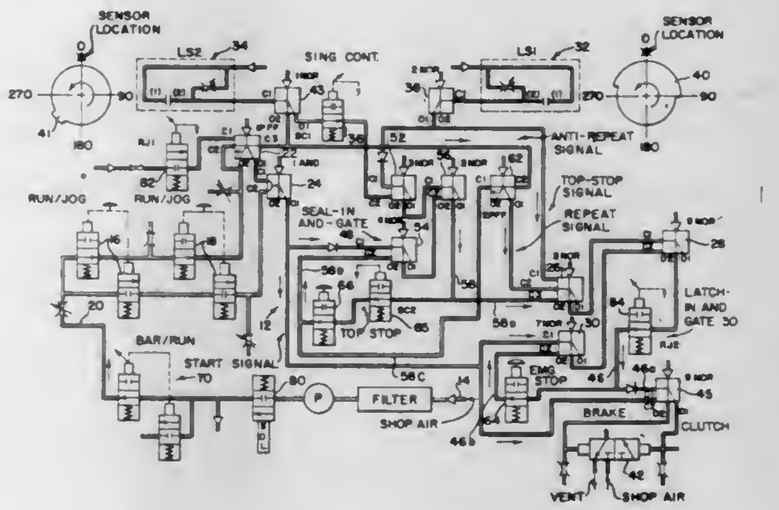


A mailing piece separator and binding machine which includes a labeling machine for applying labels having sense marks thereon. A sensing means then senses the marks and actuates the binding machine when a predetermined size stack of mail pieces have reached the binding machine by way of a conveyor.

3,507,212
FLUIDIC CONTROL CIRCUIT FOR PRESSES

David J. Matteson, Drexel Hill, Pa., assignor to E. W. Bliss Company, Canton, Ohio
Filed Apr. 10, 1968, Ser. No. 720,249
Int. Cl. B30b *15/10, 15/12, 15/16*
U.S. Cl. 100—53 19 Claims

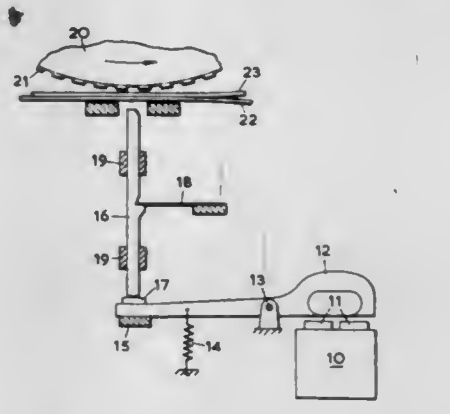
A fluidic control circuit especially suitable for control of presses wherein a fluid NOR gate provides a clutch signal in response to an input signal, and alternately, a brake signal with no input signal. The input to the NOR gate is provided by components which cause the press to run continuously, or on a single stroke basis, with means to bring the press to an emergency stop anywhere in the press stroke. Except for an emergency stop, provision is made so that the press stops only at the top of its stroke.



An initial but momentary start signal activates the circuit and NOR gate clutch signal, the input to the NOR gate being maintained by an AND gate requiring continuous plural fluid inputs so that should the fluidic circuit be broken, or blocked in any way, the press will fail safe and stop.

3,507,213
HIGH SPEED FLYING HAMMER SOLENOID SYSTEMS

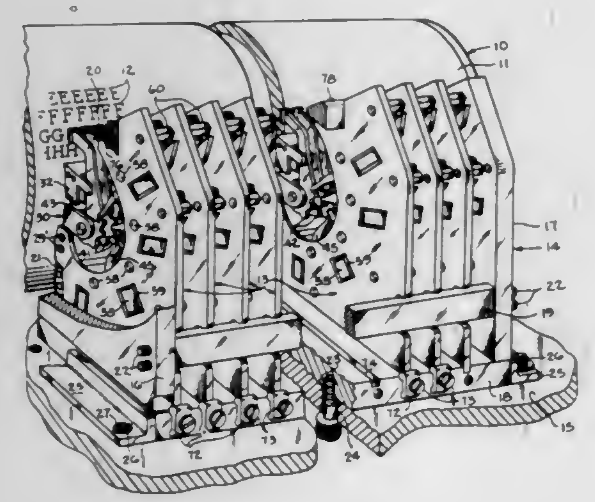
Roman Derc, Kidsgrove, Stoke-on-Trent, England, assignor to English Electric Computers Limited, London, England, a British company
Filed Oct. 16, 1967, Ser. No. 675,668
Claims priority, application Great Britain, Oct. 14, 1966, 46,000/66
Int. Cl. B41j *9/42, 9/38, 9/36*
U.S. Cl. 101—93 2 Claims



High speed printing apparatus in which a drum bearing a complete font of characters revolves at high speed, adjacent to a hammer, and a paper web and printing ribbon are passed between the hammer and the drum. The hammer is fired at the drum, by means of a solenoid and lever, at the instant when a desired character is opposite the hammer, thus causing the character to be printed. Damping the hammer movement after printing is achieved by energising the solenoid with a current of suitable magnitude when the hammer returns to its initial position. This is preferably achieved by a diode shunted across the solenoid winding, with a suitable resistance in the loop so formed. The solenoid may be energised from a capacitor via an SCR, and by providing a small saturable inductor in series with the diode, the SCR is turned off sharply at the end of the capacitor discharge.

3,507,214
PRINT HAMMER MODULE APPARATUS

Hilding A. Anderson, Lake Zurich, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 660,408, Aug. 14, 1967. This application June 13, 1969, Ser. No. 833,039
Int. Cl. B41j *9/10*
U.S. Cl. 101—93 **9 Claims**

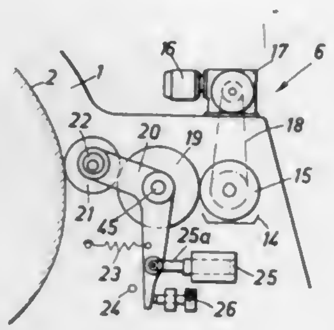


The disclosure relates to a data communication drum printer in which one or more print hammer modules are provided. Each module has a planar frame which mounts four print hammers and an equal number of hammer operator assemblies, the four print hammers being mounted on a common pivot, and the hammer operator assemblies being mounted at spaced apart locations with different angular dispositions about the axis of the common print hammer pivot. Each print hammer has a lever arm terminating at a print head and four shorter actuating lever arms. A hammer operator lever of each hammer operator assembly cooperates with one actuating lever of its respective print hammer to drive the print hammer into printing cooperation with a symbol element of the print drum. A spring biases each print hammer and serves to return the print hammer and its respective operator lever to a normal position out of printing cooperation with the print drum. The normal positions of the print hammers and their operator levers are regulatable while the modules are held in the frame structure. Each individual module is removable from within the printer without disturbing the secured and located arrangement of any other module. The print hammer module can be mounted in stationary frame structure or in a travelling print carriage.

3,507,215
DAMPENING DEVICE FOR AN OFFSET PRINTING PRESS

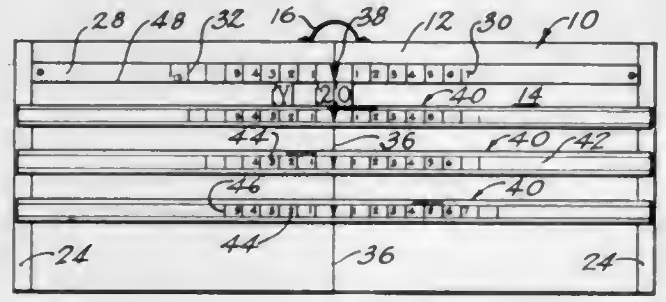
Siegfried Schuhmann, Offenbach am Main, Germany, assignor to Roland Offsetmaschinenfabrik Faber & Schleicher A.G., Offenbach am Main, Germany, a German firm
Filed Aug. 31, 1967, Ser. No. 664,692
Claims priority, application Germany, Sept. 9, 1966, R 44,088
Int. Cl. B41f *25/16, 31/12, 33/10*
U.S. Cl. 101—148 **6 Claims**

A dampening device for an offset printing press in which a supervisory means is activated when the press has completed a predetermined number of operational cycles after feed of moisture to a roller for applying moisture to the plate cylinder of the press has been initiated. Activation of the supervisory means is utilized either to indicate that the roller is ready to be manually moved into engagement with the plate cylinder of the press or to initiate automatically such movement. The dampening device further includes means which reduce for a predetermined number of cycles the moisture feed from the roller to the plate cylinder when the latter is in engagement with the roller but the blanket cylinder is not in engagement with the plate cylinder and the impression cylinder. When during said predetermined number of cycles the blanket cylinder is moved into engagement with the plate cylinder and the impression cylinder to start printing, the moisture feed by the roller to the plate cylinder is restored to normal but if the blanket cylinder is not moved into such position the moisture feed is stopped completely.



3,507,216
TRANSFER APPARATUS AND METHOD

Wesley M. Wood, Sr., 900 Bann St., Vidalia, Ga. 30474, and Alexander S. Clark, 304 N. Victory Drive, Lyons, Ga. 30436
Filed June 9, 1967, Ser. No. 644,904
Int. Cl. B41b *1/18*
U.S. Cl. 101—393 **4 Claims**

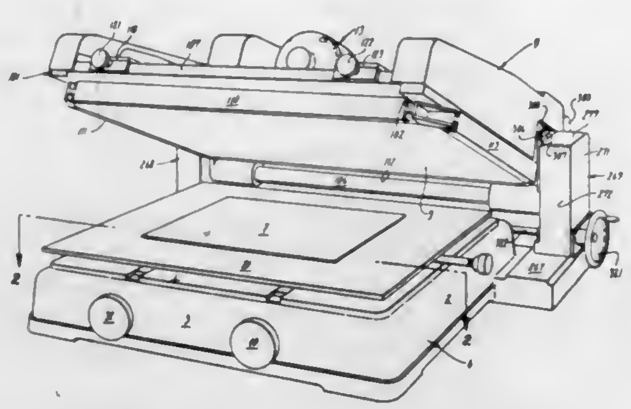


A method of transferring forms and shapes, such as special letters, from a basic specimen to a location, such as engraving a marble surface like a grave marker on which the letter or other form or shape is to be reproduced, by centering each line from a base index adjusting the line thereto, clamping in place, coating the letters, transferring to transfer paper, then placing the paper on the surface to be engraved. The apparatus is a board having a center mark, movable straight edges defining lines, indicia on the lines. There may be a magnetic means on the edges of the board to hold metal straight edges in place.

3,507,217
ADJUSTABLE WORKPIECE MOUNT FOR PRINTING APPARATUS

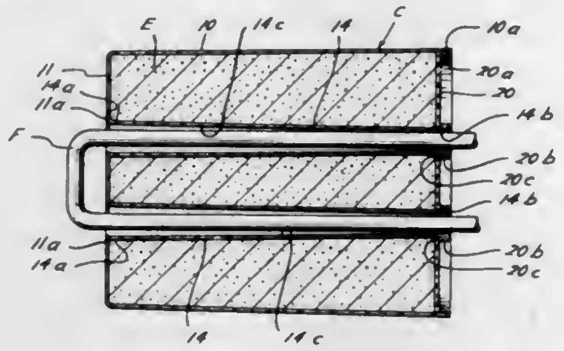
Charles F. Forslund, 3660 Loma Vista Ave., Oakland, Calif. 94619
Original application Feb. 15, 1965, Ser. No. 432,528, now Patent No. 3,359,895, dated Dec. 26, 1967. Divided and this application Dec. 22, 1967, Ser. No. 692,993
Int. Cl. B41f *1/38;* **B41l** *13/00*
U.S. Cl. 101—407 **4 Claims**

An adjustable workpiece holder for a screen printing apparatus, wherein controlled universal planar movement of the holder is achieved by interjoining orthogonally arranged lead screw controls mounted on the holder and a stationary reference base, providing fore and aft, side to side and rotational positioning of the workpiece.



3,507,218
EXPLOSIVE CONTAINER

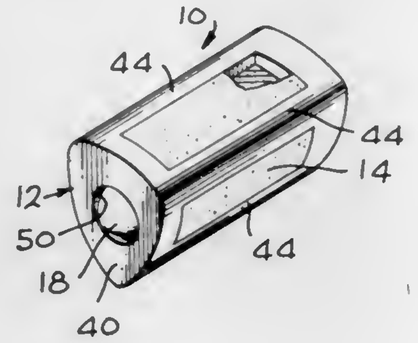
Garland H. Walker, Houston, and Carlos E. Ballard, Sugarland, Tex., assignors to Seispower Corporation, a corporation of Texas
Filed July 3, 1968, Ser. No. 742,403
Int. Cl. F42b *3/00*
U.S. Cl. 102—24 **3 Claims**



A sealed container for explosive material having means for looping a fuse cord through the container while maintaining the explosive material sealed in the container.

3,507,219
SEMICOMBUSTIBLE AMMUNITION FOR OPEN CHAMBER BREECH MECHANISM

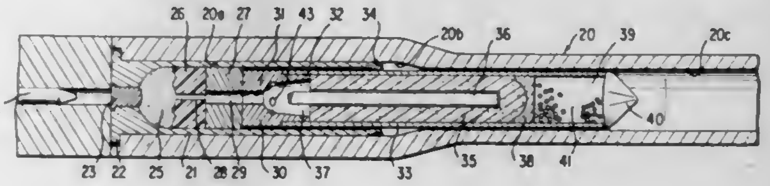
David Dardick, Palos Verdes Peninsula, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Sept. 1, 1967, Ser. No. 665,136
Int. Cl. F21b *43/06;* **F42b** *5/02*
U.S. Cl. 102—38 **1 Claim**



Semicombustible ammunition for an open chamber breech mechanism, the ammunition being characterized by a yieldable noncombustible cartridge case of generally triangular cross-section having longitudinal apex wall sections which extend along the longitudinal apex edges of the case for sealing the leakage interfaces of the breech mechanism against propellant gas leakage during firing, and laterally presented openings through the sides of the case in the regions between the apex wall sections for minimizing the noncombustible mass of and maximizing the propellant space within the ammunition.

3,507,220
AMMUNITION ROUND

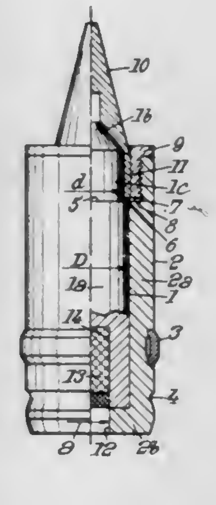
Clifton M. McClure III, 3510 Carroll Circle, Huntsville, Ala. 35801
Continuation of application Ser. No. 683,313, Nov. 15, 1967. This application Jan. 2, 1969, Ser. No. 789,661
Int. Cl. F42b *7/04*
U.S. Cl. 102—42 **3 Claims**



An ammunition round which is gun-launched and gun-boosted and which includes a self-contained rocket motor. Payload velocity is developed in two parts; the first part or increment is developed within the gun barrel under influence of a gun boost powder charge, followed by a gradual but large velocity increase beyond the barrel under influence of the rocket motor. The maximum accelerations to which the round is subjected are low in comparison to an ordinary shotgun, resulting in better shot charge patterns and less flattening and deformation of shot pellets.

3,507,221
ARMOR PIERCING, SABOT SHELLS

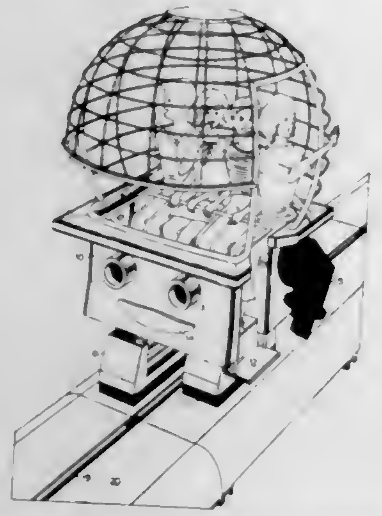
Walter Grolly, Geneva-Vernier, Switzerland, assignor to Brevets Aero-Mecanlques S.A., Geneva, Switzerland
Filed June 28, 1967, Ser. No. 649,722
Claims priority, application Luxemburg, July 21, 1966, 51,611
Int. Cl. F42b *11/14, 13/04*
U.S. Cl. 102—52 **5 Claims**



In a spinning shell comprising a core and a detachable case surrounding said core, this case is maintained on the core by a ring forming a shoulder and adapted to retract under the effect of the centrifugal force caused by the spinning of the shell, said ring being supported by a bearing surface provided at the front part of the core. The core carries at the rear thereof a tracer composition located opposite a hole extending through the bottom of the case.

3,507,222
ROBOT RIDE

Salvatore Ciraml, 41—13 Vernon Blvd., Long Island City, N.Y. 11101
Filed Mar. 15, 1967, Ser. No. 623,371
Int. Cl. A23g *21/04*
U.S. Cl. 104—53 **8 Claims**



This invention relates to improvements in an amusement roundabout consisting of a plurality of passenger carrying vehicles having the form of robots, each carrying independent propulsion means including stepping foot members, and in which the robot simulating vehicles are secured to and guided by trackway means arranged in a closed loop whereby the vehicles repeatedly traverse a predetermined course.

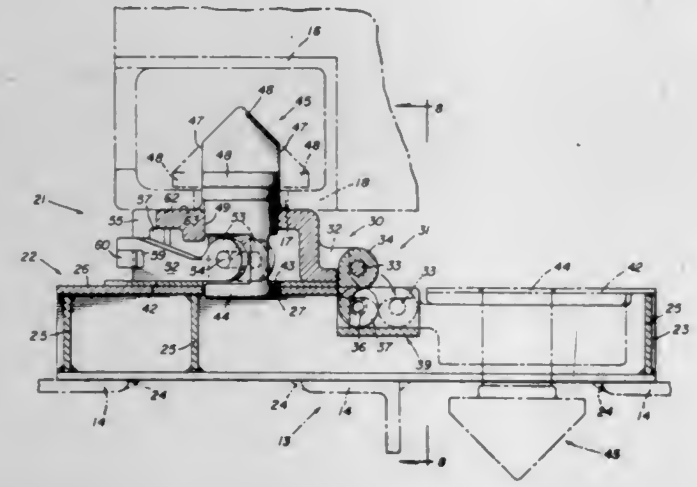
More particularly, the present invention relates to improvements in the design of the trackway means whereby the vehicles travel on top of instead of alongside of the trackway; an improvement in the means by which the passenger compartment is caused to rock from side to side as the vehicles advance; the provision of means for insuring that when the ride is stopped all the robots will come to rest with the passenger compartment in a level position.

3,507,223

WITHDRAWN

3,507,224
CONTAINER FLOOR LOCKING MECHANISM

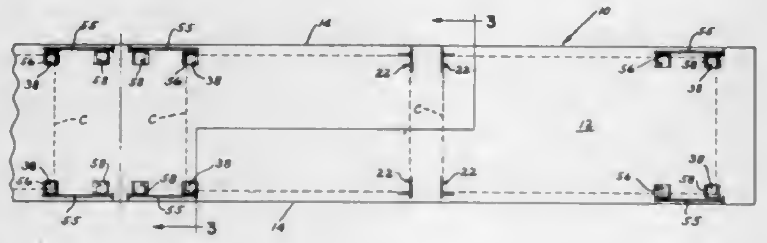
Theodore J. Sweger, Naperville, Ill., assignor to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 18, 1967, Ser. No. 691,313
Int. Cl. B65j *1/22;* **B60p** *7/08*
U.S. Cl. 105—366 **1 Claim**



Mechanism for locking a shipping container to the floor of a railway flat car is capable of being swung from a position flush with the top surface of the floor to an upstanding position and includes a bayonet member for entering an opening in a bottom wall of a container fitting the bayonet member being rotatable from and to locked position therewith. Bosses extend upwardly from a housing in which the bayonet member is rotatable on opposite sides of the bayonet member for also entering the opening to locate the container fitting on the housing and limit relative horizontal movement.

3,507,225
RAILWAY FLATCAR FOR CARRYING CONTAINERS

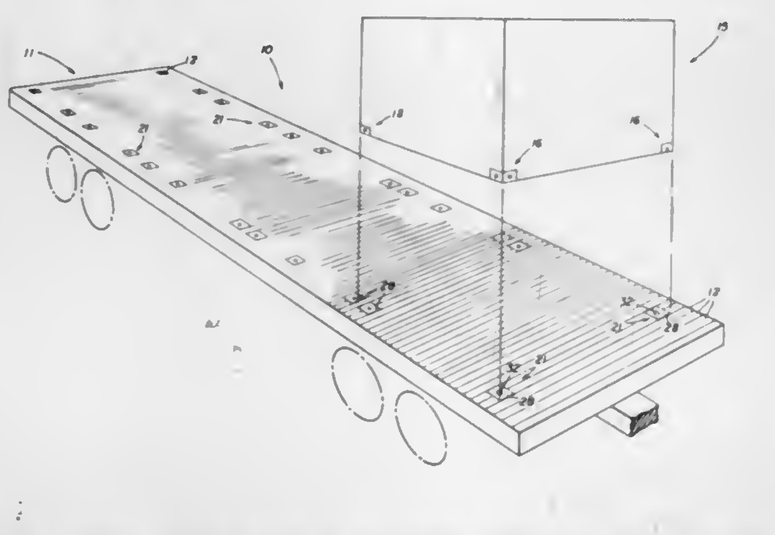
Boris S. Terlecky, St. Louis County, and Leonardus F. A. Grob, Bridgeton, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Jan. 15, 1968, Ser. No. 697,816
Int. Cl. B61d *45/00*
U.S. Cl. 105—366 **2 Claims**



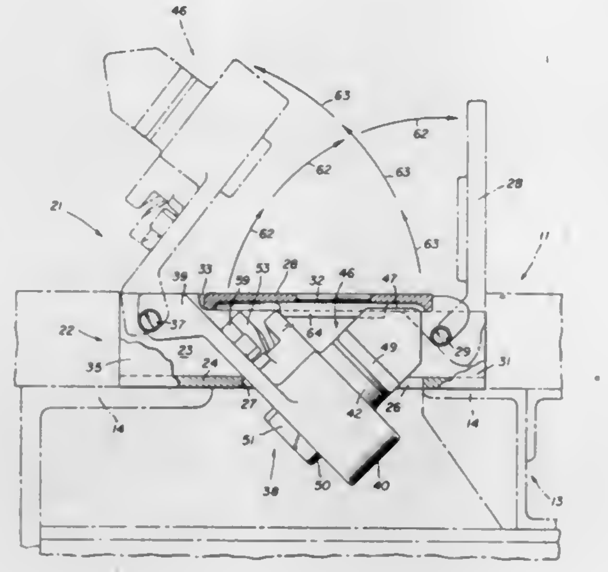
A railway flatcar for carrying a plurality of containers with the containers adapted to rest on the upper surface of the deck. A pair of fixed corner supports engage one end of each container and a pair of movable container supports engage the other end of each container. Each movable support fits within at least a pair of longitudinally spaced cutout portions of the deck and has a horizontal support plate that forms a continuation of the deck surface. Each movable container support is mounted for selected sliding movement along a guideway between the cutout portions of the deck for supporting containers of different lengths.

3,507,226
DEVICE FOR LOCKING A CONTAINER IN POSITION ON A FLOOR OF A FLAT CAR

Rudolph E. Nadherny, Naperville, Ill., assignor to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 22, 1968, Ser. No. 699,414
Int. Cl. B61d *45/00*
U.S. Cl. 105—366 **2 Claims**

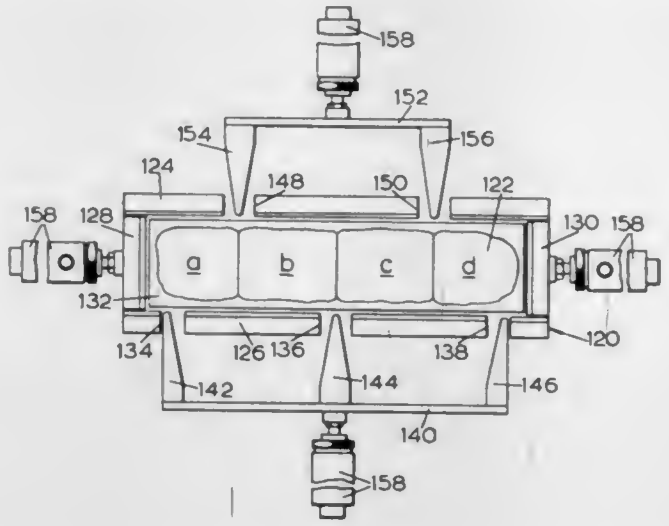


A device for locking a shipping container to the floor of a railway flat car is capable of being swung from a position below the top surface of the floor, where a cover overlies it, to an intermediate position in which the cover can be swung closed and from which the device can be swung to an operative position overlying the closed cover, the device including a bayonet member for entering a container fitting and rotatable from and to locked position therewith.



3,507,227
DOUGH MANIPULATION MACHINES

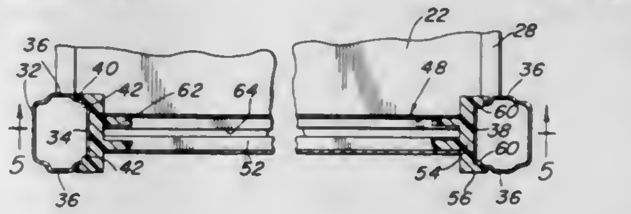
Kenneth Pickles, Burnley, England, assignor to Tweedy of Burnley Limited, Burnley, Lancashire, England, a corporation of Great Britain
Filed Oct. 31, 1967, Ser. No. 679,493
Claims priority, application Great Britain, Nov. 5, 1966, 49,688/66
Int. Cl. A21d *8/08;* **A21c** *1/14*
U.S. Cl. 107—9 **15 Claims**



Apparatus for handling soft tacky dough of the type which has a tendency to stick to metal and like surfaces with which it comes in contact comprising three dough manipulators adapted to simultaneously engage respectively the ends and an intermediate portion of the dough body for folding the dough body, these manipulators having gas permeable dough contacting surfaces contacting the dough body. Gas under pressure is supplied to discharge through the gas permeable surfaces for establishing and maintaining a continuous lubricant film of gas between the dough body and each of the manipulator surfaces during folding of the dough body.

3,507,228
SHELF END-STOP FOR STEEL SHELVING

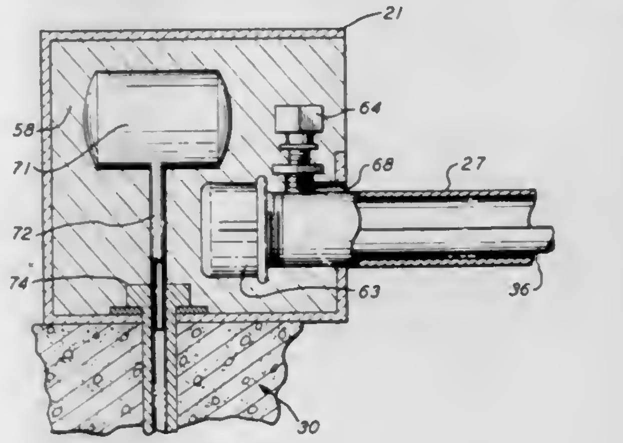
Irwin J. Ferdinand, Glencoe, Milton E. Handler, Evanston, and Irwin R. Kulbersh, Niles, Ill., assignors to S. A. Hirsh Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed Jan. 22, 1968, Ser. No. 699,420
Int. Cl. A47b *9/00*
U.S. Cl. 108—144 **11 Claims**



Snap-in, twist-release shelving end stops for shelves that are end supported at adjustable levels on end posts having a series of vertically spaced apertures. Two plastic Y-shaped members have detents in their arm portions adjustably engaging in co-level apertures in the posts and as an assembly carry a sleeve member on their legs between them under slight compression. Two vertically spaced assemblies carry a panel between them when desired which can be of various heights.

3,507,229
APPARATUS FOR INHIBITING ENTRY

Albert J. MacDonald, Van Nuys, Calif., assignor to Wisdom Clubs of America, Inc., Los Angeles, Calif., a corporation of California
Filed Feb. 9, 1968, Ser. No. 704,338
Int. Cl. E05g *3/00;* **G08b** *15/02*
U.S. Cl. 109—29 **1 Claim**

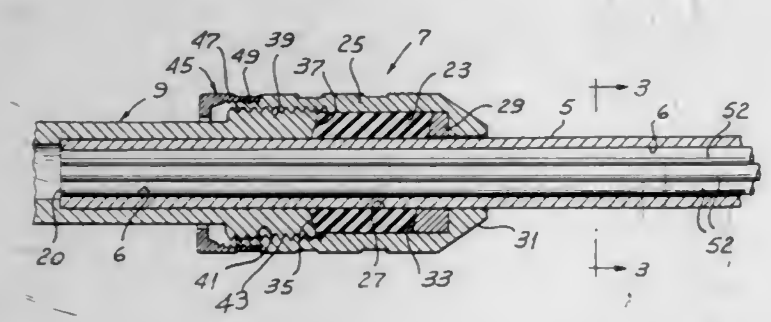


Barrier tubes combined with walled structures across possible structure areas of entry. The tubes are anchored in or to the structure. Each tube contains activity-inhibiting gas under pressure. The gas may be free in the tube or further confined within the barrier tube in a capsule with a frangible wall. A hardened steel rod extends within the capsule or tube the length thereof. The rod is free to roll or rotate with respect to its container. The barrier tubes may be surrounded by structural walls or by ornamental shrouds.

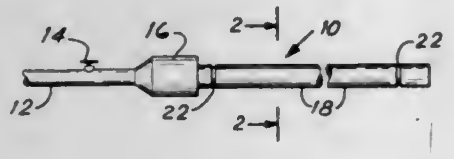
3,507,230
METHOD AND TOOL FOR CUTTING BY DEFLAGRATION DENSE MATERIALS

Henry A. Seib, Parkridge, N.J., assignor to Cybar Mfg. Co., Westwood, N.J., a corporation of New Jersey
Filed Feb. 28, 1968, Ser. No. 708,873
Int. Cl. F23b *7/00*
U.S. Cl. 110—1 **22 Claims**

A deflagrating method and tool for cutting dense oxidizable materials such as metals as well as nonoxidizing materials such as rock or concrete by utilizing a burner pipe in which there is inserted a plurality of rods, at least fifty percent of the rods being of a low carbon iron bearing burnable metal, and as to which there may be applied aluminum rods not in excess of fifty percent of the rods to increase the effectiveness of the low carbon iron bearing rods. The rods are arranged in the burner pipe in such a manner as to insure a free flow of oxygen under pressure through the burner pipe and about the rods so that, upon ignition of the burnable rods at a free end of the burner pipe, the oxygen at the point of burning has the effect of supporting the combustion of the rods so that the carbon bearing iron rods burn vigorously with an intense heat to effect by deflagration a cutting action on the dense material subject thereto, and, during underwater operation, the oxygen under pressure flowing through the pipe prevents the surrounding water from entering the pipe while supporting the combustion of the rods; and including improved ignition means for initiating the combustion of the rods above and underwater.



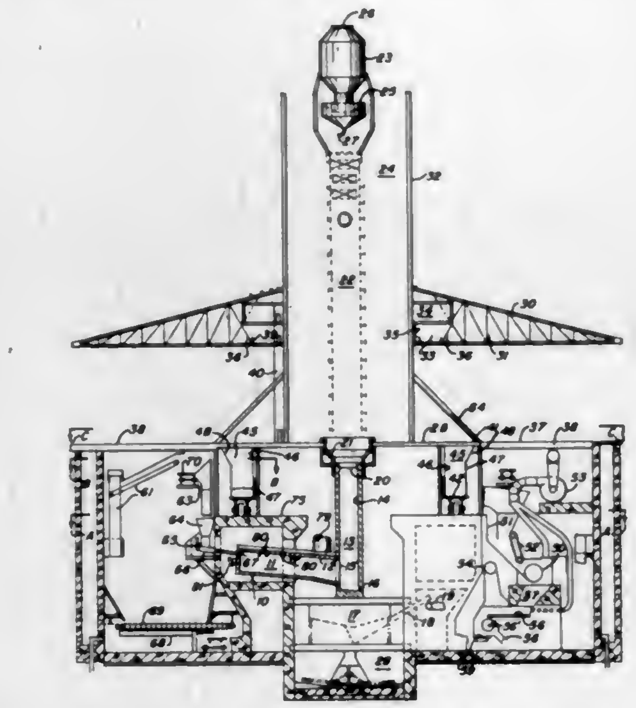
3,507,231
MEANS FOR CUTTING HARD CONSTRUCTION MATERIALS
Robert Meier, Seestrasse 158,
Kusnacht-Zurich, Switzerland
Filed Apr. 25, 1968, Ser. No. 724,016
Claims priority, application Switzerland, Nov. 3, 1967, 15,813/67
Int. Cl. F23b *7/00;* **F23d** *21/00*
U.S. Cl. 110—1 7 Claims



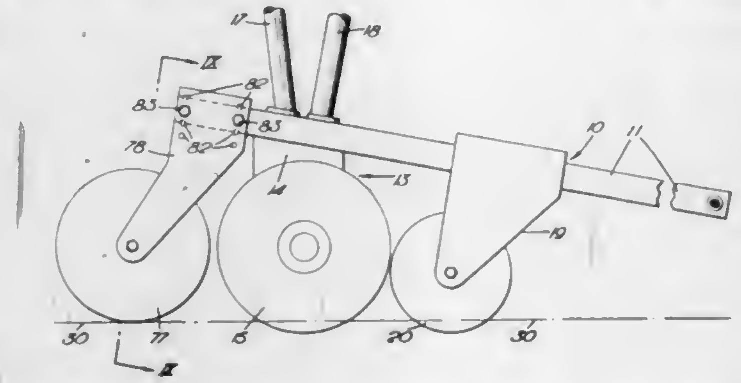
A torch constructed as tube of steel, iron and the like material having therein fastened lengthwise weldable wires. Oxygen is passed through the tube and wires, whereby the ignited tube burns away at its end and the resulting heat burns holes according to melting process in hard materials such as concrete, rock, cast iron and the like. A feature is that the tube has at least one annular groove which extends into the interior of the tube and by contracting acts clampingly on the wires.

3,507,232
INCINERATING APPARATUS AND METHODS
Borge Richard Ankersen, 2420 Private Drive,
Pontiac, Mich. 48055
Filed July 15, 1968, Ser. No. 744,842
Int. Cl. F23g *5/12*
U.S. Cl. 110—8 5 Claims

An incineration apparatus and method are provided having a main horizontal combustion chamber converging at its discharge end into a reduced cross-section throat discharging tangentially into the base of a vertical secondary combustion chamber, means for axially introducing refuse together with preheated air are provided adjacent the top of the main combustion chamber, means connected to said main combustion chamber for introducing high calorific fuel into the main combustion chamber, means for introducing preheated air under pressure tangentially into the main combustion chamber and means for discharging molten residues from both combustion chambers.



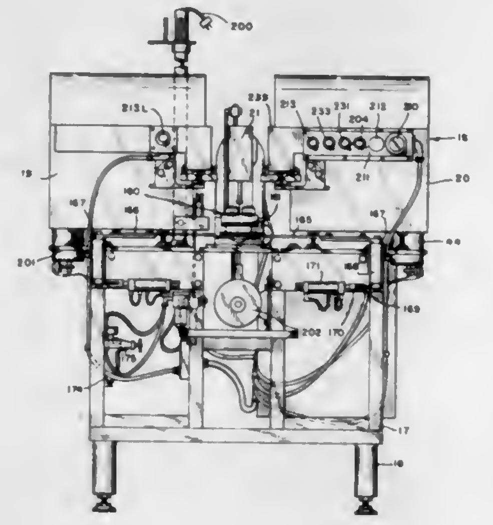
3,507,233
SEED DRILL
James D. Greig, Warwick, and Alfred J. Bailey, Berkswell Village, near Coventry, Great Britain, assignors to Massey-Ferguson Services N.V., Netherlands Antilles
Filed Sept. 8, 1966, Ser. No. 578,078
Claims priority, application Great Britain, Sept. 10, 1965, 38,838/65
Int. Cl. A01b *35/28;* **A01c** *5/06*
U.S. Cl. 111—85 10 Claims



A seed drill having a plurality of drag bars each of which may have a slit-forming device, a furrow opener, and a press wheel attached. The drag bars are pivotally attached to the drill frame at their forward end and extend up and to the rear from the pivot point. The slit-forming devices and press wheels can be clamped in any desired position along the length of the drag bars and are vertically adjustable relative to the drag bars.

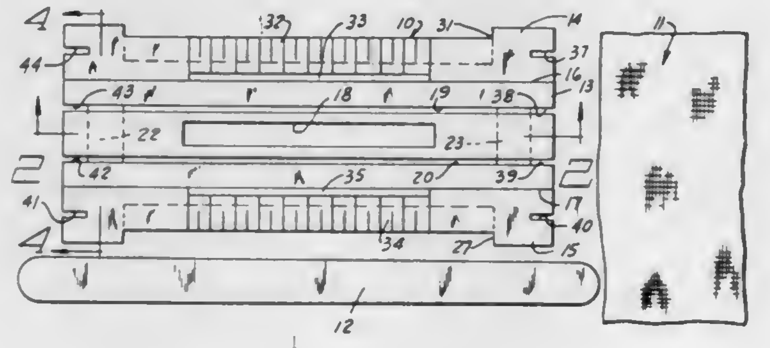
3,507,234
WAISTBAND END FINISHING APPARATUS AND METHOD
Carney J. Bryan, Greensboro, N.C., assignor to Blue Bell, Inc., Greensboro, N.C., a corporation of Delaware
Filed Oct. 17, 1967, Ser. No. 675,946
Int. Cl. D05b *23/00*
U.S. Cl. 112—121.27 11 Claims

An apparatus for inverting a portion of a garment waistband having opposed fabric plies and an open free terminal end portion comprising means for releasably clamping and spreading the fabric plies of the waistband apart in spaced relation to the terminal end portion of the waistband and means for inverting the free end portion of the waistband into the waistband by inverting the free end portion to form a finished inturned edge. A waistband supporting member in juxtaposition to the clamping and spreading means supports the waistband for positioning a turned waistband in a directed predetermined path of travel to a sewing machine for seaming.



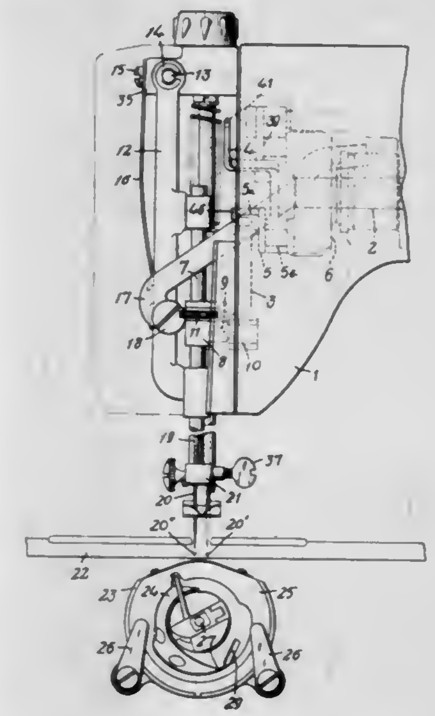
A method of edge finishing a garment waistband by drawing the free terminal end of a waistband and at least a portion of a waistband on a supporting member, thereafter gripping opposite sides of the supported waistband in spaced relation to the free terminal end, and tucking the free end of the waistband back in itself into at least the gripped portion of the waistband.

3,507,235
BOUND BUTTONHOLE GUIDE
William L. Herrmann, 4744 Lakeshore Road,
Port Huron, Mich. 48060
Filed Feb. 3, 1969, Ser. No. 795,956
Int. Cl. D05b *35/00*
U.S. Cl. 112—136 8 Claims



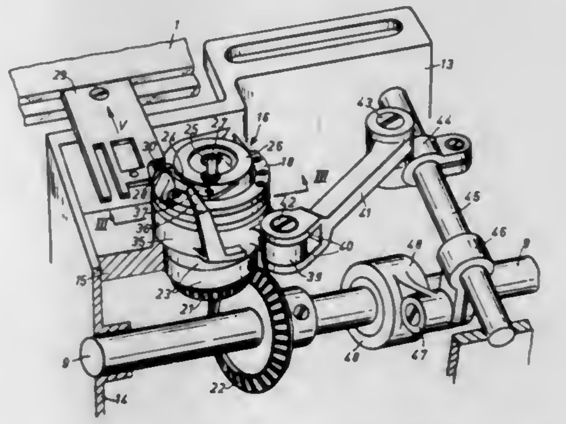
A buttonhole guide for making bound buttonholes with an ordinary sewing machine and which comprises a substantially rectangular body member having an elongated substantially rectangular slot centrally located therein for positioning on a piece of fabric in which a buttonhole is to be formed, a welt forming strip adapted to be mounted over the body member and to retain a patch of fabric on the body member over said slot for forming a welt, and two side members hingedly mounted on the body member for folding the last mentioned piece of fabric over the welt forming strip to hold the piece of fabric in position after the welt forming strip is removed while it is sewed to the material in which the buttonhole is to be formed.

3,507,236
STITCH CHANGING DEVICE IN A ZIGZAG SEWING MACHINE
Akio Komuro, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan
Filed Feb. 15, 1967, Ser. No. 616,292
Claims priority, application Japan, Feb. 18, 1966, 41/9,391
Int. Cl. D05b *3/02, 69/00*
U.S. Cl. 112—158 2 Claims



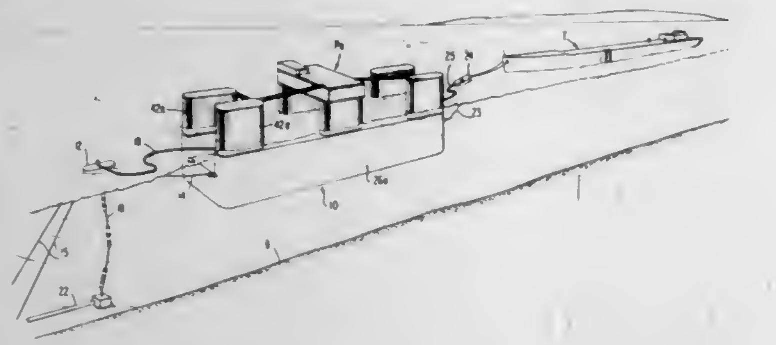
The present invention relates to a zigzag sewing machine and more particularly to a stitch changing device for the zigzag sewing machine which serves to change or skip the usual stitches to make a long pitch of straight line stitches, especially for basting operation.

3,507,237
BOBBIN CASE OPENER FOR ROTATING LOOP-TAKER LOCKSTITCH SEWING MACHINES
Kristen Hedegaard, Gentofte, Denmark, and Franz Schneider and Herbert Wenz, Kaiserslautern, Germany, assignors to G. M. Pfaff AG., Kaiserslautern Pfalz, Germany, a corporation of Germany
Filed July 29, 1968, Ser. No. 748,549
Claims priority, application Germany, July 31, 1967, P 42,720
Int. Cl. D05b *57/14*
U.S. Cl. 112—184 10 Claims



In a lockstitch sewing machine having a rotating looptaker cooperating with a reciprocatory needle operated by the main drive shaft, said looptaker rotating at a speed equal to a whole number multiple of the speed of said shaft, and a bobbin case frictionally mounted in said looptaker and restrained against rotation thereby by a tongue of said case engaging a stationary abutment, the escape gap for the needle thread loop between said tongue and abutment is opened during the loop-seizing revolutions only of the looptaker by a bobbin case opener intermittently rotating said case in the direction opposite to the looptaker rotation by an opening finger engaging a shoulder of said case along a predetermined operating path. The operating path of the finger is composed ow two coordinate radial and rotational component oscillating movements of said opener derived through separate driving eccentrics, respectively, from the looptaker and main drive shafts. The shape of said path is controlled by the relative adjustment of the eccentrics upon their respective drive shafts.

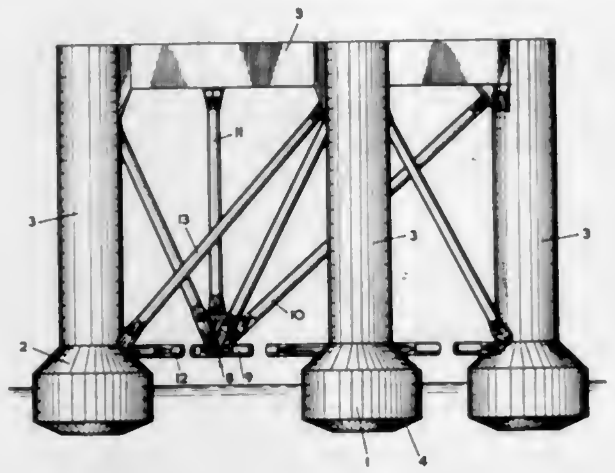
3,507,238
SEMISUBMERSIBLE OIL STORAGE VESSEL
Philip Yeong-Wai Chow, Orinda, Calif., assignor to Santa Fe International Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 26, 1968, Ser. No. 716,080
Int. Cl. B36b *35/44, 25/08*
U.S. Cl. 114—.5 **45 Claims**



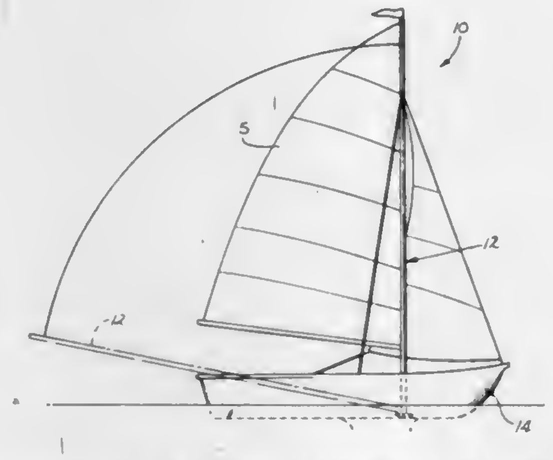
The vessel includes a concrete hull having an oil storage chamber and buoyancy compartments. Upstanding stabilizing columns are mounted on the hull on opposite sides of the pitch and roll axes of the vessel, one or more of which support a working platform in spaced relation above the hull. The columns extend vertically and the platform is spaced above the hull a distance greater than the maximum anticipated wave height. The hull buoyantly supports the vessel with the hull having freeboard. At the site, the storage chamber is ballasted with sea water to submerge the hull and portions of the stabilizing columns. Oil from the production site is piped into the storage chamber to displace the water from the chamber. To minimize wave impaction against the hull and to stabilize the vessel in the semisubmerged floating condition, the displacement of the hull and submerged column portions is such that, in the sea water ballasted condition, the distance between the mean waterline and the undersurface of the platform is no less than half the maximum anticipated wave height, and, in the oil loaded condition, the distance between the hull and the mean waterline is not less than half the maximum anticipated wave height. For a predetermined hull configuration, the columns are located and have areas such that the natural period of the vessel is outside the normally anticipated range of periods of significant anticipated waves.

3,507,239
SEMISUBMERSIBLE FLOATING SEA PLATFORM
Johannes Wipkink, Sassenheim, and Marinus van Holst and Johan Gerhard Wolters, Maassluis, Netherlands, assignors to Ingenieursbureau Marcon N.V., Koninginnegracht, The Hague, and Scheepsbouwbelangen N.V., Lange Voorhait, The Hague, Netherlands
Filed July 1, 1968, Ser. No. 741,778
Claims priority, application Netherlands, Sept. 1, 1967, 6712041
Int. Cl. B63b *35/00;* **F01k** *7/16, 7/22*
U.S. Cl. 114—.5 **11 Claims**

A floating sea platform including a horizontal deck mounted on vertical columns provided with float members at their lower ends, and having a plurality of bracing members extending from the upper and lower ends of each column to a common joint located in the plane including the bottoms of the columns.



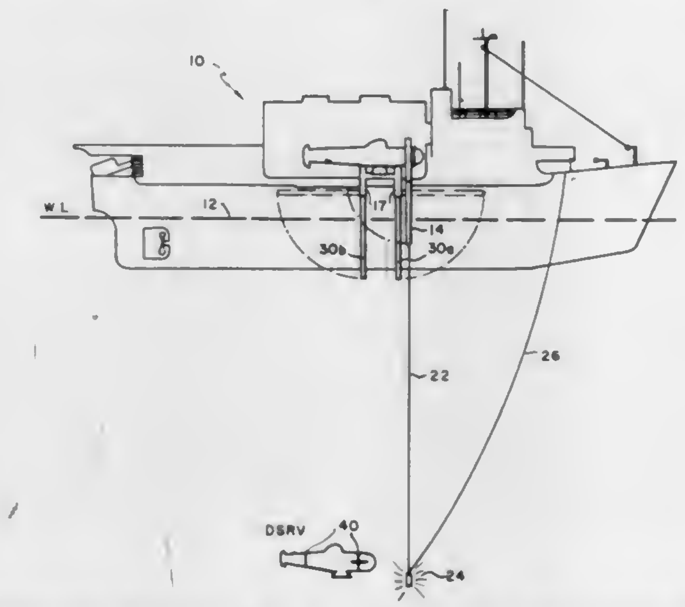
3,507,240
COMBINATION HINGE AND MOUNTING BRACKET FOR A SAILBOAT MAST
Frank W. Butler, 10354 Vanalden, Northridge, Calif. 91324
Filed June 17, 1968, Ser. No. 737,785
Int. Cl. B63b *35/00*
U.S. Cl. 114—39 **15 Claims**



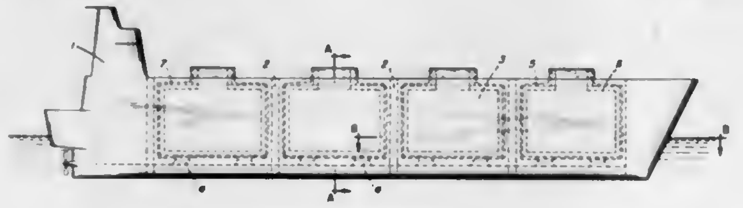
A combination hinge and mounting bracket is provided for pivotally and releasably attaching the mast of a sailboat to a mast support on the boat hull. The bracket has upper and lower bracket members for attachment to the foot of the mast and to the mast support, respectively, and quick release pivot means joining the bracket members in such a way that in the event of parting of the lines which hold the mast in its erect sailing position, the mast is free to separate from and fall out of the boat without causing damage to the hull. The bracket also facilitates erection of the mast to sailing position and removal of the mast from the boat for convenience of stowage when not in use.

3,507,241
DEEP SUBMERGENCE RESCUE VEHICLE HANDLING SYSTEM
Arthur Southerland, Jr., Washington, D.C., Joseph R. Annibale, Fairfax, Va., Paul V. Adams, Wheaton, Md., and Willis H. Todd, Mystic, Conn., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 26, 1968, Ser. No. 779,164
Int. Cl. B63b *35/44;* **B63g** *8/00*
U.S. Cl. 114—43.5 **5 Claims**

A handling system on board a ship of the catamaran type for the launch and recovery of a deep submergence rescue vehicle from below the surface. The system comprises capturing cables suspended into the water from the ship, at the lower ends of which is attached a sensor platform having strobe lights, a sonar device and TV cameras. Positioning arms mounted on the ship for rotation in parallel vertical planes guide the upper ends of the cables. The deep submergence vehicle homes in on the sensor platform equipment. Capturing arms on the deep submergence rescue vehicle guide the cables into the engagement sockets. The cables draw the deep submergence rescue vehicle into positive engagement with ball ends on the positioning arms which then control the longitudinal and transverse motion of the vehicle for precise alignment of the hard lifting rings on the vehicle with the elevator cradles for subsequent hoisting from the water heave.



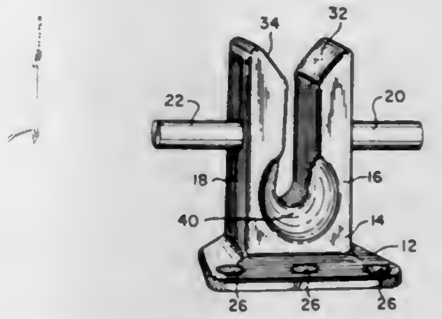
3,507,242
TANKER FOR THE TRANSPORTATION OF LIQUEFIED GASES
Eberhard Walter Ulbricht, Hamburg, Germany, assignor to John Joseph McMullen, Montclair, N.J.
Filed Mar. 14, 1968, Ser. No. 713,115
Claims priority, application Germany, Mar. 17, 1967, M 73,232
Int. Cl. B63b *25/16*
U.S. Cl. 114—74 **15 Claims**



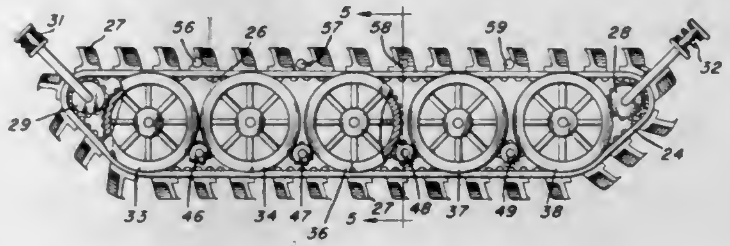
A ship separated in a horizontal plane into a lower floating body of ordinary shipbuilding steel and an upper tank part of a material resistant to low temperatures. The tank part is connected with the deck of the floating body but is not completely surrounded by the floating body. A covering is located on the deck of the floating body, which covering is resistant to low temperatures.

3,507,243
MARINE CLEAT AND ROPE GUIDE
Paul R. Brown, Croton-on-Hudson, N.Y., assignor to Seal Basin Marine Company, Croton-on-Hudson, N.Y., a corporation of Illinois
Filed May 29, 1968, Ser. No. 732,968
Int. Cl. B63b *21/04*
U.S. Cl. 114—218 **8 Claims**

An article of marine hardware which is a unitary article including a base adapted for mounting on a watercraft and a pedestal formed intergal with the base and extending upwardly therefrom. The pedestal includes a pair of spaced integral stanchions which define a rope slot. Each of the stanchions has a sloping rope guide surface on the upper portion thereof to provide a guide into the rope slot. An elongated arm is fixed to each of the stanchions and extends outwardly therefrom. The arms are aligned and positioned above the bottom of the rope slot.

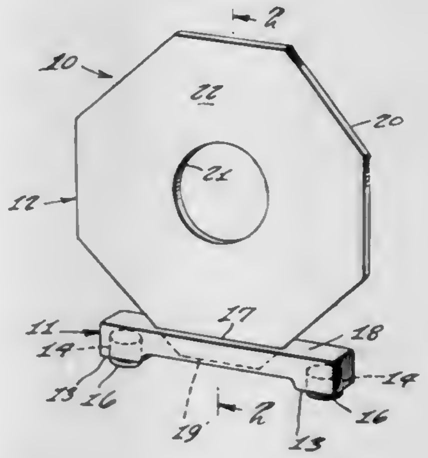


3,507,244
SEA HORSE PULLING UNIT
Avesline Kimbrell Florez, 3920 E. Hardy Drive, Tucson, Ariz. 85716
Filed Feb. 2, 1968, Ser. No. 703,237
Int. Cl. B63h *1/34*
U.S. Cl. 115—63 **5 Claims**



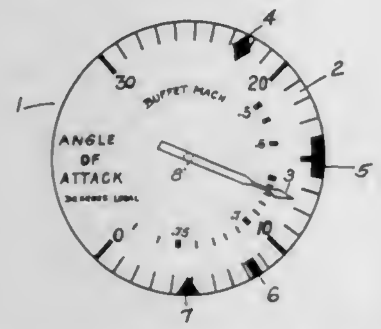
A marine propulsion system consists of two pulling units, each comprising a gear belt running in a vertical orbit positioned in a longitudinal channel in the bottom of the hull of a ship, one unit to starboard and the other to port. The hull bottom also has a longitudinal central concavity running from bow to stern. The gear belts have gear teeth on the inner surface and many scoops, closely spaced, on the outer surface. Each belt is driven by a number of toothed drums positioned within the belt orbit and meshed with the belt at both upper and lower orbit limbs. Each drum is driven by an individual electric motor. The scoops draw water from the bow and impel it toward the stern and toward the central cavity.

3,507,245
TRAFFIC EMERGENCY WARNING DEVICE
Edmund W. Grabow, 710 12th Ave., Brookings, S. Dak. 57006
Filed May 6, 1968, Ser. No. 726,844
Int. Cl. B60q
U.S. Cl. 116—28 **1 Claim**



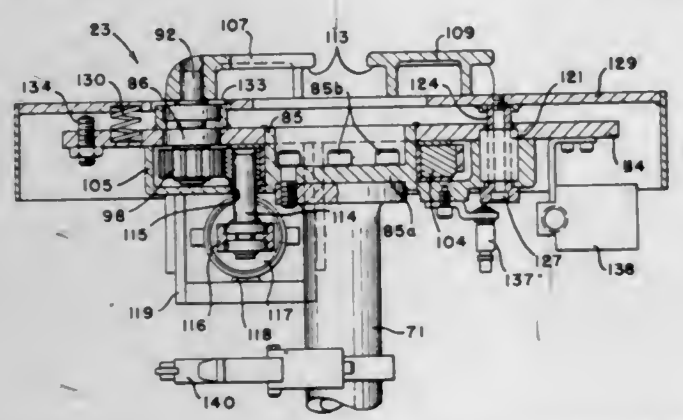
A warning device for the purpose of indicating a stalled vehicle upon a highway, the device comprising a vertical panel upon a base, the panel being painted on both sides with a bright fluorescent paint so as to be readily seen by an approaching vehicle particularly at night time.

3,507,246
AIRCRAFT INSTRUMENT DIAL
Charles H. Daudt, P.O. Box 511,
Ridgefield, Conn. 06877
Filed July 22, 1966, Ser. No. 567,129
Int. Cl. G09f *9/00*
U.S. Cl. 116—129 **2 Claims**



A dial for an aircraft instrument showing actual angle of attack and corresponding limiting Mach number on the same dial. These two factors together establish the imminence of a stall or stall buffeting.

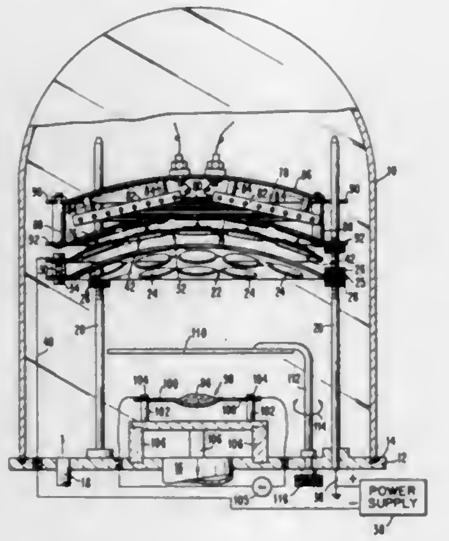
3,507,247
COATING APPARATUS INCLUDING WORK-ACTUATED EXPANDABLE CHUCK
Ernest E. Kwierant, Rochester, Mich., assignor to Uniroyal, Inc., a corporation of New Jersey
Filed May 2, 1966, Ser. No. 546,678
Int. Cl. B05c *11/14*
U.S. Cl. 118—4 **5 Claims**



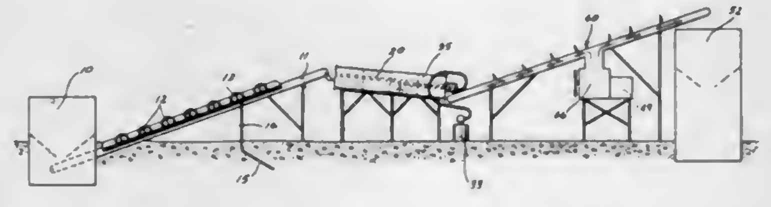
A multi-station apparatus including a chuck for holding a rotating raw tire carcass as the same is moved successively through coating and drying zones. The chuck has an iris-like arrangement of pivotal gripping elements about which one end of the carcass can be telescoped, the gripping elements being adapted, when fanned outwardly, to engage the carcass from within and being actuated only when the surrounding carcass is pushed against an axially movable plate located behind the gripping elements hard enough to displace the plate rearwardly out of its normal position.

3,507,248
VACUUM EVAPORATION COATING APPARATUS INCLUDING MEANS FOR PRECLEANING SUBSTRATES BY ION BOMBARDMENT
Gerard Seeley, Wappingers Falls, Paul A. Totta, Poughkeepsie, and George Wald, Spring Valley, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 15, 1967, Ser. No. 646,244
Int. Cl. C23c *13/12*
U.S. Cl. 118—48 **10 Claims**

This disclosure is directed to an improved apparatus for permitting both sputter cleaning surfaces of articles and evaporation operations to be carried out. The articles to be treated are mounted on a negatively biased support member and a pair of metal shield members having a positive or ground potential are located within the "dark space" on each side of the negatively biased support member. The pair of shield members serves to prevent each article from having undesired areas subjected to sputter cleaning and/or evaporation operations.



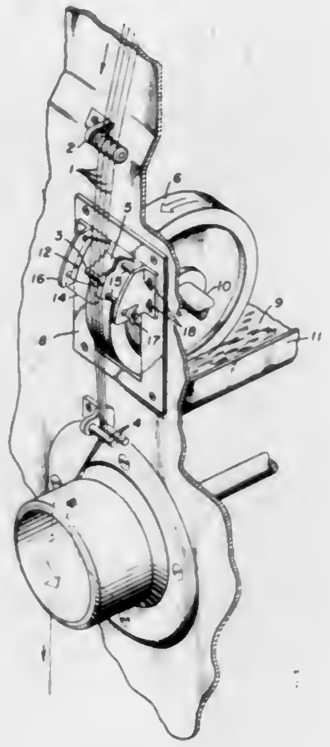
3,507,249
APPARATUS FOR PRODUCING DECORATIVE STONE BY COATING
Robert C. Rollette, 280 Blackhawk Blvd.,
South Beloit, Ill. 61080
Continuation-in-part of application Ser. No. 437,759, Mar. 8, 1965. This application June 11, 1969, Ser. No. 832,042
Int. Cl. B05c *11/12, 5/00*
U.S. Cl. 118—66 **10 Claims**



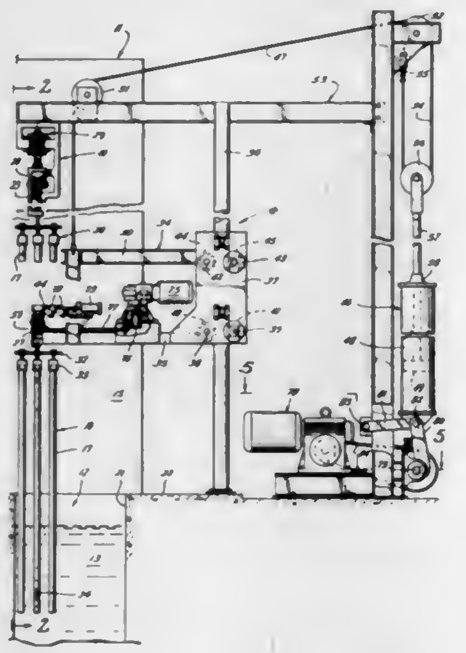
Stone to be coated is preheated and introduced into a rotating drum which includes therein a spray arrangement forming a spray pattern of coating material. As the drum rotates and the stone is tumbled, the stone falls through the spray pattern a number of times to become completely coated and is fed to a separate section of the drum to be dried. The stone is preheated on its way from a storage area to the drum and is dried on a conveyor after exiting from the drum during its travel to storage.

3,507,250
LIQUID APPLICATOR
William F. Dew, Jr., Decatur, Ala., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,017
Int. Cl. B05c *1/00*
U.S. Cl. 118—234 **6 Claims**

Continuous application of a liquid to continuous strands and like material is accomplished by mounting a substantially wedge shaped stator scraper juxtaposed with the peripherial surface of a rotating cylinder having a film of liquid adhering to the surface thereof, whereby the cutting edge of the wedge removes a desired amount of the liquid and whereby the liquid gravitates down the sloping upper surface of the wedge shaped scraper and onto a removable cylindrical applicator bar across which the continuous strand is pulled, thereby providing controlled application of the liquid to the continuous strand.

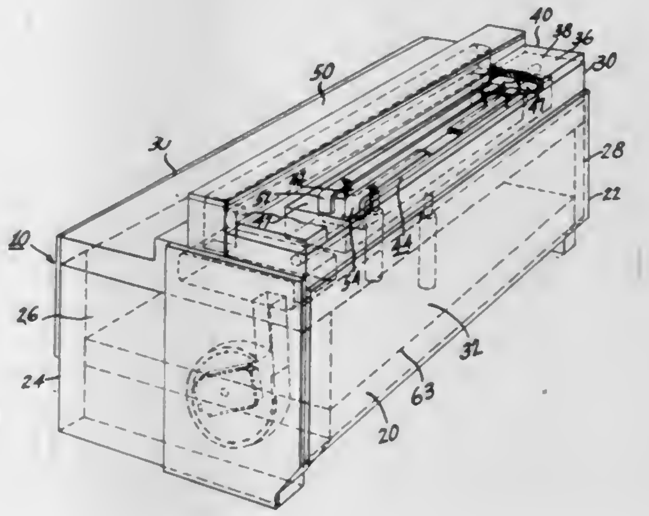


3,507,251
COATING APPARATUS
Keith B. Thayer and Willis E. Peterson, Houston, Tex., assignors to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Mar. 28, 1968, Ser. No. 716,751
Int. Cl. B05c *3/04*
U.S. Cl. 118—425 **5 Claims**



Apparatus for selectively immersing articles to be coated into a coating material and, while they are immersed, agitating the articles to deposit a uniform protective coating thereon. More particularly, the apparatus disclosed herein includes a vertically-movable support that is adapted to receive heated articles and controllably lower these articles from an elevated position into a fluidized bed of a pulverulent coating composition. The apparatus further includes selectively-operable means for vertically reciprocating as well as for laterally oscillating the immersed artices before they are raised from the fluidized bed.

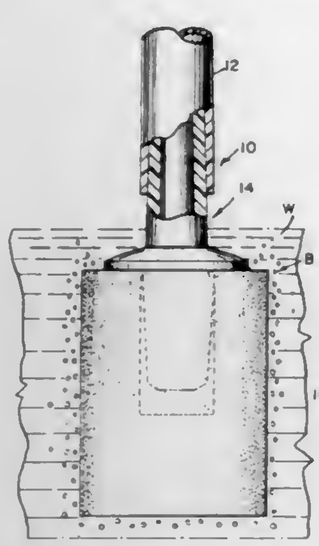
3,507,252
COMBINATION OF A CONTAINER FOR A LIQUID AND MEANS FOR DISPENSING THE LIQUID
Marvin A. Leedom, Warminster, Pa., assignor to RCA Corporation, a corporation of Delaware
Filed May 23, 1967, Ser. No. 640,564
Int. Cl. B05b *5/02*
U.S. Cl. 118—637 **14 Claims**



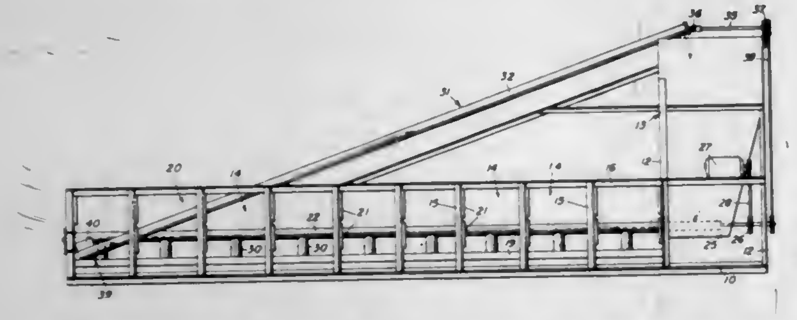
An apparatus for applying a liquid developer to the surface of a recording medium to develop the latent image thereon. The apparatus consists of a container having a plurality of side walls defining a reservoir for the liquid developer, a manifold on one of the side walls for dispensing the liquid, and a pump for circulating the liquid between the reservoir and the manifold. The manifold has an exit slit therein which communicates with the interior of the manifold and applies the liquid developer to the recording medium adjacent the slit. A trough member surrounds the manifold and collects any excess liquid developer which may issue from the exit slit. The trough member is in fluid communication with the reservoir for returning the excess liquid developer to the reservoir so that it may be recirculated. A portion of the exit slit is made up of an electrically conductive member which has a source of voltage connected thereto. The pump consists of a cavity which is in fluid communication with the reservoir and the manifold, an impeller of magnetic material rotatably mounted in the cavity, and a rotating magnet adjacent the cavity for actuating the pump.

3,507,253
AQUARIUM AIR STONE ORNAMENT
Allan H. Willinger, New Rochelle, N.Y., assignor to Aquariums Incorporated, Maywood, N.J., a corporation of Delaware
Filed Oct. 7, 1968, Ser. No. 765,575
Int. Cl. A01k *63/00*
U.S. Cl. 119—5 **3 Claims**

An aquarium air stone ornament for which the usual air pump conduit connection is made to a connector partially projected into an air passage provided in the porous "air stone" body, the connector having a laterally extending disk-like member which covers and peripherally extends beyond the air passage and is adhesively secured along this extending or overlapping area to the air stone, the adhesive thus making the connection between the connector and air stone and also sealing this connection against leakage.

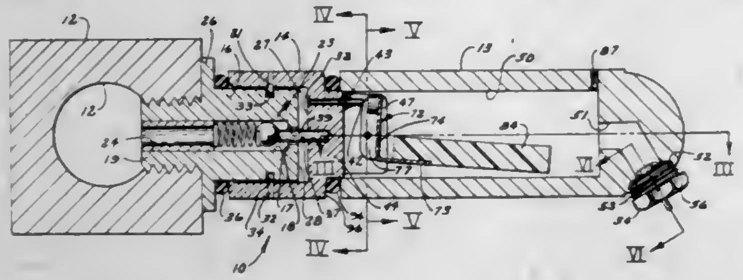


3,507,254
ANIMAL FEEDER
Willard H. Stapleton, R.F.D. 1, Lumber City, Ga. 31549
Filed Sept. 23, 1968, Ser. No. 761,457
Int. Cl. A01k *5/00*
U.S. Cl. 119—52 8 Claims



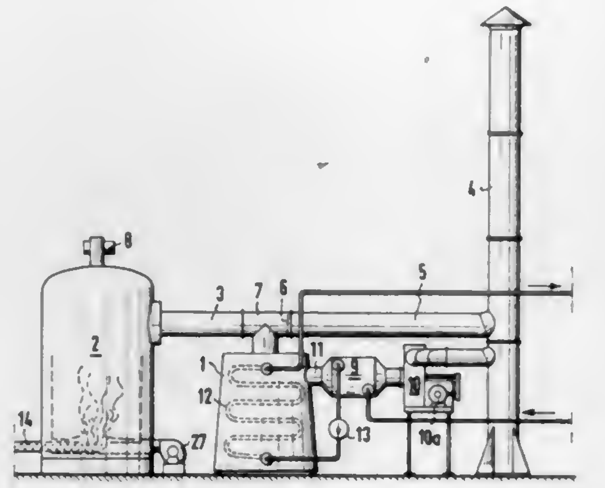
Animal feeder especially adapted for sows having a row of feeding stations above a trough, with a conveyor system for continuously replenishing a controlled amount of feed at each station from a supply hopper and for returning any excess feed to the hopper.

3,507,255
ANIMAL-ACTUATED DRINKING VALVE WITH FLOAT
Maurice B. Allen, Burtonsville, Md., assignor to William Stone, Jr., Los Angeles, Calif.
Filed Sept. 11, 1967, Ser. No. 666,730
Int. Cl. A01k *7/02;* **F16k** *15/04, 20/04*
U.S. Cl. 119—72.5 7 Claims



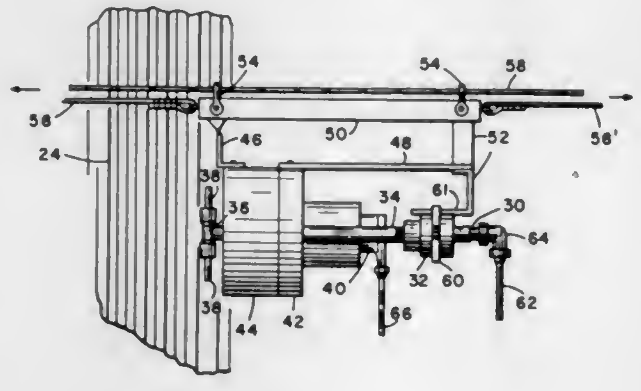
A valve assembly having inlet and outlet body parts and valve mechanism including a checkvalve, a float valve and an animal actuable valve disposed within interconnected passageways extending through the valve body parts. The passageway in the inlet body part is connected to a source of liquid under pressure and the animal actuable valve is located at the opposite end of the passageway in the outlet body part.

3,507,256
FORCED-CIRCULATION BOILER SYSTEM WITH SEPARATE BOILER AND FURNACE
Wolfgang Sander, Heidelberg, Germany, assignor to Konus-Kessel Gesellschaft fur Warmetechnik m.b.H. & Co. K.G., Hockenheim, Germany
Filed Aug. 26, 1968, Ser. No. 755,310
Int. Cl. F22b *33/00;* **F22d** *7/12*
U.S. Cl. 122—20 9 Claims



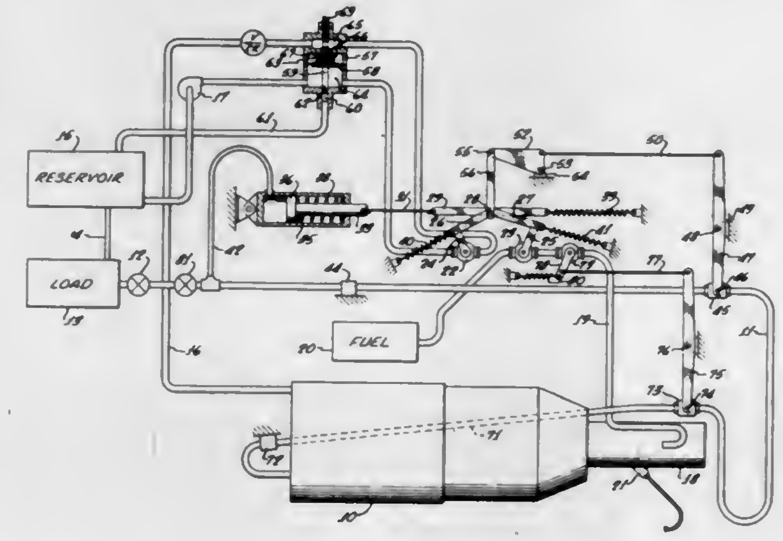
The invention provides a forced-circulation boiler system in which the furnace is separate from the boiler, a pump being provided to circulate a heat transfer liquid through the boiler to which heat is conducted by means of conducting flue gases from the furnace to the boiler. A by-pass pipe is provided so that the flue gases can be vented directly from the furnace to a smoke stack under certain emergency circumstances, such as, for example, in the event of pump failure or in the event certain temperature limitations are exceeded.

3,507,257
CLEANING GAS-SWEPT HEATING SURFACES OF STEAM GENERATORS
Dyson A. Broadbent, 212 Chapman Ave., Lansdowne, Pa. 19050
Filed Oct. 13, 1967, Ser. No. 675,186
Int. Cl. F22b *37/48*
U.S. Cl. 122—379 12 Claims



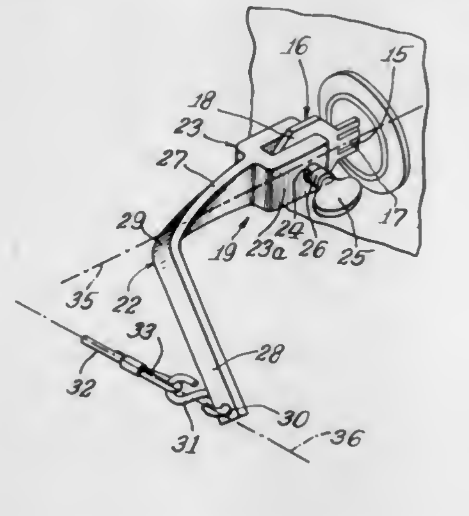
Methods and apparatus for cleaning combustion deposits from gas-swept heat exchange surfaces in modern high-temperature steam generators shortly after shutdown. A liquid stream emerging from a nozzle at a velocity of at least 900 feet per second is progressively directed at different portions of the heat exchange surfaces from a distance of five feet or less and preferably in the direction of the flow of combustion gases to wash the surfaces free of deposits. A compact, simply constructed apparatus having hydraulically balanced, opposed, inline nozzles in a head rotated at controlled speed by an air motor and reduction gear speed drive is supported and moved in spaced relationship to the surfaces to be cleaned with liquid cleaning medium exiting the nozzle.

3,507,258
VAPOR GENERATOR CONTROL
Richard J. Smith, 8591 Pyle Way, Midway City, Calif. 92655
Filed Feb. 1, 1968, Ser. No. 702,380
Int. Cl. F22b *35/00, 37/42;* **F22d** *5/28*
U.S. Cl. 122—448 14 Claims



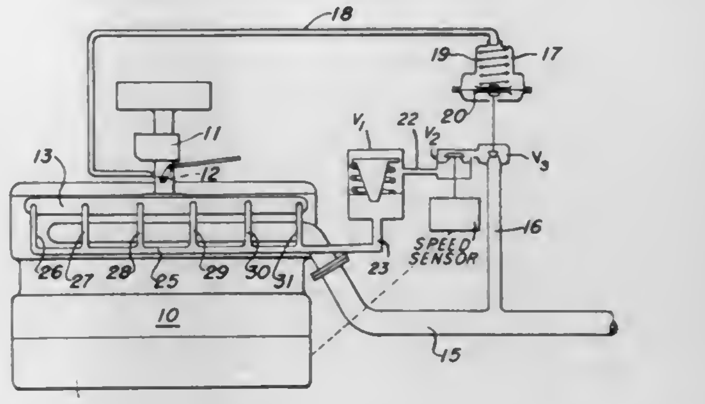
A vapor generator control that includes a sensor that detects vapor pressure and controls the supply of heat and liquid to the generator to maintain desired pressure, a sensor that detects vapor temperature and varies the proportions of heat and liquid to the generator to maintain a desired vapor temperature, and safety devices to interrupt the heat flow if excess temperature occurs and to relieve pressure in the event of overpressurization.

3,507,259
REMOTE STARTER FOR AUTOMOTIVE VEHICLES
Ivan J. Lankford, Hoffman Estates, Ill., assignor to Peerless Instrument Co., a corporation of Illinois
Filed Aug. 5, 1968, Ser. No. 750,154
Int. Cl. F02m *17/00;* **E05b** *15/00;* **G05g** *1/04*
U.S. Cl. 123—179 10 Claims



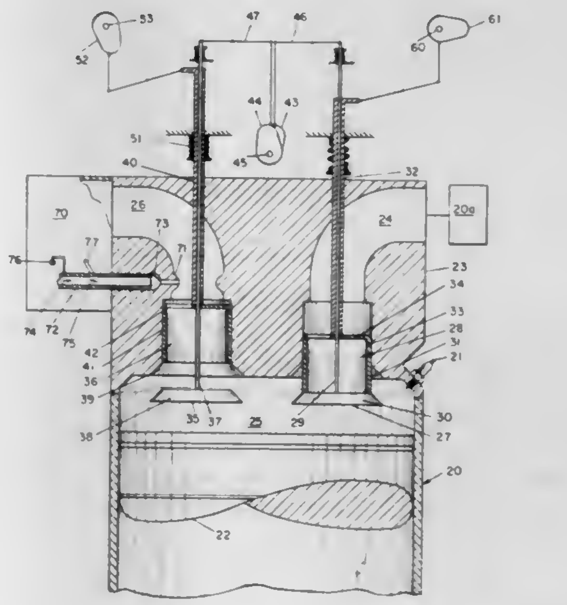
A device having a thumbscrew adapted to be secured to the ignition key of an automotive vehicle and a lever portion to which a flexible cord is connected. The lever is arranged to permit the cord to be used to turn the key in the ignition switch from a remote position such as adjacent the engine as for facilitated servicing of the engine.

3,507,260
EXHAUST RECIRCULATION CONTROL FOR AN ENGINE
Brooks Walker, 1280 Columbus Ave., San Francisco, Calif. 94133
Filed May 1, 1967, Ser. No. 635,002
Int. Cl. F02m *25/06*
U.S. Cl. 123—119 3 Claims



This invention pertains to a device to control recirculation of some of the exhaust gases carbureted in a four stroke cycle internal combustion engine during some selected driving cycles but not all to reduce the nitrogen oxides in the exhaust. Nitrogen oxides are produced in the combustion chamber of an engine when the temperatures of combustion are high and the mixture is lean. They are usually lower and within the present and contemplated future limits of control when (1) The engine is idling and on very low power at lower speeds (2) At high power when the power valve enriches the mixture over the level cruise mixture as nitrogen oxides are not present in as large a percent with a rich or substantially richer than lean mixture.

3,507,261
METHOD AND APPARATUS FOR REDUCING EXHAUST EMISSIONS AND IMPROVING FUEL UTILIZATION IN INTERNAL COMBUSTION ENGINES
Phillip S. Myers, 3210 Oxford Drive, and Otto A. Uyehara, 1610 Waunona Way 53713, both of Madison, Wis.
Continuation-in-part of application Ser. No. 615,145, Feb. 10, 1967. This application June 20, 1969, Ser. No. 835,134
Int. Cl. F02m *25/06, 7/00;* **F01l** *31/16*
U.S. Cl. 123—119 10 Claims

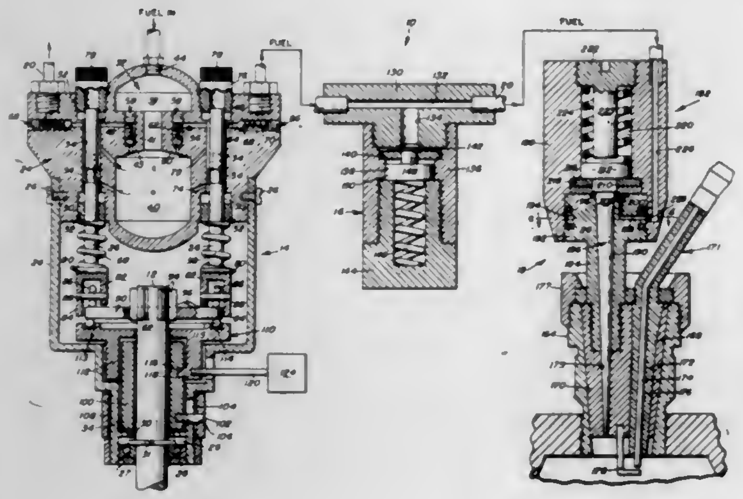


Method and apparatus for providing a stratified charge of two constituents in the combustion chamber of an internal combustion engine when the engine is operating at less than full load to reduce all three undesirable exhaust emissions, i.e., hydrocarbons, carbon monoxide and oxides of nitrogen. The first constituent of the stratified charge comprises exhaust gas, mixed with air if desired, and the second a fuel and air mixture measurably richer or leaner than the fuel and air mixture which would produce maximum oxides of nitrogen. The exhaust gas/air mixture provided in the combustion chamber should be maintained between the fuel/air mixture and the exhaust port of the engine so that the products from the exhaust gas/air mixture portion of the charge will be exhausted first.

The relative amounts of the two constituents making up the stratified charge are varied in response to accelerator position by auxiliary intake and exhaust valves which are actuated by variable timing control mechanism, with maximum fuel/air mixture and minimum exhaust gas/air mixture being introduced for full engine load, and vice versa for minimum load. The amount of air mixed with the exhaust gas is determined by valve mechanism controlled by engine temperature and accelerator position. The exhaust gas/air mixture and the fuel/air mixture may be drawn into the combustion chamber sequentially or simultaneously.

3,507,262
FUEL INJECTION SYSTEM

Jack W. Stage, 100 Mount Lyell Drive,
San Rafael, Calif. 94903
Filed Feb. 29, 1968, Ser. No. 709,285
Int. Cl. F02m *33/00;* **F02d** *1/04;* **F04b** *1/14*
U.S. Cl. 123—139 8 Claims

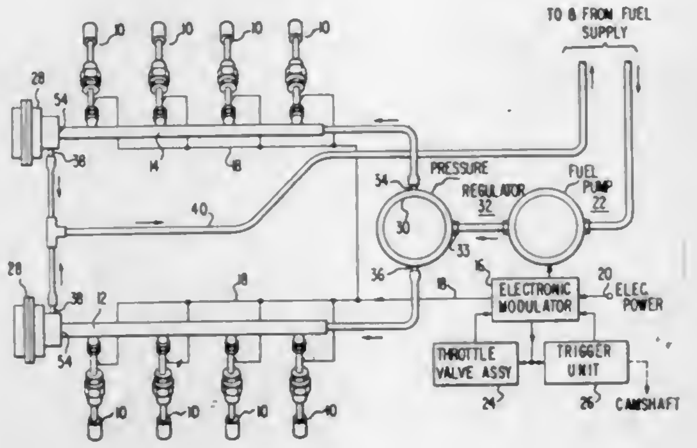


A fuel injection system for minutely controlling amounts of fuel injected into the cylinders of an internal combustion engine while inhibiting the formation of gas in the fuel between the fuel pump and the injector nozzle including a pump having elongated pumping chambers of hollow circular cross section, a fuel line pressure maintainer, and an injector-igniter unit having a long slender tapered valve pin reciprocatingly seated in a metallic nozzle plug.

3,507,263
FLUID COMPRESSION AND EXPANSION WAVE CONVERTER FOR PRECISION FUEL METERING SYSTEM

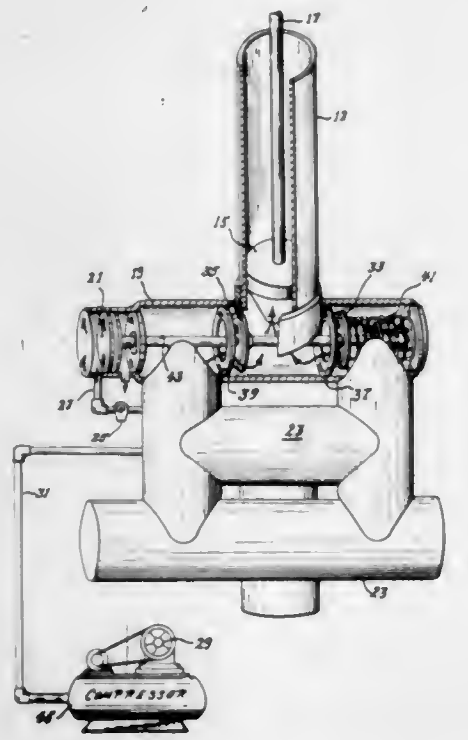
Emile David Long, 508 College Ave.,
Elmira, N.Y. 14903
Continuation-in-part of application Ser. No. 645,701, June 13, 1967. This application June 13, 1969, Ser. No. 832,962
Int. Cl. F02m *39/00;* **F02b** *3/00, 33/00*
U.S. Cl. 123—139 12 Claims

A fluid wave inverter for converting compression waves into expansion waves and expansion waves into compression waves propagated in the fuel distribution means of a discontinuous fuel delivery system to a plurality of fuel transducers in a precision fuel metering system wherein the extremely fast actuation time of valves incorporated in the fuel transducers give rise to travelling waves of a wavelength which is relatively short in comparison to the total length of the fuel distribution means. At least one wave inverter means is utilized which is coupled to that end of the fuel distribution means which is opposite from the source end including the fuel pump and a pressure regulator, so that a compression wave is reflected from the wave inverter as an expansion wave and vice versa whereby the pressure is restored to its original value, thereby eliminating all modes of standing waves in the fuel distribution means with the resulting effect that fuel starvation of any of the fuel transducers is eliminated.



3,507,264
COMPRESSED AIR OPERATED CATAPULT SYSTEM FOR EJECTION SEAT TRAINERS

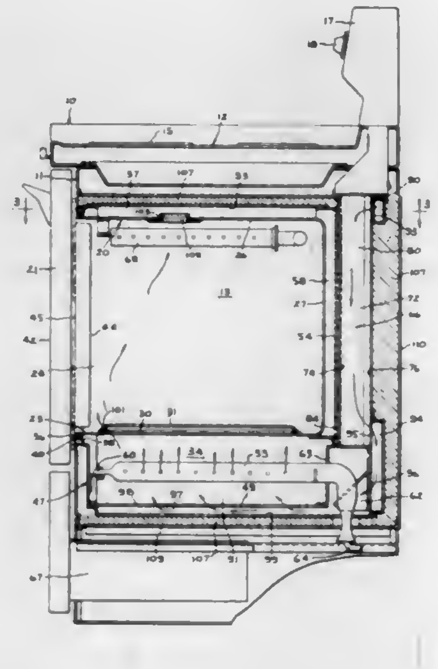
Henry B. Whitmore, Rte. 5, Box 369 78211, and Daniel W. Cupps, 615 Upland Road 78220, both of San Antonio, Tex.
Filed Dec. 19, 1967, Ser. No. 691,891
Int. Cl. F41b *11/00*
U.S. Cl. 124—11 5 Claims



An air operated catapult system for ejection seat trainers having a compressed air source operatively connected to an accumulator section which feeds into a catapult cylinder containing a piston. A pair of double balance valves are positioned in a control cylinder such that when pressure is introduced to a valve opening piston, the balance valves open and allow the air from the accumulator to enter the catapult cylinder and force the piston attached to the ejection seat upward. The system is deactivated after the seat has been given the driving force and moved a short distance upward.

3,507,265
SELF-CLEANING GAS COOKING OVEN

Bohdan Hurko and Raymond L. Dills, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Aug. 27, 1968, Ser. No. 755,555
Int. Cl. F24c *3/00, 15/32*
U.S. Cl. 126—21 17 Claims

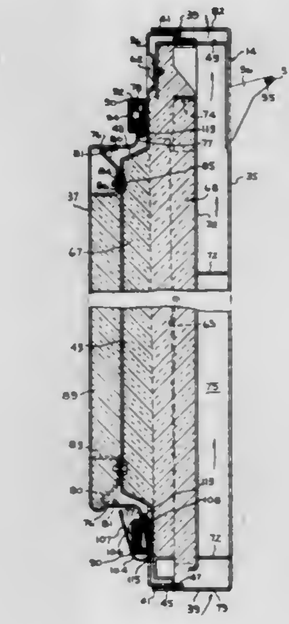


This invention pertains particularly to a gas cooking oven such as used in the home, although the inventive concept could easily be adapted for use in commercial or institutional cooking ovens. Self-cleaning ovens operating on the principle of pyrolysis or the chemical decomposition of food soil by the use of heat, have been available in electric ranges for over four years. The same principle is equally adaptable for gas ovens.

This gas oven design passes convection currents of the main portion of the combustion products or flue gases from the lower gas burner over the outside of the oven liner for heating the walls forming the cooking cavity. A stationary, vertically arranged heat exchanger is mounted in the walls of the oven body, and after the flue gases finish their pass over the oven liner they enter the bottom of the heat exchanger and rise to exit from the top thereof where they mix with room ambient air before they are returned to the kitchen atmosphere, at a relatively low exhaust temperature. Simultaneously, relatively cool room air enters the top of the heat exchanger flowing downwardly to exit at the bottom thereof after picking up thermal energy from the flue gases, and then the heated air is fed into the combustion chamber as preheated secondary air for the combustion process. This adoption and manner of utilizing a heat exchanger greatly increases the efficiency of combustion of a gas burner system from an efficiency that might be as low as 30% to an amount between about 70 and 90%, and likewise lowers the consumption of gas fuel, and both the amount and the heat of exhaust.

3,507,266
OVEN DOOR WITH DOOR SEALING GASKET

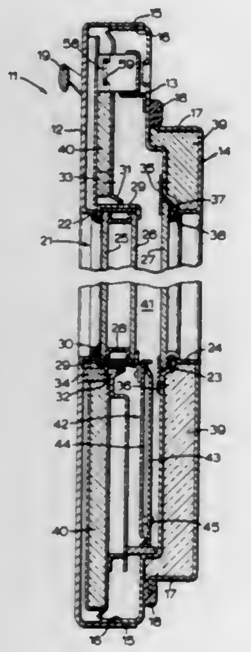
Louis A. Vonasch, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1968, Ser. No. 768,681
Int. Cl. F23m *7/00*
U.S. Cl. 126—190 5 Claims



The present invention relates generally to cooking ovens and other heated cavities and particularly to the construction of an access door with a door sealing gasket extending around the periphery of an inner panel of the door such that expansion or distortion of various parts of the door due to the exposure of the door to high temperatures cannot disturb or break the sealing contact of the gasket with the front portion of the oven. The oven door is a sheet metal door that is generally hollow and loaded with thermal insulating material so as to retard the heat flow through the door. It is important to substantially seal the oven so as to restrict the loss of heat around the door. This restriction of the heat loss is accomplished by a high temperature gasket that is fastened to the periphery of an inner panel of the door. The gasket is of woven tubular construction of fiber glass or the like material which is first flattened into a belt shape. One longitudinal edge portion of the gasket is positioned on the outside surface of a peripheral flange of the inner panel and confined there by a retaining means. The gasket is then folded over the retaining means and around the edge of the peripheral flange and over the surface of the flange. The other longitudinal edge of the gasket is provided with a tension member in the form of a draw string or wire-like member. This tension member is pulled tightly and its two ends are each tied down by being wound around a separate support bracket carried on the inside of the inner panel and this serves to stretch the gasket transversely of itself so that it cannot become wrinkled. The inner panel is furnished with three of these support brackets, two adjacent the bottom corners thereof, and one at the top centered between the other two. This gives a three point support system for the inner panel to the main door assembly such that expansion or distortion in the other parts of the door cannot disturb or break the gasket seal contact with the front flange of the oven liner. There is a heat shield baffle within the door which separates the thermal insulation and provides a cooling air channel extending from the bottom to the top of the door for a natural draft of room air therethrough.

3,507,267
WINDOWED OVEN DOOR

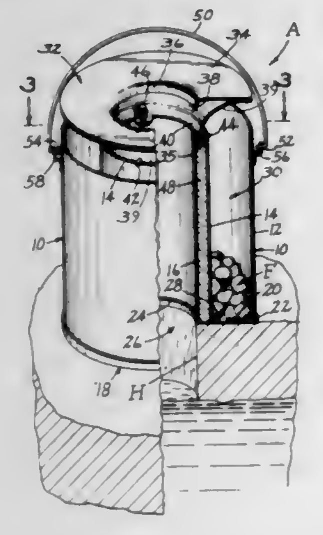
Jean-Claude René Laforgue, St. Laurent, Quebec, Canada, assignor to Canadian General Electric Company Limited, Toronto, Ontario, Canada
Filed Sept. 25, 1968, Ser. No. 762,584
Claims priority, application Canada, July 12, 1968, 24,937
Int. Cl. F23m *7/00*
U.S. Cl. 126—200 7 Claims



A door for a high temperature oven where there is a transparent window in the door and a manually movable reflective shield located within the door so that in one position the shield closes the window and in a second position it is retracted into the door structure. The shield is supported by bars and guided by elongated slots extending along the opposite sides of the window for receiving one end of the bars. There is also a door interlock system to prevent the door from being locked unless the shield is first raised to cover the window.

3,507,268
HEATING DEVICE FOR MAINTAINING AN OPEN HOLE IN ICE

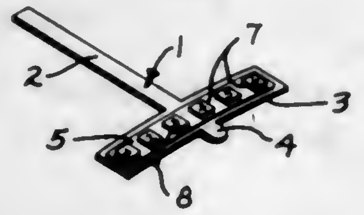
Loren L. Anderson, 1912 N. 21st St., Superior, Wis. 54880
Filed Apr. 30, 1968, Ser. No. 725,327
Int. Cl. F23b *3/00*
U.S. Cl. 126—271.3 2 Claims



A housing including an outer wall and an inner wall spaced therefrom together with a circular ring-like bottom forming a heating chamber. Positioned within the inner wall is a tube and positioned at the top of the chamber is a circular mouth member having an annular flange which directs heat from the chamber and the upper end of the tube.

3,507,269
CLINICAL DIAGNOSTIC DEVICE FOR HALITOSIS

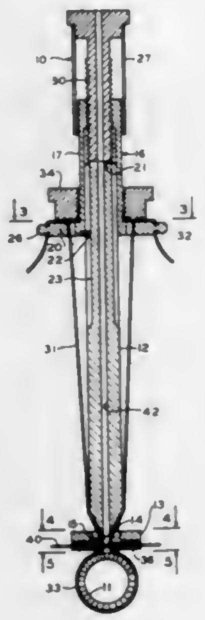
Homer H. Berry, Kansas City, Mo. (1110 River Ave., Jonesboro, Ind. 46938)
Filed Apr. 26, 1965, Ser. No. 450,959
Int. Cl. A61b *5/00*
U.S. Cl. 128—2 7 Claims



A clinical diagnostic device for aiding in determining the causative factors of halitosis of a person, the carrier having a portion adapted for insertion into the oral cavity of a person for contact with oral moisture therein with a plurality of exposed absorbent members on said portion with each of said absorbent members chemically sensitized and responsive to a respective agent associated with production of offensive odors or halitosis.

3,507,270
OCCLUDER FOR BLOOD VESSEL OR FLEXIBLE TUBE

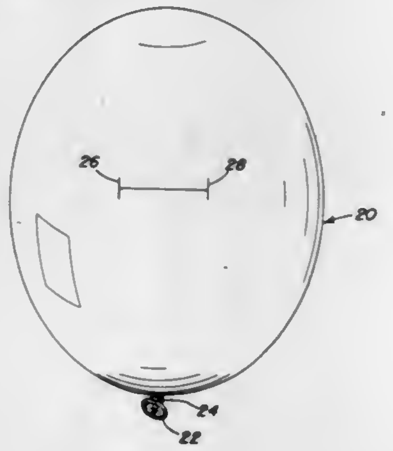
Raymond W. Ferrier, 4547 Wichita Ave., St. Louis, Mo. 63110
Filed July 5, 1967, Ser. No. 651,296
Int. Cl. A61b *5/02, 17/12*
U.S. Cl. 128—2.05 9 Claims



An instrument for effectively controlling the constriction of a blood vessel or a flexible tube which includes an elongate stem having one end reciprocatively mounted in a connector tube and having a base carried by the other end of the stem. A flexible tape has its end passed through base slots and fixed to a connector flange, the tape forming a loop below the base. An actuating means is adjustably connected to the connector, and includes a member that extends into the connector tube and engages the stem, the actuating means selectively extending or retracting the stem relative to the connector so as to constrict or expand the tape loop respectively. A scale is provided between the actuating means and the connector so that any previously recorded loop diameter can be reproduced by a scale reading. Carried by the tape between the base and tape loop is a clip that selectively fixes the tape loop in a desired diameter. The occluder has a continuous canal opening through the base for communication inside the tape loop to permit the selective insertion of a catheter in the vessel under investigation.

3,507,271
SPIROMETER

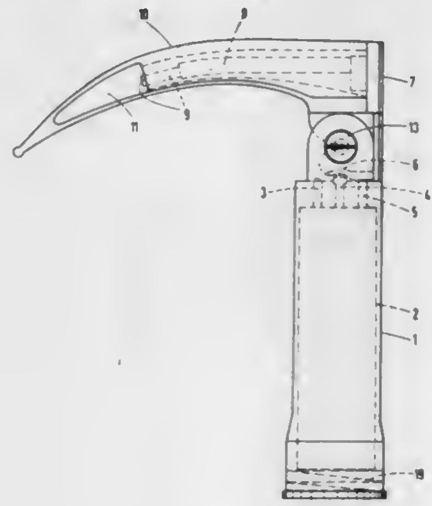
Edwin W. Reiner, 3404 Valley Road, Bonita, Calif. 92002
Filed Aug. 28, 1967, Ser. No. 663,776
Int. Cl. A61b *5/08*
U.S. Cl. 128—2.08 1 Claim



The method of and apparatus for determining the respiration value of an individual, utilizing a balloon type inflatable vessel into which the individual exhales, the vessel havng spaced marks thereon, which marks increase in distance from one another upon inflation, and utilizing a flexible scale having indicia thereon by applying the scale over the marks to determine the value of inflation.

3,507,272
LARYNGOSCOPE

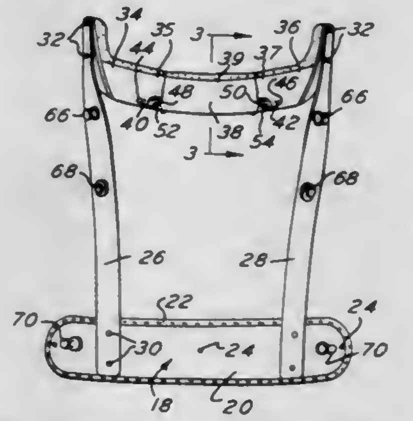
Asmund S. Laerdal, Tanke Svilands gate 30, Stavanger, Norway
Filed Feb. 15, 1968, Ser. No. 705,745
Claims priority, application Norway, Feb. 18, 1967, 166,907
Int. Cl. A61b *1/06, 1/26;* **F21l** *7/00*
U.S. Cl. 128—16 6 Claims



The invention provides a laryngoscope comprising a handle adapted to receive a battery and a spatula removably mountable on the handle and carrying a lampholder and associated contacts which are electrically engaged with contacts in the handle and electrically connected to the battery therein when the spatula is mounted on the handle. The spatula may be fitted on the handle from either of two opposite sides thereof and the lampholder and its associated contacts are removable as a unit from the spatula to facilitate cleaning of the laryngoscope.

3,507,273
CERVICAL BRACE

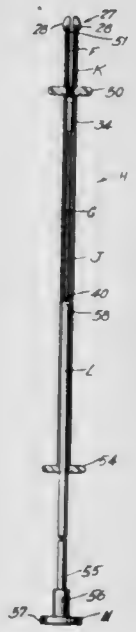
Louis Yellin, 242 S. 17th St., Philadelphia, Pa. 19103
Filed May 22, 1967, Ser. No. 640,041
Int. Cl. A61h *1/02;* **A61f** *5/04*
U.S. Cl. 128—75 5 Claims



A cervical brace which provides substantial immobilization of the head of a wearer and transmits the weight of the head of a wearer from the spine to the shoulders and trunk of a wearer which includes a movable chin supporting portion. The movable chin supporting portion reduces discomfort of a wearer when talking, eating and otherwise moving his chin. Movement of the chin is provided for without impairing the effectiveness of the cervical brace.

3,507,274
INTRA-UTERINE DEVICE

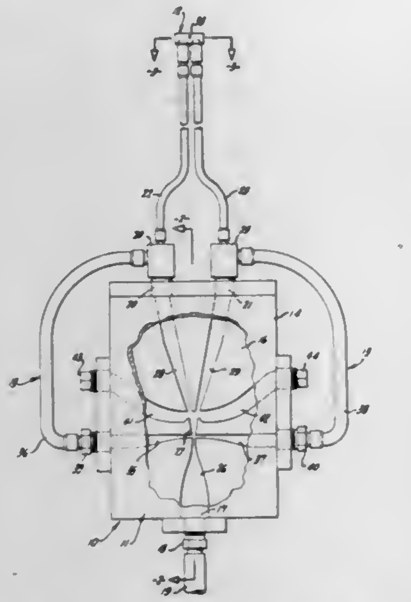
Samuel Soichet, 1088 Park Ave., New York, N.Y. 10017
Filed Mar. 18, 1968, Ser. No. 713,825
Int. Cl. A61f *5/46*
U.S. Cl. 128—130 4 Claims



The intra-uterine device consists of outwardly springing stainless steel wires turned inwardly at their outer ends to form loops, which tend to spring apart and are joined at their base portions to form a V-shaped structure. The ends and sides of the device are coated with silicone rubber and connected to a silicone rubber tube which loosely hangs down from the opening of the uterus and serves as a means for ascertaining whether the device is in place and also for removing the same.

3,507,275
MOUTH FLUSHING APPARATUS

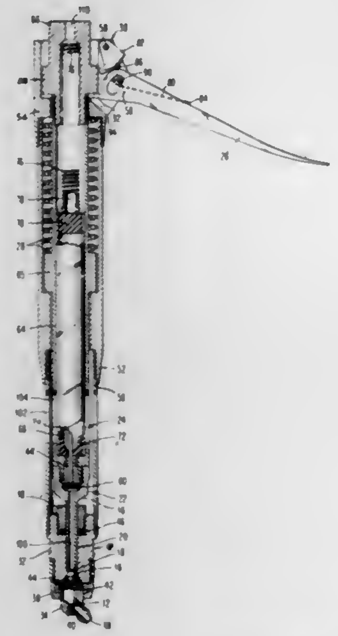
**Robert J. Walker, 2942 Linden Ave.,
Berkeley, Calif. 94709
Filed Aug. 17, 1966, Ser. No. 572,966
Int. Cl. A61m** *11/00;* **A61h** *9/00*
U.S. Cl. 128—173 8 Claims



Apparatus for flushing the teeth and gum tissues with a moving stream of water to remove debris therefrom. The apparatus includes a plurality of supply passages converging at a single orifice through which such stream of water discharges. The stream cyclically and repetitively traverses a path of travel while the orifice remains in a fixed position because of changes in the relative volumetric flows of water through the supply passages.

3,507,276
JET INJECTOR

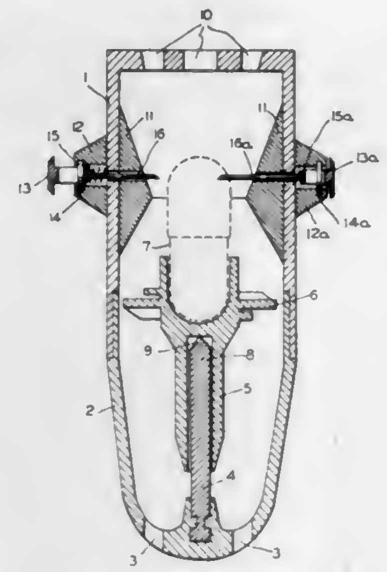
**Murray B. Burgess, 915 Harrison Drive, Huntington, N.Y. 11743; Catherine M. Burgess, administratrix of said Murray B. Burgess, deceased
Continuation of application Ser. No. 453,580, May 6, 1965. This application Aug. 28, 1968, Ser. No. 764,009
Int. Cl. A61m** *5/30*
U.S. Cl. 128—173 8 Claims



The hypodermic jet injector (FIG. 1) has a jet orifice **12** to which fluid is applied under pressure through a one-way valve **14** from a cylinder **18**. The cylinder **18** is charged through a central opening **100** and a one-way valve **22** in piston **20** from a canula **24** carried by the piston. A single lever **26** cocks the firing spring **28** (FIG. 2) and then trips the latch **30** (FIG. 3) upon further movement to "fire" the device by releasing piston **20** to provide the injection.

3,507,277
INHALATION DEVICE

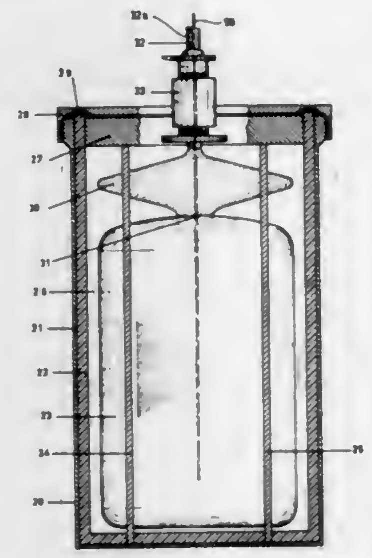
**Roger Edward Collingwood Altounyan, Wilmslow, and Harry Howell, Castle Donnington, England, assignors to Fisons Pharmaceuticals Limited, Loughborough, Leicestershire, England
Filed Sept. 15, 1967, Ser. No. 667,975
Claims priority, application Great Britain, Sept. 17, 1966, 41,595/66
Int. Cl. A61m** *15/00, 15/08;* **B26f** *1/24*
U.S. Cl. 128—208 6 Claims



A device for the oral inhalation of medicaments in finely divided form which comprises a hollow elongate housing having at both ends thereof one or more passageways to permit the passage of air and having one end thereof adapted for insertion into the mouth; and a propeller-like device rotatably mounted in the said housing on a rigid shaft mounted in said housing and co-axial with the longitudinal axis of the housing, said propeller-like device having, on the end thereof furthest from the end of the housing adapted for insertion in the mouth, mounting means adapted to receive a container for the finely divided medicament; which device is provided with means for perforating the container of medicament in situ in the device.

3,507,278
APPARATUS FOR DISPENSING PARENTERAL FLUID

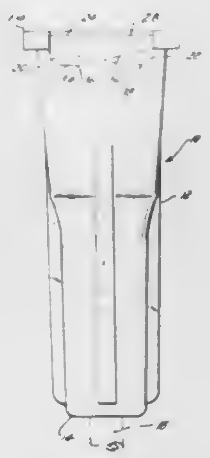
**Winfried Joseph Werding, 1066 Epalinges, Switzerland
Filed June 22, 1967, Ser. No. 648,000
Claims priority, application Switzerland, June 27, 1966, 9,279/66; Aug. 24, 1966, 12,241/66; June 9, 1967, 8,223/67
Int. Cl. A61m** *5/00;* **B65d** *35/22*
U.S. Cl. 128—214 2 Claims



An apparatus for dispensing parenteral fluid is shown consisting of collapsible containers placed in a sealed vessel under pressure. A membrane divides the containers from communication. Rupturing means extending from the vessel are provided for tearing the membrane, thereby allowing communication between the containers.

3,507,279
HYPODERMIC NEEDLE SUPPORTING HUB

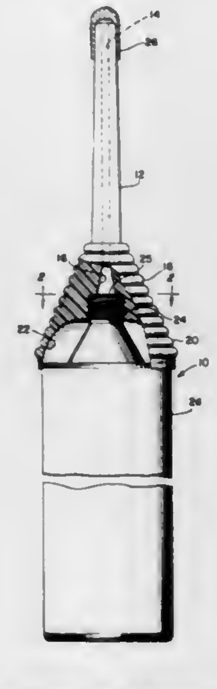
**Thaddeus Stanislaus Senkowski, Cedar Grove, N.J., assignor to Becton, Dickinson & Company, East Rutherford, N.J., a corporation of New Jersey
Continuation-in-part of application Ser. No. 600,135, Dec. 8, 1966. This application May 29, 1969, Ser. No. 828,960
Int. Cl. A61m** *5/26*
U.S. Cl. 128—221 4 Claims



An improved cannula supporting hub is provided with a tubular body portion and a pair of radially outwardly extending diametrically opposed flanges. The bottom surface of each flange is longitudinally spaced a small distance from one end of the body portion and the bottom of each flange is beveled from the body portion junction to the flange free edge. The top surface of each flange is tapered for the major portion of its arcuate length to define a partial thread which cooperates with the Luer adapter of the hypodermic syringe with which the hub is to be associated in securing the hub to the syringe.

3,507,280
VAGINAL SYRINGE

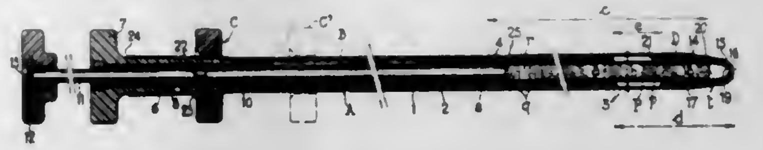
**Edwin H. Pollock, 859 Azalea Drive,
Rockville, Md. 20850
Filed Aug. 18, 1967, Ser. No. 661,653
Int. Cl. A61m** *1/00, 3/00*
U.S. Cl. 128—232 11 Claims



A vaginal syringe having a vaginal tube with a conical, transversely ridged, relatively rigid, vagina-distending member on the input end of the tube. The conical distending member expands the vagina, when inserted therein, to expose folds therein for cleaning by the syringing fluid. The transverse ridges anatomically cooperate with the walls of the vaginal canal to seal fluid therein during syringing thereof.

3,507,281
INSTRUMENT FOR ARTIFICIAL INSEMINATION

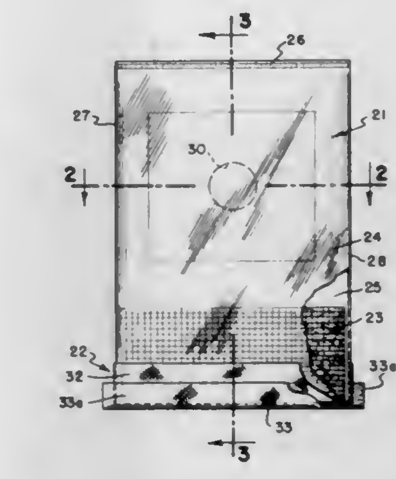
**Robert Cassou, Rue de la Merilliere 61, L'Aigle, France
Filed Dec. 12, 1966, Ser. No. 601,084
Claims priority, application France, Dec. 23, 1965, 43,471, Patent 1,467,943
Int. Cl. A61m** *37/02;* **A61d** *7/02*
U.S. Cl. 128—235 5 Claims



An artificial insemination instrument with a semen containing straw in the forward end of a body. An axially movable plunger expells the semen from the straw. A thin protective sheath with a semen injection orifice covers the body and the straw. An inner lining member having an axial throughway aperture and a frustoconical inner face is combined with the sheath. The major diameters of the frustoconical face are respectively larger and smaller than the outside diameter of the straw. The frustoconical face engages the straw so that it is possible to use a straw having a cross-sectional size which is smaller than the straw that the sheath would be capable of receiving without insertion of the lining member. This prevents any increased danger of harming the animal or the straw piercing the sheath.

3,507,282
COLOSTOMY BAG

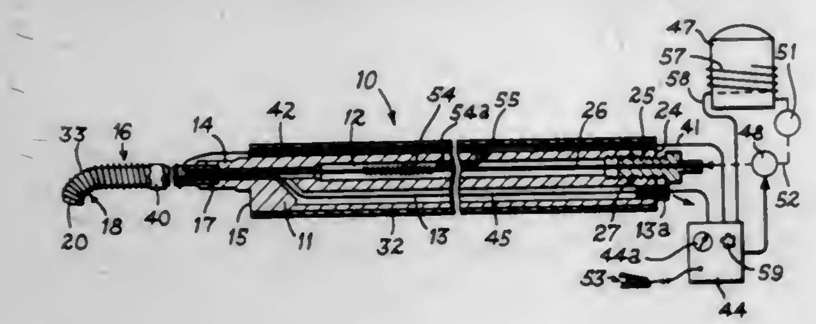
**Judy S. Burding, 35 Edgewood Lane,
Bronxville, N.Y. 10708
Filed Jan. 10, 1968, Ser. No. 696,814
Int. Cl. A61f** *5/44*
U.S. Cl. 128—283 9 Claims



A reuseable colostomy bag is disclosed that may remain in place on the skin of the user for three to six days. The bag comprises a bag body of essential conventional construction having an open bottom, the open bottom being provided with resealable bottom closure means. The resealable bottom closure means comprises a strip of adhesive material secured to one of the side walls of the bag body adjacent the bottom edge thereof and a strip of fabric material secured to the other side wall of the bag body also adjacent the bottom edge thereof. The strip of adhesive material is adapted to be folded upwardly against the strip of fabric material and to be adhesively secured thereto, thereby forming a fluid-tight, gas-pervious closure for the open bottom of the bag body.

3,507,283
CRYOSURGICAL INSTRUMENT

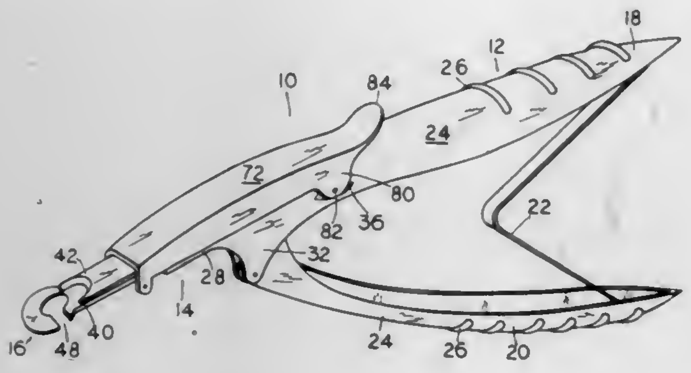
Edward R. Thomas, Jr., Bethesda, Md., assignor to Northwestern University
Continuation-in-part of application Ser. No. 447,124, Apr. 12, 1965. This application Oct. 11, 1967, Ser. No. 674,512
Int. Cl. A61b *17/36;* **F25d** *3/00*
U.S. Cl. 128—303.1 **10 Claims**



A surgical instrument having a probe whose temperature is precisely and automatically controlled to a desired hot or cold level. The desired temperature is produced by evaporating a liquid gas or by a coaxial heating wire, both regulated by an automatic control system therefor. The instrument is no larger than a pencil and to be used for cryosurgery or cauterization.

3,507,284
SURGICAL BONE CUTTER

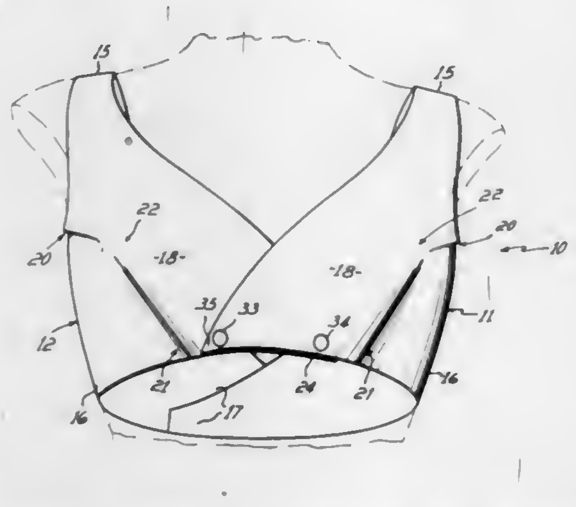
Leonard Simmons, 2 Miller Place, and Gerald Ravitz, 103 Oakside Drive, both of Smithtown, N.Y. 11787
Filed Aug. 17, 1967, Ser. No. 661,315
Int. Cl. A61b *17/32*
U.S. Cl. 128—318 **6 Claims**



A surgical bone cutter comprising a spring actuated handle having a cam surface adapted to engage the rear end of a cutting blade and to move the same. A fixed blade bar is releasably insertable in the middle frame portion along with the cutting bar. The front end of the fixed blade bar is provided with an aperture which is adapted to receive a bone to be cut and when the handle is actuated the cutting bar moves across the aperture thereby cutting the bone. The aperture in the fixed blade bar is provided with a knife edge which opposes the cutting edge of the movable cutting bar so that a clean cut is made when the movable cutting bar is urged across the aperture.

3,507,285
DISPOSABLE BRASSIERE

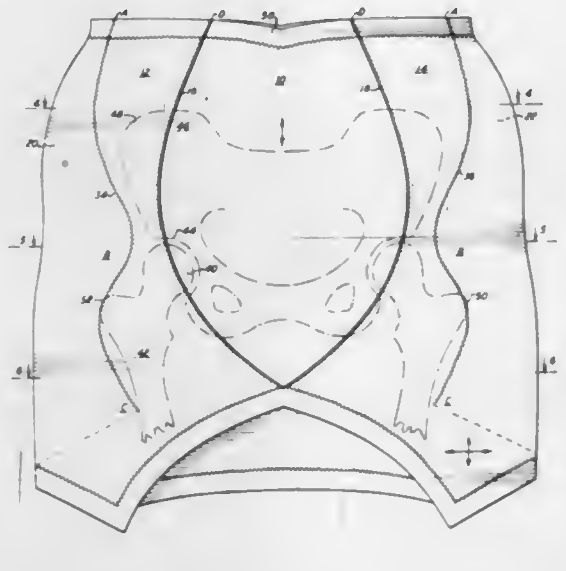
Marguerite R. Williams, 500 Plattsville Road, Trumbull, Conn. 06611
Filed Mar. 4, 1968, Ser. No. 710,095
Int. Cl. A41c *3/00*
U.S. Cl. 128—425 **10 Claims**



A disposable brassiere formed from thin, flexible sheet material, such as paper, compressed wood pulp, woven or non-woven natural or synthetic fibers or the like. The brassiere includes two substantially identical half sections; each section comprising integral shoulder strap portions, a rear, a side, and a front portion. The front portion of each section is provided with a cup of adjustable size resulting from cooperating vertical and horizontal darts. The two sections are overlapped and joined together at the rear and at the front. One form of front fastening includes two spaced snap fasteners, one of which can be opened to permit exposure of either of the wearer's breasts for feeding.

3,507,286
DIFFERENTIAL STRETCH GIRDLE

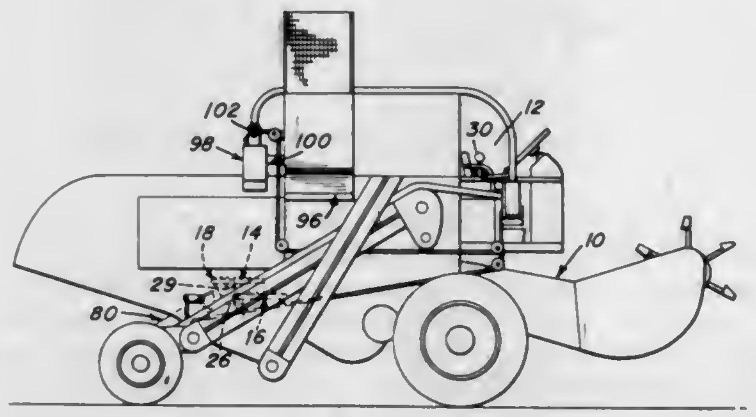
Sallyann Z. Salisky, Garfield, N.J., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware
Filed June 15, 1967, Ser. No. 646,353
Int. Cl. A41c *1/00*
U.S. Cl. 128—539 **7 Claims**



A girdle having overlapping side portions which include free bottom edges. The overlapping side portions are joined by affixation of the vertical edges of each side portion to a portion of the body which it overlaps. The line of affixation of the forward facing edge defines a compound curve which bows substantially markedly in a somewhat laterally forward direction along an area vertically intermediate the ends of the compound curve.

3,507,287
CHAFF SAMPLER FOR COMBINES

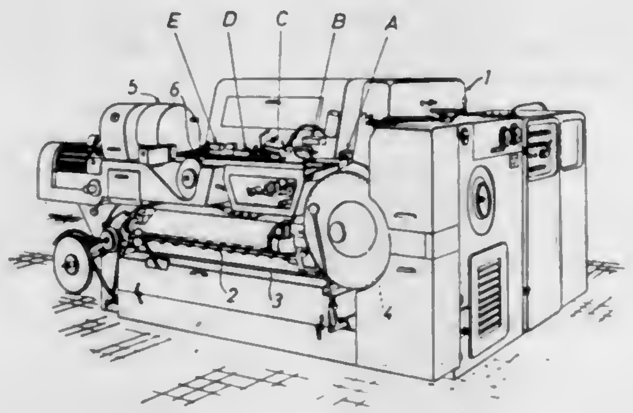
Robert S. Bolduc, Stephen, Minn. 56757
Filed Aug. 4, 1967, Ser. No. 658,525
Int. Cl. A01f *12/00*
U.S. Cl. 130—26 **17 Claims**



A receptacle for mounting on a combine including means defining a chaff accumulation area and a source of vacuum with means communicating the interior of the receptacle with the source of vacuum and airflow passage means including an inlet end disposed to draw in chaff from the chaff accumulation area and an outlet end opening into the receptacle, the source of vacuum comprising the air intake passages of a combustion engine mounted on the combine and comprising the prime source of power for the combine and filter means disposed between the outlet end of the airflow passage means or conduit opening into the receptacle and the combustion engine intake passages whereby chaff drawn into the receptacle by engine vacuum will not be carried from the receptacle into the intake passages of the engine.

3,507,288
TOBACCO ROD MAKING MACHINES

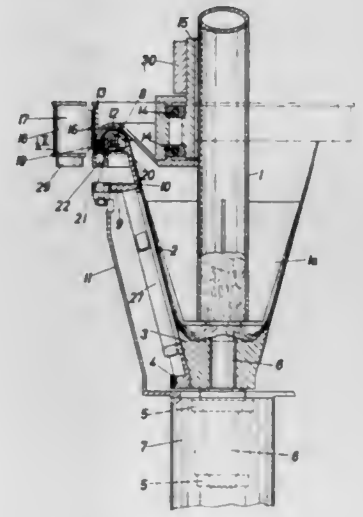
Kurt Körber, Hamburg-Bergedorf, Germany
Filed July 30, 1963, Ser. No. 298,789
Claims priority, application Great Britain, July 31, 1962, 29,352/62
Int. Cl. A24c *5/26*
U.S. Cl. 131—68 **15 Claims**



A tobacco rod forming machine including a system for forming and conveying a wrapped rod to a cutter for producing cigarettes. A rod deflector or mutilator is located downstream of a wrapper and sealer and upstream of the cutter. The deflector or mutilator is operative only during a predetermined period following the starting of the machine in order to deflect defective rod material ordinarily produced during starting, from the cutter.

3,507,289
TOBACCO MANIPULATING MACHINES

Alfred Schmermund, 62 Kornerstrasse, Gevelsberg, Westphalia, Germany
Filed May 24, 1965, Ser. No. 458,114
Claims priority, application Great Britain, May 28, 1964, 22,021/64
Int. Cl. A24c *5/18*
U.S. Cl. 131—84 **3 Claims**



Tobacco manipulators for forming rods in cigarette rod producing machines, each utilizing a rotary cone-like vessel having a vertical longitudinal axis, the narrow end of the cone being lowermost. A tube feeds tobacco shreds into the lower narrow end of the rotating vessel. Centrifugal force causes the shreds to disperse radially, and stationary vanes attached to the feed tube and radiating therefrom toward the internal wall of the conical vessel, in conjunction with the rotary motion imparted to the shreds, causes the shreds to rise over the outer rim of the vessel onto a horizontally disposed element which may be foraminous and subjoined by a suction chamber in one embodiment, and bound on opposite sides by rotating members forming a rod stream receiving channel. A tangential take-off permits removal of the rod stream, the stream then being conveyed to a rod wrapper thereby forming a wrapped cigarette rod.

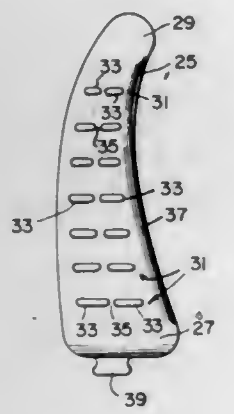
3,507,290
WAVE SET COMPOSITIONS CONTAINING A POLYSACCHARIDE

Frank E. Halleck, Old Saybrook, Conn., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 449,581, Apr. 20, 1965. This application May 24, 1965, Ser. No. 458,415
Int. Cl. A61k *7/10;* **A45d** *7/06*
U.S. Cl. 132—7 **13 Claims**

This invention relates to hair control compositions comprising a polysaccharide consisting essentially of a polymeric chain of glucopyranose units. The compositions are adapted to form a film about hair filaments without flakiness.

3,507,291
HAIR CURLER INCLUDING HAIR SUPPORTING AND GUIDING MEANS, AND METHOD OF USING SAME

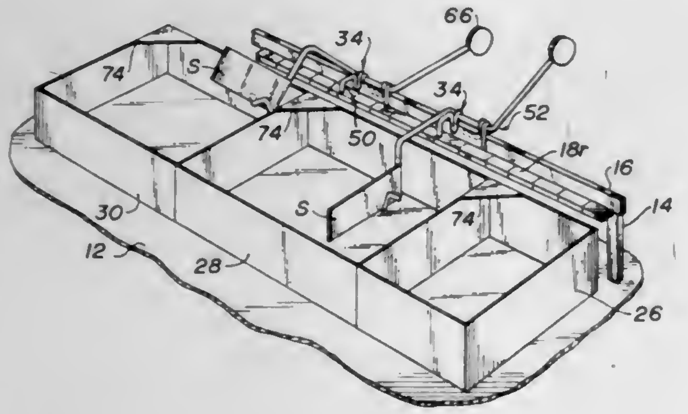
**Gilbert C. Gaxiola, 5691 E. Speedway,
Tucson, Ariz. 85716
Filed Mar. 7, 1968, Ser. No. 711,377
Int. Cl. A45d** *7/00, 2/14*
U.S. Cl. 132—7 5 Claims



A hair setting and styling device, an elongated body of generally tapered cylindrical configuration and curved to accommodate the shape of the head to which it is applied. A plurality of pairs of fingers fixed to and extending radially from the body, the pairs of fingers being spaced apart axially of the body and being in alignment, and each finger of each pair of fingers comprising two circumferentially spaced apart projecting sections, the fingers being extended into the hair to be curled.

3,507,292
CONTINUOUS FEED APPARATUS FOR STAINING SPECIMENS CARRIED ON SLIDES

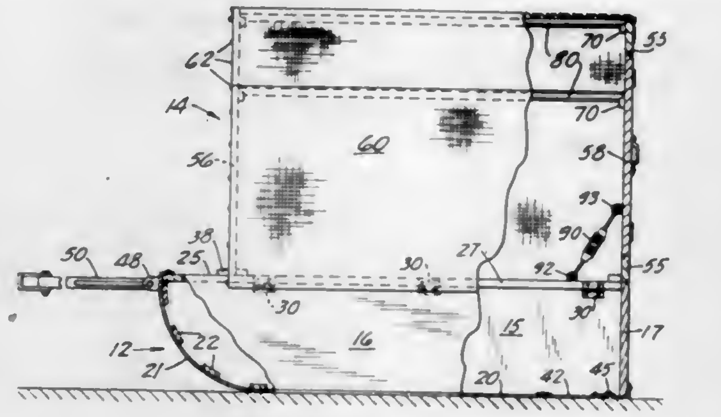
**Anders N. Pedersen, 2291 Stockton, Apt. 304,
San Francisco, Calif. 94133
Continuation-in-part of application Ser. No. 644,216, June 7, 1967. This application Jan. 27, 1969, Ser. No. 814,490
Int. Cl. B05c** *3/10*
U.S. Cl. 134—75 18 Claims



A device for transporting specimens carried on microscope slides through a plurality of liquid containing jars for staining or otherwise treating the specimens. An endless conveyor effects the transport of the slides and the slide carrier is demountably connected to the conveyor. A slide engaging bail is included in the carrier and is secured to the body of the carrier for pivotal movement so that the slides supported on the bail can be lifted above the jar walls in passing from one jar to a succeeding jar. A counterweight on the bail minimizes the force required to pivotally raise the slide. The bail may include suspension rod engaging surfaces to prevent the immersion of the slide in one or more of the plurality of jars.

3,507,293
PORTABLE AND COLLAPSIBLE FISH HOUSE

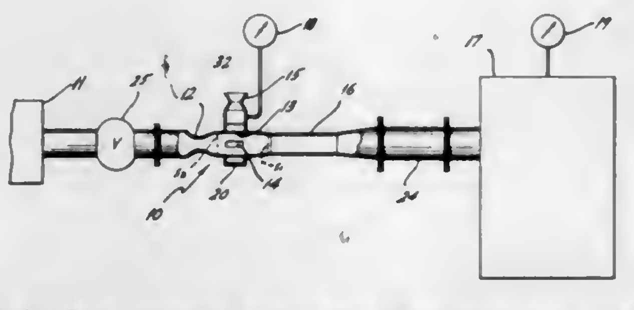
**Kenneth D. Du Bray, 8527 Monroe St. NE.,
Minneapolis, Minn. 55433
Filed Nov. 13, 1968, Ser. No. 775,294
Int. Cl. A45f** *1/00, 1/16*
U.S. Cl. 135—4 9 Claims



A portable and collapsible fish house having a base structure with a tobaggan type bottom for ease in movement with a collapsible top structure which mounts thereon to provide a weather tight enclosure. The base structure has foldable cover members which provide seat surfaces in an erected position and the top structure has an access door for ease of usage.

3,507,294
FLUID FLOW CONTROL APPARATUS

**John W. Fix, Marblehead Neck, Mass., and Charles E. Hallum, Villa Park, and Warren F. Kaufman, Santa Ana, Calif., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 14, 1966, Ser. No. 601,679
Int. Cl. F15d** *1/04*
U.S. Cl. 137—81.5 6 Claims

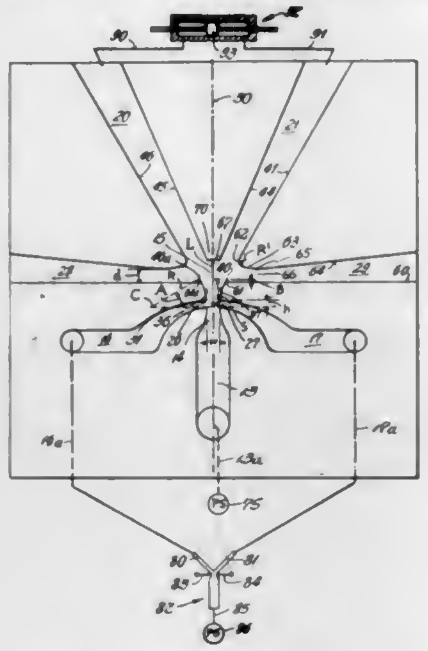


A fluid flow control apparatus including a nozzle for receiving fluid under pressure and for discharging the same through conduit means into a receptacle within which fluid pressure is to be controlled. A bleed conduit is connected to the conduit means so that fluid is caused to flow from the nozzle through the conduit means under conditions of lower pressure in the pressurized receptacle, and is caused to flow from the nozzle through the bleed conduit under conditions of higher pressure in the pressurized receptacle.

3,507,295
FLUID AMPLIFIER

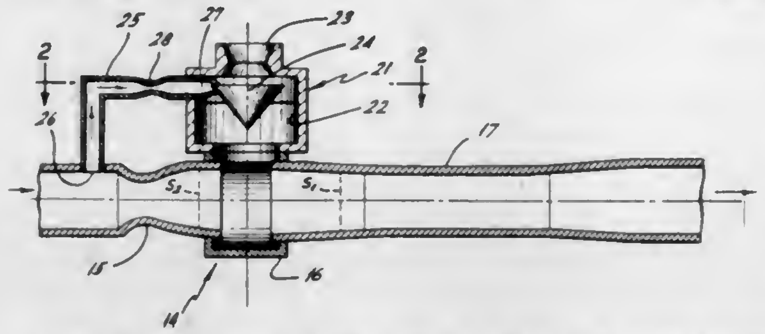
**Basil B. Beeken, New Haven, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed Aug. 16, 1967, Ser. No. 661,099
Int. Cl. F15c** *1/08*
U.S. Cl. 137—81.5 7 Claims

A wall attachment type fluid amplifier having two symmetrically opposed venting channels that are located adjacent the downstream end of the amplifier interaction chamber, each venting channel being provided with a flow restriction means. The walls defining the interaction chamber and the venting channels are very precisely shaped and relatively located geometrically so as to afford approximately 80 percent maximum pressure recovery factor.



3,507,296
FLUID FLOW CONTROL APPARATUS

**John W. Fix, South Laguna, Charles E. Hallum, Newport Beach, and Warren F. Kaufman, Santa Ana, Calif., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed June 25, 1968, Ser. No. 739,692
Int. Cl. F15d** *1/02;* **F15c** *1/16*
U.S. Cl. 137—81.5 7 Claims



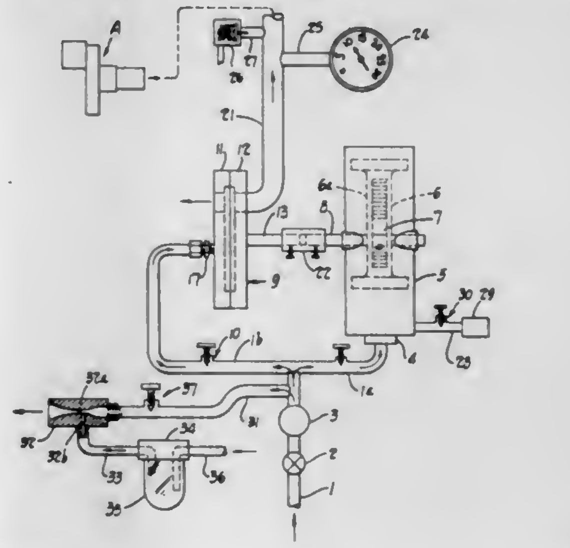
Fluid flow control apparatus in which a nozzle discharges a high pressure fluid at supersonic velocity for flow through a supersonic diffuser into a receptacle within which pressure is to be maintained at substantially the pressure recovered in the diffuser. A bleed conduit is connected between the nozzle and the diffuser so that when the desired pressure it attained in the receptacle the shock is driven from the inlet of the diffuser, and downstream of the bleed conduit, to a region downstream of the nozzle but upstream of the bleed conduit. Flow through the bleed conduit is regulated by a vortex fluid amplifier and a nozzle in series fluid flow circuit. The vortex amplifier comprises a conical member having it polar axis aligned with the axis of the bleed flow conduit to form an annular fluid flow region. A conduit supplied from the same high pressure fluid source as the nozzle has its outlet positioned to provide flow of such fluid tangentially with respect to the annular flow whereby to create a vortex controlling such annular flow, and hence the bleed flow.

3,507,297
ARTIFICIAL RESPIRATION APPARATUS

**Norman P. Dann, 3393 Delwood Road,
Cleveland Heights, Ohio 44118
Filed June 23, 1964, Ser. No. 377,237
Int. Cl. A61m** *16/00*
U.S. Cl. 137—102 6 Claims

This invention relates to artificial respiration apparatus of the intermittent positive pressure type, and is designed to produce involuntary respiration as required for initiating breathing of new born infants and in resuscitation of persons whose breathing has stopped.

The disclosure provides apparatus which is capable of meeting the requirements of a variety of conditions in respect to variation of rate of respiration, variation of volume of gas supplied on inhalation, and variation of the relation of inhalation time to exhalation time. This is accomplished by the provision of a novel cycling control valve for controlling inhalation and exhalation cycles of respiration automatically, and which is capable of adjustment to vary the relation between the length of the inhalation and exhalation cycles. This cycling control valve includes a rotatable plate member provided with two apertures therethrough which are of arcuate configuration having a common arcuate center, said apertures being symmetrical to a common radius extending from said common arcuate center.

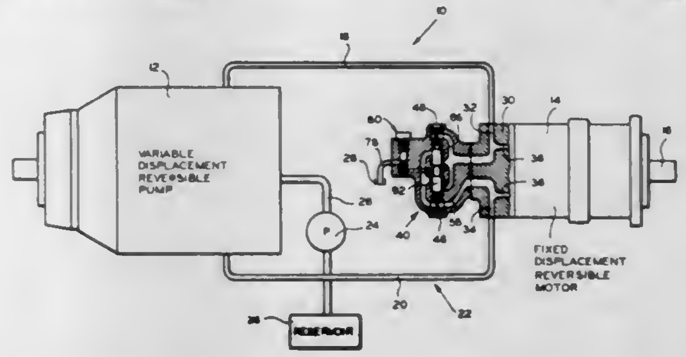


The rotatable plate member is adjustable to varying rotative positions so as to provide communication through the arcuate openings from the oxygen supply port, and the exhalation port in varying relation so as to vary the relative length of the inhalation and exhalation cycles. Control of the rate of respiration is effected by varying the rate of rotation of said rotatable member.

The disclosure also provides a novel exhalation valve which is responsive to extremely low pressures to permit exhalation in case of weak respiration, said exhalation valve including a diaphragm normally engageable with the oxygen supply port, and displaceable to engage with the valve seat provided for the exhalation port.

3,507,298
DUAL RELIEF AND PRESSURE REGULATING VALVE ASSEMBLY

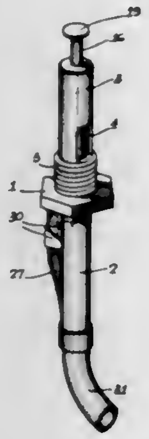
**Richard L. Ratliff, Jackson, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Apr. 25, 1968, Ser. No. 724,028
Int. Cl. G05d** *7/01, 11/03*
U.S. Cl. 137—106 2 Claims


10
18
12
VARIABLE DISPLACEMENT REVERSIBLE PUMP
60
48
66
32
30
14
78
28
26
24
62
40
46
56
34
36
36
16
20
22
FIXED DISPLACEMENT REVERSIBLE MOTOR
RESERVOIR

A reversible closed circuit hydrostatic drive system with a dual relief valve and regulating valve assembly disposed in the closed circuit.

3,507,299
SAFETY ENGINE DRAIN PLUG

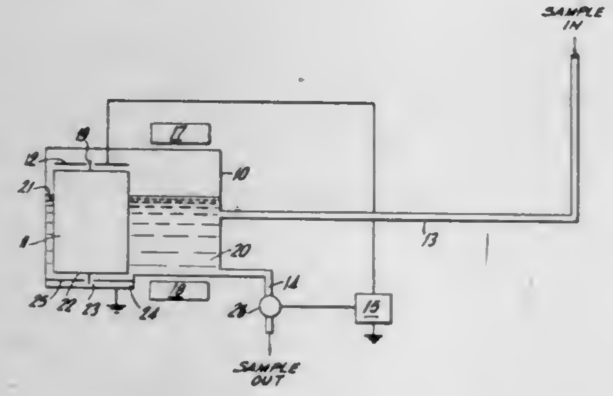
Robert H. Murdock, 4551 Notre Dame Blvd., Chomedey, Laval, Quebec, Canada
Continuation-in-part of application Ser. No. 495,860, Oct. 14, 1965. This application Dec. 9, 1968, Ser. No. 782,226
Int. Cl. F16k *35/02*
U.S. Cl. 137—322 **10 Claims**



A drainer for sumps, in which a hollow tubular plug is screwed into the wall of the sump, an axially movable valve being positioned in the plug. A port in the wall of the plug is normally covered by the valve, the port being uncovered when the valve is lifted by a tubular member inserted into the plug. The tubular member has a portion extending axially at its end, the end of the portion contacting the valve and displacing it axially as the tubular member is inserted. An opening in the side of the portion cooperates with the port for flow of fluid. The port in the wall of the plug is in direct communication with the bore of the tubular member when the valve is opened. No flow of fluid occurs until the tubular member is entirely entered into the plug.

3,507,300
CONSTANT MASS CELL

Brian Lister, Addleston, England, assignor to The British Petroleum Company Limited, London, England, a corporation of England
Filed June 13, 1967, Ser. No. 645,709
Claims priority, application Great Britain, June 21, 1966, 27,684/66
Int. Cl. F16k *21/18*
U.S. Cl. 137—392 **13 Claims**

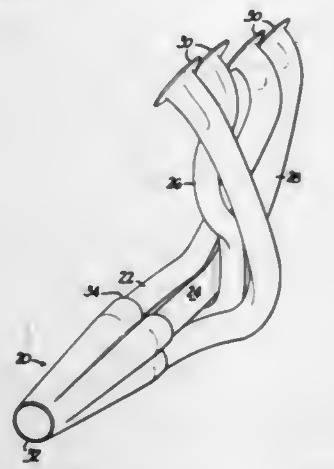


A constant mass cell which contains a float whose position in the cell indicates the mass of liquid contained therein. The cell is formed into two electrical capacitors in series, the first having the cell body and the float as electrodes; the second a plate (preferably situated above the float) and the float as a electrodes. The up and down movement of the float (caused by changes in the mass of fluid) varies the distance between the float and the plate. This changes the capacitance of the second capacitor and hence the capacitance between the container and the plate.

In use the cell is connected as the control capacitance of a capacitance sensitive circuit which operates electromagnetic valves to control the flow of liquid through the cell so as to maintain constant electrical capacitance. This maintains constant float position and hence constant mass.

3,507,301
COLLECTOR AND METHOD OF MAKING THE SAME

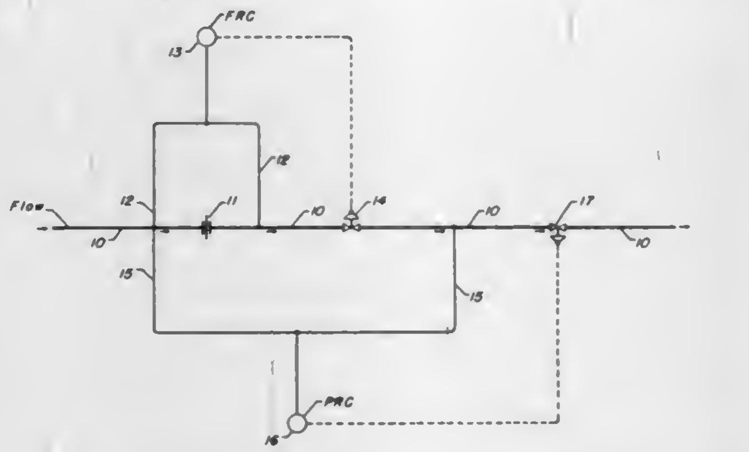
Robert H. Larson, 153 Nash, Dearborn, Mich. 48124
Filed Apr. 21, 1966, Ser. No. 544,298
Int. Cl. F01n *7/08*
U.S. Cl. 137—602 **4 Claims**



An exhaust collector which is a metal tube having semitubular lobes extending from one end thereof over at least half of the length of the tube, with the tube having a single tube portion at the other end thereof. The lobes merge gradually into the single tube portion to provide smooth flow of exhaust gases through the collector.

3,507,302
CONTROL SYSTEM

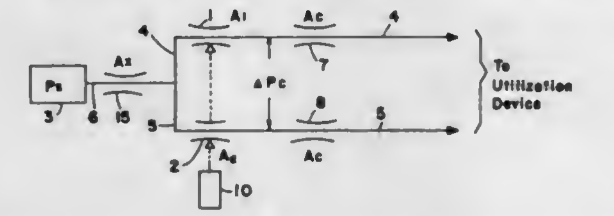
Norman H. Scott, Villa Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 21, 1967, Ser. No. 684,690
Int. Cl. F16k *31/12*
U.S. Cl. 137—613 **2 Claims**



Control system for bringing a process pressure vessel on stream utilizing high pressure process gas. The system comprises flow control means, such as an orifice and control valves, and pressure control means which is adapted to maintain a positive back pressure against both the orifice and control valve. The system is uniquely adaptable for use in a catalytic reforming system which utilizes an off-gas treater in periodic manner to remove impurities from the hydrogen recycle gas within the catalytic reforming circuit.

3,507,303
LINEAR PRESSURE DIFFERENTIAL VALVE

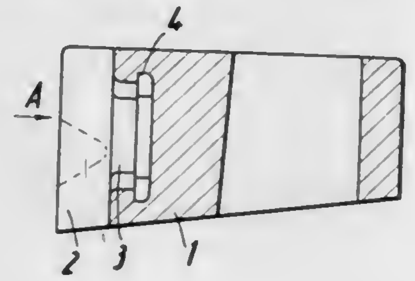
Saul D. Wills, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed July 24, 1967, Ser. No. 655,466
Int. Cl. F16k *11/06*
U.S. Cl. 137—625.48 **20 Claims**



A linear pressure differential valve of the type having a pair of inversely variable fluid orifices which are varied together by an input actuation to provide at the output of the orifices an output differential pressure which varies linearly with the input actuation is improved to decrease overall deviation from linearity by providing a flow restrictor of predetermined impedance to the flow of operating fluid fed to the pair of inversely variable orifices.

3,507,304
PICKER

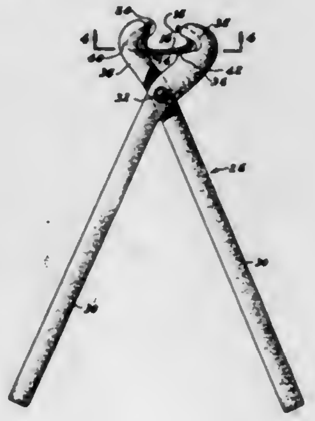
Walter Haag, Weil der Stadt, Germany, assignor to Albert Haag KG, Weil der Stadt, Germany
Filed May 16, 1968, Ser. No. 729,639
Claims priority, application Germany, May 17, 1967, H 59,015
Int. Cl. D03d *49/36*
U.S. Cl. 139—159 **7 Claims**



A picker for looms which includes an elastomeric picker body and an insert of highly wear resistant material arranged at the front end of said picker body and connected thereto while extending over the entire width of said picker.

3,507,305
CLAMPING TOOL FOR STIFF WIRE CLIPS

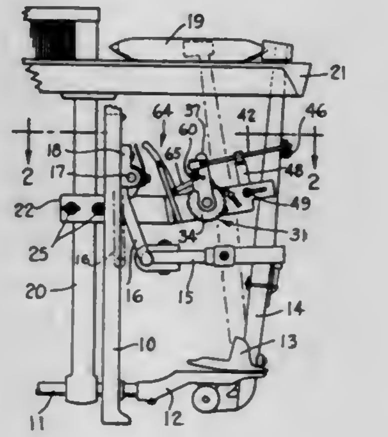
William T. Crabb, 4989 Massachusetts Ave., Indianapolis, Ind. 46226
Filed Aug. 24, 1967, Ser. No. 663,031
Int. Cl. B21f *1/00*
U.S. Cl. 140—106 **9 Claims**



A clip-clamping hand tool, as for attaching link fencing to a supporting post, the tool attaining a tight connection of a C-shaped wire attachment clip to the supporting post by the tool being formed so as to forcefully engage the front or overlying portion of the clip wire to take up any slack in the clip wire and deform its unsupported portion, as an incident to the tool's bending over of the clip-ends rearwardly of the post front-face but while the tool holds those clip-ends relative to the post.

3,507,306
PICKER STICK CHECKING DEVICE

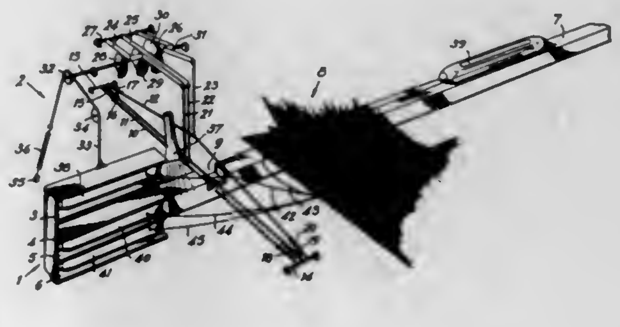
Felix H. Pressley, 311 Snow St., Greer, S.C. 29651
Filed Nov. 16, 1967, Ser. No. 683,714
Int. Cl. D03d *49/40*
U.S. Cl. 139—162 **3 Claims**



A picker stick checking device for use upon a loom having a pick shaft, and a picker stick provided for propelling a shuttle across the loom during weaving. The checking device includes a brake drum having ratchet teeth thereon. A brake element engages the brake drum for retarding the rotation of the brake drum in one direction. A pivotal lever having pawls mounted thereon, is carried adjacent the brake drum and is caused to be pivoted by the picker stick on its outward stroke. The brake drum, in turn, checks or arrests the movement of the picker stick. A resetting means is carried on the pick shaft for causing the pivotal lever to be reset on the pick or power stroke of the loom, thus, returning the checking device to its initial position where such is ready to receive the picker stick on the next checking or outward stroke.

3,507,307
WEFT THREAD DIVIDING DEVICE FOR LOOMS

Jaime Picanol, Casa Pairal Catalunya, Zillebeke, near Ypres, Belgium
Filed Mar. 7, 1968, Ser. No. 711,341
Claims priority, application Belgium, Sept. 19, 1967, 704,021
Int. Cl. D03d *43/10, 49/50*
U.S. Cl. 139—170.3 **2 Claims**



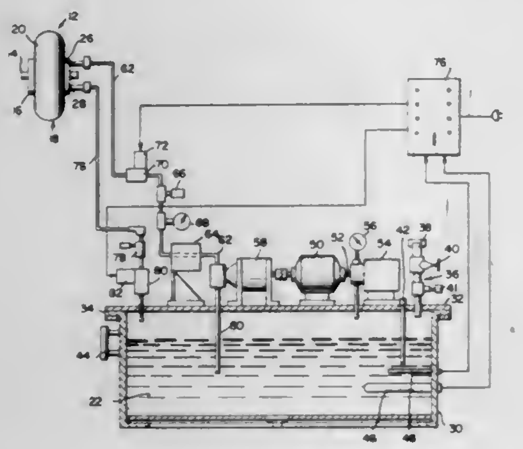
Weft thread dividing device for looms comprising thread-like supports disposed transversely to the shuttle track and means for angularly shifting the said thread-like supports, said means being disposed beyond the comb.

ERRATUM

For Class 140—106 see:
Patent No. 3,507,305

3,507,308
MATERIAL TESTER FILLER UNIT

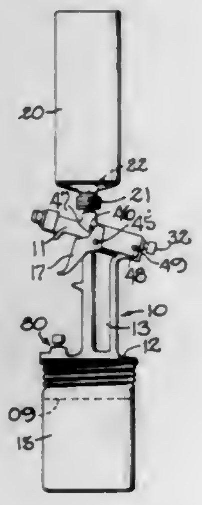
Allwyn M. White, Danbury, Conn., assignor to Automation Industries, Inc., El Segundo, Calif., a corporation of California
Filed May 29, 1967, Ser. No. 641,785
Int. Cl. B65b *31/00;* **B67c** *3/00*
U.S. Cl. 141—7 **10 Claims**



The present invention relates to wheel type search units for ultrasonic nondestructive testing systems. In search units of this type one or more ultrasonic transducers are mounted on an axle and surrounded by a resilient tire filled with an ultrasonic liquid couplant. The invention contemplates the removal of all foreign substances such as solid particles, gas bubbles, etc., from the liquid couplant whereby a more effective coupling is obtained between the transducers and the workpiece. This is accomplished by heating the liquid and subjecting it to a vacuum until all of the gases, etc., are removed from the liquid whereby no bubbles can develop within the search unit after it has been filled.

3,507,309
SPRAYER FOR HYDROCARBON-CONTAINING LIQUIDS

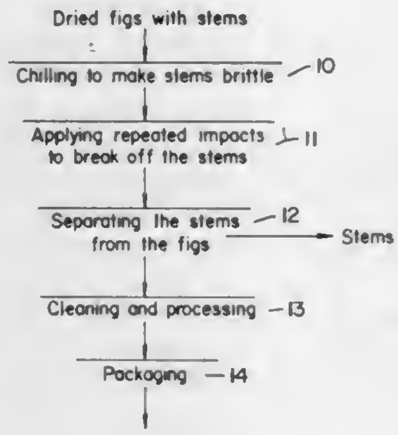
Harold D. Johnson, 127 Nichols Drive, Sycamore, Ill. 60178
Filed July 7, 1967, Ser. No. 651,829
Int. Cl. B65b *1/04, 3/04, 31/00*
U.S. Cl. 141—18 **10 Claims**



A sprayer for oil-based liquids in which the liquid in the spray tank is charged by temporary coupling of the sprayer with a bottle of propane and with means for manual and automatic venting.

3,507,310
METHOD FOR DESTEMMING FIGS

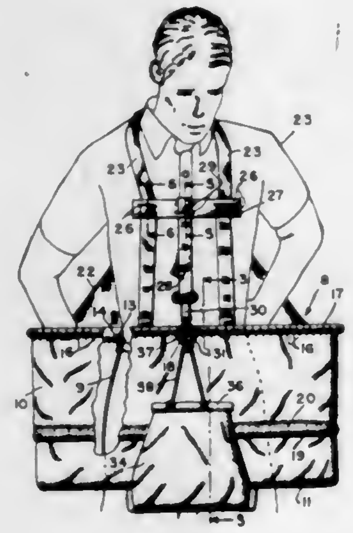
John H. Forkner, 6037 N. Van Ness Blvd., Fresno, Calif. 93705
Continuation-in-part of application Ser. No. 561,802, June 30, 1966. This application Oct. 21, 1968, Ser. No. 769,195
Int. Cl. A23n *15/02*
U.S. Cl. 146—226 **5 Claims**


Dried figs with stems
Chilling to make stems brittle
10
Applying repeated impacts to break off the stems
11
Separating the stems from the figs
12
Stems
Cleaning and processing
13
Packaging
14

A fig destemming method in which dried figs are chilled by contact with refrigerated air to make the stems brittle and then subjected to repeated and randomly applied impacts with the figs being impelled from one impact to the next. The impacts serve to break away both extended and nested stems. The apparatus serves to apply the desired repeated impacts to the chilled figs.

3,507,311
FRUIT HARVESTING CONTAINER

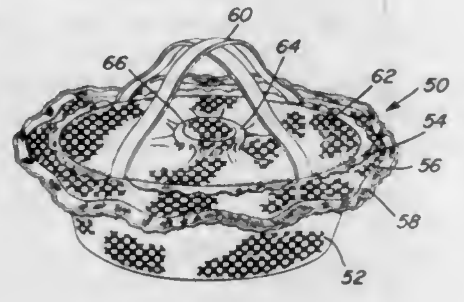
Zacariah J. Wilson, 534 S. Brooksville Ave., Brooksville, Fla. 35512
Filed June 26, 1968, Ser. No. 740,121
Int. Cl. A01g *19/06*
U.S. Cl. 150—2 **7 Claims**



A container worn by a fruit picker composed of a heavy fabric, such as duck, including an inner wall which engages around the torso of the wearer, an outer annular wall which is spaced from said inner wall and annnular bottom connecting the bottom edges of the inner and outer walls and defining an upwardly opening annular chamber for receiving the picked fruit. The outer wall is supported by adjustable shoulder straps, and a discharge chute extends downwardly from an opening in the bottom and is held closed, except when discharging the fruit, by being folded upwardly over a part of the outer wall and detachably connected to one of the straps.

3,507,312
FABRIC DISH AND PAN HOLDER

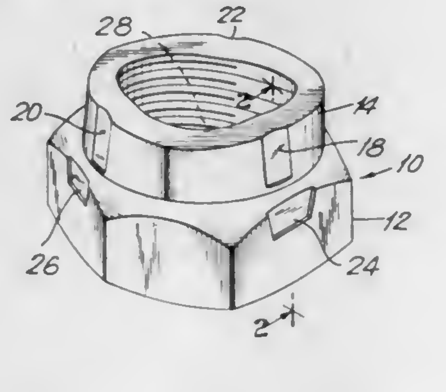
Joy T. Petersen, Broomfield, Colo. (471 East 1800 South, Orem, Utah 84057), now by change of name Joy Thorpe Hibbert
Filed Dec. 18, 1967, Ser. No. 691,375
Int. Cl. A45c *5/10;* **B65d** *37/00*
U.S. Cl. 150—48 **6 Claims**



A cover and holder constructed of fabric material in the shape and configuration of a container for receiving a dish or pan therein. The peripheral rim of the fabric holder is provided with an elastic band retaining the holder on the dish or pan and flexible straps are connected to the peripheral rim of the holder to provide a carrying handle for the holder and dish or pan associated therewith. The fabric holder is not only functional for enabling a dish or pan which may have a hot food product therein to be easily carried without possible injury to the fingers but is also highly decorative especially to conceal the dish or pan when the food product is being served directly therefrom at the table or the like.

3,507,313
LOCKNUT

Albert V. Stockslager, Montgomery, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Oct. 8, 1968, Ser. No. 765,874
Int. Cl. F16b *39/12*
U.S. Cl. 151—21 **7 Claims**

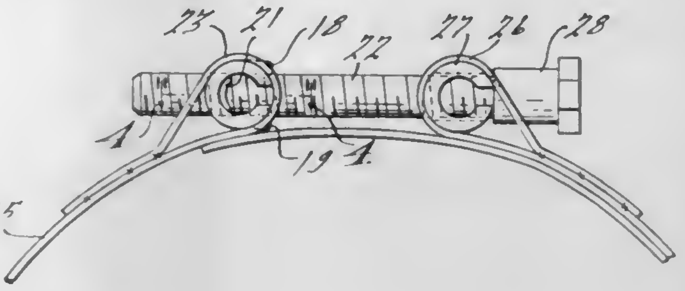


A locknut of the type having a raised cylindrical collar integral with a standard hexagonal nut body is plastically deformed, both in the raised collar and in the nut body, thereby deforming the internal thread surface of the nut to create a self-locking feature.

3,507,314
SELF-LOCKING BARREL NUT

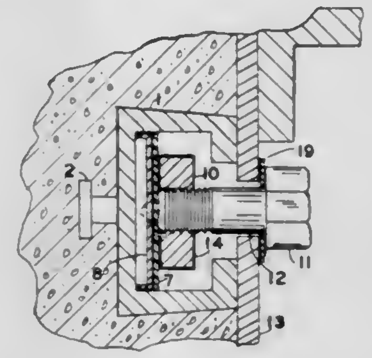
Herbert P. Zartler, Grenada Hills, Calif., assignor to Aeroquip Corporation, Jackson, Mich.
Filed Oct. 18, 1968, Ser. No. 768,774
Int. Cl. B65d *63/06;* **F16b** *39/28, 39/286*
U.S. Cl. 151—21 **5 Claims**

A nut in the shape of a longitudinally split cylinder with transversely aligned threaded apertures, one of the apertures being at the split and the other diametrically opposite the split. When tightened against a pair of bands crossing the split, by rotation of a bolt passing through the apertures, the nut will be contracted and threads at the split drawn tightly against the bolt. Loosening of the nut will permit expansion thereof, releasing the locking action.



3,507,315
FASTENING MEANS FOR WALL PANELS

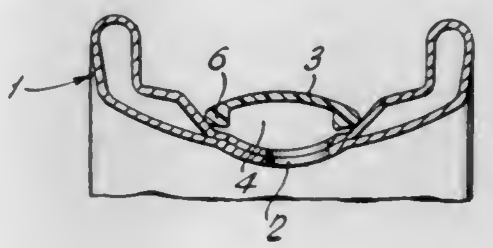
Natale Tummarello, 2073 Hillside Ave., Bellmore, N.Y. 11710
Filed Oct. 21, 1968, Ser. No. 768,993
Int. Cl. E04b *1/38;* **F16b** *39/00*
U.S. Cl. 151—41.7 **4 Claims**



A hollow member is fixedly connected to a panel, and the hollow member has an aperture adapted to receive a bolt. A magnetic sheet floatably mounts a nut in said member, said nut being adapted to float on said sheet to adjustably engage a self-centering bolt.

3,507,316
SPOKE WHEEL TIRE WITH INNER TUBE

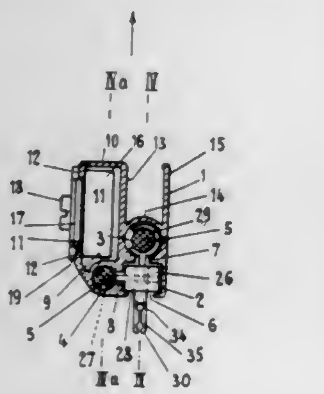
Eric Jaulmes, Paris, France, assignor to Ateliers de la Motobecane, a corporation of France
Filed Aug. 3, 1967, Ser. No. 658,160
Claims priority, application France, Oct. 6, 1966, 78,962
Int. Cl. B60c *25/12*
U.S. Cl. 152—366 **3 Claims**



In a spoke wheel tire with inner tube the latter is protected against damage by the spokes and mounting or tensioning means therefor, disposed in the bottom or well of the wheel rim, by the provision of a ring-shaped protective spacing strip of elastic material such as rubber, synthetic plastic, etc., being interposed between said well and the tire. In order to provide an all-enclosing space or cavity enveloping the spoke mounting means, said strip is formed with an arcuate or outwardly vaulting cross-section and arranged with its preferably reinforced opposite edges abutting against an intermediate outwardly slanting portion interposed between said well and the tire bead seats of said rim.

3,507,317
CURTAIN RAIL

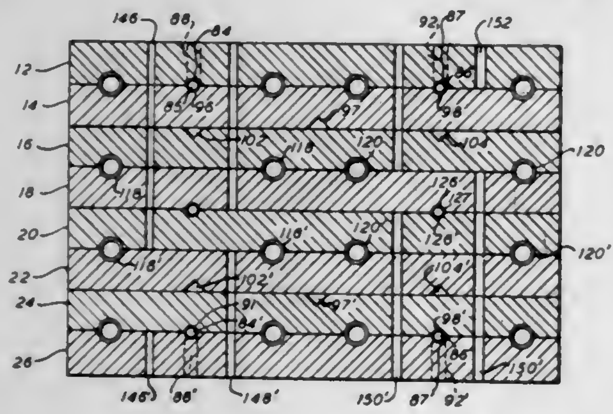
Konrad Bratschi, Talgutweg 2, Ittigen, near Bern, Switzerland
Filed Jan. 29, 1968, Ser. No. 701,177
Claims priority, application Switzerland, Jan. 28, 1967, 1,286/67
Int. Cl. A47h *5/032*
U.S. Cl. 160—345 **8 Claims**



An elongated rail member is provided with three interior channels extending in parallelism. One of the channels is connected by a slot with the exterior as well as by two additional slots with the remaining two channels. An endless pliable drawing element is received in the remaining two channels for longitudinal movement therewithin. A slider comprises a first section located in the one channel for sliding movement therein, and a second section carried by the first section and projecting into one of the other channels wherein it embraces the drawing element for sliding movement relative thereto. Connecting means is associated with the slider and at the will of the user can fixedly but releasably connect the second section to the drawing element at selected longitudinally spaced portions of the latter.

3,507,318
HEAT EXCHANGE APPARATUS

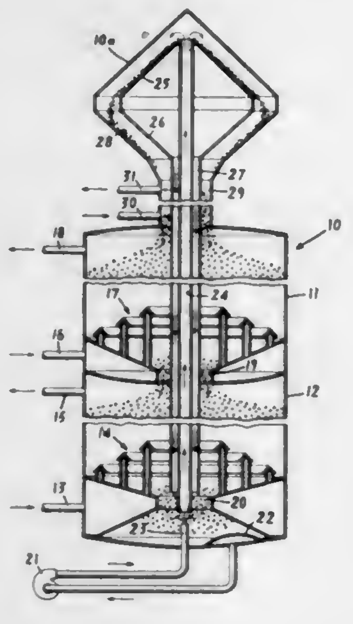
Sidney B. Tuwiner, Baldwin, N.Y., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Nov. 5, 1964, Ser. No. 409,148
Int. Cl. F28d *9/00*
U.S. Cl. 165—1 **24 Claims**



A heat exchanger for maintaining pressure temperature conditions within a few degrees of a desired temperature formed from a plurality of mating heat conductive slabs. The slabs are provided with a plurality of recesses adapted to receive diverse conduits. One conduit is used to pass a process fluid while the other conduits are used to pass intermediate heat transfer fluids which permit close temperature control.

3,507,319
METHOD AND APPARATUS FOR EFFECTING HEAT TRANSFER

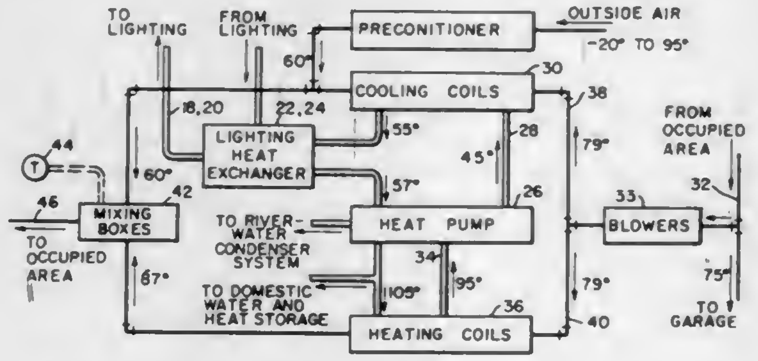
Abraham Kogan, 35a Trumpeldor Ave., Neve Shaanan, Haifa, Israel
Filed Apr. 17, 1968, Ser. No. 721,990
Int. Cl. F28c *3/14;* **F28g** *9/100*
U.S. Cl. 165—1 **16 Claims**



A process and apparatus for exchanging heat by passing a plurality of pebbles by gravity through a liquid reservoir and then carrying the pebbles with a stream of liquid flowing at high velocity from the lower region of the reservoir to a level above the liquid where the liquid and pebbles are separated before the pebbles begin their next cycle through the liquid.

3,507,320
APPARATUS HEATING A STRUCTURE USING THE LIGHTING LOAD

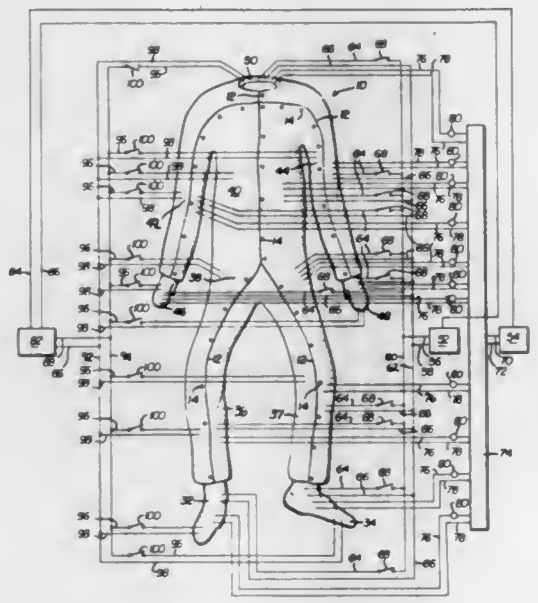
Lisle G. Russell, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 28, 1969, Ser. No. 794,484
Int. Cl. F24f *3/00, 13/04*
U.S. Cl. 165—26 **8 Claims**



Apparatus for effectively and economically lighting and heating and cooling a structure. Artificial light sources are used to illuminate the interior of the structure and are cooled by adjacent panel means connected to a first fluid filled, closed system, with the absorbed heat being transferred from the first closed system to a second fluid filled, closed system. A heat pump removes the heat from the second closed system and also from an air cooling heat exchanger, and the removed heat is transferred by the heat pump to a third fluid filled, closed system, which in turn heats an air heating heat exchanger. A double duct air handling system has one duct portion heated by the air heating heat exchanger, and the other duct portion thereof is cooled by the air cooling heat exchanger. The two ducts are connected to the inlet of an air mixing box which in turn is controlled by a thermostat means, located within the structure, to regulate the relative amounts of warm air and cold air which are mixed, prior to introduction into the structure, in accordance with the measured temperature therein.

3,507,321
CLOTHING FOR COOLING OR HEATING BODY

James R. Palma, 1502 Curry Road, Schenectady, N.Y. 12306
Filed Mar. 22, 1968, Ser. No. 715,380
Int. Cl. F28b *21/00*
U.S. Cl. 165—46 **8 Claims**

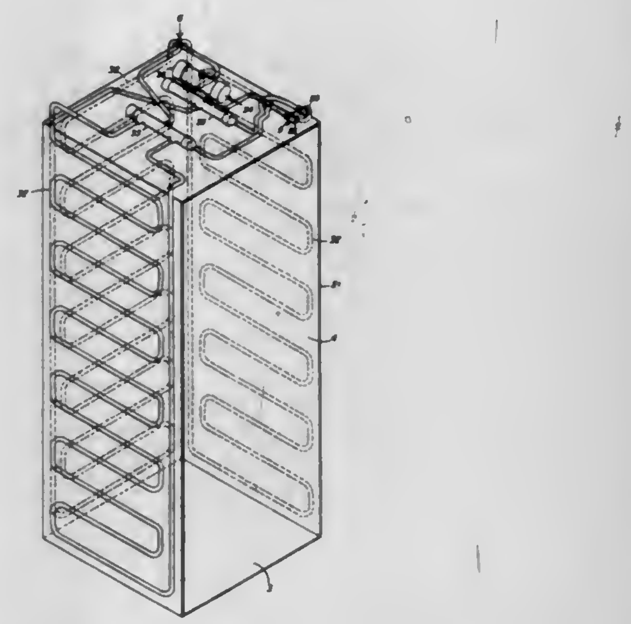


Clothing for a part or all of a human being from the neck down having built-in heating coils for heating the body and built-in cooling conduits for cooling the body. Separate heating coils may be provided in different zones of the article of clothing so that a selected heating coil may be energized to heat a portion only of the body, and separate cooling conduits may similarly be provided in different zones of the article of clothing so that a selected cooling conduit may receive coolant to cool a portion only of the body. Temperature sensors, a temperature controller, an electrical supply and a coolant source are associated with the heating coils and coolant conduits.

3,507,322
APPARATUS FOR HANDLING PERISHABLE MATERIALS

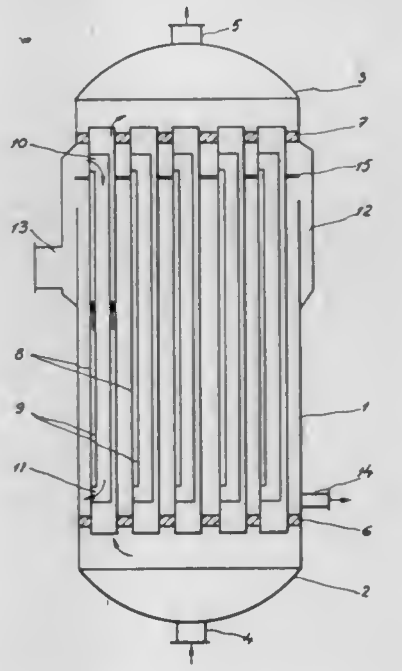
Harlan M. Tetrick and Charles E. Reed, McLean, Va., assignors, by mesne assignments, to Freez-Porter Systems, Inc., Falls Church, Va., a corporation of Virginia
Continuation-in-part of application Ser. No. 629,653, Apr. 10, 1967. This application May 8, 1969, Ser. No. 823,122
Int. Cl. F28d *15/00;* **F25d** *19/00*
U.S. Cl. 165—61 **10 Claims**

Apparatus for handling perishable materials under controlled temperature conditions in storage and shipment, including a plurality of portable insulated containers, each fitted for controlling its internal temperature with a piping circuit for circulation of a liquid heat transfer medium, primary heat exchanger circuits separate from the container for supplying the liquid heat transfer medium thereto at selected temperatures, self-closing, quick disconnect couplings for releasably connecting each primary circuit to the piping circuit of each container, and a cushioning device in each piping circuit for cushioning any expansion of the liquid medium therein during periods in which the piping circuit is disconnected from the primary circuit for enabling the circuits to be connected under any conditions.



3,507,323
TUBE HEAT EXCHANGER

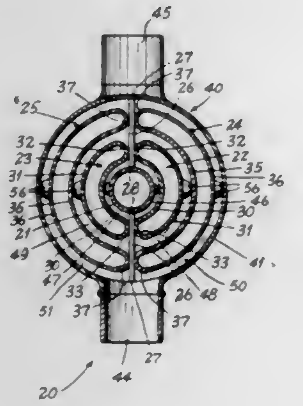
Arvi Aiol Ronnholm, Juhani Jyry Kaartamo, and Juhani Eevertti Puurunen, Pori, Finland, assignors to W. Rosenlew & Co., A.B., Pori, Finland, a corporation of Finland
Filed Oct. 10, 1968, Ser. No. 766,557
Claims priority, application Sweden, Oct. 27, 1967, 14,755/67
Int. Cl. F28f *9/22*
U.S. Cl. 165—145 **1 Claim**



The present invention relates to a tube heat exchanger having outer and inner tubes, the outer tubes having open ends and being secured in two tube plates, and the inner tubes opening through the walls of the outer tubes into the space between the tube plates, the medium to be heated flowing through the spaces between the outer and the inner tubes, and the heating medium flowing through said space and from there through the inner tubes, means being provided for to control the distribution of the heating medium between said space and the inner tubes.

3,507,324
HEAT EXCHANGER CONDUIT

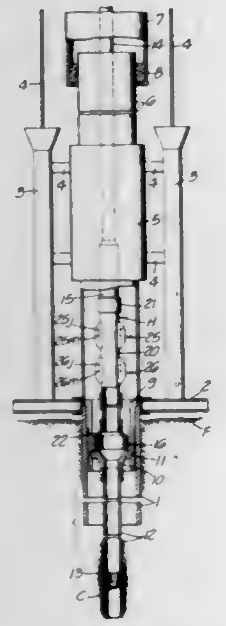
Paul Mueller, Springfield, Mo., assignor to Paul Mueller Company, Springfield, Mo., a corporation of Missouri
Filed May 9, 1968, Ser. No. 727,764
Int. Cl. F28b *9/26*
U.S. Cl. 165—164 **8 Claims**



A heat exchanger conduit having substantially concentric partially flattened conveying tubes for conveying fluids, such as fluid food products, isolated from spaces for conveying heat exchanger media. Oppositely offset eccentric inlet and outlet connector sleeves for the entering and leaving fluid to maintain substantially constant fluid velocity and to permit inspection of the interiors of the tubes.

3,507,325
WELL CEMENTING APPARATUS

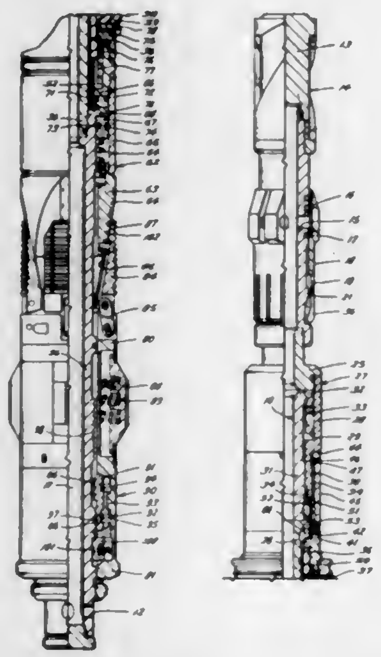
Lyle B. Scott, South Gate, Calif., assignor to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware
Filed Apr. 16, 1968, Ser. No. 721,650
Int. Cl. E21b *7/12*
U.S. Cl. 166—.5 **7 Claims**



Apparatus for enabling cementing of wells beneath the water, in which bottom and top cementing plugs are installed in a cementing head and therein disposed in a subsurface well head together with a string of well casing to be cemented in place, the bottom plug being releasable upon engagement by a device traveling with or in advance of the fluent cement and traveling downwardly through the well casing and seating upon a catcher for said device, and the top plug being engageable by another device traveling in the stream of fluent cement and traveling downwardly through the casing into engagement with the bottom plug, as the cement between the plugs is displaced through the bottom plug.

3,507,326
RETRIEVABLE WELL PACKER APPARATUS

David E. Young, Bellaire, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Aug. 30, 1968, Ser. No. 756,442
Int. Cl. E21b *23/06*
U.S. Cl. 166—120 **15 Claims**

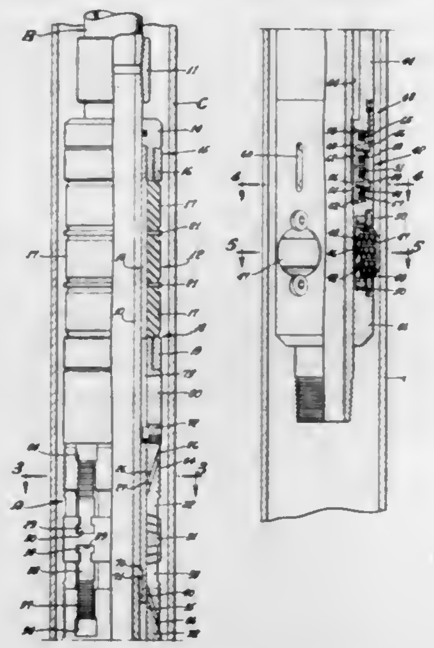


The particular embodiment disclosed herein as illustrative of one form of the present invention in well packers comprises a body member and packing means for packing off a well bore, expander means and normally retracted slip means shiftable by said expander means into anchoring positions against a well conduit wall, an upwardly facing surface on said expander means subject to fluid pressure in the well bore below said packing means, an enclosed chamber defined in part by a downwardly facing surface on said expander means, and hydraulic means responsive to greater fluid pressure below said packing means for reducing the pressure in said chamber.

3,507,327
RETRIEVABLE SUBSURFACE WELL TOOLS

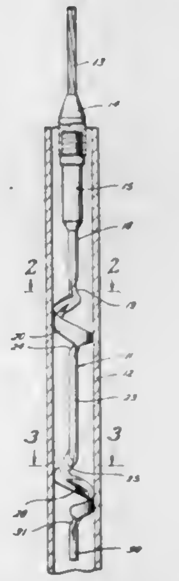
David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., City of Commerce, Calif., a corporation of California
Filed Sept. 4, 1964, Ser. No. 394,572
Int. Cl. E21b *33/12*
U.S. Cl. 166—134 **23 Claims**

Well apparatus for lowering in a well casing to be releasably anchored therewithin by moving upper and lower expanders toward each other to expand intervening slips against the well casing, the slips being releasably locked in both their retracted and expanded conditions and readily released from such conditions by rotating a body on which the expanders and slips are carried. A normaly retracted packing structure may also be carried on the body for expansion into sealing engagement with the well casing and retraction therefrom.



3,507,328
TOOL FOR SCRAPING THE INSIDE OF PIPES

Don F. Henderson, Houma, La., assignor to Gem Oil Tool Company, Inc., Houma, La., a corporation of Louisiana
Filed July 31, 1968, Ser. No. 749,190
Int. Cl. E21b *37/02*
U.S. Cl. 166—170 **3 Claims**

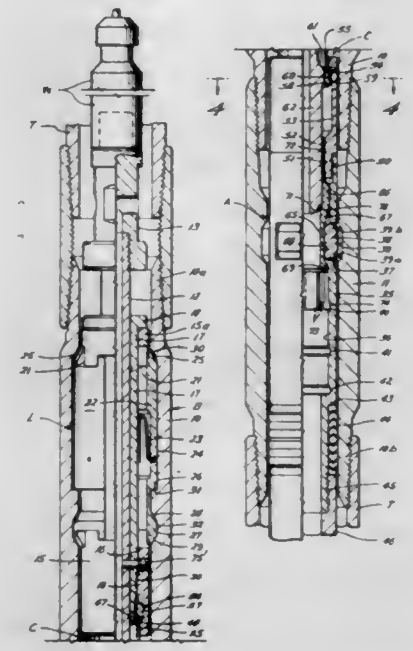


A scraping tool for use in scraping the inside wall of oil well production pipe and the like having deposits such as paraffin therein. It includes a plurality of axially and radially spaced-apart helical knife blades having upper and lower cutting edges arranged for scraping engagement with the inside wall of the pipe to be cleaned.

3,507,329
LOCATING AND ANCHORING DEVICE FOR WELL TOOLS

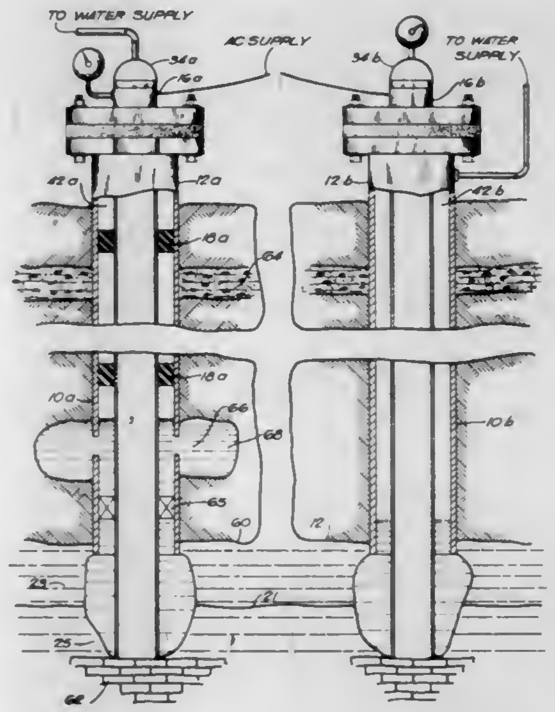
Dewey C. Stone, Jr., Houston, Tex., assignor to Harold Brown Company, a corporation of Texas
Filed Nov. 25, 1968, Ser. No. 778,610
Int. Cl. E21b *23/02*
U.S. Cl. 166—214 **8 Claims**

A tool anchor assembly for insertion in well pipes including a level selector sub-assembly and an anchor sub-assembly, the level selector sub-assembly being adapted to position the anchor sub-assembly at a selected location in the well pipe and thereafter to be released from the anchor sub-assembly for removal from the well pipe.



3,507,330
METHOD AND APPARATUS FOR SECONDARY RECOVERY OF OIL

William G. Gill, Corpus Christi, Tex., assignor to The Electrothermic Co., Corpus Christi, Tex., a corporation of Nevada
Continuation-in-part of application Ser. No. 677,836, Oct. 16, 1967, which is a continuation-in-part of application Ser. No. 449,077, Apr. 19, 1965. This application Sept. 30, 1968, Ser. No. 767,917
Int. Cl. E21b *43/00, 43/22, 43/24*
U.S. Cl. 166—248 **27 Claims**



Apparatus for the secondary recovery of oil in which electrical current is caused to flow through water in an oil bearing formation with the current path through the formation being sufficiently long to provide the necessary resistance to produce the desired amount of heating. One current path to the formation includes the tubing in one well. The second current path to the formation is either through the tubing and casing in a spaced apart well or through the casing in the one well. The insulating means disclosed is either a string of conductive tubing positioned between the tubing in the casing or insulating centralizers so positioned. In one embodiment of the invention, the casing includes an intermediate insulating section and in another embodiment, the lower portion of the casing is of insulating material. In still another embodiment of the invention, the insulating tubing extends below the casing a sufficient amount to provide current path through the formation of the necessary length with the tubing extending below the insulating tubing.

3,507,331
STABILITY OF A SECONDARY-TYPE RECOVERY PROCESS

Stanley C. Jones, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 26, 1967, Ser. No. 693,129
Int. Cl. E21b *43/16*
U.S. Cl. 166—273 **10 Claims**

A secondary-type crude oil recovery process using a drive fluid to move a displacing fluid containing electrolyte and/or semi-polar organic compound through a subterranean formation to displace crude oil therefrom is improved by incorporating within the front portion of the drive fluid electrolyte and/or semi-polar organic compound. Preferably, the displacing fluid is a micellar dispersion containing surfactant, water, hydrocarbon, electrolyte, and/or semi-polar organic compound (e.g. alcohol) and the front portion of the drive fluid is a mobility buffer containing aqueous medium, a mobility imparting agent, electrolyte and/or semipolar organic compound (e.g. an alcohol similar to the alcohol within the micellar dispersion).

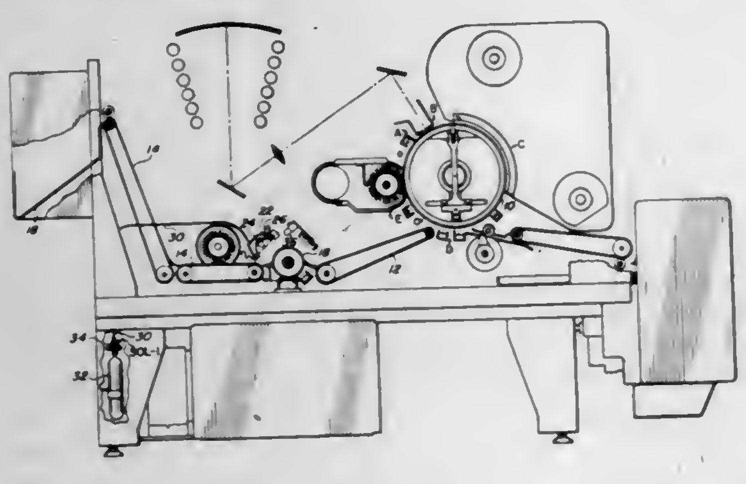
3,507,332
HIGH TEMPERATURE CEMENTS

Charles R. Venable, Jr., and Francis J. Shell, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Nov. 29, 1965, Ser. No. 510,403
Int. Cl. E21b *33/13*
U.S. Cl. 166—292 **10 Claims**

High temperature resistant cement compositions consisting essentially of a high purity calcium aluminate cement component and from 40 to 200 weight percent, based on said cement component, of a finely divided high purity aggregate, e.g., fused alumina.

3,507,333
FIRE PREVENTION SYSTEM

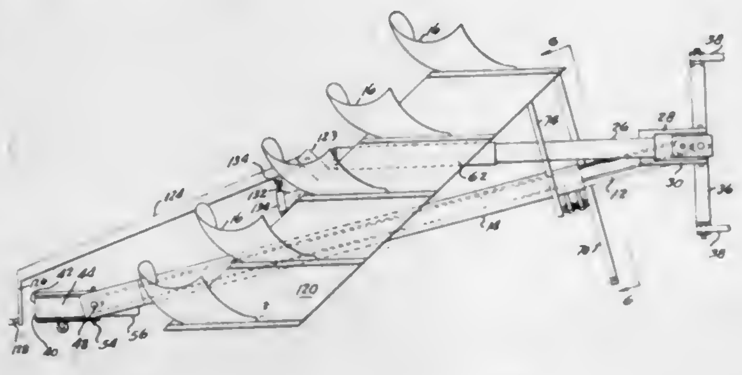
Donald J. Quant and Larry M. Wood, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Oct. 23, 1967, Ser. No. 677,159
Int. Cl. A62c *3/00*
U.S. Cl. 169—2 **7 Claims**



Fire control apparatus for use in xerographic fusing zones. The apparatus includes an ultraviolet detection tube positioned in the area to be sensed for flames. It is electrically coupled to a valve to control the flow of fire extinguishing CO_2 into the area being sensed. The electric circuit acts to release a pulse of CO_2 upon the sensing of a flame by the detecting tube. After the termination of the pulsed flow of CO_2, the circuit returns to its original state for a second flame sensing to allow supplemental pulsations and sensings until the flame is extinguished.

3,507,334
TWO-WAY PLOW WITH SYNCHRONIZED GUIDED TAIL WHEEL

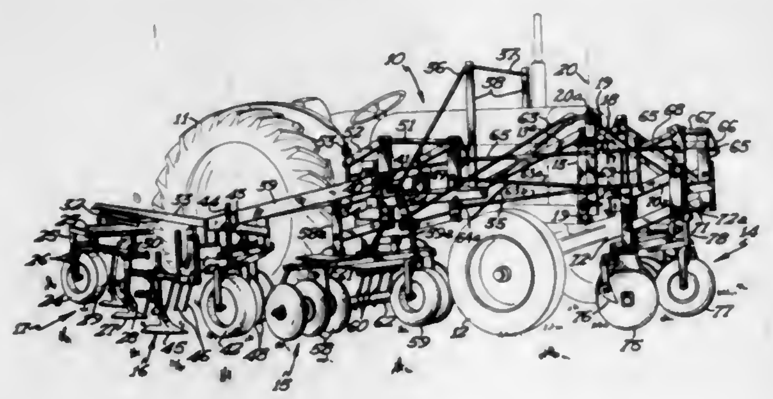
Glen Armon Watts, Rte. 1, Box 258, McMinnville, Oreg. 97128
Filed Feb. 17, 1967, Ser. No. 616,842
The portion of the term of the patent subsequent to Dec. 2, 1986, has been disclaimed
Int. Cl. A01b *3/28*
U.S. Cl. 172—212 **8 Claims**



Steerable tail wheel arrangement for two-way plow involving pulleys or the like connected to tractor and mating with reversing pulleys or the like direct-connected to tail wheel to steer tail wheel in direction opposite to change in direction of tractor.

3,507,335
FIELD PREPARATION MACHINE

Kermit J. Nokleby, deceased, late of Montevideo, Minn., by Gladys Nokleby, legal representative, 515 N. 10th St., Montevideo, Minn. 56265
Filed Jan. 23, 1967, Ser. No. 612,071
Int. Cl. A01b *59/044*
U.S. Cl. 172—300 **8 Claims**



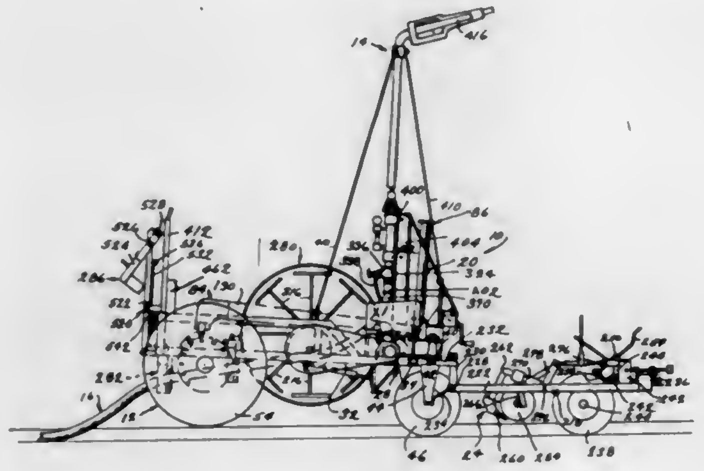
An agricultural machine adapted to disc, harrow and drag a field in one step to completely prepare the field for planting, the machine having front tools, forward intermediate tools, rearward intermediate tools, and rear tools engageable with the ground and adapted to be simultaneously lowered in one operation by a single hydraulic system to a predetermined ground depth and simultaneously raised as desired.

3,507,336
TRAVELING IRRIGATION SPRINKLER

Barton R. Nelson, Peoria, Ill., assignor to L. R. Nelson Mfg. Co., Inc., Peoria, Ill., a corporation of Illinois

Continuation-in-part of applications Ser. No. 327,768, Dec. 3, 1963, and Ser. No. 478,594, Aug. 10, 1965. This application Dec. 20, 1965, Ser. No. 514,786

Int. Cl. A01g *25/00*
U.S. Cl. 172—438 **26 Claims**



A traveling irrigation sprinkler including a vehicle frame supported for movement along a field or the like to be sprinkler irrigated by wheels including steerable wheels, the vehicle frame carrying an irrigation sprinkler head adapted to be connected to a grounded source of water under pressure by an extended length of flexible, collapsible hose. The sprinkler head is connected in parallel with a water motor which provides a source of motive power to the vehicle. The vehicle is provided with a furrow engaging member which is adapted to ride within a preformed furrow in the ground which is to be irrigated, the furrow determining the path of movement of the vehicle within the field. The furrow engaging member is connected to the steerable wheels of the vehicle through a motion transmitting mechanism to ensure that the vehicle will be guided along a path commensurate with the preformed furrow.

A power operated reel is mounted on the vehicle frame and is provided with a pivoted coupling at its hub which is adapted to connect with one end of the flexible collapsible hose so that the hose can be wound up upon the reel in a collapsed condition substantially free of contained water, and be carried thereby on the vehicle frame in a compact bundle.

3,507,337
FUNCTION SWITCHING ARRANGEMENT FOR ELECTRO-PNEUMATIC HAMMER DRILLS

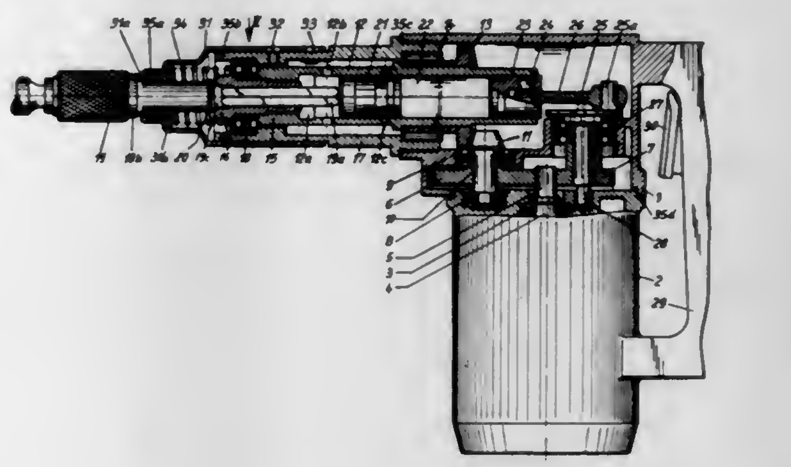
Franz Chromy, Feldkirch-Gisingeng, Austria, assignor to Hilti Aktiengesellschaft, Schaan, Liechtenstein

Filed July 10, 1968, Ser. No. 743,788

Claims priority, application Germany, July 31, 1967, H 59,798

Int. Cl. E21c *3/26;* **B25d** *9/26*
U.S. Cl. 173—14 **7 Claims**

An electro-pneumatic hammer drill, switchable between rotary-percussion drilling and rotary drilling, includes a sleeve axially displaceable on the casing and cooperable with a tool holder and a tool mounted in the tool holder to control relative displacement thereof. The axial displacement of the sleeve continuously provides switching of the hammer drill between rotary-percussion drilling and rotary drilling by limiting the shank of the drill to a position wherein it is engageable by a percussion piston and a position in which it is out of the path of movement of the percussion piston.

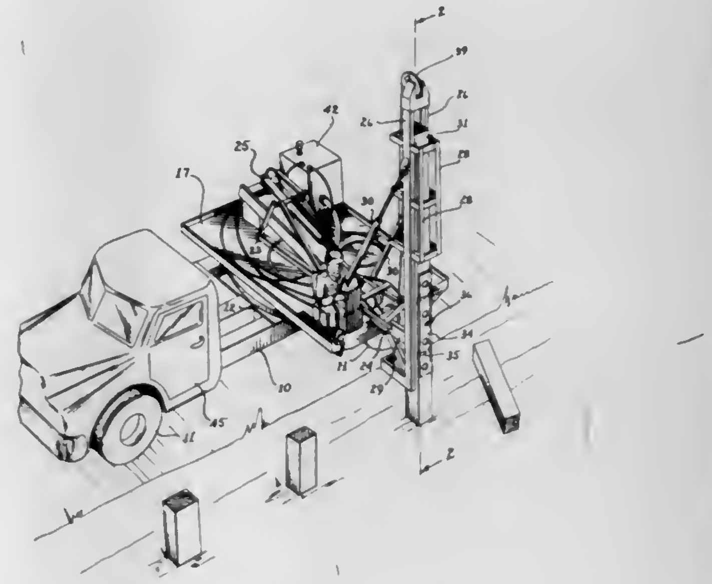


3,507,338
HOLE-FORMING AND POST-DRIVING APPARATUS

William A. McWaters, Mesa, and Darnel L. Alexander, Phoenix, Ariz., and James M. Alexander, Boise, Idaho, assignors to McWaters Construction Co., Mesa, Ariz., a partnership

Filed Dec. 9, 1968, Ser. No. 782,181

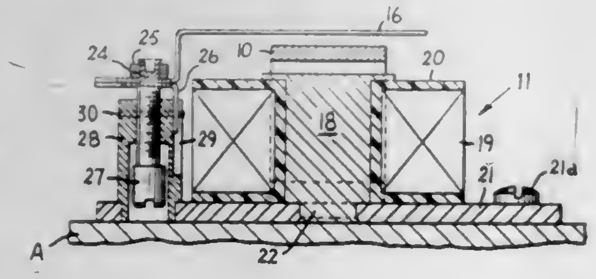
Int. Cl. E21c *11/02*
U.S. Cl. 173—28 **2 Claims**



A hole-forming and post-driving machine which includes both a novel mechanism for adjusting the angle of the hole and the post with respect to the ground and a novel hole-forming and post-driving mechanism. The apparatus for adjusting the angular position of the hole and the post includes a horizontal platform support carried by and pivotally connected to a ground-supported frame, horizontal platform rotatably mounted on the support member and a slide assembly carried by a track on the platform. Power means are provided to adjust the plane of the support member, the angular position of the platform and the position of the slide on the platform. A hole-forming and post-driving mechanism is pivotally supported on the end of the slide and power means are provided for adjusting the angular position of the hole-forming and post-driving mechanism with respect to the ground.

3,507,339
ELECTROMAGNETICALLY OPERATED TAPPING DEVICE

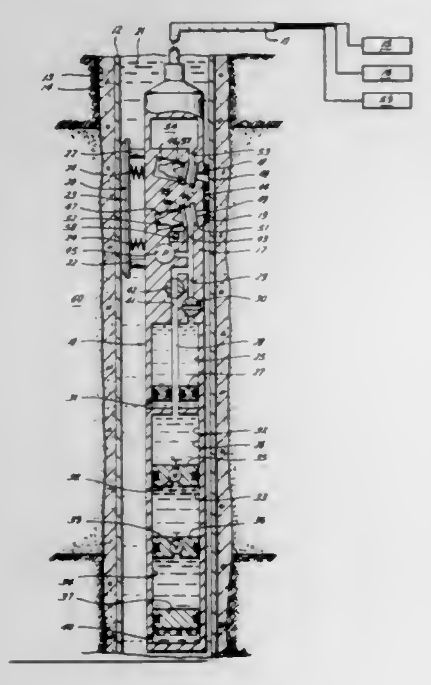
John F. De Mayo, 21 MacArthur Ave.,
Plainview, N.Y. 11803
Continuation-in-part of application Ser. No. 515,828, Dec. 23, 1965. This application Aug. 28, 1968, Ser. No. 756,057
Int. Cl. B25d *13/00;* **G01l** *7/20;* **B64d** *43/00*
U.S. Cl. 173—100 **10 Claims**



Means for cyclically tapping apparatus such as an instrument having a movable element to relieve static friction and thereby keep the movable element from sticking comprises a base which is secured to the apparatus, a pad on the base, a movable hammer arranged to strike the pad and an electromagnet which is periodically energized to cause the hammer to strike the pad and thereby impart periodic mechanical impulses to the base and to the apparatus to which it is secured.

3,507,340
APPARATUS FOR WELL COMPLETION

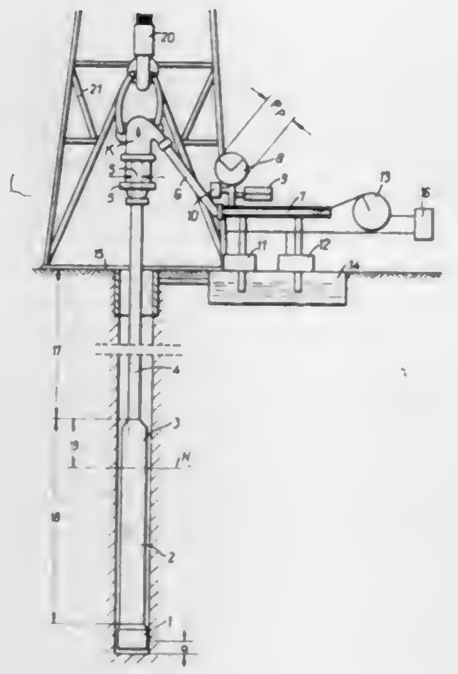
Ulrich E. Voetter, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed Feb. 5, 1968, Ser. No. 702,966
Int. Cl. E21b *43/116*
U.S. Cl. 175—4.52 **14 Claims**



This application discloses well-completion apparatus for injecting fluids into earth formations. More particularly, the disclosed apparatus exemplifying the invention includes sealing means for isolating portions of a wall of a well bore, with these sealing means being appropriately arranged with means for perforating such isolated wall portions to form a flow passage in an earth formation. Fluid-discharge means are arranged for selectively injecting one or more fluent substances contained in the apparatus into the formation passage. To provide a reliable indication of the progress of the fluid injection, at least one of the fluent substances is made radioactive so that radioactivity-responsive monitoring means on the apparatus will provide a surface indication as these radioactive substances are discharged.

3,507,341
PROCESS AND SYSTEM FOR ROTARY DRILLING WITH DRILLING FLUID IMPOSED SONIC VIBRATIONS

Ion Basgan, 4 Cernica, Bucharest, Rumania
Continuation-in-part of application Ser. No. 645,227, June 12, 1967. This application June 24, 1969, Ser. No. 836,058
Int. Cl. E21b *3/00, 21/00*
U.S. Cl. 175—56 **6 Claims**

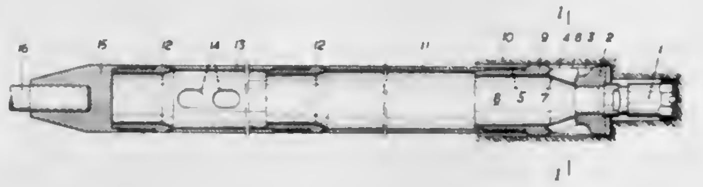


This invention relates to a system and apparatus for drilling earth formations and to a method operating the same, the apparatus comprising a rotary drill string composed of an upper pipe section and of a lower tubular drill collar and of a bit fixed to the lower end of the drill collar, means including a hoist for suspending said rotary drill string from a derrick, and means for feeding the drilling mud to the top end of the drill string causing the latter to be immersed in the mud filling the bore hole. By means of the hoist the drill string is so suspended in the derrick that the weight acting on the bit is limited to a low force of, for instance, 2 t. In the novel system the weight of the drill collar is from 10 to 50 percent greater than the weight of the liquid volume of mud displaced by the drill collar and by the drill pipe plus the maximum weight acting on the bit in operation. When the bit is subjected to percussions, the vibratory energy transmitted into the liquid flow and the drilling string by longitudinal waves is produced at the upper end of the drilling string. Moreover the exciting force which generates the longitudinal vibrations or percussions, measured at the swivel, is from 10 to 30 percent greater than the weight acting on the bit in operation and an increase of the mechanical drilling speed is obtained through an increase of this exciting force produced by pressure variation of the liquid mud flowing into the upper end of the drilling string.

The vibratory energy is created by a pumping apparatus producing a fluctuating discharge pressure having an adjustable frequency. Control is facilitated by control instruments such as a pressure gauge, a frequency meter and a pressure and frequency variation recorder. The frequency is so chosen that resonance is obtained between the frequency of the fluctuating discharge pressure and the natural frequency of the longitudinal oscillations set up in the drill string. As a result of this resonance the longitudinal vibrations may be made so powerful as to lift the bit off the bottom of the hole.

3,507,342
METHOD AND APPARATUS FOR DRILLING THROUGH SOIL AND ROCK LAYERS

Florian Hasewend, Kapfenberg, Styria, Hubert Pichler, Bruck an der Mur, Styria, and Walter Mayerhofer, Kapfenberg, Styria, Austria, assignors to Gebr. Bohler & Co. Aktiengesellschaft, Vienna, Austria
Filed Feb. 27, 1967, Ser. No. 618,839
Claims priority, application Austria, Feb. 28, 1966, 1,828/66
Int. Cl. E21c *19/00;* **E21b** *21/00, 9/22*
U.S. Cl. 175—62 **11 Claims**



The means which connect a cutter bit, generally horizontal, to a string of drill pipes and define apertures which communicate with the interior of the drill pipes and which receive material which has been detached by the bit and subject said material to the percussive movement of the assembly of drill pipes to cause the material to move through said apertures into and through the drill pipes, from which the material is discharged through lateral openings outside the borehole. The equipment is of special advantage in drilling through dams of rock or soil.

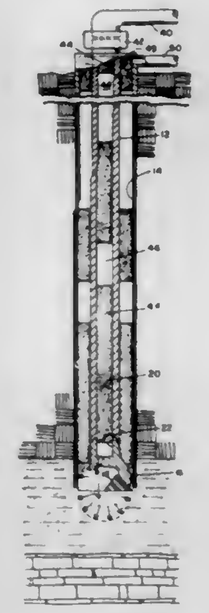
3,507,343
PROCESS OF DRILLING WELLS

James A. Gill and Marvin O. Stearns, Houston, Tex., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 21, 1967, Ser. No. 692,278
Int. Cl. E21b *21/04*
U.S. Cl. 175—66 **6 Claims**

The invention provides a means of temporarily increasing the density of a selected portion of the circulating drilling fluid system of a well being drilled by the rotary process. To a selected portion of the drilling fluid there is added a granular high density solid, such as crushed or granulated barite finer than 16 mesh and coarser than 80 mesh, and which may have a specific gravity of 4.2, so as to bring about the desired increase in density. When this has served its purpose, it is removed from the circulating system, as by screening or centrifuging, and the overall density of the circulating fluid remains substantially unaffected by the completed process.

3,507,344
METHOD AND APPARATUS FOR DRILLING WELL BORES

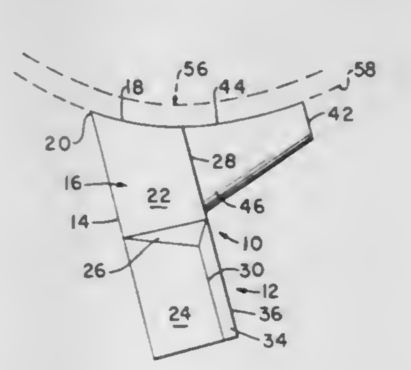
John D. Bennett, Richardson, Tex., Ford L. Johnson, Fallbrook, Calif., and Fred M. Mayes, Richardson, and John W. Peret, Dallas, Tex., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed July 9, 1968, Ser. No. 743,427
Int. Cl. E21b *21/04*
U.S. Cl. 175—69 **12 Claims**



The particular embodiment described herein as illustrative of one form of the invention utilizes, in a drilling operation, a system for introducing alternate slugs of liquid and gas into the well bore as the drilling fluid to increase the drilling rate.

3,507,345
CUTTER BIT

Donald R. Vaughan and Carl J. Falcon, Woodland, Calif., assignors to Woodland Manufacturing Company, Woodland, Calif., a corporation of California
Filed Nov. 3, 1967, Ser. No. 680,488
Int. Cl. E21c *13/00;* **F16l** *1/00*
U.S. Cl. 175—413 **9 Claims**

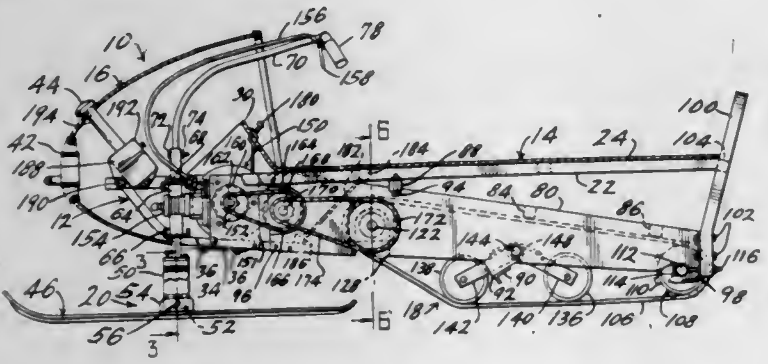


A cutter bit adapted to be secured to the cylindrical outer surface of a rotatable shaft to form an earth-cutting unit. The cutter bit has an inner surface which is complemental to the outer surface of the shaft and has a leading cutting edge and a front face extending away from the cutting edge. The cutter bit also has an outer cutting portion which is angularly disposed relative to the inner part of the cutter bit. Means is also provided to removably mount the cutter bit on the shaft.

3,507,346
COMPACT SNOW VEHICLE

Hans Hauser, Fredericktown, Ohio, assignor to The J. B. Foote Foundry Co., Fredericktown, Ohio, a corporation of Ohio

Filed Apr. 29, 1968, Ser. No. 724,692
Int. Cl. B62m *27/02*
U.S. Cl. 180—5 **5 Claims**

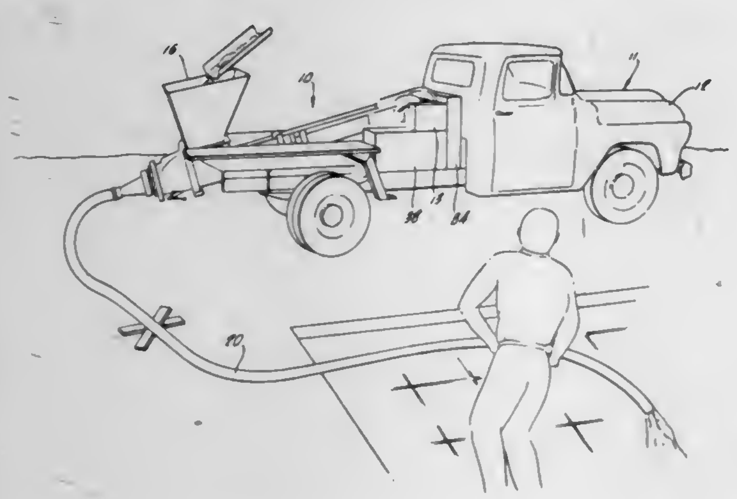


A snow vehicle or snowmobile is provided which is especially designed for children and yet can still carry a fully grown man. The snowmobile is small, of a simple, relatively inexpensive design, and is intended to sell for a fraction of the cost of conventional snowmobiles so as to reach a wide market. The snow vehicle, the components of which are in a compact arrangement, features a unique ski structure and also a unique belt driving and supporting unit.

3,507,347
VEHICLE WITH PUMP AND REMOTE CONTROLLED POWER TAKE-OFF

Marvin D. Bennett, Long Beach, Calif., assignor, by mesne assignments, to Royal Industries, Inc., Pasadena, Calif., a corporation of Delaware

Continuation of application Ser. No. 550,842, May 17, 1966, which is a division of application Ser. No. 359,628, Apr. 14, 1964, now Patent No. 3,279,382. This application Mar. 27, 1968, Ser. No. 716,546
Int. Cl. B60k *25/06*
U.S. Cl. 180—53 **7 Claims**

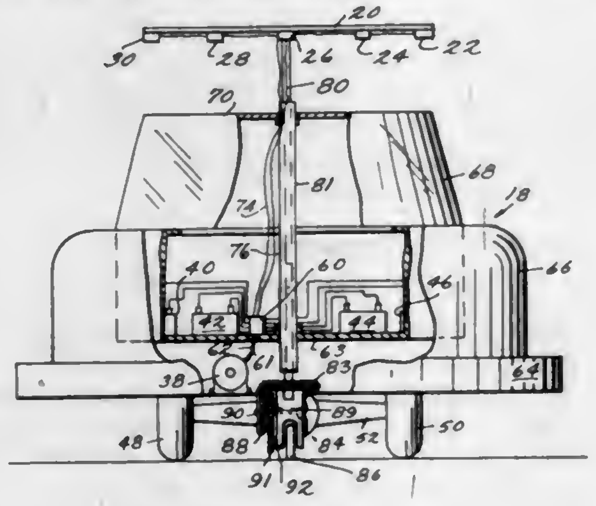


A positive displacement pump for conveying and delivering building materials such as plaster, concrete, mortar, and like compressible materials is mounted on a wheeled vehicle equipped with a power take-off for selectively powering the pump or the vehicle wheels. Control means are provided for controlling the pump and power take-off from a vehicle supported station and from a point remote from the vehicle.

3,507,348
IONIZING APPARATUS FOR REDUCING AIR RESISTANCE

Robert Aronson, Ferndale, Mich., assignor to Electric Fuel Propulsion, Incorporated, Ferndale, Mich., a corporation of Delaware

Filed Feb. 16, 1968, Ser. No. 706,159
Int. Cl. B60v *18/00*
U.S. Cl. 180—65 **12 Claims**

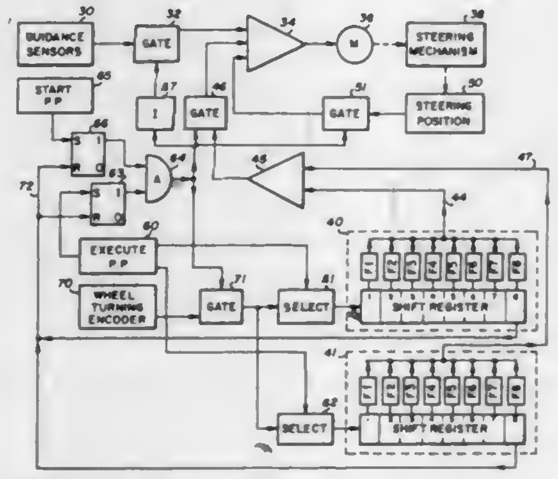


Apparatus which ionizes the air surrounding a vehicle in order to reduce wind or air resistance. In one embodiment this ionization is accomplished by rotating electromagnets mounted on a disk atop the vehicle. The disk may be rotated by battery power or through the motion of the vehicle via its wheels or an added small wheel in contact with the ground communicated through a plurality of gears.

3,507,349
MEANS FOR DIRECTING A VEHICLE, NORMALLY UNDER THE CONTROL OF A GUIDANCE SYSTEM, TO FOLLOW A PROGRAMMED PATH INDEPENDENT OF THE GUIDANCE SYSTEM

Donald T. Comer, Los Gatos, and Arthur J. Critchlow, San Jose, Calif., assignors to Mobility Systems, Inc., San Jose, Calif., a corporation of California

Filed Jan. 16, 1968, Ser. No. 698,217
Int. Cl. B62d *15/00*
U.S. Cl. 180—98 **9 Claims**

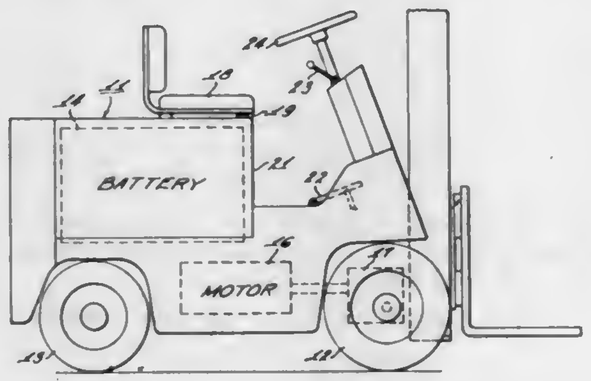


A programming means for controlling the steering mechanism of a guided vehicle independent of the guidance system when the guided vehicle approaches a decision point formed by a plurality of diverging guide paths. The programming means utilizes a shift register to control a plurality of function generators which provide steering signals for the steering mechanism to steer the vehicle along a programmed path between a starting point and an ending point. Successive steering signals steer the vehicle along successive segments of the programmed path, and switching to the next steering signal takes place each time a selected distance has been traversed by the vehicle.

3,507,350
VEHICLE DIRECTIONAL SWITCH AND SEAT SWITCH INTERLOCK

Myron J. Boyajian, Chicago, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 24, 1967, Ser. No. 685,679
Int. Cl. B60l *3/02*
U.S. Cl. 180—101 **4 Claims**

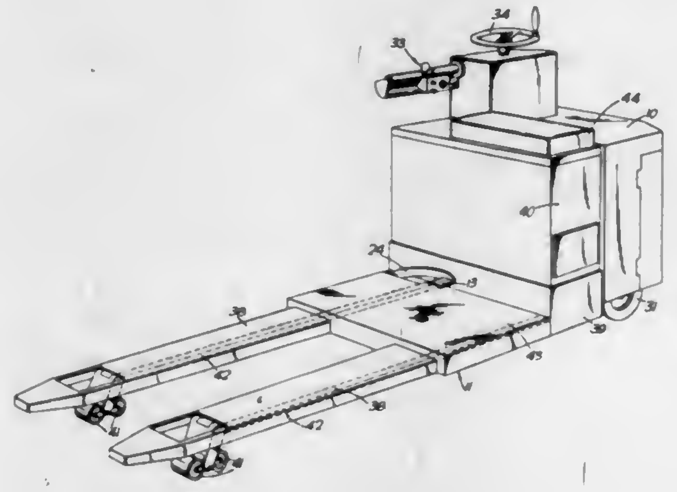


An automatic safety control for a vehicle whereby if the operator leaves the vehicle while in either a forward or a reverse drive condition, the drive will be interrupted and on return of the operator to his operating station, a memory circuit prevents drive from being reestablished unless a manual control is operated.

3,507,351
CONTROL MECHANISM FOR PALLET OR STILLAGE TRUCKS

Cecil Goodacre, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, Hampshire, England, a British company

Filed May 29, 1968, Ser. No. 733,068
Claims priority, application Great Britain, June 2, 1967, 25,661/67
Int. Cl. B60l *15/42;* **B60r** *21/00*
U.S. Cl. 180—101 **6 Claims**

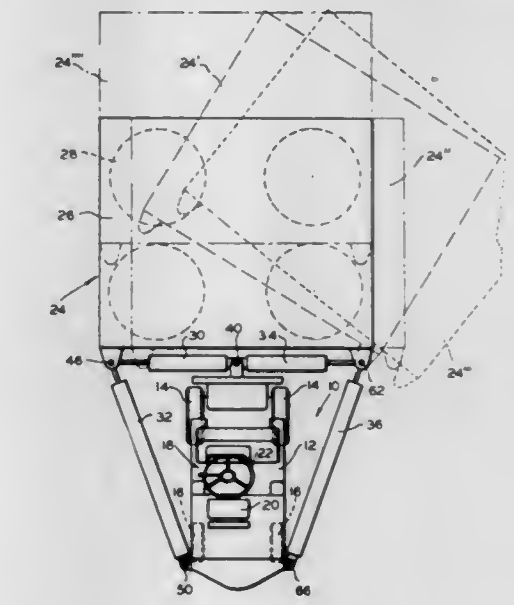


An industrial pallet or stillage truck has a body portion, a fork or load platform structure projecting forwardly from the body portion, an operator platform movable up and down with the fork or load platform structure and a control mechanism (e.g. a dead-man brake mechanism) on the body portion for operation by a pedal on the operator platform, the pedal being connected to the control mechanism by a linkage which is unaffected by up and down movement of the fork or load platform structure and hence of the operator platform relatively to the body portion.

3,507,352
APPARATUS FOR MOVING AN AIR FILM PALLET OMNIDIRECTIONALLY RELATIVE TO A VEHICLE

William A. Williamson, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan

Filed Apr. 15, 1968, Ser. No. 721,221
Int. Cl. B60v *1/00*
U.S. Cl. 180—119 **4 Claims**

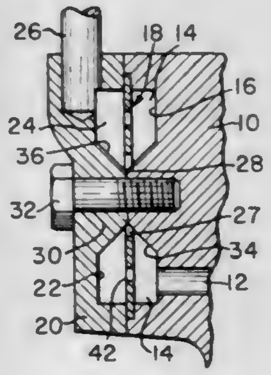


A vehicle and an air film pallet connected by a plurality of fluid motors actuatable to move the pallet omnidirectionally reactive to the vehicle.

3,507,353
NOISE ATTENUATING MEANS FOR THE DISCHARGE OF A COMPRESSOR

Earl F. Murphy, Florence, Ala., assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware

Filed Mar. 27, 1969, Ser. No. 811,080
Int. Cl. F01n *3/06, 1/00, 1/08*
U.S. Cl. 181—36 **5 Claims**



Noise attenuating means for a compressor discharge, a flexible diaphragm peripherally clamped and responsive to high pressure from a compressor discharge to flex towards a mitral wall and momentarily substantially block the flow of discharge fluid to the discharge pipe to decrease the pressure in the discharge pipe at the time of greatest discharge pressure from the compressor, the high pressure trapped by the diaphragm having restricted flow to the discharge pipe through or past the diaphragm when the compressor discharge valve is closed, thereby more nearly equalizing the pressure in the discharge pipe, resulting in a decrease in peak pressures and a consequent lowering of the discharge noise level.

3,507,354

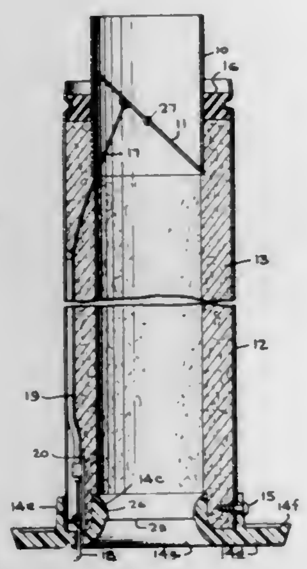
SOUND ATTENUATING AIR DISCHARGE TERMINAL DEVICE

John J. Dieckmann, Rockingham, Va., and Harold Mawby, Grass Lake, Mich., assignors to Dunham-Bush, Inc., a corporation of Delaware

Filed June 14, 1968, Ser. No. 737,087

Int. Cl. F24f *13/06;* **F01n** *1/24*

U.S. Cl. 181—42 **10 Claims**



A sound attenuating air discharge terminal device for air conditioning systems using high velocity air, wherein a tubular liner of sound absorbing material, such as fiber glass formed with a binder, is joined to a terminator nozzle and has its interior surface directly exposed to the air flowing to the nozzle.

3,507,355

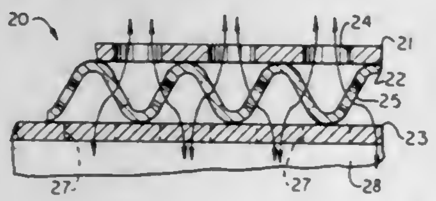
MULTI-LAYER FACE MATERIAL FOR SOUND ABSORPTIVE DUCT LINING MATERIAL

Dale W. R. Lawson, Bonita, Calif., assignor to Rohr Corporation, Chula Vista, Calif., a corporation of California

Filed May 22, 1969, Ser. No. 826,821

Int. Cl. F01n *1/02;* **G10k** *11/00*

U.S. Cl. 181—48 **10 Claims**



A thin, porous, multi-layer, sound absorptive face material is separated a known distance from a backing sheet by a layer of core material to provide one or more resonant backing cavities. The face material comprises a plurality of relatively superposed layers of sheet material, the outer and inner layers each having a multiplicity of small openings therein. Each opening in the outer layer opens into an intermediate space provided between the outer and inner layers, as does each opening in the inner layer; and each opening in the outer layer is offset laterally from, and in open communication, through the intermediate space, with at least one opening in the inner layer to provide a multiplicity of indirect, or tortuous passages through the multi-layer face material. The core material comprises a honeycomb structure with notches in the edges thereof adjoining the backing sheet to drain off water or other liquid which may tend to accumulate therein.

3,507,356

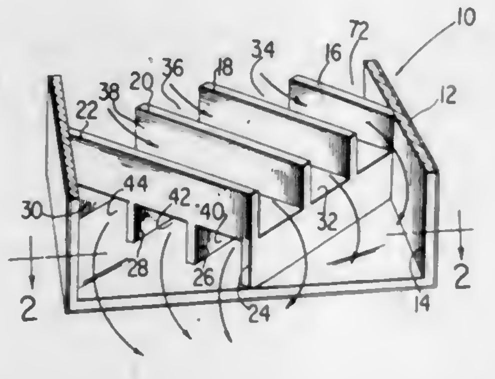
MIXING AND SOUND BAFFLE ASSEMBLY FOR GASEOUS FLUID SYSTEMS

William E. Smith, Charlotte, N.C., assignor, by mesne assignments, to Aeronca, Inc., Middletown, Ohio, a corporation of Ohio

Filed Sept. 22, 1967, Ser. No. 669,765

Int. Cl. F01n *1/10*

U.S. Cl. 181—50 **7 Claims**



An air mixing and attenuating duct arrangement for mixing cool and heated air and having at least two sets of oppositely and angularly disposed passageways so that air passing therethrough is given a twirling motion and is mixed.

3,507,357

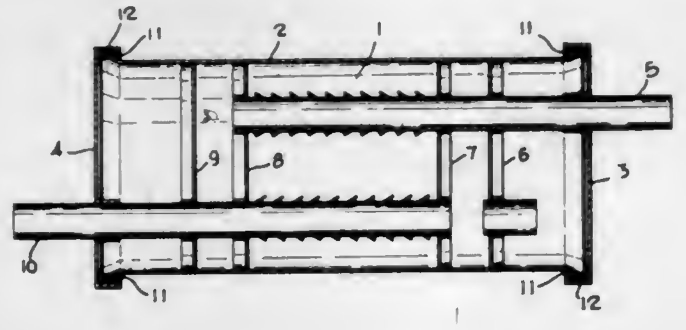
CERAMIC-COATED MUFFLERS AND METHODS OF MAKING SAME

James C. Blome, 12330 Winnsboro Drive, Bridgeton, Mo. 63042

Filed May 9, 1968, Ser. No. 727,869

Int. Cl. B21d *51/18;* **C23d** *5/10;* **F01n** *7/18*

U.S. Cl. 181—61 **10 Claims**



The present invention relates generally to an improved muffler and a method for constructing such a muffler and similar devices. The component parts of the muffler are coated with ceramic and then secured to one another using a suitable adhesive so that no break occurs in the ceramic coating.

3,507,358

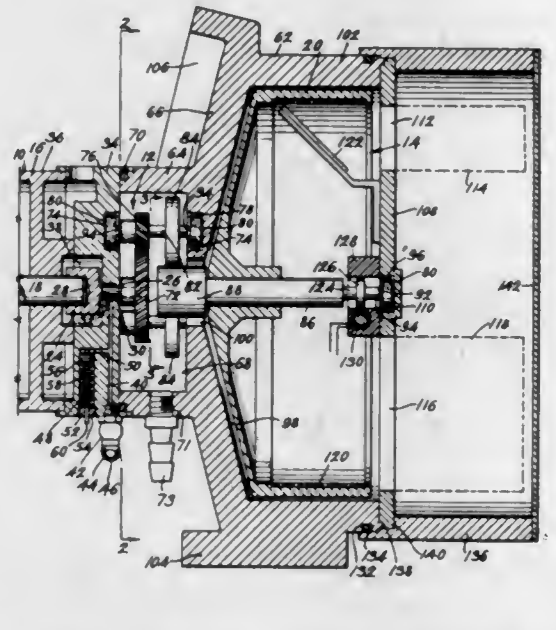
ELECTRIC-MOTOR-DRIVEN EVACUATED HIGH SPEED ROTATING SYSTEM FOR CAMERAS

Willard E. Buck, Boulder, Colo., assignor to Technical Operations, Incorporated, Burlington, Mass., a corporation of Delaware

Original application Aug. 26, 1965, Ser. No. 495,742, now Patent No. 3,323,845, dated June 6, 1967. Divided and this application May 15, 1967, Ser. No. 651,338

Int. Cl. F16n *21/00*

U.S. Cl. 184—6 **6 Claims**



A high speed rotational system includes lubrication means in an end plate. A lubricant receiving means and lubricant reservoir means cooperate with said end plate to urge lubricant to the desired point of usage.

3,507,359

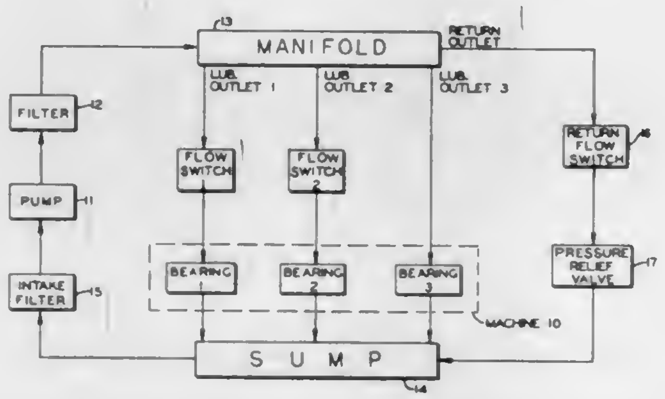
LUBRICATING SYSTEM

Howard B. Warnock, Minster, Ohio, assignor to The Minster Machine Company, Minster, Ohio, a corporation of Ohio

Filed Mar. 27, 1968, Ser. No. 716,504

Int. Cl. F16n *29/04*

U.S. Cl. 184—6 **8 Claims**



A lubricating system for a machine has a manifold which is supplied with a lubricant. The manifold has a return outlet and one or more lubricating outlets. The return outlet is connected through a return flow switch to a sump, and each lubricating outlet is connected through a lubricating flow switch to the machine. The lubricant from the machine is returned to the sump. The flow switches respectively indicate reduced flow in the return or a reduced flow to the machine.

3,507,360

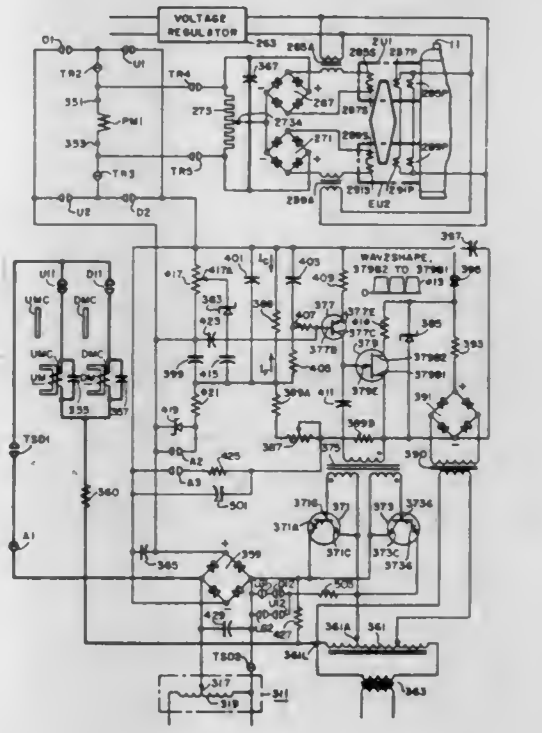
MOTOR ARRANGEMENT HAVING ACCELERATION CONTROL

William M. Ostrander, Hackensack, and Alvin O. Lund, Little Falls, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 28, 1966, Ser. No. 538,088

Int. Cl. B66b *1/24*

U.S. Cl. 187—29 **7 Claims**



An elevator motor is energized in accordance with the difference between an acceleration pattern and the speed of the motor. The acceleration pattern is represented by a command current which is dependent on the charging of a capacitor through a resistor. This charging is proportioned to assure smooth performance of the elevator. The difference between the command current and a feedback current dependent on the rate-of-change of energization supplied to pattern reference means controls the acceleration pattern. If the elevator represents a hauling load, a small energization is supplied to the motor when the elevator is to be started for the purpose of supporting the hauling load during build up of motor energization.

3,507,361

VEHICLE SYSTEM HAVING LOST-MOTION CONTROL DEVICE

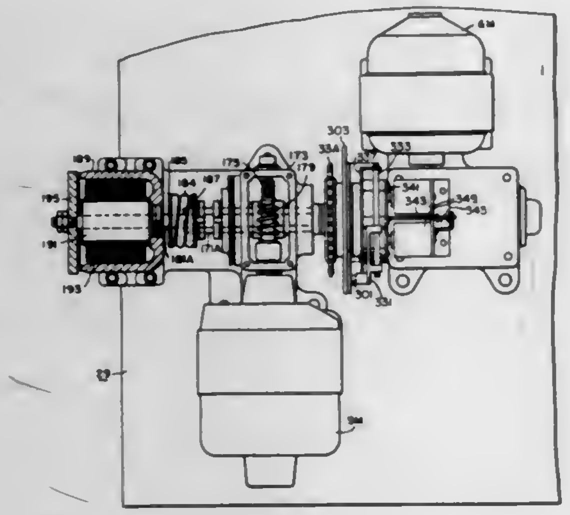
Conwell Savage, New York, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1966, Ser. No. 601,706

Int. Cl. B66b *1/24*

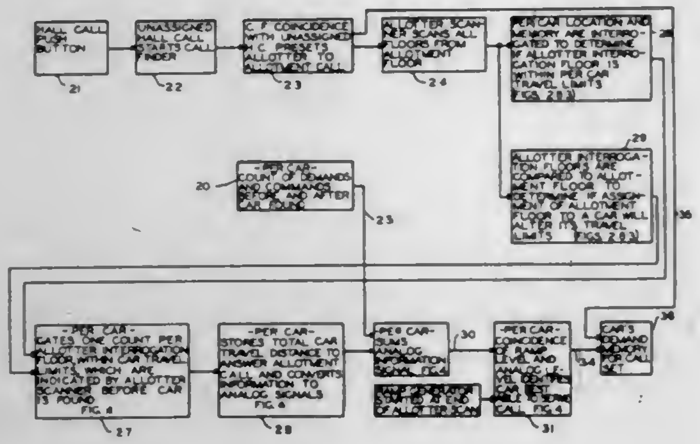
U.S. Cl. 187—29 **10 Claims**

An elevator car is arranged to move in a path having first, second and third parts. It is controlled in part by a floor selector which is driven through a coupling comprising a disc having a spiral groove connecting two spaced sockets for receiving a pin. The pin and the disc are mounted for rotation about a common center. When the elevator car is in the first and second parts of its path the pin is respectively in one of the two sockets to drive the selector. When the car is in the third part the pin moves through the spiral groove while the selector remains stationary. The third part may be an express zone.



3,507,362
APPARATUS FOR MEASURING ELEVATOR CAR TRAVEL

James H. Kuzara, Sylvania, and Orval J. Martin and Gerald D. Robaszkiewicz, Toledo, Ohio, assignors to Reliance Electric and Engineering Company, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 20, 1967, Ser. No. 610,581
Int. Cl. B66b *1/34*
U.S. Cl. 187—29 15 Claims


HALL CALL PUSH BUTTON
UNASSIGNED HALL CALL STARTS CALL FINDER
C. F. COINCIDENCE WITH UNASSIGNED H. C. PRESETS ALLOTTER TO ALLOTMENT CALL
ALLOTTER SCANNER SCANS ALL FLOORS FROM ALLOTMENT FLOOR
PER CAR LOCATION AND MEMORY ARE INTERROGATED TO DETERMINE IF ALLOTTER INTERROGATION FLOOR IS WITHIN PER CAR TRAVEL LIMITS (FIGS. 2&3)
-PER CAR- COUNT OF DEMANDS AND COMMANDS BEFORE AND AFTER CAR FOUND
ALLOTTER INTERROGATION FLOORS ARE COMPARED TO ALLOTMENT FLOOR TO DETERMINE IF ASSIGNMENT OF ALLOTMENT FLOOR TO A CAR WILL ALTER ITS TRAVEL LIMITS (FIGS. 2&3)
-PER CAR- GATES ONE COUNT PER ALLOTTER INTERROGATION FLOOR WITHIN CAR TRAVEL LIMITS WHICH ARE INDICATED BY ALLOTTER SCANNER BEFORE CAR IS FOUND FIG. 4
-PER CAR- STORES TOTAL CAR TRAVEL DISTANCE TO ANSWER ALLOTMENT CALL AND CONVERTS INFORMATION TO ANALOG SIGNALS FIG. 4
-PER CAR- SUMS ANALOG INFORMATION SIGNAL FIG. 4
RAMP GENERATOR STARTED AT END OF ALLOTTER SCAN
-PER CAR- COINCIDENCE OF RAMP LEVEL AND ANALOG LEVEL DEFINES CAR BEST SUITED TO SERVE CALL FIG. 4
CAR'S DEMAND MEMORY FOR CALL SET
20
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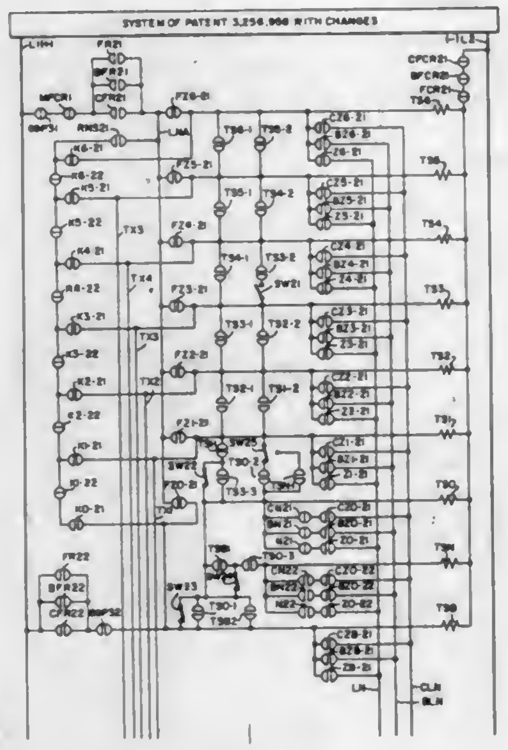
36

An apparatus for measuring the distance an elevator car is required to travel to serve a call. Distance is scanned between the floor of the call and the car along the path which the car will travel. A gate admits scanned floor counts to a distance counter only for those floors within the range of travel required of the car as defined by the calls then assigned to the car, the current location of the car and the location of the call being evaluated.

3,507,363
ELEVATOR SYSTEM WITH CAR SELECTION

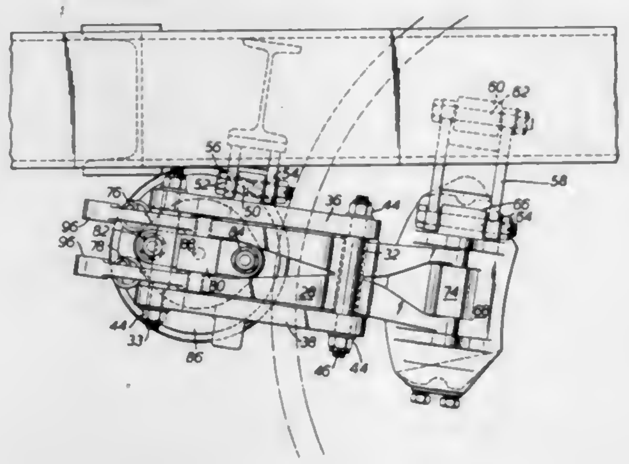
Henry C. Savino, Hackensack, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1967, Ser. No. 678,663
Int. Cl. B66b *1/24*
U.S. Cl. 187—29 18 Claims

An elevator system has a number of landings divided into zones and several elevator cars. Each elevator car under certain conditions is available for assignment to any of the zones. When a demand for service is registered the nearest available elevator car is selected to respond to the demand. Provision also is made to select the closest elevator car to proceed to the lowest of several up demands in the zone.



3,507,364
RAILWAY DISC BRAKES AND SUPPORTING MEANS THEREFOR

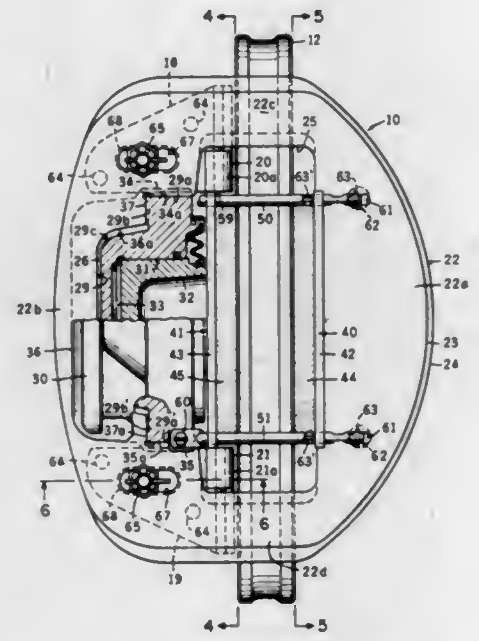
John B. Tompkin, Tyseley, England, assignor to Girling Limited
Filed Sept. 5, 1968, Ser. No. 757,605
Claims priority, application Great Britain, Sept. 18, 1967, 42,385/67; Feb. 19, 1968, 8,047/68
Int. Cl. B61h *13/00*
U.S. Cl. 188—59 7 Claims



A railway vehicle disc brake for mounting upon a railway vehicle frame or bogie frame to co-operate with a brake rotor (such as a brake disc or discs) rotatable with a wheel of the vehicle, the brake comprising a yoke, a pair of opposed caliper levers pivotally mounted on the yoke and pivotally supporting brake shoes at their inner ends. An actuator separates the outer ends of the levers to apply the brake shoes to the brake rotor, the yoke being mounted on the said frame for angular movement about a yoke axis in the central plane of the rotor and extending generally radially of the rotor. Each shoe is supported from the frame by a suspension link which is connected by spaced, parallel pivot pins to the frame and the shoe respectively, the pivot pins being parallel with the axis of angular movement of the yoke, in such a manner that the links are effective in restraining pivotal movement of the shoes, relative to the rotor about the pivots between the shoes and the caliper levers.

3,507,365
CLOSED LOOP DISC BRAKE AND SHOE RETENTION MEANS

Edward J. Falk, St. Louis, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed Mar. 8, 1968, Ser. No. 711,579
Int. Cl. F16d *65/02*
U.S. Cl. 188—72.1 5 Claims

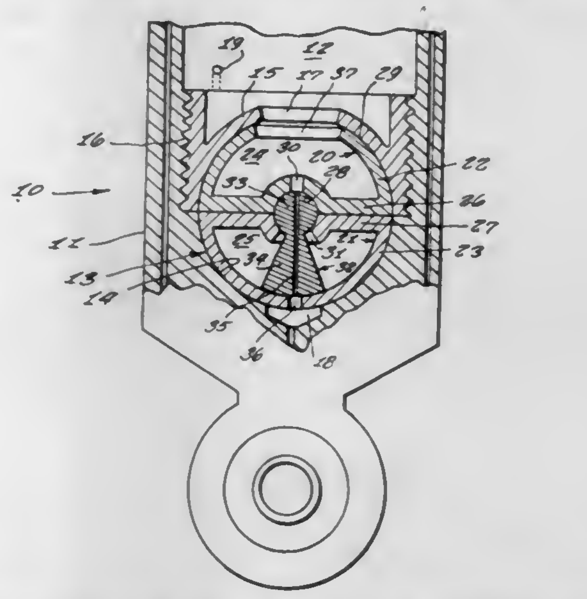


A disc brake is provided with a closed loop member about a chordal portion of a rotatable disc and movable in a fixed support having a pair of spaced anchors adjacent to one side of said disc. A brake shoe is slidable on said anchors, and a wheel cylinder is carried by said member for moving said member in one direction and said brake shoe in an opposite direction into frictional engagement with said one disc side wherein the torque thereof is transmitted from said brake shoe directly onto one of said anchors independently of said member. Another brake shoe is carried on said member and movable therewith in the one direction into frictional engagement with the other side of said disc wherein the torque thereof is transmitted from said other brake shoe through said member to said wheel cylinder and therefrom onto said one anchor.

3,507,366
VARIABLE SHOCK ABSORBER AND VALVE MEANS THEREFOR

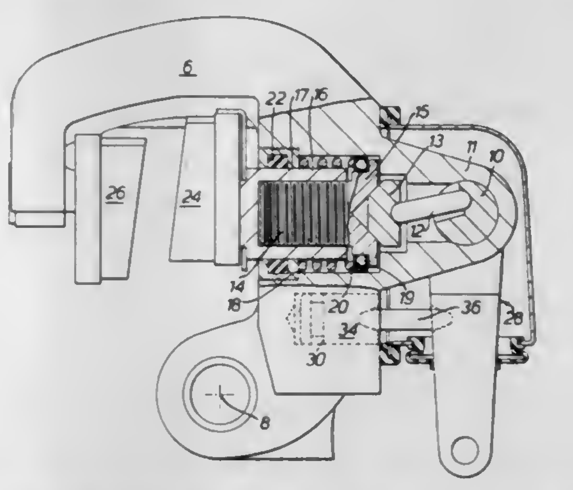
William L. King, Beale AFB, Calif. (3rd Air Div. (SAC) CMR, Box 2032, APO, San Francisco, Calif. 96334)
Filed June 5, 1967, Ser. No. 643,437
Int. Cl. F16f *9/34*
U.S. Cl. 188—100 1 Claim

A shock absorber for automobiles, which includes a pendant valve suspended within a globular valve, the pendant valve being more sensitive to inertial forces due to its center of gravity being located further from a center of rotation, thus causing upon abrupt stop or turn, to cut off fluid to a soft ride position of the shock absorber, whereas the globular valve would compensate for gradual changes in attitude of the vehicle, such as going up and down hills and for mounting slightly out of vertical position.



3,507,367
DISC BRAKE WITH MULTIPLE OPERATORS

Peter William Brown and Glyn Phillip Reginald Farr, Tyseley, England, assignors to Girling Limited
Filed Aug. 12, 1968, Ser. No. 752,011
Claims priority, application Great Britain, Aug. 15, 1967, 37,395/67
Int. Cl. F16d *65/14*
U.S. Cl. 188—106 8 Claims

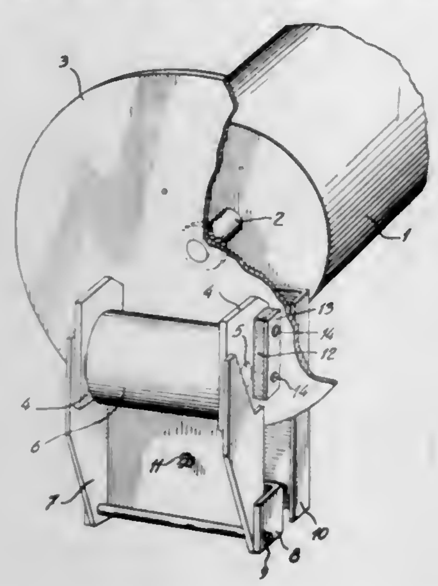


The invention resides in a disc brake having a reaction structure such as a caliper or a sliding yoke carrying a fixed pad and a movable pad which is directly actuated by hydraulic means acting through a thrust transmitting assembly of adjustable length, and wherein the hydraulic means comprises separately actuating pistons. Preferably, thurst is transferred from the pistons to the said assembly by a rotary cam, and the pistons are at the same distance as each other from the axis of rotation of the cam. The cam may also carry an actuating lever of a handbrake linkage.

3,507,368
BRAKING DEVICE FOR GATE

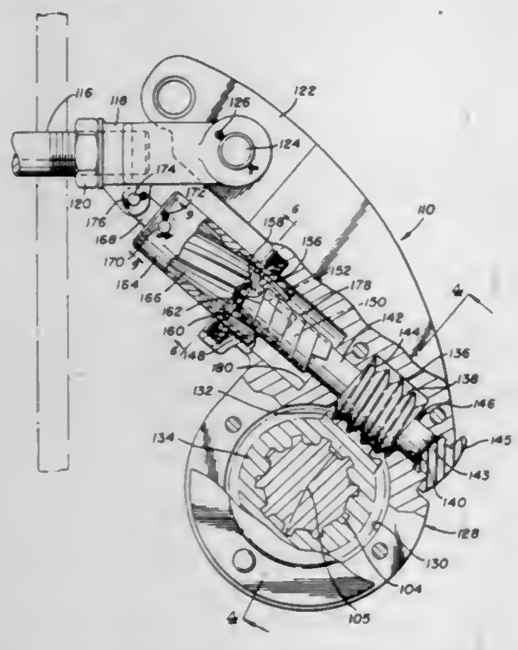
Henri Durant, Brainel'Alleud, Belgium, assignor to Ateliers de Constructions Electriques de Charleroi (ACEC) Societe Anonyme, Brussels, Belgium
Filed Feb. 21, 1968, Ser. No. 707,261
Claims priority, application Belgium, Feb. 23, 1967, 694,495
Int. Cl. F16d *55/02*
U.S. Cl. 188—164 3 Claims

A braking device for gates, particularly a railroad crossing gate comprising a disc, having a flat face, mounted on the articulation shaft of the gate. An electromagnet is mounted in close relationship with the flat face on a support mounted for articulation about an axis parallel to the flat face. The electromagnet includes at the ends of the magnetic core a pair of pole pieces in the form of plates the edges of which adjacent the disc flat face are provided with brake linings. The articulation axis lies between the disc flat face and a vertical through the center of gravity of the support and arranged to cause articulation of the support and electromagnet away from the disc when the coil is deenergized.



3,507,369
ADJUSTER FOR CAM BRAKE

James L. Oliver, Royal Oak, Mich., assignor to Eaton Yale & Towne Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 28, 1967, Ser. No. 694,134
Int. Cl. F16d *65/60, 51/50*
U.S. Cl. 188—196 **19 Claims**

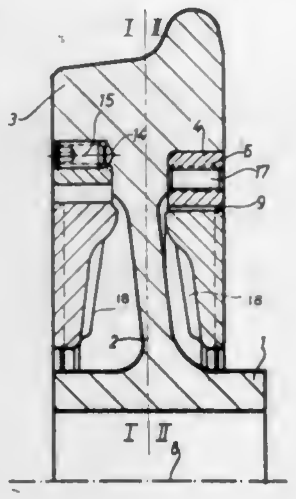


An automatic adjuster for a cam actuated brake which is capable of differentiating that portion of the actuating motor stroke which is required to take up the clearance existing between the brake shoes and the brake drum in the rest position from that portion of the total stroke which is required as a result of elastic deformation of the brake drum, brake shoe linings, brake shoes, camshaft and air chamber mounting bracket.

A linkage assembly including a force or torque limited one-way drive mechanism is provided between the power source and the worm shaft of a cam actuated brake system for rotating the worm and thereby adjusting the brakes on the brake application stroke of the motor only so long as excessive clearance exists between the brake shoes and the brake drum.

3,507,370
BRAKE DISK FOR RAILWAY VEHICLE WHEELS

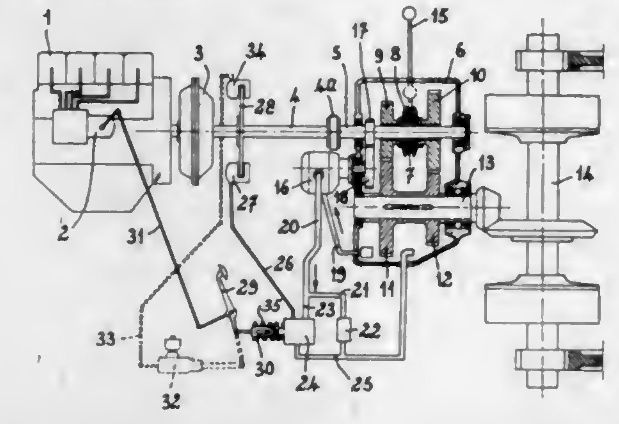
Eberhard Falch, Munich, Germany, assignor to Knorr-Bremse G.m.b.H., Munich, Germany, a limited liability company of Germany
Filed Dec. 3, 1968, Ser. No. 780,834
Claims priority, application Germany, Feb. 2, 1968, 1,605,855
Int. Cl. F16d *65/12*
U.S. Cl. 188—218 **6 Claims**



A railway vehicle wheel having a rim has a carrier ring seated within the rim by a press fit. A brake disk is located within the carrier ring and has its outer periphery spaced from the inner face of the carrier ring. Retaining pins have their ends seated in the brake disk and extend radially outwardly into the carrier ring. As a modification, the carrier ring may be mounted on a number of threaded bolts welded to the wheel and parallel to the axis of the wheel.

3,507,371
DEVICE TO FACILITATE GEAR CHANGING IN A GEAR BOX PLACED BEHIND A COUPLING MEMBER OF THE HYDROKINETIC TYPE

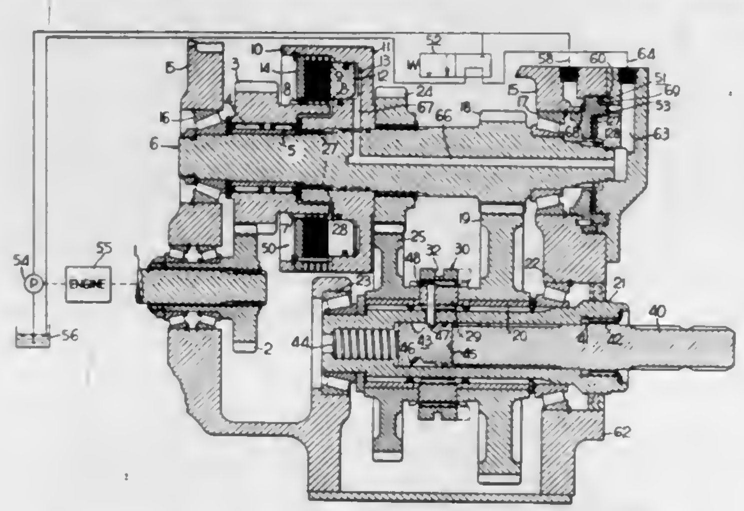
Paul Pierre Richard, Les Buissonmets, Saint-Cyr-au-Mont-d'Or, Rhone, France, and Jean Louis Joseph Pellat-Finet, Chemin des Ardelets, Saint-Didier-au-Mont-d'Or, Rhone, France
Filed Apr. 2, 1968, Ser. No. 718,173
Claims priority, application France, Apr. 5, 1967, 48,496
Int. Cl. F16d *33/16, 67/04;* **F16h** *47/08*
U.S. Cl. 192—3.23 **7 Claims**



A device to facilitate gear-changing in a gear box mounted after an engine and a torque converter, e.g. in a tractor, includes an engine speed regulator, a pump rotatably connected to the output shaft of the torque converter, the flow from the pump being directable to a brake cylinder by a distributor. The brake is connected to the output shaft. The engine regulator is linked through a sliding shackle to the distributor control. Pressure-leakage means is included and may be a separate calibrated valve. When engine speed is reduced by the regulator, the distributor control towards the end of its stroke puts the distributor in the position directing the flow to actuate the brake and thus reduce the torque available on the output shaft. The pressure-leakage ensures a residual flow and hence a small residual rotation of the output shaft suitable for easy and harmless engagement of the gears. A distributor return spring may be includes to ensure prompt return to its initial configuration. An auxiliary disc brake may be linked to the pedal. The pump may serve to lubricate the gear box by its return flow.

3,507,372
HYDRAULIC CLUTCH AND BRAKE SYSTEM

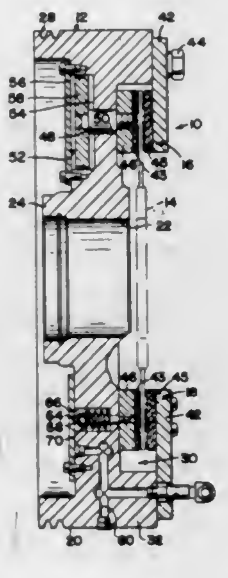
Gary O. Gilbertson, Milwaukee, and Donald W. Longshore and Robert E. Schott, New Berlin, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 3, 1968, Ser. No. 734,051
Int. Cl. F16d *67/04*
U.S. Cl. 192—18 **8 Claims**



A hydraulically actuated clutch and brake for controlling the power delivery from a power take-off shaft by coordinating the engagement and release of the brake and clutch and providing control for the power take-off implement.

3,507,373
LOW INERTIA CLUTCH AND FLYWHEEL ASSEMBLY

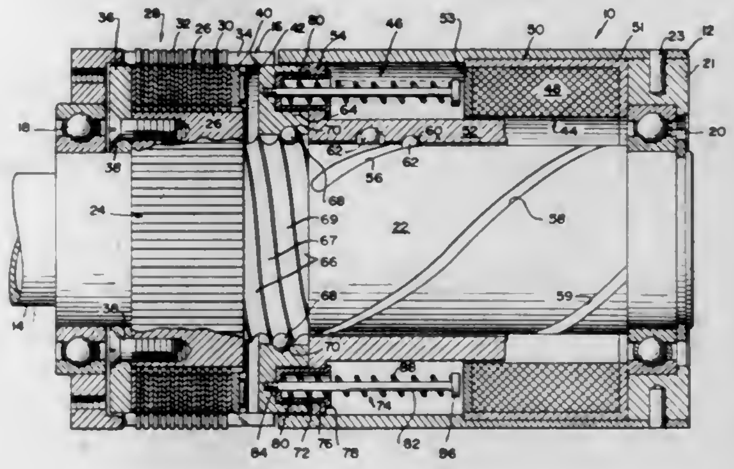
Derald H. Kraft, Canton, Ohio, assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Jan. 12, 1968, Ser. No. 697,528
Int. Cl. F16d *13/40, 25/06*
U.S. Cl. 192—85 **8 Claims**



A clutch and flywheel assembly in which the flywheel comprises the housing for the clutch and all elements of the clutch are supported within the axial and radial dimensions of the flywheel.

3,507,374
ELECTROMAGNETIC CLUTCH ACTUATOR

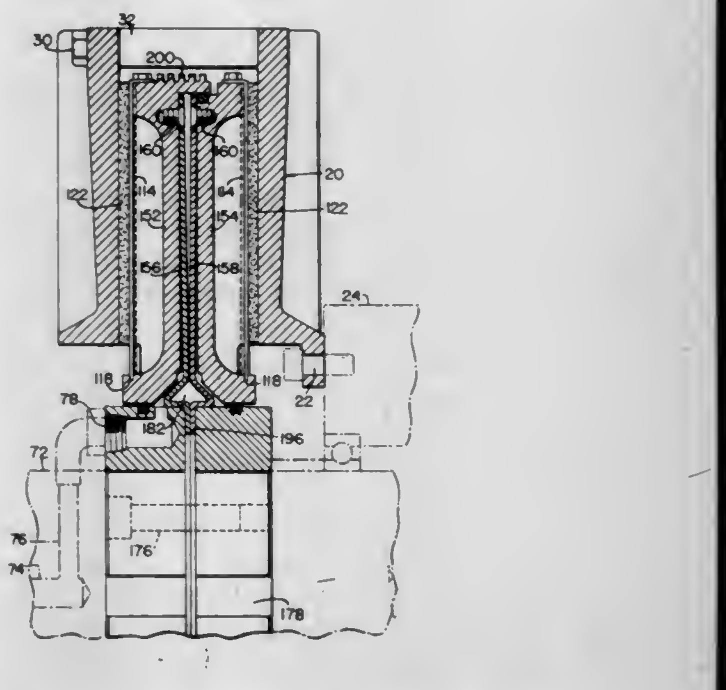
Charles M. Allaben, Jr., Ithaca, N.Y., assignor, by mesne assignments to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 589,597
Int. Cl. F16d *27/10*
U.S. Cl. 192—84 **11 Claims**



A clutch of the disc pack type in which engagement is initiated electrically and in which the initiating force is multiplied by an intermediate force-amplifying device.

3,507,375
FLUID OPERATED CLUTCH WITH DISC SPRINGS

Linus J. Ryland, Cincinnati, Ohio, assignor to Charles L. Mitchell, Cincinnati, Ohio
Continuation of application Ser. No. 648,103, June 22, 1967. This application Jan. 29, 1969, Ser. No. 800,333
Int. Cl. F16d *19/00, 13/60, 13/44*
U.S. Cl. 192—85 **17 Claims**

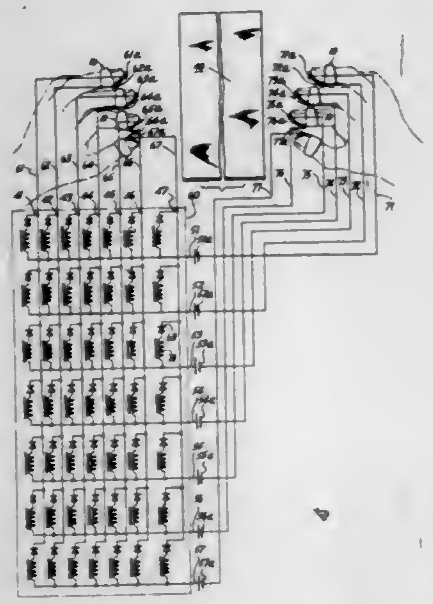


The clutch incorporates means for adequate cooling of parts, whether engaged or disengaged, and includes hub driving disc pre-stressed for assuring positive retraction of the lining carriers from the drive member upon clutch disengagement, to avoid frictional drag, noisy operation, and hesitant response in engagement and disengagement. Clutch engagement is effected by pressure of fluid within an expandable chamber enclosing the hub driving discs, without the use of flexible bladders or the like. Individual lining carriers provided are readily replaceable when necessary, without dismantling the clutch.

The driven unit of the clutch includes a bi-part hub easily applied to the driven shaft, and arranged to contract upon the driven shaft during assembly to reduce the hub clearance and square the driven parts with the driven shaft axis. A low inertia rating, reduction in size and weight, and compactness, are notable features.

3,507,376
COMMUNICATION SYSTEM FOR THE HANDICAPPED

Haig Kafafian, 4201 Cathedral Ave. NW., Washington, D.C. 20016
Filed Nov. 16, 1967, Ser. No. 683,663
Int. Cl. B41j *5/10*
U.S. Cl. 197—19 **10 Claims**



The present invention relates to an improved method and apparatus for operating typewriting, Braille or other program-controlled machines, which are particularly suited for use by handicapped persons since the manual operation of a conventional keyboard is not required. According to one embodiment of the invention the operator is provided with an arrangement of contacts or other means fixed upon his finger tips and electrically connected to a master character selector. The contacts may be activated by moving the appropriate fingers adjacent to a flat conductive plate located in a console on or remote from the machine in order to complete the electrical circuits necessary for the selection of a predetermined key and operation of the machine. In a second embodiment, the electrical contacts are fixed in the fingers of gloves worn by the operator. In that embodiment the thumb of each glove acts as a conductive plate and the operator need only place the respective finger contacts against the thumb in order to complete the desired electrical circuits.

In either of these embodiments the finger contacts may be replaced by pressure actuated switches mounted on the fingers or installed in the glove fingers. Such switches need not be touched to a conductive plate but may be operated by merely pressing the finger against any hard surface.

In all of the above embodiments a dual input matrix circuit is used as a master character selector; with the *x* input circuits being controlled by the "right hand" contacts and the *y* inputs being controlled by the "left hand" contacts, for example. A dual input code or machine language is used whereby each individual character is selected by closing a unique combination of one contact of the *x* input circuits and one contact of the *y* input circuits.

In another embodiment of the invention, the same dual input code is used but the finger contacts are replaced by two small groupings of keys. For example, a left grouping of seven keys controls the *y* input circuits and a right grouping of seven keys controls the *x* input circuits of the character selector. The two key groupings are mounted near each other so that they may be easily spanned and depressed by one hand of an operator or by an individual wearing prosthetic and/or orthotic/prosthetic devices. Alternatively, the two groups of keys may be mounted, respectively, on the right and left sides of a wheelchair.

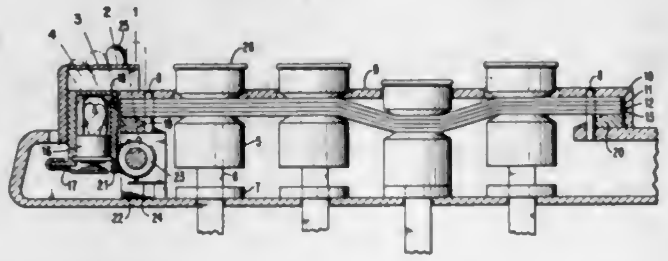
3,507,377
DATA UTILIZING SYSTEM INCLUDING A TABULATING CARD READER

Gilbert A. Denis, Rochester, N.Y., assignor to The Singer Company, a corporation of New Jersey
Filed Aug. 20, 1965, Ser. No. 481,242
Int. Cl. B41j *5/36*
U.S. Cl. 197—20 **10 Claims**

The present invention relates to machines and systems for translating data information supplied manually or read from record media such as punched tapes and tabulating cards. More particularly, the inventon relates to machines and systems for program-controlled translation of data and especially to the production of printed documents and other reproduction of data by use of information derived in whole or in part from punched tape and tabulating cards read by a program-controlling and program-controlled punched tape reader or tabulating card reader or both.

3,507,378
KEYBOARD FOR DISPLAYING ONE OF A PLURALITY OF SYMBOLIC SETS STORED THEREIN

Paul E. Stuckert, Katonah, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 10, 1968, Ser. No. 735,894
Int. Cl. B41j *5/08*
U.S. Cl. 197—98 **1 Claim**

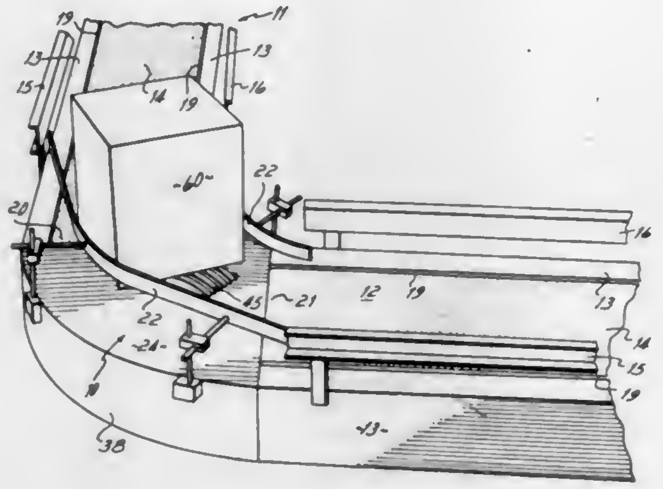


A keyboard comprising a storage means for storing a plurality of symbolic sets, an edge illuminating means for selectively edge illuminating one of the symbolic sets and a display means for making visible to the viewer the illuminated symbolic set of the face of the keys of the keyboard.

3,507,379
POWER CURVE

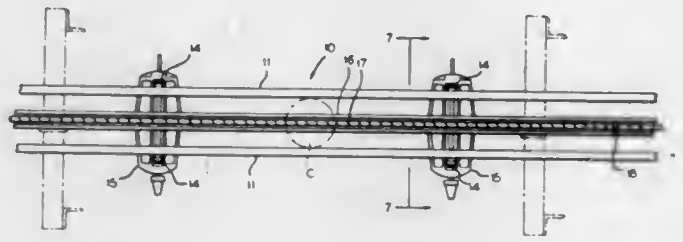
Kenneth H. Johnston, Cleves, Ohio, assignor to Associated Millwrights, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Mar. 28, 1968, Ser. No. 716,738
Int. Cl. B65g *47/00*
U.S. Cl. 198—28 **5 Claims**

A power curve for transferring an article from a feed path that is angularly positioned relative to a discharge path, a turn angle being established between the two paths, comprising, in preferred form, (a) a transfer plate positioned between the two paths to provide a turn surface having an arcuate center line joining the center lines of the two paths, the center point of the arcuate center line being the center point of the turn angle, (b) structure defining a hole in the transfer plate, (c) a wheel mounted beneath the transfer plate and positioned so that a portion of the wheel periphery extends up through the hole, the wheel axis being positioned parallel with a line bisecting the turn angle, and (d) drive means for rotating the wheel.



3,507,380
CONVEYOR WITH WOOD CABLE GUIDE

Steve Sarovich, Oak Forest, and Theodore J. Baburek, Oak Lawn, Ill., assignors to Sardee Corporation, Chicago Ridge, Ill., a corporation of Illinois
Filed Jan. 24, 1968, Ser. No. 700,178
Int. Cl. B65g *19/22*
U.S. Cl. 198—130 **8 Claims**

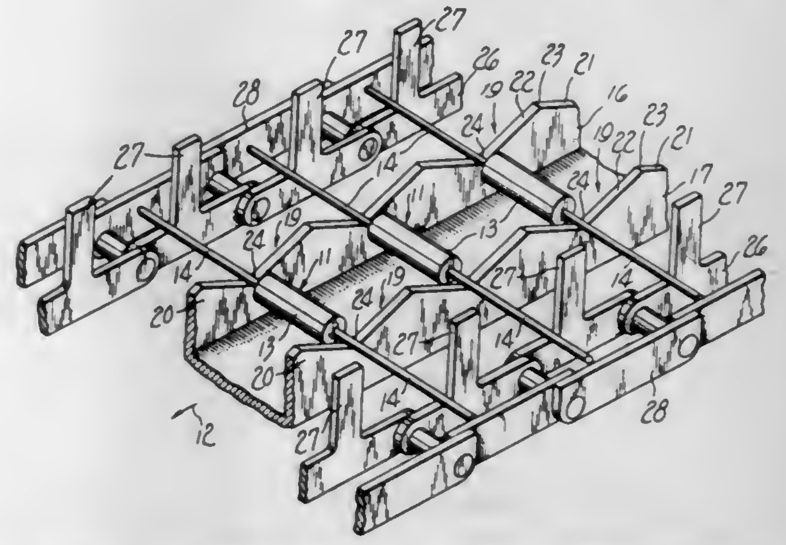


An article conveyor has a driven cable supported by, and movable in, a continuous groove formed in a wooden lubricant-impregnated guide track, the diameter of the cable being slightly larger than the depth of the groove so that a portion of the cable protrudes above the top of the track. The conveyor is provided with side rails for supporting the article as it is moved along by the cable upon which said article rests.

3,507,381
APPARATUS FOR ADVANCING AND ROTATING ARTICLES

Ernest E. Deveres, Lowell, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a Corporation of New York
Filed Feb. 6, 1968, Ser. No. 703,383
Int. Cl. B65g *19/00*
U.S. Cl. 198—173 **4 Claims**

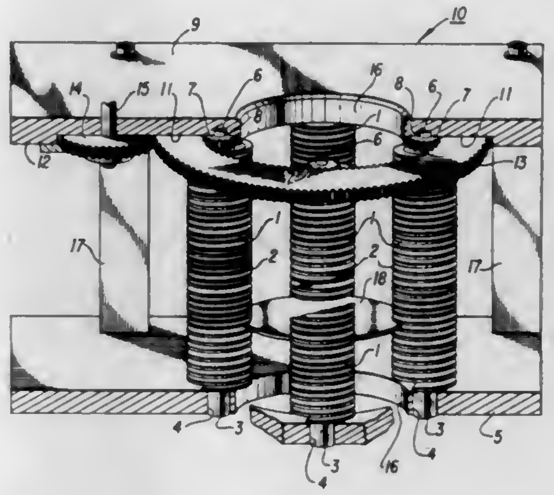
Article advancing and rotating apparatus includes a pair of generally parallel horizontal rails extending through a treating zone. Serrated top surfaces of the rails define upwardly and downwardly inclined slopes for supporting leads projecting axially from component bodies. A pair of chains is advanced continuously and lugs extending from the chains engage the leads at either end of a component to push the leads up the upwardly inclined slopes.



The leads roll freely ahead of the lugs on the downwardly inclined slopes to rotate the components within the treating zone.

3,507,382
SEMICONDUCTOR SLICE STORAGE AND CONVEYOR SYSTEM

Wallace O. Wells, Garland, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 8, 1968, Ser. No. 711,589
Int. Cl. B65g *33/02*
U.S. Cl. 198—213 **1 Claim**

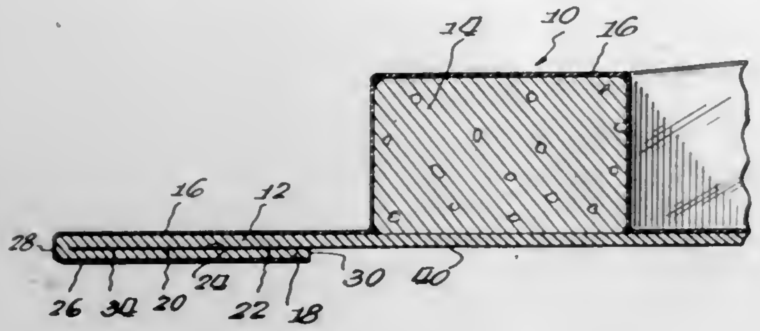


Disclosed is a screw system for handling semiconductor slices that utilizes three or more lead screws in a parallel spaced arrangement. Semiconductor slices are introduced at one end of the lead screws and held in place by the corresponding threads of each lead screw. The lead screws are synchronized such that the introduction and retrieval of the individual slices to and from the system is accomplished by rotating the lead screws in unison. The screw system may be incorporated into a conveyor furnace or a storage magazine for semiconductor slices.

3,507,383
SKIN PACKAGE

Donald R. Rorer, Lake Bluff, Ill., assignor to Stone Container Corporation, Chicago, Ill., a corporation of Illinois
Filed June 12, 1969, Ser. No. 832,753
Int. Cl. B65d *85/72, 31/02, 25/06*
U.S. Cl. 206—46 **16 Claims**

A skin package of the type in which an article is supported on a base pad or substrate of plastic or paperboard material encased in a skin of thermoplastic film which has been vacuum-formed or otherwise tightly draped around the article and laminated to the base pad. The skin package utilizes a substrate material of heretofore unusually and unexpectedly thin-gauge paperboard which is rigidified by means of folded-under opposite edges of the substrate secured to the underside of the substrate, said folded-under portions forming return-bent flange formations which include the thermoplastic film being likewise so folded therewith.



3,507,384

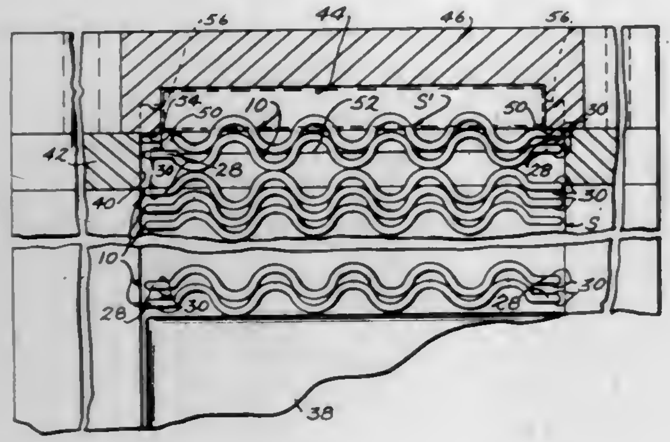
CORRUGATED FASTENER STRUCTURE FOR USE IN FASTENER DRIVING DEVICE

Raymond F. Lippitt, Bethesda, Md., assignor to Textron Inc., a corporation of Delaware

Filed Oct. 23, 1967, Ser. No. 677,224

Int. Cl. B65d *83/00;* **F16b** *15/00;* **B25c**

U.S. Cl. 206—56 **4 Claims**



The specification discloses a fastener stick for use in a fastener driving device comprising a plurality of individual corrugated fasteners of similar construction secured together in row formation with their corrugations similarly oriented in abutting nested relation, each of the corrugated fasteners having flat portions at the ends thereof providing opposed surfaces of relatively narrow width positioned centrally with respect to the corrugation thickness thereof either of which may be oriented in leading or trailing fashion in the magazine assembly of the fastener driving device so as to engage the stop surfaces provided therein when in the position of the leading corrugated fastener of the stick within the magazine assembly to thereby present the leading portion only of the corrugations thereof within the trailing portion of the drive track of the fastener driving device for engagement by the fastener driving element during its drive stroke and for movement therewith after engagement during which the leading corrugated fastener is initially stripped from the next adjacent nested fastener, cammed into alignment with the drive track and fastener driving element and finally driven into the workpiece.

3,507,385

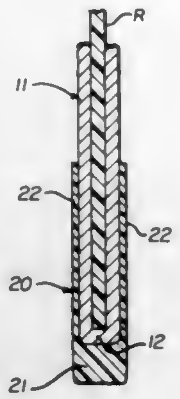
SPINE LOCK PHONOGRAPH RECORD JACKET

Stephen George, 241 Swinton Ave., Bronx, N.Y. 10465

Filed Aug. 8, 1968, Ser. No. 751,138

Int. Cl. B65d *27/00, 85/30*

U.S. Cl. 206—62 **7 Claims**



A record jacket for protectively and securely gripping a disc type phonograph record for storage in which the jacket is formed of the conventional square open-ended envelope type. In order to insure retention of the record within the jacket and prevent inadvertent slippage of the record from the jacket, an elongate spine spring clamp is arranged over the closed spine edge of the jacket thereby imparting a gripping action to the inside walls of the jacket with respect to the inner end of the record within the jacket.

3,507,386

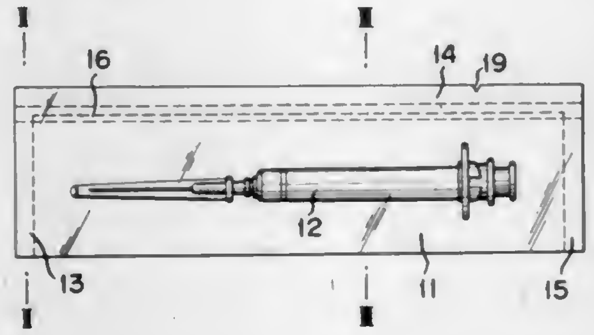
PACKAGE FOR STERILIZED ARTICLES

Ichiro Ishii and Yasuo Kajihara, Tokyo, Japan, assignors to Jintan Terumo Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Sept. 10, 1968, Ser. No. 758,922

Int. Cl. A61b *19/02*

U.S. Cl. 206—63.2 **6 Claims**



A package for sterilized articles comprising receptacle made of gas-impermeable film for enclosing the articles, and gas-permeable germproof paper constituting a small passage inside the receptacle, through which sterile gas can be penetrated to sterilize articles contained within the package.

3,507,387

PROCESS FOR SEPARATING MEAT FROM BONES

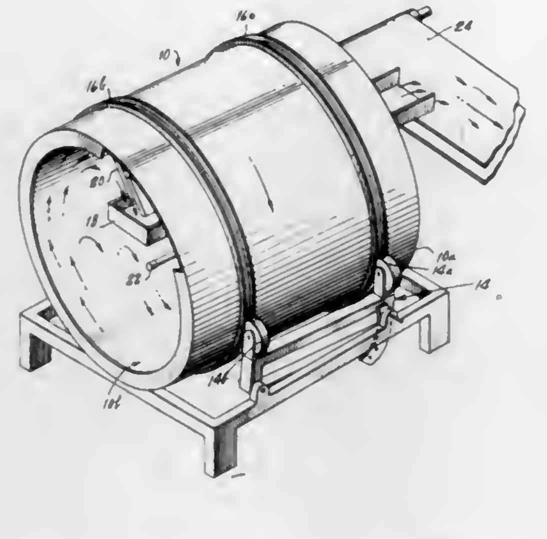
Cyrus A. Alldred, Jr., and Lucas J. Conrad, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey

Continuation of application Ser. No. 679,498, Oct. 31, 1967. This application May 8, 1969, Ser. No. 824,381

Int. Cl. B07b *13/00*

U.S. Cl. 209—2 **7 Claims**

A method and apparatus are disclosed for effectively sorting or separating meat from conglomerate masses of already disunited meat and bone. The present invention exploits the variations in the characteristics of differing substances; more specifically, the different adhesive characteristics of meat and bone so that these two may be efficiently separated. The force of what is termed "adhesive-friction" is deployed in connection with certain other forces, namely centrifugal force, gravity and certain combinations thereof, to the end that the stickiness or adhesive properties of the meat will enable the separation of the meat from bony substances in an efficient and extremely simple manner. The present disclosure describes two basic configurations employing the above-noted principle. These are a drum and an impact configuration or embodiment.



3,507,388

APPARATUS FOR SORTING TABLETS

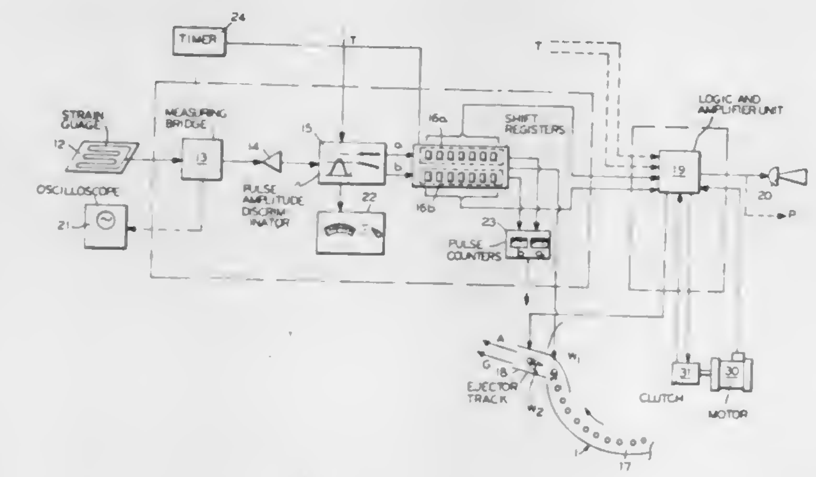
Rudolf Furtwaengler, Rheinfelden, Oscar Schuepbach, Birsfelden, and Felix Kestenholz, Liestal, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

Filed July 15, 1968, Ser. No. 744,793

Claims priority, application Switzerland, July 21, 1967, 10,421/67

Int. Cl. B07c *1/00*

U.S. Cl. 209—79 **10 Claims**



In order to monitor the weight of tablets formed between pairs of punches in a multi-station tablet-making machine, the pressure between the punches is measured by means of a strain-gauge mounted at a part of the machine subject to a stress dependent on the punch pressure. The strain-gauge is electrically connected to develop electrical pulses having a pressure-dependent amplitude, and pulses having amplitudes outside prescribed limits are used to reject the tablets giving rise to such pulses. A succession of out-of-limits pulses causes the machine to be stopped.

3,507,389

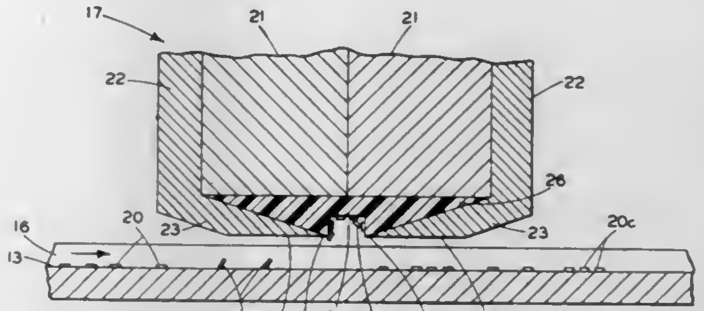
METHODS AND APPARATUS FOR THE MAGNETIC SEPARATION OF FINE PARTS

Bernard G. Casner, Emmaus, and Ray T. Goulstone, Allentown, Pa., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 31, 1967, Ser. No. 664,704

Int. Cl. B03c *1/02*

U.S. Cl. 209—111.8 **4 Claims**



Improved apparatus are provided for the magnetic separation of a plurality of small parts. The parts, some of which have been magnetically identified, are conveyed under a magnet, whose pole pieces are shaped at their ends to form inwardly pointing, sharp edges, whereby the lines of flux are intensified and confined to a comparatively narrow region across the orifice of a recessed space between the pole pieces. The magnetically identified parts, but no others, are accelerated through the orifice into the recessed space.

3,507,390

TREATMENT OF SUSPENSIONS

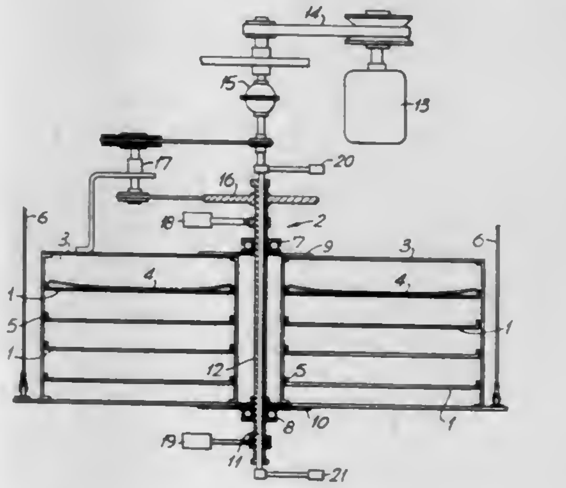
Richard Henry Mozley, Cornwall, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Oct. 24, 1967, Ser. No. 677,676

Claims priority, application Great Britain, Oct. 26, 1966, 48,143/66

Int. Cl. B03b *3/12*

U.S. Cl. 209—437 **11 Claims**

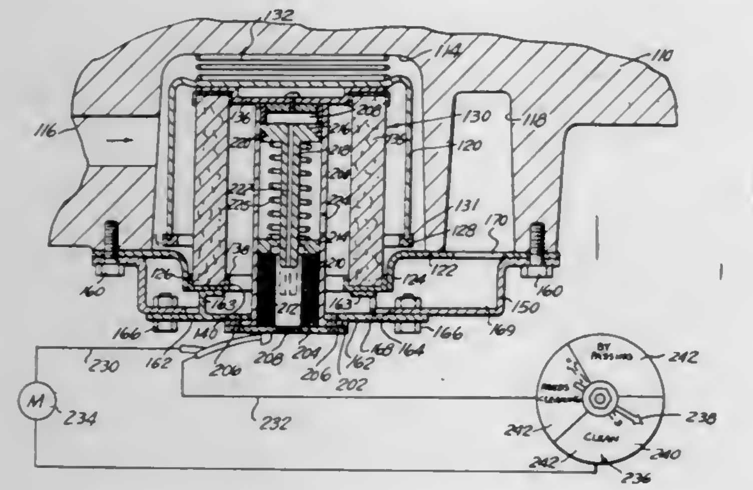


Apparatus for performing separations of ores and like materials based on differences of density or particle size comprises one or more surfaces on which a suspension of the material is caused to flow at low velocity, separation being achieved as a result of an orbital motion applied to the surface which causes the lighter or finer particles to advance down the surface in an upper layer while the heavier or coarser particles are retarded in a lower layer and form banks of accumulated material on the surface. The apparatus preferably has the form of a multi-sheet stack of surfaces held in lateral tension and suspended in a frame to which the orbital movement is applied by means of one or more out-of-balance shafts.

3,507,391

FILTER DEVICE

Nils O. Rosaen, Bloomfield Hills, Mich., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 696,883, Jan. 10, 1968. This application Feb. 18, 1969, Ser. No. 800,136.
Int. Cl. B01d *27/00, 27/10, 35/12*
U.S. Cl. 210—90 13 Claims

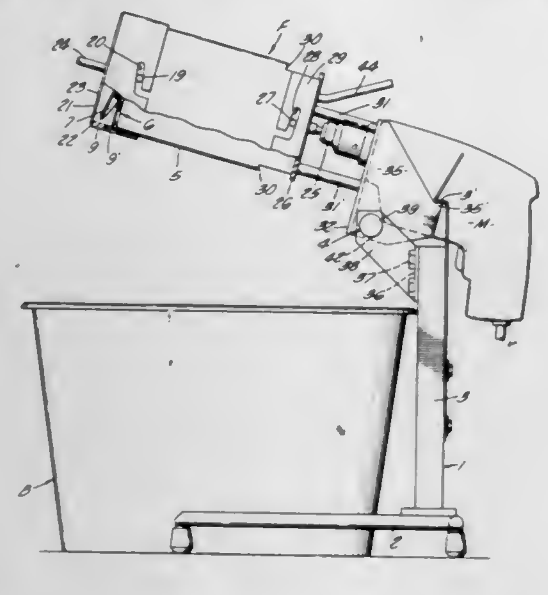


A fluid filter device adapted to be mounted within a chamber formed in the flat undersurface of a housing and to be held in position by a cover assembly which maintains a valve member in an open position when the filter element is in place to permit fluid flow through the filter element and which permits the valve to close when the filter element is removed so that the filter element can be removed with a minimum of fluid loss.

3,507,392

JUICE FILTER

L Bruce Alexander, San Marino, Ronald C. Bushman and Franklin K. Holbrook, Whittier, Calif., assignors to Brown International Corporation, Covina, Calif., a corporation of California
Filed Dec. 2, 1966, Ser. No. 598,865
Int. Cl. B01d *29/04*
U.S. Cl. 210—172 14 Claims

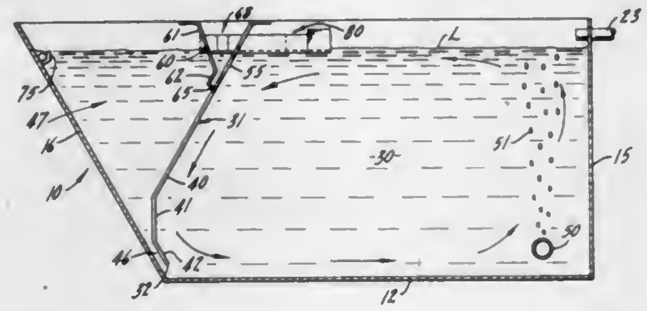


A citrus juice filter to reduce the viscosity of a sample quantity of juice in respect of which it is desired that a Brix determination be made by the use of the conventional hydrometer, and including a receiver to be placed in a body of citrus fruit juice in combination with a filter screen through which juice is caused to flow by an impeller in such a fashion that particulate matter in the juice is separated from the liquid body and the receiver is filled with liquid of a viscosity less than the main body of juice and from which the sample may be taken.

3,507,393

SEWAGE TREATMENT SYSTEM

Frank G. Weis, Kansas City, Mo., Kenneth A. Mikkelson, Overland Park, Kans., and Robert M. Appleberry, Independence, Mo., assignors, by mesne assignments, to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Continuation of application Ser. No. 717,143, Mar. 29, 1968. This application June 18, 1969, Ser. No. 838,019
Int. Cl. C02c *1/12*
U.S. Cl. 210—195 11 Claims

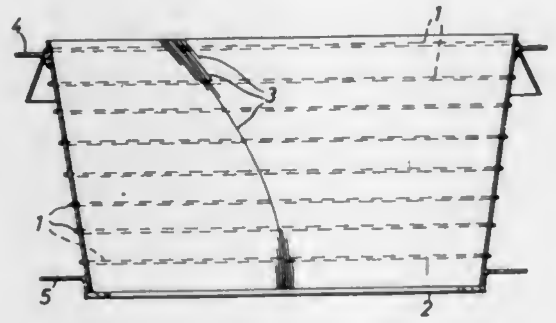


A sewage treatment system including a clarifier section of relatively small area defined by baffle arrangements whose configurations cause even sewage flow across the width of the chamber. The baffle arrangement incorporates throttling inlet slots which precisely control hydraulic flow from the aeration section to the clarifier section. The inlet slots are below liquid level, but in the upper region of the aeration section. Laminar downward flow against primary baffle means in the clarifier section is effected. Heavier solids return to the aeration section at the bottom of the section, drawn in part by the flow pattern of sewage in the aeration section acting on a return mouth. A common eductor arrangement returns solid floatables from both the energy absorption chamber and the main portion of the clarifier section to the aeration section.

3,507,394

BASKETS FOR CENTRIFUGES

Albert Moore, Chesterfield, Derbyshire, England, assignor to The Birmingham Small Arms Company Limited, Birmingham, England, a British company
Filed Mar. 13, 1969, Ser. No. 806,986
Claims priority, application Great Britain, Mar. 19, 1968, 13,183/68
Int. Cl. B04b *3/00*
U.S. Cl. 210—380 5 Claims

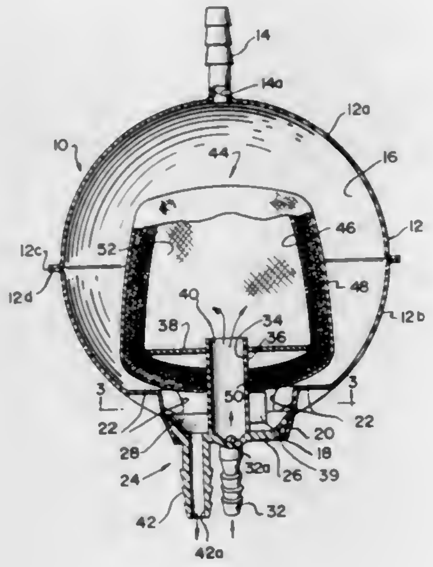


A frusto-conical wire screen centrifuge basket comprises a plurality of curvilinear wires extending between the open and closed ends and supported by annular hoops. These wires are of changing shape, preferably of involute form, intermediate the basket ends, the angle which each wire makes with a perpendicular between the ends progressively increasing in such manner that the wires are parallel throughout their lengths.

3,507,395

CARDIOTOMY RESERVOIR

Donald J. Bentley, Santa Ana, Calif., assignor to Bentley Laboratories, a corporation of California
Filed Dec. 1, 1967, Ser. No. 687,230
Int. Cl. C02c *1/10*
U.S. Cl. 210—443 5 Claims

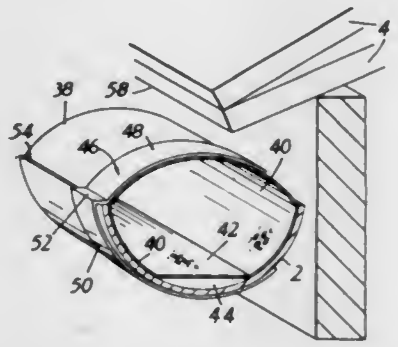


Apparatus for reclaiming blood from the surgical field of a patient by drawing blood from the field to the apparatus and returning the blood directly or indirectly to the patient, characterized in that the apparatus includes a plate in the path of incoming blood for spreading the blood into a thin sheet, and a fibrous membrane surrounding the plate and interposed in the path of blood flow outwardly of the apparatus, the combined spreading and filtering action removing impurities from the blood and placing the blood in a condition for return to a patient.

3,507,396

GUTTERS FOR RAINWATER

Ramsay Homa, 9 Frognal Lane,
London, NW. 3, England
Filed July 24, 1967, Ser. No. 655,484
Claims priority, application Great Britain, July 25, 1966, 33,369/66; Dec. 12, 1966, 55,585/66; Dec. 22, 1966, 57,456/66
Int. Cl. B01d *23/02;* E04d *13/06*
U.S. Cl. 210—477 4 Claims

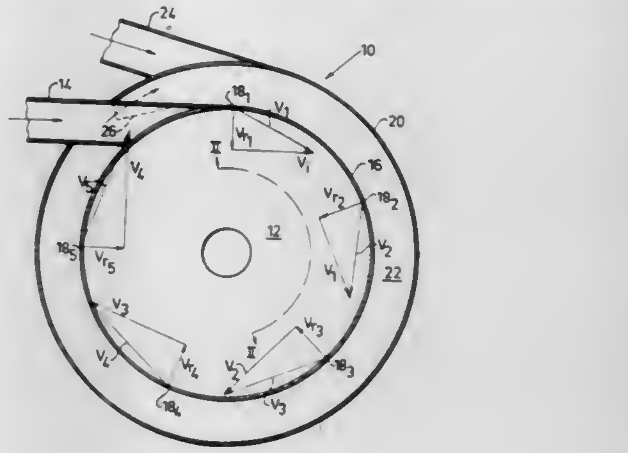


A gutter guard having a perforate part fitting over the open top of a gutter for preventing passage into the gutter of leaves or the like matter whilst allowing passage of rainwater into the gutter. The perforate part is located on the gutter by a second part jointed to a longitudinal edge of the perforate part and closely fitting into or around the gutter or fitting onto the edges of the gutter.

3,507,397

HYDROCYCLONE UNIT

William R. Robinson, 58 Parkvagen,
183 51 Taby, Sweden
Filed Apr. 9, 1969, Ser. No. 814,589
Int. Cl. B04c *3/06*
U.S. Cl. 210—512 3 Claims

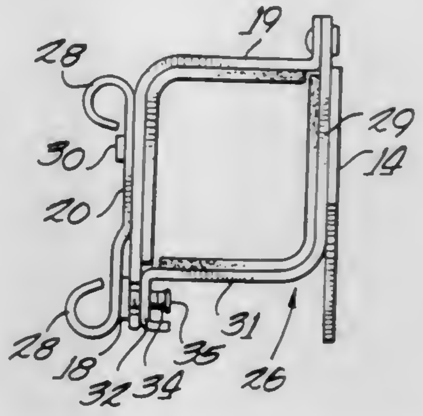


A hydrocyclone unit for use in purifying aqueous suspensions of fibrous pulp and comprising a container having one inlet for the suspension and two outlets, one for purified liquid and the other for rejected matter. The suspension is introduced tangentially into the container so as to be provided with a rotative motion and is engaged by a medium introduced at right angles to said rotative motion and being urged towards the rotative suspension by the pressure difference between the static pressure under which said medium is introduced and the pressure in a chamber into which said one inlet discharges. As a result, a substantial quantity of impurities is removed from the suspension and discharged through said outlet for rejected matter, whereas the remainder of the suspension is discharged through said outlet for purified liquid.

3,507,398

GUN MOUNT SET

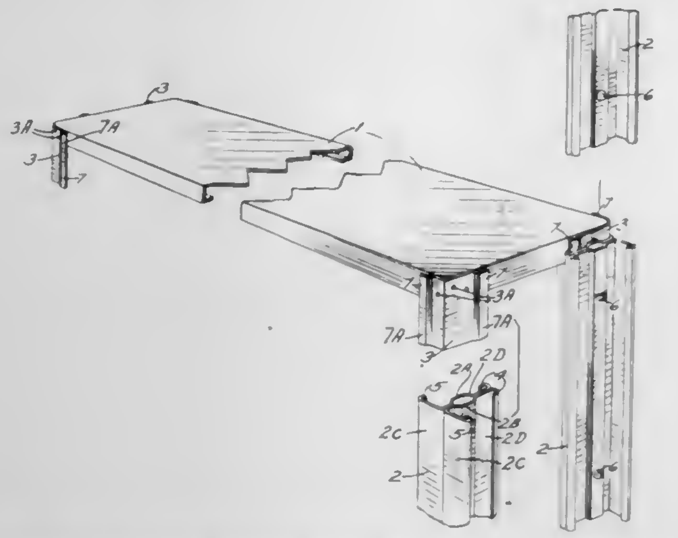
Robert G. Schaefer, Highland Park, Ill., assignor to Central Specialties Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 9, 1967, Ser. No. 681,811
Int. Cl. E05b *73/00;* A47f *7/00*
U.S. Cl. 211—4 6 Claims



The disclosure shows a gun mount which comprises two elements having a closed loop section. One element is a muzzle mount which is secured to a flat surface such as a wall, and the other element is a stock mount which is also secured to a flat surface such as a wall. The stock mount differs from the muzzle mount primarily in that the closed loop can be interrupted by swiveling one L-shaped member against another to insert the stock while the muzzle is thrust through the closed loop of the muzzle mount, the stock mount being closed and secured by a safety locking screw after the gun is inserted, and a cover plate pivotally swung over the safety screw to hide the same from unauthorized persons.

3,507,399
SHELF STRUCTURE WHICH MAY BE QUICKLY ASSEMBLED OR DISASSEMBLED FROM STANDARDIZED PARTS

Jorge C. Gruenberg, Rodolfo Beltran 567, Casilla 2408, San Isidro, Lima, Peru
Filed Feb. 24, 1967, Ser. No. 618,393
Int. Cl. A47b *3/06;* **A47f** *5/10*
U.S. Cl. 211—148 **4 Claims**

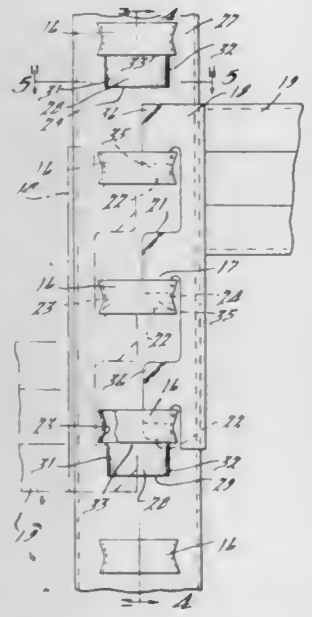


A shelf structure which may be quickly assembled or disassembled from standardized leg sections and standardized shelf sections so that the shelf structure may be of greater or lesser horizontal or vertical extent depending on the number of such sections employed comprising:

A plurality of standardized shelf sections adapted to be arranged adjacent each other horizontally and stacked vertically, each shelf section having means on each corner thereof for locking the corner to the top of one of the following leg sections below the shelf section and to the bottom of one of the following leg sections above the shelf section; and a plurality of standardized leg sections adapted to be stacked vertically, each leg section having means on each side thereof for locking horizontally adjacent shelf sections to the leg sections.

3,507,400
SAFETY LOCKING CONSTRUCTION FOR ADJUSTABLE STORAGE RACKS

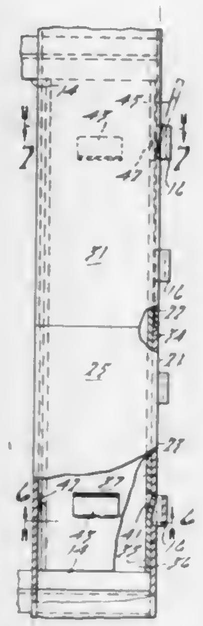
Gaspere P. Barbaro, Detroit, Mich., assignor to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan
Filed July 8, 1968, Ser. No. 743,233
Int. Cl. A47f *5/10*
U.S. Cl. 211—176 **2 Claims**



An adjustable storage rack having slotted columns and beams with teeth at their ends fitting into the column slots with a wedging action. A locking device is provided for preventing inadvertent removal of the teeth, comprising angularly pressed-out tabs at spaced intervals along the column. The teeth will snap into position under the tabs and may be removed by prying them out temporarily with a screwdriver and then lifting them.

3,507,401
SPLICE CONSTRUCTION FOR ADJUSTABLE STORAGE RACKS

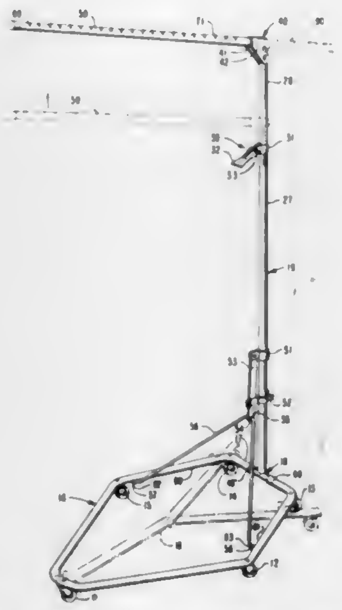
Edward E. Shile, Southfield, and Lee Z. Hall, Huntington Woods, Mich., assignors to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan
Filed Aug. 20, 1968, Ser. No. 753,930
Int. Cl. A47f *5/10*
U.S. Cl. 211—176 **3 Claims**



An adjustable storage rack having slotted columns and beams with teeth at their ends fitting into the column slots with a wedging action. The columns are in sections with the upper sections surmounting the lower sections, and a splice member telescopes into the adjoining ends of the abutting column sections and is locked in place by coaction with the column slots.

3,507,402
COLLAPSIBLE CLOTHES SUPPORT

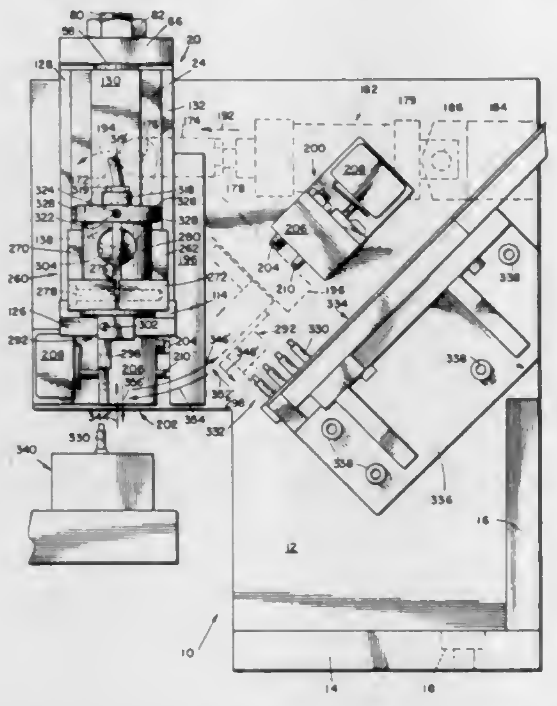
Floyd R. Barbee, San Gabriel, Calif., assignor of one-half to Alexander Ruiz, Los Angeles, Calif.
Filed Nov. 2, 1967, Ser. No. 680,099
Int. Cl. A47f *5/13*
U.S. Cl. 211—178 **4 Claims**



This invention describes a collapsible clothes support having extensible support means articulatably disposed on a vertical post extending from a quinary base, the post being lockable into the vertical position with the support being rigid and extending from the end thereof, and said support including a telescoping extension, and said post and support being foldable with said quinary base into a readily storable assembly of thin contour, the quinary base including a separable roller assembly.

3,507,403
MATERIAL HANDLING APPARATUS

Robert P. Moore, Bela J. Kish, and Floyd R. Jennings, Indianapolis, Ind., assignors to Moorfeed Corporation, Indianapolis, Ind.
Filed Jan. 15, 1968, Ser. No. 697,937
Int. Cl. B25i *5/02;* **B65g** *29/00*
U.S. Cl. 214—1 **6 Claims**

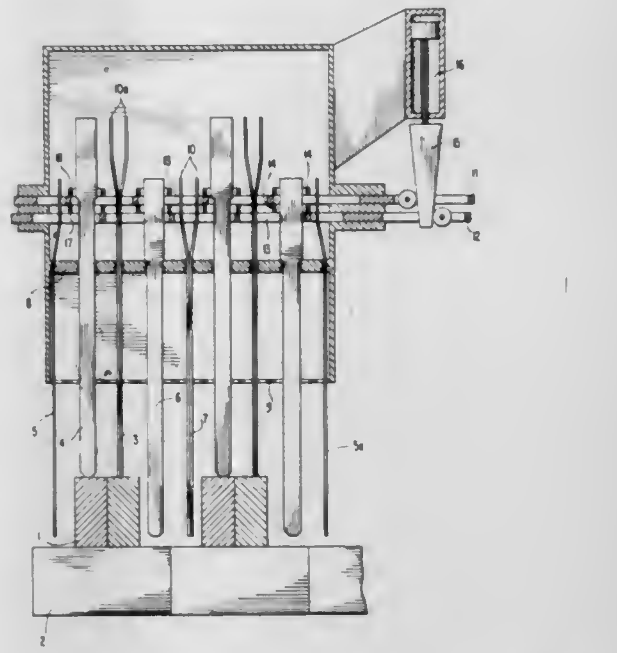


A material handling apparatus comprising at least one major building block assembly comprising guide means, carriage means mounted for movement along the guide means and means for driving the carriage means along the guide means. The carriage means of each assembly is provided with a first dovetail tenon and the guide means of each assembly is formed to define a dovetail groove proportioned and arranged slidably to engage any such first dovetail tenon, whereby the guide means of one assembly can be selectively mounted on the carriage means of another assembly. Material gripping means and means for mounting the gripping means on one of the carriage means are provided. Preferably, each carriage is provided with a plurality of second dovetail tenons and the gripping means is provided with a second dovetail groove proportioned and arranged slidably to engage any such second tenon, whereby the gripping means can be selectively positioned on a carriage means. Further, preferably, means is provided for rocking the guide means of an assembly about an axis. Still further, preferably, means is provided for reciprocating the guide means of an assembly relative to the support means on which it is mounted.

3,507,404
APPARATUS FOR THE BREAKING DOWN OF PILES OF OBJECTS ARRANGED IN LAYERS, SUCH AS BRICKS

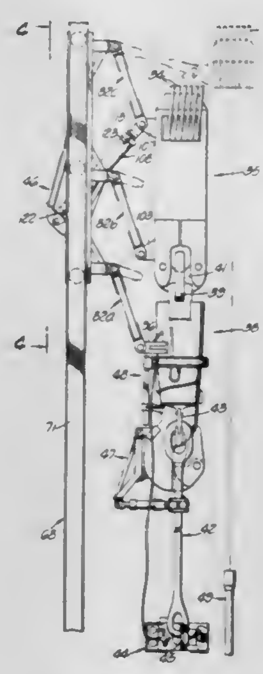
Wilhelmus Antonius Maria Pompe, Tolhuislaan 4, Den Dolder, Netherlands
Continuation of application Ser. No. 626,498, Mar. 28, 1967. This application Jan. 9, 1969, Ser. No. 791,874
Claims priority, application Netherlands, Mar. 29, 1966, 6604115
Int. Cl. A63d *5/08;* **B65g** *61/00;* **B66c** *1/42*
U.S. Cl. 214—1 **5 Claims**

Irregularly arranged layers of objects are engaged by moving a carrier which has a series of projecting elements toward the layer until the movement of some of the projecting elements is arrested by their contact with the objects, and others of the projecting elements extend into spaces between the objects. The projecting elements are then expanded to exert lateral gripping forces against the sides of the objects.



3,507,405
BLOCK AND HOOK STRUCTURE POSITIONING AND GUIDING APPARATUS

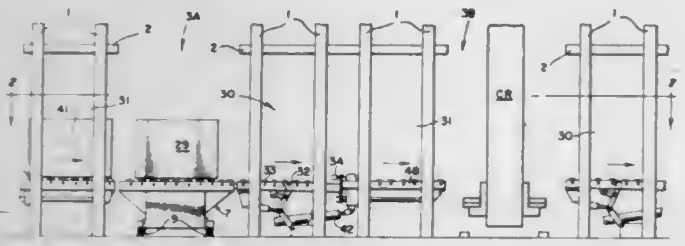
Taylor L. Jones and John W. Turner, Jr., Houston, Tex., assignors to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,819
Int. Cl. B66c *23/62;* **E21b** *19/14*
U.S. Cl. 214—2.5 **9 Claims**



Apparatus for guiding a travelling block along selected, generally vertical paths in a derrick assembly used in drilling oil and gas wells, or other wells, and for positioning the travelling block laterally in the derrick. The apparatus may also include means for stabilizing a hook structure suspended from the travelling block to maintain the hook in vertical alignment with the travelling block for movement of the travelling block and hook structure as a unit.

3,507,406
ARTICLE CONVEYING AND HANDLING APPARATUS FOR RACK STORAGE SYSTEMS

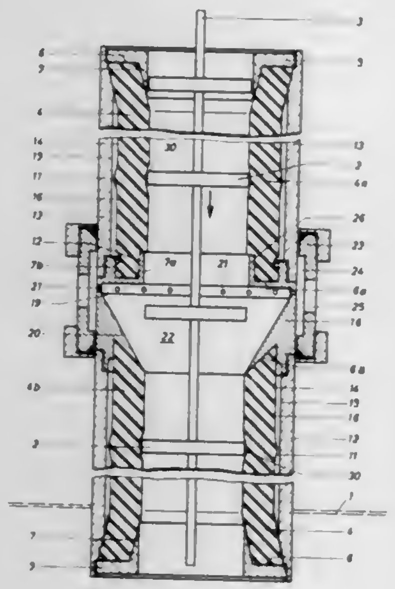
Howard A. Zollinger, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 28, 1968, Ser. No. 716,842
Int. Cl. B65g *1/04, 47/10*
U.S. Cl. 214—16.4 10 Claims



Articles move to and from a rack storage system along a conveyor which extends past the ends of parallel storage racks having intermediate access aisles which extend transversely relative to the conveyor line. Motorized segments of the conveyor move laterally between their normal locations in the conveyor line and buffer locations that are within adjacent aisles and between input and output rack storage bins. Article-moving means on said segments discharge articles therefrom into the input storage bins, and article-moving means at said output storage bins discarge articles therefrom to said segments, so that articles are transferred between said normal and buffer locations.

3,507,407
DEVICE FOR CONVEYING GOODS TO AND FROM A VACUUM CONTAINER OR A PRESSURE CONTAINER

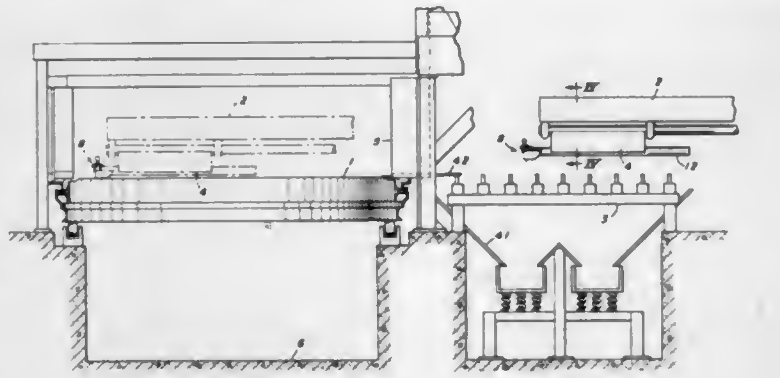
Fritz Kniese, Marburg, an der Lahn-Marbach, Germany, assignor to Industrie-Werke Karlsruhe Aktiengesellschaft, Karlsruhe, Germany, a corporation of Germany
Filed Mar. 21, 1968, Ser. No. 714,893
Claims priority, application Germany, Mar. 25, 1967
J 33,303
Int. Cl. B65g *65/30*
U.S. Cl. 214—17 14 Claims



A device for conveying goods to and from the interior of a treatment container comprising a vertically arranged endless conveyor chain having thereon uniformly spaced pistons on which the goods are deposited and moving through a vertically arranged guide tube the inner wall of which is sealingly engaged by the pistons. The principal feature of the invention consists in this that the guide tubes—there is one provided for each straight portion of the conveyor chain—are made of an expansible material, such as silicone rubber, and that the diameter of the pistons is larger than the inner diameter of the guide pipes by an amount which is less than the radial expansivity of the guide pipes.

3,507,408
SCALE SCRAPER FOR TRAVELING-HEARTH FURNACE

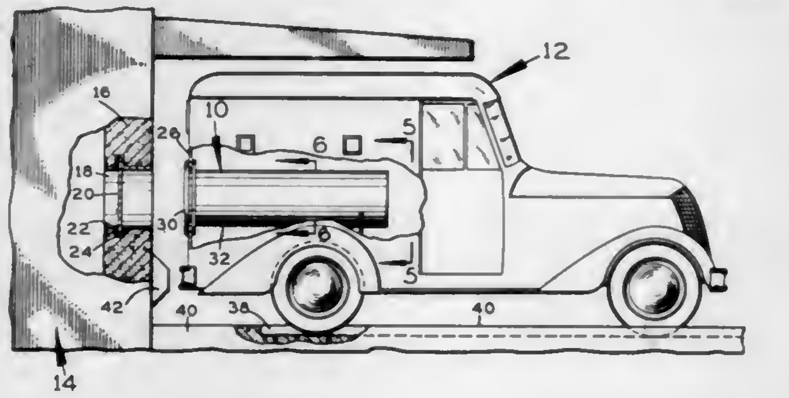
Joseph W. Bramwell, Amherst, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 699,261
Int. Cl. F27b *9/22*
U.S. Cl. 214—23 5 Claims



Apparatus for leveling scale on the rotary hearth of a billet heating furnace comprising a scraper having a horizontal draft bar for engagement and operation by the jaws of a billet handling peel, and a socket at one end of the draft bar in which a scraper blade is mounted for guided vertical movement and has a gravitational bias for downward movement to a position in scraping engagement with scale on the furnace hearth. The scraper blade has skids which support it for movement with a sliding and floating action over the furnace hearth and hold it out of engagement with the furnace hearth. Its weight provides a gravitational bias for downward movement of the scraper blade in its guide socket which may be increased by weights mounted on its upper end.

3,507,409
SECURITY APPARATUS

Aldennis Gordon, Virginia Anne Gordon, and Anna Gordon, all of 310 NW. 7th Court, Hallandale, Fla. 33009
Filed Apr. 24, 1968, Ser. No. 723,861
Int. Cl. B65g *67/02*
U.S. Cl. 214—38 2 Claims

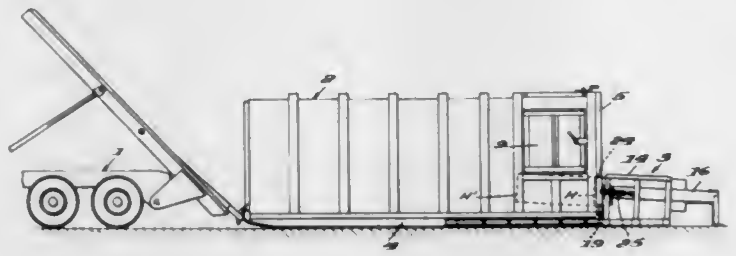


Security apparatus for transferring money and other valuables from an automotive vehicle to a building, the building having an opening with a removable closure, and the security apparatus including means defining an opening through the body of the vehicle, a tubular carrier mounted in the vehicle in alignment with the opening,

and means mounting the tubular carrier for longitudinal movement in and out of the vehicle opening. The vehicle may be parked so that its opening is close to and in alignment with the building opening, and the tubular carrier is then extended through the vehicle opening into the building opening with the rear end of the carrier remaining in the vehicle. Money and other valuables are then transferred through the carrier between the vehicle and the building, after which the carrier is retracted into the vehicle.

3,507,410
STATIONARY PACKER ASSEMBLIES

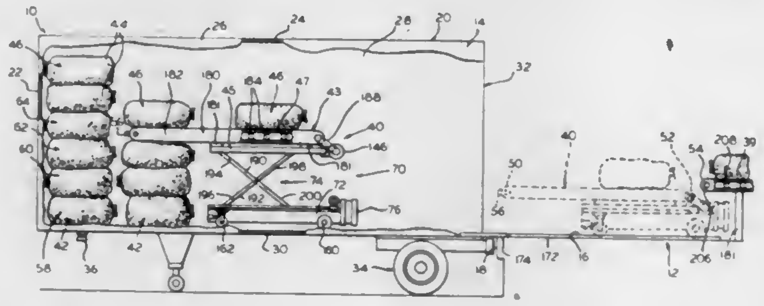
Harvey W. Liberman, James A. Wade, and Steven C. Voorhees, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Feb. 8, 1968, Ser. No. 703,995
Int. Cl. B65g *67/04*
U.S. Cl. 214—41 8 Claims



A refuse packing and transporting assembly wherein the refuse is placed directly in a transport container while the container is connected with a packer device which is operated to compress the refuse therein. The packer device comprises a relatively simple frame structure mounted in position to have the transport container brought into juxtaposition thereto with an opening in the end of the transport container into and through which a head in the packer operates to compress the refuse in the container after deposit directly into the container. After a suitable quantity of refuse has been packed in the container, the latter may be disconnected from the packer and hauled away for discharging the refuse therefrom.

3,507,411
METHOD FOR LOADING BAGGED MAIL FROM A LOADING DOCK INTO A HIGHWAY VEHICLE

Joseph E. McWilliams, 1345 Canterbury Lane, Glenview, Ill. 60025
Filed Dec. 28, 1967, Ser. No. 694,151
Int. Cl. B65g *57/24*
U.S. Cl. 214—152 7 Claims



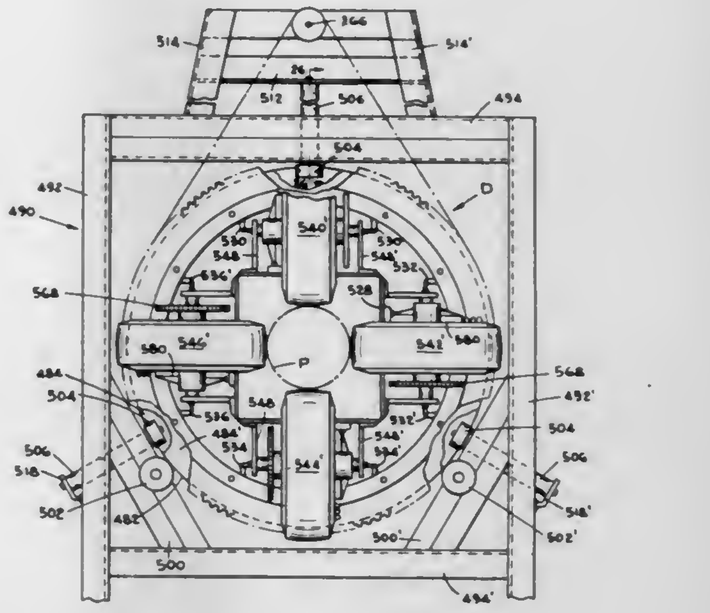
The invention relates to the loading of mail bags from a loading dock into an end loading highway vehicle, such as a truck or a trailer, to fully load the vehicle with stacks of mail bags in which the bags are compactly loaded into place in individual stack forming tiers without those perfoming the bag loading operation having to enter the vehicle. In practicing the invention, the loading dock at the post office or the like is provided with a conveyor on which out-going bags are placed and oriented in closely spaced tier form. Operating between the conveyor and the highway vehicle is a carriage that receives the tier load without disturbing the orientation of the bags and brings the tier load into the vehicle loading area for discharge of the stack forming tier unit, and effects placement of the tier as part of a stack in the vehicle, again without disturbing the orientation of the bags. The carriage then returns to the conveyor for another tier load.

The carriage movements are controlled so that the individual tier loads are formed into vertical stacks of mail bags that are disposed to position the bags of adjacent stacks in closely spaced relation, with the vehicle being thus filled with bags throughout its load receiving area so as to make maximum use of the available loading space within the vehicle to maximize the pay load. The operation of the carriage is mechanized so that workers do not have to go into the vehicle, and palleting of the bags in groups is avoided while still achieving uniform loading in tier form.

Several specific arrangements for practicing the invention are disclosed in which the carriage either operates on the floor of the vehicle and loading dock, or is suspended for operation within the vehicle, wherein the carriage is either self-propelled or cable actuated, wherein the bags as loaded extend either longitudinally or transversely of the vehicle, and wherein the tiers employed as part of the loading procedure extend transversely or longitudinally of the vehicle.

3,507,412
DEVICE FOR ADVANCING AND ROTATING PIPE

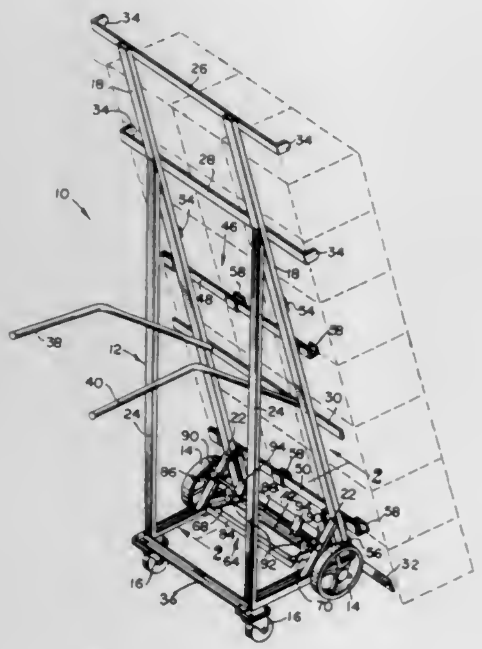
J. Warne Carter, Wichita Falls, Tex., assignor to Ciba Corporation, Summit, N.J., a corporation of Delaware
Filed Sept. 2, 1966, Ser. No. 577,035
Int. Cl. B65h *51/28*
U.S. Cl. 214—338 6 Claims



An automatic, continuous system for fabricating fiber reinforced plastic pipe where a single source of power acts to rotate the pipe assembly being fabricated and operate various devices serving to incorporate material into the pipe assembly as it is generated is combined with air pressure means acting to longitudinally advance the pipe assembly through the system. The device controls and synchronizes the linear advancement of a cylindrical pipe in relation to the rate of rotation of the cylindrical body.

3,507,413
TOP-LIFT, STACK-HANDLING TRUCK

Lloyd L. Hobson, Elnora, Ind., assignor to Basiloid Products Corporation, Elnora, Ind., a corporation of Indiana
Filed May 13, 1968, Ser. No. 728,466
Int. Cl. B62b *1/06*
U.S. Cl. 214—381 16 Claims

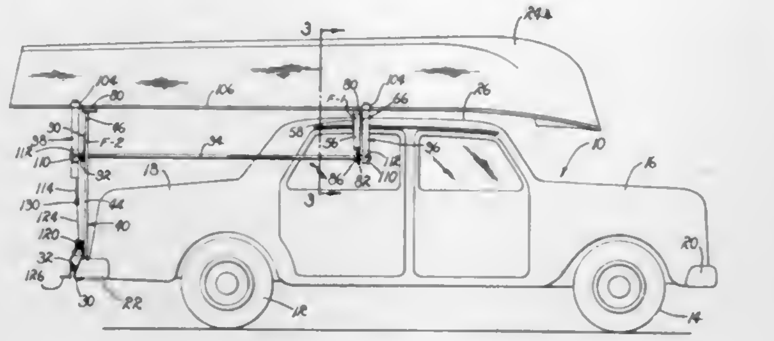


A truck comprising a frame defining a generally upwardly extending guide means, carriage means arranged for reciprocable movement on the guide means, treadle means operatively connected to the carriage means and arranged to move the carriage means from a lower position to an upper position, means for locking the carriage means in its upper position, and wheel means for movably supporting the frame, the wheel means comprising a pair of wheels journalled about a generally horizontal axis at the lower portion of the frame. The frame is preferably pivotal about the horizontal axis between a first position in which the guide means extends generally vertically and a second position in which the guide means is inclined rearwardly. Hook means are carried by the carriage means and arranged so that, when the frame is in its first position and the carriage means is in its lower position, the hook means can extend into hand grips provided on a package, and so that, when the carriage means is moved to its upper position, the hook means will be in lifting engagement with such a package, whereby, when the frame is tilted rearwardly to its second position, such a package will be supported by the hook means for movement by the truck. Preferably, the treadle means comprises a lever operatively connected to the carriage means and the locking means comprises a member pivotally mounted on the frame to be movable into locking engagement with the lever when it is actuated to lift the carriage means to its upper position, said member preferably being biased by gravity toward a position providing such a locking engagement. Further, preferably, pedal means is operatively connected to the member and arranged to pivot it to release the lever.

3,507,414
ARTICLE MANIPULATING APPARATUS

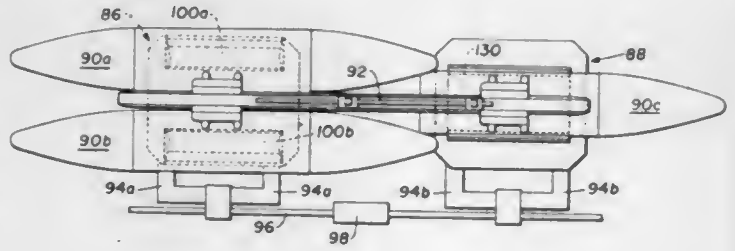
Edward A. Souza, 3050 W. Swift Ave., Fresno, Calif. 93705
Filed Dec. 1, 1967, Ser. No. 687,208
Int. Cl. B60p *3/00;* **B60r** *9/08*
U.S. Cl. 214—450 4 Claims

The present invention resides generally in mechanism for moving an object to transfer it from a first position to a second position, and more specifically to a device for facilitating loading a boat on the top of a vehicle and unloading a boat therefrom to a position readily susceptible for subsequent movement of the boat into an operating environment.



3,507,415
ACCESSORIES FOR CORRUGATED FORKLIFT PALLET

Harry S. Mankey, Dallas, Tex., assignor to Standard Manufacturing Company, Inc., Dallas Tex., a corporation of Texas
Continuation of application Ser. No. 639,945, May 22, 1967. This application Mar. 7, 1969, Ser. No. 824,716
Int. Cl. B66f *9/12*
U.S. Cl. 214—621 47 Claims

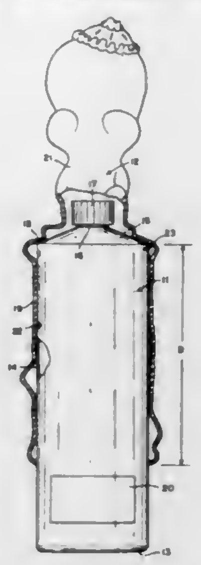


Nestable chock and support members for adapting a corrugated weapon handling pallet or cradle having a base and transversely outwardly sloping side walls to securely receive various sizes of weapons, such as bombs, rockets, or napalm tanks. One type of chock member connects to a side wall of a cradle to contact and support various sizes of weapons. Another type of chock or support member has end portions which abut both side walls of a cradle to suspend a middle portion which may support various sizes of weapons. These nestable chock and support members are also used in a system for supporting a single package of weapons in a V-shaped tandem configuration on a pair of spaced cradles which are received on a fork lift vehicle having forks spaced to lift both cradles.

3,507,416
COMPOSITE PACKAGE

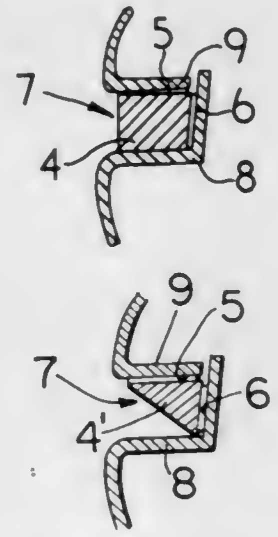
Livingston C. Douglas, Leonia, N.J., and Richard S. Rohe, New York, N.Y., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed May 22, 1968, Ser. No. 731,216
Int. Cl. B65d *11/16, 25/34*
U.S. Cl. 215—12 1 Claim

A composite package comprises a relatively light weight hollow casing of predetermined external configuration and having an open lower end and an internal shoulder facing the open end. A flat bottomed removable disposable container extends through the casing open end and has an upper external shoulder abutting the casing shoulder to limit insertion of the container into the casing so that the lower end of the container projects a predetermined distance beyond the casing open end to serve as a support for the entire package and at the same time provide a visible indicia bearing area for said package. The container preferably has a friction fit with the casing.



3,507,417
CONTAINERS

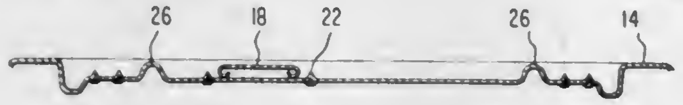
Stanley McCarthy, Marple Bridge, near Stockport, and Fred A. Crompton, Manchester, England, assignors to The Dunlop Company Limited, London, England, a British company
Filed Sept. 6, 1967, Ser. No. 665,880
Claims priority, application Great Britain, Sept. 13, 1966, 40,863/66
Int. Cl. B65d *7/02, 7/24*
U.S. Cl. 220—5 3 Claims



A rigid container for an inflatable life raft comprising two or more shells held together by a watertight joint, the joint being arranged to break when a life raft within the container is inflated and comprising a sealing ring located between the shells and screwed to angularly inclined seating surfaces formed at the edges of the shells.

3,507,418
SCORELINE FORMATION AND REPAIR

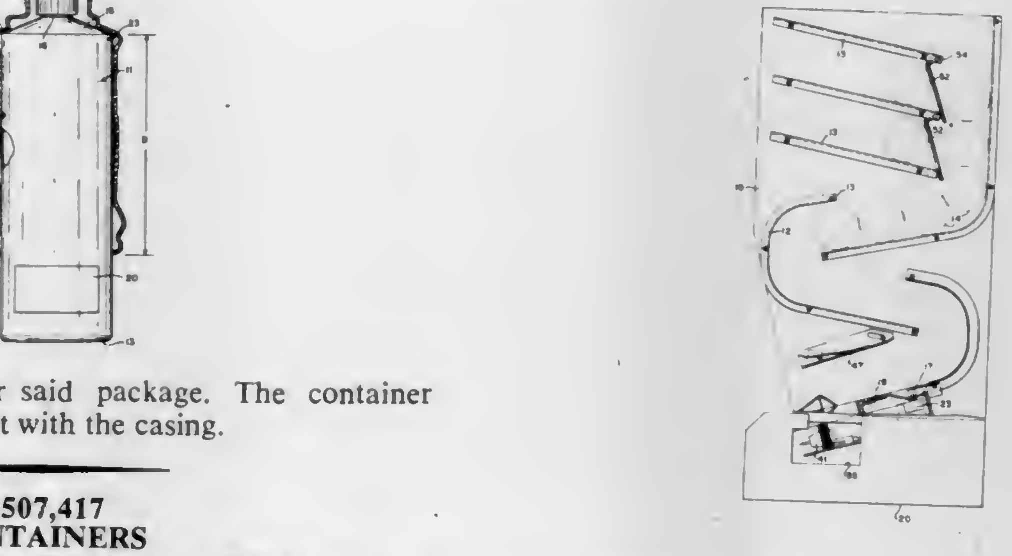
William T. Saunders, Weirton, W. Va., assignor to National Steel Corporation, a corporation of Delaware
Original application Mar. 31, 1966, Ser. No. 539,187. Divided and this application Oct. 1, 1968, Ser. No. 810,860
Int. Cl. B65d *17/24*
U.S. Cl. 220—54 7 Claims



In repairing a scoreline on the interior surface of a container, a sealing material is used which carries a pulverant material providing anodic protection for the base metal.

3,507,419
CAN RELEASE MECHANISM

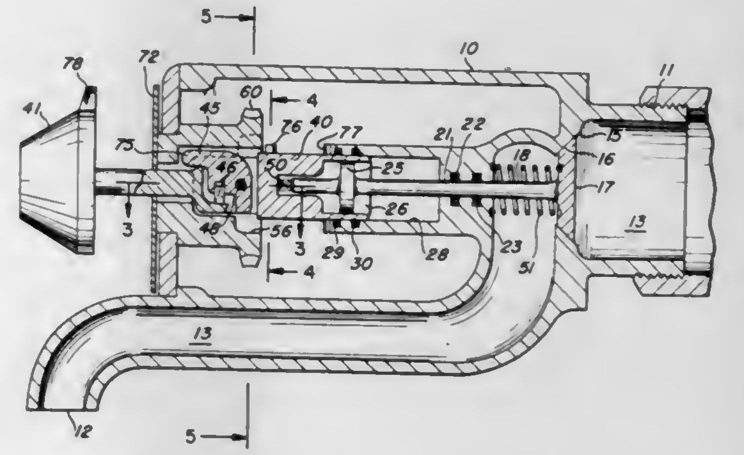
James C. Lindsey and Harry R. Payne, Chattanooga, Tenn., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,255
Int. Cl. B65g *59/00*
U.S. Cl. 221—298 7 Claims



Cans vertically stacked on a serpentine shelf and on straight run upper shelves are dispensed one at a time by a solenoid actuated release and retaining mechanism. A single can is dispensed for each actuation of the solenoid. A pair of spaced can retaining fingers are mounted for rotation together on an axis at right angles to the long axis of the cans in the stack of cans. The down stack finger is normally raised to elevate a pivoted can retaining plate to prevent release of a can. The up stack finger is normally out of can engaging position. When the solenoid is actuated the down stack finger lowers the can retaining plate which disengages the lowermost can in the stack and the up stack finger enters between the lowermost can and the next can so that only the lowermost can is dispensed. Upon deenergization of the solenoid spring means returns the fingers to their normal position and the next can in the stack moves against the can retaining plate for dispensing during the next cycle. The solenoid is locked against actuation should the spring means break. Bails at the lower ends of the straight run shelves prevent jamming of the cans.

3,507,420
AUTOMATIC SHUT-OFF VALVE SYSTEM

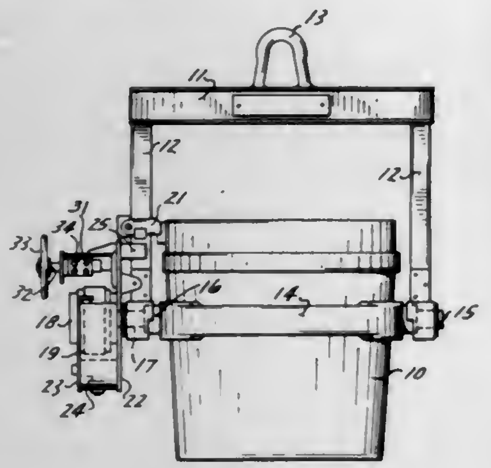
Nels R. Nelson, 1221 E. Ocotillo 85014, and Francis W. Lewis, 5120 N. 42nd Place 85018, both of Phoenix, Ariz.
Filed Apr. 22, 1968, Ser. No. 723,161
Int. Cl. B67d *5/30*
U.S. Cl. 222—20 8 Claims



An automatic shut-off valve system incorporating a valve opening dial that is locked in its open position through the utilization of a cam follower contacting an interior cam surface. The cam surface is rotated through gear teeth provided integrally therewith on the exterior in engagement with a worm driven by the shaft of a turbine extending into the passageway of the valve.

3,507,421
METAL-POURING LADLES

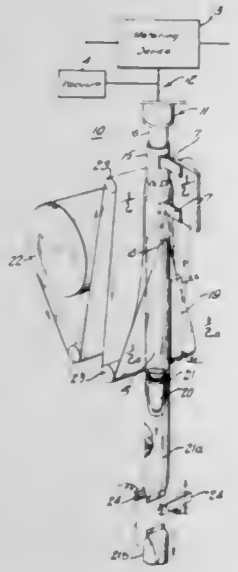
Henry L. Eickelberg, Watertown, and John J. Port, Jr., Port Washington, Wis., assignors to Modern Equipment Company, Port Washington, Wis., a corporation of Wisconsin
Filed June 6, 1968, Ser. No. 734,949
Int. Cl. B67d *5/64*
U.S. Cl. 222—166 — 6 Claims



A molten metal pouring ladle for use in foundries having a hydraulically-actuated tilting mechanism which is associated with and controlled by a manually-operated handwheel and associated gearing which preserves the all-important "feel" which is required for accurate pouring of the metal into a mold, but wherein said hydraulic power and gearing greatly reduces the physical effort required to tilt and pour from said ladle, as well as increasing the accuracy and consistency of said pouring operation.

3,507,422
FLEXIBLE DISPENSING NOZZLE FOR USE IN AN AUTOMATIC BAG FILLING MACHINE

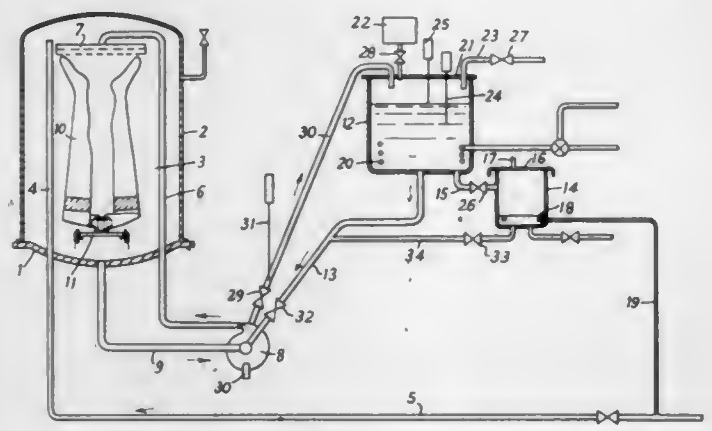
Bobby G. Judice, Port Neches, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,453
Int. Cl. B65d *3/20*
U.S. Cl. 222—529 — 4 Claims



A flexible dispening nozzle with a normally open discharge end for use in an automatic bag making and filling machine which extrudes measured amounts of a fluent plastic composition such as gear grease into polyethylene bags, the filling being interrupted when negative or aspirating pressure is applied on the nozzle causing immediate collapse thereof and closure of the open end, thus preventing dripping of the composition, thereby assuring proper sealing of the filled bags.

3,507,423
DYEING OF TEXTILE MATERIALS

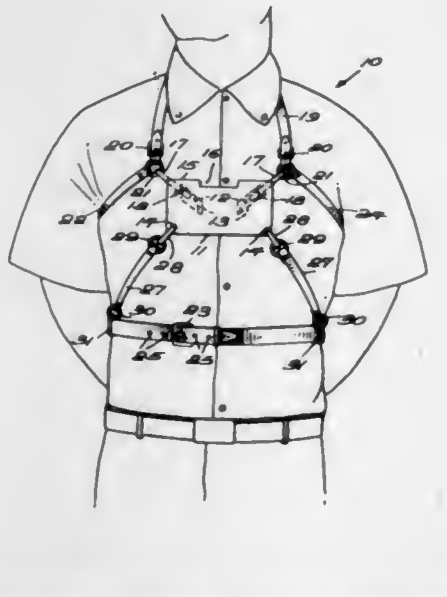
John L. Swindall, Leicester, England, assignor to Samuel Pegg & Son Limited, Leicester, England, a British company
Filed Sept. 23, 1968, Ser. No. 761,509
Claims priority, application Great Britain, Sept. 26, 1967, 43,702/67
Int. Cl. D06c *5/00*
U.S. Cl. 223—76 — 6 Claims



The dye liquor used in a recirculation dyeboarding system is recovered by flushing it out of the dyeing vessel with steam used for boarding the goods, has the excess water acquired from the steam flashed off by evaporation, is made up to compensate for loss of dye absorbed by the dyed goods, and is wholly returned to the dyeing vessel for re-use.

3,507,424
BODY SUPPORT FOR A CAMERA

Harry H. Burkins, 5 S. Highland Ave., York, Pa. 17404
Filed June 28, 1968, Ser. No. 741,128
Int. Cl. A45f *3/00*
U.S. Cl. 224—5 — 5 Claims



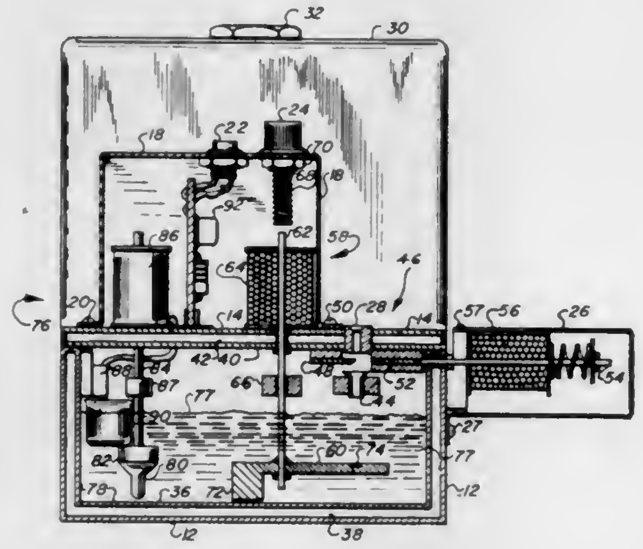
A body anchored camera support which permits the taking of pictures without the use of a tripod is disclosed. Also disclosed is a lever system for actuating the shutter release of the camera when the camera is attached to the body support.

In the use of so-called "candid cameras" it is normal to either support the camera on a tripod or to use it at eye level by holding it in the hands of the user. The use of a tripod clearly is awkward and prevents the camera from being used for taking snapshots and quick photographs. When the camera is held at eye level in the hands, it is quite obvious that pictures are being taken, and in addition, the camera is often jiggled during the taking of the picture to thus produce defective images on the film.

The present invention provides a mounting for a camera which is securely fastened to the body of the user in a position on the chest of the user. The camera is aimed by aiming the body, and pictures can be taken without it appearing obvious to persons observing the photographer. The support being firmly anchored to the body of the photographer virtually eliminates all movement of the camera during picture taking, and hence, poor pictures due to jiggling are no problem.

3,507,425
METHOD AND APPARATUS FOR CRYOGENIC WIRE STRIPPING

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Billy D. Babb, Madison, Ala.
Filed Mar. 28, 1968, Ser. No. 716,734
Int. Cl. B23p *19/02;* **B26f** *3/00;* **H02g** *1/12*
U.S. Cl. 225—1 — 7 Claims

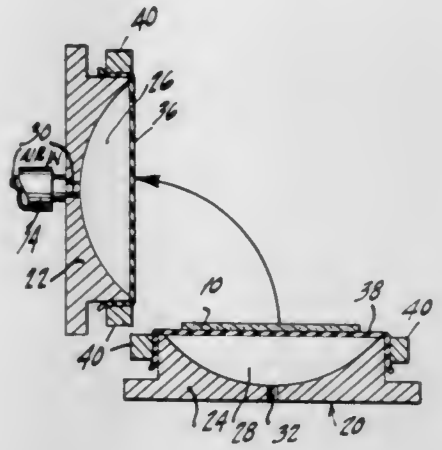


A method and apparatus for removing the plastic insulation from wire by dipping the wire into a cryogenic liquid so as to freeze the insulation and cause it to crystallize, breaking the frozen insulation by impacting it with cutters, and then stripping off the fractured insulation. The apparatus includes a programmer and a fully automatic device for lifting the wire out of the cryogenic liquid and impacting the wire between fixed and movable cutters, thus preparing the wire for stripping by hand or with a hand tool.

3,507,426
METHOD OF DICING SEMICONDUCTOR WAFERS

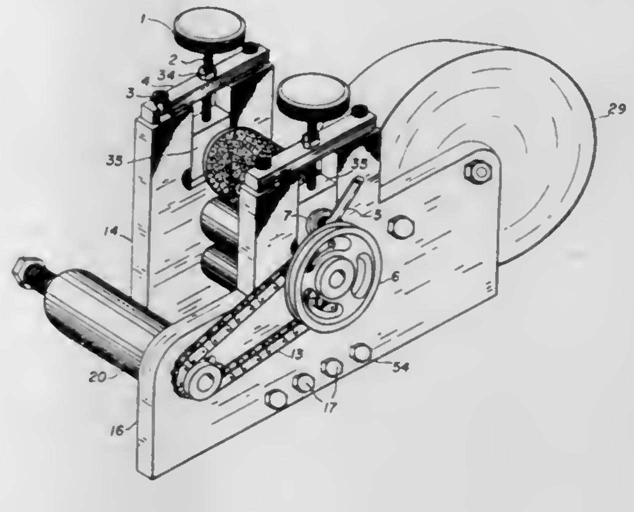
Joseph M. Bielen, McAdoo, and Gilbert V. Morris, Dallas, Pa., assignors to RCA Corporation, a corporation of Delaware
Filed Feb. 23, 1968, Ser. No. 707,866
Int. Cl. B26f *3/00*
U.S. Cl. 225—2 — 2 Claims

For the purpose of cracking semiconductor wafers into individual chips or pellets, a surface of the wafer is scribed with a series of V-shaped notches, the wafer is sandwiched between two flexible members, the sandwich is disposed over a cavity, the scribed surface of the wafer facing the cavity, and the flexible members and the wafer therebetween are forced, e.g., pneumatically or mechanically, into the cavity. The flexure of the wafer into a generally concave configuration causes cracking of the wafer along the scribed lines.



3,507,427
PROCESS FOR SCRAPLESS CUTTING OF SHEET MATERIAL

Lee J. Wiest, Downey, Calif., assignor to Torginol of America, Inc., Montebello, Calif., a corporation of California
Original application Jan. 30, 1967, Ser. No. 612,381. Divided and this application Feb. 26, 1969, Ser. No. 802,418
Int. Cl. B65h *35/10;* **B26f** *3/02*
U.S. Cl. 225—2 — 5 Claims

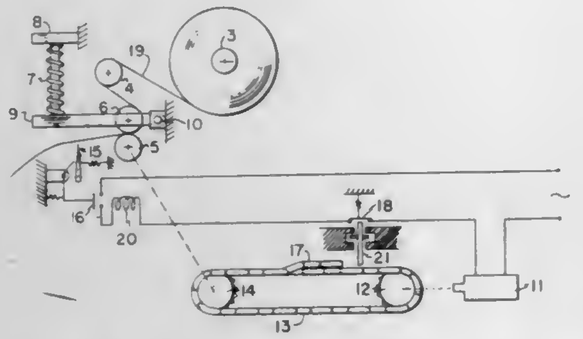


An improved method for completely scrapless cutting of paper or other sheet material into a nongeometric fracture pattern is accomplished by passing the sheet material between a pattern rotary die and a backup roller until the sheet material is almost separated into a chip pattern and then subjecting the cut sheet material to a fluid pressure differential to complete severing the material into chips.

3,507,428
DISPENSER FOR A CONTINUOUS STRIP

Norman A. Leibreich, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Mar. 18, 1968, Ser. No. 713,588
Int. Cl. B26f *3/02;* **B65h** *35/00*
U.S. Cl. 225—11 — 4 Claims

An electrically operated dispenser which functions in a semiautomatic mode to provide individual sheets of flexible material. The sheets are manually cut from a continuous rolled strip by tearing the strip end across a returnably moveable cutting blade. Response of the blade to the tearing action commences a dispensing cycle which terminates automatically when a predetermined length of material has advanced over the cutting blade.



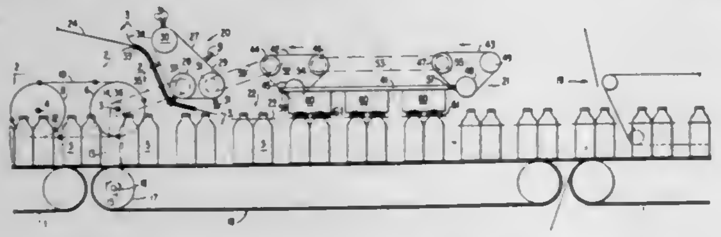
3,507,429
APPARATUS FOR SEVERING STRIP MATERIAL

Ernest R. Cunningham, Libertyville, Ill., and John Hohl, Ringgenberg, Bern, Switzerland; said Cunningham assignor to Illinois Tool Works, Inc., a corporation of Delaware, and said Hohl assignor to Owens-Illinois, Inc., a corporation of Ohio

Original application Apr. 10, 1967, Ser. No. 629,472, now Patent No. 3,447,280, dated June 3, 1969. Divided and this application Dec. 23, 1968, Ser. No. 810,878

Int Cl. B65h *35/10*

U.S. Cl. 225—97 **2 Claims**



A method and apparatus for assembling resilient apertured carriers with groups of bottles to form packages convenient for carrying. Carriers are deposited on top of groups of bottles moving in spaced relation on a conveyor, then telescoped over the shoulder and into embracing relation with the body of the bottles to form packages. Apparatus is provided to sever individual carriers from strip material prior to the assembly operation.

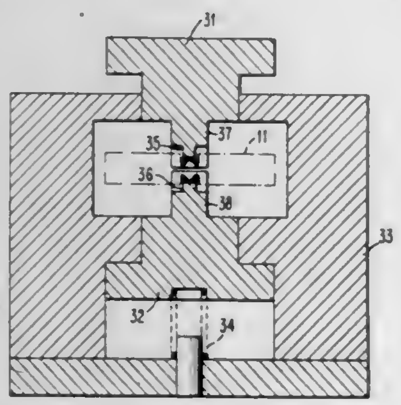
3,507,430
CERAMIC SUBSTRATE SNAPPING TOOL

Dean W. Skinner, Binghamton, and Stanley J. Skocz, Jr., Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 15, 1967, Ser. No. 660,691

Int. Cl. B26f *3/00*

U.S. Cl. 225—103 **6 Claims**



A ceramic substrate with aligned, W-shaped grooves in opposite surfaces is snapped into separate components by removal of the central portion of the W. The snapping tool includes upper and lower pairs of indentors rigid in the direction of loading and free to move in a direction perpendicular thereto. The indentors seat themselves in the notches of the W-shaped grooves out of contact with the bottom or root of the notch. When a load is applied, tensile stresses developed in the roots of all notches break the substrate into separate components and remove the central portion of the W.

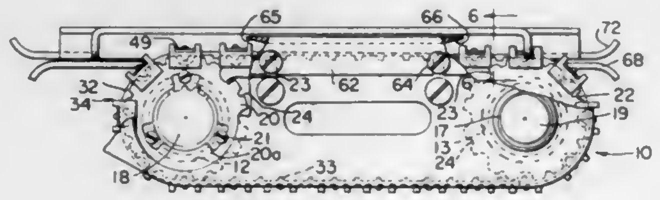
3,507,431
PIN FEED TRACTOR MECHANISM

Harold E. Hepp, Dayton, and Roger W. Biser, Troy, Ohio, assignors to the National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed May 3, 1968, Ser. No. 726,396

Int. Cl. B65h *17/38*

U.S. Cl. 226—74 **16 Claims**



An endless drive means for advancing paper or other record material through a printing station, including a toothed flexible belt trained on sprockets and carrying spaced links and pins for engaging the paper, the links being positioned to embed alternate teeth of the belt. The drive means has guide elements disposed on either side of the belt to maintain the pin-carrying links in a straight path between the sprockets for optimum driving relationship with the paper.

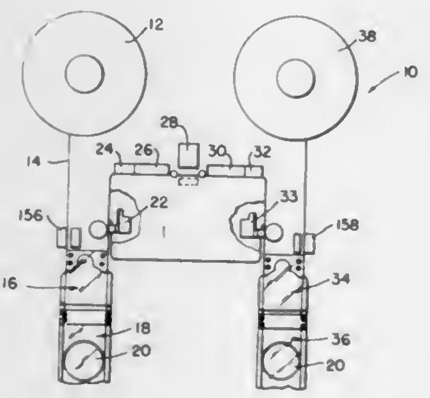
3,507,432
SEALING DISC FOR TAPE HANDLING APPARATUS

John W. Fecher and Virgil W. Fisher, Kettering, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed July 1, 1968, Ser. No. 741,360

Int. Cl. B65h *23/10*

U.S. Cl. 226—89 **8 Claims**



Means for facilitating the loading of perforated tape in a tape-handling apparatus which employs vacuum chambers in a slack-loop, control system. A light-weight, sealing disc is dimensioned to move in first and second vacuum chambers and to restrict the passage of air therepast. In normal operation, the disc is supported on the bight of a loop of the tape extending into the second chamber, and the disc and the loop are maintained in the second chamber by a differential pressure means associated with the chambers. For convenience in loading tape into the chambers, the differential pressure means is reversed from normal operation, causing the sealing disc to move out of the second chamber into the first chamber to be held at a seat therein until the tape loading is completed. After loading, the differential means is reversed to move the loop and the sealing disc into the second chamber for normal operation.

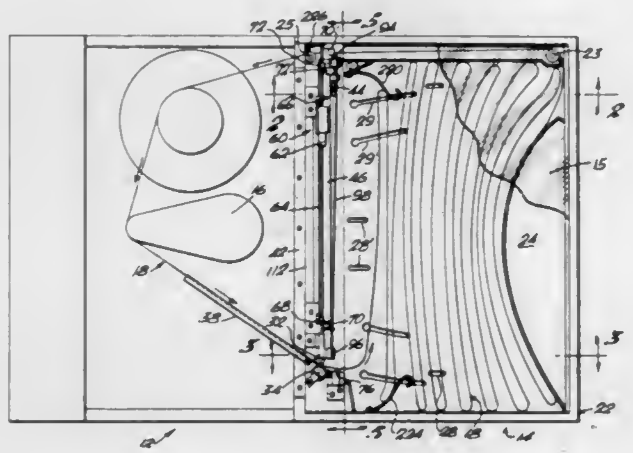
3,507,433
TAPE STORAGE DEVICE

Martin S. Davidow, 10330 SW. 45th St., Miami, Fla. 33165

Filed Feb. 20, 1968, Ser. No. 706,972

Int. Cl. B65h *17/42*

U.S. Cl. 226—113 **10 Claims**



A tape storage device for video tape which is adapted to be connected to a unit for reproducing images on video tape, the storage device including means to arrange video tape in interconnected close, adjacent, hairpin loop form as the tape at all times remains in a continuous length, the means to arrange including a finger to orient the tape into the hairpin loops and means to move the hairpin loops continually toward the rear of a support tray, with the tape at all times lying on its longitudinal edge.

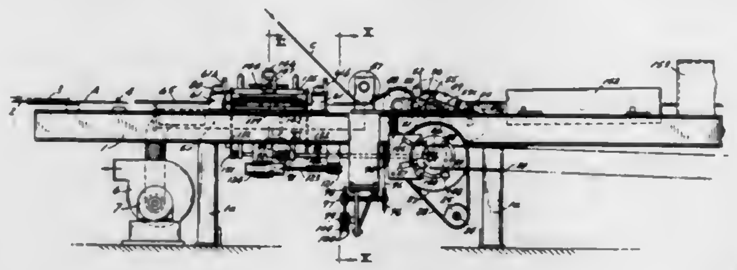
3,507,434
APPARATUS FOR FORMING MULTI-PLY TAPE

William George McClean, Milwaukee, Wis., assignor to The Youngstown Sheet and Tube Company, Boardman, Ohio, a corporation of Ohio

Original application Feb. 12, 1963, Ser. No. 258,039, now Patent No. 3,345,230. Divided and this application Aug. 15, 1967, Ser. No. 660,749

Int. Cl. B65h *17/36*

U.S. Cl. 226—142 **5 Claims**



This patent discloses a machine for forming multi-ply tape in which a group of parallel discrete strands of material such as fiber glass are drawn through a station and a cross ply laid on the continuous ply being drawn through the machine. If desired, two plys of continuous material may be utilized, with the cross ply inbetween. The tape may be treated with a binder and then dried and coiled.

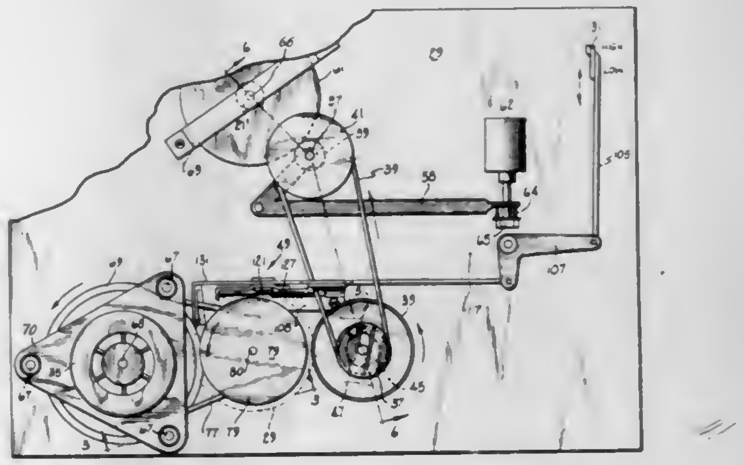
3,507,435
SPEED CHANGER FOR CAPSTAN AND ROTATING HEAD IN A TAPE RECORDER

Richard A. Hathaway, Des Plaines, Ill., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Nov. 21, 1966, Ser. No. 595,828

Int. Cl. B65h *17/20;* **F16h** *11/08;* **G11b** *15/44*

U.S. Cl. 226—178 **7 Claims**



An apparatus for changing the rotational speed of a recording head and a capstan drive in a magnetic recorder including a belt shifting mechanism for moving belts from one rim to another on multiple rim pulleys. Lifters are provided for assisting the belt shifting mechanism in raising the belt onto a larger diameter pulley rim and for preventing excessive wear and stretching of belts.

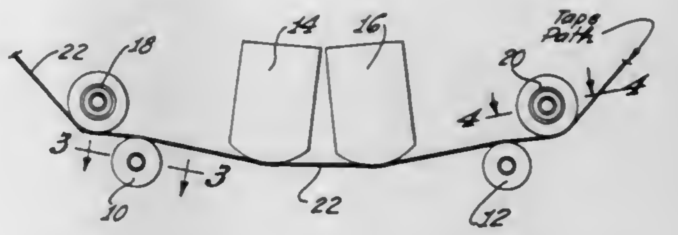
3,507,436
TAPE GUIDANCE SYSTEM AND APPARATUS FOR THE PROVISION THEREOF

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Irving Karsh, Los Angeles, and Rubin Shatavsky, Sherman Oaks, Calif.

Filed May 17, 1967, Ser. No. 640,448

Int. Cl. B65h *17/20, 23/04;* **G11b** *15/60*

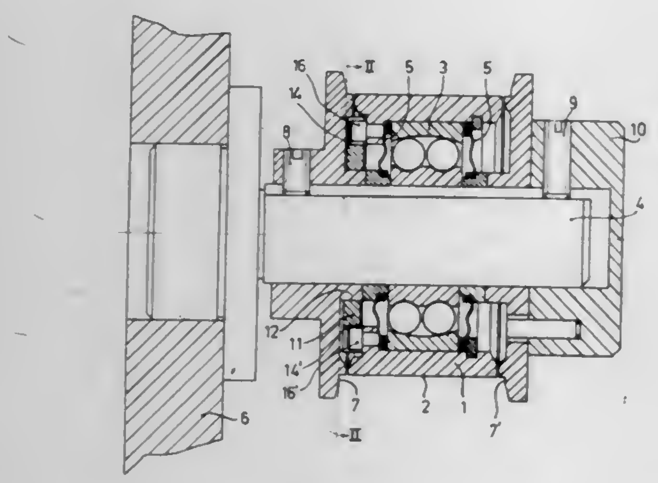
U.S. Cl. 226—190 **3 Claims**



A tape guidance system for multichannel digital recording systems having utility for minimizing the effects of dynamic skew, and apparatus for providing therefor. The guidance system of the invention includes a groove which is provided in the tape backing. The groove in the tape backing travels on stylii located adjacent the transducer in the tape transport. The guidance groove is formed in the tape backing by apparatus which includes a stylus, mounting structure for the stylus and tape transport structure which mounts the tape and moves the tape past the stylus for forming a longitudinal groove in the tape backing. Since dynamic skew is a function of the straightness of the groove formed in the tape backing the apparatus provided for forming the groove in the tape is provided with the capability of forming a precisely formed groove so that dynamic skew thereby may be reduced to a minimum.

3,507,437
TAPE GUIDE FOR A RECORDER/REPRODUCER

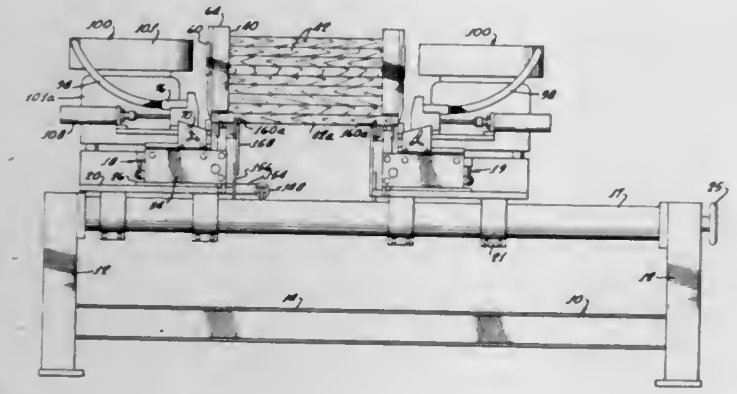
Theodoor Maria Albert Lips, Emmasingel, Eindhoven, Netherlands
Filed Jan. 10, 1968, Ser. No. 696,819
Claims priority, application Netherlands, Jan. 14, 1967, 6700632
Int. Cl. B65h *23/02*
U.S. Cl. 226—196 **3 Claims**



A tape guide for a recorder/reproducer. A guide member having a cylindrical guiding surface, is pivotally attached to a support on the face plate of the recorder/reproducer adjacent the recording/reproducing heads. The tape guide includes a rigid abutment surface adjacent the guiding member for limiting lateral movement of the tape. The guiding surface is capable of tilting in all directions in response to the forces applied thereto by the tape, but is restricted from rotating by a coupling between the guiding member and the abutment surface.

3,507,438
DOWEL INSTALLING MACHINE

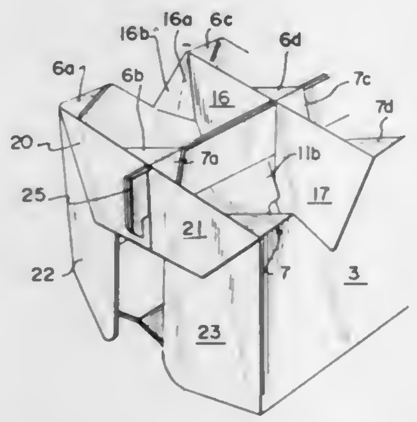
Robert N. Mullin, Fullerton, Calif., assignor to Johnny Bean Machinery Co., Fullerton, Calif.
Filed Sept. 15, 1967, Ser. No. 668,077
Int. Cl. B25c *1/04*
U.S. Cl. 227—14 **21 Claims**



A vertical stack of workpieces having a row of sockets on opposite ends are supported between a pair of dowel driving assemblies which are traversed and indexed along the row of sockets in the bottom workpiece to drive dowels simultaneously into the sockets on opposite ends of the workpiece. A glue dispensing nozzle automatically injects glue into the sockets in the second to the bottom board while the dowels are being driven into the sockets of the bottom board. The bottom workpiece is then automatically ejected and the dowel driving cycle started for the next board. Horizontal and vertical adjustment of the angular orientation of the dowel driving assemblies enables the machine to handle obliquely oriented sockets.

3,507,439
PREGLUED EGG CARTON

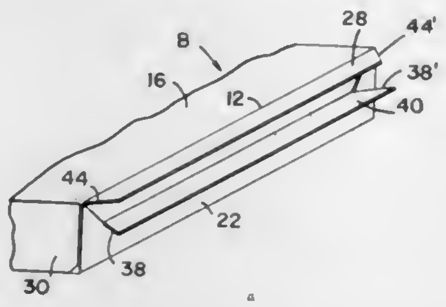
Charles Robert Helms, East Greenville, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Aug. 1, 1968, Ser. No. 749,435
Int. Cl. B65d *5/48*
U.S. Cl. 229—28 **6 Claims**



The carton has a bottom panel to support two rows of eggs. Side walls are hinged to the sides of the bottom. Separate top panels, hinged on the upper edge of each side wall meet centrally and have a plurality of cut-out flaps to be folded down to form transverse partitions. The meeting edges of the top panels each have a down-folded panel to form a composite, central partition. The upper areas of the central partition panels are secured together flatwise and their lower portions are spread apart to assume an inverted V-shape. The lower edge portions of the partition panels are connected to the bottom on opposite sides of its longitudinal center line.

3,507,440
TOP-OPENING CARTON

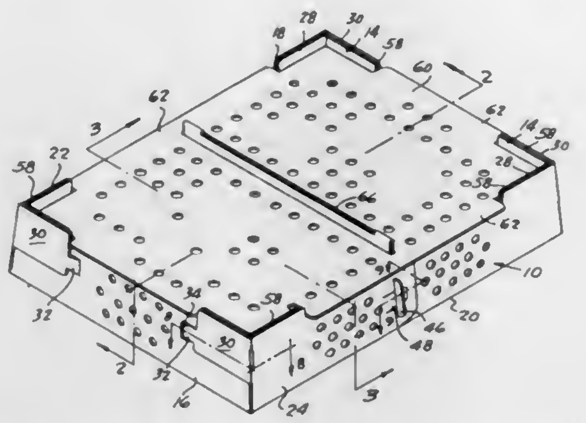
Robert O. Stuberg, 101 Bella Vista Drive, Hillsborough, Calif. 94010
Filed Mar. 28, 1968, Ser. No. 716,755
Int. Cl. B65d *5/02, 5/20*
U.S. Cl. 229—33 **5 Claims**



A top-opening carton for minimizing moisture/vapor loss from frozen comestibles within the carton through the use of a front flap corresponding in shape to a cut-away segment of the respective wall panel. When the flap is tucked inside this cutaway segment of the wall panel and pressure employed to accomplish sealing (either by gluing or by softening a thermoplastic coating), the resiliency of the paperboard proximate the score line of the flap and the back-up support created by the top panel provide resistance in opposition to the applied pressure so that a continuous seal is formed across the front of the carton, using a minimum or much smaller blank than normally required.

3,507,441
CHICK SHIPPING CONTAINER WITH DETACHABLE FEEDER TRAY

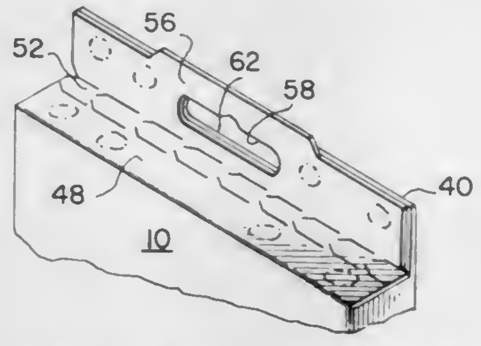
Thomas L. Wilcox and Frank L. Giroud, both of P.O. Box 31157, Indianapolis, Ind. 46231
Filed June 28, 1968, Ser. No. 741,122
Int. Cl. A01k *31/18;* **B65d** *5/26, 5/48*
U.S. Cl. 229—35 **10 Claims**



A device of one-piece construction for forming a box that is completely stapleless and in which the one-piece construction of the body and partition of the box eliminates the need for two separate cross partitions. The box has reinforced corners and the box is provided with a removable or tear-out feeder tray incorporated in the bottom of the box, which eliminates the need for separate die-cut sheets to form a feeder tray.

3,507,442
RACKABLE DISPLAY BOX AND METHOD

Edward Roger VanDam, Marblehead, and Ralph B. Willis, Hudson, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed July 29, 1968, Ser. No. 748,422
Int. Cl. B65d *5/46, 25/22*
U.S. Cl. 229—51 **10 Claims**



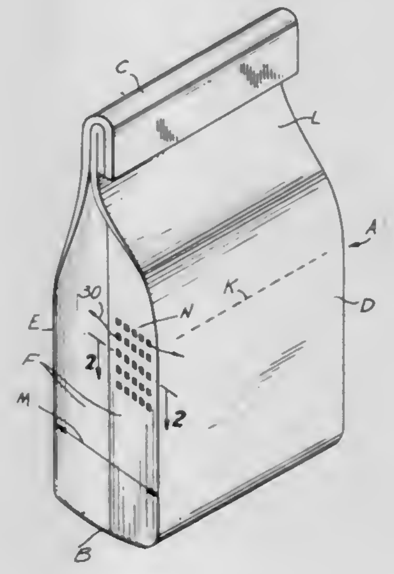
A rackable display box and method of assembling a box blank to facilitate the formation of a combined closure and hanging structure at one end of the box with conventional erecting, loading and closing equipment. The box is convertible from a storage and shipping form to a form enabling suspension on a display rack.

3,507,443
VENTILATED MULTI-PLY BAG

George Gerard, Point Pleasant, N.J., assignor to Jiffy Manufacturing Co., Hillside, N.J., a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,366
Int. Cl. B65d *31/02*
U.S. Cl. 229—55 **2 Claims**

The present disclosure describes a carrier bag for foodstuffs and particularly foodstuffs which are at a higher temperature than room or atmospheric temperature or materials which breathe and either consume air which is within the confines or tend to generate vapors or pressure within the enclosure.

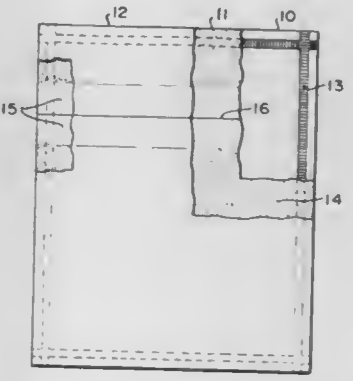
The bag's primary use desirably consists of a multi-ply material the interior lining of which may be an impermeable foil or plastic while the outer ply may consist of paper or suitable matted material not normally resistant to the penetration of fluid or air. The bag is desirably of the side bellows type and it is an important feature of the present invention to maintain an equilibrium within the bag or otherwise the foodstuffs will not be maintained in proper condition and the bag may undesirably expand or contract defeating its carrier function.



On the inside fold of the side flaps it has been found desirable to place a series of thin short vertical slots extending through both the paper and liner which will be positioned adjacent to the top of the food material and desirably extending above and below the top of the food material but well below the top closure of the bag. Among the many types of foodstuffs which may be carried in such bags, with preservation of the material therein, are fried potatoes, fried oysters, fried fish and various types of hot foods.

3,507,444
PACKING LIST ENVELOPE

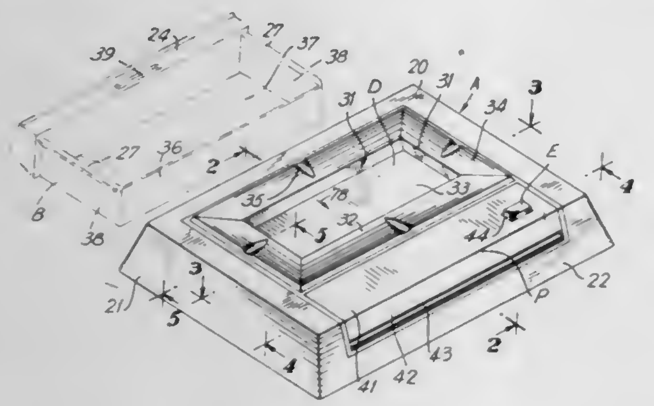
Richard A. Werby, 875 Waverly St., Framingham, Mass. 01701
Filed Aug. 14, 1968, Ser. No. 752,540
Int. Cl. B65d *27/00*
U.S. Cl. 229—68 **7 Claims**



An envelope for packing lists is made of two panels of polyethylene film or film and paper heat sealed along all four edges and with a slit or slot extending across the back panel to provide loading access to the interior of the envelope. The back panel is coated with pressure sensitive adhesive except for an area free of adhesive that includes part of the edge of the back panel to permit finger access for opening the envelope.

3,507,445
BATTERY DRIVEN ASHTRAY

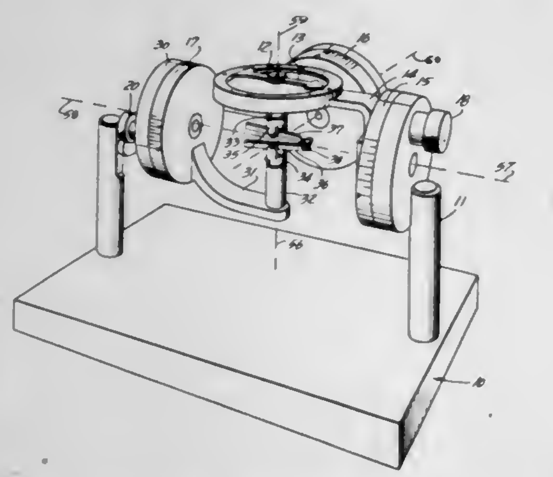
**David Breslow, 15 W. 26th St.,
New York, N.Y. 10010
Filed Feb. 21, 1968, Ser. No. 707,170
Int. Cl. A24f** *19/08*
U.S. Cl. 231—1 6 Claims



The present disclosure relates to an ashtray having a removable tray, the cover of which is opened or closed by actuation of a battery driven motor which is in turn started in operation by a manually actuated button.

3,507,446
SPHERICAL TRIANGLE RESOLVER

**Joseph C. Clark, 4843 Backacher Lane,
Orlando, Fla. 32806
Filed July 22, 1968, Ser. No. 746,608
Int. Cl. G01c** *21/24*
U.S. Cl. 235—61 14 Claims

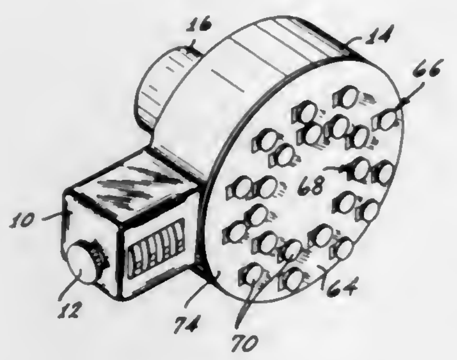


A spherical triangular resolving apparatus for determining a Great Circle Course from an instant position to and objective position from inputs of the instant latitude, the objective latitude and the difference in longitude of the two positions. A pair of shafts are mounted for rotation about axes and are connected about a center point by a linkage that causes rotation of said shafts when the axis of one shaft is displaced relative to the other shaft with respect to the center point. The rotation of one shaft about its axis indicates the Great Circle Course when the other shaft is moved about the center point in accordance with inputs analogous to the instant latitude, objective latitude and difference in longitude.

3,507,447
ADDING MACHINE ADAPTED TO BE HELD IN ONE HAND

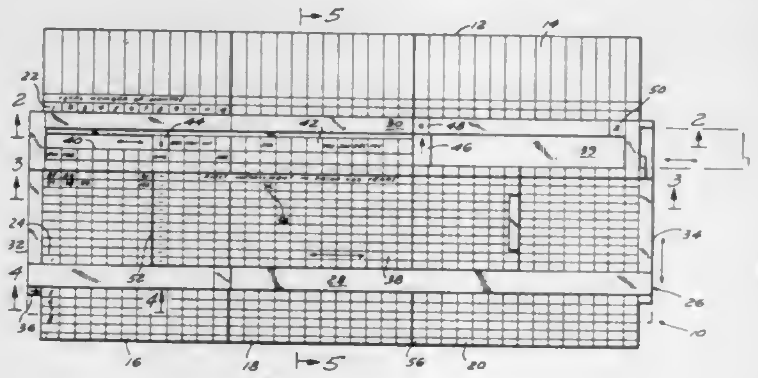
**Edward C. Walsh, 431 W. 7th St.,
Los Angeles, Calif. 90014
Filed Aug. 5, 1968, Ser. No. 750,272
Int. Cl. G06c** *27/00;* **G06g** *1/00*
U.S. Cl. 235—77 18 Claims

The machine uses a conventional mechanical counter, having an input shaft and reset means. The machine may be manually driven or by a motor. The drive means drives a rotary member, provided with angularly arranged stops, comparable with stop buttons or keys, so that the drive member can be stopped in incremental positions representing tenths of a revolution of the input shaft of the counter and positions representing multiple revolutions of the input shaft from one to 10. While held in one hand, the machine can be operated by the fingers manipulating the drive means and the stop buttons or keys.



3,507,448
INTEREST CALCULATOR

**Arthur E. Vincent, Dolgeville, N.Y. 13329
Continuation-in-part of application Ser. No. 594,440, Nov. 15, 1966. This application Nov. 27, 1968, Ser. No. 779,399
Int. Cl. G06c** *3/00*
U.S. Cl. 235—85 2 Claims

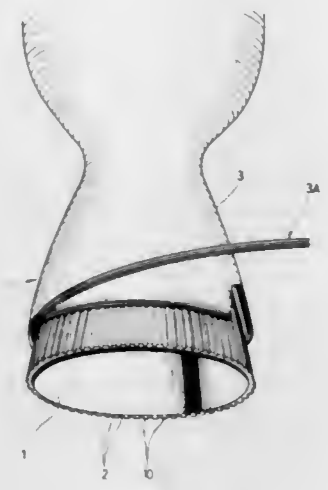


An apparatus is provided for correlatively positioning a plurality of scales in such manner that a particular value appearing on one scale may readily be determined. The scales are adapted to be shifted with respect to one another in accordance with a mathematical computation.

3,507,449
ROCKET ENGINE COMBUSTION CHAMBER WALL CONSTRUCTION

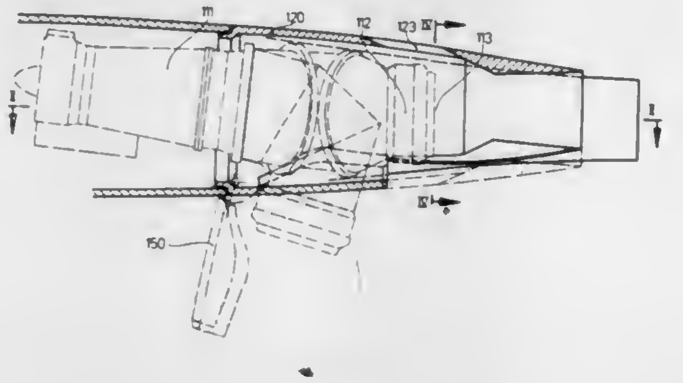
**Karl Butter, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, near Munich, Germany
Filed Aug. 8, 1967, Ser. No. 659,078
Claims priority, application Germany, Aug. 12, 1966, B 88,452
Int. Cl. B64d** *33/04*
U.S. Cl. 239—127.1 4 Claims

A casing for a rocket engine combustion chamber formed by an axially elongated tubular inner wall enclosed by and in surface contact with an outer wall. The inner wall has a number of channels in its outer surface which in combination with the inner surface of the outer wall form a plurality of cooling channels. The outer wall is formed by a strip of wire found continuously in a transverse direction around the inner wall with the longitudinal edges of the wire arranged in overlapping, interlocking relationship. In transverse cross section, the wire has U-shaped grooves into which the edge portions of the wire fit in interlocking engagement.



3,507,450
JET ENGINE EJECTOR NOZZLE

**Erich W. Weigmann and Wolf Rösiger, Munich, Germany, assignors to Entwicklungsring Sud G.m.b.H., Munich, Germany
Filed Apr. 26, 1968, Ser. No. 724,397
Claims priority, application Germany, Apr. 28, 1967, E 33,903
Int. Cl. B64c** *15/08*
U.S. Cl. 239—265.35 6 Claims

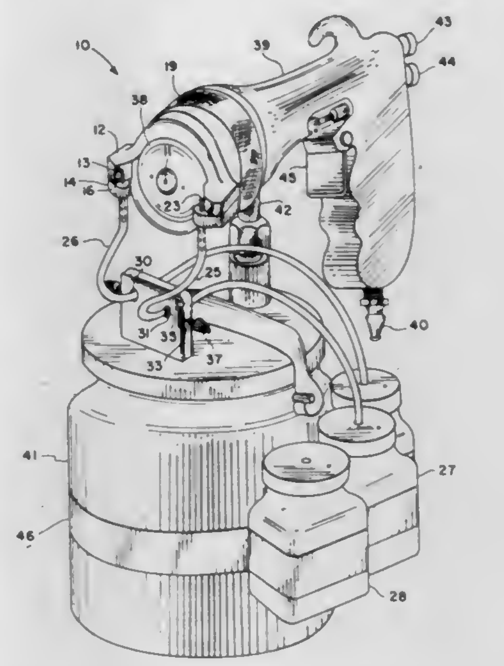


An ejector nozzle particularly adapted for use with the propulsion means of a vertical takeoff and landing jet aircraft. The illustrated embodiment includes a primary nozzle, the exhaust orifice of which may be selectively turned so as to provide vertical thrust. Coaxially positioned about the primary nozzle is a secondary nozzle in the form of a cylindrical segment. The cylindrical segment defines a longitudinal opening, the width of which is sufficient to allow the primary nozzle to pass therethrough. Means are additionally included for enclosure of the secondary nozzle opening during normal cruise flight so as to provide a satisfactory airfoil.

3,507,451
SPRAY GUN NOZZLE

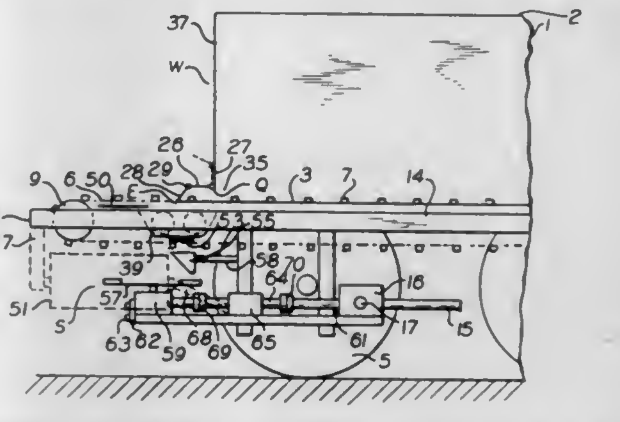
**Oce W. Johnson, 305 Sourwood Drive,
Hampton, Va. 23366
Filed Aug. 21, 1968, Ser. No. 754,446
Int. Cl. B05b** *7/08*
U.S. Cl. 239—305 7 Claims

A spray gun apparatus for the admixing and spray application of various coating materials having a nozzle cap readily attachable to a conventional spray gun and a separate material flow control arrangement which allows complete control of the proportions of various materials admixed while maintaining complete separate control of the fan shape and intensity of the resulting spray.



3,507,452
APPARATUS FOR DISTRIBUTING POWDERED AND GRANULAR MATERIALS, INCLUDING FERTILIZERS

**Heinz Dreyer, Kreis Osnabruck, Germany, assignor to Amazonen-Werke H. Dreyer, Kreis Osnabruck, Germany
Continuation of application Ser. No. 551,416, May 19, 1966. This application Jan. 14, 1969, Ser. No. 792,224
Claims priority, application Germany, May 21, 1965 A 49,269
Int. Cl. A01c** *19/00*
U.S. Cl. 239—673 11 Claims

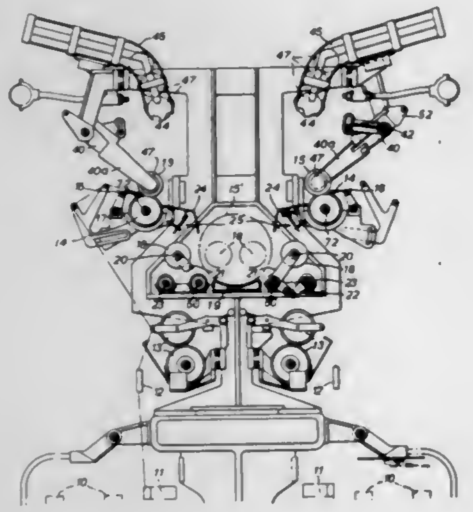


A centrifugal spreading apparatus, comprising a floor member having a rearwardly-positioned material-discharge edge and a rotating, recirculating, intermittently moving train of elongated scraper-bar members adapted to force material to and over the material-discharge edge, whereupon such falls upon rotating slinger disks.

3,507,453
CONTINUOUS YARN WINDING MACHINE

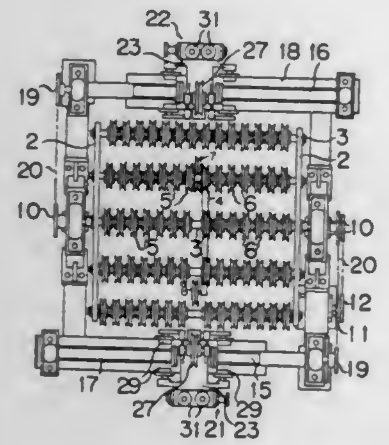
**Frederick Scragg, Trinity, Channel Islands, Walter Parker, Wilmslow, and Alan Herbert Evans, Bramhall, England, and Walter Edouard Ernst, Guttingen, Switzerland, assignors to Ernest Scragg & Sons Limited, Macclesfield, Cheshire, England, a British company
Filed Nov. 2, 1967, Ser. No. 680,105
Claims priority, application Great Britain, Nov. 7, 1966, 49,832/66
Int. Cl. B65h** *54/02*
U.S. Cl. 242—18 40 Claims

A machine wherein a spool is supported by two arms which at commencement of spool exchange separate to release the full spool from contact with the bowl roll to be delivered on to auxiliary rollers which support and drive the full spool in the winding direction. The arms now swing away from the winding position to pick up an empty spool from a magazine and then swing back to bring the empty spool into driving contact with the bowl roll and with the yarn travelling to the full spool. Next the yarn is severed between the rotating full and empty spools so that the yarn is picked up by the empty spool. The support of the auxiliary rollers is now withdrawn to allow the full spool to be delivered from the machine.



3,507,454
ACCUMULATOR DEVICE

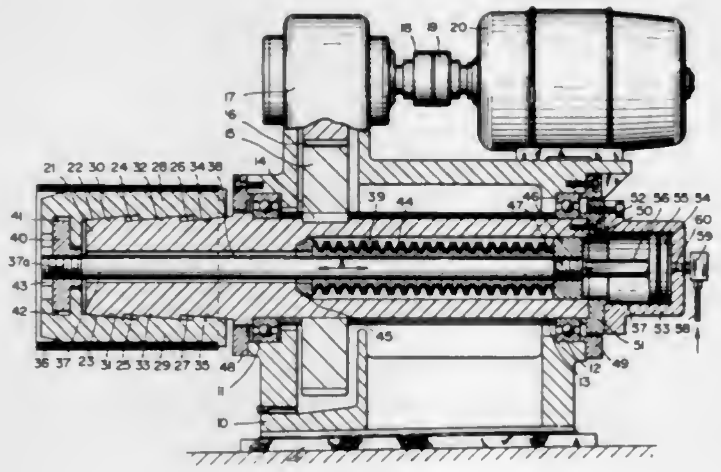
Isao Suwa, Tokyo, Japan, assignor to Aoi Seiki Company Limited, Tokyo, Japan, a corporation of Japan
Filed Feb. 23, 1968, Ser. No. 707,614
Int. Cl. B65h *75/00;* **B66c** *13/10*
U.S. Cl. 242—54 **4 Claims**



An accumulator device for controlling tension in wires, cables and similar elongated members comprises a pair of spaced apart discs, two series of rotatable wheels carried between the discs having grooves in their peripheral surfaces, the wheels being positioned so the grooves of the first series form a first spiral and the grooves of the second series form a separate second spiral, a first traverser that moves parallel to the wheel axes at one side of the accumulator, a second traverser similarly arranged at the other side. In use, the wire or other elongated member passes, in series, through the first traverser, the first and second series of wheels and then out the accumulator through the second traverser.

3,507,455
EXPANSIBLE MANDREL

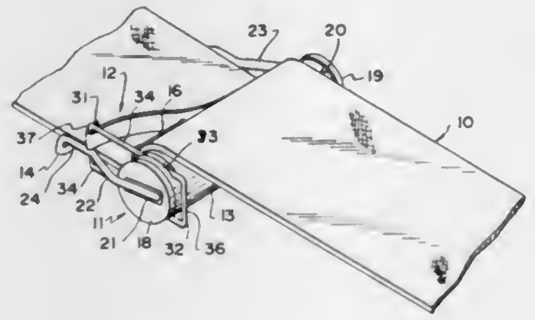
Anders Sigvard Andersson, Vasteras, Sweden, assignor to Aktiebolaget Svenska Metallverken, Vasteras, Sweden
Filed Mar. 12, 1968, Ser. No. 712,507
Claims priority, application Sweden, Mar. 17, 1967
3,779/67
Int. Cl. B65h *75/24*
U.S. Cl. 242—72.1 **5 Claims**



Expansible mandrel apparatus is provided having a main core member driven in rotation with an axially displaceable rod passing through the core member and connected to a mandrel formed by a plurality of segments having inclined cam surfaces coacting with complementary cam surfaces arranged on the core member. A spring bears against an abutment on the rod to urge the rod to a position in which the segments are moved radially outwards to expand the mandrel, and the rod can be moved axially against the action of the spring to contact the mandrel by the activation of a hydraulic cylinder arrangement.

3,507,456
TENSION ISOLATING RETRACTOR

Stephen J. Zanoni, Glen Ellyn, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 28, 1968, Ser. No. 716,896
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.12 **6 Claims**

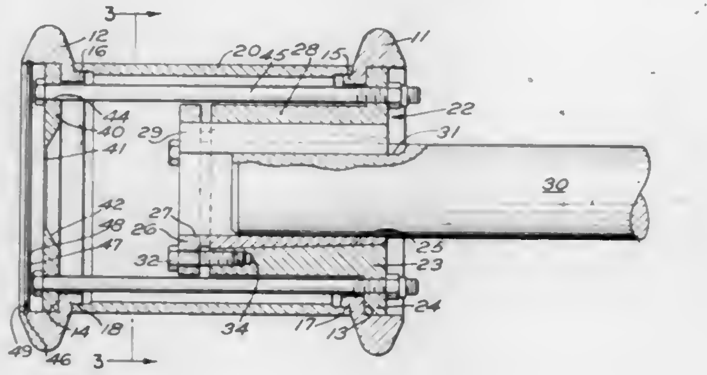


A retractor for a safety belt is provided with a releasable rewind lock which counteracts the rewinding torque of the retractor when the belt is fully extended.

3,507,457
CATHEAD CONSTRUCTION

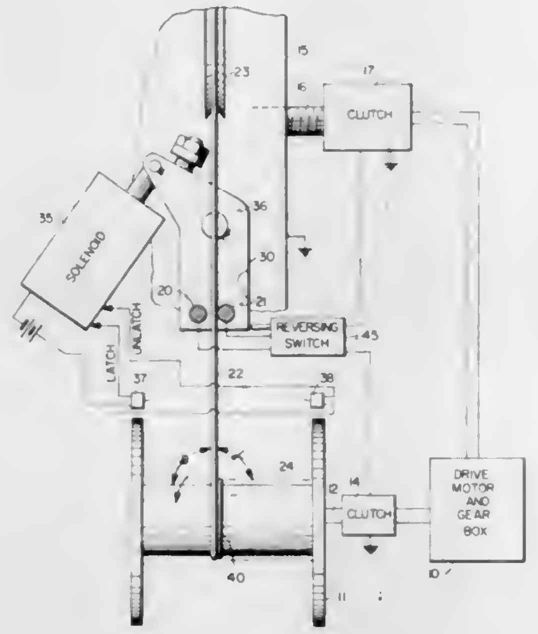
Charles L. Guild and Willard B. Goodman, both of 100 Water St., East Providence, R.I. 02914
Filed July 12, 1968, Ser. No. 744,507
Int. Cl. B65h *75/18;* **B66d** *1/30*
U.S. Cl. 242—117 **4 Claims**

A cathead constructed of a pair of heads with a spool therebetween and an open end to receive water within the cathead that is used as a cooling medium for dissipating heat generated through the friction of a line wound about the spool thereof.



3,507,458
WIRE WINDING MACHINES WITH SPEED SENSING CONTROLS

Chester O. Merchant, and William R. White, Owensboro, Ky., assignors to Kentucky Electronics, Inc., Owensboro, Ky., a corporation of Delaware
Filed Sept. 5, 1968, Ser. No. 757,639
Int. Cl. B65h *57/28*
U.S. Cl. 242—158.4 **9 Claims**

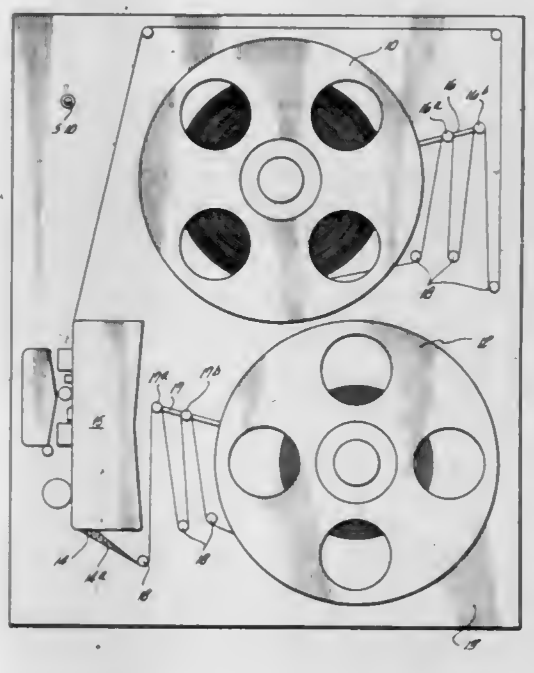


In a machine feeding wire on a rotating reel by a mechanism traversing back and forth, the rate of feed is controlled at two angular limits of feed from the traversing mechanism to respectively disengage a clutch in the rotating reel drive or the traversing drive means. The angular limits are changed as the traverse direction changes to establish a proper lead angle on the feed of wire.

3,507,459
TAPE TRANSPORT CONTROL SYSTEM

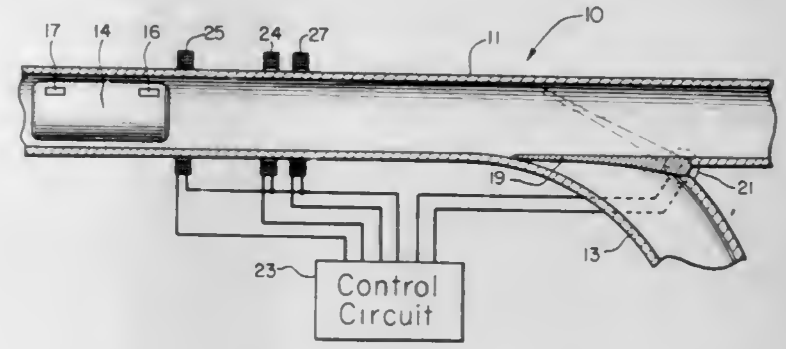
William G. Campbell, Jr., Los Angeles, Calif., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 19, 1968, Ser. No. 706,467
Int. Cl. B65h *59/38, 59/40*
U.S. Cl. 242—190 **7 Claims**

A tape control system for controlling the transfer of tape in a reel to reel tape transport. The system includes means for transferring the tape between the reels, means for sensing any slack in the tape and providing a signal indicative of the lack of slack, and control means responsive to the signal to stop the transfer of tape between the reels for a pre-determined interval and then to reinitiate the transfer of tape after the interval at a gradually increasing rate of speed until a preselected maximum rate is reached.



3,507,460
CONTROL CIRCUIT

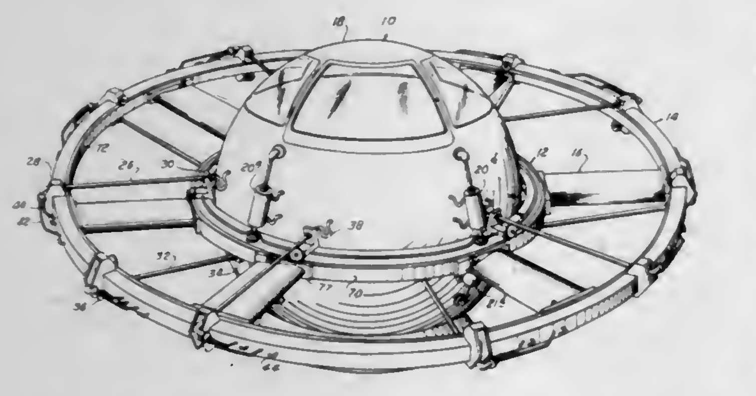
Robert J. Norman and Mitchell S. Budniak, Chicago, Ill., assignors to The Powers Regulator Company, Skokie, Ill., a corporation of Illinois
Filed Feb. 14, 1968, Ser. No. 705,402
Int. Cl. B65g *51/42*
U.S. Cl. 243—16 **10 Claims**



A carrier of a pneumatic tube system is directed through a series of interconnected paths to a desired destination according to an addressing code defined by the relative spacing of code elements on the carrier. Spaced sensing devices are responsive to momentary alignment of carrier code elements of a related preselected spacing to provide time coincident signals which ultimately actuate a guide arm to divert the carrier from a first to a second routing path. Due allowance for system tolerances has required that at least one of the electrical signals generated by an appropriately addressed carrier be of relatively long duration to assure the required time coincidence; under these circumstances, the number of possible addresses on a carrier of reasonable length is prohibitively small at high carrier velocities. It has been found that the necessary pulse duration to insure coincidence varies inversely with carrier velocity and a compensating means is disclosed which complements this characteristic to permit the system to reliably distinguish between closely adjacent code element positions at all carrier velocities within a broad range. The compensating circuit may concomitantly be employed to effect a substantial enhancement in the noise immunity of the circuit. In addition, apparatus for providing distortion free code signals at high carrier velocities is disclosed.

3,507,461
ROTARY WING AIRCRAFT

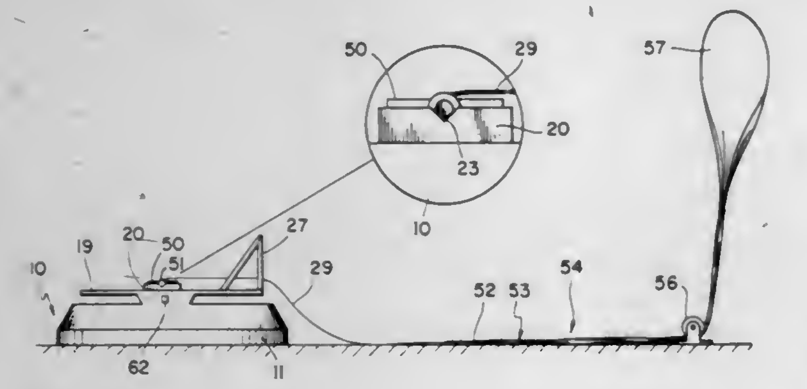
William N. Rosta, Corpus Christi, Tex., assignor to The VLM Corporation, Fort Worth, Tex., a corporation of Delaware
Continuation-in-part of application Ser. No. 564,801, July 13, 1966. This application June 16, 1967, Ser. No. 646,598
Int. Cl. B64c *27/20, 27/46, 27/54*
U.S. Cl. 244—17.23 18 Claims



This application discloses an improved rotary wing aircraft capable of vertical lift. The aircraft employs airfoils or rotor blades which rotate in tracks surrounding the fuselage with the airfoils being driven by pressurized air directed through nozzles onto turbine blades in the outer track. Directional control is provided by tilting the plane of rotation of the rotor blades or by cyclic pitch control of the rotors.

3,507,462
BALLOON LAUNCHING METHOD AND APPARATUS

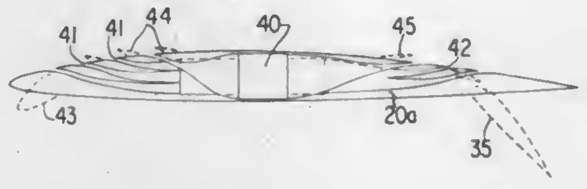
Karl H. Stefan, Boulder, Colo., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Nov. 9, 1967, Ser. No. 681,877
Int. Cl. B64b *1/40*
U.S. Cl. 244—31 9 Claims



This method and apparatus for launching high altitude balloons and payloads attached thereto by a lift line utilizes a ground-effect machine for supporting the payload during the balloon launching. Upon release for flight, the balloon produces forces on the lift line causing the ground-effect machine to move and positon the payload beneath the balloon. As the balloon rises, the payload is removed from the positioned ground-effect machine for flight.

3,507,463
THRUST INDUCED VORTEX LIFT ARRANGEMENT FOR AIRCRAFT

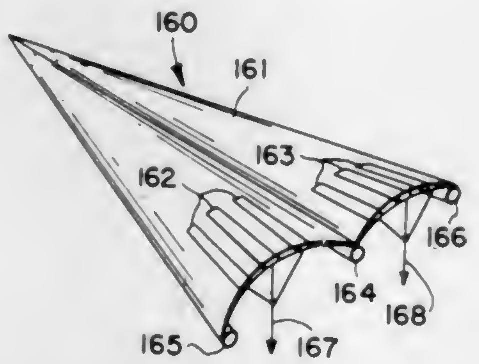
William Donald Kuntz, 1830 Park Ave., Bridgeport, Conn. 06604
Filed Jan. 18, 1968, Ser. No. 698,909
Int. Cl. B64c *21/02*
U.S. Cl. 244—42 2 Claims



A V/STOL (vertical or short takeoff and landing) aircraft characterized by a thrust induced vortex lift arrangement produced by at least one elongated air inlet slot in the top surface of the wing adjacent the leading edge, and at least one air flow accelerator such as a turbo-jet embedded in or positioned below the upper surface of the wing connected to the air inlet slot and receiving all its air input therefrom, and at least one air discharge or outlet slot in the top surface of the wing adjacent the trailing edge connected to the air flow accelerator and receiving all of the air discharged therefrom, creating a low pressure area over the top wing surface between the slots causing the discharged air initially to flow back toward the inlet slot inducing an artificial lift-producing vortex perpendicular to the axis of thrust at stationary or low forward aircraft speed creating a substantially vertical lift on the top surface of the wing to raise the aircraft.

3,507,464
CONTROL DEVICES FOR FLEXIBLE WING

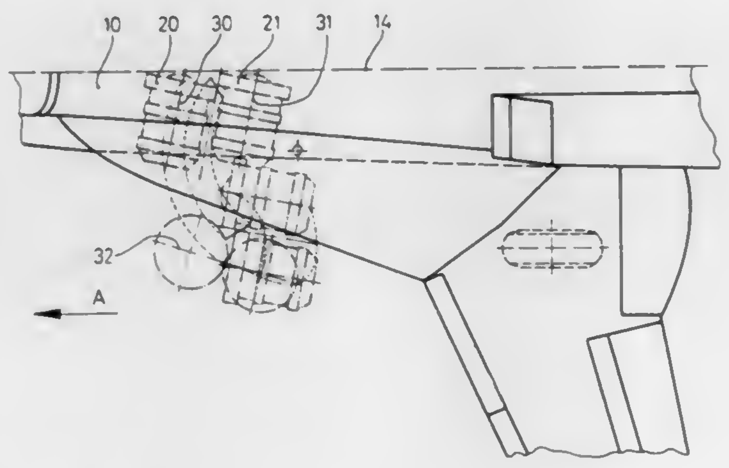
Francis M. Rogallo, 17 Milford Road, Newport News, Va. 23602
Continuation-in-part of application Ser. No. 670,002, Sept. 1, 1967, which is a division of application Ser. No. 338,537, Jan. 17, 1964. This application Mar. 18, 1969, Ser. No. 826,737
Int. Cl. B64c *3/38, 3/54*
U.S. Cl. 244—43 2 Claims



This invention is a control for a flexible wing aircraft. The flexible wing aircraft has a generally triangular-shaped superstructure including a centrally disposed keel and angularly disposed leading edge members connected to the apex of the keel. A flexible membrane-like material is fixed to the keel and leading edge members to form wing panels and a lift surface. The trailing edge area of the membrane-like material disposed between the keel and leading edge members is reinforced with some type of material. Control lines are connected to the reinforced portions of the material, pulling on the control lines changing the configuration of the membrane-like material to provide control for the vehicle.

3,507,465
APPARATUS FOR A RETRACTABLE JET ENGINE

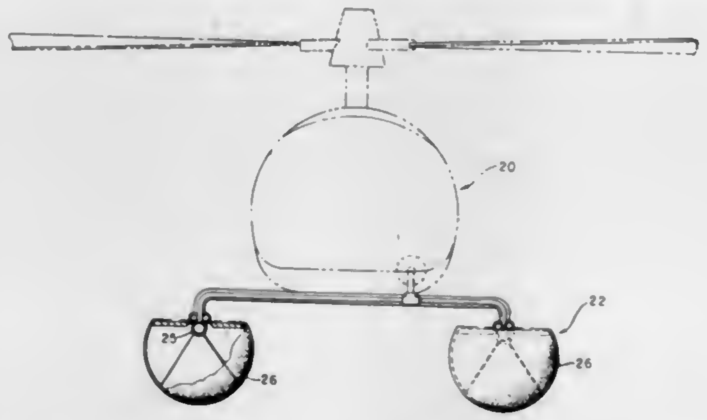
Erich W. Weigmann, Munich, Germany, assignor to Entwicklungring Sud GmbH, Munich, Germany
Filed May 28, 1968, Ser. No. 732,708
Claims priority, application Germany, June 2, 1967 E 34,115
Int. Cl. B64c *15/14, 29/00*
U.S. Cl. 244—56 5 Claims



The illustrated embodiment concerns an apparatus for mounting the jet engines of an aircraft from a retracted storage position within the aircraft airframe to an extended operational position adjacent the fuselage. Means are included for rotating the engines from a first position wherein the longitudinal axes of the engines are parallel to the wing axis of the aircraft to a position with the engine axes normal to the longitudinal axis of the aircraft whereat the engines are operated for the production of vertical thrust. The engines may then be shifted to an alternate position wherein their axes are parallel to the axis of the aircraft for the production of thrust during cruise flight.

3,507,466
AIRCRAFT UNDERCARRIAGE

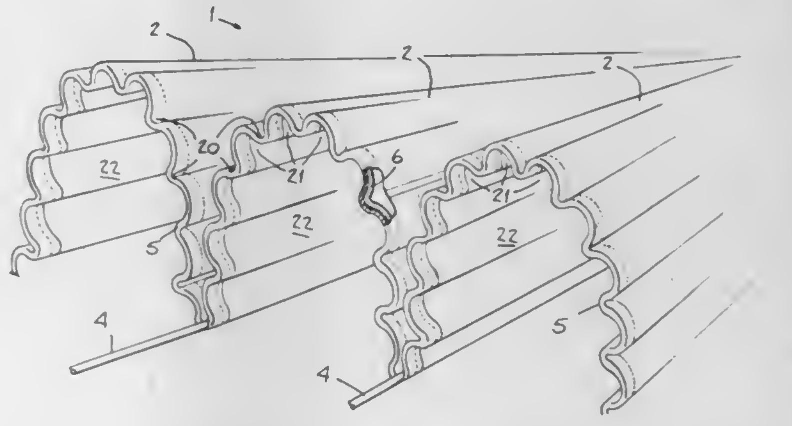
Jean L. La Fleur, Chippawa, Ontario, Canada, assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed Mar. 11, 1968, Ser. No. 712,258
Int. Cl. B64c *25/56*
U.S. Cl. 244—105 7 Claims



An aircraft undercarriage or "landing gear" means applicable to helicopter or fixed wing or "VTO" type aircraft or the like; thereby adapting such craft to "land," taxi, and takeoff from land or water surfaces or the like in improved manner. The invention features an improved float type undercarriage mechanism employing, in combination, a spar structure mounting thereon an inflatable envelope formed of elastic material; and means for alternately inflating the envelope into operative condition, and deflating it so that it resiliently contracts and hugs itself to the supporting spar member, thereby minimizing aerodynamic drag effects thereon without requiring use of auxiliary envelope retracting and/or fabric folding and/or compaction devices.

3,507,467
SKIRT EXPANDER

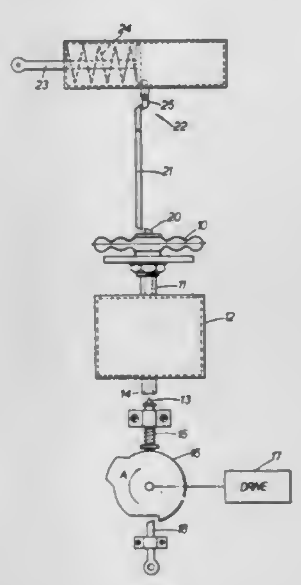
Oscar W. Sepp, Glen Cove, N.Y., assignor to M. Steinthal and Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 7, 1968, Ser. No. 750,942
Int. Cl. B64d 17/02
U.S. Cl. 244—145 12 Claims



A parachute has a resilient flexible rubber rod around and within the skirt portion. The rod has a plurality of bends spaced evenly along so as to take on a scalloped or undulated condition.

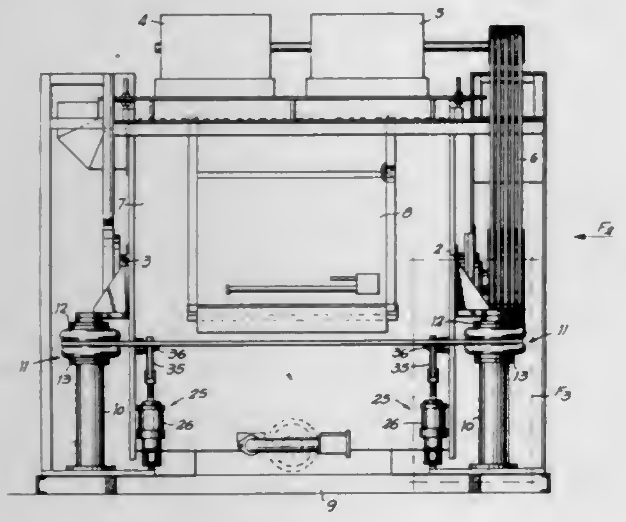
3,507,468
APPARATUS FOR DETECTING CHANGES IN PRESSURE

Charles George Lancaster, Basingstoke, England assignor to Appleby & Ireland Limited, Basingstoke, Hampshire, England, a British company
Filed Apr. 10, 1968, Ser. No. 720,116
Claims priority, application Great Britain, Aug. 22, 1967, 38,673/67
Int. Cl. B64d *17/48*
U.S. Cl. 244—150 6 Claims



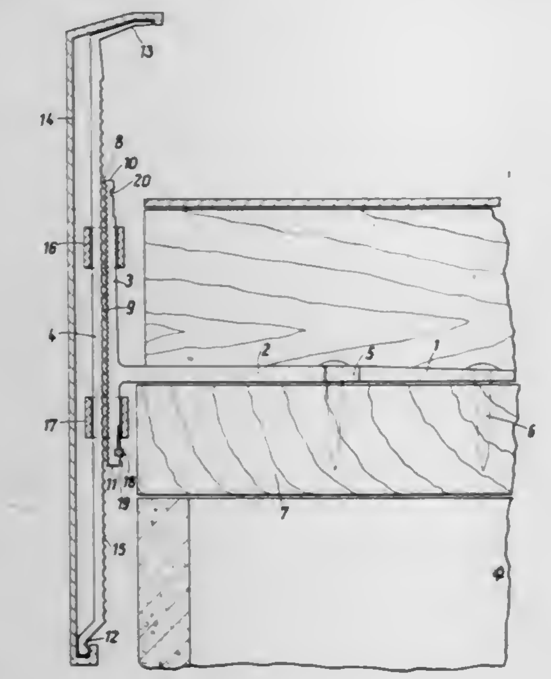
Apparatus responsive to changes in pressure during a predetermined time and particularly for controlling the release of a reserve parachute comprises a capsule normally subjected to atmospheric pressures inside and outside but with a valve for closing the passage to the interior and a timer to close the valve for a predetermined period. If the timer is set in operation when a parachutist jumps, e.g., by the static line, then, should the main parachute not open, the larger pressure change due to the rapid change in height will cause the capsule deflection, during the time the valve is closed, to exceed a predetermined amount. The capsule then operates a trip mechanism to release a reserve parachute.

3,507,469
SUSPENSION DEVICE FOR WASHING MACHINES AND CENTRIFUGAL DRYERS
Herman E. Vanderheyden, Gent, Belgium, assignor to Constructiewerkuizen Emile D'Hooge P.V.B.A., Ledeberg, Belgium
Filed Oct. 14, 1966, Ser. No. 586,830
Claims priority, application Belgium, Oct. 28, 1965, 671,526
Int. Cl. D06f *37/22;* **F16f** *9/04*
U.S. Cl. 248—22 **1 Claim**



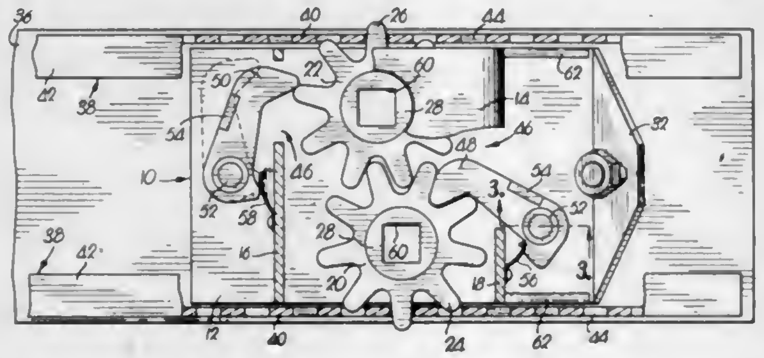
A suspension device for industrial washing and centrifugal drying machines is provided with a base plate carrying several columns, each of the columns having at its upper end a closure plate with elastic bellows carrying suitable supports, the bellows being supplied with compressed air from a suitable source.

3,507,470
SUPPORT BRACKET FOR SEALING MEMBERS
Klaus Göbel, Zeughausstr. 41, Trier, Germany
Filed Feb. 28, 1968, Ser. No. 709,042
Claims priority, application Germany, Mar. 3, 1967, 1,609,977
Int. Cl. E04f *19/02*
U.S. Cl. 248—205 **12 Claims**



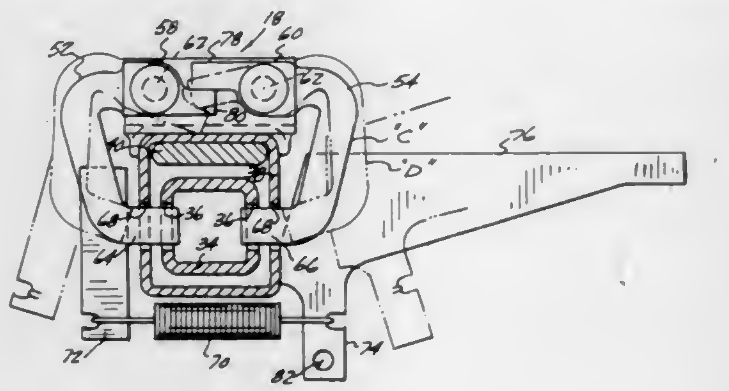
The invention provides, for use in the fixing of sealing strips, fascia boards and the like at the eaves, or at the gable, or at the junction between ceiling and roof bearers of a building structure, a holding device comprising a holding angle providing a horizontal leg for fixing to the building structure and a vertical leg having toothing on its outer face, a holding part lying against the vertical leg and having respective toothing interengaging with the toothing of such vertical leg, and clamping means pressing the holding angle and holding part into interengagement, whereby vertical adjustment of the holding part relative to the holding angle is achieved.

3,507,471
LOW PROFILE HOLD-DOWN UNIT FOR CARGO
William J. Haynes, Jr., Shawnee Mission, and Tommy W. Martin, Kansas City, Kans., assignors to The Darby Corporation, Kansas City, Kans., a corporation of Kansas
Filed Feb. 19, 1968, Ser. No. 706,483
Int. Cl. B65j *1/22*
U.S. Cl. 248—361 **3 Claims**



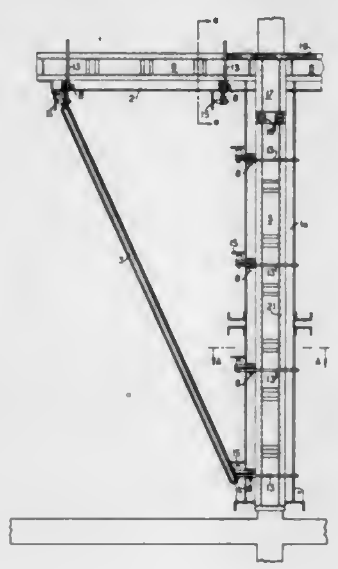
A low profile unit for securing cargo to the deck of a conveyance for transportation includes a rotor assembly lying flatly on the deck of a railway car or the like and rotating about a vertical axis. The chain or other flexible lashing extends upwardly from such assembly at an angle for connection with the automobile or other cargo to be held down. Slack in the chain may be taken up either by shifting the assembly itself along a track having racks engaged by a pair of intermeshed ratchet wheels or by running the chain over a rotor that has pockets for receiving the links of the chain. In each embodiment a ratchet and pawl unit prevents retrograde rotation.

3,507,472
SEAT MOUNTING WITH TELESCOPICALLY ARRANGED SLIDE MEANS
Marie H. Agee, Lapeer, Theodore C. Sautter, Detroit, and Peter Cojei, Lathrup Village, Mich., assignors to Howell Industries, Inc., Detroit, Mich., a corporation of Michigan
Filed May 16, 1967, Ser. No. 638,851
Int. Cl. B60m *1/08;* **F16m** *11/00, 13/00*
U.S. Cl. 248—429 **6 Claims**



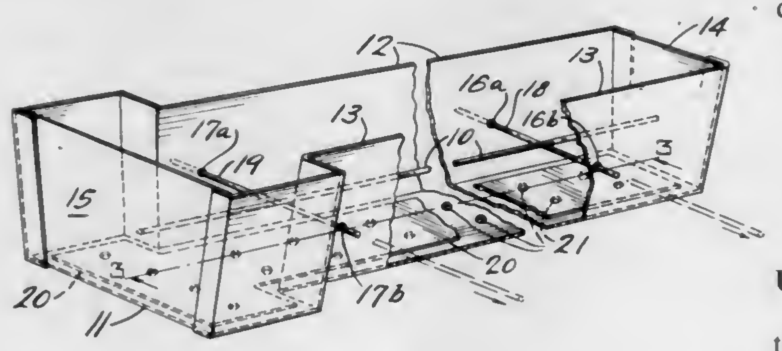
A seat mounting having a tubular slide member with full sleeve plastic bearings telescopically and slidably mounted on an elongated tubular support to provide an adjustable connection between a seat supporting carriage and a floor mounted base. A pair of opposingly mounted, C-shaped latch members having interengaged arms are mounted on the slide member for co-acting movement between locking positions in which they are received by a selected pair of apertures in the sidewalls of the slide member and the tubular support to lock the carriage to the base in an adjusted position, and release positions in which they permit such adjustment.

3,507,473
FORM WORK FOR CASTING CONCRETE
Guy Blonde, La Frette-sur-Seine, France, assignor to Societe Anonyme Outinord, Saint Amand-les-Eaux, Nord, France, a corporation of France
Filed Dec. 9, 1966, Ser. No. 600,528
Claims priority, application France, July 12, 1966, 18,747
Int Cl. E04g *11/00*
U.S. Cl. 249—27 **3 Claims**



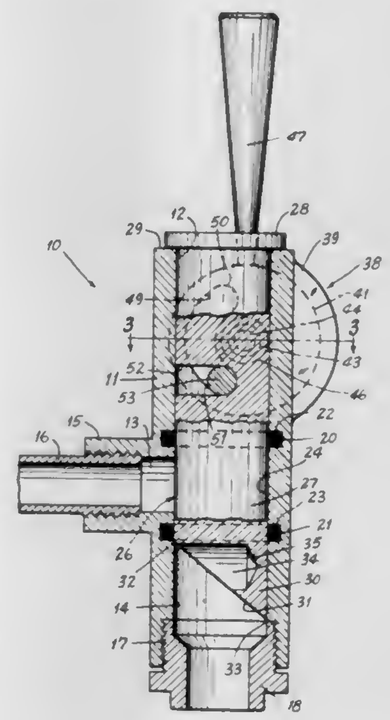
A form work for casting concrete therein to produce a structure, said form work comprising at least one shuttering member to define one surface of the structure to be produced, an end panel for defining an end face of said structure, the end panel being pivotally connected to one edge of said shuttering and having a width at least equal to the thickness of the structure to be produced, and fastening means pivotally attached to the shuttering on the same pivot axis as the end panel for fastening said end panel in an end face defining position against hydrostatic pressure exerted on said end panel by cast concrete.

3,507,474
MOLD FOR CASTING REINFORCED STRUCTURES
Howard D. Beck, Tong Road, Carey, Ohio 43316
Filed July 12, 1967, Ser. No. 652,960
Int. Cl. B28b *23/02*
U.S. Cl. 249—97 **2 Claims**



An open mold for concrete or other cast structures with embedded reinforcing rods. The mold includes a bottom and side walls with means for removably positioning rigid supports for a reinforcing rod. The supports extend across the mold between its top and bottom to support a reinforcing rod placed completely within the mold. The method of casting the reinforced structures includes the steps of placing the rigid supports in their support means across the mold, positioning the reinforcing rod within the mold upon the supports, filling the mold with concrete mix, removing the rigid supports and inverting the mold to remove the reinforced cast shape therefrom. To facilitate filling and emptying of the mold, a false bottom may be placed within the mold which is then removed with the cast shape prior to separation therefrom.

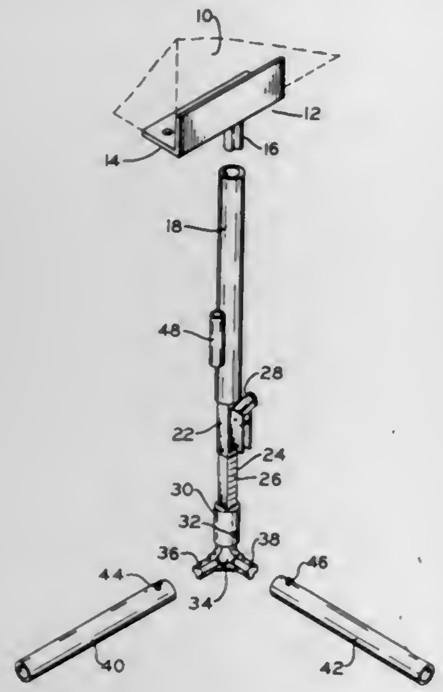
3,507,475
FAUCET VALVE
Norman E. Davis and Richard L. Roden, Dallas Tex., assignors to The John E. Mitchell Company, Dallas, Tex., a corporation of Missouri
Filed Sept. 6, 1966, Ser. No. 577,425
Int. Cl. F16k *47/04, 31/528*
U.S. Cl. 251—120 **6 Claims**



A valve having a cylindrical valve member slidable in a cylindrical chamber with which inlet and outlet ports communicate, and having an annular O-ring seal in the chamber between the inlet and the outlet for being pressed between the valve member and the chamber wall to block communication between the valve member and the chamber wall to block communication between the inlet and outlet ports when the valve member enters the O-ring, wherein the design of the end of the valve member is such as to prevent damage to the O-ring during operation of the valve.

3,507,476
JACK FOR CAMPER
Winton J. Bennett, 1500 S. Dallas, Auburn, Ind. 46706
Filed Apr. 10, 1968, Ser. No. 720,019
Int. Cl. B66f *7/26*
U.S. Cl. 254—45 **10 Claims**

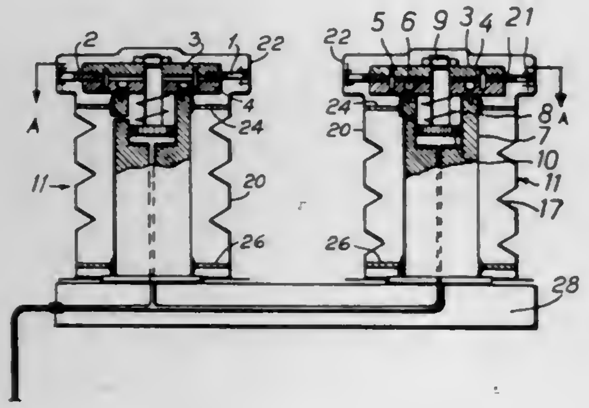
A jack structure for a camper or coach body in which the jack comprises a jack structure having a base with legs extending angularly from the base and at an angle to each and detachable from the base and in which the jack structure comprises a tubular upper member for engagement with the underside of the camper or coach body and wherein the legs when detached from the base of the jack can be connected to the upper member in parallel relation thereto. Further, the camper or coach body has clip means on the underside for detachably receiving and supporting the jacks when the legs of the jacks have been detached from the base thereof, and have been connected, to the upper member thereof. The camper or coach body is provided with a jack engaging member at each corner.



3,507,477
ROTATING BOLLARDS

Harry Sandøy and Ivar Krogstad, Arendal, Norway, assignors to Aksjeselskapet Pusnes Mekaniske Verksted, Arendal, Norway, a corporation of Norway

Filed July 3, 1967, Ser. No. 650,683
Claims priority, application Norway, July 5, 1966, 163,786
Int. Cl. B66d *1/50;* **F16d** *65/24*
U.S. Cl. 254—150 **9 Claims**



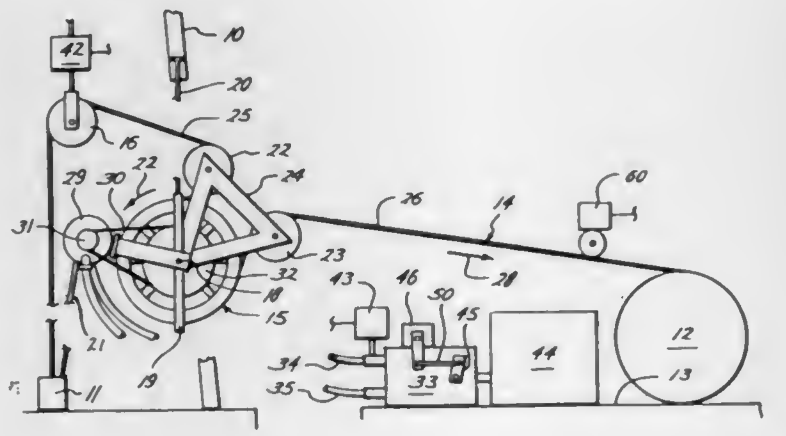
The invention relates to an improvement in rotating bollards wherein the bollard members are adapted to rotate in one direction and are prevented from rotating in the other direction by means of a ratchet mechanism which cooperates with a brake adapted to slip when subjected to undue loads.

The release of the hawser has an inherent risk and to avoid this it is according to the invention provided for that the ratchet and brake mechanism is releasable for free rotation also in the other direction. This allows the bollard to rotate in a direction such as to allow the hawser to be payed out, thereby reducing the inherent risk by the release of the hawser.

3,507,478
APPARATUS FOR HANDLING WELL TOOL CABLES

George G. Lewis, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Continuation of application Ser. No. 573,973, Aug. 22, 1966. This application Sept. 7, 1967, Ser. No. 666,182
Int. Cl. B66d *1/76, 1/50*
U.S. Cl. 254—175.7 **5 Claims**

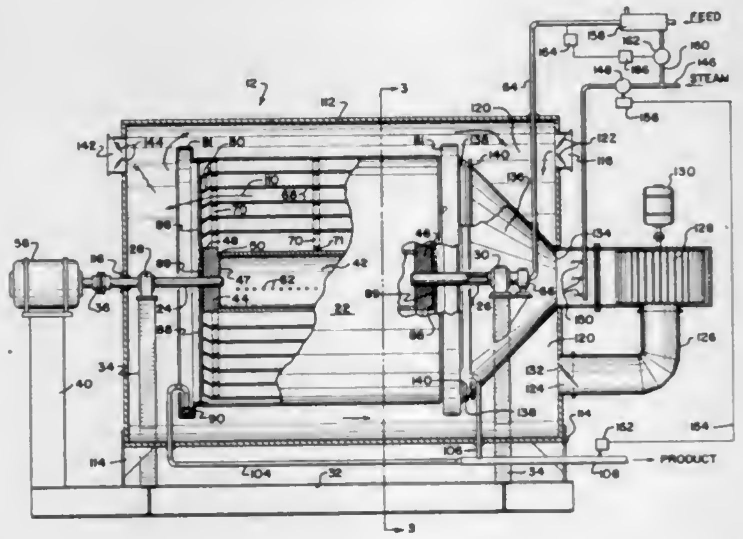


The particular embodiment described herein as illustrative of one form of the invention is directed to cable-handling apparatus including a powered sheave assembly around which a suspension cable is at least partially wrapped so that when power is applied to the sheave, an opposing force will be applied to the cable to partially offset tension forces acting thereon. Controls are provided to respond to the tension forces and speed of the cable for governing the rate of speed of the sheave as well as torque applied thereto.

3,507,479
ROTATING SPIRAL LIQUID-GAS CONTACTOR

David R. Pearl, West Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Continuation of application Ser. No. 465,063, June 1[illegible] 1965. This application Dec. 19, 1968, Ser. No. 786,836
Int. Cl. B01f *9/02, 3/04*
U.S. Cl. 261—30 **5 Claims**

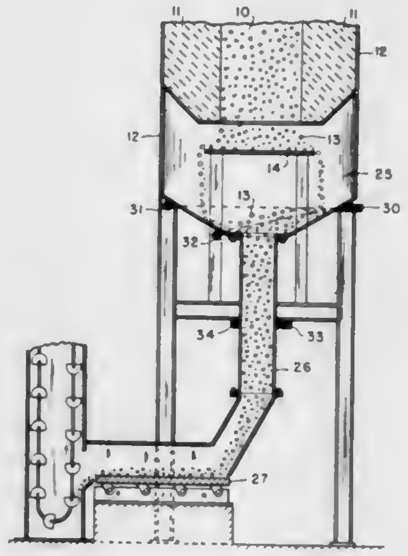


A liquid-gas contact apparatus having a rotor mounted on a horizontal axis with a spiral passageway leading from the hub to the outside of the rotor. The liquid is introduced into the passageway at the hub end and the rotation causes the liquid to flow outwardly through the spiral passageway in a continuous stream to the outside of the rotor where the liquid is collected in annular troughs and is removed by stationary scoops. The scoops include a nozzle, flaring and splash guard. The axial ends of the rotor are open to permit the gas to flow axially through the rotor over the liquid in the spiral passageway. The spiral passageway is formed by a sheet of material and spacers between adjacent windings of the sheet of material maintaining the spiral spacing. The spacers have openings therein for the flow of gas therethrough. The edges of the sheet of material adjacent the axial ends of the rotor are turned inwardly to form liquid retaining lips. A casing encloses the rotor and a portion of a gas duct. Dampers are controlled to cause a portion of the gas which has flowed through the rotor to be recirculated back to flow through the rotor again. Sealing means extends between the gas duct and the rotor to reduce gas leakage.

3,507,480
SHAFT KILN DISCHARGE SYSTEM

Charles D Gabor, Verona, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Sept. 25, 1968, Ser. No. 762,439
Int. Cl. F27b *1/20*
U.S. Cl. 263—29 **3 Claims**



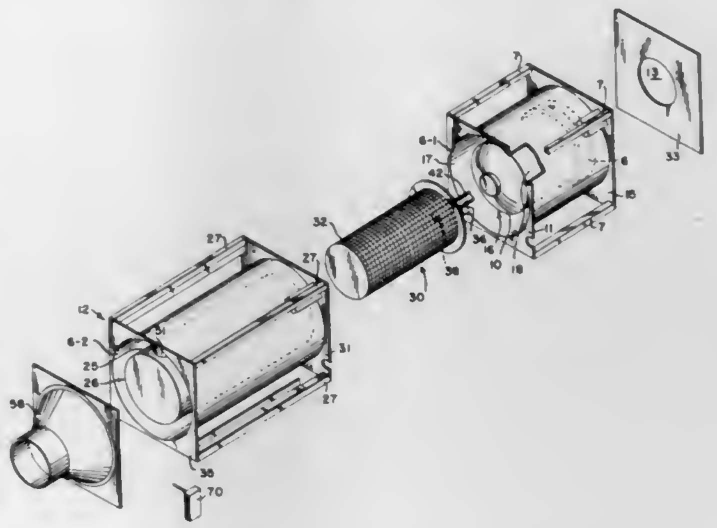
A discharge system for shaft kilns having a collection chamber, controllable unloading means and a conduit in communication with both the bottom of the chamber and the controllable unloading means. The lower portion of the chamber and the conduit are maintained full of charged material by a high-low level detector which cooperates with the controllable unloading means.

3,507,481
WARM AIR FURNACE WITH RADIANT BURNER

Raymond A. Hemmert, Columbus, Ohio, assignor to Columbia Gas System Service Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 27, 1968, Ser. No. 708,691
Int. Cl. F24h *3/02*
U.S. Cl. 263—20 **11 Claims**

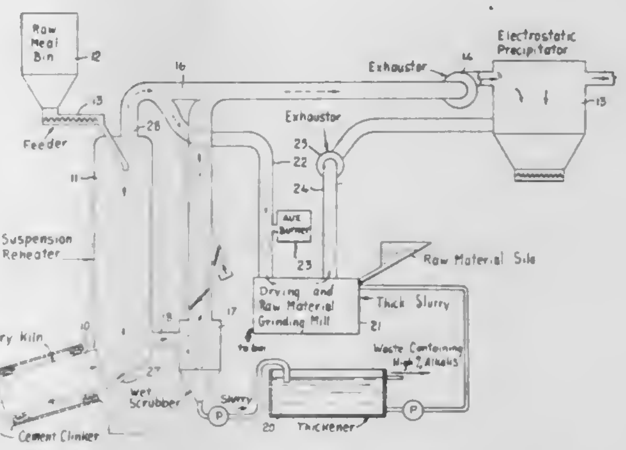
A compact or miniaturized furnace is disclosed having very compact blower or fan and heating sections. A stream of air to be heated is drawn into an end of an elongated casing and is directed radially outwardly and thence longitudinally to the casing through an annular passageway which extends through the heating zone. Within the heating zone the air passes along the outside of the cylindrical primary heating surface and the air also passes around a spiral tubular flue for the exhaust or furnace gases. The primary heating surface receives heat from an infrared radiant burner enclosed within the cylindrical wall and the exhaust gases flow through the spiral flue in countercurrent relationship to the direction of flow of the air being heated.



3,507,482
APPARATUS FOR REDUCING ALKALI CONTENT OF CEMENT CLINKER AND SIMULTANEOUSLY IMPROVING EFFICIENCY OF ELECTROSTATIC DUST COLLECTOR

Ludwik Kraszewski, 431 Palmer Ave., and George A. Zulauf, 2069 Lakeshore Road E., both of Oakville, Ontario, Canada

Filed Nov. 8, 1968, Ser. No. 774,314
Int. Cl. F27b *7/00*
U.S. Cl. 263—32 **9 Claims**



A cement clinker burning apparatus in which substantially a high percentage of the alkali content of the raw meal is removed by a by-pass which conducts the gases evolved in a rotary kiln for producing cement clinker and entrained particles to a wet scrubber where the alkali is removed from the gases in the form of a thin slurry containing a high percentage of dissolved alkali which is produced and drain means in the scrubber for continuously removing the slurry.

A method of reducing the alkali content of cement clinker produced in a cement clinker producing apparatus having a suspension preheater which delivers preheated raw meal to a rotary kiln wherein is produced cement clinker and hot gases containing alkali and solid material, an electrostatic precipitator being provided through which said gases are discharged to atmosphere in which:

(a) a portion of the hot exhaust kiln gases are withdrawn from a point adjacent the gas exhaust of the rotary kiln;

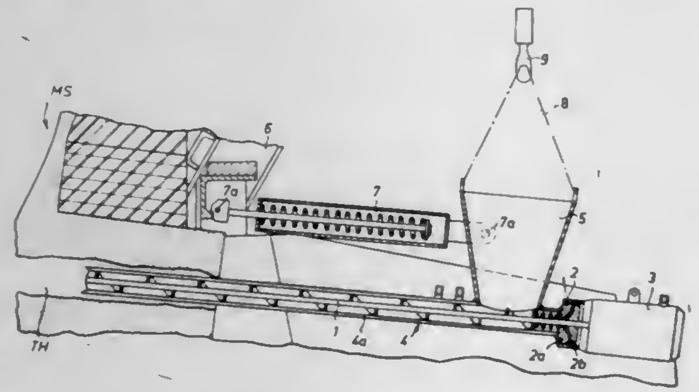
(b) said portion is passed through a wet scrubber to remove alkali and solid material therefrom and produce a thin slurry;

(c) the gaseous portion obtained from step (b) being then passed to the electrostatic precipitator; and

(d) the slurry is discharged from the scrubber to waste.

3,507,483
AXIALLY RECIPROCATING SCREW CONVEYOR MEANS FOR CLOSING TAP HOLE

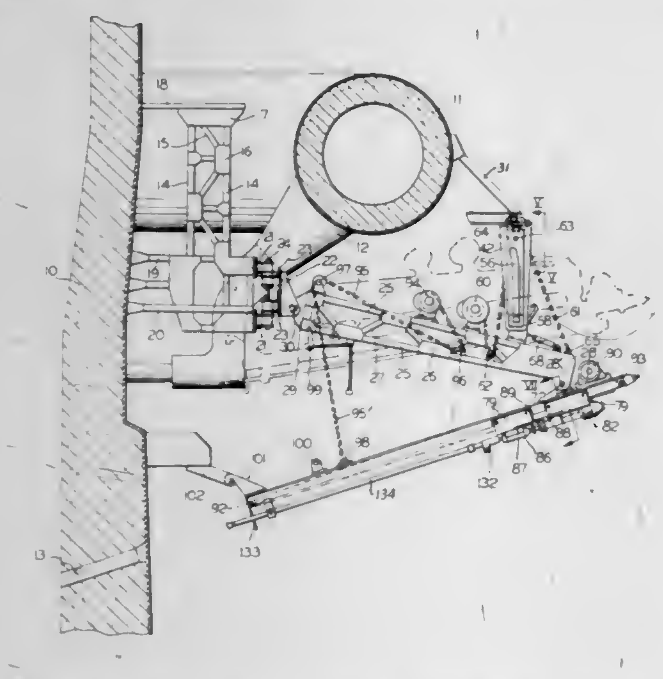
Werner Resch, Dortmund-Kirchhorde, and Oskar Fliege, Dortmund, Germany, assignors to Hoesch Aktiengesellschaft, Dortmund, Germany
Filed Oct. 31, 1967, Ser. No. 679,480
Claims priority, application Germany, Nov. 3, 1966, H 60,917
Int. Cl. C21b *7/12*
U.S. Cl. 266—42 **8 Claims**



A screw conveyor extends with a front portion thereof into a hole in the masonry structure, and a rear portion extends outwardly beyond the structure. A feed for a hardenable mortar communicates with the rear portion and supplies thereto quantities of the mortar. Drive means is connected with the screw conveyor and serves to rotate the same whereby to convey the mortar from the rear portion towards the front portion and beyond the same into the hole, and for axially reciprocating the screw conveyor to thereby effect tamping of the mortar which has been conveyed into the hole.

3,507,484
DRILLING MACHINE FOR DRILLING A TAP-HOLE IN A BLAST FURNACE

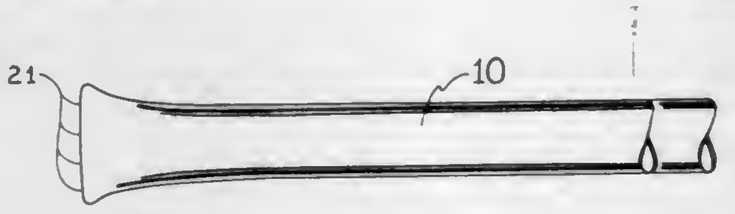
Toshikazu Honda, Kure-shi, Japan, assignor to Tokyo Company Limited, Hiroshima-ken, Japan
Filed Nov. 8, 1967, Ser. No. 681,601
Int. Cl. C21b *7/12*
U.S. Cl. 266—42 **6 Claims**



A drilling machine having a cradle and an arc rail mounted on a furnace body. A carriage moves along the arc rail and supports one end of girder. The other end of the girder is mounted to swing both vertically and horizontally from the cradle. A guide channel is supported from the one end of the girder and has a drill mounted to move therealong. A hook on the guide channel attaches to a latch fixed to the furnace when the machine is in the drilling position.

3,507,485
SPRING

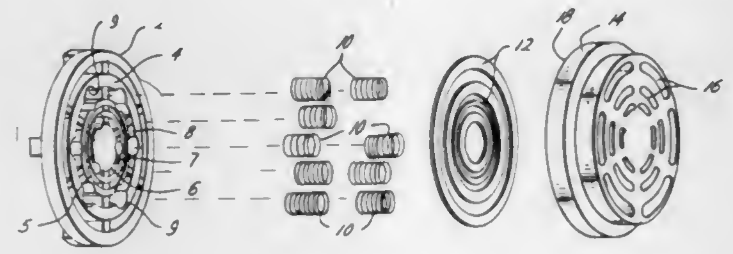
George M. Bright, 525 Page Ave. NE., Atlanta, Ga. 30307
Filed Oct. 12, 1966, Ser. No. 586,142
Int. Cl. F16f *1/14*
U.S. Cl. 267—1 **6 Claims**



A spring which may be used to resist movement and to return substantially to original condition by means of opposed members which are connected at each of one end and which are in contact at resilient, compressible portions whereby when the members are brought together in contact there is a resilient resistance and when the force bringing the members into contact is released the members return substantially to original condition assuming there has been no permanent set or distortion. In one preferred form, the spring is made from a tube which is bent upon itself along a transverse bend line which serves as a movable connection between the two spring members that have the inside surfaces in contact at a point spaced from the transverse connection and there may be a gap or space between the connection and the point of contact.

3,507,486
DUAL STAGE COMPRESSOR SPRING

Bernard L. Schwaller, 28 Hedwig Circle, Houston, Tex. 77024
Filed Nov. 13, 1967, Ser. No. 682,220
Int. Cl. F16f *3/04*
U.S. Cl. 267—1 **17 Claims**

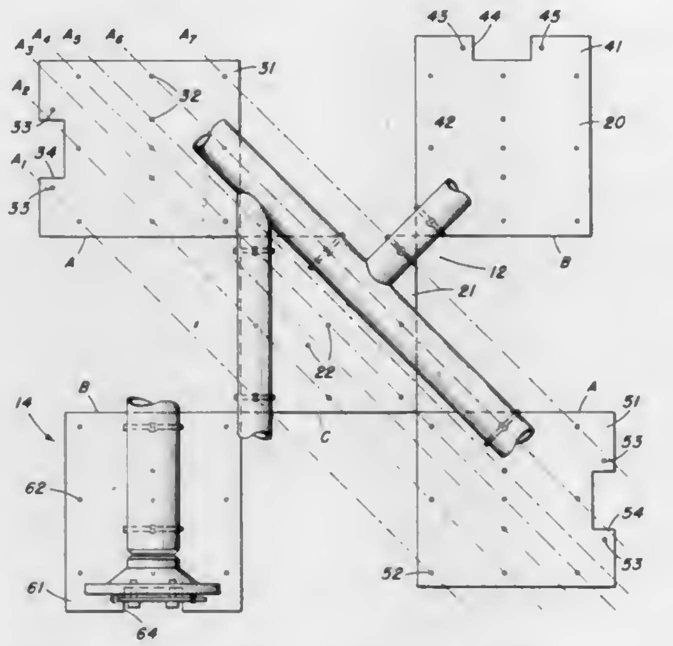


A dual stage energy absorbing spring assembly is provided for use in compressors which operate by reciprocating movement of concentric rings to open and seal the valve and cushion the impact of the rings upon opening the valve.

The spring assemblies of this invention can comprise two concentrically disposed, oppositely helical springs which are provided with buttons at top and bottom to provide bearing surfaces. One spring is longer than the other such that as the assembly is compressed first one, then two springs resist compression, thus increasing spring rate when the second spring is engaged. In a compressor valve, the second spring engages to resist ring movement just before the rings strike the guard or returning surface which limits their movement.

3,507,487
WORKBENCH FOR PIPE ASSEMBLY

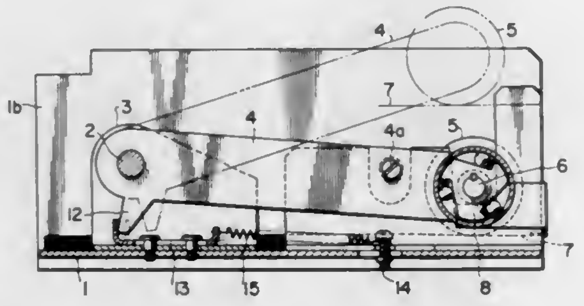
Earl D. Causey, Hertford, England, assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1967, Ser. No. 627,102
Int. Cl. B23q *3/02, 3/00*
U.S. Cl. 269—40 **7 Claims**



This disclosure is directed to a pipe assembly workbench wherein pipe jigs and flange plate jigs are selectively mounted on bed plates, in a group of arranged bores, to allow rapid layout of pipe assemblies for tacking or welding. Each pipe jig supports the pipe to be assembled at a level above the bed plate such that the pipe centerline is contained in a plane located parallel to and above the bed plate. Similarly, each flange plate jig supports a flange mounted thereon for assembly so that the flange centerline is also contained in the same plane which contains the centerlines of the jig supported pipe. Thus, as a pipefitter lays the assembly components in or on the jigs, they are immediately squared and aligned, and ready for tacking.

3,507,488
SHEET FEEDING MECHANISM

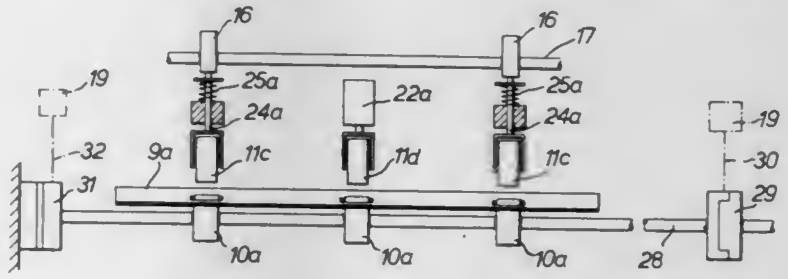
Nobuyuki Yanagawa, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan
Filed Feb. 12, 1968, Ser. No. 704,769
Claims priority, application Japan, Feb. 16, 1967, 42/12,890
Int. Cl. B65h *3/06*
U.S. Cl. 271—36 **1 Claim**



A sheet feeding mechanism for a copying machine or the like. The feeder is of the type which consists of rotatable rollers which rest upon the top sheet of a stack of sheets and upon rotation of the rollers which frictionally engage the top sheet, the top sheet is moved off the stack of sheets and into the copying machine or printing machine. The rollers are mounted on a rotatable shaft which is transverse to the path of movement of the top sheet of the stack which shaft is supported on pivoted arms. At least one of these arms has an arm projecting from it adjacent to the pivot point of the supporting arm, and the short arm is adapted to be contacted by a spring biased L-shaped sliding member which serves to bias the transverse shaft with its rollers in a direction to relieve the stack of sheets of some of the weight of rollers and supporting members.

3,507,489
SHEET FEEDING APPARATUS

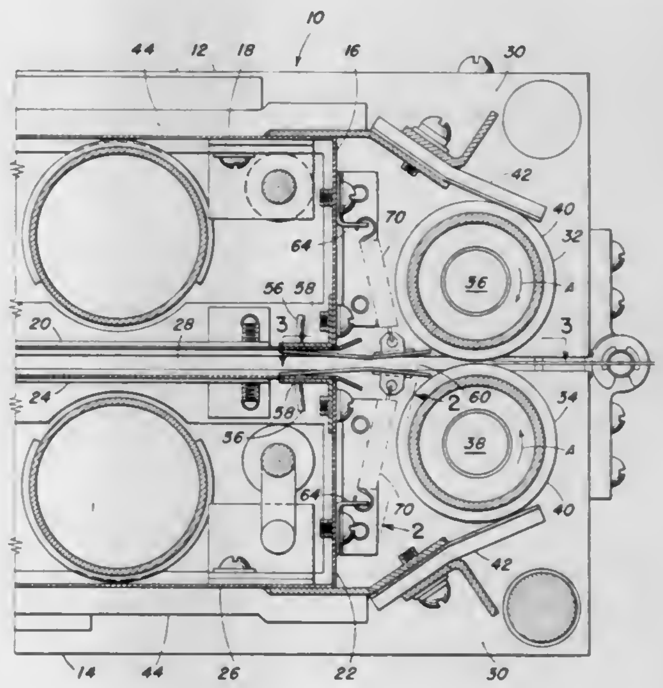
Frank William Wilshin and John Peter Bennett, Summerstown, London, England, assignors to Masson Scott Thrissell Engineering Limited, Summerstown, London, England, a corporation of Great Britain
Filed Sept. 5, 1967, Ser. No. 665,415
Claims priority, application Great Britain, Sept. 6, 1966, 39,770/66
Int. Cl. B65h *5/24, 9/14, 29/12*
U.S. Cl. 271—46 **8 Claims**



In a sheet-feeding apparatus wherein sheets pass from a high-speed conveyor to a low-speed conveyor, a roller is intermittently operated to press a passing sheet against the low-speed conveyor to ensure its deceleration; means are also disclosed for holding the roller against the sheet and stopping the low-speed conveyor so that gaps between successive sheets can be closed.

3,507,490
COPY PAPER PICK-OFF AND GUIDE ASSEMBLY

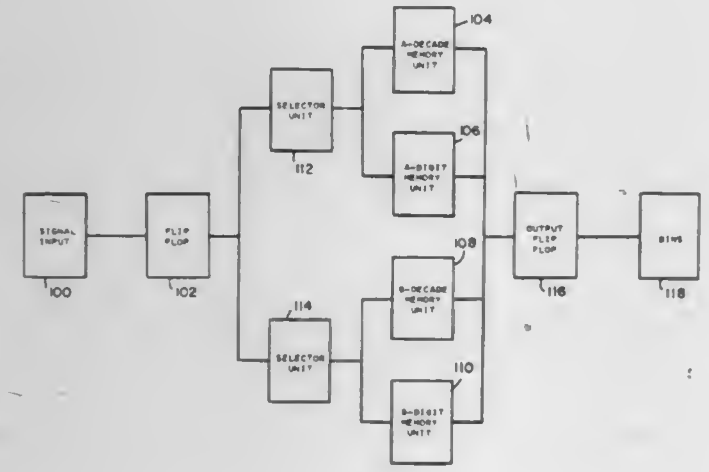
Robert C. Goodman, Binghamton, and Emilio G. Mastroianni, Endicott, N.Y., assignors to GAF Corporation, a corporation of Delaware
Filed Feb. 8, 1968, Ser. No. 704,129
Int. Cl. B65h *5/06*
U.S. Cl. 271—51 **5 Claims**



This invention relates to a developer unit for a reproduction machine having infeed rollers for conveying the copy paper into the developer portion. In order to remove copy paper adhering to the rollers and guide the paper into the developer portion, the invention includes sheet metal guide surfaces which are flexibly mounted on the developer portion through pin connections. The leading edges of the sheet metal guide surfaces are adapted to contact the surfaces of the infeed rollers and be biased thereagainst under the influence of tension spring members.

3,507,491
MULTIDIGIT-MULTISTORE CONTROL SYSTEM FOR A DOCUMENT SORTING MACHINE

Richard L. Swartz, Columbia, S.C., assignor to Universal Business Machines, Inc., Columbia, S.C., a corporation of South Carolina
Filed Oct. 27, 1967, Ser. No. 678,568
Int. Cl. B65h *29/36;* **H04q**
U.S. Cl. 271—64 17 Claims

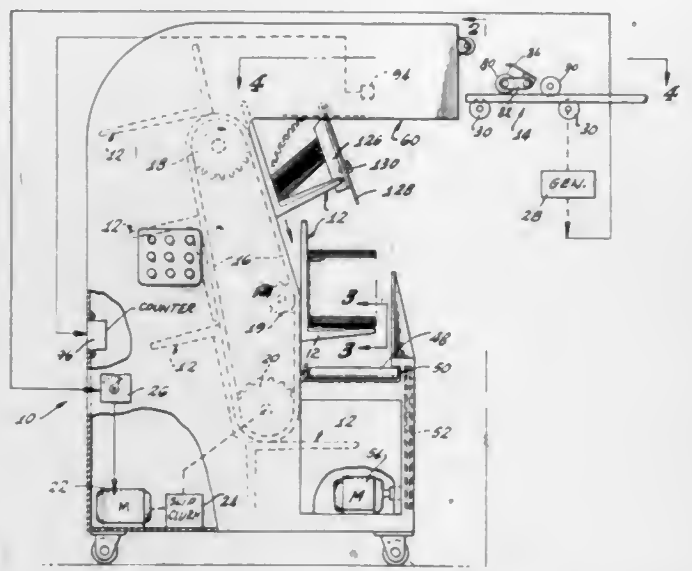


There is disclosed in the hereinafter specification an electrical control system for feeding documents to a moving trackway of a document sorting machine, and for effecting the entry of said documents into appropriate document receiving bins located along the trackway. Each of the document receiving bins has a gate or plurality of gates associated with it and located adjacent to the said trackway, the gate or gates being solenoid operated by distinct solenoids identified with each of the said gates. According to the invention each of the gate solenoids is operatively connected to each of a plurality of electrical signal stores. Input circuits are provided to transfer signal information indicative of a selected bin and gate to each of the said stores and control circuits are connected between the signal stores and the input circuits to control the addressing of input signals to the stores. Additional control means are provided for effecting the energization of gate solenoids in response to information in said stores, and for holding the gate solenoids energized for a sufficient length of time for the coded document to reach the selected gate. Circuit and mechanical means are provided to de-energize operated gates and erase filled stores.

3,507,492
STACKING MACHINE WITH FLOW CONTROL SYSTEM

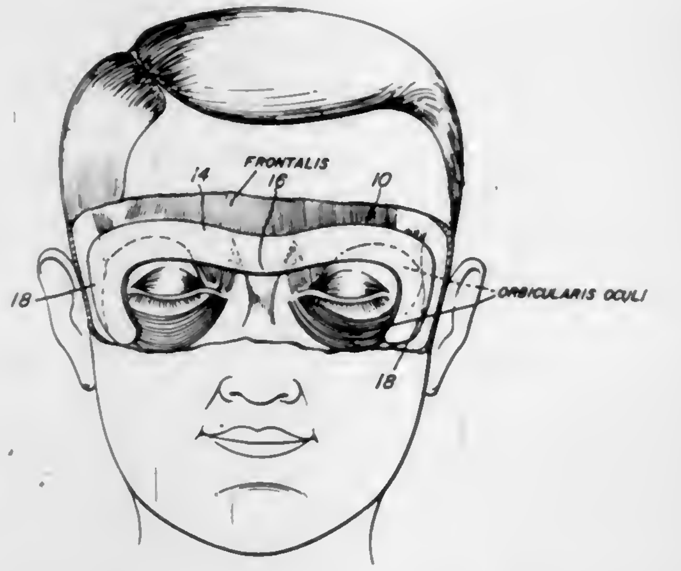
Robert L. Spencer, Burbank, Calif., assignor, by mesne assignments, to AB Bonnierforetagen, Stockholm, Sweden, a corporation of Sweden
Filed Oct. 6, 1967, Ser. No. 674,073
Int. Cl. B65h *29/68, 29/12, 31/00*
U.S. Cl. 271—68 10 Claims

Overlapping newspapers from a conveyor pass under a pressure roller which facilitates their even, constant flow past a counter head and toward an assembly of vertically moving racks. Each rack is shaped to cause the papers entering it to be bowed. As the rack moves down, the outer edges of the papers pass along a bow enlarger and retainer element. Further, the papers move into the lowering racks in modulated arc of descent, the control of which is effected by sets of spaced fingers between which the papers pass prior to movement onto the rack.



3,507,493
EYE AND FOREHEAD AREA MUSCLE EXERCISER AND METHOD OF USE

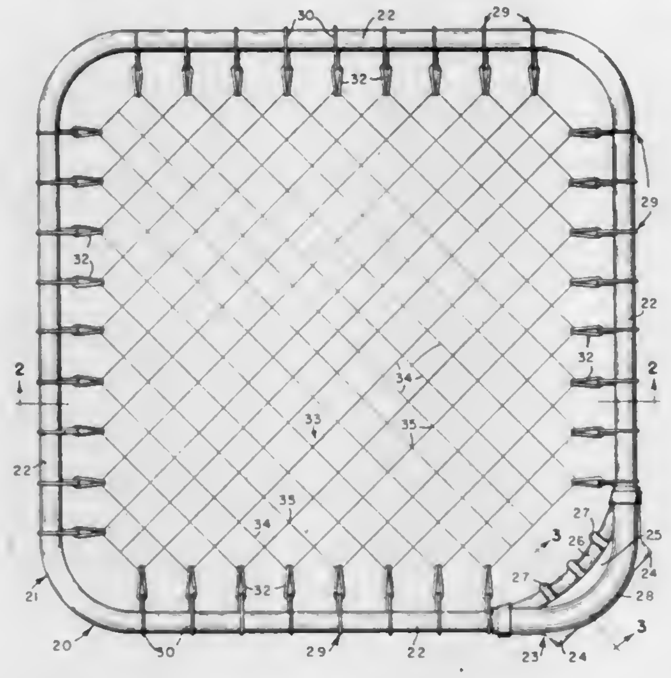
Betty N. Robins, 17365 Westover Road, Southfield, Mich. 48075
Filed July 11, 1967, Ser. No. 652,500
Int. Cl. A63b *23/00, 21/00;* **A61f** *5/00*
U.S. Cl. 272—82 5 Claims



An exerciser which, in its basic form, is contoured so as to overlie and partially surround the eye area and define a means for both smoothing the skin and forming a resilient resistance to a physical movement of the involved muscles during the exercising procedure. A basic modification includes the provision of an enlarged forehead portion which functions in a similar manner as both a skin smoothing and wrinkle preventing cover for the forehead, in addition to a resilient resistance against which the forehead muscles can be stressed, and thereby strengthened. The device itself, in both forms, includes a substantially rigid base contoured to the particular portion of the face involved, and an inner resilient cushioning layer capable of being molded directly to the face and providing a nonabrasive resilient resistance to the exercising movement of the involved muscles.

3,507,494
GAME RACKET WITH RESILIENTLY SUPPORTED NET

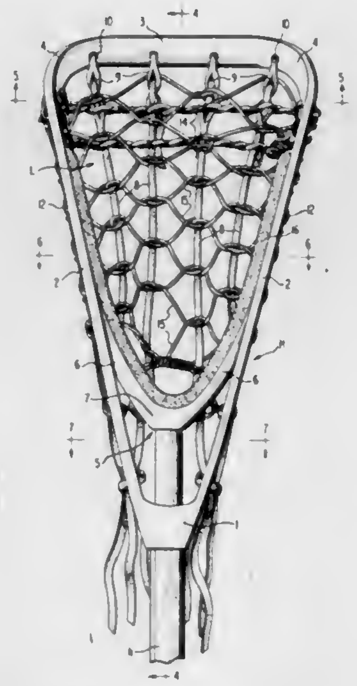
Harry Finkel, 208 Appleton St., Holyoke, Mass. 10140
Filed Aug. 9, 1967, Ser. No. 659,527
Int. Cl. A63b *59/00, 67/18*
U.S. Cl. 273—67 2 Claims



Game apparatus including a racket having an open frame of rectangular configuration with a hand-engaging member disposed in one corner thereof. The net of the racket has interconnected strands which are engaged by resilient bands. The resilient bands are in turn received on hooks which engage the frame. A projectile for use with the racket includes a base having a socket which receives a shuttlecock or feathered element.

3,507,495
LACROSSE STICK

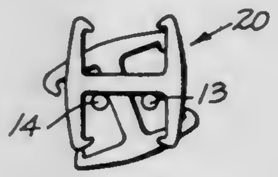
Richard B. C. Tucker and Roland N. Fracalossi, Baltimore, Md., William C. Crawford, Skillman, N.J., and Joseph S. Sollers, Lutherville, Md., assignors to Wm. T. Burnett & Co. Incorporated, Baltimore, Md., a corporation of Maryland
Filed June 1, 1967, Ser. No. 642,882
Int. Cl. A63b *59/02*
U.S. Cl. 273—96 20 Claims



A substantially shatterproof lacrosse stick head has a closed pocket delineated by a transverse top wall and two side walls diverging upwardly and outwardly from a throat toward the top wall, the head components being formed of an elastomer characterized by toughness, impact resistance and limited flexibility. A stop having divergent sides and similar physical properties is positioned within the head proper and has upwardly-outwardly divergent stop walls. A layer of relatively soft resilient material is positioned on the inner surface of the stop. A handle is detachably connected to the head.

3,507,496
PITCHING GAME

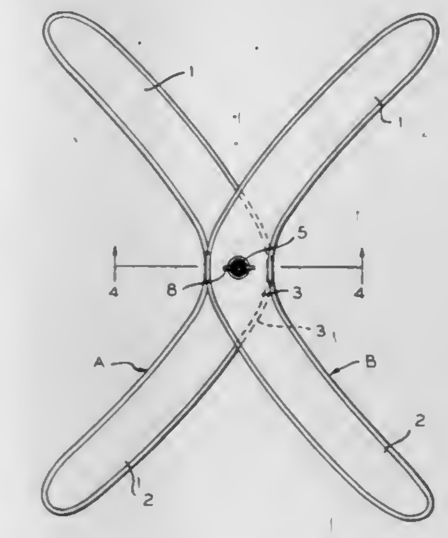
George J. Miller, 2441 Arthur St., Hollywood, Fla. 33020
Filed Aug. 9, 1967, Ser. No. 659,418
Int. Cl. A63b *67/06*
U.S. Cl. 273—100 6 Claims



A game of skill is disclosed in which a projectile, having a pair of elongated side members and an interconnecting cross member forming a pair of oppositely directed, partial enclosures, is capable of assuming, when pitched, various orientations with respect to a target having a pair of different length angularly disposed stakes.

3,507,497
BOOMERANG

Robert C. Gardner, 1629 W. Lawn Ave., Milwaukee, Wis. 53209
Filed Nov. 23, 1966, Ser. No. 596,711
Int. Cl. A63b *65/00*
U.S. Cl. 273—106 6 Claims

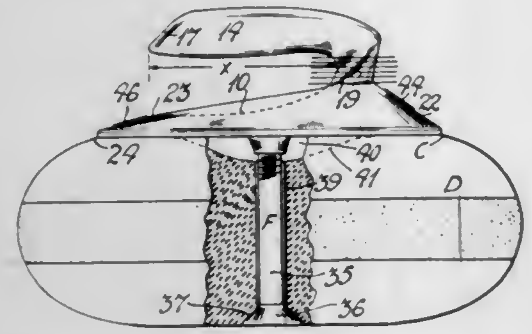


This disclosure provides a boomerang assembly which has four vanes. Two substantially identical boomerangs having two vanes are joined at a common intermediate portion to form a boomerang having four vanes. These four vanes project radially from the common intermediate portion. Each of the boomerangs forming the combination of this disclosure has a substantially arcuate contour. The structural relationship between the two boomerangs is adjustable so that the combination may form a boomerang having four vanes or be separated to form two individual boomerangs.

3,507,498

COMBINED CURLING STONE HANDLE ASSEMBLY

Hugh Spencer, Toronto, Ontario, Canada, assignor to Ailsa Craig Curling Stones Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed June 16, 1967, Ser. No. 646,640
Int. Cl. A63b *67/14*
U.S. Cl. 273—128 **10 Claims**

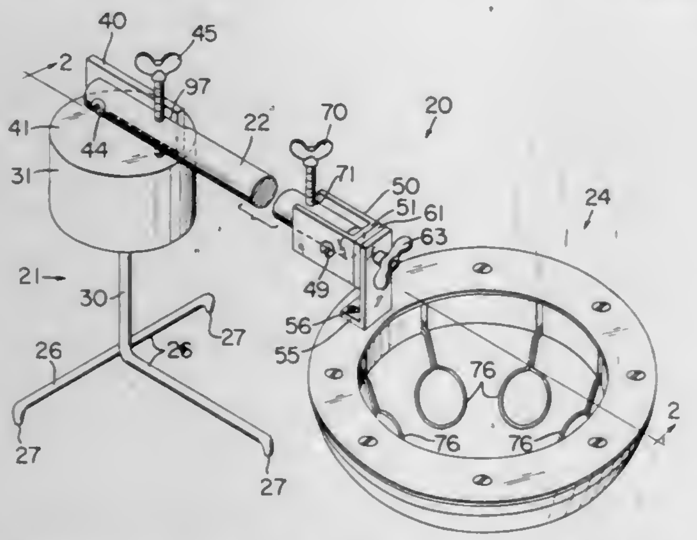


A curling stone handle and plate assembly characterized in that a relatively large diameter circular plate having a dished center and an outwardly and downwardly inclining rim or flange of diminishing altitude as between diametrically opposite points thereon is centrally screwed to the stone upon the upper surface thereof the handle being secured integrally to the plate eccentrically with respect to the vertical central stone-axis, and merging curvilinearly into said dished center on the high side of said rim to overlie said plate diametrically toward the low side of said rim. This particular way of attachment of the handle assembly to the upper surface of the stone forms a spring biassed connection at the contacting flange perimeter. An identifying colored disc may be inserted in a recess on the handle assembly to designate which stone corresponds to each player. Furthermore, stiffening ribs may be used in the neck portion of the plastic or other material of the handle assembly to strengthen the connection between the handle assembly's neck or handle and its base plate.

3,507,499

DEVICE FOR PRACTICING GOLF PUTTING

Prentice N. Rice, 702 Cedar St., Neenah, Wis. 54956
Filed Feb. 3, 1967, Ser. No. 613,847
Int. Cl. A63b *57/00, 69/36*
U.S. Cl. 273—178 **2 Claims**

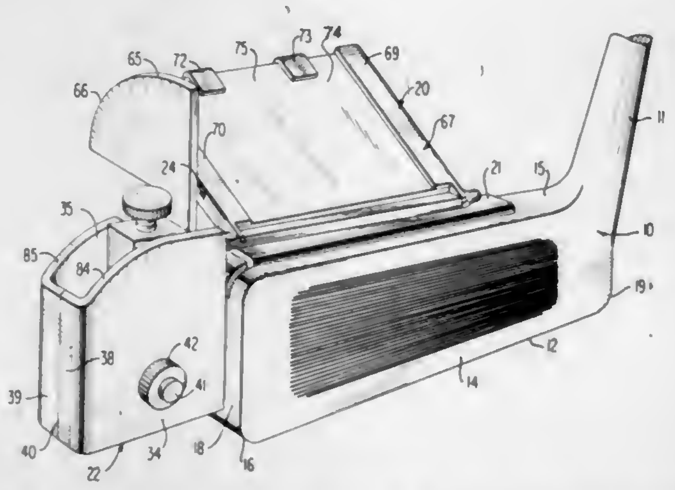


A weighted platform is supported by a vertically extending member having at its lower end three spaced apart legs lying in a common plane. The legs are relatively thin to facilitate downward movement through a grassy surface to the solid ground therebeneath, which is penetrated by a downwardly extending projection at the end of each leg. An arm extends outward from the platform and supports at its outer end an angularly and vertically adjustable cage assembly into which golf balls may be putted and trapped. The inner end of the arm is pivotally connected to the platform and includes a threaded member which passes through the arm and bears against the top surface of the platform for vertically adjusting the arm.

3,507,500

GOLF CLUB INCLUDING MIRROR ATTACHMENT

John Wright Martin Scott, The Hill, Gordon, Ga. 31031
Continuation-in-part of application Ser. No. 568,232, July 27, 1966. This application Oct. 31, 1968, Ser. No. 772,351
Int. Cl. A63b *69/36, 53/00*
U.S. Cl. 273—186 **3 Claims**

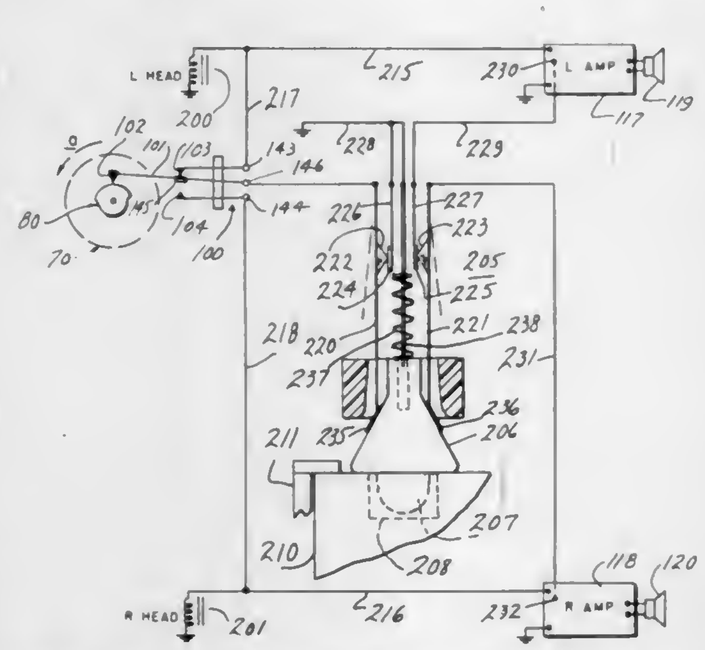


The top and rear surfaces of a golf club head are slotted and receive flange members of a mounting arm extending from a housing positioned adjacent the toe portion of the club head. A mirror is supported above the club head by a support arm extending from the housing. The housing includes pivot structure which enables the mirror to be adjustably rotated about the axis of the support arm and about an axis normal to the axis of the support arm.

3,507,501

SELECTIVE-STEREO/MONAURAL TAPE CARTRIDGE PLAYER

William P. Lear, Wichita, Kans., assignor to Lear Jet Industries, Inc., Wichita, Kans., a corporation of Delaware
Filed Jan. 24, 1966, Ser. No. 522,514
Int. Cl. G11b *5/02*
U.S. Cl. 274—4 **21 Claims**

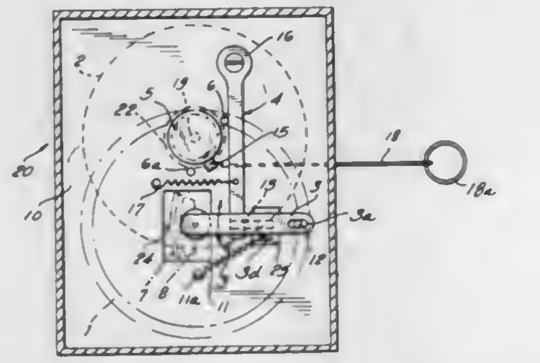


The player reproduces recordings of magnetic tape cartridges that have a plurality of successive parallel record tracks: in stereophonic or in monaural array. The stereophonic tracks are as parallel spaced pairs; the monaural, as successive single tracks. The transducer has two pick-ups arranged for the stereophonic recordings; either pick-up is selectively used for monaural play. The tape cartridge is physically coded per the record type therein, and actuates a sensing means that determines how the pick-ups are connected for play thereof. The transducer is stepped across the parallel tracks in succession, for continuous play. A cycling cam synchronizes therewith for selective connection of the pick-ups in accordance with the coded actuation per the record type in play. Automatic record-type play selection is thus provided for stereophonic or monaural tape records housed in individual cartridges, which may be directly inserted in the player.

3,507,502

SOUND REPRODUCING APPARATUS

Erich Rabe, Nuremberg, Germany, assignor to Schildkrot AG Vorm, Rheinische Gummi- und Celluloid-Fabrik, Mannheim-Neckarau, Germany
Continuation-in-part of application Ser. No. 591,303, Nov. 1, 1966. This application Jan. 10, 1968, Ser. No. 696,925
Claims priority, application Germany, June 2, 1967, Sch 40,820
Int. Cl. G11b *15/40, 15/44*
U.S. Cl. 274—9 **20 Claims**



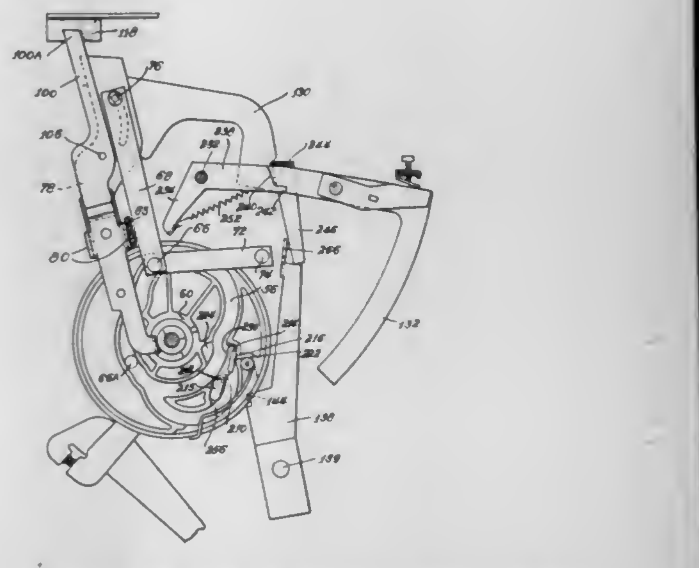
The needle of the tone arm in a sound reproducing apparatus is automatically disengaged from the terminal portion and returned into registry with the lead-in portion of the sound groove in a record carrier in response to a reversal in the operation of the motor which drives the record carrier. The motor may be a spring motor or an electric motor and the resetting unit which can disengage the needle from the record carrier comprises a lever which lifts the tone arm off the record carrier when it is pivoted by the motor through the intermediary of a cam. A spring then shifts the needle back into registry with the lead-in portion of the sound groove. When the motor begins to operate normally in order to drive the record carrier, the needle is automatically returned to engagement with the lead-in portion of the sound groove. The spring motor can be energized by a drawstring and the operation of the electric motor may be reversed by a built-in or remote-control switching device.

3,507,503

RECORD PLAYER

Gerald H. Freier, Benton Harbor, Mich., assignor to V-M Corporation, Benton Harbor, Mich., a corporation of Michigan
Filed Sept. 25, 1967, Ser. No. 670,247
Int. Cl. G11b *17/08*
U.S. Cl. 274—10 **25 Claims**

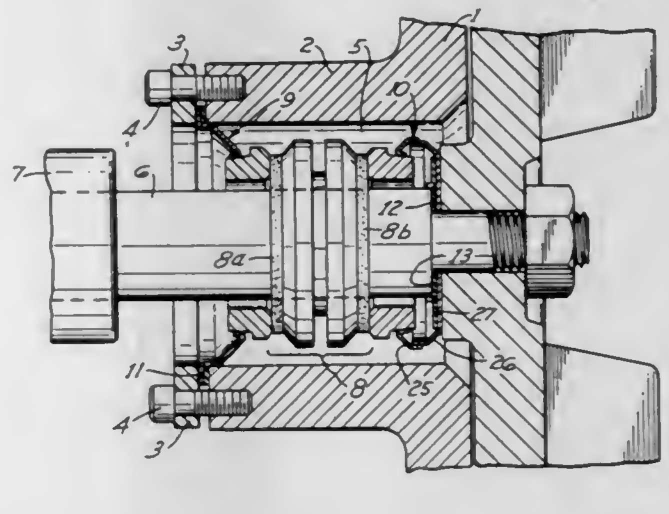
A record player in which the tone arm has a motor-driven record change cycling cam energized by an arm moving with the tone arm to trip a photocell in the cam motor circuit at the end of a record play. The cam operates linkage which first lifts the tone arm off the record and simultaneously clutches it to the tone arm, then moves the tone arm laterally to allow a record to be lowered to a sensing position over the turntable, and moves the tone arm back against the record edge to sense its size, the cam also operating a brake to temporarily halt the turntable while the record is being gently lowered the rest of the way to the turntable. Afterwards, the linkage sets the tone arm at the record edge as the turntable restarts and the cam motor shuts off. The cam also controls a further lever which shifts a plate on the trip arm so as to alter the position at which it trips the photocell in accordance with the size of record sensed. When the tone arm is moved inwardly toward the turntable center and fails to sense a record, it operates a gate causing the linkage to use an alternate path by which it moves the tone arm outwardly beyond the turntable and brings other levers into play which first lock the tone arm in said outward position to allow the cam to complete its rotation and return the linkage to its starting position and which levers then release the tone arm as the cam stops so that the tone arm may be lowered to a rest position on the player.



3,507,504

SHAFT-SEALING SYSTEM

Philip F. Donley, Shaker Heights, Ohio, assignor, by mesne assignments, to Ernest F. Donley & Sons, Inc., Valley View, Ohio, a corporation of Ohio
Filed Mar. 8, 1967, Ser. No. 621,649
Int. Cl. F16j *15/34, 15/00*
U.S. Cl. 277—83 **1 Claim**

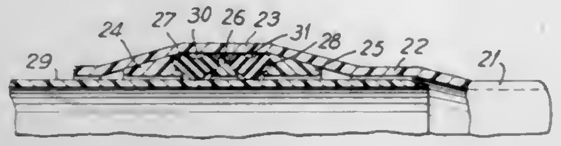


An improved shaft sealing system for a machine such as a pump of the impeller type in which (1) the shaft is encompassed at its opposite ends by stationary and rotatable end members; (2) in the space between such members the shaft is surrounded by a floating sealing unit;

(3) that portion of the sealing unit which faces the stationary end member bears against a stationary seating element; and (4) such seating element is supported from the proximate end of an inwardly tapering spring metal carrier of annular shape which is held in place at its opposite end by the stationary end member.

3,507,505
PIPE CONNECTION FOR PLASTIC PIPES AND THE LIKE

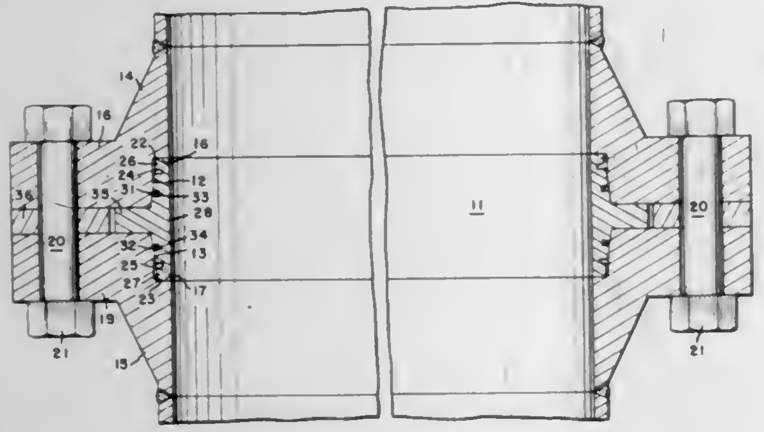
Karl Mühlner and Karl Jirka, Munich, and Johann Gütlhuber, Irlbach, Germany, assignors to Kunststoffwerk Gebruder Anger GmbH & Co., Munich, Germany
Original application July 29, 1966, Ser. No. 568,508. Divided and this application June 13, 1968, Ser. No. 754,513
Claims priority, application Germany, Aug. 2, 1965, K 56,785
Int. Cl. F16l *21/02, 47/00*
U.S. Cl. 277—188 **8 Claims**



For connection of two pipes there is provided a ring groove on the outer pipe containing an elastically deformable packing ring having a normal inside diameter smaller than the outside diameter of the inner pipe, the packing ring having spaced rounded edges seated against rounded inner shoulders in the groove and having an outer circumference with an arched circumferential trough which confines in the groove an air space. The packing ring includes a radially innermost portion which bulges inwardly to form an annular ridge to engage against the inner pipe. Fixed supporting rings may be provided in the groove for engaging the ring at the edges thereof to constitute an axial counterbearing for the ring.

3,507,506
PIPE JOINT SEAL

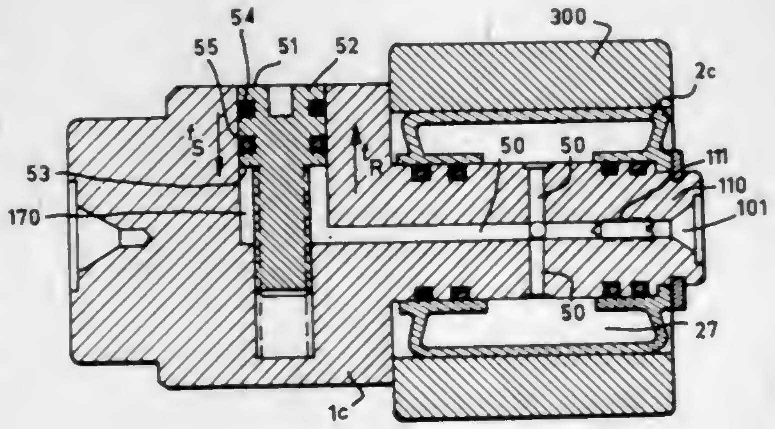
Cassius L. Tillman III, % Precision Rebuilders, Inc., P.O. Box 343, Peters Road, Harvey, La. 70058
Continuation-in-part of application Ser. No. 616,714, Feb. 16, 1967. This application Sept. 12, 1967, Ser. No. 667,260
Int. Cl. F16k *15/00;* **F16l** *23/00*
U.S. Cl. 277—225 **7 Claims**



A pipe joint seal for large size pipes (such as 10″ diameter or larger) in the form of a tubular member having blunt ends is adapted to be disposed in blunt end recesses of aligned flanged pipes connected together under stressed conditions, such as by studs. Outer annular marginal grooves near the ends of the tubular members are provided to form noses that concentrate distortion under the stressed condition at the ends. A stiffening collar is provided integral with the middle section of the tubular member for disposition between adjacent flanges of the pipes. The collar may extend outwardly beyond the studs that hold the flanges together and are provided with apertures aligned with the studs; or, alternatively, it may not extend as far as the studs, in which case shims or washers are provided about the studs between the flanges to prevent distortion of the flanges.

3,507,507
CLAMPING DEVICE, ESPECIALLY A MANDREL

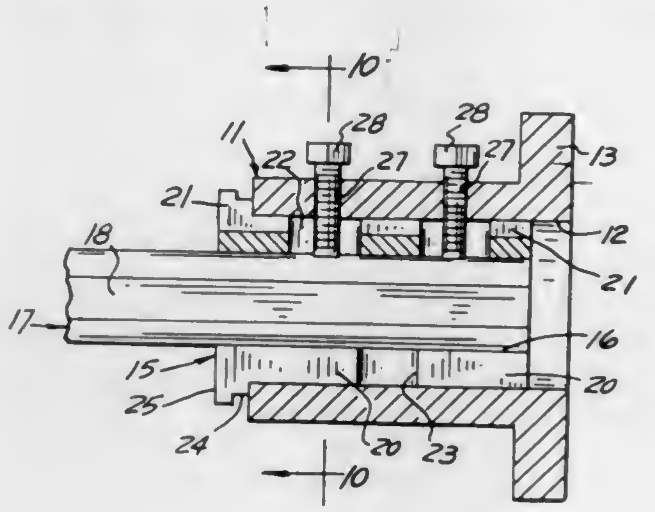
Jakob Tobler, Louvres, and Robert Cochon, Paris, France, assignors to Anciens Etablissements T.M.B.-J. Tobler S.A., Louvres, France
Filed Dec. 5, 1966, Ser. No. 599,207
Claims priority, application France, Jan. 5, 1966, 44,860; Apr. 21, 1966, 58,568; May 16, 1966, 61,780; Oct. 10, 1966, 79,263
Int. Cl. B23b *31/40*
U.S. Cl. 279—2 **13 Claims**



Clamping device, especially a mandrel, comprising a frame and a hollow diaphragm housed in said frame, said diaphragm being applied against the part to be clamped by the introduction of pressure to the interior of said diaphragm, whose cross-section has a trapezoidal form, the base wall corresponding to the large base of the trapezium being applied against the part to be clamped, while between the walls in the plane of the small base of said trapezoidal section is formed an opening towards a pressure conduit; at least one of the edges of the diaphragm corresponding to one of the apices of the large base of the trapezoidal section of the diaphragm being held fixed laterally in the frame of the clamping device; at least one of the side walls of said diaphragm being inclined towards the interior and arranged in the frame of said clamping device so as to be able to pivot towards the exterior about the edge or edges of said diaphragm, corresponding to the apices of the large base of the trapezoidal section of the diaphragm, under the action of the control pressure; the lateral wall or walls of said diaphragm being guided along the frame in the plane of the surface corresponding to the small base of the trapezoidal section by the wall or walls corresponding to the small base of the trapezoidal section of the diaphragm, and where at least one space is provided between said frame and said diaphragm so as to permit the displacement towards the exterior of at least one of said lateral walls and at least one of said guiding walls.

3,507,508
TOOLHOLDER BUSHING

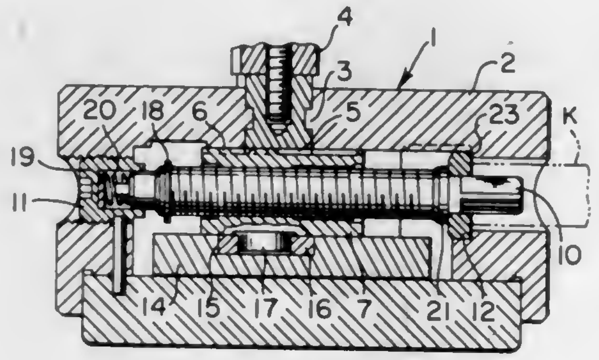
Edward N. Andrews, Troy, Mich.
(400–80 W. Nine Mile Road, Hazel Park, Mich. 48030)
Filed July 24, 1968, Ser. No. 747,292
Int. Cl. B23b *5/34*
U.S. Cl. 279—83 **5 Claims**



A longitudinally slit, cylindrically shaped tube, having radial holes in its wall opposite the slit, for receiving a tool shank and fitting within a socket, so that set screws secured to the socket and extended through the holes to bear upon the tool shank cause the wall areas adjacent the slit to wedge against the socket for immovably fastening together the tool shank, bushing and socket.

3,507,509
JAW CHUCK

Milton L. Benjamin, David D. Walker, and Wilbur N. Miles, Chagrin Falls, Ohio, assignors to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed Feb. 15, 1968, Ser. No. 705,655
Int. Cl. B23b *31/16*
U.S. Cl. 279—112 **8 Claims**

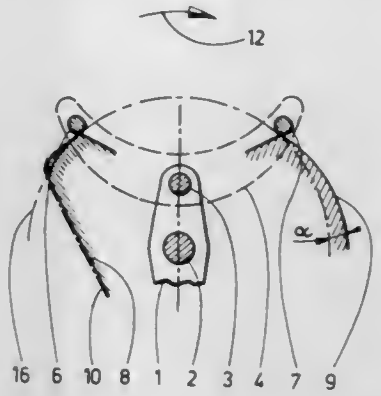


Jaw chuck embodying automatic catch means which must be manually released from the jaws before the latter may be removed from the chuck body for turning end for end or for replacement.

3,507,510
BOOT ATTACHMENT FOR SKIS

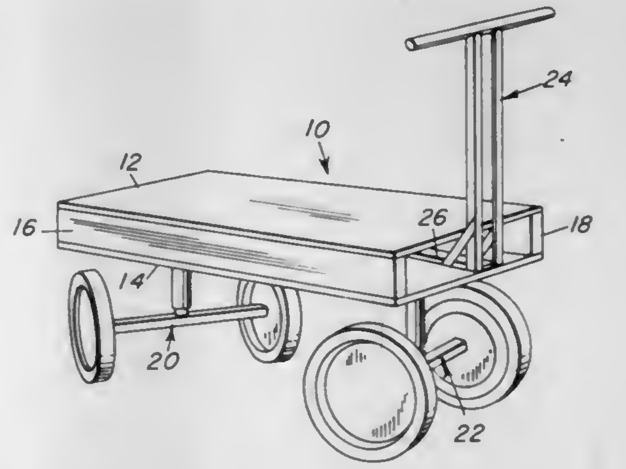
Georges P. J. Salomon, 34 Avenue de Loverchy, Annecy, Haute-Savoie, France
Filed Dec. 11, 1967, Ser. No. 689,605
Int. Cl. A63c *9/85*
U.S. Cl. 280—11.35 **1 Claim**

An attachment for holding a boot against a ski in which a support is pivoted to the ski for supporting a boot holding jaw pivoted at the center to the support. Lugs are provided at the ends of the jaw to slide on two ramps fixed to the ski. The slope of the ramps is at least equal to the angle of friction between the lugs and guide ramps.



3,507,511
STEERING MECHANISM FOR VEHICLES

Lloyd E. Seidel, Rte. 3, Georgetown, Ohio 45121
Filed June 25, 1968, Ser. No. 739,685
Int. Cl. B62b *3/00*
U.S. Cl. 280—47.11 **10 Claims**

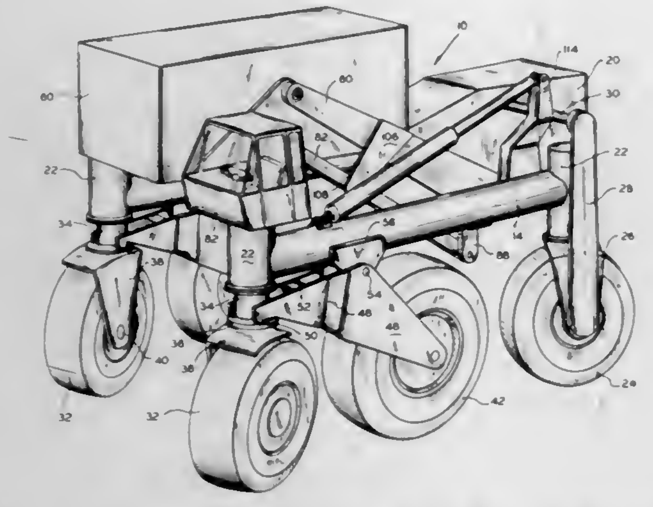


A steering mechanism for a wagon-like vehicle is disclosed which permits a short turning radius for great maneuverability. The mechanism provides four wheel steering control by means of two oppositely swinging axles. The mechanism includes a pivot bar having two channels, one on each side of and spaced from the pivot point. Each axle is connected through a rotatable steering shaft to a corresponding steering arm, and each steering arm includes at its outermost end a roller adapted for reception in a corresponding guide channel, whereby pivotal motion of the pivot bar causes the two steering arms to rotate about their corresponding steering shafts in opposite directions, thereby causing the axles to turn in opposite directions. Steerage of the vehicle is thus accomplished by movement of the pivot bar about its pivot point.

3,507,512
BOGIE MEANS FOR VEHICLES

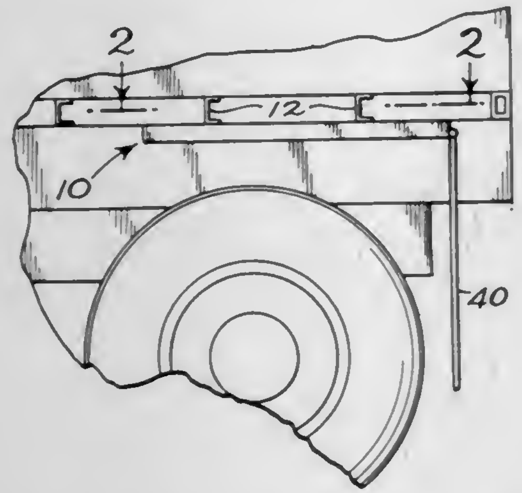
Dale W. McKee and William A. Williamson, Battle Creek, Mich., assignors to Clark Equipment Company, a corporation of Michigan
Original application Dec. 22, 1965, Ser. No. 515,581, now Patent No. 3,387,726, dated June 11, 1968. Divided and this application Dec. 22, 1967, Ser. No. 692,867
Int. Cl. B62d *61/00*
U.S. Cl. 280—81.5 **11 Claims**

A bogie wheel assembly which, in a preferred embodiment includes three wheels in longitudinally spaced relation on each side of a vehicle with the center wheel of each three-wheel group pivotally supported from the frame by a bogie connected to one of the other wheels which is dirigible so that the load carried by the center wheel varies as a function of the load carried by the



wheel to which it is connected, the center wheel preferably being of larger diameter than the dirigible wheel and the bogie being impositively connected to the latter wheel.

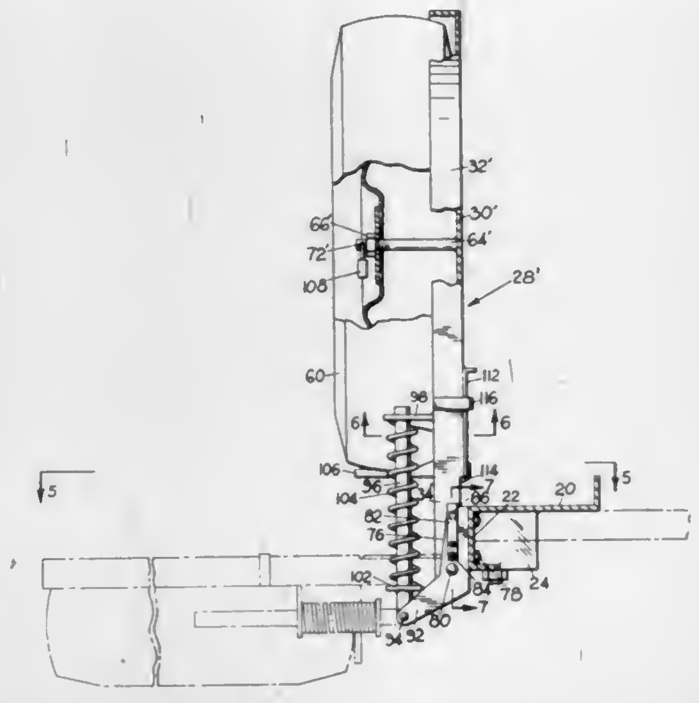
3,507,513
RETRACTABLE MUD FLAP
Alan H. Bohrer, 2041 N. Kilpatrick,
Portland, Oreg. 97217
Filed Jan. 8, 1968, Ser. No. 696,316
Int. Cl. B62d *25/18*
U.S. Cl. 280—154.5 **6 Claims**



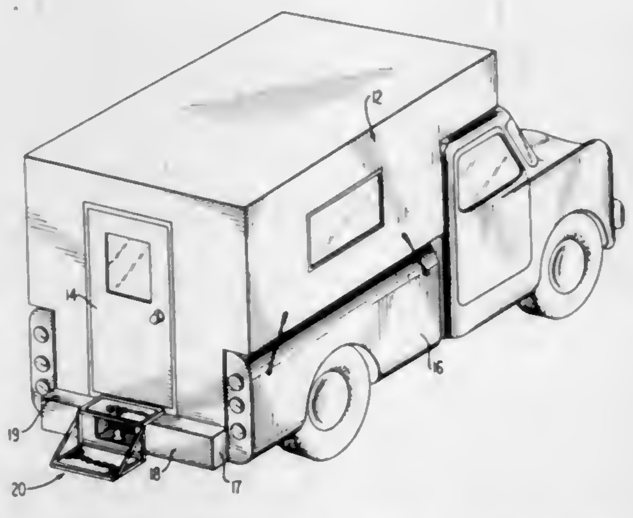
A retractable mud flap for trucks and other wheeled vehicles comprises a case having an open end and means for mounting on the underside of the vehicle. A carriage is mounted for reciprocating movement within the case. A mud flap is connected to the carriage. A reversible drive operates in a first direction to extend the mud flap into operative position and in a second direction to retract the mud flap within the case.

3,507,514
COMBINATION SPARE WHEEL HOLDER AND STEP FOR PICKUP TRUCKS
George J. Betz, 4720 NE. 31st Ave.,
Portland, Oreg. 97211
Continuation-in-part of application Ser. No. 654,776, July 20, 1967. This application May 31, 1968, Ser. No. 736,926
Int. Cl. B60r *3/00*
U.S. Cl. 280—164 **4 Claims**

A wheel holder has a threaded lug and supporting arm for securing a spare wheel flatwise thereagainst. This holder has lower extensions capable of being pivotally connected to a utility bumper of a pickup truck. A spring-operated catch is used for maintaining the wheel holder in a vertical position and when released allows the holder to lower to a horizontal position. The vertical supporting position of the body member comprises the normal or traveling position, and the horizontal position comprises a position for use as a step. In a first embodiment the spring catch is engageable with a detent on the bumper for maintaining the holder in its vertical position and forms a part of a cross shaft having a foot lever for rotating the shaft to a release position of the catch. A second embodiment has a pair of bumper brackets to which the holder is pivotally attached. In this latter embodiment, the bumper brackets also pivotally support a pair of rods slidable in guide brackets on the holder and having compression springs supported thereon to oppose lowering rotative movement of the holder.

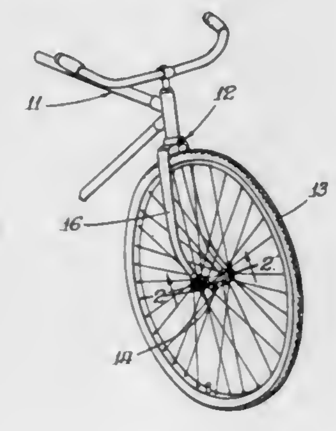


3,507,515
FOLDABLE BUMPER STEPS
Robert C. Brammer, Traverse City, Mich., assignor to Stromberg-Carlson Products, Inc., Traverse City, Mich., a corporation of Michigan
Filed Sept. 5, 1968, Ser. No. 757,580
Int. Cl. B60r *3/02, 19/02*
U.S. Cl. 280—166 **9 Claims**



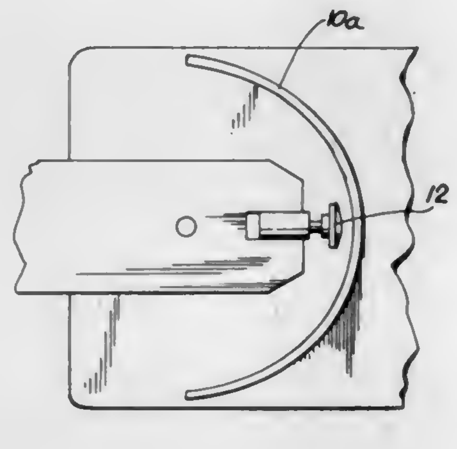
This disclosure relates to foldable bumper steps for the back of pickup campers for example. First and second steps are fixed together so that the second step will be spaced forwardly and downwardly of a first step in a first position, so that the second step overlies and is adjacent to the first step in a second position, and so that both steps can be raised above the bumper to a third position when access is desired to a trailer hitch below the first step.

3,507,516
BICYCLE FRONT WHEEL SAFETY MOUNTING
Albert J. Fritz, Wilmette, Ill., assignor to Schwinn Bicycle Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 26, 1968, Ser. No. 716,166
Int. Cl. B62k *25/00*
U.S. Cl. 280—279 **5 Claims**



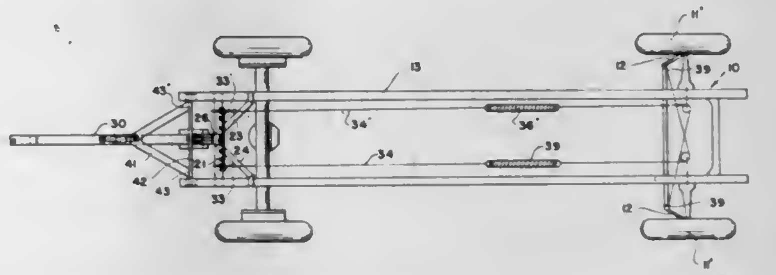
Slots in lower ends of front fork receive front wheels hub axle in usual manner, but upper ends of slots are provided with circular enlargement to receive laterally extending inner annular flange on concave or dished washer disposed on axle outwardly of fork to function as lock washer for outer axle nut and, by engagement of its annular flange in circular enlargement of fork slot, to prevent accidental displacement of the axle and wheel from the fork slots even if outer retaining or axle nuts become loose. Since annular flange of washer is interposed between axle and fork, weight of wheel, hub and axle assist in holding washer in operative position to prevent separation of wheel from fork.

3,507,517
TRACTOR-TRAILER ANTIJACKKNIFING DEVICE
Leo Eagle, 17 Tad Lane, Old Bethpage, N.Y. 11714
Filed Apr. 30, 1968, Ser. No. 725,365
Int. Cl. B62d *53/06*
U.S. Cl. 280—432 **5 Claims**



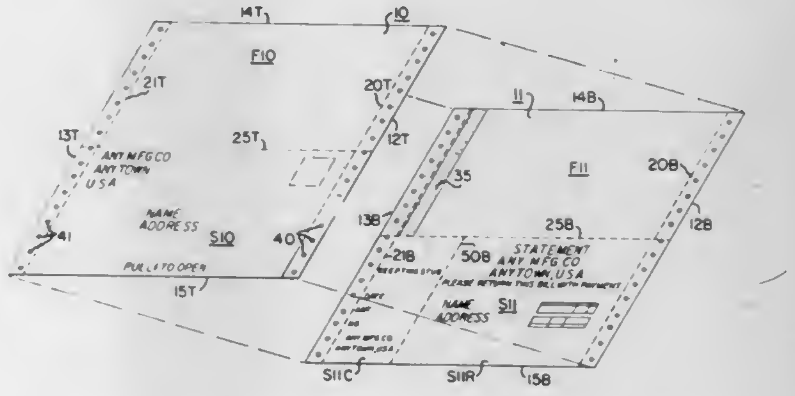
A device for preventing changes in angle between a tractor and its trailer progressively actuated in proportion to braking action consisting of an engaging member and an engaged member, the engaging member being in fluidic communication with the main braking system of the vehicle such that as the brakes are applied, the engaging member progressively engages the engaged member. As one member is mounted on the tractor and the other member mounted on the trailer such engagement prevents changes in angle between the tractor and the trailer.

3,507,518
REAR TOWING HITCH AND STEERING ASSEMBLY FOR TRUCKS
Ralph H. Stubbendick and Alan L. Stubbendick, both of Avoca, Nebr. 68307
Filed Sept. 1, 1967, Ser. No. 665,102
Int. Cl. B62d *13/04*
U.S. Cl. 280—444 **10 Claims**



A rear towing hitch and steering assembly, for use on a truck which is to be towed backwardly, comprises a bracket assembly attached to the rear of the truck frame, a hitch and steering member pivotally attached to the bracket assembly and connected to the steering mechanism of the front wheels of the truck by means of spring-interrupted cables, and a tongue extension for removable engagement with the hitching and steering member, whereby when the truck is towed backwardly the front wheels of the truck are steered in response to a pivotal movement of the hitching means by the tongue. An A-frame drawbar is attached to the truck frame and to the tongue to assist in executing short turns. The A-frame drawbar is mounted above the tongue and is vertically pivotable to compensate for ditches, depressions, etc. The invention is particularly useful in preparing and transporting silage.

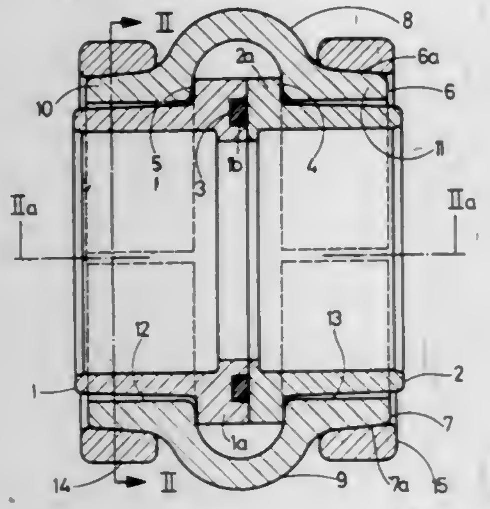
3,507,519
FORM LETTER AND ENVELOPE WITH INTEGRAL RETURN ENVELOPE AND CUSTOMER AND RETURN STUBS
Rex P. McNabb, P.O. Box 976, Garland, Tex. 75040
Filed Apr. 18, 1968, Ser. No. 722,414
Int. Cl. B41l *1/22, 1/26*
U.S. Cl. 282—25 **8 Claims**



A form letter and envelope with integral return envelope and customer and return stubs comprising two sheets secured together along opposing side edges with tear perforations extending along the inner sides of secured opposing side edges and along a line across the form intermediate the other opposing side edges to form two sections, the sheets of the first section being secured together in a manner to form a return envelope and one sheet of the second section having an exclusive tear perforation to form customer and return stub subsections.

3,507,520
COUPLING FOR CONNECTING PIPES PARTICULARLY OF SYNTHETIC MATERIAL

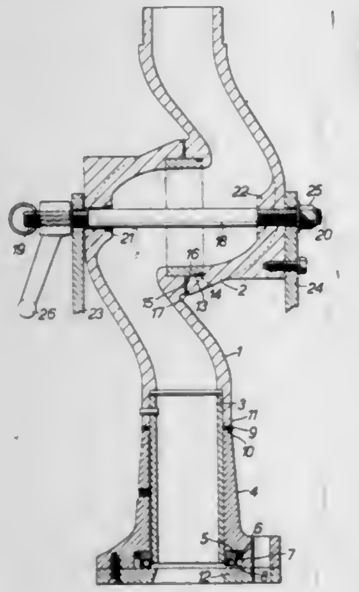
Erich Guldener, Uhwiesen, and Rudolf Friedrich Hübscher, Schaffhausen, Switzerland, assignors to Georg Fischer Aktiengesellschaft, Schaffhausen, Switzerland
Continuation-in-part of application Ser. No. 558,645, June 20, 1966. This application Dec. 2, 1968, Ser. No. 786,536
Claims priority, application Switzerland, June 23, 1965, 8,807/65
Int. Cl. F16l *17/00, 19/00, 33/00*
U.S. Cl. 285—110 **3 Claims**



A coupling, especially of corrosion resistant material, for interconnecting pipes, which comprises two substantially axially aligned bushings with cylindrical radially outwardly extending flanges surrounded and engaged by a semi-torus-shaped central portion of two substantially semi-annular members each having two axially spaced collar portions integral with and on opposite sides of the semi-torus-shaped central portion and respectively surrounding with radial play those bushing portions which are outside said flanges while being surrounded by clamping ring means.

3,507,521
MONITORS

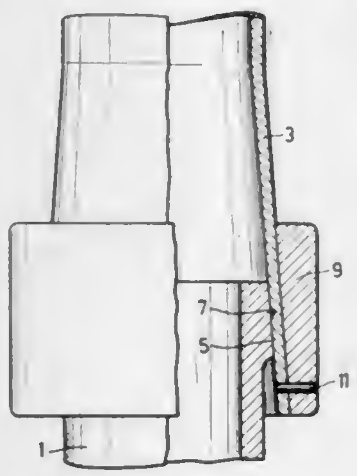
Robert E. Bridgland, Jr., Old Acre, Midgham, near Reading, Berkshire, England
Filed Apr. 8, 1968, Ser. No. 719,431
Claims priority, application Great Britain, Aug. 10, 1967, 36,795/67
Int. Cl. F16l *27/00*
U.S. Cl. 285—168 **6 Claims**



The invention is directed to a monitor for spraying water for firefighting purposes. The monitor comprises a body formed in essentially two parts. One part is mounted for rotation about a substantially vertical axis and the other, nozzle-carrying, part is mounted on the one part for rotation about a substantially horizontal axis.

3,507,522
PIPE JOINT

Karl Göran Ernst Fröman, Solna, Stig Rutger Kärker, Bandhagen, and Taivo Tarandi, Lidingo, Sweden, assignors to Aktiebolaget Atomenergi, Stockholm, Sweden, a company of Sweden
Filed Nov. 30, 1965, Ser. No. 510,514
Claims priority, application Sweden, Dec. 15, 1964, 15,155/64
Int. Cl. F16l *7/00, 9/00, 21/08*
U.S. Cl. 285—187 **2 Claims**



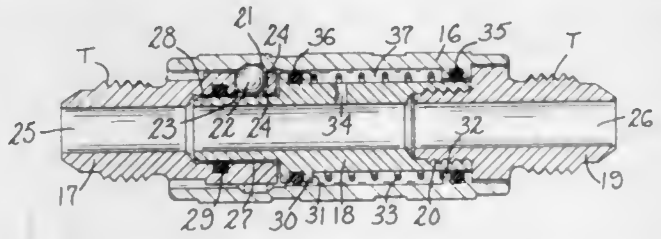
A pipe joint for two metallic pipe ends, the pipe ends being overlapped and a clamping ring being applied over the overlapped portions of the outer and inner pipe ends. The inner pipe end has a coefficient of thermal expansion which is greater than that of the outer pipe end and the clamping ring has a coefficient of thermal expansion which lies intermediate those of the two overlapped pipe ends. The inner pipe end is a stainless steel having an expansion coefficient of approximately $16.7 \cdot 10^{-6}$° C.; the outer pipe end is a zirconium alloy having an expansion coefficient of $6.1 \cdot 10^{-6}$° C.; and the clamping ring is made from Inconel having an expansion coefficient of

$$13.4 \cdot 10^{-6} \cdot \text{C.}$$

The joint can be assembled and disassembled at room temperature, and the seal at the joint is automatically established as the joint is heated to its normal operating temperature by the fluid which is passed through it.

3,507,523
DISCONNECTABLE COUPLING FOR FLUID PRESSURE LINES

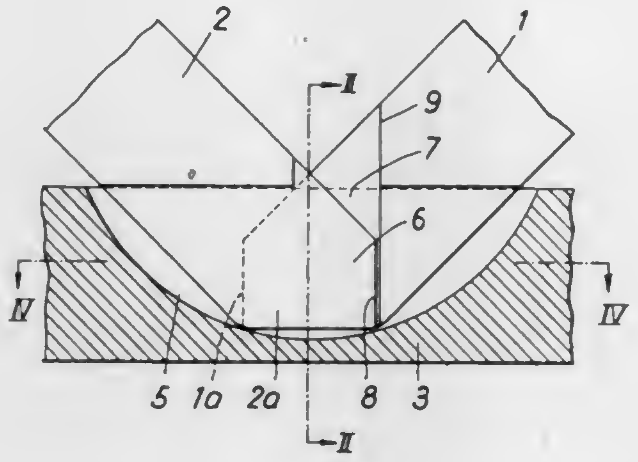
John L. Cadley, Milford, Conn., assignor to Air-Lock, Inc., Milford, Conn.
Filed Feb. 25, 1969, Ser. No. 801,987
Int. Cl. F16l *37/00, 37/18*
U.S. Cl. 285—307 **7 Claims**



A fluid pressure line connector which is disconnectable at a predetermined force. The device is arranged such that the line pressure produces a pressure balancing effect on the coupling members such that the force required for disconnection is independent of line pressure.

3,507,524
GLUED JOINT FOR TIMBER CONSTRUCTIONS

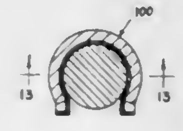
Manfred Steidle-Sailer, Sigmaringen, Germany, assignor to Hoscha G.m.b.H., Davos Platz, Graubunden, Switzerland, organized under the laws of Switzerland
Filed Mar. 5, 1968, Ser. No. 710,465
Claims priority, application Switzerland, Apr. 26, 1967, 5,946/67
Int. Cl. E04c *3/12, 3/30;* **B27f** *1/02*
U.S. Cl. 287—20.92 **5 Claims**



An novel glued timber-construction joint formed between two intersecting diagonal members and a grooved chord is disclosed, the diagonal members lapping at one end where they are glued together to form at least one tenon which projects into a chord groove in which the tenon itself is glued. Each tenon constitutes a scarf and comprises two fingers with one finger being associated with each diagonal member. Each finger includes a beveled inside surface in contact with the beveled inside surface of the finger of the other diagonal member over a common surface area. The outside surface of each finger contacts a respective side wall of the chord groove. Each finger includes a chamfered end surface which terminates the beveled inside surface at the small end thereof. The fingers are slidably displaceable with respect to one another over their beveled inside surfaces so as to continuously vary the tenon thickness in the chord groove so as to ensure a tight joint without requiring high woodworking tolerances for the tenon and groove. A stop surface is disposed on each diagonal member and cooperates with the chamfered end surface of the finger of the other diagonal member so as to delimit the amount of the slidable displacement of the fingers and thus the maximum tenon thickness.

3,507,525
MEANS FOR SECURING TWO MEMBERS TO ONE ANOTHER

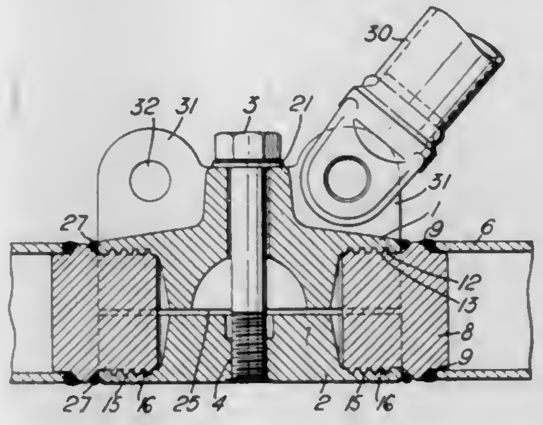
Donald E. Sable, 4413 Windsor Parkway, Dallas, Tex. 75205
Filed Dec. 22, 1966, Ser. No. 603,902
Int. Cl. F16d *1/06;* **F16c** *3/02*
U.S. Cl. 287—52 **4 Claims**



A stop mountable on sucker rods of a sucker rod string of a well pumping apparatus for limiting longitudinal movement of paraffin scrapers on the rod and comprising a U-shaped resilient metal clip having a flanged liner which swells as it absorbs fluids.

3,507,526
TUBULAR STRUCTURES

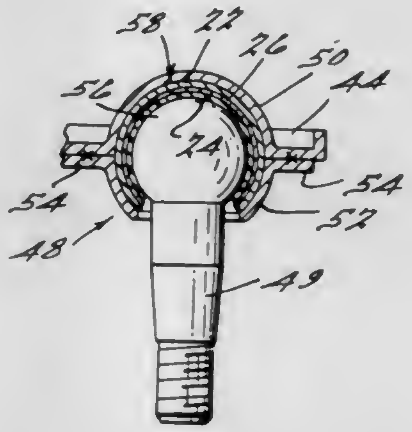
Percival James Packman, Twyford, and Hubert Beresford Walker, East Barnet, England, assignors to Stewarts and Lloyds Limited, Glasgow, Scotland
Filed Dec. 4, 1967, Ser. No. 687,825
Claims priority, application Great Britain, Dec. 9, 1966, 55,326/66
Int. Cl. F16b *7/00*
U.S. Cl. 287—54 **10 Claims**



A joint between tubular members lying substantially in a common plane in a tubular steel space structure is made by means of a pair of clamping elements which are held together by a bolt or bolts and between them define sockets formed with alternating transverse recesses and projections for the reception of the complementarily shaped ends of the tubular members.

3,507,527
BEARING AND METHOD OF MAKING

Charles S. White, 35826 41st St., Palmdale, Calif. 93550
Original application Mar. 14, 1961, Ser. No. 95,684. Divided and this application Feb. 12, 1964, Ser. No. 344,430
Int. Cl. F16c *11/06*
U.S. Cl. 287—87 **2 Claims**

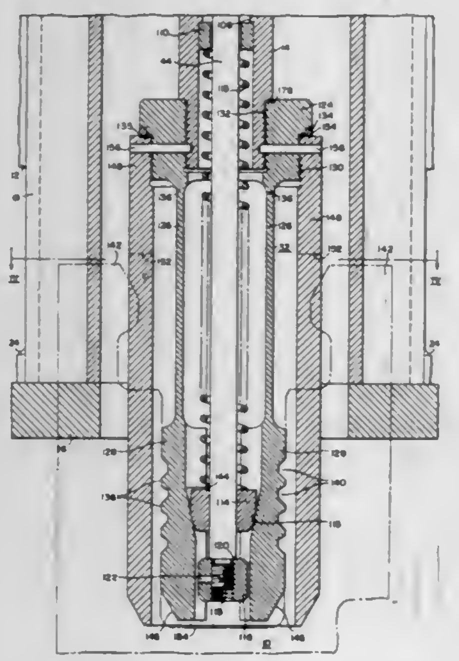


1. A bearing comprising an inner member having an outer spherical surface, a bearing liner surrounding the spherical surface of said inner member on both sides of the major diameter thereof, said liner comprising a one-piece, hollow, spherical sheet metal member with a low friction material bonded to the inner periphery thereof by a hardened resin, said liner being bent to said spherical shape so as to conform said low friction material to the spherical surface of said inner member on both sides of the major diameter thereof whereby said inner member is locked within and in slidable mated engagement with

said liner for low friction swiveling movement with respect thereto, and an outer member fixedly secured around said bearing liner on both sides of the major diameter thereof.

3,507,528
LOCKING DEVICE

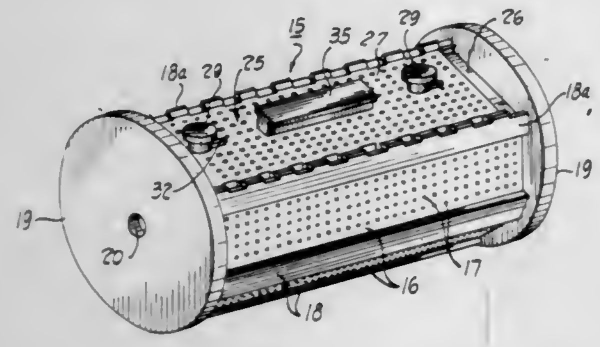
Walter E. Desmarchais, Penn Hills Township, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 132,424, Aug. 18, 1961. This application Feb. 16, 1965, Ser. No. 435,406
Int. Cl. F16b *7/00*
U.S. Cl. 287—124 **11 Claims**



A locking mechanism is provided for locking and releasing a pair of members locked together at adjacent inner ends. The locking mechanism is formed with a movable intermediate member having one operative position to lock the members together and a second position for permitting release. Means are provided adjacent the outer end of one of the members and exposed to the outer end thereof for fixedly positioning the intermediate member in its one position and for permitting movement of the latter member to its second position.

3,507,529
COVERS FOR PLATING BARRELS AND THE LIKE

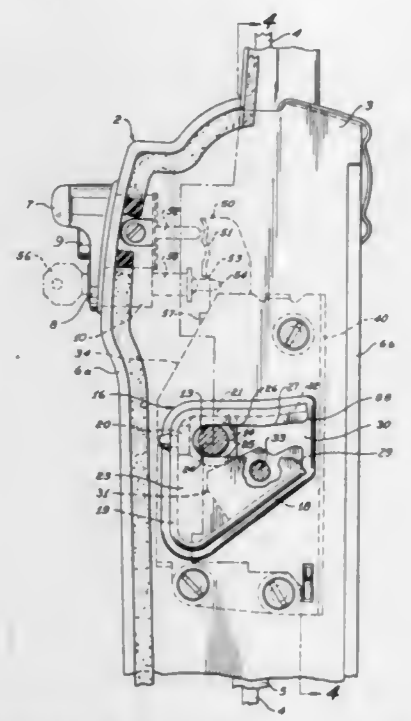
Thomas R. Gill, Cleveland, Ohio, assignor to GS Equipment Company
Filed Feb. 23, 1967, Ser. No. 618,070
Int. Cl. E05c *1/10*
U.S. Cl. 292—162 **22 Claims**



A cover for plating barrels having a closure panel which carries locking structure for engaging the barrel in more than one location along the sides of the panel. The locking structure along at least one side of the closure panel is operated by movement of a single member carried by the panel.

3,507,530
LATCH MECHANISM

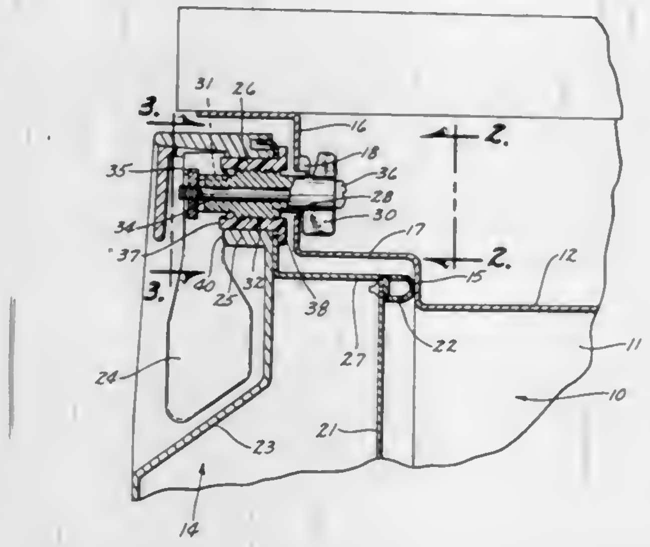
Angelo R. De Vito, 1354 S. Belvoir Blvd., South Euclid, Ohio 44121, and Otto V. Puzik, 5600 Clairidge Drive, Willoughby, Ohio 44094
Filed Apr. 27, 1967, Ser. No. 634,271
Int. Cl. E05c *1/12*
U.S. Cl. 292—173 **15 Claims**



An automobile door latching mechanism with optional provisions for keyless locking, freewheeling and child safety characterized, among other things, by a slidable one-piece contactor that is movable between a working position and an idling position in at least one of which positions it is capable of pivotal deflection; a plurality of levers of the bell-crank type one or more of which can initiate sliding movement of the contactor between working and idling positions; and pin-and-slot connections between one of said levers and a wedge-like latch element adapted to cooperate with an externally mounted striker.

3,507,531
ADJUSTABLE DOOR LATCH

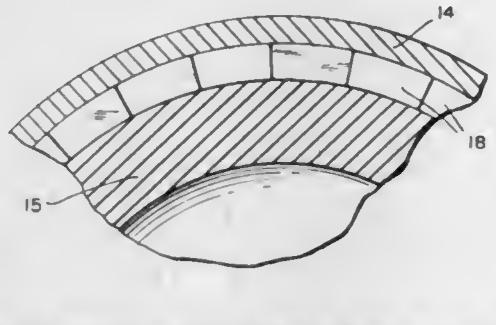
Thomas R. Smith, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Aug. 30, 1968, Ser. No. 756,472
Int. Cl. E05c *3/04*
U.S. Cl. 292—241 **9 Claims**



An adjustable latch for a door of an appliance such as a dishwasher is disclosed. The adjustable latch assembly includes an operating shaft having a threaded relation with a bearing sleeve. The operating shaft includes a latching member at one end and a handle at the other end releasably connected to the operating shaft and the bearing. With the handle disconnected from the bearing sleeve, the operating shaft is axially adjustable relative to bearing sleeve to achieve desired spacing of the latching member relative to a cam for properly closing the door against a door jam.

3,507,532
CLOSURE MEANS

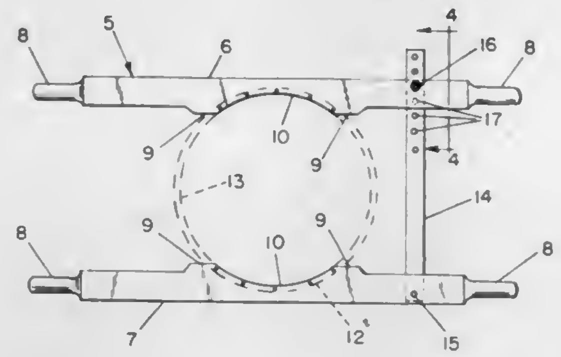
Arthur Gross and Paul C. King, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Apr. 4, 1968, Ser. No. 718,687
Int. Cl. B65d *45/30;* **F16b** *7/00;* **F16l** *37/22*
U.S. Cl. 292—256.6 **3 Claims**



A means for securing cylindrical closures by filling mating grooves or recesses of telescoping members with a plurality of segments of lockwire having substantially the same cross sectional area as that of the groove. This locking means provides high loading efficiency and is accomplished rapidly and easily.

3,507,533
LIFTING HANDLES FOR USE BY NURSERYMEN

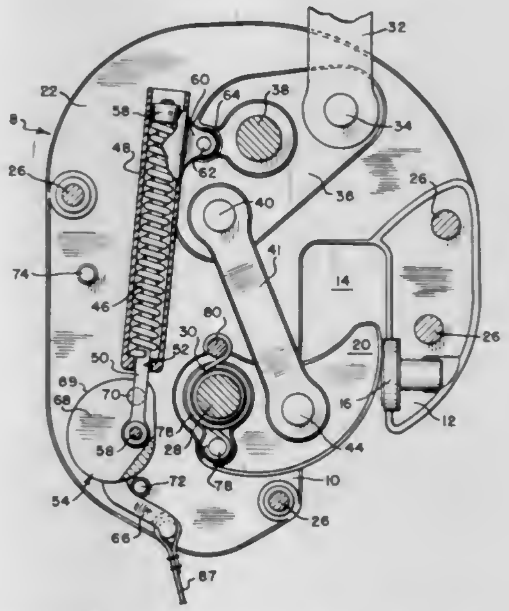
Frank A. Beattie, 3357 N. Beattie Road, Muskegon, Mich. 49445
Filed Mar. 11, 1968, Ser. No. 712,003
Int. Cl. B65g *7/12*
U.S. Cl. 294—16 **5 Claims**



This invention consists of two spaced and normally parallel lifting bars that are adapted to have their center portions fit around the tub of a large tree or shrub that is to be lifted by two nurserymen and moved from one place to another. Each end of each lifting bar is provided with a handle while the two aforesaid lifting bar is provided with a handle while the two aforesaid lifting bars are adjustably connected together by means of a cross-bar that is secured to the underside of each lifting bar by a vertically disposed bolt and nut. One end of the cross-bar has a plurality of spaced openings therein so that the distance between the lifting bars may be varied according to the diameter of the tub to be lifted and moved. Each lifting bar is provided with a plurality of vertically disposed pointed pins in that portion thereof on which will rest the horizontally disposed flange of the aforesaid tub.

3,507,534
PLATE LIFTING CLAMP WITH AUTOMATIC RELEASE MECHANISM

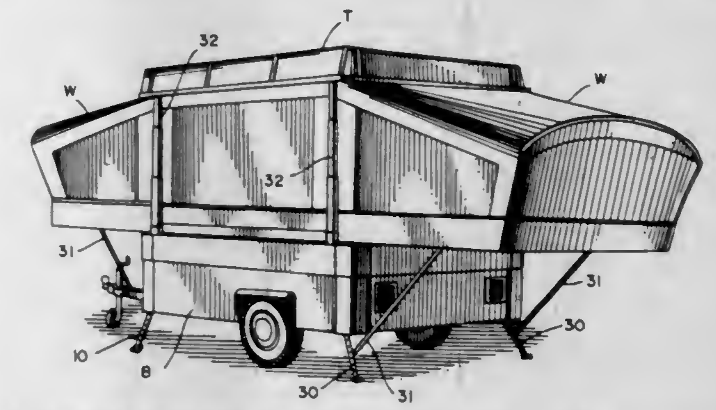
Edward Merrill Gardner, Hudson, N.Y., assignor to Merrill Brothers, Maspeth, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 641,295, May 25, 1967. This application Dec. 30, 1968, Ser. No. 787,809
Int. Cl. B66c *1/24*
U.S. Cl. 294—104 **12 Claims**



The plate-lifting clamp disclosed comprises mechanism including a cam lever pivoted to the body of the clamp and means pivotally connecting the lever with the peripheral portion of the radius link of the clamp for actuating and forcing the gripping cam to a plate-engaging position in tthe plate-receiving space and to a retracted position within the body of the clamp. In this construction the means connecting the peripheral portion of the radius link with the cam of the cam lever includes a rigid elongated barrel pivotally connected to tthe radius link, a compression spring in the barrel bearing on its bottom, a rod pivoted to the cam lever extending through the bottom of the barrel and the compression spring and connected to the upper part of the compression spring to hold the spring under compression. The gripping cam is releasably held in retracted position by the frictional engagement of the bottom of the barrel with the camming surface of the cam lever, under the action of the compression spring.

3,507,535
CAMPING TRAILER LIFT MECHANISM

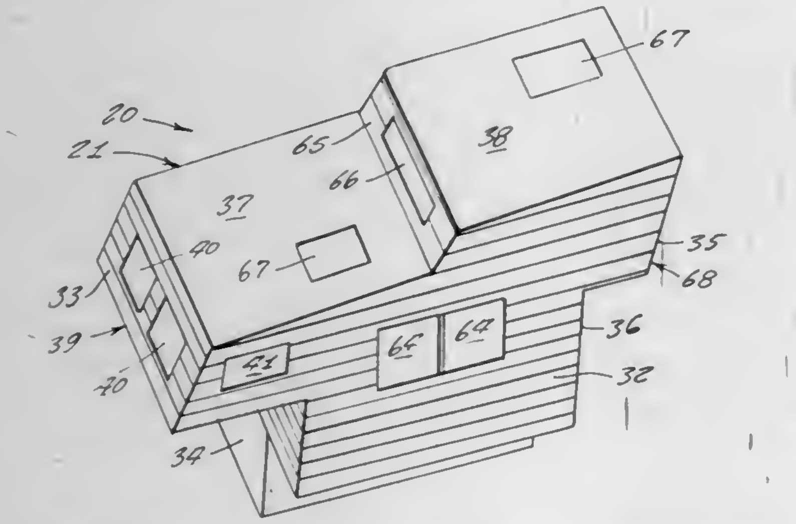
Joseph D. Wallace, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Jan. 10, 1968, Ser. No. 696,941
Int. Cl. B60p *3/34*
U.S. Cl. 296—23 **14 Claims**



A mechanism for use in combination with a camping trailer to raise and lower the top. The top, which forms a cover for the body in its lowered position, is mounted on cable-operated telescopic corner posts, and the operating cables extend inwardly from the lower post sections for connection to the draw means of an operating mechanism. The draw means is actuated by a screw shaft which extends to one of the side panels of the body. A sprocket of relatively small size is mounted on the outer end of the screw shaft for driving the shaft, and a larger sprocket is mounted on a stub shaft, the outer end of which is accessible from outside the body. The sprockets are connected by a drive chain so that when the stub shaft is rotated by means of a hand crank the screw shaft will rotate at a greater speed than the stub shaft, thereby accomplishing a more rapid raising and lowering of the top. Preferably, the outer end of the screw shaft is also accessible from outside of the trailer and is adapted to receive a manual crank, thereby facilitating the raising and lowering of the top by women and children at a reduced speed and with reduced torque. A manual latch can be provided for cooperating with either of the protruding shaft ends for preventing rotation of the screw shaft when the top is in raised position.

3,507,536
CHUCK WAGON CAMPER

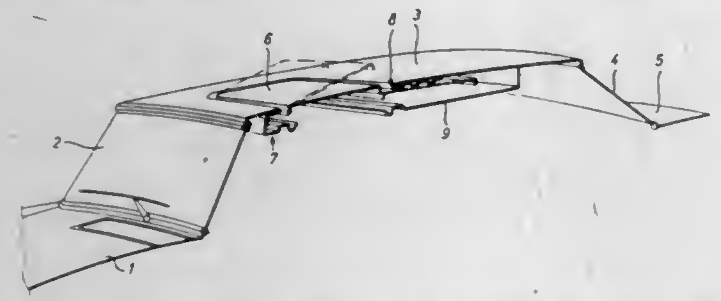
Joshua D. Hall, North Little Rock, Ark.
(1817 Senator Ave., Texarkana, Ark. 75501)
Filed Jan. 23, 1968, Ser. No. 699,905
Int. Cl. B60p *3/32*
U.S. Cl. 296—23 **2 Claims**



An improved camper having a tailgate chuck box which features in addition to storage space, a dropleaf work table, a built-in ice box or refrigerator and a swing-out two-burner propane gas cooking stove.

3,507,537
SLIDING COVER FOR ROOF OPENING IN A MOTOR VEHICLE

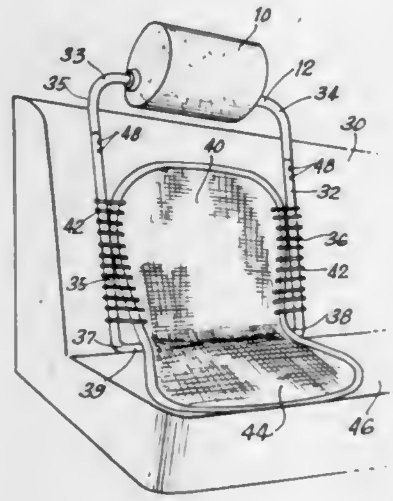
Herbert Kouth, Kilianstadten, and Albert Schlapp, Sprendlingen, Germany, assignors to H. T. Golde G.m.b.H., Frankfurt am Main, Germany
Filed July 22, 1968, Ser. No. 746,616
Claims priority, application Germany, July 22, 1967, 1,605,960; Apr. 2, 1968, 1,755,128
Int. Cl. B60j *7/04*
U.S. Cl. 296—137 **19 Claims**



A cover for a roof opening in a motor vehicle is supported on a pair of guide rails mounted on a frame attached to the interior surface of the roof. Two spaced guide members ride on each of the rails and are operatively connected to the cover for pivoting it into a ventilating position or for fully displacing it from the opening into a receiving compartment. One guide member is secured in a stationary position relative to the cover while the other guide member is slidable for effecting pivotal movement of the cover.

3,507,538
HEADREST

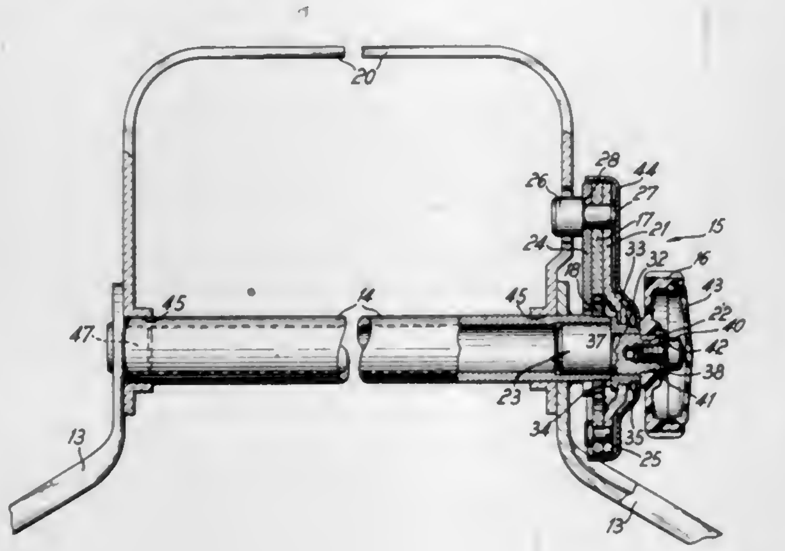
Hylan B. Stoller, 916 W. 54th Place, Chicago, Ill. 60609
Filed Dec. 4, 1967, Ser. No. 687,542
Int. Cl. A47c *7/36, 7/42*
U.S. Cl. 297—410 **6 Claims**



A headrest in which the pillow of the headrest rotates about an eccentric axis solely by manipulation of the pillow.

3,507,539
VEHICLE SEAT

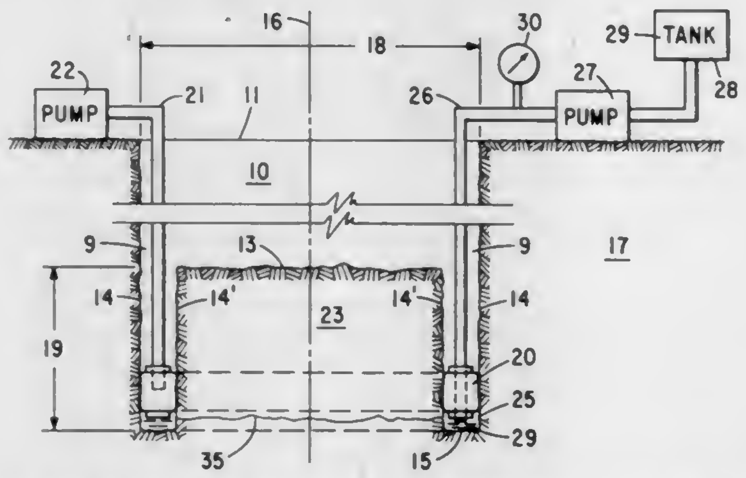
Peter Ulrich Putsch, Manweiler, Pfalz, and Friedrich Wilhelm Putsch, Remscheid, Germany, assignors to Fritz Keiper, Remscheid-Hasten, Germany
Filed July 31, 1968, Ser. No. 749,043
Claims priority, application Germany, Jan. 20, 1968, K 64,506
Int. Cl. A47c *7/36*
U.S. Cl. 297—410 **12 Claims**



A vehicle seat comprises a backrest member having an upper edge. A headrest member is arranged adjacent the upper edge. Mounting means mounts the headrest member for angular displacement with reference to the backrest member and includes a shaft defining a pivot axis for the headrest member, a ring gear fixed with the backrest member and a spur gear fixed with the headrest member and cooperating with the ring gear, the spur gear having an outer diameter which is smaller than the rude diameter of the ring gear by a distance corresponding at least to the height of one tooth. An eccentric is turnably carried by the shaft and includes an eccentric portion whose eccentricity is substantially equal to the difference between the outer diameter and the root diameter and is so selected as to assure self-locking of the gears.

3,507,540
METHOD AND APPARATUS FOR CUTTING LARGE DIAMETER BORE HOLES

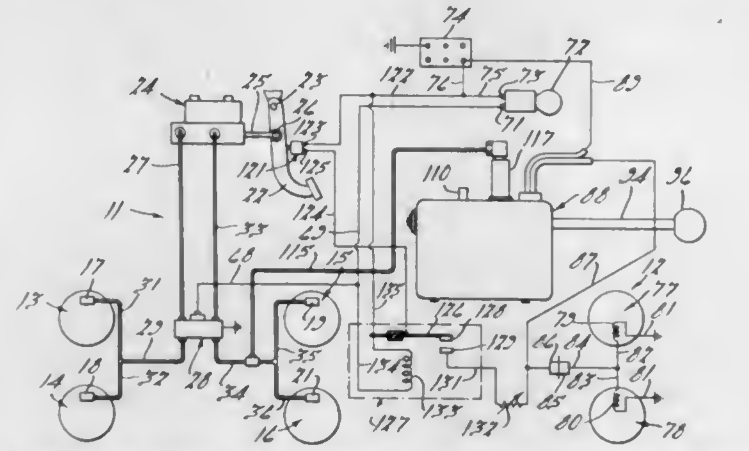
Daniel Silverman, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Apr. 5, 1968, Ser. No. 719,206
Int. Cl. E21c *37/06*
U.S. Cl. 299—15 **10 Claims**



In this method of cutting large diameter bore holes or tunnels in hard rock, a narrow, circular groove or channel of the same diameter as the bore hole is cut. The axis of the channel is aligned in the direction of the axis of the bore hole. A circular packer is fitted into and placed close to the base of the channel, where it is inflated to seal off a small volume close to the base of the channel. A fracturing liquid is pumped into this packed-off volume and the pressure increased until a transverse fracture is created that will separate the central rock core inside the channel from the body of the rock.

3,507,541
TRAILER SAFETY BRAKE CONSTRUCTION

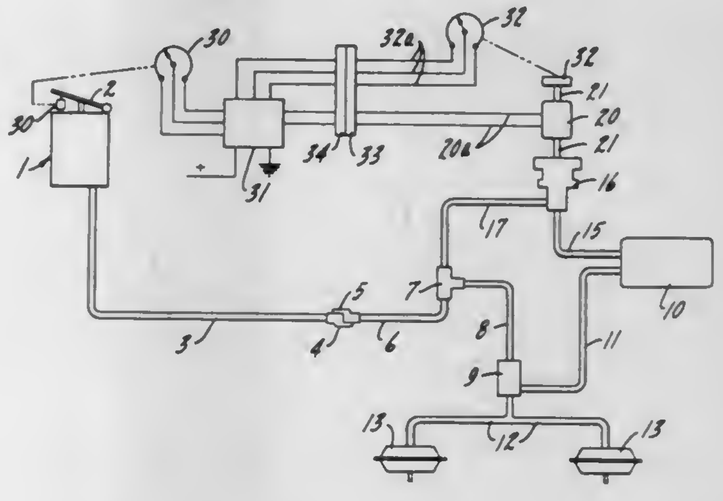
David T. Ayers, Jr., Birmingham, Mich., assignor to Kelsey-Hayes Company, a corporation of Delaware
Filed Nov. 27, 1967, Ser. No. 685,794
Int. Cl. B60t *13/70*
U.S. Cl. 303—7 **12 Claims**



A trailer safety broke construction for association with a towing vehicle having a primary brake system. The trailer safety brake construction includes a brake arrangement for the towed vehicle that is operative either selectively at the driver's direction, automatically upon application of the towing vehicle brakes or automatically in response to actuation of the brake pedal of the towing vehicle and failure of the brakes of the towing vehicle.

3,507,542
ELECTRICAL TRAILER BRAKE SYSTEM

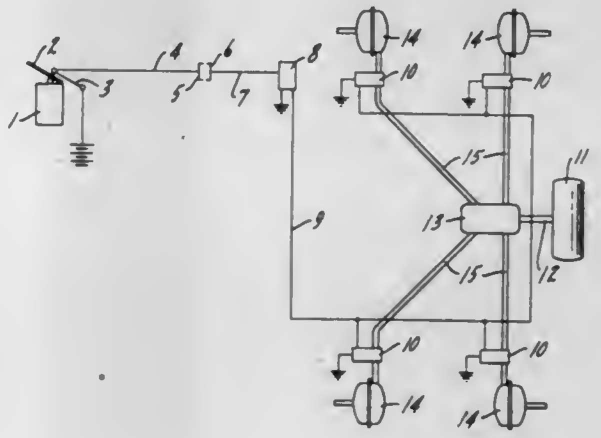
Joseph L. Cannella, Melrose Park, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Nov. 12, 1968, Ser. No. 774,649
Int. Cl. B60t *13/68*
U.S. Cl. 303—7 **9 Claims**



A trailer brake system incorporating an electrical signal generating mechanism responsive to tractor brake application to direct a signal to the trailer brake system and to initiate application of fluid pressure to the trailer brakes in response to said signal, the signal generating system including master and slave elements on the tractor and trailer and a differential amplifier providing for minute, close control of pressures supplied to the trailer system and of pressure relationships on tractor and trailer.

3,507,543
TRAILER BRAKE RELEASE SYSTEM

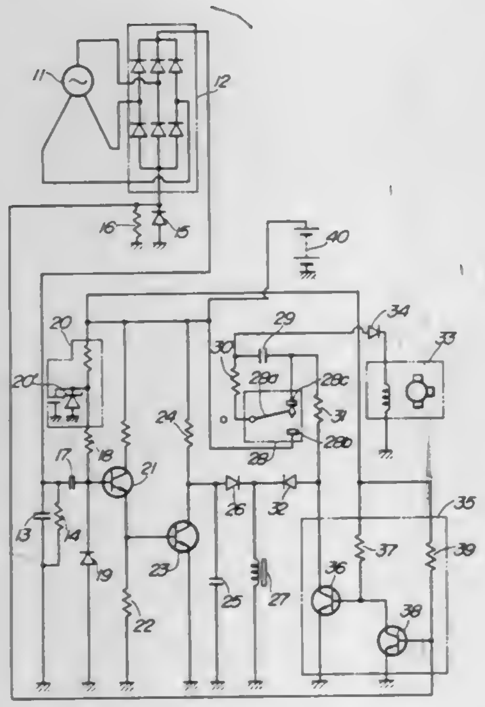
Joseph L. Cannella, Melrose Park, Ill., assignor to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Nov. 5, 1968, Ser. No. 773,400
Int. Cl. B60t *13/68*
U.S. Cl. 303—7 **7 Claims**



A brake release system for the trailer brakes of a trailer-tractor vehicle combination. A switch responsive to release of the tractor foot pedal closes to send a signal through a time-delay device to electrically-operated valve means. Actuation of the valve means exhausts the trailer brake chambers. The valve means has a normal fail-safe position corresponding to and effectuating the standard brake system. In one version, individual electrically-operated valves are provided, one for each brake chamber. In another version a single electrically-operated valve is connected in the service line to the relay emergency valve of the trailer brake system.

3,507,544
ANTI-SKID CONTROL APPARATUS FOR VEHICLES

Hisato Wakamatsu and Noriyoshi Ando, Kariya-shi, Japan, assignors to Nippon Denso Company Limited, Kariya-shi, Japan, a corporation of Japan
Filed Mar. 4, 1968, Ser. No. 710,289
Claims priority, application Japan, Mar. 27, 1967, 42/19,451; May 18, 1967, 42/31,588
Int. Cl. B60t *8/08*
U.S. Cl. 303—21 **2 Claims**

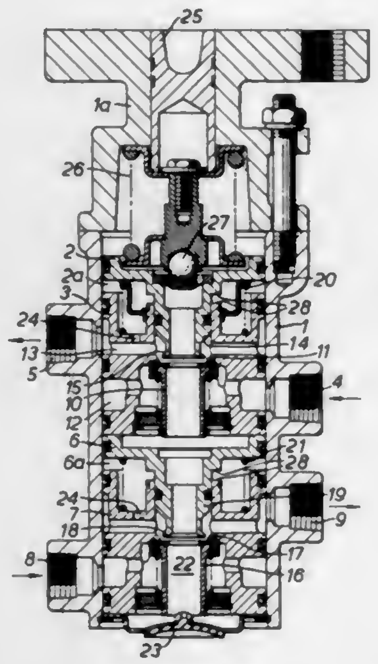


An anti-skid control apparatus for vehicles, which enables a brake system to remove the brake force from the wheels of the vehicle when the angular deceleration of the wheels has reached a set value and, in addition, to perform such an anti-skid operation in which when the wheels have stopped rotating after the angular deceleration reached the set value, the brake force released state is maintained by the functioning of a timing circuit and when the wheels have started to rotate, the functioning of said timing circuit is stopped and the brake force is again applied to the wheels; and a safety device for said apparatus.

3,507,545
DUAL BRAKE VALVES

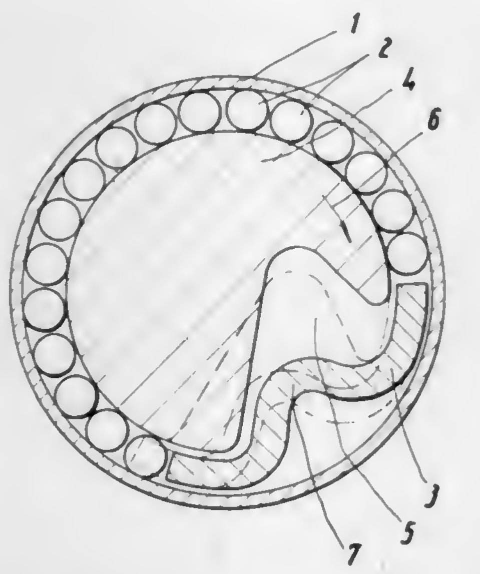
Wilbur M. Page and Ralph Coupland, Lincoln, England, assignors to Clayton Dewandre Company Limited, Lincoln, England, a British company
Filed June 10, 1968, Ser. No. 735,687
Claims priority, application Great Britain, June 19, 1967, 28,168/67
Int. Cl. B60t *15/06*
U.S. Cl. 303—52 **5 Claims**

A dual brake valve of the concentric type comprising a primary piston and a secondary piston coaxially disposed in a common cylindrical housing for manual actuation, two sets of ports each consisting of an air supply port and an air delivery port and by which said brake valve is interconnected into two independent supply circuits, valve elements controlling air flow between the ports of each set, valve actuating means on piston structures operable when the said pistons are displaced to seal off said delivery ports from an exhaust and to connect them to said supply ports, and means providing restricted flow of pressure fluid to a baffle chamber which is operable to oppose sudden movement and to damp out oscillation of said valve elements.



3,507,546
RADIAL ROLLER BEARINGS

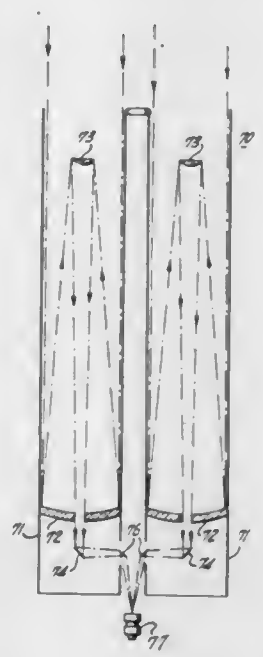
Artur Alois Haslimann, Swansea, Glamorgan, John Morris, Morriston, Swansea, Glamorgan, England, and Karl Wolfgang Röger, Borgomanero, Novaro, Italy, and Alfred Lehrer, Haguenau, France, assignors to Industriewerk Schaeffler OHG, Herzogenaurach, Germany, a corporation of Germany
Filed Feb. 26, 1968, Ser. No. 708,746
Claims priority, application Germany, Mar. 3, 1967, J 33,122, J 16,187
Int. Cl. F16c *33/34*
U.S. Cl. 308—212 **15 Claims**



Radial roller bearing having an outer race and a number of rollers rolling thereon, which bearing serves to support a shaft oscillating through a specific angle only, the said shaft being provided with a recess extending about part of its circumference.

3,507,547
TELESCOPE HAVING MULTIPLE OBJECTIVE MIRRORS

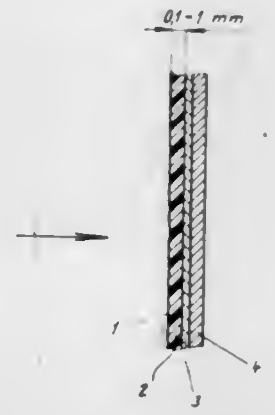
Warren R. Thomas, 459 W. 260th St., Riverdale, N.Y. 10471
Continuation-in-part of application Ser. No. 375,873, June 17, 1964. This application Oct. 12, 1965, Ser. No. 505,094
Int. Cl. G02b *23/00*
U.S. Cl. 350—55 **1 Claim**



A high resolution telescope includes a plurality of angularly adjustable objective mirror and/or lens systems for producing in a common focal plane substantially coinciding sharp images of a common object, the coinciding images having a greater resolution than any of the individual images. The images may be focussed on the front face of an optical fiber bundle and the eyepiece focussed on the rear face thereof.

3,507,548
SCREEN FOR RECEIVING PHOTOGRAPHIC IMAGES

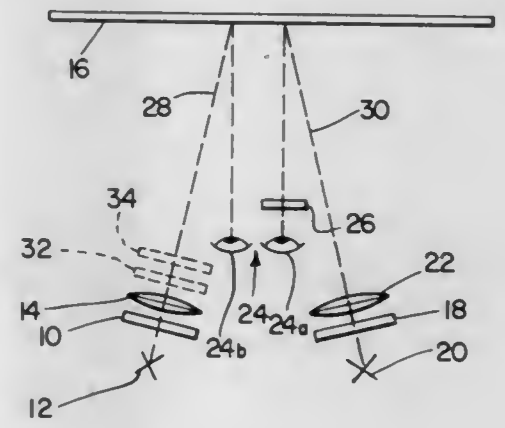
Zdenek Hoffmann, Beroun, and Jaroslav Pechar, Prague, Czechoslovakia, assignors to Ceskoslovenska Akademie Ved, Prague, Czechoslovakia, a corporation
Continuation-in-part of application Ser. No. 642,440, May 1, 1967. This application Sept. 15, 1967, Ser. No. 685,991
Claims priority, application Czechoslovakia, Sept. 20, 1966, 6,058/66
Int. Cl. G03b *21/56*
U.S. Cl. 350—117 **9 Claims**



A screen to be used with a projection apparatus for receiving all kinds of epidiascopic images, blueprints, drawings, color transparencies, etc. The screen is adapted particularly to give good performance under conditions where exterior light would disturb the projection of an image onto a conventional screen. The screen has a front transparent diffusing layer, made of a foil of clear plastic material, and having a front-exposed, matted surface and a rear surface directed away from the latter matted surface. A highly reflective layer is joined to this rear surface of the transparent diffusing layer, this latter rear surface of the transparent diffusing itself being glossy. The thickness of the transparent diffusing layer ranges from 0.1 to 1 mm.

3,507,549
METHOD FOR PRODUCING AND VIEWING COMPOSITE IMAGES

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Sept. 15, 1961, Ser. No. 138,342
Int. Cl. G02b *27/22*
U.S. Cl. 350—132 **7 Claims**

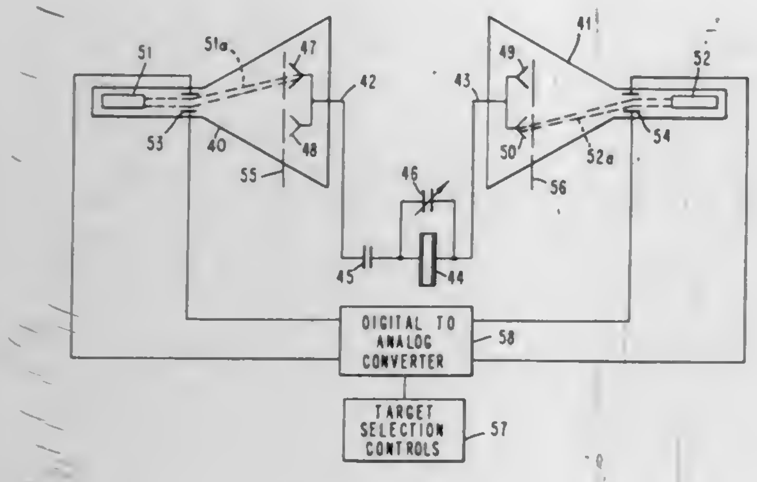


1. The method of providing a composite image visible to both eyes as a single image, but containing separately provided and relatively different left- and right-eye image components, each of which is rendered in visible light, comprising the steps of:
- forming a first image component in visible light at an image plane, and
- forming at said image plane in superposed relationship to said first image component a second image component related to said first image component in visible light of substantially lesser intensity than that that of said first image component such that the unaided vision is capable of perceiving substantially only said first image component, the second image component being obscured by the greater intensity of the first image component,
- the quality of the light employed for the formation of said first and second image components differing essentially by a substantial filterable factor, and
- interposing before only one eye of a viewer a discriminating filter passing visible light from the second of said image components and blocking light from the first and brightest of said image components to render each of said image components visible to a separate eye of the viewer.

3,507,550
APPARATUS FOR APPLYING A POTENTIAL DIFFERENCE ACROSS A LOAD

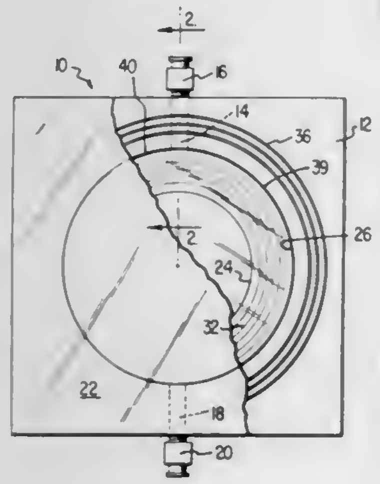
Thomas J. Harris, Poughkeepsie, N.Y., and Werner W. Kulcke, Boblingen, and Erhard Max, Sindelfingen, Germany, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 18, 1967, Ser. No. 610,106
Int. Cl. G02f *1/26;* **H01j** *31/02, 31/48*
U.S. Cl. 350—150 **8 Claims**

Apparatus for accomplishing the charging function for a capacitive load circuit of the electro-optic phase plate type. Dependent on the potential difference applied across the phase plate, a controlled phase difference takes place for a polarized light beam incident on the plate. Electron beam tubes are provided with pairs of targets having different secondary emission phenomena. When accessed by the electron beams, these targets provide the potential difference across the plates.



3,507,551
PHOTOCHROMIC DISPLAY SYSTEM

Kenneth J. Stetten, McLean, Va., assignor, by mesne assignments, to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 1, 1965, Ser. No. 460,418
Int. Cl. G02f *1/28*
U.S. Cl. 350—160 **2 Claims**

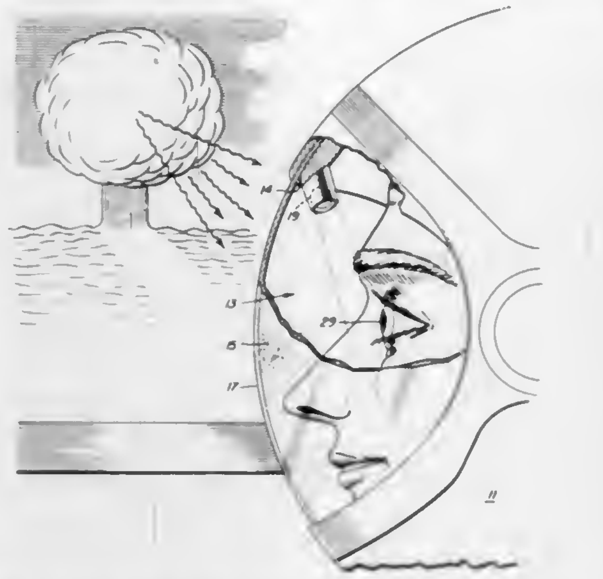


An information display system of the type employing indicia defining transmissivity variations created by radiation induced photochromic reactions wherein a free flowing photochromic liquid is disposed in film form in the path of the radiation and fluid transport means allows flushing out and replenishing of the photochromic liquid film when deterioration of the liquid occurs.

3,507,552
FLASHBLINDNESS PROTECTIVE APPARATUS

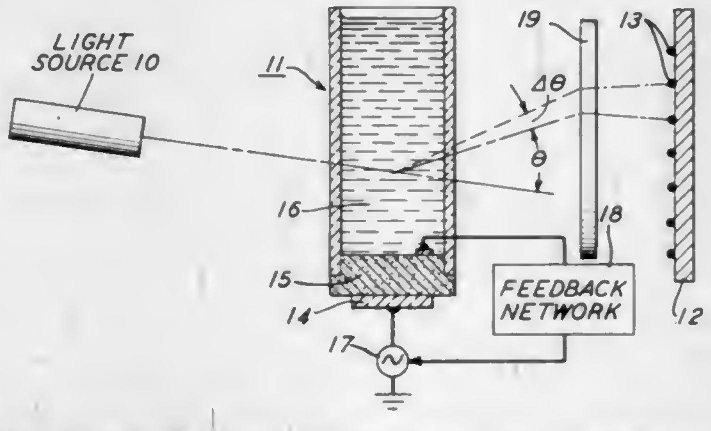
Donald D. Scott, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 1, 1965, Ser. No. 511,300
Int. Cl. G02f *1/28, 1/36;* **G02b** *5/20*
U.S. Cl. 350—160 **14 Claims**

A pair of contact lenses having photochromic liquid therein. The liquid is made optically dense by ultra-violet light projected from actuating lights. The actuating lights are activated by detectors which detect light from a nuclear explosion. A shield is provided to prevent ultra-violet light other than that from the actuating lights from reaching the contact lenses.



3,507,553
ULTRASONIC DIGITAL LIGHT DEFLECTOR

Lawrence K. Anderson, Stirling, and Shaun S. Devlin, Morris Township, Morris County, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed July 6, 1967, Ser. No. 651,437
Int. Cl. G02f *1/28;* **H04b** *9/00;* **H04n** *3/00*
U.S. Cl. 350—161 **6 Claims**

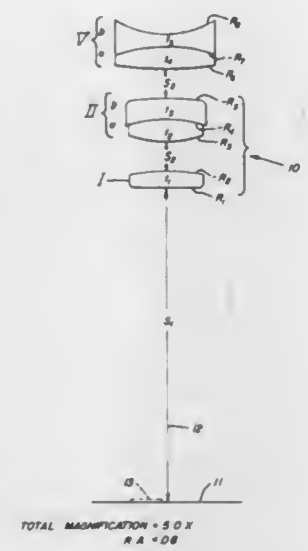


This disclosure describes ultrasonic beam deflectors which employ a multimode acoustic resonator to achieve efficient digital deflection. In particular, the acoustic resonator is located between a transducer and a deflecting medium. In operation, the transducer is driven by a variable frequency oscillator, and, at the same time, a beam of radiation is directed upon the medium. When the transducer is driven at one of the resonance frequencies of the resonator, a portion of the beam is deflected through an angle proportional to the acoustic frequency. Since the resonance frequencies are equally spaced, they can be made to correspond to a plurality of adjacent addresses having equal angular separations. Other arrangements using this deflector are also described.

3,507,554
5× MAGNIFICATION SEMI-OBJECTIVE WITH FIELD FLATTENING LENS

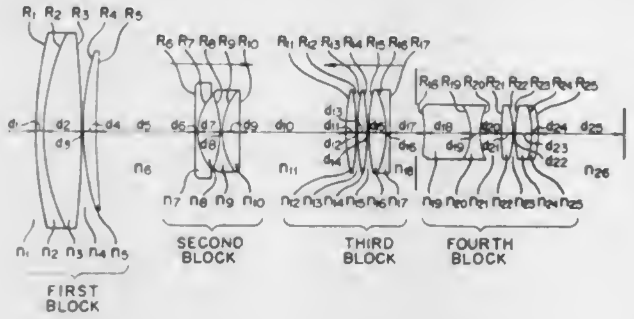
James R. Benford, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed May 10, 1967, Ser. No. 637,477
Int. Cl. G02b *9/12, 21/02*
U.S. Cl. 350—177 **2 Claims**

A microscope semi-objective having substantially unity magnification per se which is designed for use with an associated negative field flattening lens having substantially 5.0× magnification so as to produce cooperatively a total magnification of substantially 5.0× and a numerical aperture of .08, said semi-objective being one of a set of such semi-objectives of different powers which are used interchangeably with the field flattening lens.



3,507,555
ZOOM LENS OPTICAL SYSTEM

Masaki Isshiki, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Apr. 3, 1967, Ser. No. 627,726
Int. Cl. G02b *15/16*
U.S. Cl. 350—184 **2 Claims**

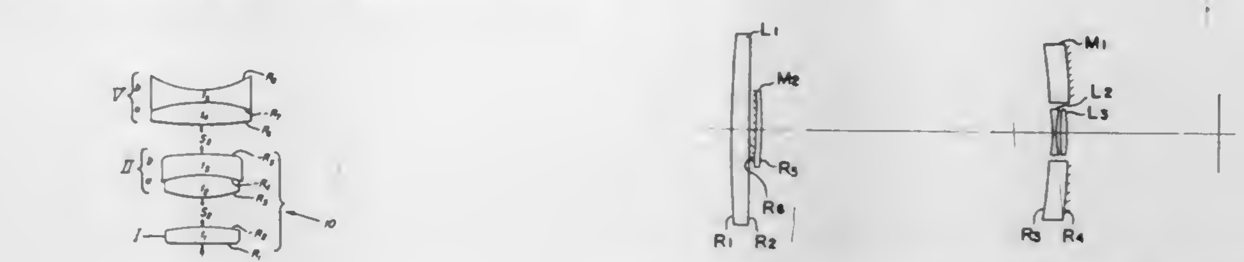


Zoom lens optical system of the mechanical compensation type is disclosed consisting of four lens blocks, the second and third blocks being movable in opposite directions along the optical axis. The second lens block is negative while the third lens block is positive and comprises two front single lenses and a cemented doublet, the curvature of the front surface being larger than the curvature of the rear surface of the front lenses for maintaining the flatness of image throughout the zooming range.

3,507,556
TELESCOPE LENS OF REFLECTING-REFRACTIVE TYPE

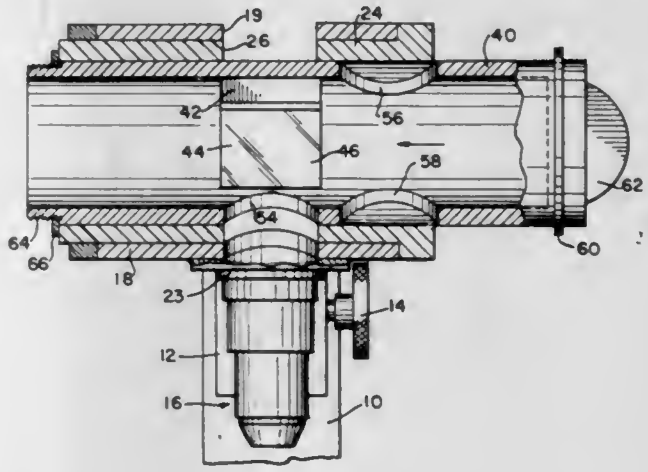
Yoshiyuki Shimizu, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, represented by Hiroshi Shirahama, a corporation of Japan
Filed Oct. 20, 1966, Ser. No. 588,213
Claims priority, application Japan, Oct. 22, 1965, 40/64,422
Int. Cl. G02b *17/08*
U.S. Cl. 350—201 **3 Claims**

A telescope lens of the reflecting-refractive type is disclosed wherein the total length is reduced to approximately one fourth of the focal length. A reflecting mirror of sufficient convergence and a lens of suitable magnification are provided to form an image of excellent quality with a minimum of aberrations, a Mangin mirror being provided having a refractive index of 1.5 and a ratio of radius of curvature of the back reflecting surface to that of the front surface is approximately 1.5.



3,507,557
OPTICAL READOUT ASSEMBLY

Christian A. Alfsen, East Northport, N.Y., assignor, by mesne assignments, to Microform Data Systems, Inc., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,202
Int. Cl. G02b *17/00*
U.S. Cl. 350—202 **4 Claims**

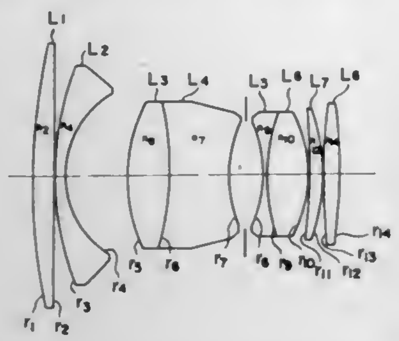


An optical readout assembly for use with a microimage viewer comprises a projection lens assembly which is rotatable 180° with respect to the microscope lens, and a rotatable mirror disposed so that the axis of rotation of the projection lens assembly lies in the plane of the reflective surface of the mirror whereby a selected microimage can be magnified and projected over a wide angular range. The mirror is rotatable within a trunnion so that the image transmitted through the microscope lens may be reflected to the projection lens when it is in either a forward or rearward position. The mirror may be axially removed from the trunnion to permit a hard copy reproduction of a selected microimage on a copying machine positioned directly above the microscope lens when the projection lens assembly is rotated into an upward position.

3,507,558
CAMERA LENS OF A LARGE APERTURE RATIO HAVING LONG BACK FOCUS

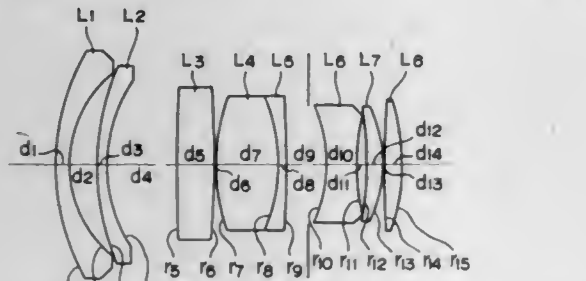
Yoshiyuki Shimizu, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, represented by Hiroshi Shirahama, a corporation of Japan
Filed Oct. 20, 1966, Ser. No. 588,212
Claims priority, application Japan, Oct. 22, 1965, 40/64,423
Int. Cl. G02b *9/08, 9/62, 11/32*
U.S. Cl. 350—210 **2 Claims**

A large aperture ratio objective having a long back focus in which the lens group B_2 has a composite positive refractive power and consists of a negative meniscus lens formed by cementing a biconcave lens and a biconvex lens, followed by a positive meniscus lens and a biconvex lens behind the stop, and in front of the stop comprises a cemented meniscus lens of positive refractive power. The front lens group B_1 is of negative refractive power. The aperture ratio of the lens is over 1:2 with an angle of field over 60°



3,507,559
RETROFOCUS TYPE WIDE ANGLE OBJECTIVE LENS

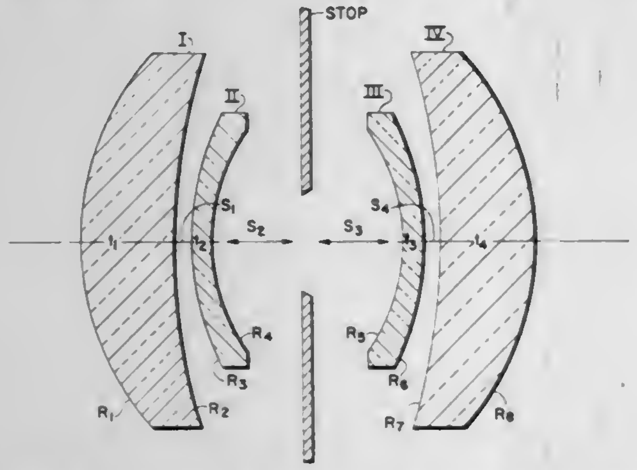
Ikuo Mori, Kawasaki-shi, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Dec. 1, 1966, Ser. No. 598,249
Claims priority, application Japan, Dec. 7, 1965, 40/74,794
Int. Cl. G02b *9/00*
U.S. Cl. 350—214 **4 Claims**


L1 L2
L3 L4 L5 L6 L7 L8
d1 d2 d3 d4 d5 d6 d7 d8 d9 d10 d11 d12 d13 d14
r1 r2 r3 r4 r5 r6 r7 r8 r9 r10 r11 r12 r13 r14 r15

The present invention provides a retrofocus type wide angle objective comprising a front lens group of a dispersive system of which the refractive power is strengthened for shortening the distance between the dispersive system and the converging system. A member placed near the stop corrects the negative distortion, thereby obtaining a back focus longer than a definite length.

3,507,560
WIDE ANGLE SYMMETRICAL COPYING OBJECTIVE LENS SYSTEM

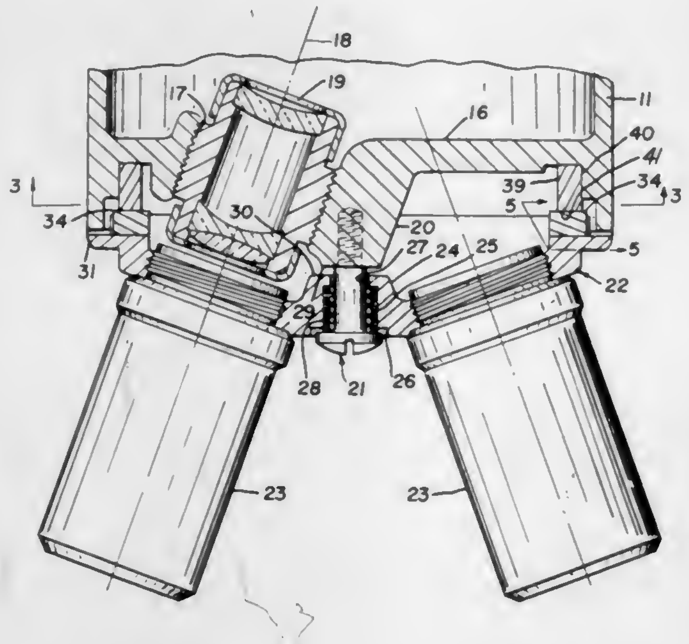
James G. Baker, Winchester, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Sept. 13, 1968, Ser. No. 759,666
Int. Cl. G02b *9/36*
U.S. Cl. 350—221 **19 Claims**



An optical objective of symmetrical form for document copying and kindred uses. The objective has a wide field angle, good resolution and is fabricable from durable and clear glasses of moderate cost.

3,507,561
INDEXING ROTATABLE NOSEPIECE SUPPORT FOR MICROSCOPE OBJECTIVES

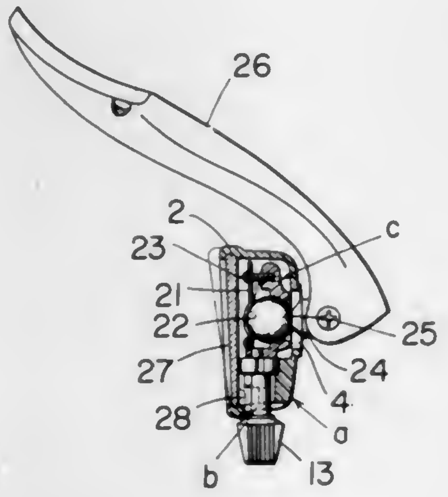
Edward N. Esmay, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 3, 1967, Ser. No. 620,359
Int. Cl. G02b *7/02, 7/16*
U.S. Cl. 350—254 **11 Claims**



A microscope nosepiece support for several objectives in which the indexing detent structure serves as the sole means for simultaneously locating angularly the successive positions of the nosepiece and for optically aligning the several objectives individually with the optical axis of the microscope.

3,507,562
REAR VIEW MIRRORS

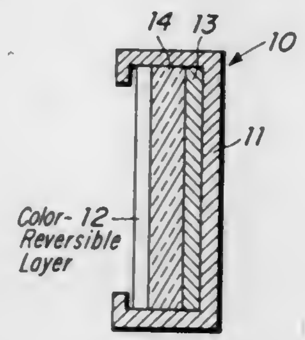
Makoto Yamashita, Kanagawa-ken, and Masagoro Kushida, Tokyo, Japan, assignors to Kabushiki Kaisha Ichikawa Seisakusho, Tokyo, Japan
Filed Feb. 26, 1968, Ser. No. 708,315
Claims priority, application Japan, Feb. 28, 1967, 42/16,699; Mar. 10, 1967, 42/19,695
Int. Cl. G02b *9/12*
U.S. Cl. 350—281 **10 Claims**



A rear view mirror for automobiles comprising a mirror box assembly preferably of plastic materials, including an open front mirror box, a mirror therein having high and low reflection factor reflective surfaces crossing mutually at a certain angle, a fixture also of plastic material including therewith a reflection factor change-over stem; and said mirror as disposed within the open front side of the mirror box has the reflection factor alterable only upwardly or downwardly by rotating the change-over stem.

3,507,563
COLOR-REVERSIBLE ANTI-GLARE MIRROR

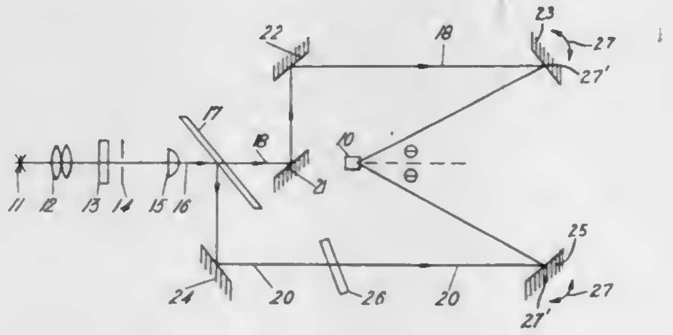
Elliot Berman, Quincy, and Richard W. Philbrick, Concord, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,153
Int. Cl. G02b *17/00*
U.S. Cl. 350—278 **14 Claims**



A color-reversible anti-glare mirror which is especially suitable for use as a rear view mirror in a motor vehicle. A mirrored viewing surface is used in combination with a color-reversible layer. The color-reversible layer when in darkness possesses the property of being able to attenuate bright light, which is shined upon it. This color-reversible layer, however, becomes essentially colorless when the lumination for a prolonged period of time approaches that of normal daylight. Color-reversible materials are: photochromic and/or thermochromic compounds.

3,507,564
METHOD OF MAKING A THREE-DIMENSIONAL DIFFRACTION GRATING

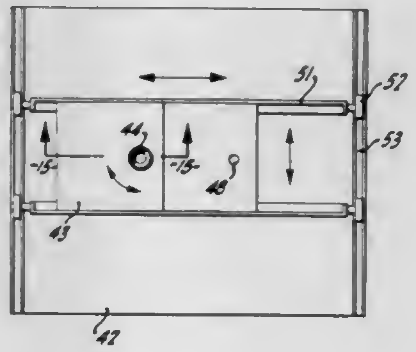
Albert Franks, Teddington, England, assignor to National Research Development Corporation, London, England, a corporation of Great Britain
Filed Nov. 15, 1965, Ser. No. 512,837
Claims priority, application Great Britain, Nov. 19, 1964, 47,256/64
Int. Cl. G02b *5/18*
U.S. Cl. 350—320 **6 Claims**



A method of producing a three-dimensional diffraction grating comprises forming three sets of planar, mutually inclined interference fringes within a block of photochemical material such that the three sets of fringes intersect at points which form a space lattice. The block is then processed to "fix" the photochemical reaction which has occurred within it, thereby forming a space lattice of points of different light-transmitting properties compared with the remainder of the block.

3,507,565
VARIABLE-POWER LENS AND SYSTEM

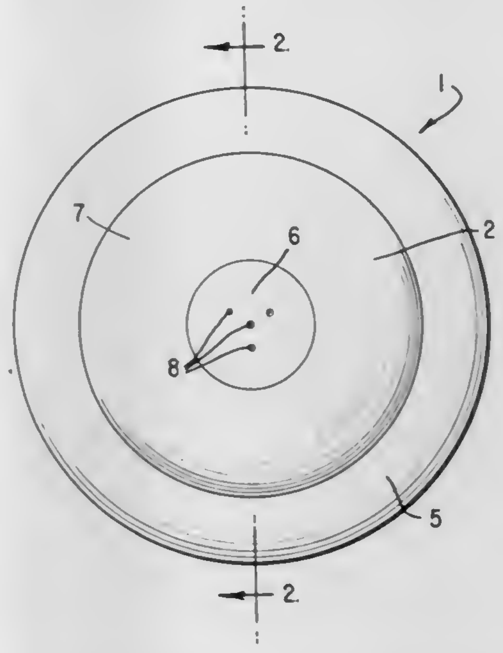
Luis W. Alvarez and William E. Humphrey, Berkeley, Calif., assignors to Optical Research and Development Corporation, Oakland, Calif., a corporation of California
Filed Feb. 21, 1967, Ser. No. 617,573
Int. Cl. A61b *3/02*
U.S. Cl. 351—17 **6 Claims**



The invention disclosed and claimed herein is a variable-power spherical lens defined in terms of lens thickness at each point thereof, and having a substantial variation in power across same. The lens is substantially free from distortion over the entire surface there, and is particularly adapted for use in ophthalmic devices, as well as in multiple combinations for a wide variety of optical devices, including viewing devices and cameras.

3,507,566
CONTACT LENS AND SPECTACLE LENS STRUCTURE

Arthur A. Knapp, 170 Maple Ave., White Plains, N.Y. 10601
Original application Mar. 25, 1964, Ser. No. 354,661. Divided and this application Apr. 29, 1968, Ser. No. 730,975
Int. Cl. G02c *7/04, 7/16*
U.S. Cl. 351—160 **3 Claims**

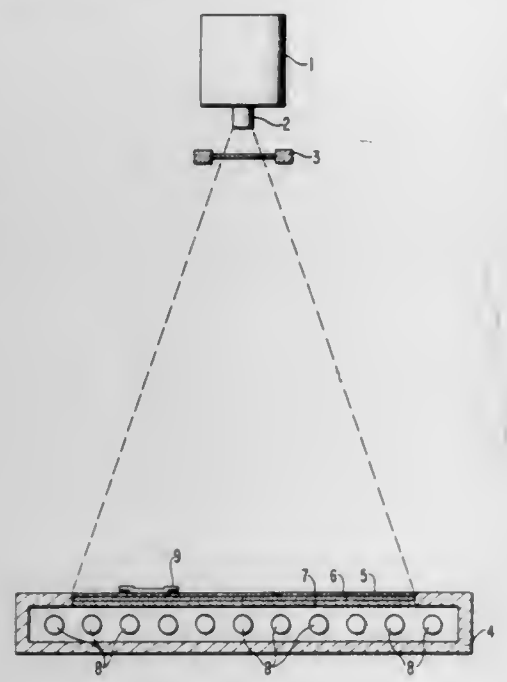


The lens structure includes a tinted lens body to permit the passage of visible light and an opaque covering on the surface of the lens body adjacent the wearer's eye, which covering has a plurality of approximately 1 mm. diameter holes that extend only partially through the lens body without interrupting the front surface. The bottom faces of the holes are substantially parallel to the front surface of the lens.

3,507,567

METHOD OF MAKING CINEMATOGRAPHIC FILMS

Felix Bodrossy, Budapest, Hungary, assignor to Licencia Talalmanyokat Erlekesito Vallalat, Budapest, Hungary
Filed July 25, 1967, Ser. No. 655,764
Claims priority, application Hungary, Aug. 5, 1966, BO–1,046
Int. Cl. G03b *33/00*
U.S. Cl. 352—45 1 Claim

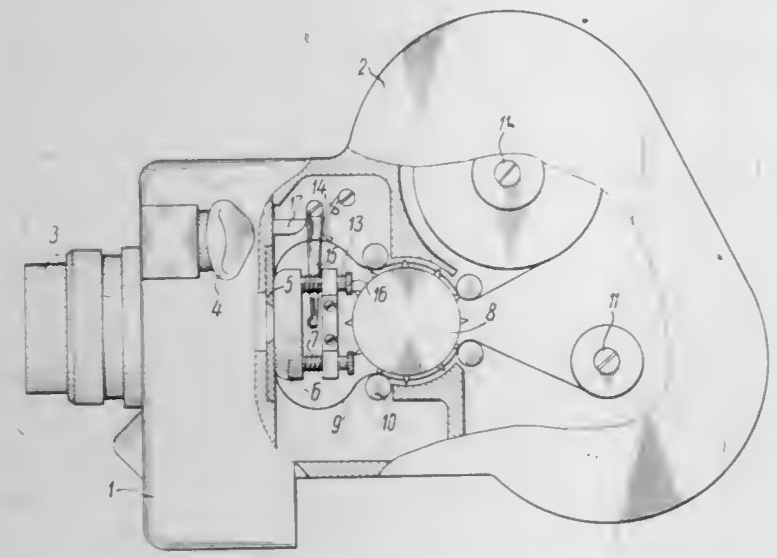


The present invention relates to a method of making cinematographic films resembling animated cartoons by disposing a flat figure and crossed polarising filters between a light source and a camera lens, parts of the figure comprising an optically-active material for causing said parts to be photographically recorded on the film in color.

3,507,568

FILMING EQUIPMENT

Valery Fedorovich Gordeev, Botanicheskaya ul. 1, kv. 61, Moscow, U.S.S.R.
Filed July 13, 1967, Ser. No. 653,185
Int. Cl. G03b *23/02, 1/56*
U.S. Cl. 352—72 4 Claims

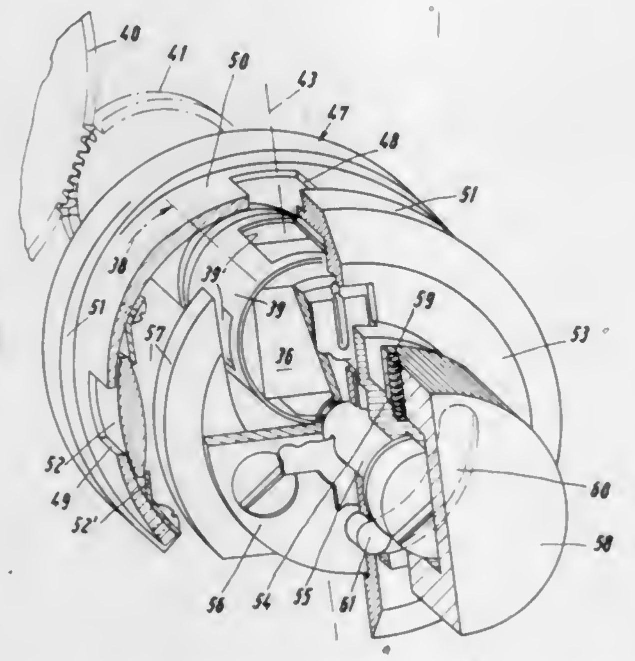


A film cassette adapted for being inserted in a motion picture camera casing has a releasable mechanism which engages a clamping back frame to normally hold the frame in an advanced fixed position in which looped film over the back frame envelops the latter as a pattern for a film loop. When the cassette is inserted in the casing, a stop member in the casing engages the releasable mechanism to release the same and enable the back frame to occupy an operating position in which it cooperates with an immovable front frame on the casing to form a film channel.

3,507,569

MOTION PICTURE FILM EDITOR OR VIEWER

Tadashi Goto, 159 Kita Terao, Tsurumi-ku, Yokohama, Japan
Filed Jan. 5, 1967, Ser. No. 607,468
Claims priority, application Japan, Feb. 4, 1966, 41/6,116; Feb. 25, 1966, 41/11,240
Int. Cl. G03b *21/00*
U.S. Cl. 352—129 8 Claims

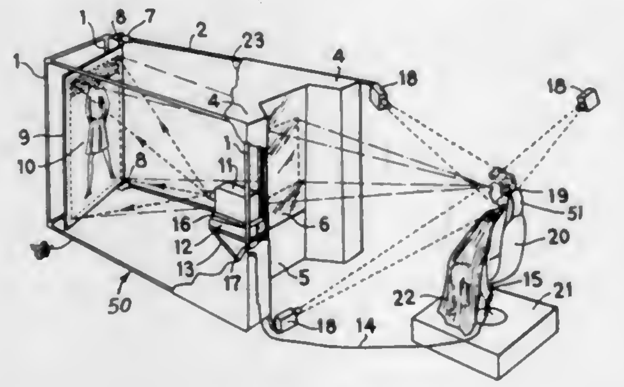


A film editor having a prism rotated synchronously with the film movement and arranged behind the film in the path of light projecting the film images on a viewing screen, the editor being compatible for viewing different film sizes, such as Single-8 and Super-8, by an optical system variably insertable between film and prism for bringing the projections of the film images on the prism to the same size. The editor having alternatively operative sprocket wheels for synchronising film movement and prism rotation, each wheel being adapted to the image sizes and perforations of one of the different films.

3,507,570

COMPOSITE OPTICAL DISPLAY SYSTEM

Jean-Claude Bourdier and Philippe De Fels, Paris, France, assignors to Audio-Visuel France, Paris, France, a corporation of France
Filed Mar. 11, 1968, Ser. No. 712,226
Claims priority, application France, Sept. 18, 1967, 121,362; Nov. 16, 1967, 128,470
Int. Cl. G03b *21/26, 21/22*
U.S. Cl. 353—28 8 Claims

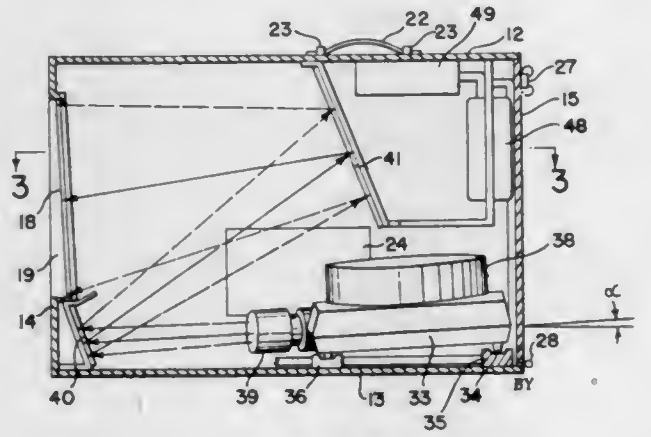


A black-draped subject **19** looking through semi-transparent mirror **6** sees the reflection of her own face in the mirror as formed on the plane of a screen **10**, together with the projected image of a slide formed by projector **11** on the screen **10**. The slides represent headless models wearing different articles of clothing whereby the subject appears to see composite pictures of herself as though wearing the articles.

3,507,571

AUDIO-VISUAL APPARATUS

Walter F. White, 8357 Whitewood Road, Brecksville, Ohio 44141
Filed Apr. 3, 1967, Ser. No. 627,989
Int. Cl. G03b *21/22, 21/00, 31/06*
U.S. Cl. 353—78 12 Claims

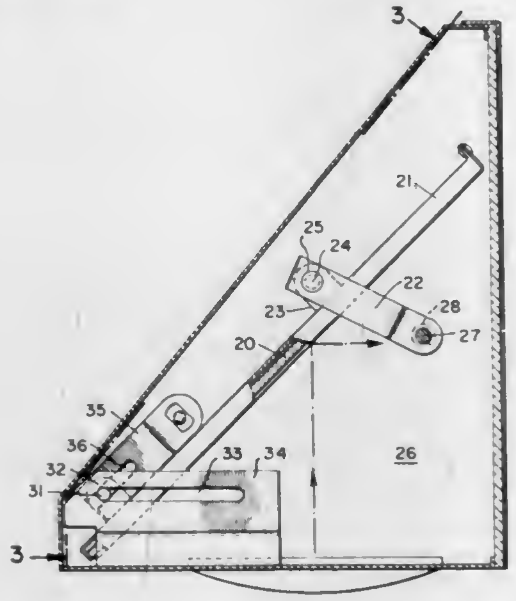


An audio-visual apparatus having a screen, a slide projector, mirrors and a tape recorder mounted in a casing. The slide projector is the type which projects off-center from one side of the projector. The projector is mounted within the casing at an angle to the horizontal and vertical plane. The picture is focused on the screen from the slide projector by use of a primary and secondary mirror mounted at different angles in the case. The screen, primary mirror, secondary mirror and slide projector form a system for correction of distortion of the projected image on the screen.

3,507,572

PROJECTION HEAD

John C. Nemesnyik, Nutley, N.J., assignor to Charles Beseler Company, East Orange, N.J., a partnership
Filed Nov. 14, 1967, Ser. No. 682,928
Int. Cl. G03b *21/28*
U.S. Cl. 353—98 9 Claims

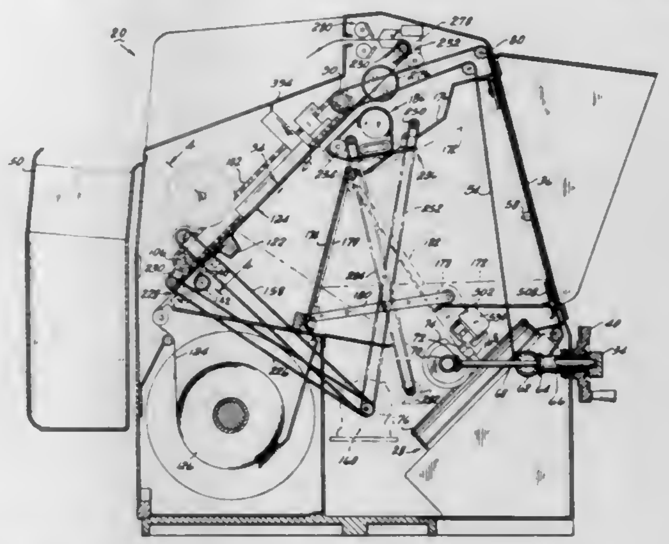


A projection head for an optical projector having a mirror mounting means which permits the mirror to be pivoted and moved laterally relative to the incoming cone of light for the purpose of minimizing the size of the mirror and the projection head required for the projector.

3,507,573

PHOTOCOPY PAPER CUTTING MEANS

Ira M. Sage, New York, and Peter P. Pungitore, Bronx, N.Y., and Peter J. Totino, Edgewater, N.J., assignors to Old Town Corporation, Brooklyn, N.Y., a corporation of New York
Original application Nov. 20, 1964, Ser. No. 412,729, now Patent No. 3,385,161, dated May 28, 1968. Divided and this application Dec. 20, 1967, Ser. No. 716,247
Int. Cl. G03b *29/00*
U.S. Cl. 355—28 6 Claims

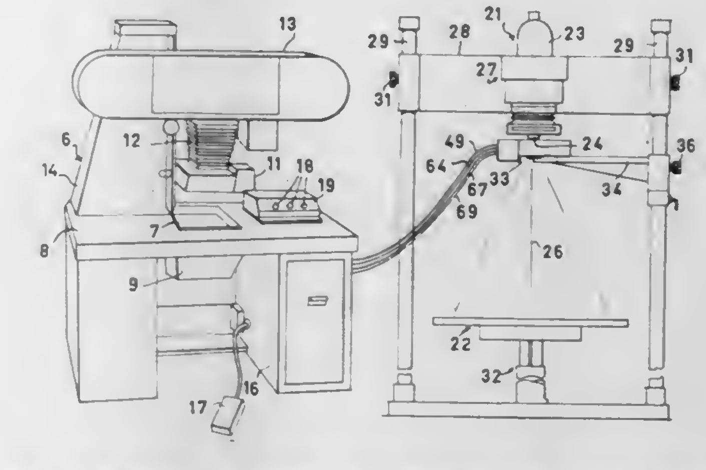


The invention is used in a reader-copier which enlarges microfilm images, displays the images on the viewing screen, and makes electrostatic copies of the images on coated photoconductive copy paper. The copy paper is fed in a continuous web from a roll. Means is provided for notching the paper at one edge upon the supplying of an appropriate electrical signal by the operator. After the copy has been developed, the cutting means senses the notch and cuts the paper at the notch. The cutting means includes a set of shears in which the blades rotate into contact with one another and shear the paper while simultaneously moving with the paper at approximately the same speed so that there is no binding of the paper in the shearing blades. This invention is described in greater detail in the portion of the specification entitled "Paper Cutting System," and is shown in FIGURES 7 through 9.

3,507,574

COLOR ENLARGER AND PRINTER

Darrel R. Crete, Sacramento, Calif., assignor to Charles A. Crete, Marysville, Calif.
Filed Oct. 14, 1968, Ser. No. 767,287
Int. Cl. G03b *27/78, 27/52*
U.S. Cl. 355—38 6 Claims

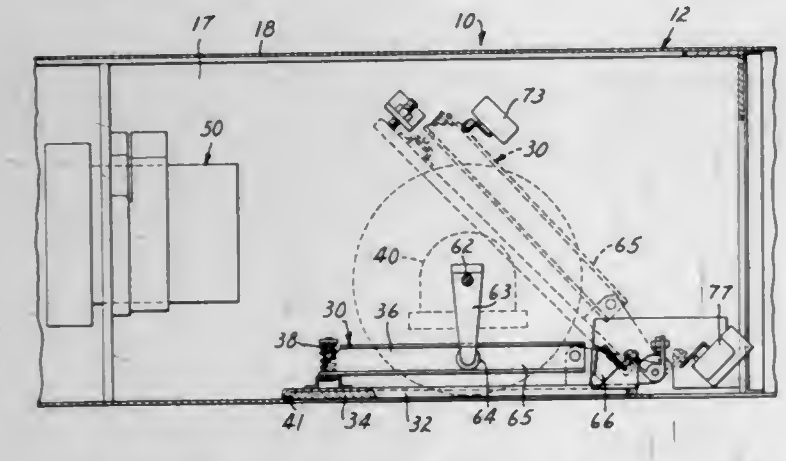


A conventional enlarger and easel are adapted for automatic color enlarging and printing by the temporary positioning therebetween of a deck assembly containing a detector of the intensities of the primary colors in a beam passing therethrough and a color compensator including filters of the primary colors positionable in the beam.

The deck assembly is operated by a suitable control circuit which may be part of a commercial printer which has been adapted for alternative operation of the commercial printer or of the deck assembly.

3,507,575
DISPLAY-PRINT MODULE

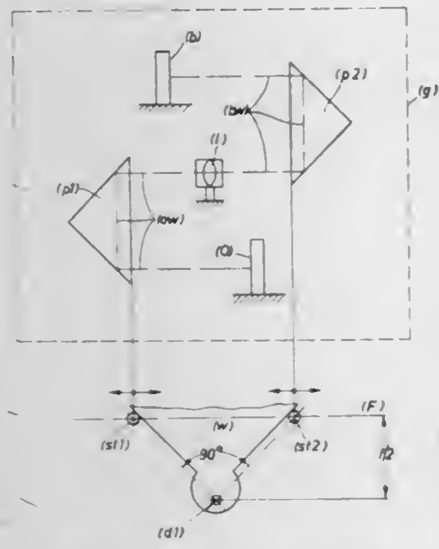
James L. Soule, Hudson, Wis., and Thomas J. Werner, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 16, 1968, Ser. No. 768,028
Int. Cl. G03b *13/24;* **H04n** *5/86*
U.S. Cl. 355—45 **3 Claims**



A display-print terminal wherein a light pattern from a cathode ray tube is enlarged and focused by a lens assembly onto a viewing screen or alternatively focused onto a data recorder via an oscillating mirror-shutter assembly for producing a printed or graphic copy of the light pattern upon demand of the operator.

3,507,576
SYSTEM FOR PROVIDING DIFFERENT MAGNIFICATION RATIOS IN PHOTOGRAPHIC COMPOSING APPARATUS

Hans Linde, Berlin, Germany, assignor to H. Berthold Messinglinienfabrik und Schriftgiesserei A.G., Berlin, Germany, a company of Germany
Filed July 12, 1967, Ser. No. 652,806
Int. Cl. G03b *27/36*
U.S. Cl. 355—57 **4 Claims**



Two dual reflectors, movable parallel to each other in opposite directions under the control of an inversor, are positioned on opposite sides of a fixed objective to direct light rays along parallel paths from an object plane through the objective onto an image plane. The inversor is a generally triangular structure in the form of a block or a linkage which pivots about a fixed fulcrum and operatively engages respective extensions of the mountings of the two reflectors to displace them along a common line parallel to the ray paths.

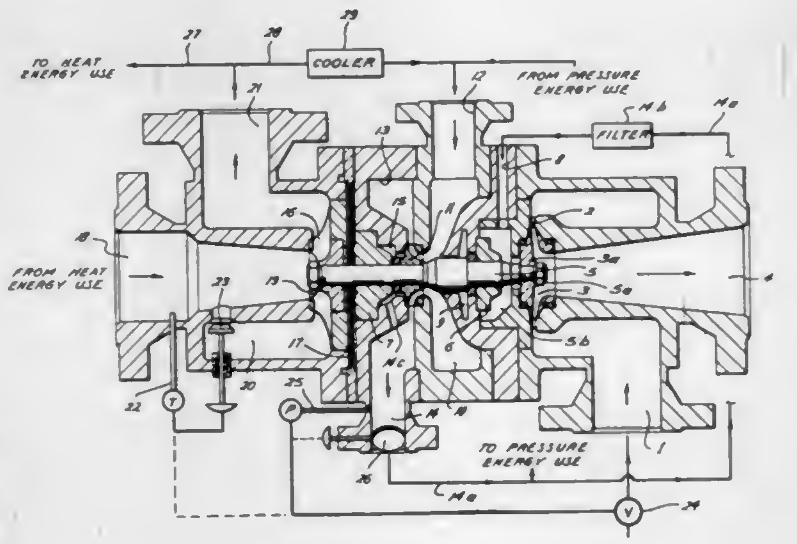
ERRATA

For Classes 355—68 thru 415,116 see:
Patent Nos. 3,507,590 thru 3,507,603

For Class 416—182 see:
Patent No. 3,507,581

3,507,577
GAS EXPANSION AND HEAT AND PRESSURE POWER GENERATING COMBINATION

Judson S. Swearingen, 500 Bel Air Road, Los Angeles, Calif. 90064
Filed June 13, 1967, Ser. No. 645,670
Int. Cl. F04b *39/02; 39/06*
U.S. Cl. 417—53 **8 Claims**

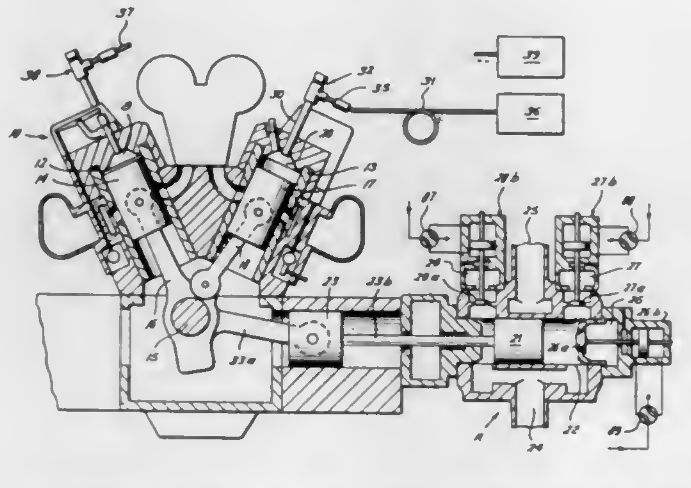


In accordance with this disclosure high pressure gas is expanded through an expansion turbine, the rotor of which is mounted on one end of a short power shaft. The other end of this shaft which is entirely enclosed within the composite housing of the two devices, carries a turbulator or paddle wheel adapted to produce a high degree of turbulence in a body of liquid therein. This device is adapted to operate at extremely high pressures and to have generated within the turbulator an extremely high temperature in a liquid located therein. Intermediate the turboexpander and the turbulator are mounted bearings for supporting the shaft, and an oil pump for supplying oil under pressure to produce flow through each of the bearings toward the turbulator and thereby resist the transfer of heat along the shaft and at the same time lubricate the bearings. The bearing which is closest to the turbulator, and the turbulator itself, are insulated from one another by means of a heat insulation or barrier wall so as to further inhibit the transfer of heat from the turbulator toward the bearings, pump and the like. Temperature and pressure sensors in the outputs from said turbulator and pump respectively control the energy output from each by operating valves controlling the flow therethrough or the flow through the turbine.

3,507,578
METHOD AND APPARATUS FOR INDICATING AND CONTROLLING THE TORQUE ON AN INTERNAL COMBUSTION ENGINE

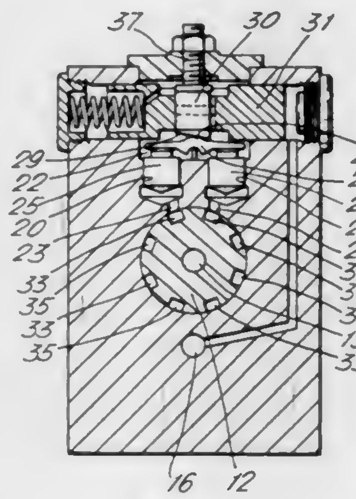
Joseph C. Bysarovich, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex.
Application Dec. 2, 1964, Ser. No. 415,536, which is a continuation of abandoned application Ser. No. 675,002, now Patent No. 3,444,730. Divided and this application Oct. 9, 1967, Ser. No. 718,272
Int. Cl. F04b *49/06, 77/08*
U.S. Cl. 417—53 **6 Claims**

The apparatus includes elongated conduits connected to each engine power cylinder, each defining a chamber connected to the cylinder through a flow restricting device. The flow restricting device levels out the substantial pressure changes within the cylinder to produce a relatively level pressure within the associated conduit chamber which is related to the mean time pressure of the cylinder. Transducers communicating with each chamber produce individual electrical signals related to the mean time pressure of each cylinder which may be individually monitored. These signals are combined to produce an electric signal related to the mean time pressure of the engine. An electric signal responsive to engine speed is produced by means of a tachometer generator. The mean time pressure signal and the speed signal are combined electrically to produce a signal which is related to the mean effective pressure, and therefore the torque, of the engine. The torque signal is fed to a meter relay which, in conjunction with a stepping circuit, varies the load on the engine driving a compressor by serially opening or closing cylinder clearance pockets.



3,507,579
LIQUID FUEL PUMPING APPARATUS

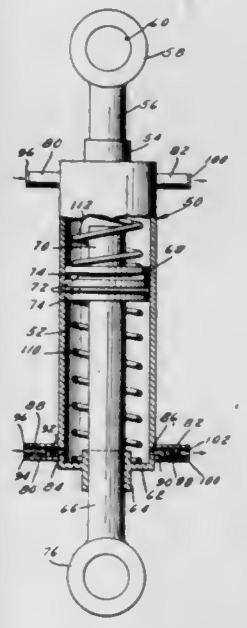
Kenneth Albert Walters Kemp, Ealing, London, England, assignor to C.A.V. Limited, London, England
Filed May 20, 1968, Ser. No. 730,363
Claims priority, application Great Britain, May 23, 1967, 23,885/67
Int. Cl. F02m *39/00;* **F04b** *13/00, 1/00*
U.S. Cl. 417—206 **6 Claims**



A liquid fuel pumping apparatus including an injection pump to which fuel is supplied during the filling strokes, the apparatus including a pair of cylinders, disposed in side-by-side relationship, a pair of shuttles disposed in the cylinders respectively and a beam positioned to transmit movement between the two shuttles, the arrangement being that during movement of the shuttle of one cylinder due to the admission of fuel under pressure to the other cylinder, fuel from the one cylinder will flow to the injection pump and vice versa.

3,507,580
ENERGY GENERATOR

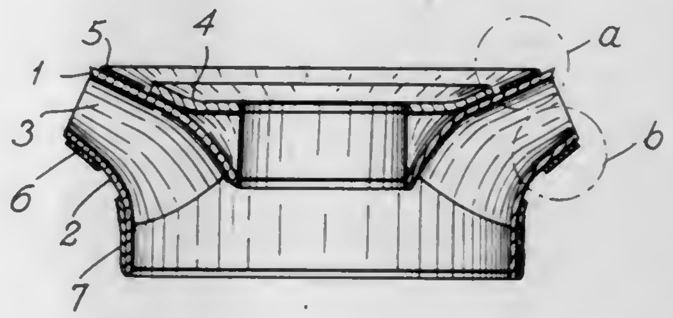
Landon H. Howard, 2841 Monogram Ave. 90815, and Benjamin T. Howland, 3912 Canehill Ave. 90808, both of Long Beach, Calif.
Filed May 12, 1967, Ser. No. 638,115
Int. Cl. F04b *35/02*
U.S. Cl. 417—231 **1 Claim**



Energy generating apparatus having relatively movable pump parts operably mountable between vehicle parts having relative vertical movement whereby the pumping apparatus is operated to supply pressure fluid for operating fluid pressure operable means.

3,507,581
APPARATUS, MORE PARTICULARLY AN IMPELLER OR GUIDING DEVICE FOR CENTRIFUGAL PUMPS

Niels Due Jensen, Viborg, Denmark, assignor to Grundfoss Bjerringbro Pumpefabrik A/S, Bjerringbro, Denmark
Filed Aug. 8, 1967, Ser. No. 659,144
Claims priority, application Denmark, Aug. 9, 1966, 4,106/66
Int. Cl. F04d *29/26;* **B21k** *3/04*
U.S. Cl. 416—182 **4 Claims**

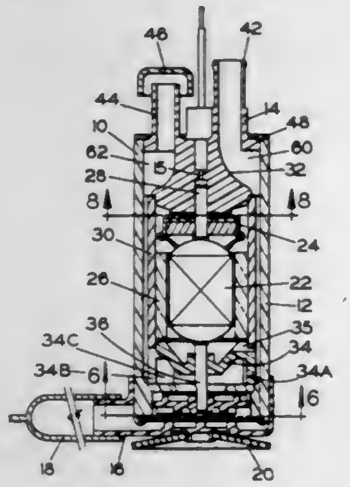


An apparatus, for example an impeller consisting of two concentric skirts with vanes mounted therebetween, and in which all parts are made by drawing or punching of sheet material and interconnected by welding; the vanes have guide pins engaging openings in the skirts. To facilitate the manufacture and to render a smooth surface of the outer skirt possible, there is here provided an annular plate covering and welded to the guide pins.

3,507,582
CENTRIFUGAL PUMP FOR A FUEL TANK

Charles W. Jeep, Jr., Webster Groves, and Rooney W. Davis, St. Louis, Mo., assignors to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey

Filed Aug. 30, 1968, Ser. No. 756,643
Int. Cl. F04d *9/00*
U.S. Cl. 417—366 **7 Claims**

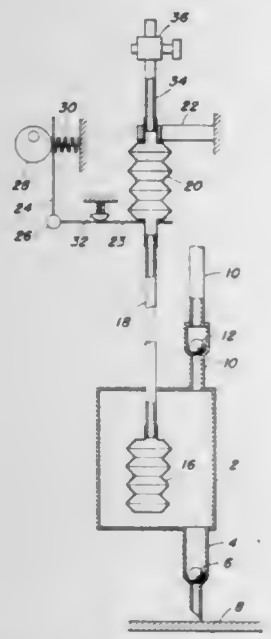


An electric centrifugal fuel pump adapted to be mounted in an automobile fuel tank has an impeller which separates air and vapor from the liquid fuel. A plastic housing for the pump consists of several quickly assembled interfitting parts which provide separate passages for the vapor and the pumped fuel from the bottom of the housing to the top thereof.

3,507,583
PUMP FOR LIQUIDS

John E. V. James, Totton, England (% General Aniline & Film Corporation, 140 W. 51st St., New York, N.Y. 10020)

Filed Oct. 4, 1967, Ser. No. 672,789
Int. Cl. F04b *17/00;* F42b *5/26*
U.S. Cl. 417—389 **1 Claim**

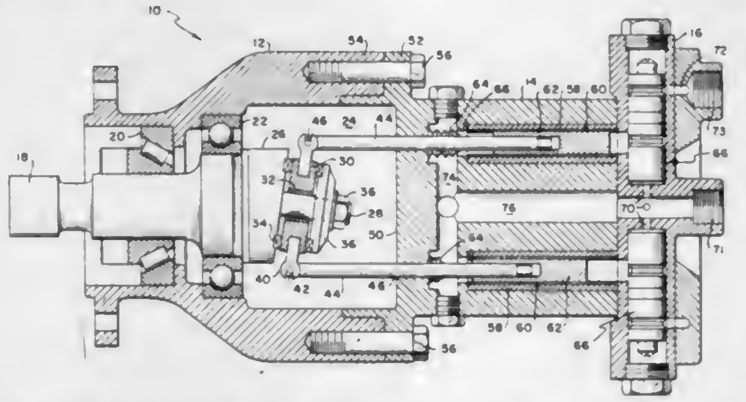


A displacement pump is provided for submersion in the ammonia liquid bottle or reservoir of ammonia liquor for pumping the liquid ammonia from the reservoir to an elevated evaporator in diazo printing and developing machines, so that vapor lock is avoided. The device includes a slave pump inserted in the liquid and coupled by a conduit to a master pump which is remote from said liquid. The slave pump comprises a hollow expandable and contractile member filled with a fluid supply which is adapted to be withdrawn and supplied thereto by the master pump and thereby change the volume in the bottle or reservoir.

3,507,584
AXIAL PISTON PUMP FOR NONLUBRICATING FLUIDS

Roland W. Robbins, Jr., Arnold, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 27, 1968, Ser. No. 716,652
Int. Cl. F04b *1/14;* F16j *15/50*
U.S. Cl. 417—439 **3 Claims**

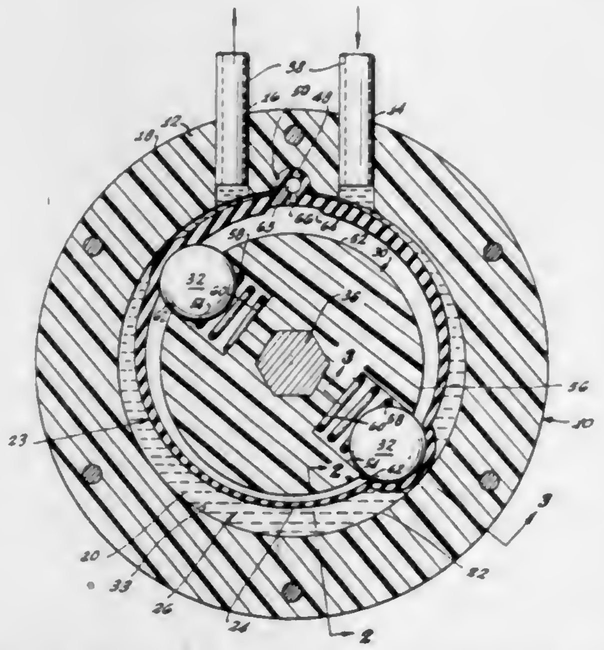


A high speed axial piston pump for nonlubricating fluids having separate sealed compartments for the lubricating fluid for the piston drive mechanism and for the fluid to be pumped. In addition, the pump provides a positive piston drive means and inlet valves incorporated in the delivery end of the pistons.

3,507,585
ROTARY DIAPHRAGM PUMP

William M. Mercer, 2014 W. Florence Ave., Los Angeles, Calif. 90047

Filed Apr. 24, 1968, Ser. No. 723,663
Int. Cl. F04b *43/08, 25/04*
U.S. Cl. 417—475 **14 Claims**

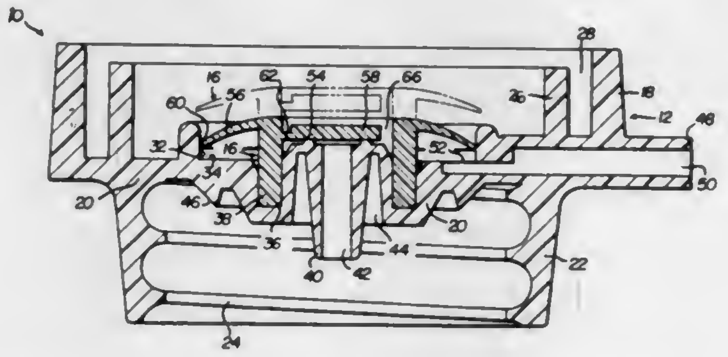


A rotary pump having a cylindrical housing with a centrally located bore. A recess of circular cross section is cut into the periphery of the bore and the recess varies in depth around the periphery of the bore. A flexible diaphragm extends across the periphery of the bore which cooperates with the recess to form a pump chamber. A rotating actuator has diametrically opposed, radially outwardly biased, spherical rollers which urge the diaphragm into sealing engagement with the wall of the recess to achieve pumping action. The diaphragm is of varying thickness around the recess and cooperates with the recess to provide a path of travel for the spherical rollers which is substantially circular with an axis substantially coincident with the axis of the actuator to reduce radial movement of the rollers to a minimum. A plurality of modular pump assemblies may be stacked and driven with a common shaft.

3,507,586
PUMP

Erich W. Gronemeyer, 3430 Galt Ocean Drive 33308, and Louis F. Kutik, 8720 SW. 23rd Place 33312, both of Fort Lauderdale, Fla.

Filed Apr. 4, 1968, Ser. No. 718,798
Int. Cl. F04b *21/02, 43/00, 21/04*
U.S. Cl. 417—480 **10 Claims**

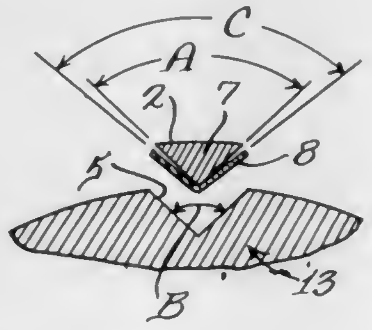


A pump for dispensing liquids and semi-liquids formed entirely from three parts including a housing and a closure joined together to form a compartment, and a valve unit including an intake valve portion and an exhaust valve portion. The housing has an inlet passage and an outlet passage, both communicating with the interior of the compartment, and the intake valve controls flow through the inlet passage and the exhaust valve controls flow through the outlet passage. The closure includes a diaphragm which may be pushed inwardly of the compartment to expel fluid therefrom through the exhaust valve while closing the intake valve, and release of the actuating force allows return of the diaphragm to suck fluid into the compartment through the intake valve while closing the exhaust valve. In a preferred embodiment, the housing has a circular surface like a counterbore. The valve unit includes a circular flap having its edge in contact with the circular surface to divide the compartment into two chambers. The outlet passage communicates with one chamber, and the inlet passage communicates with the other chamber through the valve unit. The circular flap constitutes an exhaust valve, and the valve unit also has another flap constituting the intake valve adapted to block the inlet passage when closed. All three parts of the pump may be made of injection molded plastic material.

3,507,587
SEAL STRUCTURE

Karl E. Studenroth, 1609 Euclid, Chicago Heights, Ill. 60411

Filed Feb. 20, 1968, Ser. No. 706,964
Claims priority, application Germany, Feb. 21, 1967, 1,551,151
Int. Cl. F04c *27/00;* F02b *53/00, 55/00*
U.S. Cl. 418—121 **7 Claims**

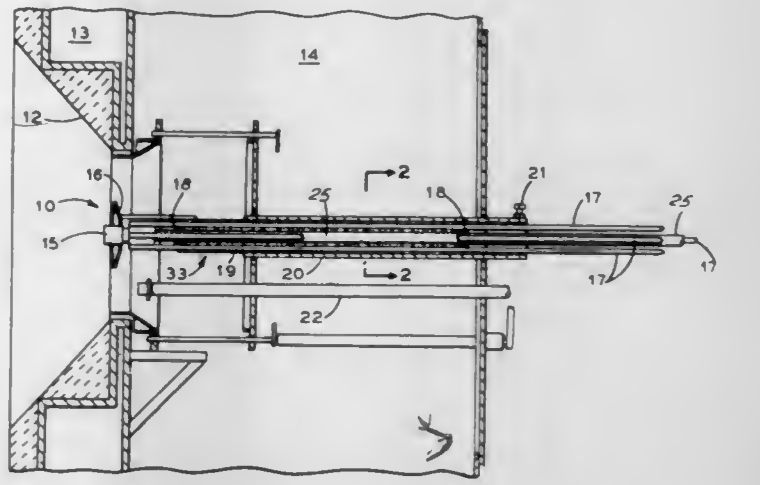


A seal for relatively movable machine parts, especially the pistons of a rotary internal combustion engine, comprising a V-groove of a first angle formed in one of the machine parts, a flat spring of V-shape of a greater angle nesting in the V-groove, and a generally V-shaped sealing element of an angle less than that of the spring nesting in the groove and protruding beyond the surface of the one machine part for spring pressed engagement with the other machine part; the groove, spring and sealing element being as long as desired and the spring exerting uniform pressure on the sealing element throughout its length.

3,507,588
BURNING OF RESIDUAL LIQUOR FUELS

Ralph H. Merryman, 985 Ridgefield Ave., Alliance, Ohio 44601

Filed Oct. 3, 1968, Ser. No. 764,809
Int. Cl. F23d *11/10*
U.S. Cl. 431—3 **4 Claims**

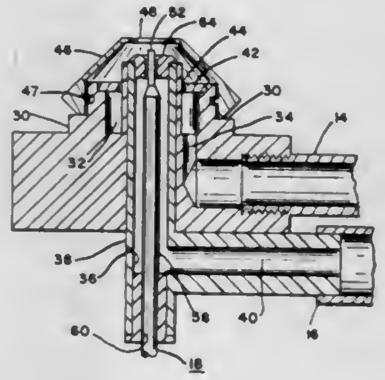


A method of burning residual liquor fuels that tend to polymerize at elevated temperatures whereby the fuel and an atomizer fluid at a temperature higher than the polymerization temperature of the fuel are both supplied to an atomizer over respective flow paths that are adjacently coextensive, and the transfer of heat from the atomizer fluid to the fuel is limited by means of a layer of insulating surrounding a conduit defining the fuel supply path to maintain the fuel below its polymerization temperature and thereby prevent polymerization of the fuel which would tend to clog the atomizer.

3,507,589
BURNER FOR FLAME PHOTOMETERS

John D. Keller, Greece, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

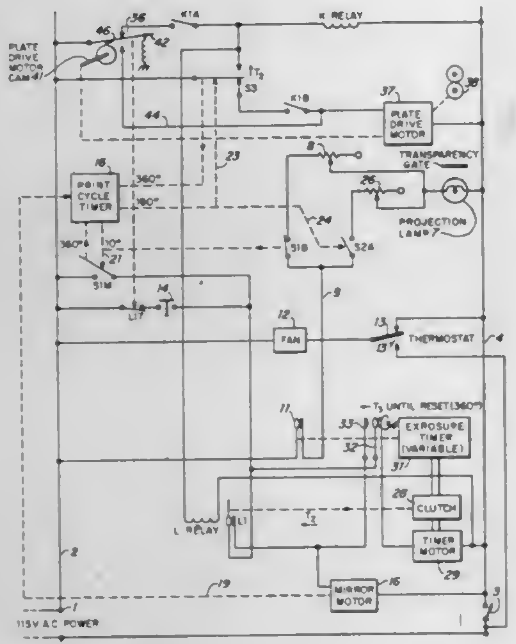
Filed Dec. 2, 1966, Ser. No. 598,736
Int. Cl. B05b *7/06;* G01n *21/00;* G01i *3/00*
U.S. Cl. 431—126 **4 Claims**



This invention relates to atomizing burners for producing a flame whose spectrum is characteristic of a sample solution being atomized wherein a sample tube employed to convey the sample solution to be atomized is formed with a short first portion having a passage therethrough of capillary size and a substantially longer second portion having a passage therethrough substantially greater than capillary size. The sample tube is surrounded by another tube which conveys combustion supporting gas toward the flame zone. The gas flowing past the output portion of the sample tube atomizes the sample solution into the flame zone. The lengths of the sample and gas supporting tubes, measured in the direction of sample and gas flow, are at least four times their width measured normal to the direction of flow.

3,507,590
READER PRINTER

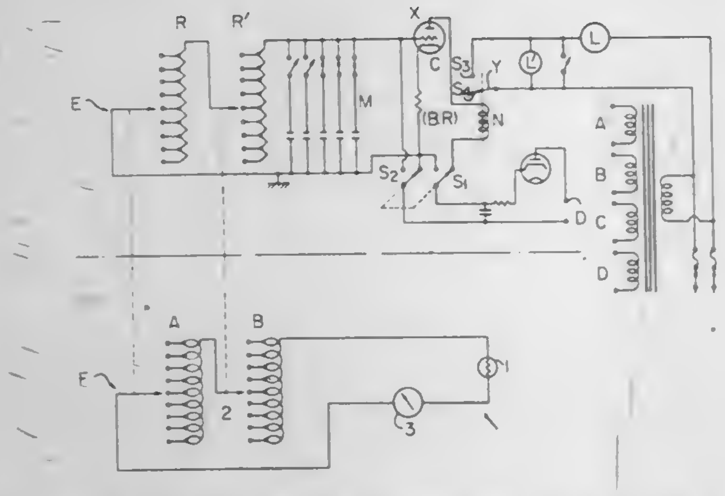
Americo J. Cerasani, Rochester, N.Y., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Mar. 8, 1967, Ser. No. 623,795
Int. Cl. G03b *27/76;* **G05d** *25/00*
U.S. Cl. 355—68 **2 Claims**



An electrical control circuit is utilized to control the power input applied to a projection lamp which illuminates the film gate of a reader printer, the control circuit causing the projection lamp to be highly illuminated during the printing interval and being illuminated to a much lesser degree during viewing intervals. Since the viewing intervals are generally much longer than the printing intervals heat dissipation problems are eliminated.

3,507,591
APPARATUS AND METHOD FOR MEASURING A QUANTITY OF LIGHT

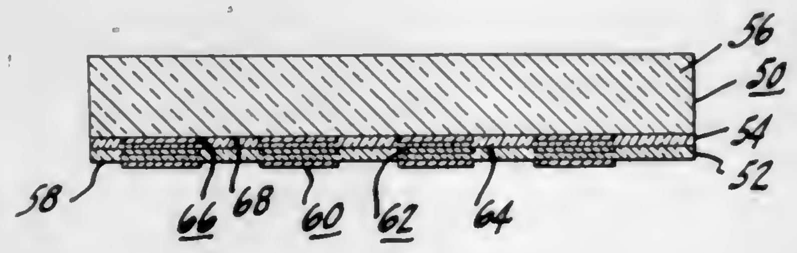
Sinjuro Miyachi, 138 Tashiro-cho, Nishinomiya-shi, Japan
Filed Dec. 28, 1967, Ser. No. 694,307
Int. Cl. G03b *27/76*
U.S. Cl. 355—68 **4 Claims**



An apparatus for determining the best exposure time for carrying out printing of various photographs. A CdS photoconductive cell is connected in an electric circuit in which a fixed predetermined electric current flows. When light coming through a negative film is directed on the cell, a change of electric resistance occurs. Accordingly, the electric current changes. The circuit voltage is then controlled by a voltage control device so that this changed electric current is returned to the predetermined standard value. The voltage control device and a timer are interlocked to control the time for printing in accordance with the density of the negative.

3,507,592
METHOD OF FABRICATING PHOTOMASKS

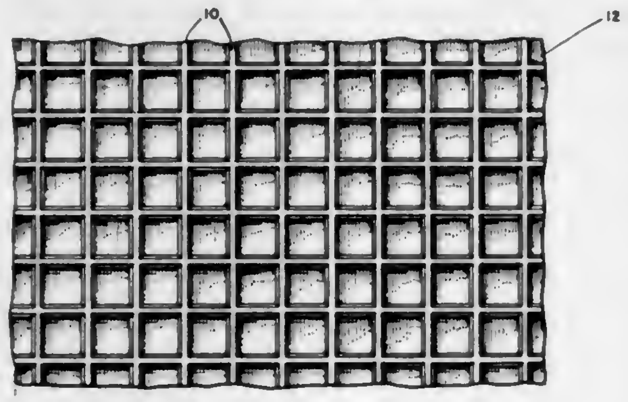
Joseph L. McLaughlin, Flemington, N.J., assignor to RCA Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 557,425, June 14, 1966. This application Oct. 28, 1968, Ser. No. 780,304
Int. Cl. G03b *27/32*
U.S. Cl. 355—77 **5 Claims**



Improved photomasks are provided comprising a transparent substrate having first and second spaced surfaces. Each surface is provided with an opaque image, the images being in optical registry with one another, and the images, in the fabrication of the photomasks, being provided independently of one another.

3,507,593
CONTACT NEGATIVE WITH METHOD AND APPARATUS EMPLOYING THE SAME

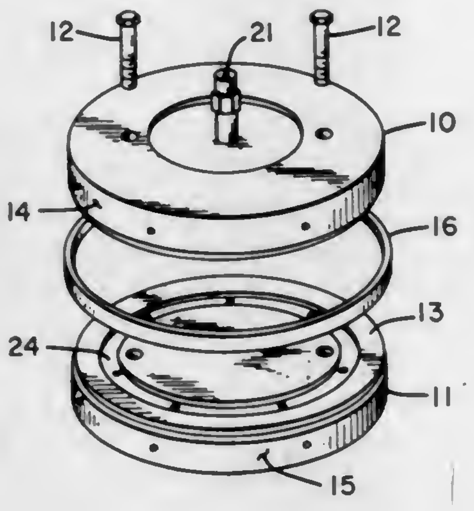
Gerald E. McTeague, Portland, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Filed May 8, 1967, Ser. No. 636,773
Int. Cl. G03b *27/20*
U.S. Cl. 355—87 **14 Claims**



A contact negative comprises a glass plate having a multiplicity of grooves located in the surface thereof adapted for contacting an image-receiving surface, such as a surface covered with photo resist material. The grooved surface of the glass plate is also provided with a metal layer adhered to such grooved surface and configured to provide a pattern for photographic application to the image-receiving surface.

3,507,594
PHOTOPRINTING VACUUM FIXTURE FOR A STRIP OR METAL BAND

Michael Elmer Rucinski, St. Paul, and Paul A. Berg, Bloomington, Minn., assignors to Buckbee-Mears Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 6, 1968, Ser. No. 710,837
Int. Cl. G03b *27/20*
U.S. Cl. 355—91 **9 Claims**

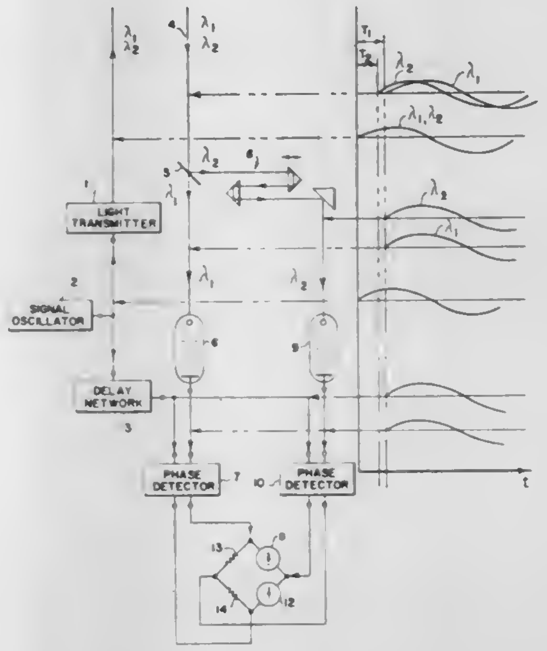


A wheel-like fixture has a peripheral edge groove for accommodating a strip to be processed. Typically, the strip may be in the form of a metal band which may be made out of aluminum and is coated with a light sensitive enamel. The band is placed in the groove and a strip of photographic film is laid over it. An opening which may be located at the general center of the wheel is in communication with the groove to provide a passageway for a vacuum to draw down on the photographic film to hold it in contact with the enamel coating on the band during photographic processing. The wheel-like fixture may be made up of two separable spaced-apart discs with hubs and for some uses is preferably made out of stainless steel to provide suitable mass which will not warp if subjected to elevated temperatures and temperature differentials. This may occur because in order to seat the band snugly in the groove and to later remove it, it may be necessary to subject the band and the fixture to elevated temperatures to expand the band sufficiently so that it can be slipped into or out of the groove.

3,507,595
DISTANCE MEASURING DEVICE

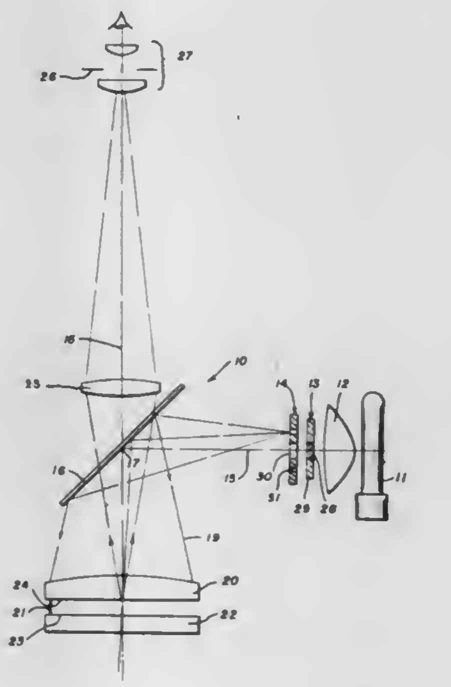
Karl Otto Ragnar, Schöldström, Lidingo, Sweden, assignor to AGA Aktiebolag, Lidingo, Sweden, a corporation of Sweden
Filed Oct. 2, 1967, Ser. No. 672,173
Claims priority, application Sweden, Oct. 19, 1966, 14,230/66
Int. Cl. G01c *3/08*
U.S. Cl. 356—5 **3 Claims**

A distance measuring system utilizing reflected light includes a light transmitter having an input circuit for receiving a modulating signal and a filter for receiving the light after it has traveled twice the distance to be measured. The filter divides the light into components of two different wavelengths, each of which is applied to individual phototubes and phase detectors. The phase detectors compare the phases of the components with that of a delay network connected to the light transmitter. An auxiliary delay means compensates for delays between the components. The outputs of the detectors are connected to a bridge circuit responsive to both the sum and difference of the detector outputs.



3,507,596
BEAT FREQUENCY INTERFEROMETER

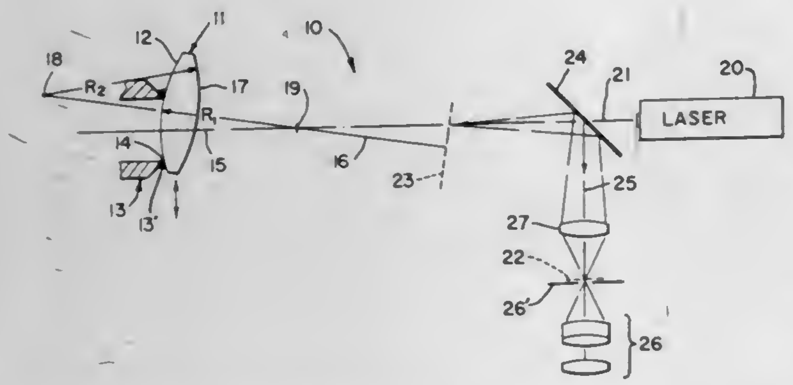
David C. Bliek, Macedon, Ralph K. Dakin, Pittsford, and Charles F. Mooney, Irondequoit, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Jan. 20, 1966, Ser. No. 521,768
Int. Cl. G01b
U.S. Cl. 356—106 **6 Claims**



Optical apparatus is provided for forming a beat fringe in an optical interference pattern. The beat fringes are a coarse means of counting fringes. The beat fringes are formed by introducing two wavelengths of light into the interferometer, the wavelengths being commensurable or nearly commensurable. If the wavelengths are not commensurable, one wavelength is introduced into the interferometer at a slight angle to alter the effective wavelength, thereby making the two effective wavelengths truly commensurable and; therefore, producing a true beat frequency fringe pattern.

3,507,597
LENS AXIAL ALIGNMENT METHOD AND APPARATUS

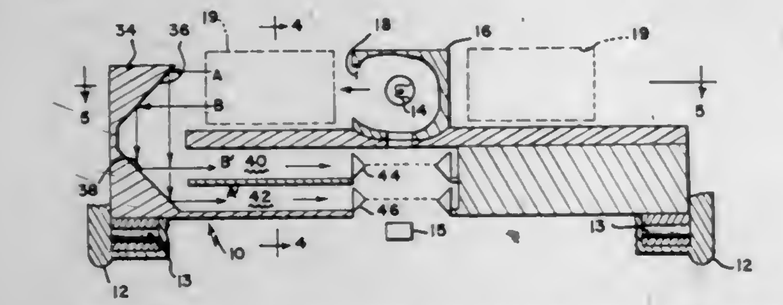
Ellsworth M. Brockway and Donald D. Nord, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Sept. 26, 1967, Ser. No. 670,570
Int. Cl. G01b *9/02, 11/27*
U.S. Cl. 356—110 **2 Claims**



A method and apparatus for interferometrically determining the alignment of the optical axis of a lens to be aligned with respect to a reference axis which is established by a light beam, the beam forming an interference fringe pattern concentric to the optical axis of the lens by the light wave fronts reflected from the two lens surfaces. When the lens is truly concentric and square with the reference axis, the fringe pattern and the reticle pattern are concentric with each other.

3,507,598
DUAL COLORIMETER SYSTEM FOR SEQUENTIAL COMPARISON OF A PLURALITY OF SAMPLES

Harry H. Malvin, 104 Mendoza St., San Antonio, Tex. 78235
Filed Aug. 9, 1965, Ser. No. 478,496
Int. Cl. G01j *3/48, 3/46, 3/34*
U.S. Cl. 356—185 **1 Claim**

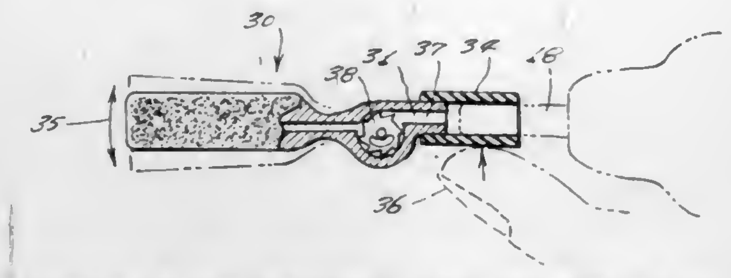


Pairs of nested cuvettes are arranged in circular formation around the circumference of a circular holder. An optical system, rotatable with respect to the holder and comprising two prisms, divides light from a light source, and beams identical rays through the bases of the cuvettes of each pair and directs the rays, by means of the prism system, to individual detectors for comparison. The reflecting prisms are so placed as to redirect the pair of parallel beams in two 90° stages, the direction of the final beams being parallel to the direction of the original beams, but reversed and displaced.

3,507,599
ATTACHED SELF-SUPPORT COMPRESSED TOOTHBRUSH

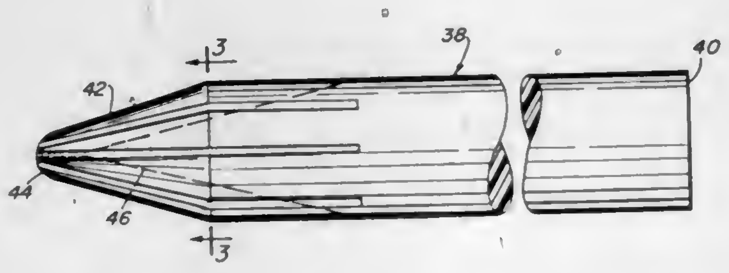
Albert Meszaros and Steven A. Shroba, both of 24 Eastern Ave., Ossining, N.Y. 10562
Filed Jan. 2, 1968, Ser. No. 694,964
Int. Cl. A46b *11/02;* **A61h** *1/00*
U.S. Cl. 401—190 **5 Claims**

A toothbrush having an aerosol can type handle with toothpaste therein which is squeezed directly therefrom through the brush to the brush bristles. An eccentric weight on a wheel is mounted in the toothbrush causing an oscillation of the toothbrush when the wheel is rotated.



3,507,600
SOLID PLASTIC NIB

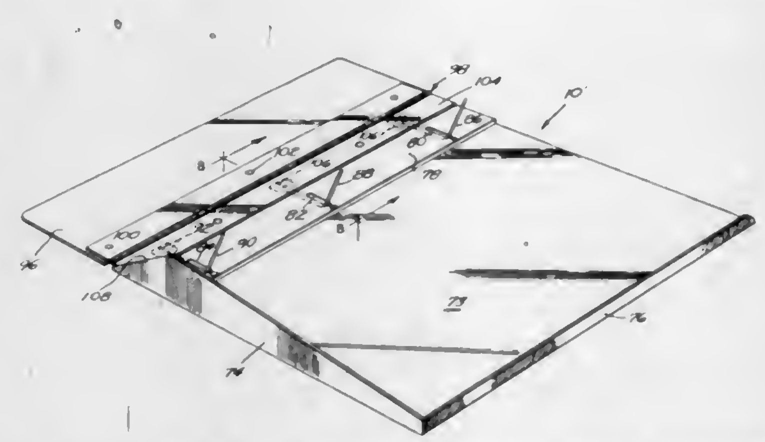
David R. Cress, Janesville, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Jan. 18, 1968, Ser. No. 698,825
Int. Cl. B43k *1/00*
U.S. Cl. 401—258 **2 Claims**



A solid rod-like writing nib is formed of nylon or other suitable plastic that is distinguished by its ink wettability and that is provided with a plurality of longitudinal, capillary feed slots for conveying a liquid ink to a small, conical writing surface at the forward end of the nib.

3,507,601
BINDING LOADING FIXTURE

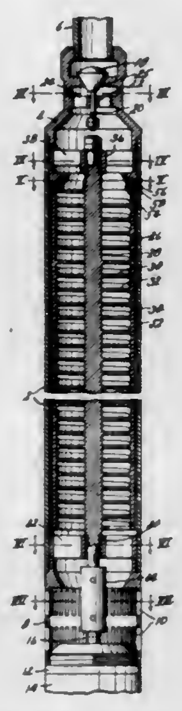
Thomas R. Smith, 27A Brushy Hill Road, Newtown, Conn. 06470
Filed Oct. 20, 1966, Ser. No. 588,686
Int. Cl. B42f *13/02, 3/00;* **B42c** *19/00*
U.S. Cl. 402—8 **1 Claim**



A device for loading sheets in a binder that includes a cover formed with pairs of spaced holes therein through which flexible binder strips are adapted to be threaded for locking the sheets in the binder, the device including a base on which the binder cover is positioned in oriented relation and having transverse grooves formed therein in spaced relation, guide elements being fixed to the base and extending upwardly through the grooves for projection thereabove and defining guides for the threading of the binder strips through the holes in the sheets as they are loaded onto the binder cover.

3,507,602
SUBMERSIBLE PUMP

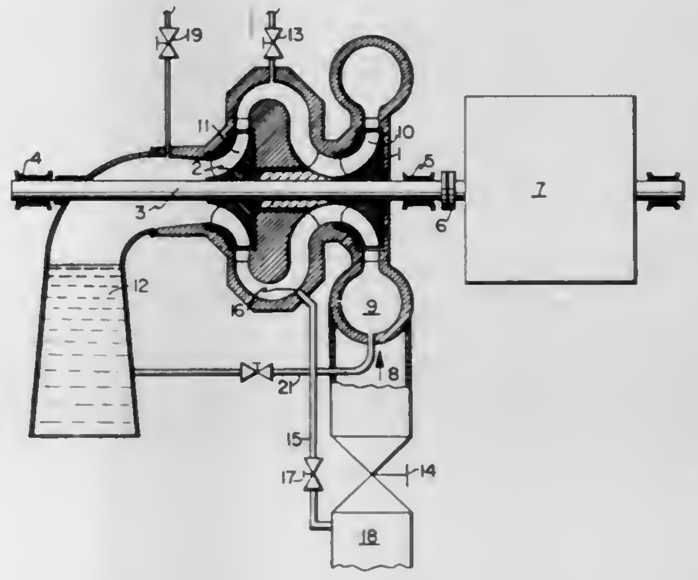
Earnest B. Watson, 627 Main St., Osawatomie, Kans. 66064
Filed July 17, 1968, Ser. No. 745,569
Int. Cl. F04d *3/02*
U.S. Cl. 415—72 **1 Claim**



A submersible pump for use in oil wells and the like consisting of a housing adapted to be attached to a tubular delivery pipe to be lowered into a well and having an inlet opening, a driven auger enclosed in a tube integral therewith mounted rotatably within said housing, said auger tube having clearance from the housing walls to prevent friction and having its open ends communicating respectively with said inlet opening and said delivery pipe, and venturi means powered by the pump action to prevent leakage of pumped fluid around said enclosed auger within said housing.

3,507,603
FILLING A TWO-STAGE OR MULTI-STAGE HYDRAULIC TURBOMACHINE WITH WATER

Hermann Cardinal von Widdern, Ravensburg, Germany, assignor to Escher Wyss Limited, Zurich, Switzerland, a corporation of Switzerland
Continuation of application Ser. No. 620,798, Mar. 6, 1967. This application July 14, 1969, Ser. No. 847,492
Claims priority, application Switzerland, Mar. 10, 1966, 3,469/66
Int. Cl. F01d *1/00;* **F04d** *1/06, 15/00*
U.S. Cl. 415—116 **2 Claims**



A two-stage or multi-stage hydraulic turbomachine, for example a turbine, centrifugal pump or reversible pump-turbine, after its runner has previously been rotating in air, is filled with water while running by supplying at least part of the filling water at a point situated between two stages of the turbomachine.

CHEMICAL

3,507,604
DISPERSE DYEING OF POLYESTER CELLULOSE BLENDS WITH AN AQUEOUS SUSPENSION OF THE SULFONATED POLYSTYRENE SODIUM SALT

Sylvester Bergman, Midland, Mich., and Robert B. LeBlanc, Charlotte, N.C., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 617,838, Feb. 23, 1967. This application Apr. 1, 1968, Ser. No. 718,001
Int. Cl. D06p *3/82*
U.S. Cl. 8—21 **1 Claim**

This invention relates to an improved dyebath composition comprising water, a colorant and a water-soluble sodium salt of a sulfonated polyalkenyl aromatic monomer, and more particularly to such a composition which retards and minimizes dye migration during dyeing.

3,507,605
DYEING OF POLYPROPYLENE

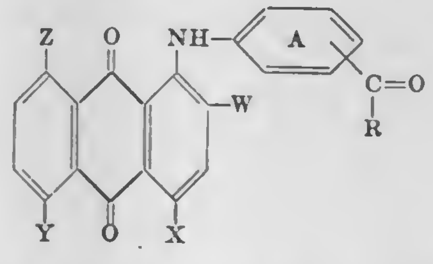
Walter H. Hindle, New York, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 27, 1966, Ser. No. 523,251
Int. Cl. C09b *9/00, 49/00*
U.S. Cl. 8—34 **7 Claims**

Polypropylenes containing bis-amides, bis-urethanes, and aliphatic amine modifiers are vat dyed in a dye bath containing polyvinyl-pyrrolidone.

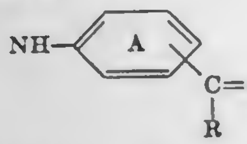
3,507,606
ACYLPHENYLAMINOANTHRAQUINONE DYES FOR LINEAR POLYESTER MATERIALS

John David Hildreth, Bramhall, England, and Joseph William Fitzpatrick, Pine Beach, Karl Heinz Lohmann, Toms River, Arthur David Olin, Lakewood, and Beno Schmidhalter, Toms River, N.J., assignors to Toms River Chemical Corporation, Toms River, N.J., a corporation of Delaware
No Drawing. Filed Sept. 27, 1966, Ser. No. 582,222
Int. Cl. C09b *1/00, 5/62*
U.S. Cl. 8—39 **8 Claims**

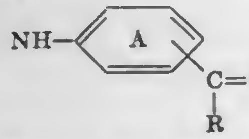
Acylphenylaminoanthraquinones of the formula



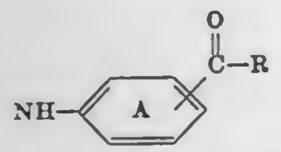
in which R is hydrogen, alkyl of 1 to 9 carbon atoms, halo- or hydroxy-lower alkyl or phenyl, including substituted phenyl in which the substituents can be halogen, such as chlorine or bromine, hydroxy, lower alkyl and lower alkoxy, the phenyl ring A can be substituted by halogen, hydroxy, lower alkyl or lower alkoxy, W is alkyl, particularly lower alkyl, such as methyl, lower alkoxy, such as methoxy, halogen or hydrogen, and wherein the substituents X, Y and Z can be independently selected from hydrogen or hydroxy, that is, any or all of X, Y and Z can be hydrogen or hydroxy, or any one of the substituents X, Y and Z can be



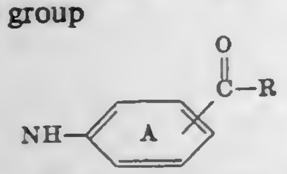
benzamido, p-toluenesulfonamido, benzenesulfonamido, hydroxy, amino or lower alkoxy and the remaining substituents are hydrogen; or wherein X can be hydroxy and Y and Z are chlorine or one of Y and Z is hydroxy and the other is nitro, or



or wherein X is methoxy and one of Y or Z is methoxy and the other is



where R has the meaning given above, the phenyl ring, A, can be substituted by halogen, hydroxy, lower alkyl or lower alkoxy; and with the proviso that only one of X, Y or Z can be the group



are valuable dyestuffs for polyester fibers particularly suited for application by the thermofixation method and having good fastness to light and to sublimation.

3,507,607

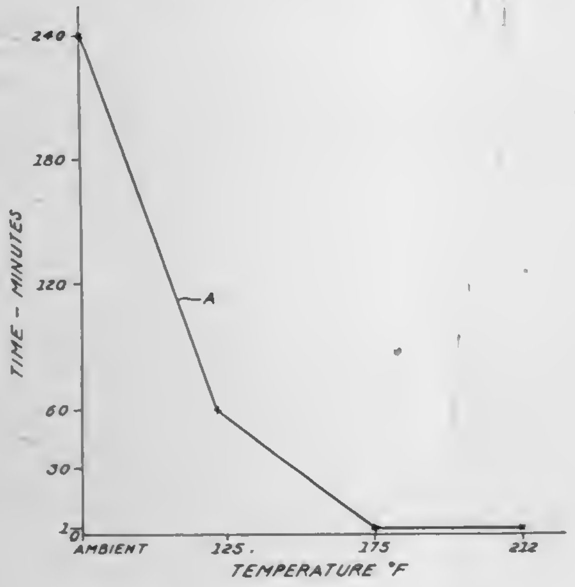
QUICK DRYING LEWIS-ACID AND BASIC POLYMER MODIFIED POLYOLEFIN YARN

Jack N. Gray, Columbia, Robert J. Clarkson, Winnsboro, and Robert Miller, Columbia, S.C., assignors to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

Filed May 2, 1967, Ser. No. 635,453

Int. Cl. D06m *11/02*

U.S. Cl. 8—100 **6 Claims**



Regression in the dyeability of modified polyolefin fiber which has been activated with a Lewis acid or Lewis acid generating material may be prevented by controlled drying of the fiber after activation. For uniformity in dyeability, the time and temperature of drying must be maintained within the critical limits found at or below curve A in FIG. 1.

This invention is directed to a method of preventing the regression in dyeability of polyolefin fibers which contain a nitrogen-containing dye receptor and dyeing adjuvants which are capable of being partially removed by solubilization in water.

3,507,608

THERMAL STABILITY OF TEXTILE FIBERS

Frederick R. Eirich, Eastchester, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Feb. 11, 1966, Ser. No. 527,384

Int. Cl. D06

U.S. Cl. 8—115.5 **5 Claims**

This disclosure relates to an improvement of the thermal stability of textile fibers wherein synthetic fibers are provided with a thin layer, coating or skin of an infusible polymer. Thereafter, although the synthetic fiber may melt, it will be retained by the polymer coating and become cross-linked therewith, reducing or avoiding the effects of melting.

3,507,609

STRETCH FABRICS OF POLYESTER-COTTON BLENDS

Adly Abdel-Moniem Gorrafa, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 21, 1965, Ser. No. 449,861

Int. Cl. D06m *1/06, 9/04*

U.S. Cl. 8—115.7 **6 Claims**

The improvement for imparting to a fabric of polyester and cotton fibers, in at least one fabric direction, a high degree of recoverable stretch with a low degree of growth, which comprises forming the yarn of a polyester cotton blend containing high shrinkage polyester fibers and cotton fibers, treating the fabric without tension with a mixture of methylene chloride and strong aqueous sodium hydroxide solution to shrink the fabric at least 10% and then washing the fabric.

3,507,610

FLAME-RETARDANT TRIS(HALOALKYL) PHOSPHITE-MODIFIED CELLULOSE AND PROCESS THEREFOR

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Stephen B. Sello, Cedar Grove, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 12, 1967, Ser. No. 667,062

Int. Cl. C08b *27/58;* **D06m** *13/00*

U.S. Cl. 8—120 **12 Claims**

Flame-retardant properties are imparted to cellulose by reaction of the cellulose with a tris(haloalkyl) phosphite, for example tris(2-chloroethyl) phosphite, at elevated temperatures, desirably 130–170° C., in the presence of a chemically inert liquid medium which swells the cellulose, such as dimethylformamide, whereby phosphorus is chemically bound to the cellulose to provide a durable flame-retardant treatment. The amount of phosphorus required to provide flame-retardant properties is reduced by also treating the cellulose with an organic nitrogen-containing compound.

3,507,611

RETARDING EVAPORATION

Harold D. Boultinghouse, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 23, 1967, Ser. No. 625,320

Int. Cl. B01j *1/18*

U.S. Cl. 21—60.5 **9 Claims**

Retarding evaporation losses by forming an evaporation barrier on surfaces subject to evaporation comprising:

(1) placing on the surface at least one particulate polymeric material having a buoyancy such that it floats on the surface and an inflammable substance, and igniting the inflammable substance so as to fuse the polymer and form said barrier, or

(2) placing on the surface a mixture containing a solvent and a radial block copolymer which forms a film on the surface upon evaporation of the solvent.

3,507,612

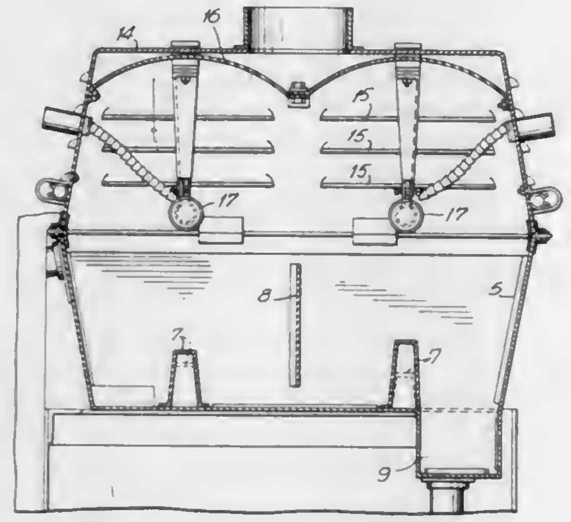
BACTERICIDAL WATER STERILIZER FOR FISH ROE INCUBATORS

Evgenia Mikhailovna Kokhanskaya and Vladislav Antonovich Teodorovich, Moscow, and Ivan Alexandrovich Sadov, deceased, late of Moscow, by Evgenia Mikhailovna Kokhanskaya, Olga Ivanovna Sadova, and Nadezhda Ivanovna Sitnik, administrators, Novosibirsk, U.S.S.R., assignors to Institut Morfologil Zhivotnykh Imeni A.N. Severtsova, Moscow, U.S.S.R.

Filed July 7, 1967, Ser. No. 651,929

Int. Cl. A61l *3/00*

U.S. Cl. 21—102 **1 Claim**



A bactericidal water sterilizer comprises a duct of open channel shape with partitions dividing the duct into troughs intercommunicated by a zigzag passage. Trapezoidal shaped steps are installed in each trough in spaced relation from one another and extend transversely of the partitions. The steps are of diminishing width upwardly and vertical gates are located between the steps in spaced relation from the bottom of the duct. As a consequence of the steps, and an arrangement wherein they diminish in height in the direction of water flow, different water levels are formed in the various compartments which are formed to effect the required velocity of the water flow in the sterilizer. Installed above the steps in the duct are bacteria sterilizing lamps for sterilizing the water flowing through the duct.

3,507,613

METHOD OF REMOVING CARBONYL SULFIDE FROM GASES

Weigert C. Buningh, Amsterdam, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

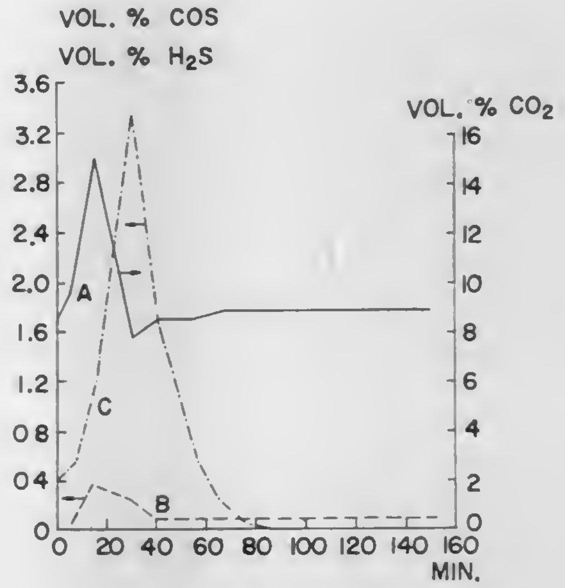
Filed Aug. 16, 1966, Ser. No. 572,774

Claims priority, application Netherlands, Aug. 17, 1965, 6510730; Dec. 9, 1965, 6515994

Int. Cl. B01d *53/14*

U.S. Cl. 23—2 **18 Claims**

Removing carbonyl sulfide from water-immiscible fluids containing the same by intimately contacting the carbonyl sulfide-containing fluid with a highly concentrated aqueous solution of an alkali metal phosphate, said solution having a maximum hydrogen ion concentration corresponding to a pH of 9, thereby hydrolyzing carbonyl sulfide to form a carbonyl sulfide-free fluid.



3,507,614

PROCESS FOR PRODUCTION OF PHOSPHORIC ACID

Marcus M. Striplin, Jr., and Frank P. Achorn, Florence, Ala., assignors to Tennessee Valley Authority, a corporation of the United States

Filed Mar. 14, 1966, Ser. No. 534,053

Int. Cl. C01b *25/24*

U.S. Cl. 23—165 **5 Claims**

In the usual process for making phosphoric acid by the "furnace" process, phorphorus is burned in air, and the combustion products are reacted with water. In the present method, the water is supplied in the form of crude dilute wet-process phosphoric acid made in the usual way by treating phosphate rock with an acid. In the present method, the wet-process acid is preheated by heat exchange with the combustion products, thereby driving off fluorine and some of the water. The operation is carried out under conditions which result in the formation of pyro- and higher acyclic polyphosphoric acids, thereby sequestering nonvolatile impurities from the wet-process acid.

3,507,615

METHOD OF PRODUCING MANGANESE CARBONYL

Seiji Usami and Kotaro Nishimura, Saitama, and Yuzo Koga, Tokyo, Japan, assignors to Toa Nenryo Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 30, 1967, Ser. No. 612,312

Claims priority, application Japan, Jan. 31, 1966, 41/5,484; Oct. 17, 1966, 41/6,821

Int. Cl. G01g *45/04*

U.S. Cl. 23—203 **8 Claims**

Method of producing manganese carbonyl comprising reacting a halide, oxide, hydroxide, inorganic acid salt, organic acid salt or organic complex salt of manganese or mixture thereof with carbon monoxide in the presence of hydrogen in an inert solvent and in the presence of a catalyst of an organic or inorganic salt of platinum or palladium at a temperature from about 40 to 250° C. The catalyst may be supported on a carrier such as alumina, clay, chrome oxide, titanium oxide, calcium carbonate or carbon.

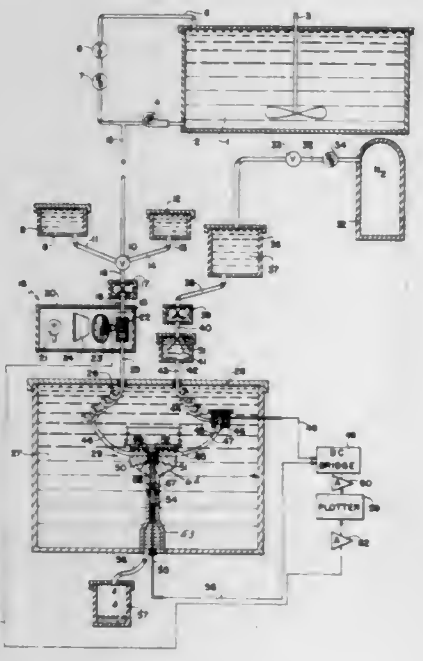
3,507,616
PREPARATION OF LARGE CRYSTAL REFRACTORY METAL MONOCARBIDES

Joseph M. Tobin, Pleasant Hills, Pittsburgh, and Leonard R. Fleischer, Mount Lebanon, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1967, Ser. No. 660,334
Int. Cl. C01b *31/30;* **B01j** *17/00, 17/02*
U.S. Cl. 23—208 **6 Claims**

A method of growing a body comprising large secondarily recrystallized crystals of the full carbide of a metal of Groups IV–B and V–B of the Periodic Table wherein a body of at least one metal selected from the group consisting of Ti, Zr, Hf, V, Nb, and Ta, and alloys of two or more of these metals, disposed in contact with carbonaceous material capable of carburizing the metal, is heated at an elevated temperature in the range from above the melting point of the metal but not exceeding the metal carbide-carbon eutectic temperature of the metal for a period of time sufficient to cause formation of a full metal carbide of the entire body, and with the temperature being increased as carburization proceeds by diffusion so that a continually increasing outer wall of solid metal carbide forms and encloses a progressively diminishing pool of molten metal, the increased temperature causing expansion of the molten metal pool so that plastic strain is imposed on the enclosing metal carbide wall, and whereby to cause the initial formation of a primary small, grain structure in the metal carbide and then maintaining the carbide body at a high temperature for a period of time so that it subsequently secondarily recrystallizes into at least one large crystal structure. Relatively large bodies of the metal carbides comprised of a single crystal or only a few single crystal grains are obtained from the process.

3,507,617
THERMOMETRIC EMULSION SENSITOMETRY

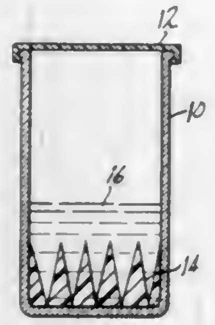
Peter O. Kliem, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Aug. 29, 1967, Ser. No. 664,166
Int. Cl. G01n *25/48, 21/00, 33/00*
U.S. Cl. 23—230 **23 Claims**



Thermometric process for the measurement of the sensitometric characteristics of a photographic material in a fluid medium and apparatus particularly adapted to perform such process.

3,507,618
APPARATUS AND METHOD FOR DETERMINING THYROID FUNCTION

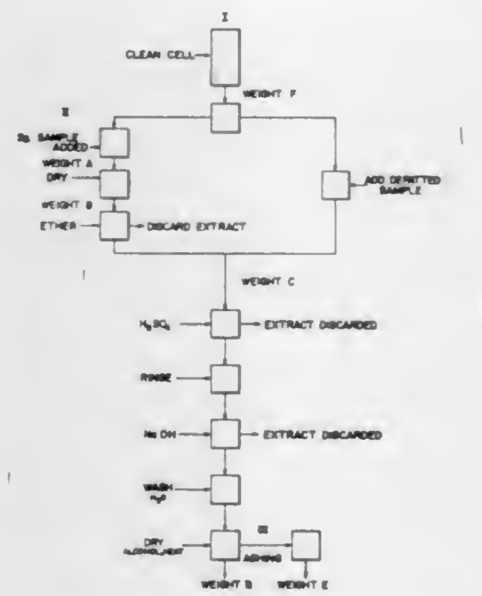
Dasika R. K. Murty, Kendall Park, and Klaus G. Florey, Princeton, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., a corporation of Delaware
Filed Nov. 27, 1964, Ser. No. 414,479
Int. Cl. G01n *31/04, 33/16*
U.S. Cl. 23—230 **14 Claims**



Thyroid function determination comprising admixing a blood sample with a sheet having an anion exchanger and radioactive thyroxin or iodothyronine thereon, separating a portion of the treated sample and measuring its radioactivity, and apparatus therefor.

3,507,619
METHOD AND APPARATUS FOR CRUDE FIBER DETERMINATION

Richard T. Hoglund, 4543 Sayre, Harwood Heights, Ill. 60656
Filed Dec. 28, 1966, Ser. No. 605,411
Int. Cl. G01n *33/02;* **B01l** *3/00*
U.S. Cl. 23—230 **6 Claims**



About 2 g. of ground feed sample (20 mesh) is placed within a tubular digestion unit having means for securing retaining screens at both ends. The digestion unit is preferably of stainless steel but may be made of any material that will withstand the chemical and heat environment of the analytic steps. The sample remains within the digestion unit throughout the analytic steps, and the unit may be transferred to the different solutions without loss of sample.

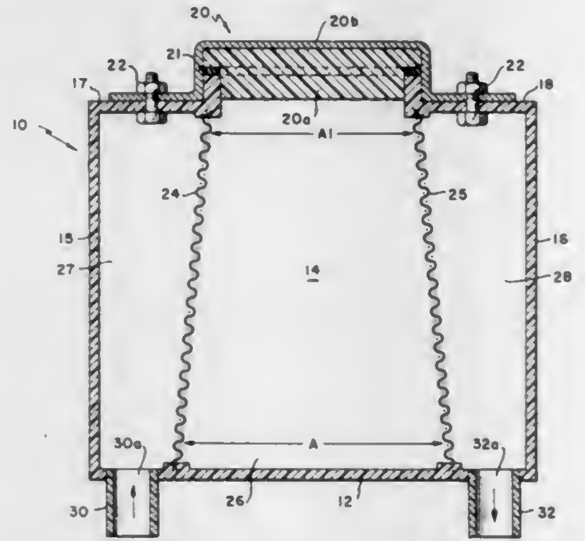
3,507,620
METHOD FOR TRACING THE FLOW OF WATER IN SUBTERRANEAN FORMATIONS

John A. Gurney, Tarrytown, N.Y., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Oct. 3, 1967, Ser. No. 672,447
Int. Cl. E21b *47/10;* **G01n** *31/22, 33/24*
U.S. Cl. 23—230 **13 Claims**

A method for tracing the flow of water through a subterranean formation in which a water-soluble salicylate is added to the water at a selected point and samples of water are withdrawn from the formation at one or more points remote from the point of addition and analyzed for the presence of salicylate.

3,507,621
CARBON DIOXIDE ABSORBER FOR BREATHING DEVICES

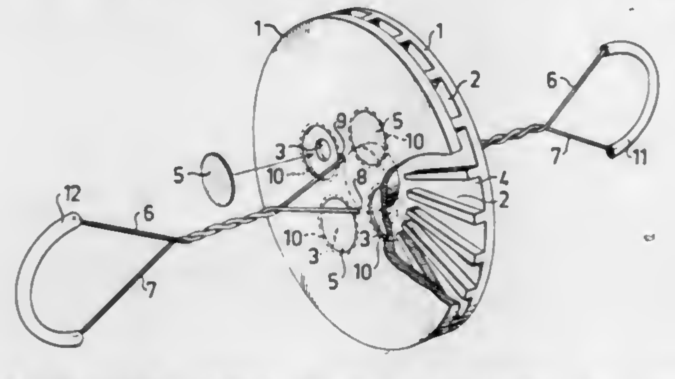
Maxwell W. Goodman, 7929 Lansdale St., District Heights, Md. 20028; Thomas W. James, 2519 Lyons St., Hillcrest Heights, Md. 20031; and Charles E. Michielsen, 1120 Cervantes Way, Pacifica, Calif. 94044
Filed Aug. 20, 1965, Ser. No. 481,437
Int. Cl. B01d *53/18*
U.S. Cl. 23—252 **1 Claim**



A carbon dioxide absorbing canister for breathing devices having first and second perforate wall portions for containing gas absorbent chemical and for communicating, respectively, with the gas inlet and output. The wall portions are inclined with respect to each other in trapezoidal configuration thereby permitting progression of the zone of maximum gas flow along the trapezoidal walls as the absorbent chemical becomes deactivated and more resistant to gas flow.

3,507,622
ARRANGEMENT FOR INDICATING THE PRESENCE OF IMPURITIES AS WELL AS CONTAMINATION AND POISONOUS SUBSTANCES IN AIR AND GAS

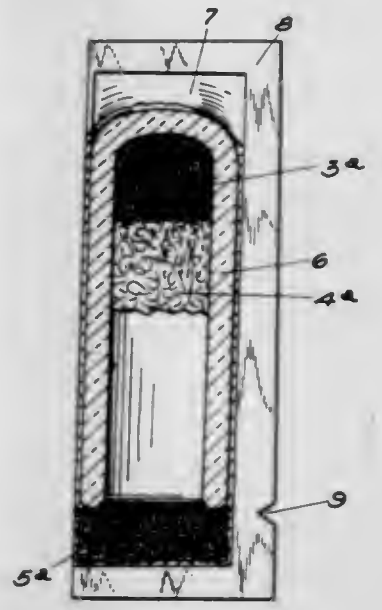
Lars-Erik Tammelin, Utflyktsvagen 31, Bromma, Sweden, and Arnold Brantte, Hasselstigen 4, Solna, Sweden
Filed June 30, 1967, Ser. No. 650,535
Claims priority, application Sweden, July 6, 1966, 9,224/66
Int. Cl. G01n *31/22, 33/00*
U.S. Cl. 23—254 **8 Claims**



The invention relates to an arrangement for quantitatively and/or qualitatively determining or indicating the presence of impurities and harmful substances in air and other gases or vapours. The arrangement includes a disc which is caused to rotate at very high speed by means of driving elements and which presents a number of substantially radial channels opening out into outlet ports and communicating with intake ports which are provided with indicating means. Due to the high speeds at which the disc rotates the discs will act as a pump sucking the sample medium through the indicating means, which are thereby caused to indicate the presence of such substances in the air, gas or vapour.

3,507,623
ARTICLE FOR THE DETERMINATION OF CARBON MONOXIDE

Paul Willis McConnaughey, Pittsburgh, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 487,420, Sept. 15, 1965. This application Apr. 2, 1968, Ser. No. 718,050
Int. Cl. G01n *31/22*
U.S. Cl. 23—254 **4 Claims**

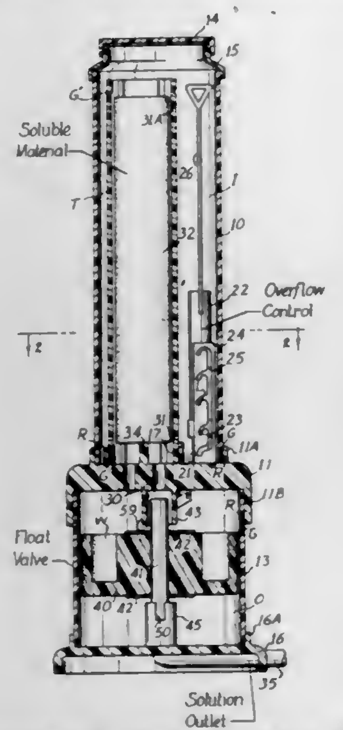


An article for determining carbon monoxide has a transparent tube that is openable to the atmosphere containing a bed of indicator that changes color in response to carbon monoxide and a gas permeable plug between the bed of indicator and the openable end of the tube. A second bed of indicator disposed between the gas permeable plug and the openable tube end protects the first bed from deterioration.

3,507,624
CHEMICAL FEEDER USING JETS OF LIQUID AGAINST SOLID BODY OF CHEMICALS

Thomas E. Schneider, Jr., and Marion R. Carstens, Atlanta, and Homer J. Bates, Roswell, Ga., assignors to Tesco Chemicals, Inc., Atlanta, Ga., a corporation of Georgia
Continuation-in-part of application Ser. No. 403,963, Oct. 12, 1964. This application Sept. 14, 1966, Ser. No. 579,253
Int. Cl. B01d *11/00*
U.S. Cl. 23—271 **6 Claims**

A chemical feeding device having an upper chamber in which a tube containing a chemical in solid form is placed and from which a liquid passes into the tube through a first plurality of orifices or a second plurality of orifices depending upon which end of the tube is lowermost in the upper chamber. The device includes a lower chamber into which a liquid passes from the tube and into which a liquid also passes from the upper chamber when the level of a liquid in the upper chamber is in excess of a particular height. The device also includes a buoyant body movable within the lower chamber in response to the level of a liquid in the lower chamber, a first valve means responsive to motion of the buoyant body to control entry of a liquid into the upper chamber, and a second valve means responsive to motion of the



buoyant body to control discharge of a liquid from the lower chamber.

3,507,625
APPARATUS FOR PRODUCING BINARY CRYSTALLINE COMPOUNDS

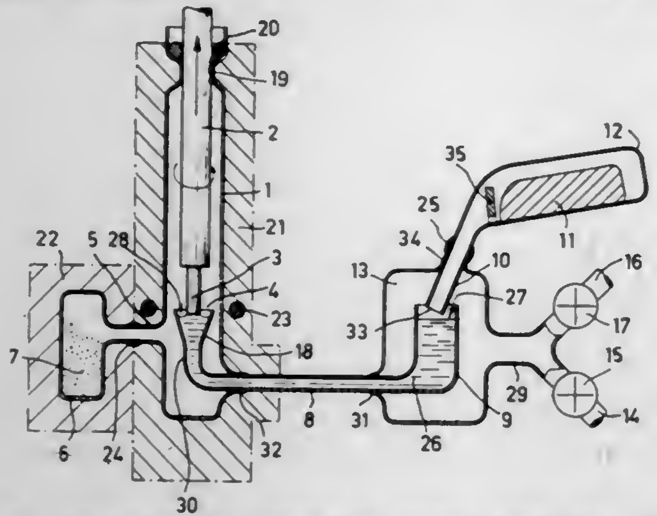
Emile Deyris, Caen, France, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 8, 1966, Ser. No. 600,124

Claims priority, application France, Jan. 10, 1966, 45,372

Int. Cl. B01j *17/18;* **C01b** *27/00*

U.S. Cl. 23—273 **4 Claims**



An apparatus for growing monocrystalline binary semiconductive compounds, such as III–V compounds. A single crystal is pulled from a melt of the non-volatile component in an atmosphere of the volatile component. The reaction temperature to produce the compound is established only at the melt surface where the crystal grows. The supply of the non-volatile component is replenished from below the melt surface to prevent undesirable reaction of the replenishing material with the volatile component vapor.

3,507,626
VENTURI MIXER

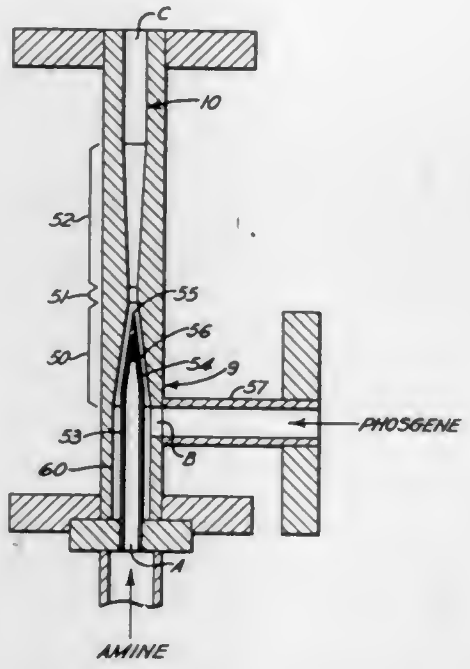
Irvin B. Van Horn, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 15, 1965, Ser. No. 496,386

Int. Cl. B01f *5/18*

U.S. Cl. 23—284 **5 Claims**

A venturi mixer especially adapted for mixing phosgene with amine to produce an isocyanate having a first conduit with a first inlet, second inlet and an outlet. The first conduit has a venturi section formed by a converging section, a throat section and a diverging section. A second conduit is coaxially disposed within the first conduit as the first inlet. The second conduit has a tapered section that concurs with the converging section of the venturi section and terminates in a dispersing means for transversely dispersing fluid therefrom into the surrounding chamber section of the venturi section. The mixer insures mixing and prevents plugging due to the formation of side reaction products.



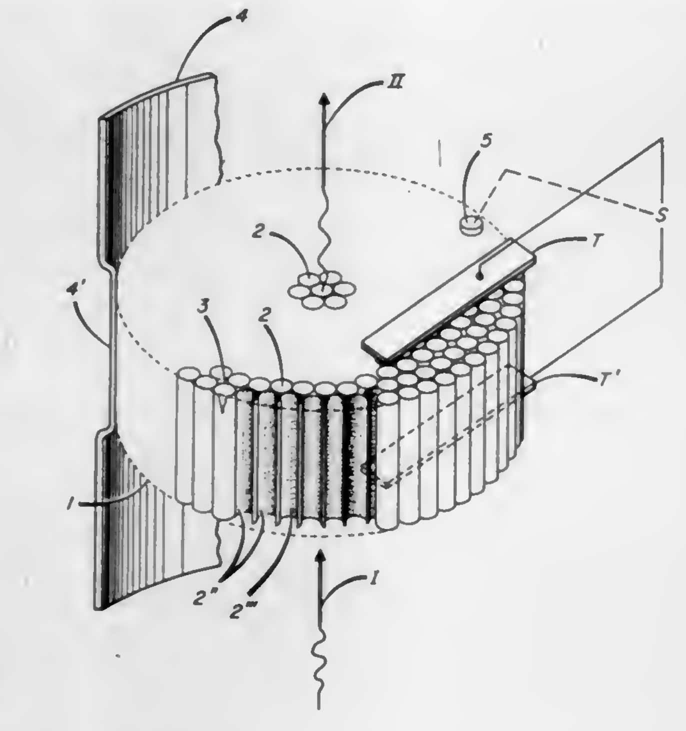
3,507,627
HEATING AND CATALYTIC CHEMICAL REACTION APPARATUS

Martin S. Frant, Newton, and Eugene G. Rochow, Winchester, Mass., assignors to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed May 22, 1964, Ser. No. 369,428

Int. Cl. B01j *9/04;* **H05b** *3/10;* **H01c** *7/00*

U.S. Cl. 23—288 **9 Claims**



This disclosure deals with a novel parallel tubular passage catalytic reactor having catalyst dispersed upon resistive conductive layers lining said passages and heated by electrical current passing therealong.

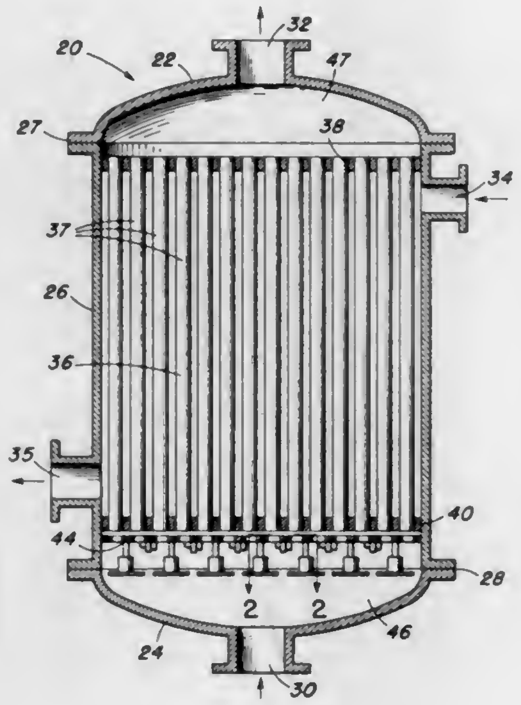
3,507,628
RIGGING APPARATUS

Charles E. Berthoud, Montclair, and Allan R. Huntley, Upper Montclair, N.J., assignors to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Apr. 21, 1967, Ser. No. 632,579

Int. Cl. B01j *9/04*

U.S. Cl. 23—288 **10 Claims**



An apparatus for lowering an underside cover or plate from a structural body, the operation of which requires only a single workman. The apparatus comprises a plurality of studs mounted through an underside cover on a structural body, and lifting devices such as handwheels mounted on the studs for carrying the cover during release from the body and for lowering the cover thereafter.

3,507,629
EXTRACTION OF ALUMINUM FROM SILICATE ROCKS AND MINERALS CONTAINING ALUMINUM

Henry G. Iverson, Reno, and Harold Leitch, Boulder City, Nev., assignors to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Feb. 10, 1966, Ser. No. 529,170

Int. Cl. B01d *9/02, 11/02;* **C01j** *7/00*

U.S. Cl. 23—299 **13 Claims**

Almost complete recoveries of alumina are obtained from various types of aluminum silicate materials having relatively narrow ranges of silica/base ratios by melting, quenching, and leaching in dilute acid solutions.

3,507,630
DISPERSION HARDENING OF ZIRCONIUM WITH FUSED YTTRIA

Joseph Rezek, 1587 King St. W., Hamilton, Ontario, Canada

Filed June 16, 1967, Ser. No. 646,613

Claims priority, application Canada, June 21, 1966, 963,495

Int. Cl. B22f *1/00;* **C22c** *29/00, 31/04*

U.S. Cl. 29—182.5 **17 Claims**

A process for preparing a zirconium-yttria dispersion by mixing powdered zirconium hydride and powdered, fused yttria. The mixture is subjected to pressure and sintered to decompose the hydride thereby producing a dispersion of yttria particles in a zirconium metal matrix.

3,507,631
NITRIDE-REFRACTORY METAL CUTTING TOOLS

Paul C. Yates, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 580,848, Aug. 29, 1966. This application July 17, 1968, Ser. No. 745,380

Int. Cl. B22f *3/00, 5/00, 7/00;* **C22c** *29/00, 31/04*

U.S. Cl. 29—182.7 **8 Claims**

Cutting tools comprising a dense interdispersion of from 1.5 to 19 parts by volume of a nitride of aluminum, titanium, zirconium, tantalum, hafnium, niobium, vanadium or their mixtures, bonded with one part by volume of molybdenum, tungsten, rhenium and their alloys, and optionally containing substantial amounts of other chemically stable refractory nitrides, oxides, silicates, aluminates, chromites or carbides, such as alumina and titanium carbide, wherein the thermal coefficients of expansion of the various component phases differ by less than a factor of 2, are highly resistant to heat cracking and thus are very effective for use in interrupted cutting of metal.

3,507,632
COMPOSITION OF MATTER COMPRISING HARD MATERIALS

Karl Swoboda, Bechardgasse 17, Vienna, Austria, and Wilfried Mader, Lannergasse 2, Styria, Kapfenberg, Austria

No Drawing. Continuation-in-part of application Ser. No. 509,200, Nov. 22, 1965. This application Mar. 8, 1967, Ser. No. 621,424

Claims priority, application Austria, Nov. 23, 1964, A 509,200

Int. Cl. B22f *7/00;* **C22c** *29/00*

U.S. Cl. 29—182.7 **5 Claims**

A sintered composition of matter consisting essentially of hard materials; at least 0.1% by weight of said hard materials being in the form of filament-like monocrystals which generally have a diameter of 1–4 microns and a length of 20–40 microns. The hard materials consist essentially of carbides, borides and/or nitrides of elements selected from the group of tungsten, tantalum, titanium and niobium and bonding material selected from the group of iron, cobalt and nickel. The aforementioned materials are ground and mixed. The ground mixtures is then pressed to obtain the desired body shape and is subsequently sintered.

3,507,633
CIRCULAR SAW BLADE OF CHROMIUM NICKEL STEEL WITH AN OXIDE COAT

Fernand J. Dewez, Jr., Monroeville, Pa., assignor of fifty percent to James V. Alger, Monroeville, Pa.

No Drawing. Filed Apr. 17, 1967, Ser. No. 631,145

Int. Cl. B22f *5/00*

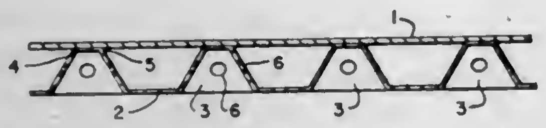
U.S. Cl. 29—183 **2 Claims**

This invention relates generally to a saw blade and low-alloy steel composition for making the same. In more particular aspects, the invention relates to a saw blade of the circular disc-shaped type especially adapted for cutting hot metal. The saw blade is characterized by being heat treatable by austenitizing, quenching, and tempering to a hardness greater than 45 R_c and is highly resistant to softening, brittle fracture, elevated-temperature deformation, and fatigue cracking during sawing. In addition, during sawing the cutting teeth of the saw blade form a tightly adherent refractory film that resists welding to the teeth of hot metal chips from the metal workpiece being sawed; this further contributes to the long service life of the saw blade. The material of the saw blade consists essentially of, in percent, 0.20 to 0.60 carbon, 0.20 to 0.80 manganese, up to 1.00 silicon, 2.00 to 4.00 nickel, 0.75 to 2.00 chromium, 0.20 to 1.00 molybdenum, up to 0.30 vanadium, and the balance iron.

3,507,634

COMPOSITE METAL STRUCTURE

Peter F. O'Driscoll, Los Altos, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 500,698
Int. Cl. B32b *15/00, 1/02;* **B64c** *1/00*
U.S. Cl. 29—191.4 **5 Claims**



A structural metal sandwich comprising a planar metal sheet welded to a second sheet having a plurality of spaced distortions distributed thereacross, each of the distortions having a top surface substantially parallel to said planar sheet, which top surface is the situs of the weld and side surfaces provided with a plurality perforations therein. In addition, a metal filler may be interposed between the two sheets to permit the forming of the sandwich structure into complex shapes. The metal filler is of a dissimilar metal from the sandwich structure and is soluble in a solvent which will not affect the metal of the sandwich structure. The perforations permitting the ready removal of the filler by leaching.

3,507,635

GELLED JET FUEL

Amir M. Sarem, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed July 24, 1967, Ser. No. 655,295
Int. Cl. C10l *7/00*
U.S. Cl. 44—7 **6 Claims**

Gelled jet fuel is produced by adding polyisobutylene. The gel is fluidized by high speed shearing and may be pumped to a jet engine as a fluid.

3,507,636

ETHYLENE-PROPYLENE-TERPOLYMER POUR DEPRESSANT AND FUEL CONTAINING SAME

William M. Sweeney, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 8, 1966, Ser. No. 600,013
Int. Cl. C10l *1/14*
U.S. Cl. 44—62 **8 Claims**

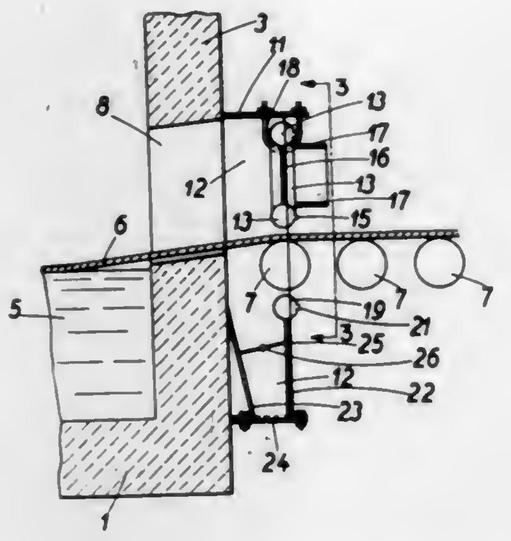
A pour depressant composition is disclosed as well as a fuel composition containing the pour depressant. The pour depressant is an amorphous, substantially saturated ethylene-proplyene-terpolymer consisting of ethylene, propylene and a higher olefin having from 5 to 30 carbon atoms in mole ratios respectively of 50 to about 90 percent ethylene, 10 to about 50 percent propylene and 0.1 to 10 percent of said higher olefin, said ethylene-propylene-terpolymer having an inherent viscosity in the range of 0.2 to 1.5.

3,507,637

METHOD AND APPARATUS FOR CONTROLLING THE FLOW OF THE FURNACE GASES

Gustave Javaux, Brussels, Belgium, assignor to Glaverbel S.A., Brussels, Belgium
Filed May 4, 1966, Ser. No. 547,501
Claims priority, application Luxembourg, May 5, 1965, 48,528
Int. Cl. C03b *5/00*
U.S. Cl. 65—32 **16 Claims**

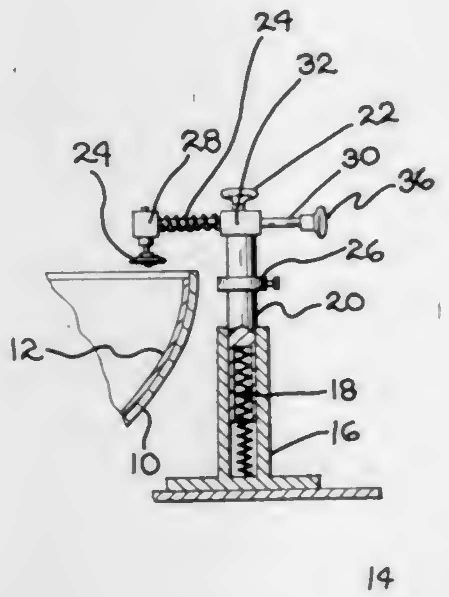
A method and apparatus for use in glassmaking in which a non-oxidizing atmosphere must be provided and maintained. At the openings of the furnace either within the openings or exteriorly thereof, currents of air are provided to cause aspiration of the protective gas in a direction exteriorly of the furnace. The aspiration of the protective gas outwardly through the openings prevents the entry of air into the furnace. The currents of air are caused to be in a direction at a right angle to the wall in which the opening is formed and in certain embodiments the means for providing the air current can be moved so that there can be easy access to the interior of the furnace through the opening.



3,507,638

METHOD AND APPARATUS FOR CENTRIFUGALLY CASTING AND TRIMMING GLASS WARE

Warren E. Wilburn, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Apr. 7, 1967, Ser. No. 629,222
Int. Cl. C03b *9/46*
U.S. Cl. 65—70 **5 Claims**

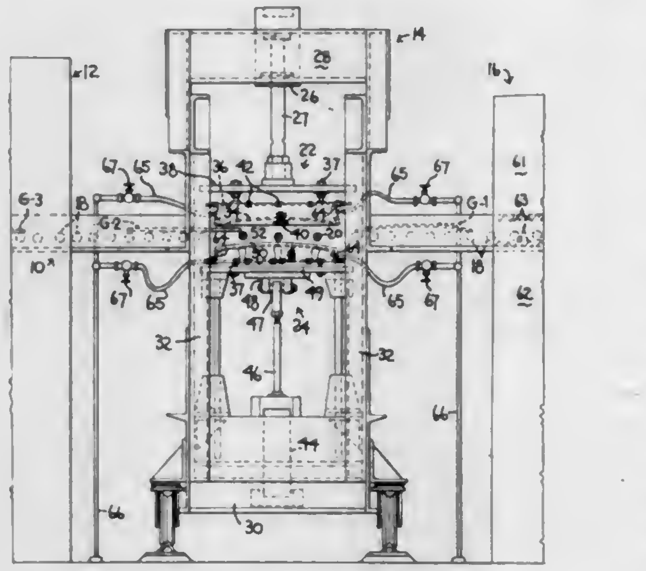


A glassworking tool for scoring a workable glass surface such as, for example, a newly-formed cathode-ray tube funnel, the tool comprising a generally disc-shaped member having its peripheral edge beveled to form dissimilar juxtaposed angles, one of these angles being about 2½° and the other being substantially larger.

3,507,639

METHOD OF PRESS SHAPING GLASS SHEETS

Samuel L. Seymour, Oakmont, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1966, Ser. No. 583,197
Int. Cl. C03b *23/02*
U.S. Cl. 65—104 **7 Claims**

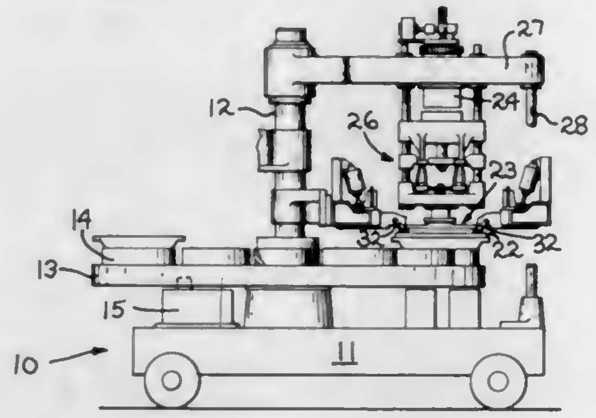


Maintaining glass sheet press bending molds at a desired temperature range by cooling the molds with a pattern of non-uniform intensity, preferably one that intensely cools the portion that engages the glass sheet portions engaged by elements that engage the shaped glass en route to a quenching station so that the press bending molds shape heat-softened glass sheets by pressurized engagement and cool the glass sheet portion likely to become distorted sufficiently to enable the glass sheet to retain its shape within permitted tolerance as it travels from the press bending station to a quenching station on rollers, even though the pressurized engagement is of relatively short duration. The pressing mold cooling is sufficient to prevent the overall mold temperature from exceeding a desired equilibrium temperature even at rapid production rates.

3,507,640

APPARATUS FOR PRESS-MOLDING HOLLOW GLASS ARTICLES

Sigismund A. Lada, Columbus, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed May 3, 1967, Ser. No. 635,907
Int. Cl. C03b *11/02*
U.S. Cl. 65—308 **3 Claims**



This invention relates to apparatus for press-molding molten glass and particularly to a machine for press-molding hollow glass articles which are formed in hollow molds by a press plunger or ram, the body mold having a separable ring mold which is independently supported and operated, the mechanism being adapted to locking the ring and body molds together during pressing.

3,507,641

PREPARATION OF SLURRY FERTILIZER BY ACID TREATMENT OF PHOSPHATE ROCK AND AMMONIATION

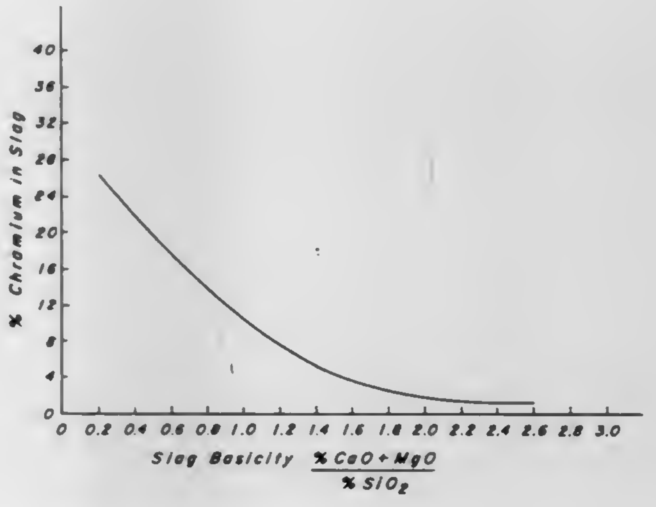
Alvin Richmond, Baltimore, and Casimer C. Legal, Jr., Elkridge, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,583
Int. Cl. C05b *11/08, 11/10*
U.S. Cl. 71—37 **4 Claims**

A slurry fertilizer is made by treating phosphate rock with a mixture of sulfuric acid and phosphoric acid, at least a portion of the phosphoric acid being added to the reaction mix prior to the addition of sulfuric acid, the sulfuric acid being 40–50 percent concentration, followed by addition of liquid anhydrous ammonia to a pH in the range of about 5–5.5, to provide a suspension which is sprayable on soil and relatively stable in storage. Preferred embodiments include addition of certain boron compounds and magnesium oxide to further stabilize the suspension.

3,507,642

PROCESS FOR PRODUCING CORROSION RESISTANT STEEL

Richard B. Shaw, Natrona Heights, Pa., assignor to Allegheny Ludlum Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 603,717, Dec. 22, 1966. This application June 2, 1969, Ser. No. 829,630
Int. Cl. C21c *7/00*
U.S. Cl. 75—52 **26 Claims**



An oxygen refining process for producing corrosion resistant stainless steels. A charge of liquid hot metal and scrap is combined in a vessel with slag forming ingredients. Oxygen is injected into the vessel's contents, thereby refining the charge and forming a slag containing chromium, iron and manganese metallic values. A reducing agent is added to the slag and turbulently mixed with the slag and metal, effecting a return of the metallic values to the metal. The metal is transferred to a container wherein adjustments are made to the steel's chemistry to bring it up to specifications.

3,507,643
CELL REDUCTION OF BAUXITE OR CLAY

Curtis J. McMinn and Vaughn L. Bullough, Florence, Ala., and Tom Winfield Williams, Little Rock, Ark., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
No Drawing. Filed Jan. 16, 1967, Ser. No. 609,336
Int. Cl. C22c *21/00;* **C22d** *3/12*
U.S. Cl. 75—63 **13 Claims**

Aluminum-titanium alloys are produced by direct reduction of titanium-containing aluminous materials such as bauxites or clays in a fused salt electrolyte, thereby forming a reduction alloy, then maintaining the reduction alloy in molten state at a temperature of about 700°–750° C. to effect separation into a supernatant phase containing about 0.3% Ti, and a solid phase containing upwards of 10% Ti, centrifugally separating the phases, and forming a ferrotitanium by conversion of the solid phase with iron oxide.

3,507,644
TITANIUM ADDITIVE AND METHOD OF USE THEREOF

John D. Coyle, Chicago, Ill., assignor to Miller & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 4, 1966, Ser. No. 539,740
Int. Cl. C22c *33/02, 37/00, 37/04*
U.S. Cl. 75—130 **10 Claims**

A (1) titanium additive especially adapted for use in gray iron cupola production which includes titanium containing material in reducible form and a solid carrying agent, and optionally, a binder for nodularizing and physical property enhancement, and (2) a method of adding titanium to gray iron in which the titanium, in any one of several forms, is added to the stack, usually in association with a conventional addition agent such as silicon carbide.

3,507,645
SEPARATION PROCESS

Ernst L. T. M. Spitzer, Amsterdam, Netherlands, and Alun Gabriel, Coulsdon, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 23, 1968, Ser. No. 707,473
Claims priority, application Great Britain, Feb. 27, 1967, 9,127/67
Int. Cl. C22b *15/00, 23/00*
U.S. Cl. 75—101 **3 Claims**

Nickel and copper values are selectively removed from aqueous solutions also containing iron and copper values by the process of (1) selectively extracting from the aqueous solution a major proportion of the iron values and a substantial proportion of the copper values employing a dialkyl methyl sulfonium salt as extraction agent, (2) selectively extracting essentially all the remaining iron and copper values from the initial aqueous raffinate employing certain mixed secondary and tertiary carboxylic acids at controlled pH, and (3) recovering the cobalt and nickel values from the resulting second aqueous raffinate.

3,507,646
ELECTROPHOTOGRAPHIC PROCESS USING A SINGLE PHASE PHOTOCONDUCTIVE GLASS IMAGING LAYER

Charles Wood, Pittsford, and John C. Schottmiller, Penfield, N.Y., and Rustum Roy, State College, Pa., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
No Drawing. Filed Dec. 27, 1965, Ser. No. 516,726
Int. Cl. G03g
U.S. Cl. 96—1 **4 Claims**

An electrophotographic plate is disclosed comprising a single phase glassy layer having at least one photoconductive metal oxide and at least one glass former, with said metal oxide comprising at least 50 mole percent of said layer.

3,507,647
PRINTING PLATES AND METHOD FOR MANUFACTURING SAME

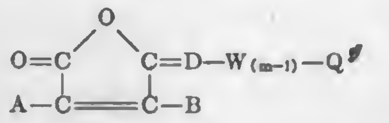
Frederick W. Sanders, Chillicothe, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 459,703, May 28, 1965. This application Nov. 12, 1968, Ser. No. 784,275
Int. Cl. G03g *5/00, 7/00*
U.S. Cl. 96—1.5 **12 Claims**

The present invention relates to method of rendering surfaces suitable for lithographic printing by causing the surface to be more hydrophilic without affecting the ability of such surfaces to receive and retain images having oleophilic characteristics. Said effects are achieved by applying to said surfaces a long chain film forming homopolymer of itaconic acid, or copolymer of itaconic acid with up to 50%, by weight, of acrylic acid, said homopolymers and copolymers having molecular weights ranging from 15,000 to about 200,000, and in aqueous solution at 33% solids content a viscosity ranging from about 100 to about 4000 cps. Such a solution can be added to a lithographic surface containing an alkaline reacting substance, or an alkaline-reacting substance such as an inorganic acid salt may be included in the aqueous solution being added to the lithographic surface, or the polymer or copolymer may constitute the binder for the lithographic coating.

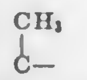
3,507,648
2(5H)-FURANONE DYES AS SENSITIZERS FOR ORGANIC PHOTOCONDUCTORS

John A. Ford, Jr., and Charles V. Wilson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed June 6, 1966, Ser. No. 555,240
Int. Cl. G03g *5/06;* **C07d** *5/14*
U.S. Cl. 96—1.6 **6 Claims**

Electrophotographic elements are described which comprise an organic photoconductor and from 0.5–5% by weight of the photoconductor of a 2(5H)-furanone dye. The dyes have the following formula:



wherein A represents —CN or p-nitrophenyl, B is an alkyl group or an aryl radical, D represents CH—, $\mathrm{CH(-CH{=}CH)}_n$,



$$\overset{\mathrm{CH_3}}{\overset{|}{\mathrm{C}}}-$$

a nitrogen atom, a hydrazinylylidene radical or an aralkylidene radical, W represents ═CH—, Q represents an aryl radical, a heterocyclic radical, M represents 1 or 2, and n represents 1 or 2.

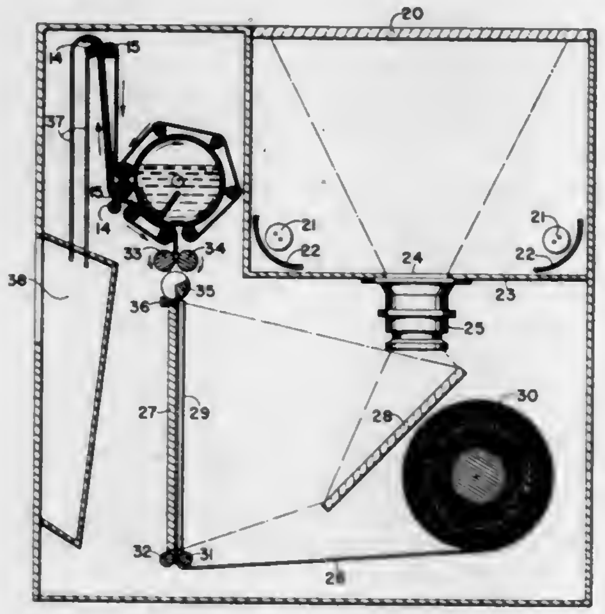
3,507,649
SENSITIZED PHOTOCONDUCTIVE ZINC OXIDE

Lee C. Hensley, 131 Mary St., Binghamton, N.Y. 13903
No Drawing. Filed Jan. 31, 1967, Ser. No. 612,781
Int. Cl. G03g *5/00, 7/00*
U.S. Cl. 96—1.7 **10 Claims**

Dyestuff materials advantageously adapted for use as optical sensitizing agents with photoconductor materials employed in the electrostatic printing operations.

3,507,650
METHOD OF DEPOSITING VISCOUS PHOTOGRAPHIC REAGENTS

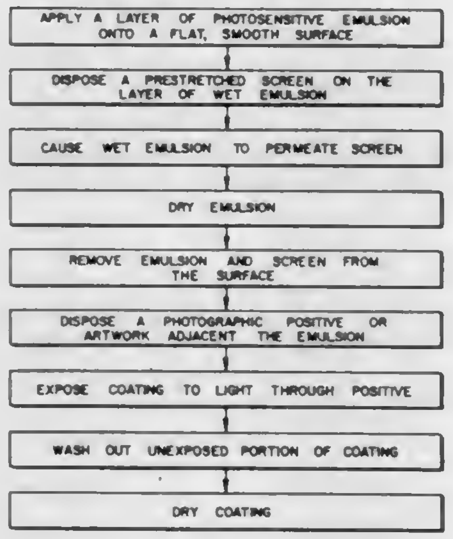
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Jan. 11, 1966, Ser. No. 519,888
Int. Cl. G03c *5/54*
U.S. Cl. 96—29 **22 Claims**



Method and apparatus for applying a uniform layer of a viscous reagent to the surface of an element, e.g., applying a viscous photographic reagent, from a source of such reagent.

3,507,651
STENCIL SCREEN AND METHOD

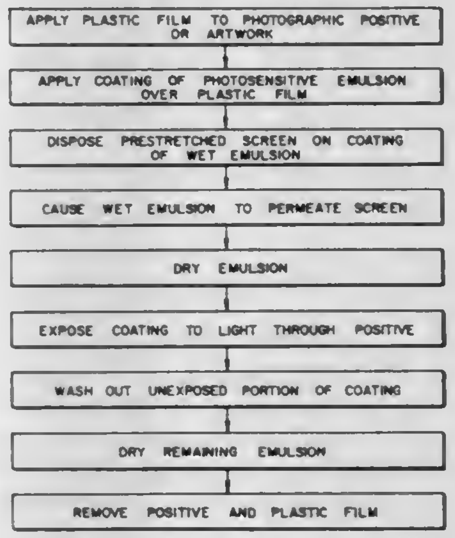
Robert F. Wrench, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,748
Int. Cl. G03c *5/00*
U.S. Cl. 96—36.4 **10 Claims**


APPLY A LAYER OF PHOTOSENSITIVE EMULSION ONTO A FLAT, SMOOTH SURFACE
DISPOSE A PRESTRETCHED SCREEN ON THE LAYER OF WET EMULSION
CAUSE WET EMULSION TO PERMEATE SCREEN
DRY EMULSION
REMOVE EMULSION AND SCREEN FROM THE SURFACE
DISPOSE A PHOTOGRAPHIC POSITIVE OR ARTWORK ADJACENT THE EMULSION
EXPOSE COATING TO LIGHT THROUGH POSITIVE
WASH OUT UNEXPOSED PORTION OF COATING
DRY COATING

Stencil screens used for printing and a direct, single exposure method of producing stencil screens which provide good print definition and economy are described. The photosensitive emulsion which forms the stencil screen blockage is applied to a smooth, flat surface and is then caused to permeate a screen to form an assembly. After the emulsion is dried while in contact with such smooth, flat surface, the screen and emulsion is removed. Thereafter, a photographic positive or the like is disposed adjacent the smooth emulsion whereupon the emulsion is exposed to light, the positive removed, and the emulsion developed.

3,507,652
DIRECT THIN EMULSION STENCIL SCREEN METHOD AND ARTICLE

Robert F. Wrench, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,843
Int. Cl. G03c *5/00*
U.S. Cl. 96—36.4 **10 Claims**


APPLY PLASTIC FILM TO PHOTOGRAPHIC POSITIVE OR ARTWORK
APPLY COATING OF PHOTOSENSITIVE EMULSION OVER PLASTIC FILM
DISPOSE PRESTRETCHED SCREEN ON COATING OF WET EMULSION
CAUSE WET EMULSION TO PERMEATE SCREEN
DRY EMULSION
EXPOSE COATING TO LIGHT THROUGH POSITIVE
WASH OUT UNEXPOSED PORTION OF COATING
DRY REMAINING EMULSION
REMOVE POSITIVE AND PLASTIC FILM

Stencil screens used for printing and a direct, single exposure method of producing precision stencil screens which permit high print definition are described. The photosensitive emulsion which forms the stencil screen blockage is applied to a photographic positive and then is caused to permeate a screen to form an assembly. It is then exposed, developed, and dried while part of such assembly. Thereafter the positive is removed leaving a finished screen.

3,507,653
STENCIL SCREEN AND METHOD

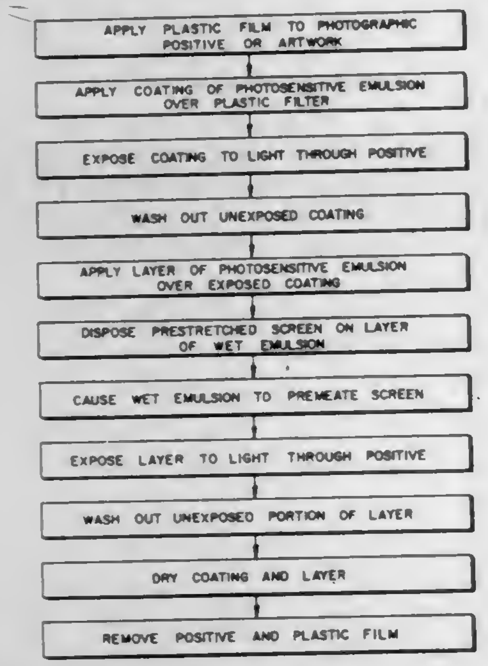
Genadius M. Preddy, Durham, and William B. Upchurch, Castalla, N.C., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,844
Int. Cl. G03c *5/00*
U.S. Cl. 96—36.4 **41 Claims**

Stencil screen used for printing and an indirect, double exposure method of producing precision stencil screens which permit high print definition are disclosed. The photosensitive emulsion which forms the stencil screen blockage is exposed and developed directly on a photographic positive, and thereafter is transferred and bonded to a prestretched screen by means of a film of such emulsion which is itself exposed and developed.

3,507,654
STENCIL SCREEN AND METHOD

Robert F. Wrench, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,845
Int. Cl. G03c *5/00*
U.S. Cl. 96—36.4 **13 Claims**

Stencil screens used for printing and an indirect, double exposure method of producing precision stencil screens which permit high print definition are described. The photosensitive emulsion which forms the stencil screen blockage is exposed and developed directly on a photographic positive, and thereafter is transferred and bonded


APPLY PLASTIC FILM TO PHOTOGRAPHIC POSITIVE OR ARTWORK
APPLY COATING OF PHOTOSENSITIVE EMULSION OVER PLASTIC FILTER
EXPOSE COATING TO LIGHT THROUGH POSITIVE
WASH OUT UNEXPOSED COATING
APPLY LAYER OF PHOTOSENSITIVE EMULSION OVER EXPOSED COATING
DISPOSE PRESTRETCHED SCREEN ON LAYER OF WET EMULSION
CAUSE WET EMULSION TO PREMEATE SCREEN
EXPOSE LAYER TO LIGHT THROUGH POSITIVE
WASH OUT UNEXPOSED PORTION OF LAYER
DRY COATING AND LAYER
REMOVE POSITIVE AND PLASTIC FILM

to a prestretched screen by means of a layer of such emulsion which is itself exposed and developed.

3,507,655
PLASTIC MARKING PROCESS

Richard F. Tamm, Elmhurst, and James M. Throne, Country Club Hills, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed July 24, 1967, Ser. No. 655,387

Int. Cl. G03c *1/92*

U.S. Cl. 96—45.1 **8 Claims**

A method for providing a code marking invisible in normal light on a plastic substrate exhibiting fluorescent properties wherein a source of intense optical radiation is impinged on the substrate through a stencil bearing the desired marking pattern, the radiation causing a change in the fluorescence of the substrate in the radiated area. The resultant marking is invisible in ordinary light, but visible under ultra-violet illumination.

3,507,656
RADIATION-SENSITIVE EMULSIONS

Joseph Anthony Sincius, Little Silver, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 10, 1966, Ser. No. 519,436

Int. Cl. G03c *1/28, 1/86*

U.S. Cl. 96—85 **6 Claims**

A light-developable, direct-writing silver halide layer containing silver halide grains 0.1–10 microns in size containing based on the silver halide 0.1–300 mole percent cuprous thiocyanate, 0.1 to 120 mole percent of a water-soluble thiocyanate salt, 0 to 120 mole percent of a water-soluble bromide, and 0 to 5 mole percent of a water-soluble plumbous salt. The layers are useful for oscillographic recording, provide images of high density, low fog or background density, high writing speeds, and rapid access.

3,507,657
LIGHT-DEVELOPABLE DIRECT-PRINT SILVER HALIDE EMULSIONS

Theodore J. Kitze, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 10, 1965, Ser. No. 507,233

Int. Cl. G03c *1/02, 1/28*

U.S. Cl. 96—94 **12 Claims**

Improved light-developable, direct-print silver halide emulsions comprise silver halide grains formed in an acidic medium in the presence of a water-soluble thiocyanate and an organic thioether silver halide solvent. In one aspect, the improved silver halide emulsions provide good photographic response characteristics, such as speed, when used under a wide variety of exposure conditions.

3,507,658
THIO AND DITHIOCINNAMIC ACIDS AS ANTIFOGGANTS AND STABILIZERS

Fritz Dersch, Binghamton, and Sally L. Paniccia, Endwell, N.Y., assignors to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 8, 1967, Ser. No. 621,427

Int. Cl. G03c *5/30, 1/34*

U.S. Cl. 96—109 **11 Claims**

Thio and dithiocinnamic acid antifoggant and stabilizer compounds for use in photographic elements and/or one or more of the processing solutions associated with post-exposure treatment.

3,507,659
PHOTOSENSITIVE POLYHYDROXYAMINOETHER SALT COMPOSITIONS

Charles N. Merriam, Martinsville, and Walter A. Miller, Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 13, 1965, Ser. No. 487,027

Int. Cl. G03c *1/72, 1/78*

U.S. Cl. 96—114 **14 Claims**

Continuous photosensitive compositions have been prepared by reacting a polyhydroxy amino ether having a degree of polymerization of at least 30 with a hydrohalide followed by the reaction of the product thereof with silver nitrate.

3,507,660
PHOTOGRAPHIC MATERIALS CONTAINING LONG-CHAIN ALKYL SUCROSE URETHANE

Fukihiko Nishio, Masakazu Yoneyama, and Yoshinori Tuchiya, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan

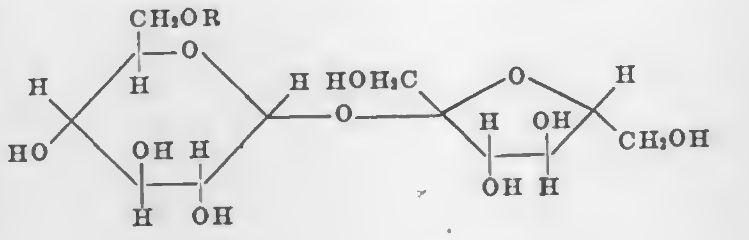
No Drawing. Filed Nov. 26, 1965, Ser. No. 510,090

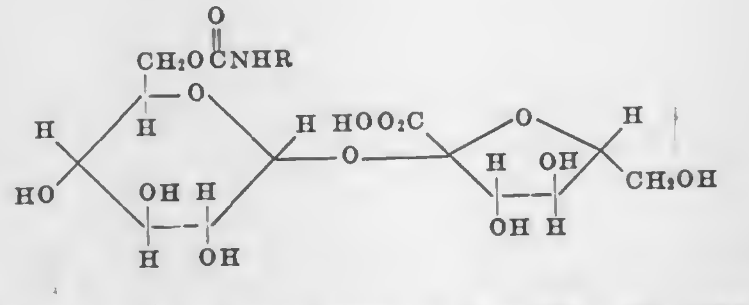
Claims priority, application Japan, Nov. 26, 1964, 39/66,280

Int. Cl. G03c *1/38*

U.S. Cl. 96—114.5 **7 Claims**

A gelatin containing photographic composition and a photographic light-sensitive element are disclosed. The composition contains from .05 to 100 g. per 1 kg. of dry gelatin of one of the following compounds:





wherein R is an alkyl group of from 7 to 16 carbon atoms. The element contains a support and a photographic silver halide emulsion layer and the emulsion contains the above compound.

3,507,661
GELATIN CONTAINING DISPERSIONS HAVING GELATIN REACTIVE POLYMERS THEREIN AND COATINGS PREPARED THEREFROM

Ronald F. Ofstead, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 569,827, Aug. 3, 1966. This application Feb. 5, 1969, Ser. No. 796,935

Int. Cl. G03c *1/04;* **C09h** *11/00*

U.S. Cl. 96—114 **19 Claims**

Improved gelatin films and coatings having a continuous phase of gelatin and a water impermeable discontinuous phase of a normally solid, water insoluble polymer having a molecular weight of at least 10,000 and a degree of polymerization of at least 50, the water insoluble polymer being covalently bonded directly to said gelatin at the interface between said phases. Also describes aqueous dispersions comprising gelatin and a dispersed phase of a gelatin reactive, water insoluble polymer and the process for preparing improved gelatin films and coatings from said aqueous dispersions.

3,507,662
NITROGENOUS ANIMAL FEEDS

Francoise Andree Jeanne Leroy, St.-Leu-la-Foret, Zelmen Zelter and Andre Charles Francois, Paris, and Andre Chassin and Jacques Rodeau, Chabanais, France, assignors to Etablissement Public: Institut National de la Recherche Agronomique and Societe Anonyme Produits Chimiques et Celluloses Rey, both of Paris, France, and both corporations of France

No Drawing. Filed Feb. 3, 1966, Ser. No. 524,837

Claims priority, application France, Feb. 3, 1965, 4,208; Feb. 8, 1965, 4,787

Int. Cl. A23k *1/00, 3/00*

U.S. Cl. 99—2 **27 Claims**

A method of protecting nitrogenous animal feeds from bacterial deamination which comprises forming a paste with water, a nitrogenous feed and an organic tanning substance, which form complexes which stabilize proteins against bacterial action and are dissociable by proteolytic enzymes, allowing this mixture to stand and react until there are practically no remaining soluble nitrogen compounds and drying the product at a temperature not exceeding 80° C.; and the feed product.

3,507,663
SOUR CREAM

Samuel L. Starook, Arlington Heights, and Edwin G. Stimpson, Northbrook, Ill., assignors to Kraftco Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,778

Int. Cl. A23c *9/12, 13/12*

U.S. Cl. 99—54 **6 Claims**

Sour cream is produced by a method wherein acidification is effected by direct addition of an edible acid, such as lactic acid. The acidified sour cream is heat treated after acidification and is stabilized by the addition of particular stabilizing mixtures comprising gelatin and pectinous material.

3,507,664
MILK GEL COMPOSITION

Harry R. Schuppner, Jr., San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 502,539, Oct. 22, 1965. This application Feb. 20, 1969, Ser. No. 801,174

Int. Cl. A23l *1/04*

U.S. Cl. 99—139 **19 Claims**

A composition for forming a milk gel containing a finely divided relatively homogeneous mixture of a tetraalkali metal pyrophosphate, an edible calcium salt, a Xanthomonas hydrophilic colloid and locust bean gum.

3,507,665
COATING EMULSIONS AND METHOD OF COATING FOODSTUFFS

Larry J. Henthorn, Crystal Lake, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed May 25, 1966, Ser. No. 552,689

Int. Cl. A23b; B65b *33/00*

U.S. Cl. 99—166 **11 Claims**

An emulsification composition containing critical amounts of polyoxyethylene (*n*) sorbitan monostearate, polyoxyethylene (*m*) sorbitan mono-oleate, and a mixture of monoglycerides and diglycerides of fat forming fatty acids formed by reacting glycerol mono-oleate with a mixture of oleic acid, palmitic acid, and stearic acid. A stable, aqueous emulsion containing a solute, a dispersed phase, and the above emulsification composition. The solute is either a salt or sugar. The dispersed phase is either an antioxidant or oil.

A method of producing a uniformly coated foodstuff comprising contacting the foodstuff with the above-described emulsion.

3,507,666
PROCESS AND DESIGN OF ASEPTICALLY FILLED INFANT NURSER

Grant W. Cheney, Lakewood, Ohio, and Anthony J. Carbone, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 25, 1966, Ser. No. 567,567

Int. Cl. A61j *9/00*

U.S. Cl. 99—171 **1 Claim**

Disposable, pre-sterilized and pre-filled nursers are made by extruding a plastic parison, blow molding simultaneously a plurality of nurser bodies from the parison with a common passageway between the bodies, filling said bodies by inserting a measured volume of liquid in said passageway, and sealing and severing each body adjacent their passageway to form individual nursers. The nipple of each nurser may be pierced and protected with a nipple guard.

3,507,667
CONTAINER FOR THE PRESERVATION OF FRUIT AND VEGETABLES

Michel Magnen, Paris, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

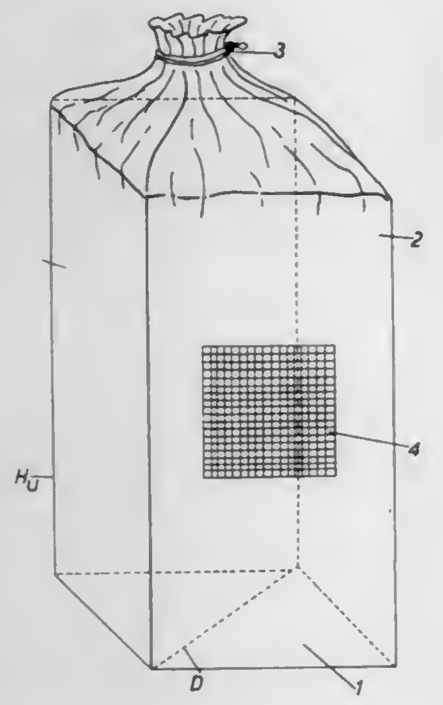
Filed Jan. 29, 1968, Ser. No. 701,316

Claims priority, application France, Dec. 29, 1967, 134,435

Int. Cl. A23b *7/00;* **B65d** *89/00*

U.S. Cl. 99—171 **5 Claims**

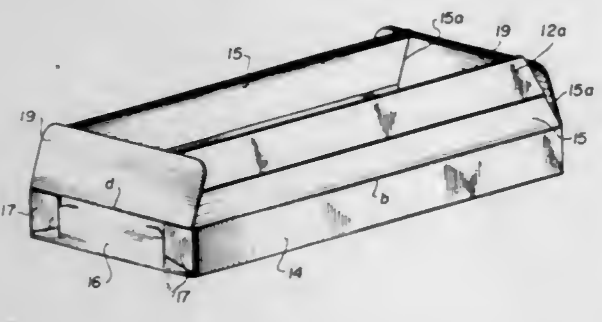
The specification describes a fruit and vegetable preservation container formed as a bag of flexible material. At least one window is formed in the flexible material, the total window area being between 0.1 and 0.25 square metre per cubic metre of useful container volume. The windows are closed by a 50 to 150 m. thick silicone elastomer diaphragm and a fabric leaving 25 to 50% free



surface. The bag may be positioned in a box having apertures opposite the windows. Alternatively the window may be in a flexible cover to a rigid receptacle.

3,507,668
COMBINATION AUTOMATICALLY OPENING FROZEN DOUGH RECEPTACLE AND BAKING PAN

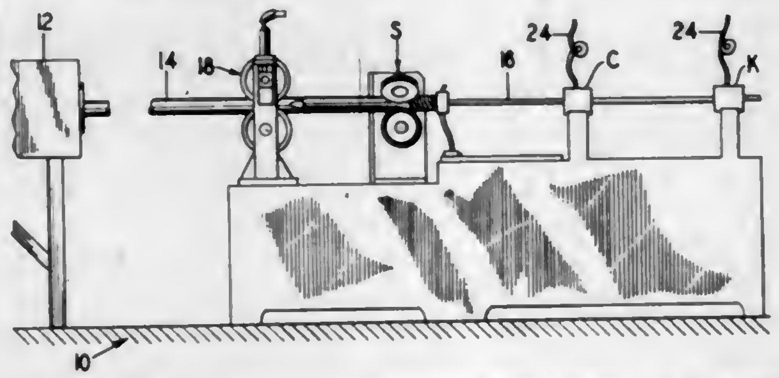
Hugh H. Bridgford, 5415 Bergenline Ave.,
West New York, N.J. 07093
Continuation-in-part of application Ser. No. 754,131, July 25, 1968. This application Feb. 28, 1969, Ser. No. 803,150
Int. Cl. B65b *25/16*
U.S. Cl. 99—172 **4 Claims**



A frozen yeast-containing developed dough fills a box-like, folded receptacle having two rectangular closure panels which have contiguous free edges at the top center of the receptacle, and an outer top end panel at each end of the receptacle, the dough, when permitted to thaw and rise, exerting substantially uniform upward pressure against said closure panels, and through them against said top end panels, so as to automatically cause said panels to unfold and form a baking pan for the dough. Aluminum foil is provided wherever the dough makes contact with the receptacle walls so as to avoid undesired excessive cohesion which might interfere with the dough rising and receptacle unfolding process, and the end edges of the closure panels being cut so as to be inclined and extend inwardly and avoid contact with adjacent panels of the receptacle for further minimizing interference with free rising of the dough.

3,507,669
METHOD AND APPARATUS FOR PROCESSING A CONTINUOUS TUBING

Edward H. Dhuysser, Chicago, and Harry P. Eichin, Western Springs, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Feb. 7, 1968, Ser. No. 703,748
Int. Cl. A22b *13/00*
U.S. Cl. 99—176 **8 Claims**



Method for processing a continuous length of tubing wherein a wet tubing is dried at a low inflating pressure and is shirred at a higher inflating pressure, the drying zone being separated from the shirring zone by gated feed means for the inflated tubing.

3,507,670
ANTICORROSION CONCENTRATE CONTAINING A POLYAMINE SULFUR DIOXIDE REACTION PRODUCT

Philip J. Raifsnider, deceased, late of Denver, Colo., by Dorothy E. Raifsnider, executrix, Denver, Colo., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Oct. 6, 1965, Ser. No. 493,536, now Patent No. 3,412,157. Divided and this application July 29, 1968, Ser. No. 749,258
Int. Cl. C09d *5/08*
U.S. Cl. 106—14 **7 Claims**

A method of preventing corrosion of ferrous materials in contact with corrosive aqueous fluids by adding to said fluids a small amount of a reaction product obtained by reacting in an alcoholic medium a polyamine and sulfur dioxide.

3,507,671
USE OF PAINT ROCK IN FOUNDRY PRACTICE

George Whitney Snyder, Sewickley, Pa., assignor to Snyder Mining Company, Buhl, Minn., a corporation of Minnesota
No Drawing. Filed Apr. 1, 1968, Ser. No. 717,966
Int. Cl. B28b *7/28*
U.S. Cl. 106—38.3 **2 Claims**

A substantial saving in the cost of a conventional foundry sand composition is realized through substituting paint rock for (a) a significant portion of the conventional bentonite content and (b) all of the conventional content of iron oxide thereof.

3,507,672
PREPARATION OF HIGH-STRENGTH LIME-SAND PRODUCTS

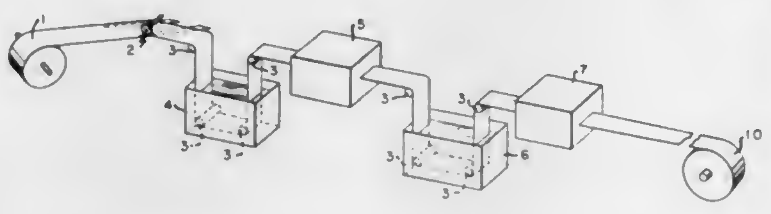
Josef Wuhrer, Günter Radermacher, and Adrian Ottenheym, Wulfrath, Germany, assignors to Rheinische Kalksteinwerke G.m.b.H., Wulfrath, Germany, a corporation of Germany
Filed July 8, 1966, Ser. No. 563,854
Claims priority, application Germany, July 9, 1965, R 41,054; Aug. 24, 1965, R 41,380
Int. Cl. C04b *1/00, 7/34*
U.S. Cl. 106—120 **8 Claims**

A process for the manufacture of high-strength lime-sand building materials includes the use of quartz having particle sizes within the limits of between 5μ and 1 mm., wherein the ratio of lime to quartz is between 12

and 35 percent of the quartz by weight and the compacted mass is heated by saturated steam at a rate to bring the temperature of the mass to 120° C. in a period of time no less than 45 minutes.

3,507,673
METHOD OF MAKING WOVEN CHAFER FABRIC

Edward W. Weitzel, Greenville, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Continuation of application Ser. No. 612,218, Jan. 27, 1967, which is a continuation-in-part of application Ser. No. 528,694, Jan. 26, 1966, which in turn is a continuation of application Ser. No. 305,692, Aug. 30, 1963. This application Feb. 7, 1968, Ser. No. 703,790
Int. Cl. B44d *1/06;* **B29h** *17/28*
U.S. Cl. 117—4 **5 Claims**



A method is disclosed of making a woven chafer fabric that is used to reinforce automotive tires. The fabric is impregnated with the conventional tackifiers and wick-proofing agents. The fabric is obtained from a woven tubular fabric wherein the warp and filling threads are interlaced at substantially right angles, with the warp threads substantially parallel to the centerline of the tubular fabric. The fabric is then cut on the bias and treated.

3,507,674
PLATELESS PRINTING PROCESS

Albert H. Torongo, Jr., Yardley, Pa., and Russell G. Heston, Jr., Little Silver, N.J., assignors to Donald Deskey Associates, Inc., New York, N.Y., a corporation of New York
Filed Oct. 23, 1965, Ser. No. 503,083
Int. Cl. B44c *1/02;* **B41d** *1/10;* **B41m**
U.S. Cl. 117—10 **3 Claims**

The present invention is broadly concerned with a unique type of printing apparatus and with the process of its operation and is more specifically concerned with a printing assembly which provides an inexpensive method of applying various color designs to a web of material such as paper, fiber or cloth.

3,507,675
METHOD OF MANUFACTURING A SUPPLE, VAPOR- AND MOISTURE-PERMEABLE SHEET MATERIAL

Kazuo Noda, Kazuo Nagoshi, and Osamu Fukushima, Snkazu, Kurashiki, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki, Japan
No Drawing. Continuation-in-part of application Ser. No. 429,629, Feb. 1, 1965. This application July 2, 1968, Ser. No. 741,863
Claims priority, application Japan, Feb. 7, 1964, 39/6,221
Int. Cl. B29d *27/00;* **B29h** *7/20;* **B44d** *1/44*
U.S. Cl. 117—11 **11 Claims**

A supple, vapor- and moisture permeable sheet material is prepared by treating the web with 0.1 to 20 percent, based on the weight of the web, of a bonding inhibitor, which is selected from the group consisting of (a) saturated aliphatic hydrocarbons having an alkyl group of 12 to 30 carbon atoms in the molecule, (b) saturated aliphatic alcohols having an alkyl group of 12 to 30 carbon atoms in the molecule, (c) carboxylic acid esters having at least one saturated alkyl group of 12 to 30 carbon atoms in the molecule and (d) urethanes having at least one saturated alkyl group of 12 to 30 carbon atoms in the molecule, impregnating the web with a solution of polyurethane elastomer, coagulating the impregnated elastomer in contact with a coagulating liquid which is miscible with a solvent of the solution and non-solvent for the web and the impregnated elastomer, removing said bonding inhibitor with a liquid which is a non-solvent for the web and the impregnated elastomer, and drying said web.

3,507,676
ZINC CONTAINING ALGICIDAL SURFACING, METHOD, AND GRANULES

William A. McMahon, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Dec. 15, 1966, Ser. No. 601,859
Int. Cl. B44d *1/46, 1/02;* **D06n** *5/00*
U.S. Cl. 117—27 **8 Claims**

Outdoor surfacing and granules such as roofing granules containing zinc, ZnO or ZnS, which surfacing is resistant to the growth of algae and/or fungi.

3,507,677
BEARING PRETREAT PROCESS

Charles H. Maynard, Framingham, and Herbert B. Singer, Mattapan, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
No Drawing. Continuation of application Ser. No. 404,962, Oct. 19, 1964. This application June 13, 1968, Ser. No. 752,411
Int. Cl. C10m *3/40;* **F16c** *33/12*
U.S. Cl. 117—127 **6 Claims**

A process for improving the performance and life of instrument grade steel ball bearings. The bearings are immersed in tricresyl-phosphate for a period sufficient to cause a permanent reduction in low speed friction. The necessary soaking period is reduced by increasing the temperature, however, the temperature should not approach the tempering temperature of the steel. Once satisfactory combinations of soak time and temperature are derived for one set of bearing components, they apply to other bearings of the same steel composition.

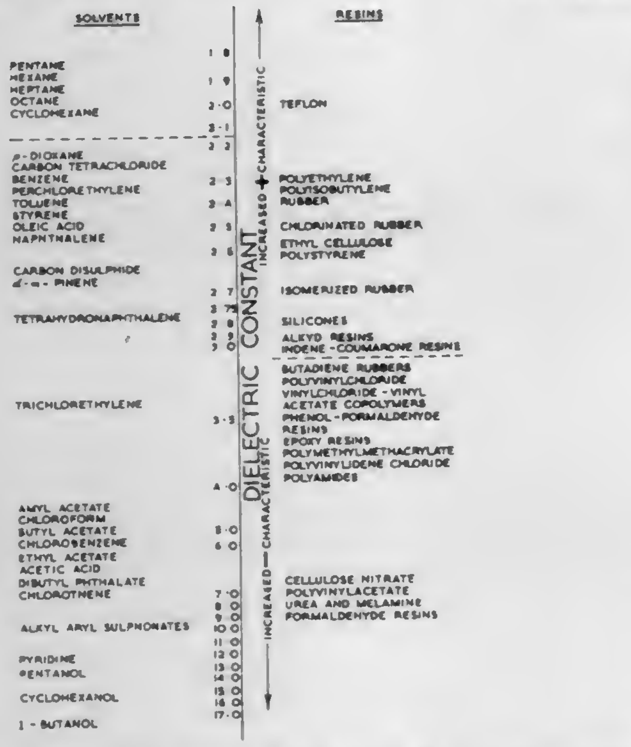
3,507,678
PROCESS FOR THE PRODUCTION OF A MATTED PHOTOGRAPHIC MATERIAL

Ikuo Shimizu, Hideo Kawano, and Shunzo Yagami, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan, a corporation of Japan
No Drawing. Filed Sept. 27, 1966, Ser. No. 582,268
Claims priority, application Japan, Sept. 28, 1965, 40/59,267
Int. Cl. C03c *1/00, 1/74, 3/26;* **G03c** *1/00*
U.S. Cl. 117—34 **4 Claims**

Process for producing a photographic light sensitive material having a matted surface, particularly developing the matted surface by applying non-deliquescent crystalline water soluble salts to the protective coating surface in fine sized particles.

3,507,679
CONTROLLED POLARITY LIQUID DEVELOPER

Kenneth A. Metcalfe, Lockleys, South Australia, and Alwin S. Clements, Largs Bay, South Australia, Australia, assignors to The Commonwealth of Australia, % The Secretary Department of Supply, Parkes, Canberra, Australian Capital Territory
Continuation-in-part of application Ser. No. 440,127, Mar. 16, 1965. This application Mar. 24, 1969, Ser. No. 809,678
Claims priority, application Australia, Mar. 23, 1964, 42,371
Int. Cl. G03g *9/04, 13/10*
U.S. Cl. 117—37 **9 Claims**



Controlled polarity liquid developers for electrostatic printing are prepared by suspending a pigment in a carrier liquid to form a developer, adding to the developer a control liquid with a dielectric constant different from that of the carrier liquid and miscible in the carrier liquid, subjecting the developer to a gaseous phase to cause ions to be released to the carrier liquid and applying the developer to a base to develop a latent electrostatic image on said base.

3,507,680
GLASS SUBSTRATE COATED WITH MODIFIED OR NON-MODIFIED ORGANOPOLYSILOXANE

Robert Henry Kiel, Weston, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Sept. 9, 1966, Ser. No. 578,156
Int. Cl. C03c *17/30;* **B41m** *1/12;* **B44d** *1/14*
U.S. Cl. 117—38 **5 Claims**

There is disclosed a glass substrate containing a thin layer of polyoxyethylene monostearate and a decorative organopolysiloxane resin composition applied to at least a portion of the coated surface. In one embodiment the substrate is a high alkali silicate glass such as soda lime. Organopolysiloxane is defined as including both modified and/or non-modified type resins.

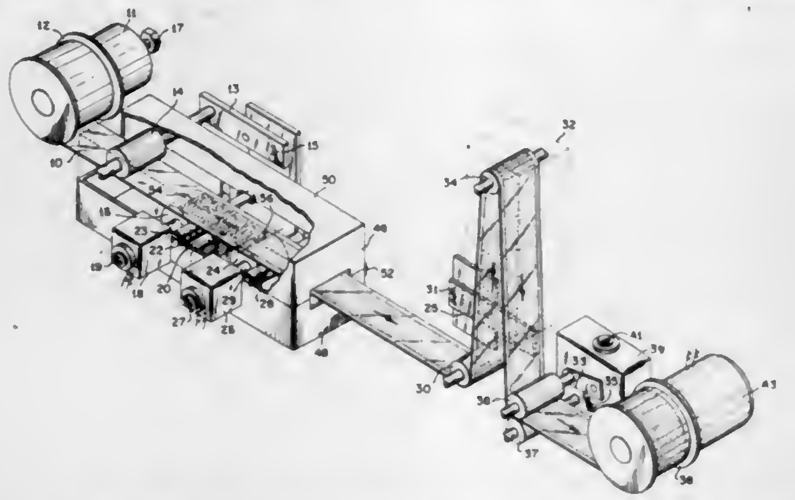
3,507,681
METAL PLATING OF PLASTICS

William J. Cooper, Butler, Pa., assignor to Mine Safety Appliance Company, a corporation of Pennsylvania
No Drawing. Filed June 2, 1967, Ser. No. 643,053
Int. Cl. B44d *1/02*
U.S. Cl. 117—47 **15 Claims**

Plastic surfaces are prepared to make them susceptible to being plated by chemical plating solutions by treatment with a solution of a noble metal salt, for example, palladium chloride, in an acid etchant for the plastic, followed by treatment with a solution containing amine boranes or ammonia borane. The borane solution may be a chemical plating solution, in which case, the second step of the surface preparation and the plating occurs simultaneously.

3,507,682
PROCESS AND APPARATUS FOR COATING THIN FILM SUBSTRATES

Michael A. Flavin, Los Angeles, Artrude L. Reed, Jr., Palos Verdes Peninsula, and Eliot Stone, Los Angeles, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed June 19, 1967, Ser. No. 646,955
Int. Cl. B44d *1/48;* **B05c** *1/08, 11/02*
U.S. Cl. 117—63 **5 Claims**



A process and apparatus wherein a solution is applied to one side of a thin film substrate. The film substrate with coated side down is passed over a smoothing roller. The smoothing roller rotates to provide reverse tangential contact with the film substrate while the coating thereon is wet. The roller rotates in free air and a wiper blade is located with respect to the roller surface to remove all but a very thin, e.g., 1 mil, coating material off the surface of the roller. The speed of rotation of the roller, the viscosity of the liquid, the speed of the film substrate, and the extent of tangential contact of the film to the roller are coordinated to provide a desired thin, smooth, uniform coating on the film substrate.

3,507,683
METHOD FOR APPLYING HEAT-SEALABLE POLYAMIC ACID, POLYAMIDE-IMIDE AND AROMATIC POLYAMIDE COMPOSITIONS TO A SYNTHETIC POLYMER FIBRID PAPER SUBSTRATE

Joseph F. Parsons, Folcroft, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 22, 1967, Ser. No. 647,904
Int. Cl. B44d *1/44;* **B32b** *27/08*
U.S. Cl. 117—63 **5 Claims**

A process for coating a substrate material, preferably synthetic polymer fibrid paper, with a coating composition of a polyamic acid, polyamide-imide, or an aromatic polyamide which thereby renders the coated substrate material heat-sealable. The process comprises:

(1) applying a solution of the polymer onto the substrate; and
(2) contacting the wet polymer coating of Step 1 with water whereby the polymer is precipitated upon the substrate and the solvent is extracted.

3,507,684
METHOD OF MAKING DECORATED WALLBOARD

Alphonse R. Wallen, Chicago, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Feb. 20, 1968, Ser. No. 706,775
Int. Cl. B44d *1/02*
U.S. Cl. 117—66 **17 Claims**

A process of making decorated wallboard in which an aqueous coating is applied to a paper cover of a wet gypsum board, the wet coated sheet is rendered porous by removal of moisture from the coating, and when the coating contains sand by pressing the sand particles into the coated cover sheet, and drying the coated board in a kiln.

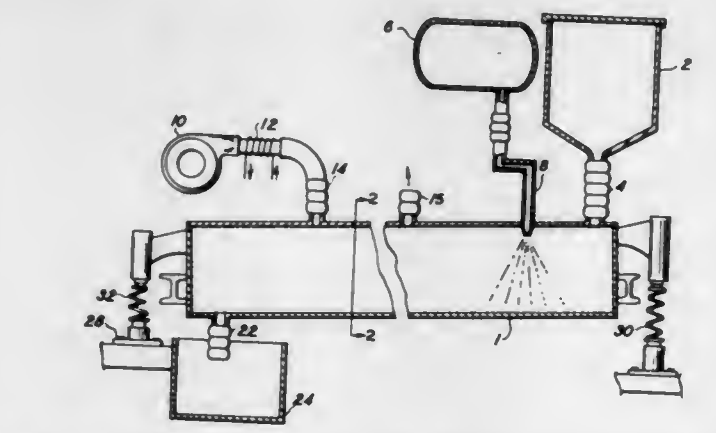
3,507,685
METHOD OF PREPARING AN ANCHOR COATED CELLULOSIC BASE MATERIAL

Samir K. Banerjee, Claymont, Del., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Sept. 29, 1967, Ser. No. 671,562
Int. Cl. B44d *1/14;* **D06m** *13/12, 13/34*
U.S. Cl. 117—76 **3 Claims**

A composite article comprising a cellulosic base member, an anchor coating material bonded thereto through an intermediate cross-linking agent and a synthetic thermoplastic resin coating composition firmly anchored to the base, as well as the method of its preparation, is disclosed herein.

3,507,686
METHOD OF COATING CARRIER BEADS

Robert J. Hagenbach, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 23, 1967, Ser. No. 648,355
Int. Cl. C03c *17/32;* **B44d** *1/02;* **B05b** *17/00*
U.S. Cl. 117—100 **9 Claims**

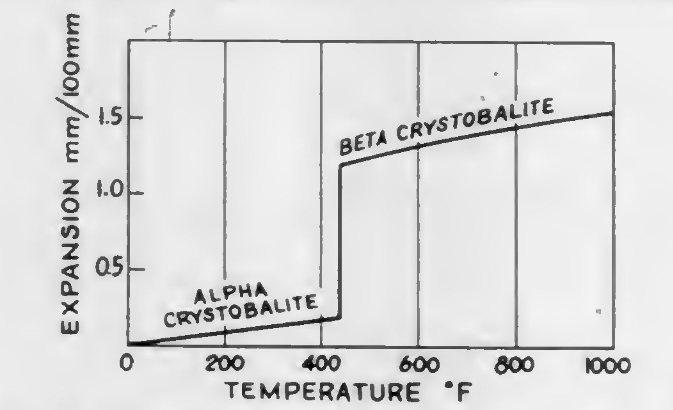


A method of coating carrier beads comprising contacting the beads with a resin solution and imparting oscillatory energy to the beads and resin solution while evaporating the resin solution solvent.

3,507,687
GLASS COATED FERROUS ARTICLE AND METHOD OF MAKING THE SAME

James A. Laird, 331 Quinlan Drive, Pewaukee, Wis. 53072
Filed Mar. 9, 1966, Ser. No. 532,927
Int. Cl. B32b *15/00;* **C23d**
U.S. Cl. 117—129 **9 Claims**

A glass coated metal article in which the glass coating contains a plurality of undissolved particles of crystobalite. The glass coating exhibits an inversion on cooling, thereby providing the coating with improved resistance to radii spalling as well as excellent corrosion resistance.



3,507,688
FLAMEPROOFED TEXTILE FABRICS AND METHOD THEREFOR

Wolfgang Carl and Martin Wandel, Dormagen, Dietrich Glabisch, Opladen, and Alfred Reichle, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed June 5, 1967, Ser. No. 643,357
Claims priority, application Germany, June 14, 1966, F 49,460
Int. Cl. C09d *5/18*
U.S. Cl. 117—136 **6 Claims**

Flameproofed fabrics are prepared by applying to the fabric the reaction product of a polymer containing free anhydride groups, e.g. styrene-maleic anhydride copolymer, and a tri(halogenalkyl)-phosphate, e.g. tri(bromopropyl)-phosphate.

3,507,689
PROCESS FOR INCREASING THE BOND STRENGTH BETWEEN RUBBER AND TEXTILES

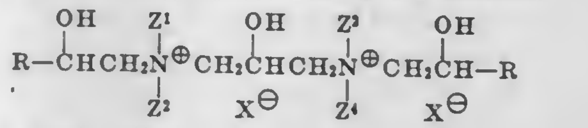
Helmut Freytag, Cologne-Stammheim, Ivo Dane and Erwin Müller, Leverkusen, and Guido Fromandi, Schildgen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed June 29, 1966, Ser. No. 561,383
Claims priority, application Germany, July 1, 1965, F 46,485
Int. Cl. B29h *9/06*
U.S. Cl. 117—138.8 **5 Claims**

Increasing the bond strength between rubber and a textile material by vulcanizing an applied mixture of (1) tetramethylol-hydrazodicarbonamide or an ether or ester thereof, (2) a benzene derivative selected from the group consisting of resorcinol, m-aminophenol, an ether or an ester or a condensate thereof with a ketone or an aldehyde, m-phenylene diamine and 1,5-dihydroxy-naphthalene and (3) natural rubber or synthetic rubber.

3,507,690
SOFTENING PROCESS FOR A CELLULOSIC TEXTILE FABRIC AND THE SOFTENED FABRIC

George B. Walker, Mariemont, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed May 24, 1967, Ser. No. 640,843
Int. Cl. D06m *13/46*
U.S. Cl. 117—139.5 **7 Claims**

A process for softening water absorbent cotton fabric by depositing thereon from about .5% to about 5% of a quaternary ammonium compound of the formula



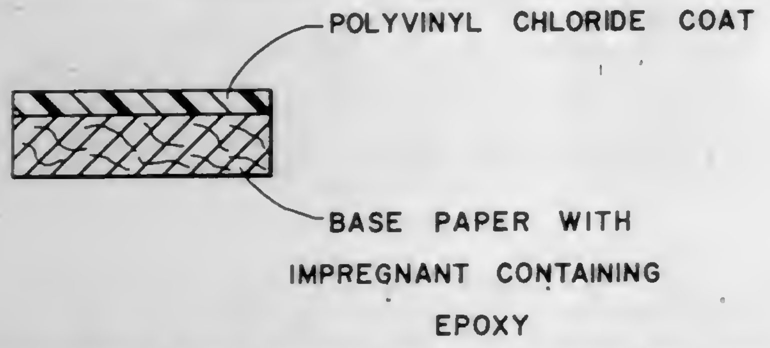
$$R-\underset{}{\overset{OH}{C}}HCH_2\underset{Z^2}{\overset{Z^1}{N}}{}^{\oplus}CH_2\overset{OH}{C}HCH_2\underset{Z^4}{\overset{Z^3}{N}}{}^{\oplus}CH_2\overset{OH}{C}H-R \quad X^{\ominus} \quad X^{\ominus}$$

wherein R is an alkyl radical containing from about 10 to about 14 carbon atoms, and from 0 to about 2 ether linkages, each ether linkage counting as one carbon atom; Z^1, Z^2, Z^3, and Z^4 are methyl, ethyl, or hydroxyethyl radicals; and X is chloride, bromide, or iodide.

3,507,691
HEAT FORMABLE ARTIFICIAL LEATHER PRODUCT AND METHOD OF MANUFACTURE

Robert E. Weber, Neenah, Wis., and Marvin L. Dull, Munising, Mich., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Nov. 22, 1966, Ser. No. 596,110
Int. Cl. B05c *3/12*
U.S. Cl. 117—155 **1 Claim**

A cellulosic product in the from of an impregnated paper sheet having as a major impregnant an elastomer of nitrile rubber and including a small quantity of an epoxy resin. The effect of the epoxy resin incorporated in the product is to overcome a tendency of the nitrile rubber impregnated paper material to rupture when heat embossed. The specific product and the methods of attaining it are described.



3,507,692
SENSITIZATION OF PHOTOCONDUCTIVE MATERIAL

Theofiel Hubert Ghys, Kontich, and Karel E. Verhille, Mortsel-Antwerp, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Apr. 5, 1967, Ser. No. 628,551
Claims priority, application Great Britain, Apr. 5, 1966, 15,149/66
Int. Cl. G03g *5/08, 5/00*
U.S. Cl. 117—201 **12 Claims**

An electrophotographic plate is prepared by applying a layer of photoconductive material to a support. The photoconductive material is applied from a composition containing an aqueous dispersion of an inorganic photoconductor and a resin binder. A sensitizing dye and a low vapor pressure organic solvent are added to photoconductive material during the preparation of the composition so that the dye and the solvent are present during the drying of the plate. The solvent has an evaporation time of at least 35 compared with ethyl ether.

3,507,693
METHOD OF PRODUCING AN ELECTROPHOTOGRAPHIC PLATE

Yasuo Ueda, 3–32 Kitano-cho, Ikula-ku, Kobe, Hyogo Prefecture, Japan; Akira Takatsu, 3–5–16 Kusatsu-cho, Kusatsu, Siga Prefecture, Japan; and Tatsu Aizawa, 6–34 Kuwagu-cho, Higashisumiyoshl-ku, Osaka, Japan
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,509
Int. Cl. H05f
U.S. Cl. 117—201 **7 Claims**

An electrophotographic printing plate including the base of art paper or the like coated with a mixture of citric acid and photoconductive microcrystalline zinc oxide with water and in some cases with ethyl alcohol producing an electrophotographic plate without requiring the use of resins and organic solvents which may be dangerous, the electrophotographic plate being usable with or without charging the plate.

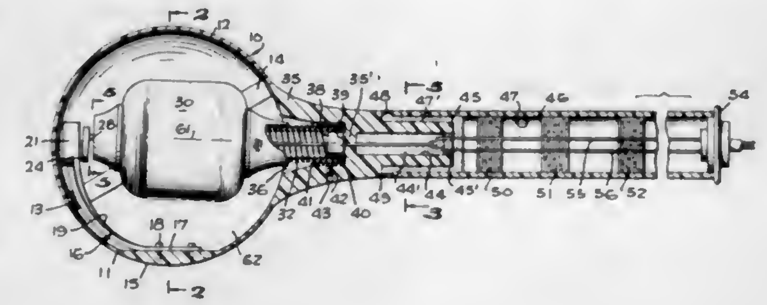
3,507,694
MAGNETIC RECORDING TAPE CONTAINING A POLYURETHANE BINDER FOR THE FERROMAGNETIC COMPONENT THEREOF

Wolfgang Eichler, Leverkusen, Wilhelm Abeck, Cologne-Stammheim, and Franz Hund, Krefeld-Bockum, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Continuation of application Ser. No. 383,225, July 16, 1964. This application May 2, 1968, Ser. No. 727,096
Claims priority, application Germany, Feb. 14, 1964, A 45,235
Int. Cl. H01f *10/02*
U.S. Cl. 117—235 **2 Claims**

A magnetic recording tape comprising a substrate having a coating of ferromagnetic tellurium modified chromium dioxide dispersed in a polyurethane binder.

3,507,695
UTILIZATION OF SOUND WAVE ENERGY

Harold T. Sawyer, Los Angeles, Calif., assignor of seventeen and one-half percent to Vernon D. Beehler, Los Angeles, Calif.
Continuation-in-part of application Ser. No. 480,310, Aug. 17, 1965. This application Apr. 18, 1967, Ser. No. 631,736
The portion of the term of the patent subsequent to Mar. 21, 1984, has been disclaimed
Int. Cl. B08b *7/02*
U.S. Cl. 134—1 **10 Claims**



Method for generating sound wave energy and utilizing it in such fashion that an appropriate tool is resonated in such fashion as to be capable of sending out sound wave energy of desired frequency and amplitude to do work. A typical apparatus by means of which the method can be practiced encompasses a light weight hollow essentially spheroidal shell of stiff resilient consistency which together with certain structural members and a source of power comprises a sonic energy source. The motor is specifically mounted so that the body of the motor itself revolves in conical fashion about an eccentric bearing support at one end and is held in a fixed radial and longitudinal position by means of a resilient concentric pivot bearing support at the other end. Only one connection is made between the spheroidal body and one of the bearing supports for the revolving motor. As a result the sinusoidal force thusly created by the product of the mass of the motor and its velocity around its eccentric bearing is transported to the spheroidal body at only one point. When the motor is properly selected with respect to its speed of rotation and eccentricity of mounting together with proper design of the structure, a sinusoidal force is created which when transferred to the shell body of specific design brings the body into resonance at a selected frequency and emits sound wave energy. The sound wave energy thus created can be made to do work either by passing it through a liquid or by connecting the spheroidal body directly to a tool for retransmission of sound energy.

3,507,696
BATTERY WITH AN IRON ELECTRODE HAVING A FUSED COATING

John F. Jackovitz, Monroeville, and Alois Langer, Forest Hills, Wilkinsburg, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 2, 1968, Ser. No. 764,458
Int. Cl. H01m *43/04*
U.S. Cl. 136—25 **5 Claims**

A battery is made containing at least one positive and one negative electrode plate with electrolyte contacting the plates, the negative electrode plate contains an active material comprising iron particles having a fused coating thereon, of elemental sulfur, selenium, or tellurium in the range of 5–20 percent of the weight of the iron particles.

3,507,697
PROCESS FOR PREPARING NICKEL ELECTRODES

Samuel Korman, Hewlett, N.Y., assignor to Portable Power Corporation, New York, N.Y., a corporation of New York
Filed Aug. 15, 1967, Ser. No. 661,501
Int. Cl. H01m *43/04, 35/18*
U.S. Cl. 136—29 **9 Claims**

The disclosure relates to electrodes for use in secondary battery sources and improvements in the process of making the same. In particular, it relates to the preparation of nickel electrodes whereby a porous nickel plaque is impregnated with a nickel salt solution and the nickel ion is reacted in situ with a carbonate anion which forms a water-insoluble salt. The plaque is then electrolyzed in an alkaline aqueous solution to activate the same.

3,507,698
METHOD FOR THE PRODUCTION OF LEAD STORAGE BATTERY ELECTRODES

Erik Gustav Sundberg, Osbacken, Sweden, assignor to Aktiebolaget Tudor, Stockholm, Sweden, a corporation of Sweden
Continuation-in-part of application Ser. No. 590,223, Oct. 28, 1966. This application Apr. 17, 1969, Ser. No. 816,989
Claims priority, application Sweden, Dec. 28, 1965, 16,809/65
Int. Cl. H01m *35/26, 39/00*
U.S. Cl. 136—33 **3 Claims**

A method for the production of a storage battery electrode comprising a grid of metallic material covered with a paste of active compound including lead, lead oxides, sulphuric acid, and water in which the heat treatment consists of passing the electrode between a pair of rollers heated to a temperature of about 500° C. that is sufficiently high to dry only the surface of the paste to a depth of about 0.1 to 0.2 mm.

3,507,699
PROCESS FOR MAKING A NICKEL ELECTRODE

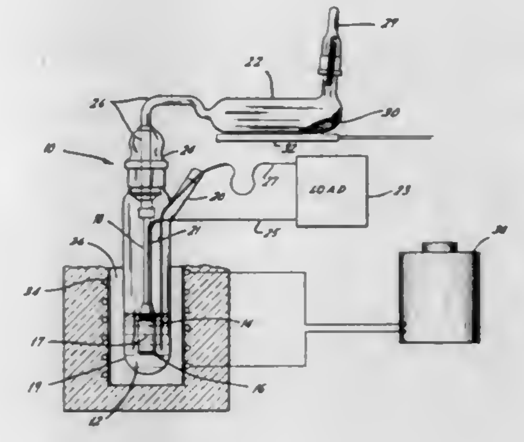
Melvyn B. Pell, New York, and Raymond W. Blossom, Brooklyn, N.Y., assignors to Yardney International Corp., New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 2, 1968, Ser. No. 702,506
Int. Cl. H01m *35/30*
U.S. Cl. 136—76 **5 Claims**

A process is described for impregnating porous nickel plaques with bivalent $Ni(OH)_2$ by cathodic impregnation in a concentrated acidic nickel nitrate electrolyte containing an acid-stable high molecular weight wetting agent at elevated temperature. The impregnation takes place at high current density and at a constant potential of the porous plaque relative to a reference electrode. Unusually quick impregnations of 6 and 7 a.h./in.^{3} are obtained.

3,507,700
METHOD OF OPERATING A THERMAL FUEL CELL COMPRISING A METAL AND A HALOGEN ELECTRODE

Wayne Martin Fassell, Jr., and Donald W. Bridges, Newport Beach, and Minor H. White, Costa Mesa, Calif., assignors to Philco-Ford Corporation, a corporation of Delaware
Filed Jan. 4, 1966, Ser. No. 518,573
Int. Cl. H01m *15/02*
U.S. Cl. 136—86 **1 Claim**

A method for electrochemically generating electricity in a fuel cell, including reacting a halogen gas with a metal through the intermediation of a molten electrolytic medium to produce a reaction product insoluble in said medium, and operating said fuel cell at a temperature sufficiently high to volatilize, but insufficient to decompose, said reaction product.



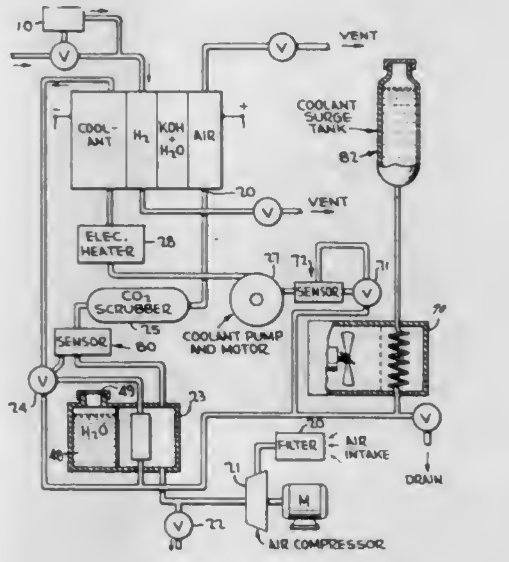
3,507,701
PROCESS OF USING FUEL CELL INCLUDING TUNGSTEN OXIDE CATALYST

Barret Broyde, New York, N.Y., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 30, 1966, Ser. No. 606,021
Int. Cl. H01m *27/04, 13/00;* **B01k** *3/06*
U.S. Cl. 136—86 **3 Claims**

A method of producing electrical energy in a fuel cell. The cathode of the cell includes a non-metal catalyst consisting essentially of a non-stoichiometric tungsten oxide.

3,507,702
FUEL CELL SYSTEM INCLUDING COOLING AND HUMIDIFYING MEANS

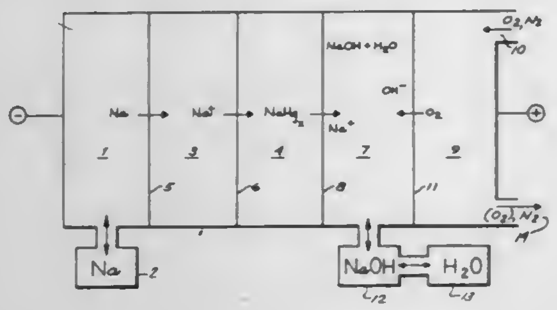
Robert A. Sanderson, Thompsonville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 15, 1967, Ser. No. 616,369
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 **7 Claims**



A compact fuel cell system is described capable of operating an ambient air over the full load range of the system at ambient temperatures of from —45° to 125° F., and at any air relative humidity of from 0 to 100 percent. The system comprises a compact hydrogen air fuel cell stack, a cooling loop, a process air feed system, and a hydrogen fuel control system. The sub-assemblies are constructed integral with one another to permit the needed control of temperature and humidity conditions within the cell when operated within the designated ranges.

3,507,703
ALKALI METAL-AIR HIGH ENERGY-DENSITY FUEL CELL

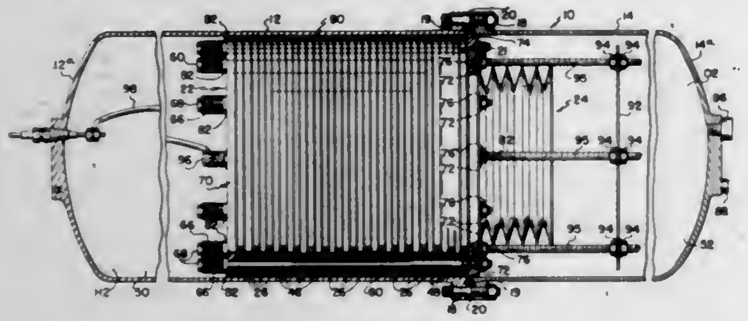
Laszlo A. Heredy, Canoga Park, Calif., assignor to North American Rockwell Corporation
Filed Mar. 8, 1967, Ser. No. 621,579
Int. Cl. H01m *27/30, 27/20, 27/00*
U.S. Cl. 136—86 11 Claims



A compact, unitary electrically regenerative alkali metal-oxygen fuel cell consisting of a combination of an alkali metal-alkali metal amalgam subcell (using a fusible nonaqueous electrolyte molten below 180° C.) and an alkali metal amalgam-oxygen subcell (using aqueous alkali metal hydroxide solution as electrolyte), the unitary fuel cell being operated at a temperature at which the fusible electrolyte is molten. Exemplary and preferred is a sodium-air cell which contains as nonaqueous electrolyte in the sodium-sodium amalgam subcell an electrolyte fusible below 160° C. consisting of a ternary salt mixture of sodium amide, sodium hydroxide, and sodium iodide.

3,507,704
ELECTROLYTICALLY REGENERATIVE HYDROGEN-OXYGEN FUEL CELL

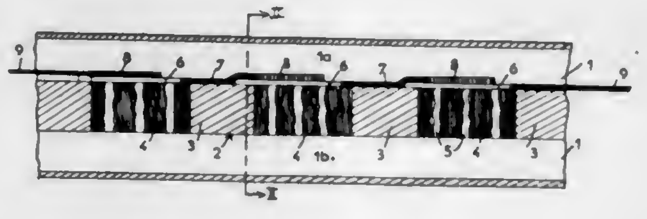
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Bernard M. Wilner, West Covina, Harvey A Frank, Pasadena, Eugene Findl, Granada Hills, and Martin G. Klein, Sunnyvale, Calif.
Filed May. 17, 1967, Ser. No. 640,457
Int. Cl. H01m *27/02*
U.S. Cl. 136—86 4 Claims



The fuel cell comprises a plurality of bi-polar electrically conductive plates each of which has a rim portion having transversely extending slots therein forming passages for gas flow in a direction perpendicular to the plane of the plate. On one side of the plate a plurality of circumferentially spaced depressions are provided generally adjacent alternate of said slots. Each depression is connected to one diametrically opposite it by a groove in the plate resulting in a radial-spoked pattern. A thin passage disposed in the plate extends between each depression and the respective slot to which it is adjacent. The same pattern of depressions and grooves is provided on the other side of the plate and the depressions on said other side communicate with the remaining second set of alternate slots in the rim through thin passages in the plate. An electrolyte containing nonconductive mat is sandwiched between each bi-polar plate and the bi-polar plate adjacent thereto and in compressed condition between the opposing hydrogen and oxygen electrodes of the adjacent plates. Integral gas storage means are provided with a coacting bellows arrangement for equalizing the gas pressure in the storage means.

3,507,705
SOLID ELECTROLYTE FUEL-CELL BATTERY

Helmut Tannenberger and Herbert Schachner, Geneva, and Wolfgang Simm, Lausanne, Switzerland, assignors to Compagnie Francaise de Raffinage, Paris, France
Continuation-in-part of application Ser. No. 280,799, May 16, 1963. This application Sept. 3, 1968, Ser. No. 756,957
Claims priority, application Switzerland, May 23, 1962, 6,216/62
Int. Cl. H01m *27/06*
U.S. Cl. 136—86 5 Claims



A fuel cell battery has been provided which is of a solid electrolyte operating at high temperature, consisting of a plurality of elements each comprising a first electron-conductive electrode, a second electron-conductive electrode of a sign opposite the sign of the said first electrode and a solid electrolyte of a cubic-phase stabilized zirconia arranged between said first and second electrodes and in contact with the same, the said first electrode of the said plurality of elements being electrically insulated from each other and forming part of a separator which assures the mechanical strength of the said batteries and divides the enclosure in which the battery of cells is placed into two compartments for a stream of fuel gas and a stream of comburant flowing separately from each other, the electrolyte of each element being arranged as a thin layer on said separator and in contact with said first electrode, so that the separator-electrolyte assembly of the said element is impermeable to gas, an electron-conductive material being arranged between each of the electrolytes of the different elements and connecting each of the said first electrodes forming part of the separator to said second electrode of the adjacent element, the current produced being collected by electronic conductors in contact with an electrode of the first element of the battery and the electrode of opposite sign of the last element thereof.

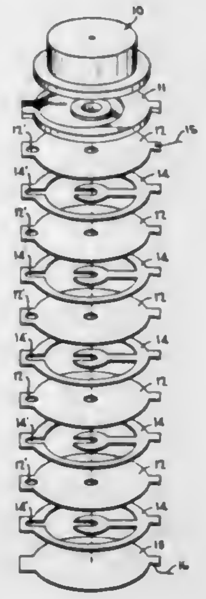
3,507,706
METHOD OF USING PHOTOVOLTAIC CELL USING POLY-N-VINYL-CARBAZOLE COMPLEX

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Allen M. Hermann, New Orleans, La., and Alan Rembaum, Altadena, Calif.
Filed Apr. 4, 1968, Ser. No. 718,752
Int. Cl. H01e *15/02;* **C08f** *7/16*
U.S. Cl. 136—89 4 Claims

A method of producing an output voltage from a photovoltaic cell utilizing poly-N-vinylcarbazole complexed with iodine as the photovoltaic material.

3,507,707
RESERVE BATTERY

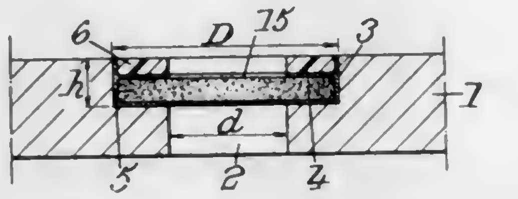
Allan M. Biggar, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 28, 1967, Ser. No. 619,896
Int. Cl. H01m *21/14*
U.S. Cl. 136—90 5 Claims



In this disclosure is described a self-actuated battery which is supplied with electrolyte from a self-opening ampule. When the battery is spinning on its cylindrical axis a diaphragm across the end of the ampule is punctured by a unique cutter which responds to a combination of linear and angular acceleration forces thereby allowing the electrolyte to flow from the ampule through a fill channel into the battery cells. Intercell short circuits are eliminated by purging the fill channel of electrolyte with a high density liquid released from the ampule shortly after the electrolyte is released.

3,507,708
ELECTRIC CELL WITH GAS PERMEABLE VENT STOPPER

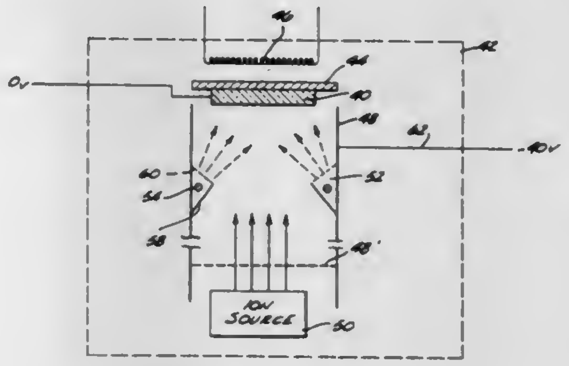
René Vignaud, Aulnay-sous-Bois, France, assignor to Les Piles Wonder, Saint-Ouen, France
Filed Sept. 19, 1967, Ser. No. 668,828
Claims priority, application France, Sept. 22, 1966, 77,357, Patent 1,501,835
Int. Cl. H01m *1/06;* **B65d** *51/16*
U.S. Cl. 136—177 4 Claims



The membrane is made of a microporous piece of a perhalogenated aliphatic hydrocarbon, preferably polytetrafluoroethylene or polytrifluoromonochloroethylene, with respect to which the angle of wetting or contact of the liquid to be stopped is substantially greater than 90°. This membrane can form part of a stopper for primary or secondary cells for preventing the escape of the liquid electrolyte from such cells, while permitting the escape of gases produced in the cells.

3,507,709
METHOD OF IRRADIATING DIELECTRIC-COATED SEMICONDUCTOR BODIES WITH LOW ENERGY ELECTRONS

Robert W. Bower, Palos Verdes, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,111
Int. Cl. H01l *7/54*
U.S. Cl. 148—1.5 10 Claims



Method of treating dielectric-coated semiconductor bodies by irradiation with low energy electrons to establish a negative potential on the dielectric coating so as to prevent positive charge build-up across the dielectric during ion implantation therethrough or to attract undesired positive ions in the dielectric to the electron irradiated surface where these positive ions may be rendered ineffective or removed.

3,507,710
PROCESS FOR TREATING STEEL

Raymond A. Grange, Washington Township, Westmoreland County, and Clayton E. Groff, Penn Hills Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Feb. 23, 1967, Ser. No. 617,829
Int. Cl. C21d *1/26, 7/14*
U.S. Cl. 148—12 13 Claims

A high-temperature heat treatment applicable to steel to eliminate or minimize the effect of dendritic segregation and, in certain steels, to refine the inherent grain size. The treatment involves exposing such steels to temperature above about 2400° F. for a minimum of 10 minutes. Data are presented to show the improved microstructure grain size and reduced directionality of steel pretreated in accordance with the invention.

3,507,711
HIGH-STRENGTH STEEL AND NOVEL WIRE PRODUCT

Robert M. Fisher, Wilkins Township, Pa., assignor to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed May 29, 1967, Ser. No. 642,134
Int. Cl. C22c *39/08*
U.S. Cl. 148—36 5 Claims

A steel suitable for the manufacture of high-strength fine-gauge wire which consists essentially of 0.85 to 1.0% carbon, 1.0 to 4.0% cobalt, up to 0.5% of at least one of molybdenum, chromium and tungsten, up to 0.7% manganese and the balance iron and normal steel-making residuals. Also, a wire 0.007-inch diameter or less having a yield strength of at least 550,000 p.s.i. and a pearlite spacing of not greater than 400 angstroms.

3,507,712

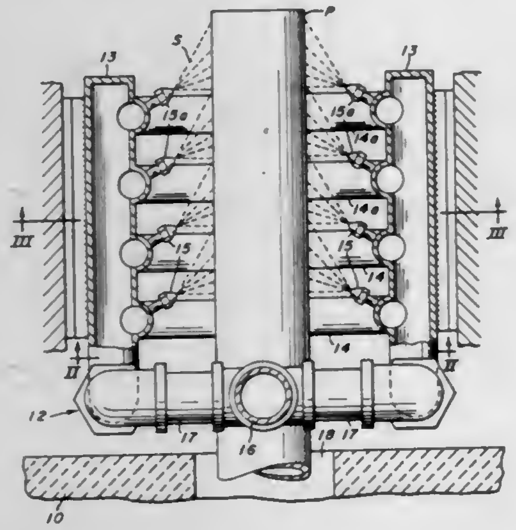
METHOD AND APPARATUS FOR QUENCHING PIPE

James A. Scott, Mount Lebanon Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Sept. 8, 1967, Ser. No. 668,991

Int. Cl. C21d *1/62, 1/60, 9/08*

U.S. Cl. 148—143 **5 Claims**



An improvement on the pipe-quenching method and apparatus of Patent No. 2,776,230. Apparatus includes manifold rings having spray nozzles through which pipe travels lengthwise. The sprays are directed at angles such that water is excluded from the leading ends of the pipe. The improvement consists in reversing the angles on half the rings to produce better quenching.

3,507,713

MONOLITHIC CIRCUIT CHIP CONTAINING NON-COMPATIBLE OXIDE-ISOLATED REGIONS

Bernard L. Kravitz, Forest Hills, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 13, 1966, Ser. No. 564,777

Int. Cl. H01l *7/36*

U.S. Cl. 148—175 **3 Claims**

In general my invention contemplates the provision of an integrated circuit slice containing noncompatible regions in which a substrate having a surface carries respective regions of material of different conductivity types extending into said substrate from said surface and surrounded below said surface by oxide isolating films and to a method of making the same. Each region comprises a layer of relatively high resistivity material superposed on a layer of relatively low resistivity to provide an ideal structure for formation of both p-n-p and n-p-n structures in the same slice.

3,507,714

HIGH CURRENT SINGLE DIFFUSED TRANSISTOR

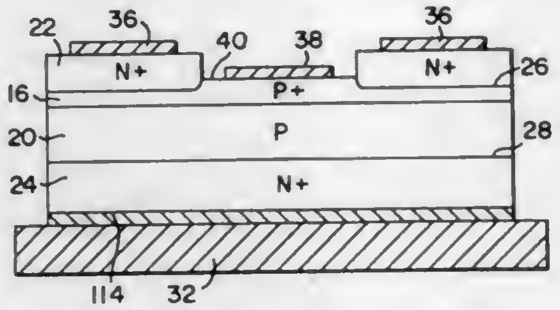
Thorndike C. New and Paul M. Kisinko, Greensburg, Frederick G. Ernick, Youngwood, and Joseph Marino, Irwin, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 16, 1967, Ser. No. 661,038

Int. Cl. H01l *7/44, 7/62*

U.S. Cl. 148—186 **2 Claims**

This invention is directed to a high current, 200 ampere, single diffused transistor which has a low saturation voltage at high current levels. This necessary parameter for such a device is realized by the device having a low base resistance due to a portion of the base region being highly doped. The invention is also directed to a diffusion process for preparing such a device.



3,507,715

METHOD OF MANUFACTURING A TRANSISTOR

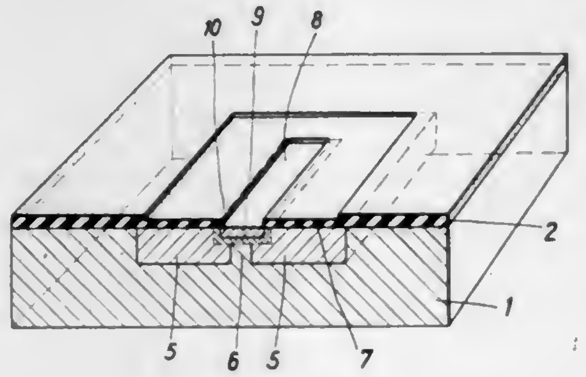
Reinhold Kaiser, Heilbronn, Germany, assignor to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany

Filed Dec. 28, 1966, Ser. No. 605,342

Claims priority, application Germany, Dec. 28, 1965, T 30,152

Int. Cl. H01l *7/44*

U.S. Cl. 148—187 **8 Claims**



A method of manufacturing transistors by the planar technique by forming an annular diffusion window on one surface of a semiconductor body, diffusing impurities through the annular diffusion window to form a first impurity zone, covering the diffusion window, uncovering the central part of the diffusion window, and diffusing impurities through the central part of the diffusion window to form a second and a third impurity zone.

3,507,716

METHOD OF MANUFACTURING SEMICONDUCTOR DEVICE

Sumio Nishida and Toshizi Mogi, Kodaira-shi, Japan, assignors to Hitachi Ltd., Tokyo, Japan, a corporation of Japan

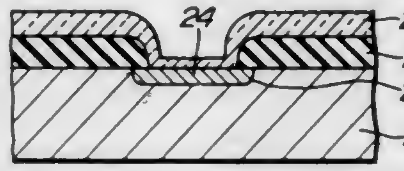
Filed Sept. 1, 1967, Ser. No. 665,144

Claims priority, application Japan, Sept. 2, 1966, 41/57,557

Int. Cl. H01l *7/36, 7/44, 7/50*

U.S. Cl. 148—187 **8 Claims**

This specification discloses a method of manufacturing a semiconductor device having its silicon substrate surface covered with a layer consisting of a mixture of P_2O_5 and SiO_2. In this method, when the mixture layer of P_2O_5 and SiO_2 is formed on the silicon substrate of which the surface is partially covered with a SiO_2 layer, by supplying a gasified phosphorus compound onto said substrate together with a carrier gas, the mixture layer is made to be thicker on the SiO_2 layer than on the exposed silicon surface by controlling the quantity of oxygen contained in said carrier gas, thereafter the substrate is immersed in an etchant to uniformly etch said mixture layer so that the thinner mixture layer formed on said silicon surface is removed and thus the silicon surface is again exposed while the mixture layer formed on said layer is left, and then metal electrodes reaching said silicon surface again exposed are formed by, for example, the evaporation method. Thus, there can be obtained a semiconductor device having a very minute electrode structure.



3,507,717

INHIBITED NITROGEN TETROXIDE WITH FLUORINE-CONTAINING OXIDIZER

Hubert E. Dubb, Sepulveda, Ralph C. Greenough, Los Angeles, and Bartholomew L. Tuffly, Woodland Hills, Calif., assignors to North American Rockwell Corporation

No Drawing. Filed Apr. 2, 1965, Ser. No. 445,871

Int. Cl. C01b *21/36;* **C06d** *5/00*

U.S. Cl. 149—1 **8 Claims**

1. A method of decreasing the water equivalency content of nitrogen tetroxide composition having water or its equivalent compounds as an impurity mixed therewith comprising:

> adding to said nitrogen tetroxide composition a fluorine-containing oxidier selected from the group consisting of F_3NO, OF_2 and N_2F_4 in at least an amount sufficient to convert said water impurity to HF and other compounds compatible with said nitrogen tetroxide.

3,507,718

EXPLOSIVE SLURRY CONTAINING PULPY FIBROUS MATTER, FINELY DIVIDED CARBONACEOUS MATERIAL AND POWERFUL INORGANIC OXIDIZER SALT

Kay S. Mortensen, Orem, Mark J. Hagmann, Midvale, and Harvey A. Jessop, Murray, Utah, assignors to Intermountain Research and Engineering Co., Inc., a corporation of Utah

No Drawing. Filed Mar. 26, 1969, Ser. No. 810,781

Int. Cl. C06b *1/00, 1/04, 19/02*

U.S. Cl. 149—3 **19 Claims**

An explosive slurry of high potency and low cost is made up of water, sugar beet pulp coated with finely divided carbonaceous material when needed, and/or combined with aluminum in some cases, an aqueous solution of strong oxidizer salt, such as ammonium nitrate, which may contain sodium nitrate or other oxidizer, and a thickener. Wood pulp, dried cactus fiber, finely divided dry alfalfa, dried castor bean pomace, etc., may be used in lieu of or with sugar beet pulp, provided the oxidizer solution can penetrate into the fiber while trapping air bubbles there.

3,507,719

EXTRUDABLE SOLID PROPELLANT COMPOSITION CONTAINING METALLIC FUEL PARTICLES AND OXIDIZER PARTICLES DISPERSED IN A WAXY BINDER

James E. Hodgson, Cleveland, Ohio, assignor to Solid Fuels Corporation, Cleveland, Ohio, a corporation of Ohio

Original application Nov. 2, 1959, Ser. No. 850,489, now Patent No. 3,388,554, dated June 18, 1968. Divided and this application Mar. 28, 1968, Ser. No. 772,871

Int. Cl. C06d *5/00*

U.S. Cl. 149—6 **2 Claims**

The invention relates to an extrudable solid propellant composition in which metal-containing fuel particles and oxidizer particles are dispersed in a low melting waxy material. The dispersed oxidizer particles alone can be coated with a plastic film or both the dispersed oxidizer and fuel particles can be coated with a plastic film.

3,507,720

GELLED AQUEOUS ACIDIC COMPOSITION CONTAINING AN IN SITU CROSSLINKED REACTION PRODUCT

Marvin L. Peterson, Woodstown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 28, 1967, Ser. No. 663,495

Int. Cl. C06b *7/00*

U.S. Cl. 149—19 **15 Claims**

Aqueous acidic compositions gelled with a polymer having pendent amide or nitrile functions crosslinked by a monomer containing a plurality of $\text{-(}CH_2OR)$ groups bonded to amido nitrogen and a process for their preparation. The gelling system of this invention finds particular utility in explosive compositions based on an oxidizing agent and one or more fuels or sensitizers.

3,507,721

CROSSLINKED CARBOXY-TERMINATED POLYETHER PROPELLANT COMPOSITIONS CONTAINING NITRATO ESTERS

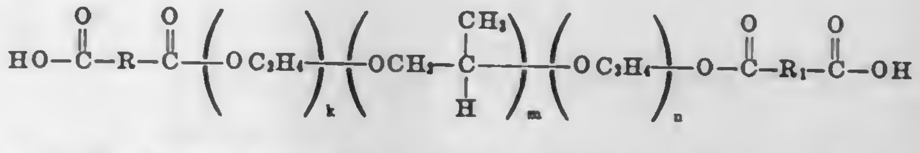
Toshio W. Nakagawa, San Jose, and Thomas P. Rudy, Saratoga, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Aug. 1, 1967, Ser. No. 657,521

Int. Cl. C06d *5/00, 5/06*

U.S. Cl. 149—19 **3 Claims**

Carboxy-terminated polyethers having the general structural formula:



$$HO-\overset{O}{\overset{\|}{C}}-R-\overset{O}{\overset{\|}{C}}\left(OC_2H_4\right)_k\left(OCH_2-\underset{H}{\underset{|}{\overset{CH_3}{\overset{|}{C}}}}\right)_m\left(OC_2H_4\right)_n-O-\overset{O}{\overset{\|}{C}}-R_1-\overset{O}{\overset{\|}{C}}-OH$$

wherein R and R_1 are hydrocarbyl groups containing 2–4 carbon atoms, k and n are integers whose sum is not less than 4 nor more than 60, m is an integer not less than 6 nor more than 70 and the value of the relationship $k+n/k+m+n$ is not less than 0.2 nor more than 0.6.

Such polymers are compatible with the nitrato esters used in high burning rate propellants, high density propellants and metal hydride containing propellants and can be crosslinked with a crosslinking agent having a functionality greater than 2 to produce nitrato ester plasticized propellants having good mechanical properties.

3,507,722

UNFOAMED POLYETHER URETHANE, NITRAMINE BONDED HIGH EXPLOSIVE

Joseph T. Hamrick, Roanoke County, Va.
(6364 Jae Valley Road SE., Roanoke, Va. 24014)
No Drawing. Continuation-in-part of application Ser. No. 542,432, Apr. 12, 1966. This application Aug. 9, 1967, Ser. No. 659,313
Int. Cl. C06b *15/02*
U.S. Cl. 149—19 2 Claims

This invention consists of a high explosive system comprising a flexible unfoamed polyether urethane binder and RDX (or HMX) alone or with atomized aluminum. The explosive is cast and cured in an armament case adhering tightly to the case, reinforcing it and forming a tough, water resistant, and heat resistant (350° F.) explosive with low impact sensitivity. It can be cycled from —65° F. to 350° F. without cracking or separating from the armament case.

3,507,723

HIGH - TEMPERATURE IGNITION COMPOSITION OF TELLURIUM DIOXIDE, ALUMINUM, AND CARBON BLACK

Hubert G. Timmermans, Manhattan Beach, Calif., assignor to Space Ordnance Systems, Inc., El Segundo, Calif., a corporation of California
Filed Sept. 27, 1967, Ser. No. 671,044
Int. Cl. C06c *1/00, 1/02*
U.S. Cl. 149—21 4 Claims

This is a pyrotechnic ignition mixture characterized by its ability to withstand a relatively high temperature for a long time without degrading, while still being susceptible to firing by a hot bridge wire. The mixture consists of aluminum about 17%, carbon black about 3%, and tellurium dioxide about 80%.

3,507,724

METHOD OF FABRICATING LAMINATE-LIKE STRUCTURES

John J. Affel, Canoga Park, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Sept. 22, 1967, Ser. No. 669,760
Int. Cl. B29c *27/08*
U.S. Cl. 156—73 9 Claims

A number wheel for use in a counter or other like device and embodying a novel construction of a number wheel and operatively associated parts, including a unitary sandwich of the wheel integral with a primary wheel hub, a spring detent member, and a secondary hub, the latter rotatably mounting and confining a driver gear element, with a spring and pawl reset mechanism confined in a recess in the sandwich. Also involved is the method of fabricating such a number wheel by a series of mechanical steps including ultrasonic welding for uniting wheel hubs in forming the sandwich.

3,507,725

PROCESS FOR REPAIRING GAS MAIN JOINTS

Peter J. Hylak, 3112 W. 40th St., Chicago, Ill. 60632, and Gerald G. Wilson, 2307 S. Buckingham, Westchester, Ill. 60153
No Drawing. Filed Nov. 30, 1964, Ser. No. 414,870
Int. Cl. B32b *35/00*
U.S. Cl. 156—94 16 Claims

A process for repairing gas main joints of the type sealed by fibrous packings. A liquid sealing substance which is curable to a substantially non-volatile and substantially solid condition is provided. The liquid substance is applied to the packings in the gas main until the packing becomes saturated with the substance. The liquid substance is then cured in the packing so that the cured liquid substance and the fibrous packings cooperate to provide a tough, non-volatile, and substantially permanent seal for the packed joints.

3,507,726

ROTARY MICROFILM MOUNTING MACHINE AND METHOD

Wynn D. Crew, 9655 W. Colfax Ave., Lakewood, Colo. 80215
Filed Sept. 27, 1966, Ser. No. 582,283
Int. Cl. B65h *27/00;* **B32b** *31/04, 31/16*
U.S. Cl. 156—108 20 Claims

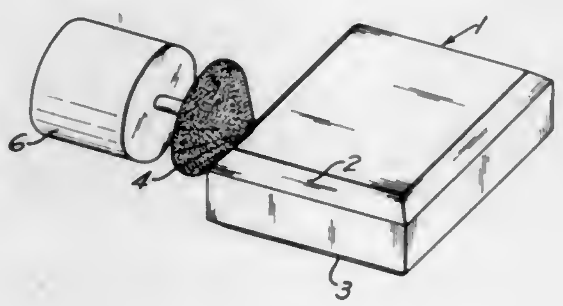
A method and mechanisms for removing the glassine cover sheet from aperture cards and for cutting and mounting strips of film from a supply roll of film wherein the card is bent to stress the cover sheet adhesive bond as an element moves to contact the cover sheet to initiate removal and wherein said cards and film move along converging paths and into contact before the film is cut.

A rotary drum moves and bends the cards and serves to carry and/or actuate a cover sheet plunger and a film cutoff element. Film and card viewing devices facilitate selection and registration operations.

3,507,727

METHOD OF MAKING AND SEAMING COVERED FOAM CUSHIONING

Irving L. Marshack, La Jolla, Calif., assignor, by mesne assignments, to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 1, 1966, Ser. No. 524,251
Int. Cl. B32b *31/00*
U.S. Cl. 156—153 6 Claims

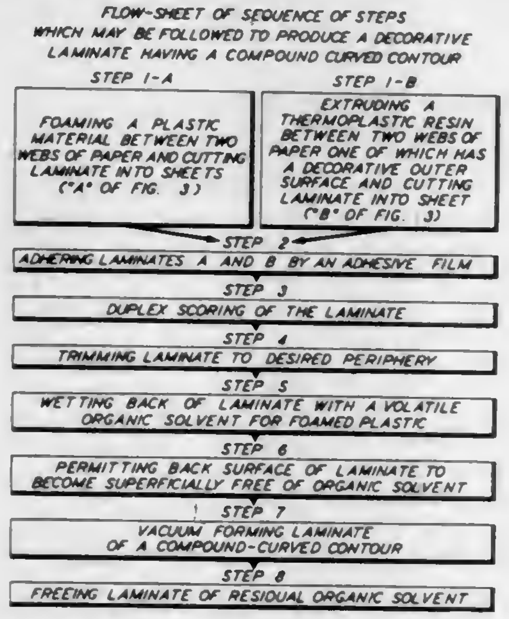


A contoured seamed structure and method for preparing the same by beveling the edges of a block of foam, placing the beveled block within a confining member having substantially the same length and width dimensions but a depth less than that of the block after lining the confining member with a flanged covering material, covering the block disposed in the confining member on both sides with sheets of covering material, compressing the block to the depth of the confining member between two surfaces, sealing the covering sheets to the flanges of the lining of the confining member, releasing the pressure and removing from the confining member the contoured seamed structure having a core maintained under a transverse compression via the seal between the sheets of the covering material and the lining of the confining member which extends around the side of the structure and which is spaced from the top and bottom surfaces thereof.

3,507,728

METHOD FOR PRODUCING A DECORATIVE LAMINATED PANEL

Herman F. Bock, South Hadley, Mass., Robert C. Graham, deceased, late of South Hadley, Mass., by Winifred Graham, executrix, South Hadley, Mass., and Jay J. Uber, South Hadley, Mass., assignors to The Plastic Coating Corporation
Original application Feb. 15, 1963, Ser. No. 258,857. Divided and this application Dec. 11, 1964, Ser. No. 417,838
Int. Cl. B32b *31/14*
U.S. Cl. 156—196 9 Claims


FLOW-SHEET OF SEQUENCE OF STEPS WHICH MAY BE FOLLOWED TO PRODUCE A DECORATIVE LAMINATE HAVING A COMPOUND CURVED CONTOUR
STEP 1-A
FOAMING A PLASTIC MATERIAL BETWEEN TWO WEBS OF PAPER AND CUTTING LAMINATE INTO SHEETS ("A" OF FIG. 3)
STEP 1-B
EXTRUDING A THERMOPLASTIC RESIN BETWEEN TWO WEBS OF PAPER ONE OF WHICH HAS A DECORATIVE OUTER SURFACE AND CUTTING LAMINATE INTO SHEET ("B" OF FIG. 3)
STEP 2
ADHERING LAMINATES A AND B BY AN ADHESIVE FILM
STEP 3
DUPLEX SCORING OF THE LAMINATE
STEP 4
TRIMMING LAMINATE TO DESIRED PERIPHERY
STEP 5
WETTING BACK OF LAMINATE WITH A VOLATILE ORGANIC SOLVENT FOR FOAMED PLASTIC
STEP 6
PERMITTING BACK SURFACE OF LAMINATE TO BECOME SUPERFICIALLY FREE OF ORGANIC SOLVENT
STEP 7
VACUUM FORMING LAMINATE OF A COMPOUND-CURVED CONTOUR
STEP 8
FREEING LAMINATE OF RESIDUAL ORGANIC SOLVENT

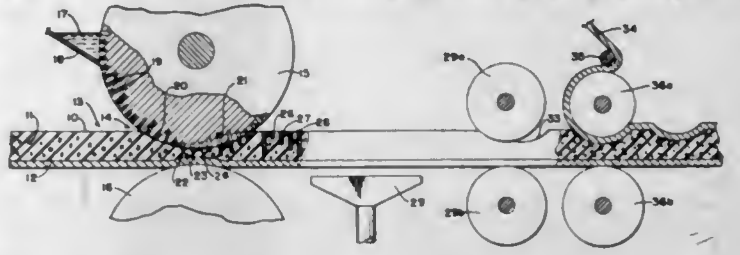
A method is disclosed for making a composite, decorative, laminated panel having a predetermined peripheral shape and one or more compound curves. Such panels are used as interior trim in motor vehicles, and the invention is especially suited for making one piece headliners for automobiles. In the method, a plastic material is foamed between two webs of paper and the resulting laminate is cut into sheets. Two additional paper webs are formed into a laminate by extruding a thermoplastic resin between them. These two laminates are adhered together by an adhesive film. The resulting composite laminate is then scored on each outer surface thereof with two sets of parallel score lines to form a grid pattern, the score lines on one surface being offset from those on the other surface. The composite laminate is trimmed to the desired periphery. One outside surface of the composite laminate is wet with a volatile organic solvent for the foamed plastic, which solvent is permitted to penetrate the surface of the laminate and to evaporate substantially completely from the outer surface of the composite laminate. The composite laminate is then vacuum formed into the desired compounded curvature after which residual organic solvent is removed.

3,507,729

CONTOURED ORNAMENTATION OF LAMINATED RESILIENT MATERIALS

Philip Miller, Norwalk, Conn., assignor to Hicks and Otis Prints, Incorporated, Norwalk, Conn., a corporation of Connecticut
Application Dec. 13, 1963, Ser. No. 330,357, now Patent No. 3,352,741, which is a continuation-in-part of applications Ser. No. 44,649, July 22, 1960, and Ser. No. 246,751, Dec. 24, 1962. Divided and this application May 8, 1967, Ser. No. 636,819
Int. Cl. B29c *15/00;* **B32b** *5/18, 7/14*
U.S. Cl. 156—209 8 Claims

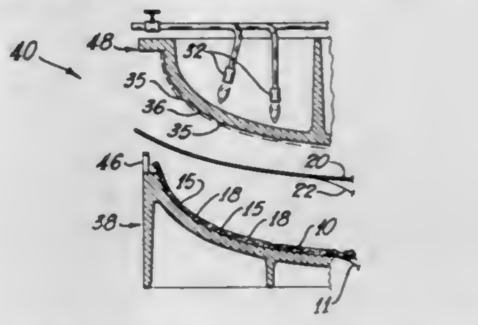
A process of embossing, quilting and other ornamentation of a sponge sheet material is described herein which comprises depositing an adhesive upon selected areas on the surface of a liquid permeable, compressible and restorable sheet and rendering the adhesive tacky and thereafter stretching the sponge sheet and reducing the thickness of the sheet while the sheet is under compression and at least partially setting the adhesive while a fabric is overlaid on the sponge sheet after which the compression is relaxed. This process produces a quilt-like material which may have a puckered effect having selected surface areas where the thickness of the sponge sheet differs in sectional dimensions from other areas of the sheet.



3,507,730

METHOD OF PRODUCING A COMPOSITE WALL PANEL

Ulysses T. Gambill, Newark, and William R. Thomas, Granville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Feb. 28, 1964, Ser. No. 348,028, now Patent No. 3,396,070, dated Aug. 6, 1968. Divided and this application Feb. 21, 1968, Ser. No. 730,964
Int. Cl. B29c *17/02*
U.S. Cl. 156—214 3 Claims

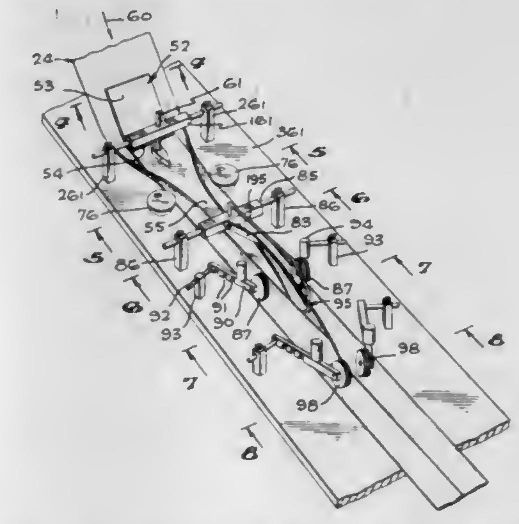


A method of producing an automobile headliner having an indented decorative facing in which the main body of bonded fibrous glass is first molded with the indented decorative surface formed therein and a surfacing sheet of compressible material is conformingly shaped and attached to the main body, with the main body in inverted position, in a second molding operation which is limited to avoid full compression of the surfacing sheet.

3,507,731

APPARATUS FOR FORMING LINT REMOVERS OR THE LIKE

Leon M. Timms, 636 Amherst Drive, Burbank, Calif. 90204
Filed Oct. 31, 1966, Ser. No. 590,923
Int. Cl. B29d *23/10*
U.S. Cl. 156—218 15 Claims



Apparatus for forming a series of lint removers, by folding to an essentially tubular form two superimposed strips of sheet material, one of which has a coating of pressure sensitive adhesive by which it is adhered to the other sheet, and securing the strips in their tubular form by separating the strips at one edge to expose a portion of the adhesive, and then adhering the opposite edges of the strips to the exposed adhesive in a manner forming a pull tab from the edge which was initially secured to that adhesive.

3,507,732

PROTECTION OF STRAIN GAGE TRANSDUCERS

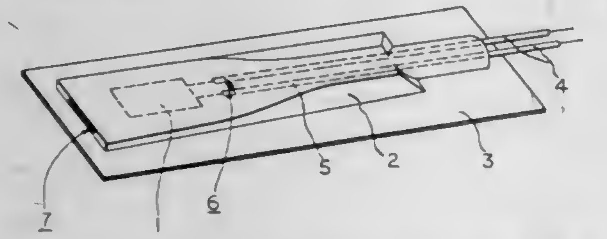
Karl Hoffmann, Darmstadt, Germany, assignor to Hottinger Baldwin Messtechnik G.m.b.H., Darmstadt, Germany, a corporation of Germany

Filed June 27, 1967, Ser. No. 649,168

Claims priority, application Germany, July 5, 1966, H 59,868

Int. Cl. B29c *6/02*

U.S. Cl. 156—242 **2 Claims**



A generally conventional electrical strain gage unit, which is installed by bonding to a test surface, is lastingly shielded and protected against contaminations, particularly against adverse influences of moisture, by a hollow closed cap which is separately secured to the test surface in a covering spaced relation to the gage unit and contains a viscous moisture-impervious filler protectively covering the gage unit while not impeding its responses to conditions under measurement.

3,507,733

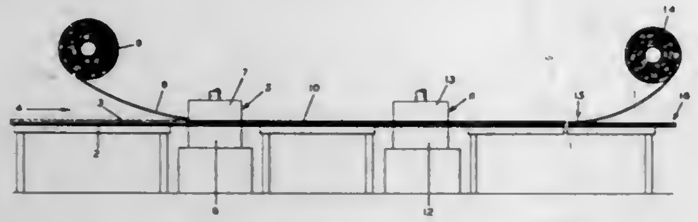
MANUFACTURE OF EMBOSSED FLOOR AND WALL COVERING USING POLYPROPYLENE COATED RELEASE SHEET

Edward P. Davidson, Manheim Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania

Filed Aug. 6, 1964, Ser. No. 387,661

Int. Cl. B32b *7/06, 31/00*

U.S. Cl. 156—247 **9 Claims**



An improved process for forming an embossed decorative surface covering incorporating the use of a release sheet having a facing layer of polypropylene between the thermoplastic resin particles being embossed and the embossing surface.

3,507,734

PROCESS OF MAKING AN IMAGING SCINTILLATION CHAMBER

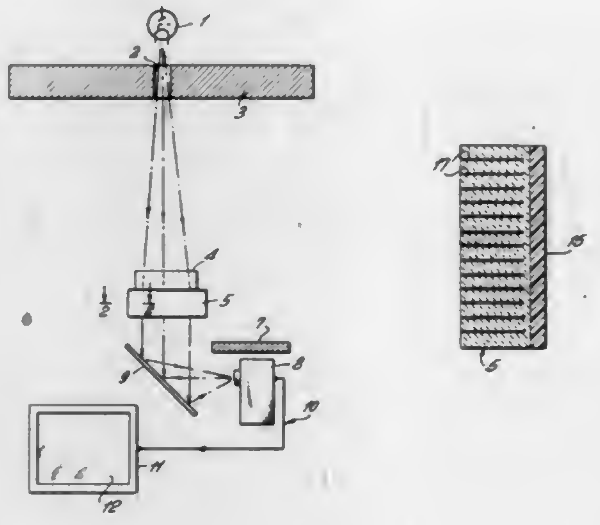
Irving Warren Ruderman, Demarest, N.J., assignor to Isomet Corporation, Palisades Park, N.J., a corporation of New Jersey

Continuation of application Ser. No. 100,142, Apr. 3, 1961. This application Feb. 26, 1965, Ser. No. 441,953.

Int. Cl. B32b *31/00*

U.S. Cl. 156—268 **5 Claims**

An imaging chamber, for providing a visible light output in accordance with the pattern of radiant energy incident thereon, is fabricated by adherently applying to one major face of a single scintillating crystal a backing layer of support material capable of passing the incident radiant energy; slitting the crystal from the opposite major face to a plane spaced slightly from the face to which the backing layer is applied, to form an array of elongated, longitudinally coextensive, linear, parallel scintillating filaments all joined together at a common end, each of the filaments being of uniform cross-section throughout its length and each having a length in the range from about 5 to about 20 centimeters and a maximum width in the range from about 0.1 to about 0.5 millimeter, the filaments separated from one another by the relatively narrow slots of parallel opposing side walls produced by the slitting step; and coating the longitudinal surfaces of the filaments with an adherent material capable of blocking the transmission of visible light therethrough, while leaving the end surfaces of the filaments opposite the common end juncture free of any coating capable of blocking visible light, to permit passage of visible light, produced upon scintillation of the crystal filaments, via the free end surfaces and to prevent lateral passage of the visible light so produced via the longitudinal surfaces of the filaments.



3,507,735

METHOD AND APPARATUS FOR MAKING REINFORCED JOINTS IN THERMOPLASTIC FOAMS

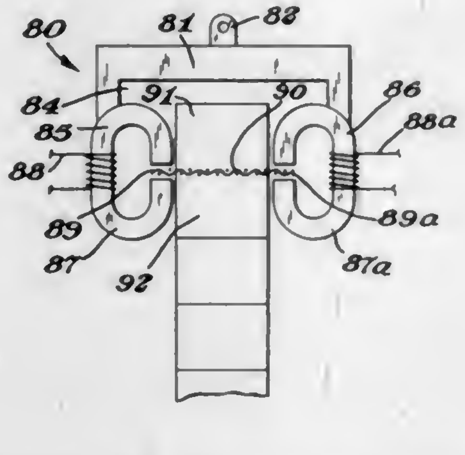
Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 22, 1966, Ser. No. 567,169

Int. Cl. B29d *9/02*

U.S. Cl. 156—380 **6 Claims**

In a spiral generation process wherein strips of foam are deposited one upon the other, an improved bond is obtained between the adjacent strips by providing a metal insert into adjacent portions of foam, electrically heating the metal insert to cause melting and fusion of the foam.



3,507,736

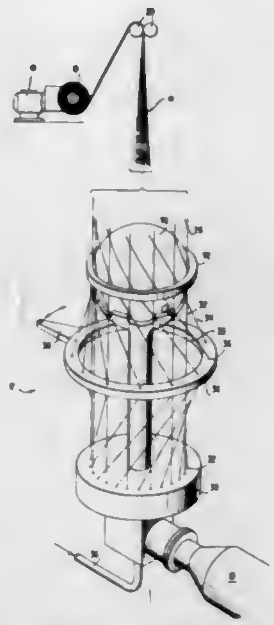
APPARATUS FOR FORMING NETTING OF EXTRUDED PLASTIC STRANDS

Charles E. Plymale, Maumee, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Oct. 6, 1966, Ser. No. 584,820

Int. Cl. D04h *3/16*

U.S. Cl. 156—441 **6 Claims**



Forming plastic netting by extruding from a die a plurality of plastic strands in circular array; passing a first group of the strands respectively through apertures in a ring spaced axially from the die while passing a second group of the strands radially through the space enclosed by the ring; oscillating the ring to orient the first group of strands at an angle to the second group of strands in a zigzag pattern, and passing the first and second groups through two pressure forming members to bond them together at their points of intersection while in tacky condition. In one embodiment, the pressure forming members are formed by a sphere and surrounding ring defining an annular passage through which the strands are passed. Additionally, the forming sphere may be supported for universal movement in a spherical receptacle containing a coolant for cooling the forming members.

3,507,737

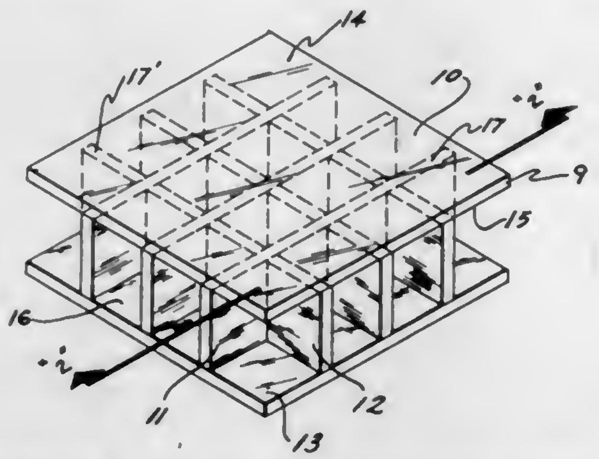
ART OF SEALING THERMALLY CRYSTALLIZABLE GLASS, AND THERMALLY CRYSTALLIZABLE TELESCOPE MIRROR BLANK

Robert A. Busdiecker, Woodville, and James E. Rapp, Oregon, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Jan. 3, 1966, Ser. No. 518,447

Int. Cl. E05f *15/20;* **C03b** *29/00, 23/20*

U.S. Cl. 161—4 **30 Claims**



Lightweight, low expansion, thermally crystallizable glass articles such as telescope mirror blanks formed of two thermally crystallized glass members having surfaces of extended areas disposed in facing relationship and at least one thermally crystallized spacing member disposed therebetween. Illustratively, the spacing members are slotted, elongated, flat members fitted together to form an "egg crate" configuration. The articles are characterized by an average lineal coefficient of thermal expansion within the range of 10×10^{-7} to $-10\times10^{-7}/^\circ$ C. (0–300° C.). Methods of sealing two thermally crystallizable glasses at low temperatures are also disclosed without obtaining premature crystallization of the glass parts. Assembled glass articles can be rapidly heated to a high temperature to avoid nucleation and to permit sealing and then lowering the temperature to obtain nucleation and subsequently carrying out a crystallization.

3,507,738

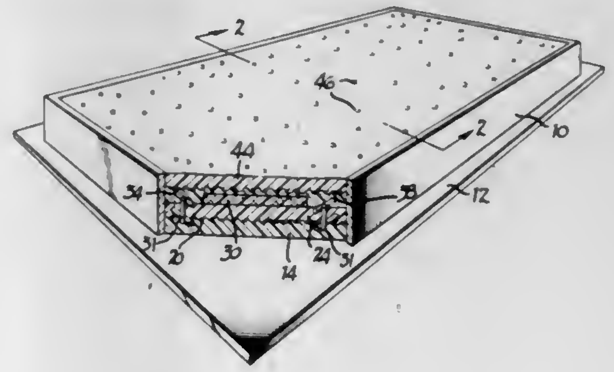
ORNAMENTAL PANEL WITH FOAM CORE AND METHOD OF MAKING SAME

Richard C. Prusinski, Dearborn, and Marcello Fermani, Attilio Torcolacci, and Luigi Fermani, Detroit, Mich., assignors to Architectural Research Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 24, 1966, Ser. No. 522,552

Int. Cl. B29c *5/00;* **E04c** *2/26*

U.S. Cl. 161—43 **3 Claims**



A massive ornamental panel of a plurality of adhering layers is provided. The panel includes first and second layers of filled resinous material having a foraminous sheet at the interface thereof. A third layer of filled resinous material is provided. A mass of rigid foamed material is encased by the second and third layers. A fourth layer of filled resinous material is provided and a foraminous sheet is provided at the interface of the third and fourth layers.

3,507,739

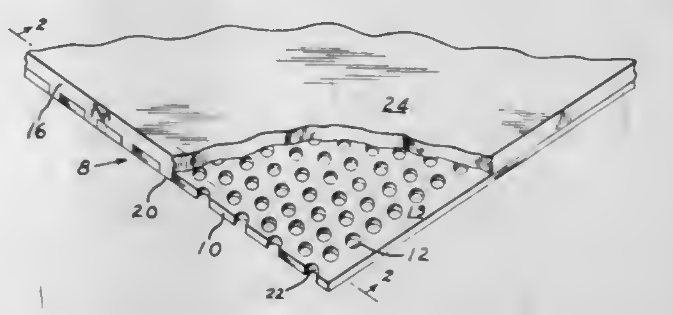
PLATEN

Gilbert R. Jacobs, Mine Hill, N.J., assignor to Ja-Bar Silicone Corporation, Denville, N.J., a corporation of New Jersey

Filed Dec. 5, 1966, Ser. No. 599,204

Int. Cl. B32b *3/10*

U.S. Cl. 161—114 **4 Claims**



An improved platen suitable for use at high temperatures, comprising an apertured, rigid, self-supporting, metal sheet and a heat-conductive elastomer which is stable at 400° F. bonded to the front surface of the sheet and to the surfaces forming the walls of the apertures, said elastomer forming the working surface of the platen.

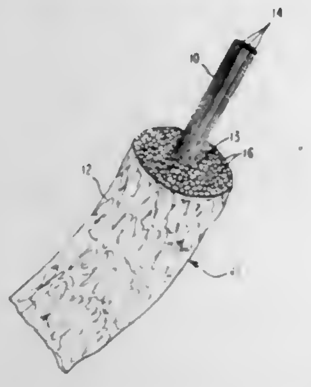
3,507,740
INSCRIPTION OF HARD SURFACES

Anthony Mario Gaspari, Montreal, Quebec, Canada, assignor to G.M.P. Stencil Cutting Machine Company Ltd., Montreal, Quebec, Canada
Filed Apr. 20, 1966, Ser. No. 543,884
Claims priority, application Canada, Mar. 10, 1966, 954,339
Int. Cl. C09j *7/02;* **B24b** *1/00;* **B32b** *7/06*
U.S. Cl. 161—167 **7 Claims**

A stenciling mask of laminated construction including a sandblast-resistant sheet in which the letters, figures and symbols are cut and a pliable backing is secured to one planar side of this sheet whereby the stencil may be processed at a point remote from the surface to be cut in that said sheet provides a mounting for the disconnected portions of said letters, figures and symbols.

3,507,741
COMPOSITE FILAMENT WITH ELASTOMERIC CORE AND CLOSED-CELL FOAM SHEATH

Antonio Nunes Aleixo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Apr. 26, 1966, Ser. No. 545,481
Int. Cl. D02g *3/04*
U.S. Cl. 161—175 **11 Claims**



A composite textile filament composed of a continuous sheath of a closed cell polymeric foam covering an elastomeric core yarn is disclosed. The sheath is under compression and the core is under tension when the composite filament is in unstressed condition, providing efficient use of the retractive power of the core. The sheath hides any discoloration of the core, and protects the core from oxidizing agents. In fabrics, the filament contributes improved cover, opacity and bulk at low area weight.

The filament is made by a process including elongating the core, coating it with a foamable composition, allowing the composition to expand to a closed-cell foam, then allowing the core to retract.

3,507,742
PROCESS FOR DISPERSING CONTAMINANTS IN WASTE PAPER WITH ORGANIC SOLVENT VAPORS

John C. Rice, Tenafly, N.J., assignor to Lowe Paper Company, Ridgefield, N.J., a corporation of New Jersey
Filed May 18, 1966, Ser. No. 551,042
Int. Cl. D21c *5/02, 5/00*
U.S. Cl. 162—5 **5 Claims**

A process for dispersing contaminants in paper stock comprising the step of pressing a wet pulp paper mass to a solids content of at least 12% and exposing said moisture-reduced mass to vapors of at least one solvent for said contaminant at 120 to 250° F. whereby the contaminants are softened and dispersed.

3,507,743
BLEACHING OF WOOD PULPS WITH REDUCTIVE BLEACHING AGENTS AND THIOUREA

Louis P. Cartsunis, Morrisville, Pa., and Robert R. Kindron, Pennington, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 23, 1965, Ser. No. 434,627
Int. Cl. D21c *3/20*
U.S. Cl. 162—72 **4 Claims**

Brightness reversion of low-cellulose wood pulps bleached with reductive bleaching agents is minimized by incorporation of a small amount of thiourea in the bleaching system.

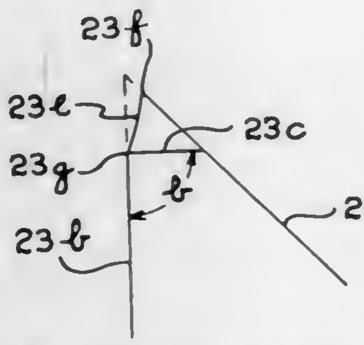
3,507,744
WOOD PULP BLEACHING PROCESS UTILIZING PEROXIDE PYROPHOSPHATE HIGH CONCENTRATION COMPOSITIONS

Donald H. Grangaard, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 1, 1966, Ser. No. 539,535
Int. Cl. D21c *9/16*
U.S. Cl. 162—78 **5 Claims**

A wood pulp bleaching process particularly for the attainment of high brightness wood pulps of 80 G.E. or greater in a single bleaching step without a substantial loss in yield. The system involves providing a high concentration of a soluble peroxide and a pyrophosphate in actual contact with the pulp slurry at temperatures of at least 80° C. at relatively high pulp concentrations. The peroxide may be between 0.6% and 1.49% and the pyrophosphate at least 6% by weight of the bleaching solution in actual contact with the pulp. Pre-treatment of the pulp is effective to minimize peroxide consumption.

3,507,745
DOCTOR BLADE MECHANISM

Milton J. Fuerst, New London, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed May 23, 1966, Ser. No. 558,536
Int. Cl. B31f *1/12;* **D21g** *3/04*
U.S. Cl. 162—281 **1 Claim**

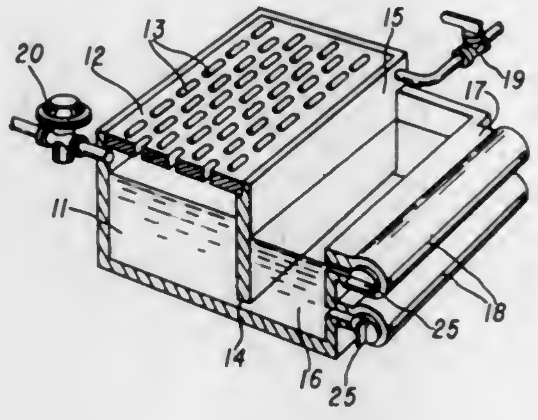


A doctor blade mechanism for the formation of differentially creped tissue paper sheets. The blade is characterized by alternate creping surfaces which present to a creping drum different angular relationships in the paper creping action. The blade is formed by blunting alternate portions of the creping blade.

3,507,746
AUTOMATIC VACUUM SUCTION BOX IN PAPERMAKING

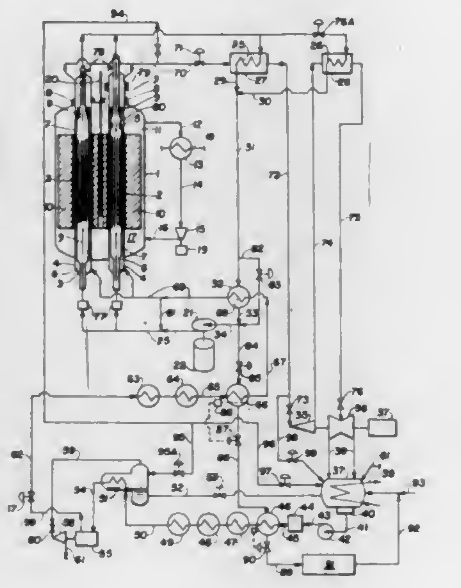
David H. Rhine, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 22, 1967, Ser. No. 625,177
Int. Cl. D21f *1/52*
U.S. Cl. 162—363 **4 Claims**

Disclosed is a suction box for removing liquid from low solids content stock which automatically maintains a predetermined vacuum without the use of a pumping system by using the removed liquid to maintain a constant head of water. The suction box is composed of a vacuum chamber and an outlet chamber having a common side wall with a bottom opening therebetween the outlet chamber having variable height outlet means whereby water entering the vacuum chamber passes into the outlet chamber and out of the outlet means, the vacuum in the vacuum chamber being maintained by the difference in water levels between the vacuum chamber and the outlet chamber.



3,507,747
HEAT EXCHANGE APPARATUS FOR EXTRACTING HEAT FROM A NUCLEAR FUEL HEAT PRODUCER

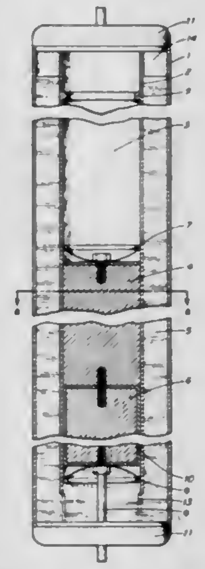
Charles Strohmeyer, Jr., Wyomissing, Pa., assignor to Electrodyne Research Corporation, Reading, Pa.
Filed July 14, 1967, Ser. No. 653,475
Int. Cl. G21c *15/04*
U.S. Cl. 176—51 **13 Claims**



The invention provides an apparatus for circulating coolant fluid flow through a nuclear reactor wherein there are multiple conduit assemblies each having a high temperature coolant fluid circuit flowing around a portion of the nuclear fuel elements and a lower temperature coolant fluid circuit encompassing the high temperature circuit within the conduit assembly outer wall, the outer wall providing structural containment of the internal fluids, the high temperature circuits having recirculation and pumping means and means to exchange heat with the fluid effluent from the lower temperature coolant fluid circuit before delivery of said effluent to a steam consumer.

3,507,748
CONTROL AND SAFETY DEVICE FOR NUCLEAR REACTORS

Henri Fenech, 399 Salem St., Medford, Mass. 02155, and Richard A. Farmer, 116 Dudley Road, Bedford, Mass. 01730
Filed June 7, 1967, Ser. No. 644,336
Int. Cl. G21c *7/16, 9/02, 17/02*
U.S. Cl. 176—86 **4 Claims**



The present invention is a device which insures the shutdown of nuclear reactors by introduction of neutron absorbing materials in the reactor core or blanket and reflector. The shutdown can be caused by an excess of power production over and above the system's ability to remove this power. The motion in the said device is caused by an increase in the vapor pressure of an intermediate fluid interposed in the heat flow path between the nuclear fuel and the coolant. This increased pressure causes a net force in the poisoning slug with a resultant deplacement. The device can be shaped and sized according to the need and the reactor geometry. It is self-actuated and inherently safe.

3,507,749
PROCESS FOR PREPARING STEROIDS

Charles J. Sih, Madison, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
No Drawing. Continuation-in-part of application Ser. No. 535,342, Mar. 18, 1966. This application Sept. 20, 1967, Ser. No. 669,303
Int. Cl. C07c *167/18*
U.S. Cl. 195—51 **26 Claims**

A process for producing steroid compounds from sterols of the cholestane series (e.g. cholesterol and β-sitosterol derivatives) which comprises altering the steroid nucleus of the sterols so that the altered nucleus is characterized by the presence of an oxygen-containing substituent attached to the 10- or 19-carbon atom or is the 19-desmethyl configuration, and then selectively cleaving the 17-side chain of such altered sterols microbiologically to produce compounds which can be readily converted by well known means to steroids useful as ovulation control agents. The 17-side chain cleavage can be accomplished with microorganisms of the genera Nocardia, Mycobacterium, Arthrobacter or Corynebacterium.

3,507,750
PROCESS FOR PREPARING MILK COAGULATING ENZYME COMPLEX

Edward D. Murray and Margaret P. Prince, London, Ontario, Canada, assignors to John Labatt Limited, London, Ontario, Canada
No Drawing. Filed Mar. 15, 1967, Ser. No. 623,222
Int. Cl. C12d *13/10;* **A23c** *19/02*
U.S. Cl. 195—66 **6 Claims**

A process for producing an enzyme complex of acid and neutral peptidases which is substantially free of alkaline pentidases by cultivating an asporulant mutant of *Bacillus subtilis* in a nutriene medium. The medium can be enriched with L-leucine to adjust the ratio of acid peptidase to neutral peptidase.

3,507,751
PROCESS FOR THE PRODUCTION OF ACID MALT

Bernard Dixon, Greygates, Harpenden, Hertfordshire, England, and Alan Arthur Douglas Comrie, The Paddock, Shripple, Winterslow, near Salisbury, Wiltshire, England

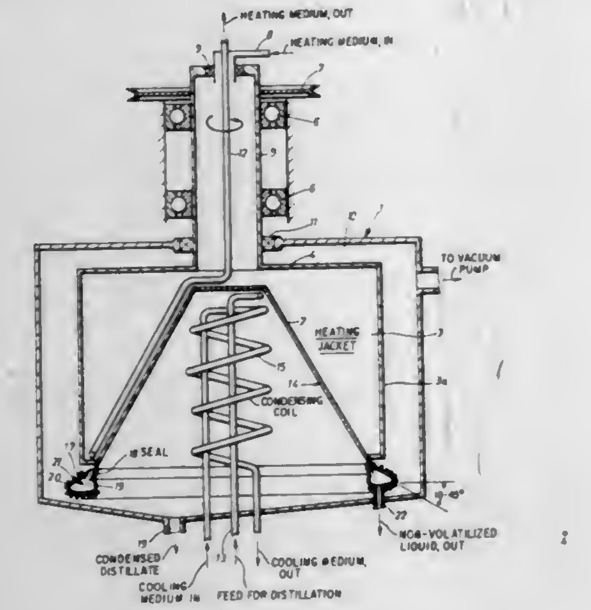
No Drawing. Filed Sept. 3, 1965, Ser. No. 485,100
Claims priority, application Great Britain, Sept. 8, 1964, 36,797/64; Apr. 1, 1965, 13,966/65
Int. Cl. C12c *1/04*
U.S. Cl. 195—70 **6 Claims**

An acid malt is prepared by subjecting a malt having an extract percentage of at least 75% of the potential extract to an anaerobic atmosphere so that its enzyme systems are stimulated by anaerobic respiration to produce increased acidity and increased amounts of soluble matter in the product.

3,507,752
APPARATUS FOR HEAT-TREATING LIQUIDS

Rolf Germerdonk, Schildgen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Feb. 7, 1968, Ser. No. 703,645
Claims priority, application Germany, Feb. 21, 1967, F 51,582
Int. Cl. B01d *1/22, 3/00*
U.S. Cl. 202—187 **4 Claims**

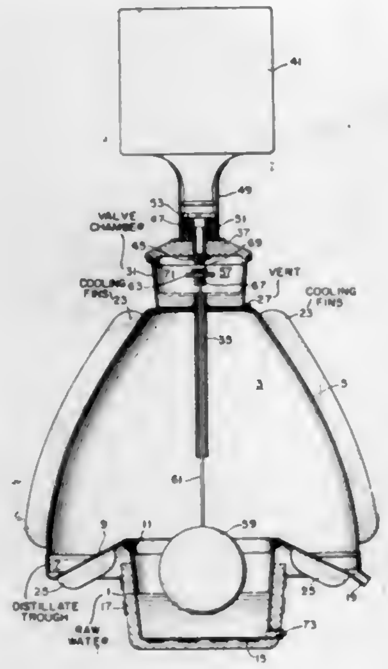


Apparatus for distilling liquids comprising a housing sealed off from the atmosphere in which there is a rotatably mounted conical surface having a jacket on the outwardly disposed side thereof mounted for rotation therewith. Drive means are provided for rotating the conical surface and the jacket, and means are provided for supplying a heating medium to the jacket and, in addition, means are provided for removing the heating medium from the jacket. A supply pipe for liquid to be distilled opens on the inside of the narrower end of the conical surface. A collecting trough is arranged opposite the wider end of the conical surface, and the wider end of the conical surface has a sharp edge deflecting ring disposed in the collecting trough. The collecting trough is provided with cooling means, and is sealed off from the conical surface by at least one labrinth seal. The deflecting rim forms at least one of the supporting surfaces for the labryinth seal.

3,507,753
WATER PURIFIER OF THE CONDENSER TYPE

Frank Jacuzzi, Berkeley, Calif., assignor to Jacuzzi Bros. Incorporated, a corporation of California

Filed Aug. 22, 1968, Ser. No. 754,615
Int. Cl. B01d *3/42, 5/00*
U.S. Cl. 202—191 **1 Claim**

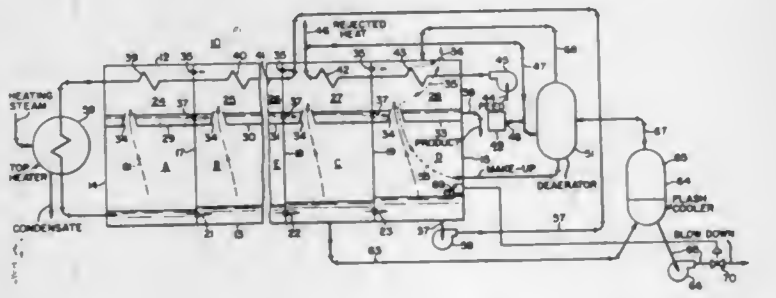


A water purifier and condenser in which vent means are provided for separating mal-odorous gasses from the water while in its vaporized condition. The unit involves a novel float controlled valve assembly for automatically controlling admission of raw water to be purified, and utilizes the heat absorbing ability thereof in the condensing process, by bringing it into contact with the condensing surface of the unit.

3,507,754
RECIRCULATING MULTISTAGE FLASH EVAPORATION SYSTEM AND METHOD

Frank Cristiano, Jr., Monroeville, and Roland L. Coit, Swarthmore, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 21, 1966, Ser. No. 603,528
Int. Cl. B01d *3/06*
U.S. Cl. 203—7 **9 Claims**

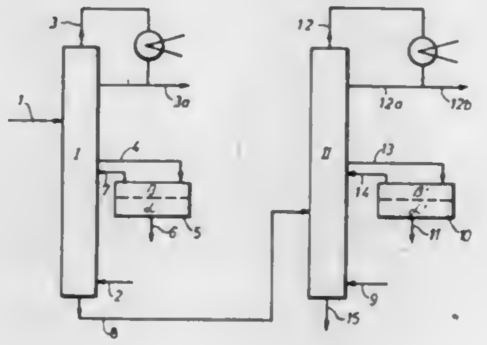


This invention relates to a recirculating multistage flash evaporator for converting sea water into potable water, wherein the make-up sea water is initially treated with chemical additives to minimize scaling and corrosion, and provides an arrangement wherein the treated make-up water is added to the system at the last and lowest pressure evaporation stage for deaeration, but the enriched brine resulting from staged evaporation is partially removed from a higher pressure stage, stripped of its vapor and then directed to waste, while the brine reaching the last stage together with the deaerated make-up (as a mixture) are recirculated through the entire flash evaporator to utilize the chemical additives to the utmost.

3,507,755
PROCESS FOR THE PURIFICATION OF ACRYLONITRILE BY DISTILLATION WITH SIDE STREAM WITHDRAWAL AND DECANTATION

Feliks Bitners, Leverkusen, Hans-Walther Brandt, Cologne-Flittard, and Arnold Hausweiler and Adolf Mayer, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, and Erdolchemie Gesellschaft mit beschrankter Haftung, Dormagen, Germany

Filed Oct. 4, 1968, Ser. No. 765,055
Claims priority, application Germany, Oct. 17, 1968, F 53,801
Int. Cl. B01d *3/00;* **C07c** *121/32*
U.S. Cl. 203—84 **6 Claims**

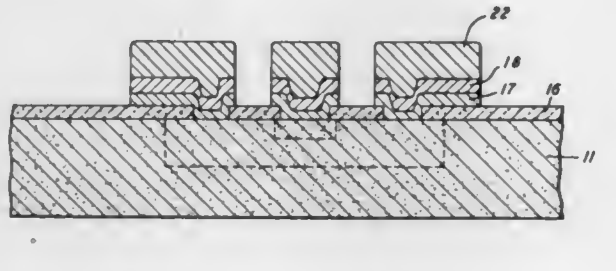


A crude acrylonitrile mixture obtained from the oxidation of propylene in the presence of ammonia and containing hydrocyanic acid, water and organic compounds including acetone are distilled recovering hydrocyanic overhead, acrylonitrile as a sump product and a side stream below the feed point is withdrawn phase separated and the organic phase is reutrned to the distillation column. In some cases the sump product can be further distilled in a separate column wherein said stream removal and decantation is repeated. In another embodiment, a vapor side stream is removed from a first column at a point above the liquid side stream to be decanted, and distilled in a second column and the bottoms from the second column is recycled to the first column at a point adjacent the vaporized side stream.

3,507,756
METHOD OF FABRICATING SEMICONDUCTOR DEVICE CONTACT

James A. Wenger, Spring Township, Berks County, Pa., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Aug. 4, 1967, Ser. No. 658,377
Int. Cl. C23b *5/50, 5/66*
U.S. Cl. 204—15 **6 Claims**



In the fabrication of semiconductor devices of the beam lead type in which thick gold contacts and interconnections are formed by masked electroplating, improved definition is attained by providing a thin film of titanium-titanium oxide between the photoresist mask and the underlying metallic layer upon which the gold is being electroplated. The intervening titanium-titanium oxide film prevents underplating of the photoresist and alternatively the photoresist may be entirely removed prior to the plating operation and the titanium oxide utilized as the mask.

3,507,757
TREATMENT OF METAL SURFACES

Jacques Jean Caubet, 79 Rue Neyron, and Serge Esteveny, 3 Square Ammouroux, both of Saint-Etienne, France

No Drawing. Filed Mar. 27, 1967, Ser. No. 625,979
Claims priority, application France, Apr. 4, 1966, 56,354
Int. Cl. C21d *1/46;* **C23f** *17/00;* **C23g** *1/28*
U.S. Cl. 204—38 **9 Claims**

Metal parts are treated in a conventional salt bath comprising alkaline cyanides, cyanates and carbonates, to which alkaline ferri- and ferro-cyanides are added and in which an increased carbonate content is maintained, after which the parts are coated with a tender metal. This treatment provides at the surface of the treated parts a hard micro-layer and over this layer, a porous layer. The salts of the bath penetrate these pores and dry therein after the treatment which, according to the components of the bath, procures a reserve of elements or radicals having exceptional lubricating qualities permitting the metal to be self-lubricating in most environments.

3,507,758
ELECTROLYTIC SILVER-PLATING SOLUTION AND METHOD

Toshiya Oda and Kazutami Hayashi, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan, organized under the laws of Japan

No Drawing. Filed Apr. 12, 1968, Ser. No. 721,091
Claims priority, application Japan, Apr. 17, 1967, 42/24,367
Int. Cl. C23b *5/26*
U.S. Cl. 204—46 **2 Claims**

A silver electroplating solution is provided comprising 20 to 30 g./l. of silver pyrophosphate, 200 to 300 g./l. of potassium pyrophosphate, 15 to 30 g./l. of potassium citrate, 15 to 30 g./l. of potassium carbonate, and 15 to 40 cc./l. of concentrated ammonia water.

3,507,759
REMOVAL OF CONDUCTIVE METAL OXIDE FROM A METAL OXIDE COATED INSULATING SUBSTRATE

Robert Frank Shaw, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 15, 1966, Ser. No. 579,503
Int. Cl. C23b *3/04*
U.S. Cl. 204—143 **4 Claims**

Oxides of titanium, tin and the like are coated on siliceous surfaces, e.g. glass, then etched by cathodic reduction and dissolution in strong acid electrolyte, e.g. sulfuric acid. Conductive metal oxide patterns are formed on glass surfaces by such coating and etching technique. Wettability of the metal oxide by the electrolyte is improved by including chromic acid in the strong acid electrolyte solution.

3,507,760
RADIATION-INDUCED ION-MOLECULE REACTIONS

Boris Levy, Crosswicks, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 16, 1964, Ser. No. 375,649
Int. Cl. B01j *1/10;* **C07c** *3/24*
U.S. Cl. 204—157.1 **12 Claims**

A method of forming a gaseous mixture of a molecule reactant, such as carbon monoxide and an ion reactant precursor, such as an alkane, and irradiating the mixture with high energy radiation to ionize the molecule reactant which then reacts with the precursor to effect charge transfer, thereby forming the reactant product, such as an oxygenated polymeric material. Another molecule reactant is methane and other ion reactant precursors include ammonia and aliphatic hydrocarbons such as alkenes. The molecule reactant is present in a major amount in the gaseous mixture.

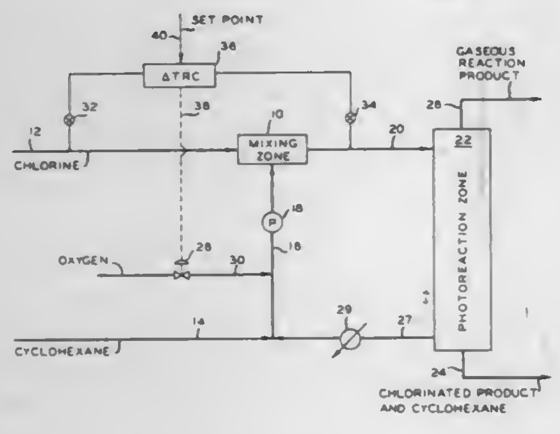
3,507,761
NOVEL PHOTOCHEMICAL REACTIONS OF 2-CARENE COMPOUNDS AND NOVEL BICYCYLIC PRODUCTS RESULTING THEREFROM

Paul J. Kropp, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed June 30, 1966, Ser. No. 561,721
Int. Cl. B01j *1/10;* **C07c** *3/24;* **C11d** *3/50*
U.S. Cl. 204—162 10 Claims

Photochemical process for the preparation of 1,8-menthadienes and/or 1,4,4-trimethylbicyclo[3.2.0]hept-2-enes, novel compounds, comprising the irradiation of 2-carenes with ultraviolet light is disclosed. The products of the process have desirable odor characteristics and are useful in perfume compositions.

3,507,762
METHOD FOR INHIBITING DARK REACTION IN HYDROCARBON PHOTOHALOGENATION PROCESSES

Allan D. Holiday, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 10, 1967, Ser. No. 622,224
Int. Cl. C07c *175/00*
U.S. Cl. 204—163 7 Claims

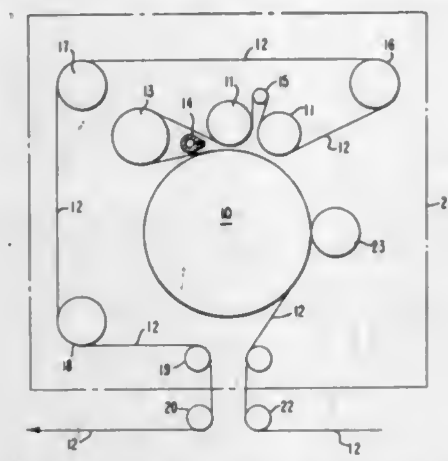


Controlled amounts of oxygen are added to the halogen or hydrocarbon feed streams in a hydrocarbon photohalogenation process upstream of the mixing zone to inhibit undesirable dark reactions in the feed system between the mixing zone and the photoreaction zone.

3,507,763
METHOD FOR ELECTRICAL DISCHARGE TREATMENT OF ORGANIC POLYMERIC MATERIALS

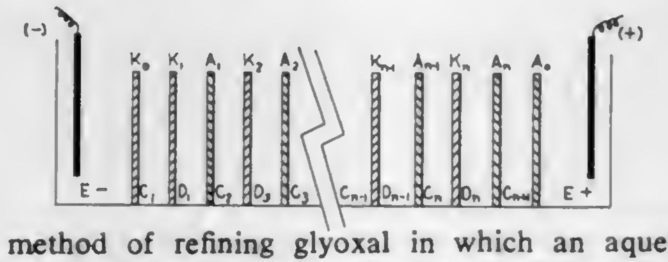
Richard Thomas McBride, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 22, 1967, Ser. No. 692,839
Int. Cl. B44d *1/092*
U.S. Cl. 204—169 6 Claims

Polymeric film structures are subjected to electrical discharge treatment in a reactive gaseous atmosphere by advancing the polymeric material through the treating zone between spaced electrodes wherein the film first contacts the surface of the grounded electrode followed by reversing the path of travel of the polymeric film whereby the surface contacts the other electrode thereby to provide a protective envelope affording a protective covering for the electrodes.



3,507,764
METHOD OF REFINING GLYOXAL

Akira Asahi, Masayuki Maehara, and Masami Sakow, Arai-shi, Japan, assignors to Daicel Ltd., Osaka, Japan, a corporation of Japan
Filed Apr. 10, 1967, Ser. No. 629,543
Claims priority, application Japan, Apr. 15, 1966, 41/23,885
Int. Cl. B01d *13/02*
U.S. Cl. 204—180 12 Claims



A method of refining glyoxal in which an aqueous solution of glyoxal is subjected to electrodialysis using ion exchange membranes.

3,507,765
METHOD FOR ELECTROCOATING A POLYAMIDE ACID

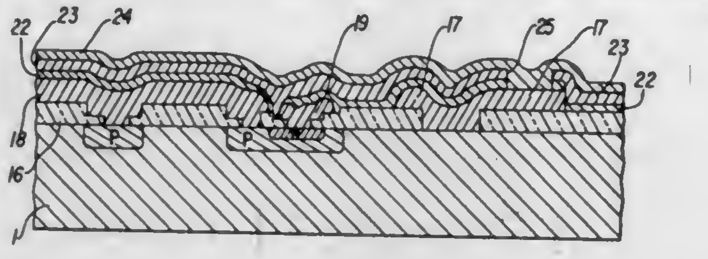
Fred F. Holub, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 5, 1966, Ser. No. 548,000
Int. Cl. C23b *13/00;* **B01k** *5/02*
U.S. Cl. 204—181 4 Claims

An electrocoating method is provided involving the electrodeposition of a polyamide acid in the form of a mixture, for example, a solution, comprising an organic solvent, water; a polyamide acid, and a base in the form of an organic amine or an ammonium compound selected from ammonia and ammonium salts and mixtures of such ammonium compound and organic amine. The method provides electro-conducting substrates having electrodeposited polyamide acids which can be converted to high temperature polyimide films having valuable insulating and dielectric properties.

3,507,766
METHOD OF FORMING A HETEROGENEOUS COMPOSITE INSULATING LAYER OF SILICON DIOXIDE IN MULTILEVEL INTEGRATED CIRCUITS

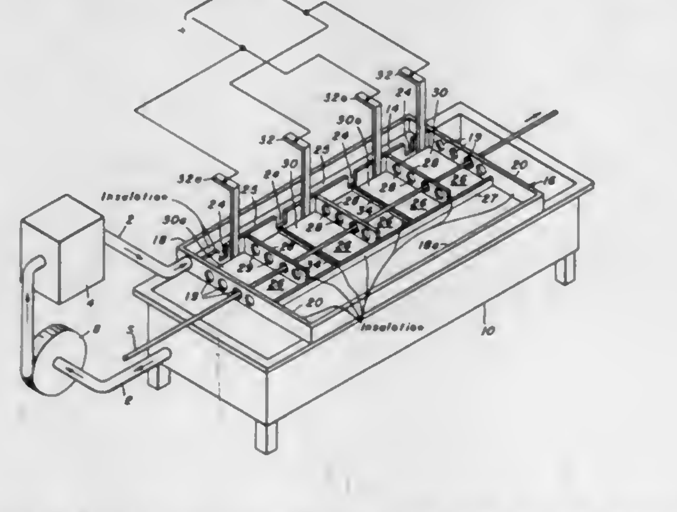
James A. Cunningham, Dallas, and Samuel J. Wood, Jr., Plano, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 699,168
Int. Cl. C23c *15/00*
U.S. Cl. 204—192 4 Claims

Disclosed is a method of forming a composite insulating layer for use, primarily, in multilevel integrated circuits. A layer of RF-sputtered glass having silicon oxide as its major constituent is deposited over the first layer contacts of a monocrystalline integrated circuit followed by the deposition of a layer of oxidative silicon oxide resulting from a reaction of silane SiH_4 with oxygen O_2 to form a composite insulating layer. The composite insulating layer combines the advantages of a layer formed by either method but with none of the disadvantages inherent in either.



3,507,767
APPARATUS FOR ELECTROLYTICALLY CLEANING STRANDS

Charles D. Stricker, Shaker Heights, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Application June 23, 1966, Ser. No. 559,901, now Patent No. 3,338,809, dated Aug. 29, 1967, which is a continuation-in-part of application Ser. No. 400,772, Oct. 1, 1964. Divided and this application June 6, 1967, Ser. No. 643,868
Int. Cl. C23b *5/68*
U.S. Cl. 204—208 9 Claims

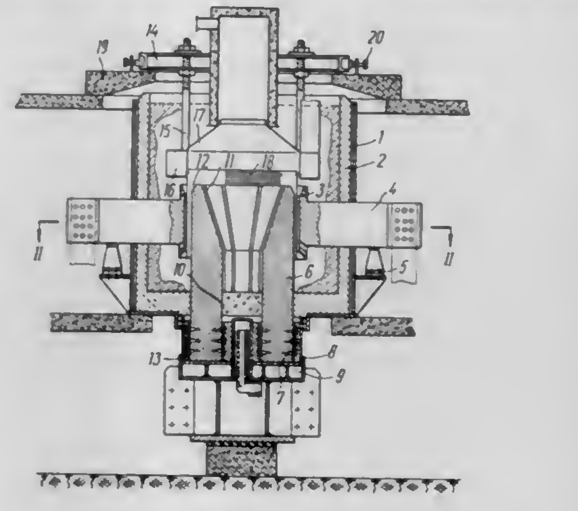


A system for electrolytically cleaning steel strand which has mechanically broken high temperature scale passes strands in a straight line through a series of short compartments to provide a cleaning time of under one second. A high density current flows from an electrode in one compartment through the closely spaced strands to an electrode of opposite polarity in an adjacent compartment. Electrolyte flows through the compartment transverse to the direction of strand travel to sweep gases off the strands.

3,507,768
ELECTROLYTIC CELL

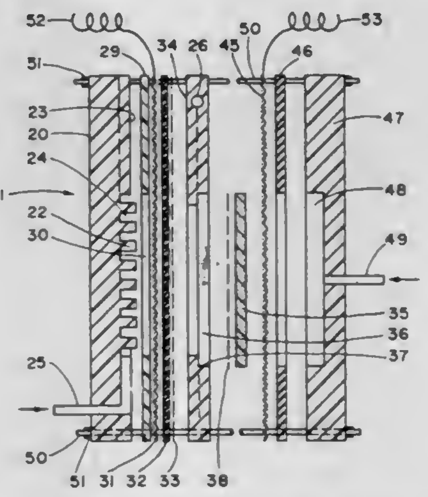
Evgeny Ivanovich Adaev, Ulitsa Dybenko 30, korpus 1, kv. 75; Alexandr Vasilievich Blinov, Ulitsa Gorkogo 64, kv. 13; Georgy Mikirtychevich Kamarian, Vorontsovskaya ulitsa 30b, kv. 18; Viktor Alexandrovich Novoselov, Ulitsa Vavilova 10, korpus 20, kv. 28; Vladimir Nikolaevich Suchkov, Ulitsa Marii Ulyanovoi 16, kv. 53; and Leonid Markovich Yakimenko, Abelmanovskaya ulitsa 7, kv. 17, all of Moscow, U.S.S.R.
Filed Feb. 21, 1967, Ser. No. 617,646
Int. Cl. B01k *3/08;* **C22d** *3/06*
U.S. Cl. 204—243 4 Claims

An electrolytic cell comprises a hollow annular anode assembled from a plurality of spaced circumferentially arranged bars, the anode defining a cavity in which an anode cooler penetrates. The anode is surrounded by a closed cathode and the anode cathode and anode cooler are incorporated in a lined tank, the dimensions of the anode and the lined tank, the lining thickness and the cooler parameters being selected so as to constantly maintain in the course of electrolytic cell operation a heat insulating garnissage layer at least on the entire inner surface of the tank.



3,507,769
SIMPLIFIED ELECTROLYTIC CELL

Donald H. Grangaard, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,514
Int. Cl. B01k *1/00;* **C01b** *15/04;* **C22d** *1/02*
U.S. Cl. 204—265 1 Claim

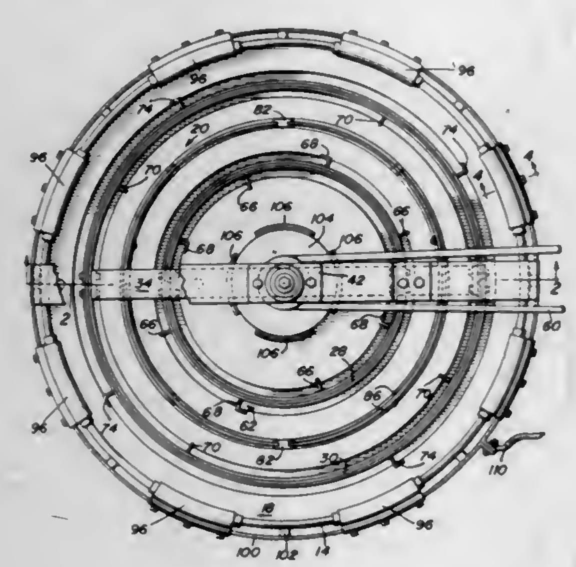


An electrolytic cell for peroxide production having an anode, a cathode, a separating semi-pervious diaphragm dividing the cell into an anode compartment and a cathode compartment, the diaphragm forming the sole flow path for electrolyte between inlet port means in the anode compartment and outlet port means in the cathode compartment. A process of electrolytic cell operation in the production of alkaline peroxide solutions by the electrochemical reduction of oxygen to perhydroxyl ions where the diaphragm of the cell serves as a control for the electrolyte flow.

3,507,770
APPARATUS FOR ELECTROLYTIC REFINING OF COPPER

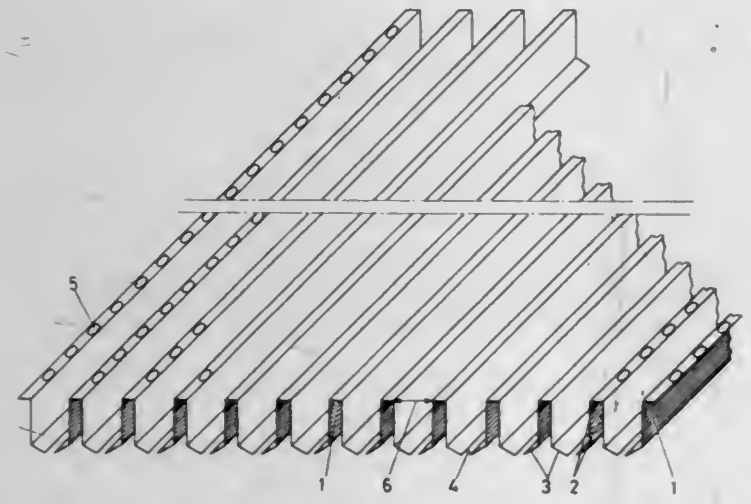
Charles G. Fleming, Colorado Springs, Colo., assignor of seventy-five percent to J. D. Hill, Colorado Springs, Colo.
Filed Dec. 8, 1967, Ser. No. 689,064
Int. Cl. C22d *1/02, 1/16;* **C23b** *5/68*
U.S. Cl. 204—272 9 Claims

A method of electrolytically refining copper bearing ore and other ores bearing metallic components amenable to electrolytic deposition. The ore to be refined is placed in suspension in an electrolytic bath provided with a vertically disposed cylindrical cathode which remains stationary relative to a receptacle for the ore-electrolyte system. The apparatus utilized is provided with anode means disposed both interiorly and exteriorly of the cylindrical cathode. The method of the present invention provides for a rapid rate of deposition of the metallic component desired by providing electrolyte agitator means disposed both interiorly and exteriorly of the fixed cylindrical cathode means moving relative to the electrodes. The utilization of the electrolyte agitator means permits the imposing of a substantially higher current density within the electrolytic bath than would be possible were the electrolyte to remain relatively quiescent.



3,507,771
METAL ANODE FOR ELECTROLYTIC CELLS

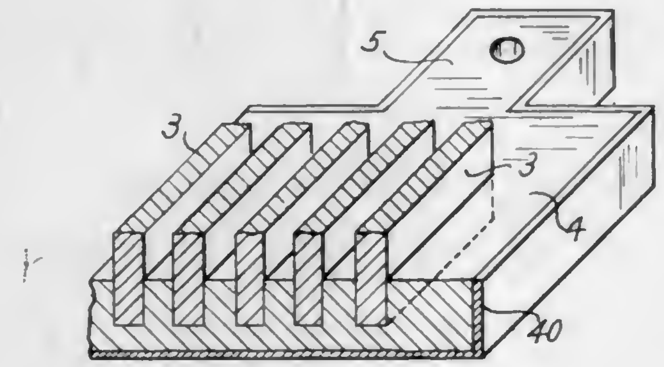
Ernst Dönges and Helmut Hund, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed Sept. 18, 1967, Ser. No. 668,399
Claims priority, application Germany, Sept. 30, 1966, F 50,329
Int. Cl. B01k *3/04;* **C23b** *5/74*
U.S. Cl. 204—284 6 Claims



Metal anode suitable for electrolyzing aqueous alkali metal chlorides in horizontal electrolytic cells having a mercury cathode, in which anode no adhering gas films are formed at the phase boundary. The anode has such a shape that the brine continuously circulates, thus rapidly transporting gas from the phase boundary.

3,507,772
ANODE SUPPORT STRUCTURE FOR ELECTROLYTIC CELLS HAVING A BASE OF ALUMINUM OR MAGNESIUM AND ALLOYS THEREOF

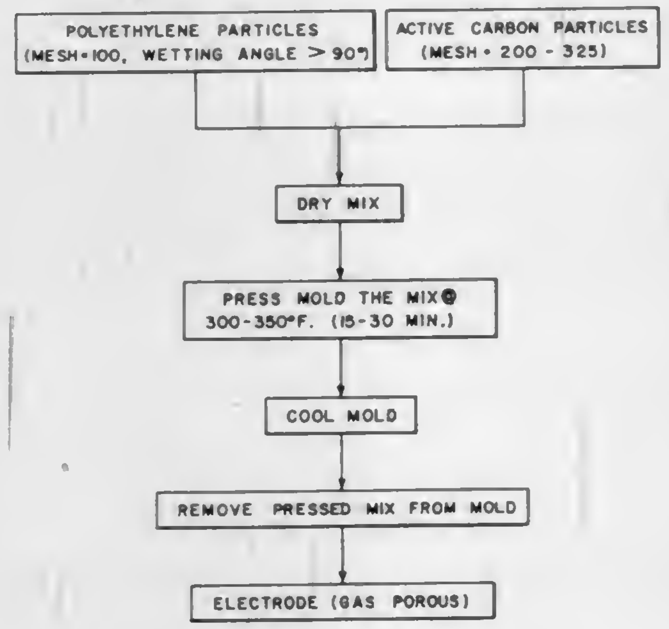
Christopher C. Silsby, Jr., 385 Walworth Drive, Euclid, Ohio 44132
Filed Dec. 18, 1967, Ser. No. 696,965
Int. Cl. C22d *1/02*
U.S. Cl. 204—286 4 Claims



Improvement in the manner of supporting the anode elements in an electrolytic cell and particularly to the idea of employing a relatively lightweight, high conductivity metal matrix for positioning and supporting the anode elements within the cell such as aluminum, magnesium and alloys thereof.

3,507,773
ELECTRODE FOR USE IN ELECTROLYTES

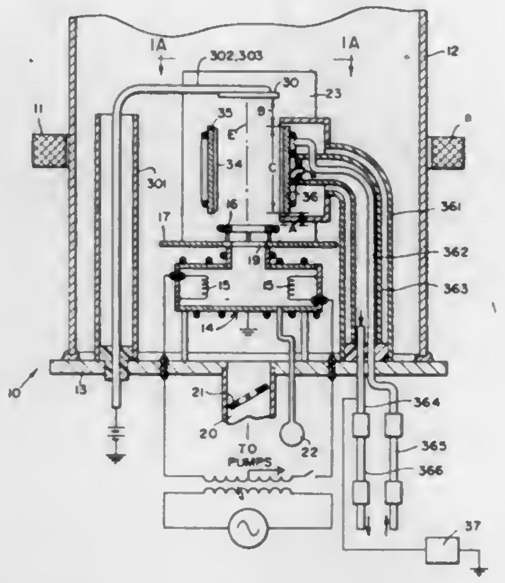
Donald H. Grangaard, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,791
Int. Cl. B01k *3/08;* **H01b** *1/04*
U.S. Cl. 204—294 2 Claims


POLYETHYLENE PARTICLES (MESH=100, WETTING ANGLE > 90°)
ACTIVE CARBON PARTICLES (MESH = 200 - 325)
DRY MIX
PRESS MOLD THE MIX @ 300-350°F. (15-30 MIN.)
COOL MOLD
REMOVE PRESSED MIX FROM MOLD
ELECTRODE (GAS POROUS)

A gas porous, electrically conductive alkali-resistant electrode formed of activated carbon and a high wetting angle resinous material for use in the production of peroxides by electrolytic action. A method of forming an electrode from a dry mix of a heat activatable binder of high wetting angle and a catalyst in finely divided form.

3,507,774
LOW ENERGY SPUTTERING APPARATUS FOR OPERATION BELOW ONE MICRON PRESSURE

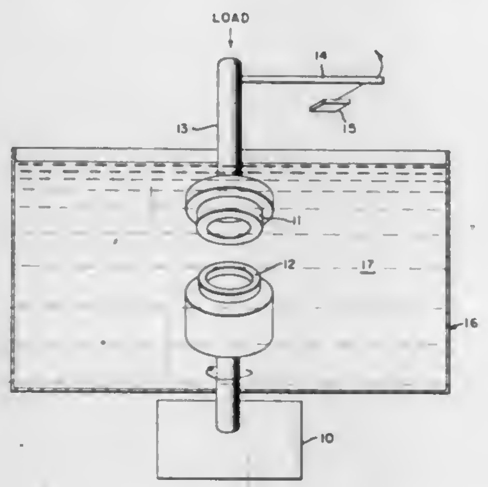
Emil C. Muly, Jr., Needham, Mass., assignor to National Research Corporation, Newton Highlands, Mass., a corporation of Massachusetts
Filed June 2, 1967, Ser. No. 643,145
Int. Cl. C23c *15/00*
U.S. Cl. 204—298 14 Claims



A low energy tetrode sputtering apparatus operating below one micron pressure with stability. The apparatus comprises a geometric enclosure substantially enclosing the plasma formed along the electron path from the electron source to the anode. An intermediate electrode is biased at a voltage of 10 to 40 volts positive relative to the voltage source and has the form of an annular ring.

3,507,775
LUBRICANT PRODUCING SYSTEM

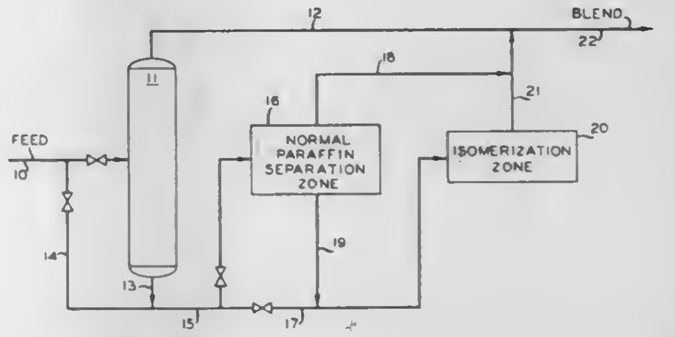
Ernest J. Breton, Wilmington, and Robert E. Murvine, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 28, 1968, Ser. No. 740,879
Int. Cl. C08f *1/02;* **C08g** *35/00;* **C10g** *41/00*
U.S. Cl. 208—46 24 Claims



One can avoid the necessity of adding lubricants to a variety of fluid process assemblies involving relatively movable opposing surfaces by selecting the particular alloys for the surfaces. Specifically, the lubricant can be formed in situ from the fluid used where one surface is of an alloy containing at least 6 atom percent of an element selected from the group consisting of molybdenum and tungsten, at least 10 percent by volume of the alloy being an intermetallic compound of molybdenum or tungsten having a Vickers Hardness number of 550–1800; the mating surface is either of an alloy containing at least 50 atom percent iron, at least 1 atom percent carbon, at least one-half the weight of the remainder of the alloy being composed of at least one of the following elements: chromium, manganese, molybdenum and tungsten, said element(s) being present as carbide(s) or in a fully hardened solid solution, and having a Vickers Hardness number of at least 400 or a similar alloy containing at least 80 atom percent iron and having a Vickers Hardness number of at least 200 or an alloy of 11–15 atom percent carbon, 1.5–3 atom percent silicon, the balance being iron, having a Vickers Hardness number of at least 150; and the fluid is an organic compound capable of polymerizing to form a lubricant, e.g., petroleum hydrocarbons, aliphatic alcohols, and aliphatic aldehydes having at least 4 carbon atoms.

3,507,776
ISOMERIZATION OF HIGH FREEZE POINT NORMAL PARAFFINS

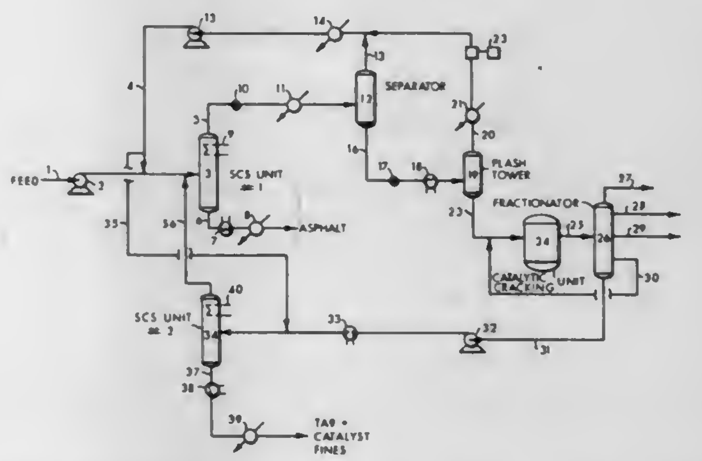
Paul D. Hann, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,597
Int. Cl. C10g *35/00, 35/04*
U.S. Cl. 208—85 3 Claims



The properties of hydrocarbon mixtures are improved; e.g., freezing point is reduced, by separating normal paraffins from said mixture, selectively isomerizing higher freezing point normal paraffins, e.g., higher molecular weight normal paraffins, to isoparaffins, and blending the isomerized and unisomerized normal paraffins with the remainder of the mixture.

3,507,777
CRACKING PROCESS

Charles E. Hemminger, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,486
Int. Cl. C10g *29/20, 37/02*
U.S. Cl. 208—86 3 Claims



This disclosure relates to a process for cracking petroleum fractions which have been obtained by solvent treatment of petroleum residuum at super-critical separation conditions.

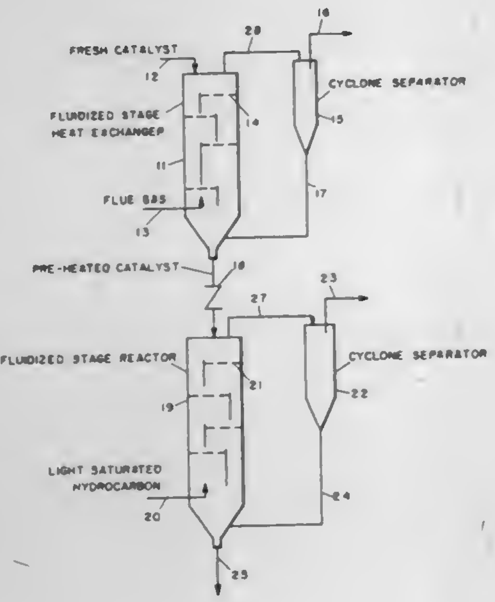
3,507,778
CRACKING PETROLEUM FRACTIONS WITH A CRYSTALLINE ZEOLITE CATALYST IN COMBINATION WITH A PHOSPHATE PROMOTED SILICA-MAGNESIA CATALYST

Elroy M. Gladrow and Warren M. Smith, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,949
Int. Cl. B01l *11/40;* **C10g** *11/02, 13/10*
U.S. Cl. 208—111 10 Claims

Petroleum feedstocks are cracked or hydrocracked to produce a maximum amount of gasoline in the presence of a crystalline zeolite catalyst in combination with a phosphate promoted silica-magnesia catalyst.

3,507,779
PROCESSES FOR IMPROVING CATALYTIC CRACKING OF GAS OILS

Robert A. Baillie, West Chester, and Harold F. Tse, Bala Cynwyd, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed May 9, 1968, Ser. No. 727,874
Int. Cl. C10g *13/02*
U.S. Cl. 208—120 3 Claims

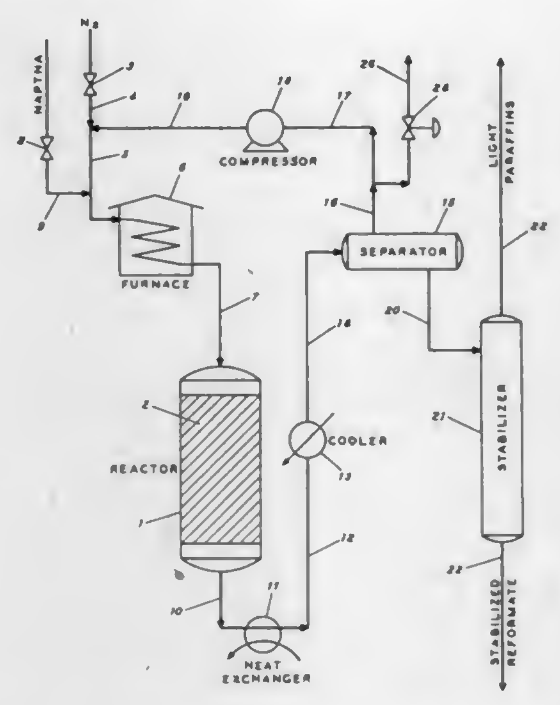


A process for improving molecular sieve catalyst performance in a catalytic cracking process wherein the catalyst is first preheated and then subjected to a precracking reaction with a light saturated hydrocarbon before entering into the basic cracking process.

3,507,780
STARTUP PROCEDURE FOR A LOW CONTENT PLATINUM RHENIUM-IRIDIUM CATALYST REFORMING PROCESS

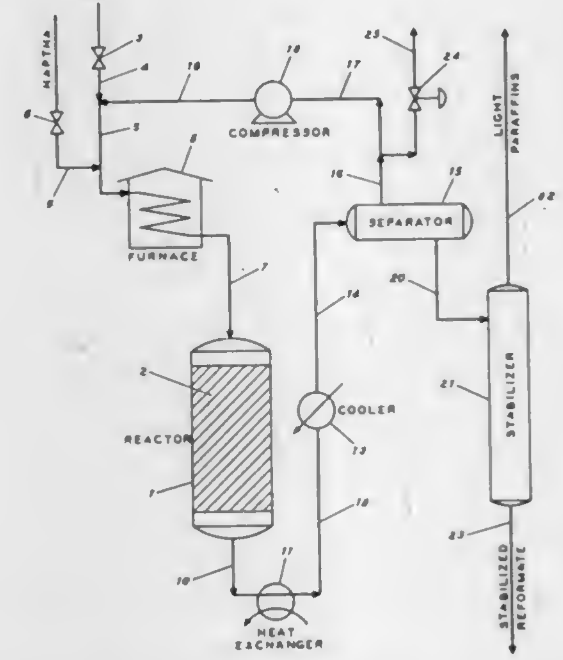
Burwell Spurlock, Lafayette, and Robert L. Jacobson, Pinole, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 671,329, Sept. 28, 1967. This application Apr. 7, 1969, Ser. No. 813,880
Int. Cl. C10g *35/08*
U.S. Cl. 208—138 3 Claims

A reforming process using a catalyst containing 0.01 to 0.3 weight percent platinum, 0.01 to 0.3 weight percent rhenium and 0.001 to 0.1 weight percent iridium associated with a porous solid carrier is started up by contacting the naphtha with the catalyst in the presence of an inert gas, for example, nitrogen. The pressure in the reforming zone should be about 200 p.s.i.g. and the catalyst temperature about 650° F. when the naphtha is first contacted with the catalyst at a space velocity of about 1 v./v./hr. Thereafter, the catalyst temperature is increased to about 90° F. over a 2–3 hour period while building up autogenous pressure of produced hydrogen.



3,507,781
STARTUP PROCEDURE FOR A PLATINUM-IRIDIUM REFORMING PROCESS

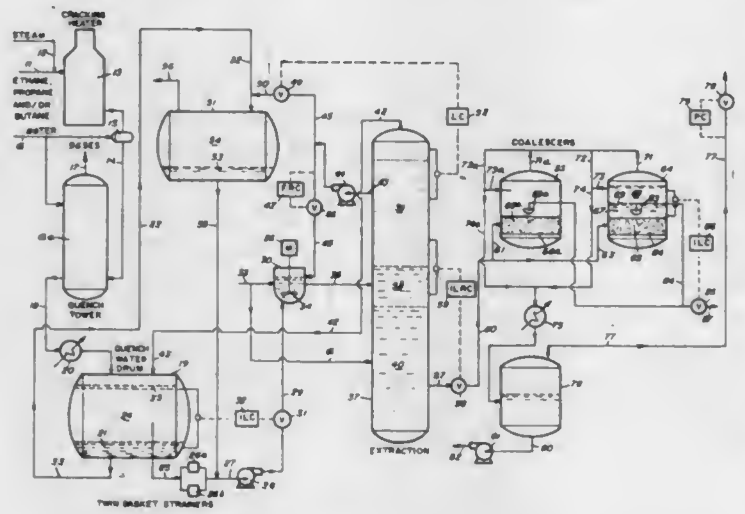
Burwell Spurlock, Lafayette, and Robert L. Jacobson, Pinole, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware
Continuation-in-part of application Ser. No. 671,329, Sept. 28, 1967. This application Apr. 7, 1969, Ser. No. 813,935
Int. Cl. C10g *35/08*
U.S. Cl. 208—138 4 Claims



A reforming process using a catalyst containing platinum and iridium on a porous solid carrier is started up by contacting the naphtha with the catalyst in the presence of an inert gas, for example, nitrogen. The pressure in the reforming zone should be about 200 p.s.i.g. and the catalyst temperature about 650° F. when the naphtha is first contacted with the catalyst at a space velocity of about 1 v./v./hr. Thereafter, the catalyst temperature is increased to about 900° F. over a 2–3 hour period while building up autogenous pressure of produced hydrogen.

3,507,782
SEPARATION OF HYDROCARBONS FROM PLANT PROCESS WASTE WATER

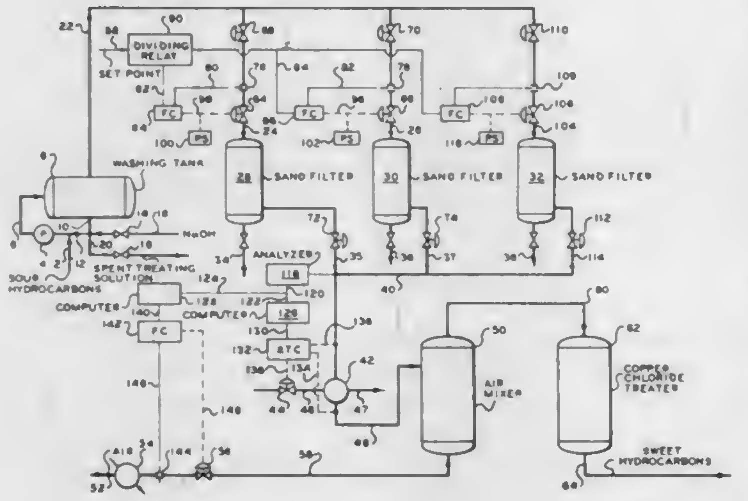
John R. Strausser and Ralph S. Kurland, Baytown, Tex., assignors to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 8, 1967, Ser. No. 666,309
Int. Cl. C10g *33/04;* **B01d** *12/00*
U.S. Cl. 208—188 11 Claims



The dispersed phase of stable emulsions comprising aromatic hydrocarbon-containing oils in aqueous media is demulsified by intimitely contacting the aqueous media with an aromatic hydrocarbon solvent, which results in an oil-rich solvent extract phase and an emulsified oil-depleted aqueous phase, and passing the oil-depleted aqueous phase, through a finely divided crystalline silica coalescing medium to demulsify the dispersed phase of the remaining emulsified oil.

3,507,783
PROCESS FOR SWEETENING HYDROCARBON OILS

Charles A. Maurer, Sweeny, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,559
Int. Cl. C10g *27/08*
U.S. Cl. 208—195 8 Claims



A process for sweetening mercaptan-containing hydrocarbon streams whereby the life of the cupric chloride reagent is increased including the steps of determining the mercaptan concentration in the hydrocarbon stream, and controlling the addition of heat to the stream so as to increase the water-absorption capacity thereof, and controlling the quantity of an oxygen-containing gas admixed with the hydrocarbon stream necessary to maintain the sweetening reagent active, as a function of this mercaptan concentration.

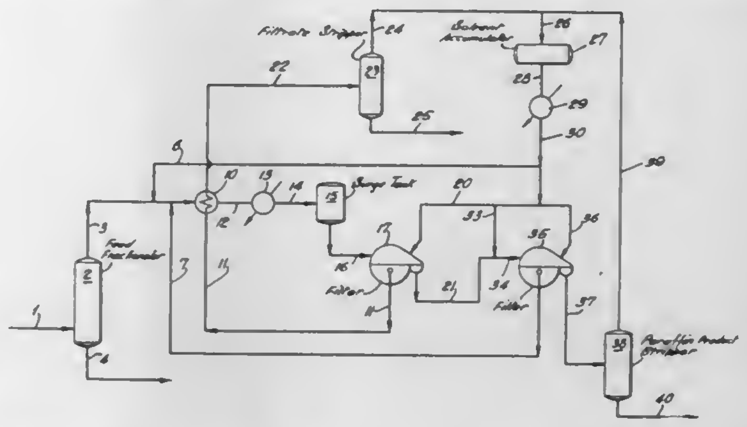
3,507,784
HYDROREFINING CATALYST PREPARATION AND THE USE THEREOF

Mark J. O'Hara, Prospect Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Apr. 22, 1968, Ser. No. 723,277
Int. Cl. C10g *23/02;* **B01j** *11/82*
U.S. Cl. 208—216 2 Claims

Hydrorefining of heavy hydrocarbon charge stocks containing organo-metallic compounds and asphaltenes is carried out with a catalyst of alumina-silica-boron phosphate carrier composited with nickel and molybdenum. The catalyst preparation involves separate calcining steps wherein the dried, impregnated carrier material is (1) initially calcined in an oxygen-containing atmosphere at 500–900° F. until the impregnated nickel compound is decomposed and (2) further calcined at a higher temperature at 900–1200° F.

3,507,785
SEPARATION OF LONG CHAIN NORMAL PARAFFIN HYDROCARBONS

Thomas A. Cooper and Richard L. Coleman, Port Arthur, and Herbert C. Morris, Groves, Tex.; and John I. Nixon, deceased, late of Bridge City, Tex., by Roberta Lois Nixon, administratrix, Bridge City, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed May 16, 1967, Ser. No. 639,000
Int. Cl. C07c *7/14;* **B01d** *9/00*
U.S. Cl. 208—308 8 Claims



Separation of long chain normal paraffin hydrocarbons from hydrocarbon mixtures containing said normal paraffin hydrocarbons by distillative separation of a fraction having an end point selected to include the highest carbon number constituent of the desired normal paraffin hydrocarbon product to the exclusion of the next higher carbon number normal paraffin hydrocarbon followed by solvent fractional crystallization involving dilution of said fraction with a solvent and chilling to a temperature effective to precipitate the lowest carbon number constituent of the desired normal paraffin hydrocarbon product to the exclusion of lower carbon number constituents.

3,507,786
MANUFACTURE OF LOW POUR OILS BY THERMAL DIFFUSION

Jack Walker and Lorne William Sproule, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Continuation of application Ser. No. 223,811, Sept. 14, 1962. This application Oct. 4, 1967, Ser. No. 672,928
Int. Cl. C10g *41/00*
U.S. Cl. 208—308 14 Claims

The pour point of a hydrocarbon oil is lowered by separating it into fractions by thermal diffusion. Selected fractions are blended to get a lower pour point than the average of the blended fractions.

3,507,787
METHOD OF FLOCCULATING AN AQUEOUS SUSPENSION OF SOLID INORGANIC PARTICLES

Richard J. Pratt, Flossmoor, and Richard K. Diefenbach, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Nov. 7, 1966, Ser. No. 592,329. Divided and this application June 2, 1969, Ser. No. 839,131

Int. Cl. B01d *21/01*

U.S. Cl. 210—54 **10 Claims**

Cationic water-soluble, quaternary ammonium salts of a tertiary amine-containing amidic reaction product of a polyamine and polymer of a polymerizable vinyl monomer and a dicarboxyl compound are provided wherein at least 80 percent of the dicarboxyl groups are imidized and at least 30 percent of the teritiary amine groups are quaternized. They are useful to flocculate an aqueous suspension of solid inorganic particles.

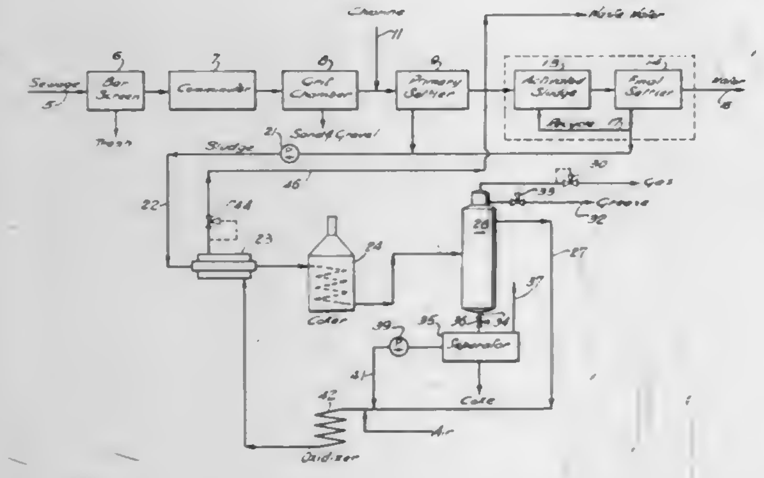
3,507,788
TREATMENT OF SEWAGE

Edward L. Cole, Fishkill, and Howard V. Hess, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 29, 1968, Ser. No. 780,080

Int. Cl. C02b *1/02*

U.S. Cl. 210—63 **5 Claims**



Process for treatment of biological sewage wastes for reduction in chemical oxygen demand (COD) wherein aqueous sewage is heated in the absence of free oxygen to a temperature in the range of 400 to 700° F. under sufficient pressure to prevent vaporation of water and form non-septic coke which is separated from the treated sewage aqueous liquid effluent and the aqueous liquid effluent thereafter subjected to oxidation with air at a temperature above about 450° F. under sufficient pressure to prevent vaporization of water to yield an aqueous liquid effluent of low COD suitable for disposal in lakes or streams without serious water pollution.

3,507,789
PROTECTION OF ORGANIC MATERIALS AGAINST OXIDATION

Israel J. Heilweil and Albert L. Williams, Princeton, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed June 22, 1967, Ser. No. 647,947

Int. Cl. C10m *7/02, 7/30*

U.S. Cl. 252—19 **12 Claims**

Metallic antioxidant agents in finely divided form are provided, and methods of preparing them, for protecting oxidation-sensitive materials against oxidation at high temperatures.

3,507,790
EMULSIFIABLE GLASS MOLD LUBRICANTS

Alan Beerbower, Westfield, Edward L. Kayle, Colonia, and Anthony Lagani, Jr., Newark, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 638,170, Mar. 30, 1967, which is a continuation-in-part of application Ser. No. 370,847, May 28, 1964. This application May 21, 1968, Ser. No. 730,904

Int. Cl. C10m *1/48, 1/26, 1/22*

U.S. Cl. 252—32.7 **10 Claims**

Oil-in-water emulsions suitable for use in glass molding and metal working operations may be prepared from admixtures of a high molecular weight petroleum oil, a hydrocarbon solvent and a surfactant combination comprising: (1) the reaction product of ethylene oxide or propylene oxide with a compound selected from the group consisting of a partial ester or sorbitol, a fatty alcohol, a fatty acid, an aliphatic amine, an alkyl phenol and mixtures thereof, (2) a coupling agent such as cyclohexanol and (3) a neutralized high molecular weight organic acid such as an amine derivative of monoalkenyl succinic anhydride.

3,507,791
BIODEGRADABLE SOLUBLE LUBRICANTS

Ford C. Teeter, Palos Heights, Ill., and David B. Sheldahl, Griffith, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1967, Ser. No. 613,110

Int. Cl. C10m *1/32*

U.S. Cl. 252—34.7 **6 Claims**

A lubricating composition which is essentially biodegradable and dispersible in water and made from about 1 to 77 weight percent of water; about 2 to 50 weight percent of a monocarboxylic acid (e.g., oleic acid); about 1 to 50 weight percent of a base which can be ammonia, an alkali metal hydroxide or an amine (e.g., ethanolamine); and about 20 to 90 weight percent of an alcohol (e.g., ethylene glycol). The composition contains at least about 3 weight percent of the salt of the acid and base. The composition may be prepared by combining at a temperature of about 65° to 140° F. the alcohol component with the acid salt which can be pre-formed or prepared in situ, and with any free acid or base, stirring the resulting combination to form a homogeneous mixture, and adding the water component.

3,507,792
BIODEGRADABLE, WATER-DISPERSIBLE LUBRICANT COMPOSITIONS

Charles L. Zuraw, Harvey, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 30, 1967, Ser. No. 686,803

Int. Cl. C10m *1/06, 1/32, 1/26*

U.S. Cl. 252—49.5 **11 Claims**

A lubricating composition which is essentially biodegradable and dispersible in water and made from about 0.5 to 30 wt. percent of an unsaturated ester of a normal aliphatic monocarboxylic acid and a normal aliphatic alcohol; about 0.1 to 30 wt. percent of at least one nonionic emulsifier having an HLB range of about 8–15 which can be a condensate of ethylene oxide with an ester of a normal aliphatic monocarboxylic acid and a polyhydric normal alcohol the condensate containing about 2 to 20 moles of ethylene oxide per mole of condensate, a condensate of an ethylene oxide with a normal aliphatic alcohol the condensate containing about 1 to 15 moles of ethylene oxide per mole of condensate, a condensate of ethylene oxide with a normal aliphatic monocarboxylic acid the condensate containing about 2 to 20 moles of ethylene oxide per mole condensate; and about 1 to 99 wt. percent of water.

3,507,793
PREPARATION OF CARBOXYLIC ACID-KETONE MIXTURES

Lawrence C. Mitchell, Clawson, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Oct. 1, 1964, Ser. No. 400,911, now Patent No. 3,362,971, dated Jan. 9, 1968. Divided and this application Oct. 19, 1967, Ser. No. 684,089

Int. Cl. C10m *1/20*

U.S. Cl. 252—55 **3 Claims**

A process for preparing carboxylic acids in an alkoxy alkanol reaction medium by (a) ozonizing olefin mixtures, (b) then oxidizing the ozonized olefin mixture using an oxygen-containing gas in the presence of aqueous mineral acid. A preferred process prepares a mixture of carboxylic acids and ketones when vinylidene olefins are present in the olefin mixture.

3,507,794
ELECTROSTATIC PHOTOGRAPHY SYSTEMS

Donald L. Fauser, Cleveland, Ohio, and Edward G. Bobalek, Orono, Maine, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 420,449, Dec. 22, 1964. This application Nov. 7, 1966, Ser. No. 592,674

Int. Cl. G03g *9/04;* **C09c** *3/02*

U.S. Cl. 252—62.1 **2 Claims**

A liquid organosol or emulsion developer composition for latent electrostatic images is disclosed which comprises an insulating carrier liquid having a KB value of between 20 and 100, pigment particles which form an association complex with two different resins both insoluble in the carrier liquid, one of the resins being a halogenated resin.

3,507,795
COMPOSITION FOR REMOVAL OF COPPER AND COPPER OXIDE SCALES FROM BOILERS

George S. Gardner, Elkins Park, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware

No Drawing. Filed Dec. 9, 1966, Ser. No. 600,358

Int. Cl. C02b *5/06, 5/02*

U.S. Cl. 252—87 **14 Claims**

This invention relates to an industrial process and solutions for use therein, and more particularly to a process for treating boilers for the removal of copper and copper oxides from the interior surfaces thereof. The process and solutions are also useful in other environments where it is desired to remove copper from iron and steel surfaces.

In accordance with the invention, copper and copper oxide components of scale can be removed from ferrous surfaces by treating the surfaces with solutions containing nitrite ion, copper ion, and a water soluble monobasic organic acid having the formula

$$H—(HCR^1)_n—(HCR^2)—COOH$$

where R^1 is selected from the group consisting of hydrogen and hydroxyl, and R^2 is selected from the group consisting of hydrogen and hydroxyl, and *n* is an integer of from 0 to 4. Acetic acid is the preferred acid from this group; other examples include propionic, butyric, valeric acid, etc. Chloride ion may also be advantageously employed in the treating solutions. It has been found that these solutions efficiently dissolve copper and copper bearing scale components with no substantial attack on the underlying ferrous surface. A significant discovery underlying the invention is that the deliberate inclusion of copper ion in the treating solutions results in complete reversal of their chemical action, converting them from solutions which preferentially attack iron instead of copper, to solutions which preferentially attack copper and not iron.

3,507,796
ANTIBACTERIAL COMPOSITIONS

Jack G. Voss, Wyoming, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 489,739, Sept. 23, 1965. This application May 11, 1967, Ser. No. 637,625

Int. Cl. C11d *3/48;* **A61l** *13/00, 23/00*

U.S. Cl. 252—106 **7 Claims**

Antibacterial compositions consisting essentially of (1) specific chelating agents, (2) specific organic cation-forming compounds, (3) sufficient alkaline buffering salt to maintain the pH under usage conditions between 7 and 11, (4) specific zwitterionic detergents and (5) optionally, other compatable detergents and/or antibacterial agents; dilute aqueous solutions prepared from said compositions.

3,507,797
PROCESS FOR PREPARING SOAP BARS CONTAINING UREA

Bibhuti Ranjan Mazumder, Malabar Hill, India, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Mar. 17, 1967, Ser. No. 623,836

Int. Cl. C11d *9/26, 9/30, 15/04*

U.S. Cl. 252—110 **11 Claims**

A toilet bar, that is prepared by a toilet bar forming process including the step of heating an aqueous solution or dispersion containing 35–60% w./w. urea, 20–50% w./w. alkali metal, ammonium or substituted ammonium soap, 7–15% w./w. saturated C_{10}–C_{20} aliphatic monocarboxylic acid or mixture of such acids at a temperature of between 95° and 105° C. until the desired water content is reached, is described. The toilet bar optionally includes between 1 and 4% w./w. alkali metal dihydrogen phosphate and has a final pH of between 7.7 and 8.3. The bar provides a cooling sensation on the skin when used.

3,507,798
BUILT DETERGENTS CONTAINING NON-IONIC POLYOXYALKYLENE SURFACE ACTIVE MATERIALS

Richard R. Egan, Edina, and Leon D. Smiens, Minneapolis, Minn., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky

No Drawing. Original application Nov. 8, 1965, Ser. No. 506,900. Divided and this application Feb. 26, 1968, Ser. No. 707,944

Int. Cl. C11d *3/075*

U.S. Cl. 252—135 **3 Claims**

Alkylene oxide condensates of long, straight chain primary alcohols having randomly distributed oxyethylene and oxypropylene units in the ratio of 2/1 to 4.5/1 and a total of 12 to 20 oxyalkylene units, are used in built detergent formulations.

3,507,799
TRANSHALOGENATION REAGENT COMPOSED OF TETRAHYDROFURAN AND SILICON TETRAFLUORIDE

George Morris Hart, Adrian, Mich., assignor, by mesne assignments, to Stauffer-Wacker Silicone Corporation, a corporation of Delaware

No Drawing. Filed Dec. 12, 1967, Ser. No. 689,755

Int. Cl. C09k *3/00;* **C07b** *9/00;* **C01b** *33/00*

U.S. Cl. 252—182 **4 Claims**

An aqueous solution of tetrahydrofuran is saturated with silicon tetrafluoride and the resulting product, after removal of excess tetrahydrofuran, is applied as a transhalogenation reagent.

3,507,800

FLAME RESISTANT PEROXIDES

Newton G. Leveskis, Richmond, Calif., assignor to U.S. Peroxygen Corporation, Richmond, Calif.

No Drawing. Continuation of application Ser. No. 266,185, Mar. 19, 1963. This application Oct. 5, 1966, Ser. No. 584,608

The portion of the term of the patent subsequent to May 3, 1982, has been disclaimed

Int. Cl. C01b *15/00*

U.S. Cl. 252—186 **5 Claims**

Flame resistant organic peroxide compositions in which flame resistance is imparted through the incorporation of sufficient water, the water and the peroxide being formulated as a homogeneous non-separating mass with a mutual solvent or dispersant for the water and the organic peroxide.

3,507,801

ENTRAPMENT OF RADIOACTIVE WASTE WATER USING SODIUM BORATE

Ivan Kausz and Jong-Dok Kim, Erlangen, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany

Filed Apr. 29, 1968, Ser. No. 725,003

Claims priority, application Austria, Feb. 19, 1968, A 1,540/68

Int. Cl. G21f *9/16, 9/04*

U.S. Cl. 252—301.1 **5 Claims**

Radioactive waste water is given an addition of sodium borate solution. The mixture is thickened by heating until the remaining quantity of water is small enough to be bondable by the sodium borate as water of crystallization. The hot and still liquid concentrate is drained into storage containers in which it cools and crystallizes.

3,507,802

CALCIUM FLUORIDE PHOSPHORS ACTIVATED BY TERBIUM AND EUROPIUM

Robert L. Amster, Great Neck, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware

Filed July 19, 1967, Ser. No. 654,454

Int. Cl. C09k *1/06*

U.S. Cl. 252—301.4 **5 Claims**

A phosphor system consisting of calcium fluoride activated by divalent europium and trivalent terbium. These phosphors are photoluminescent and are suitable for use in fluorescent lamps.

3,507,803

EUROPIUM ACTIVATED GADOLINIUM OR YTTRIUM BORATE-VANADATE

Willem Lambertus Wanmaker, Johannes Wilhelmus ter Vrught, and Johannes Godefridus Verlijsdonk, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 27, 1967, Ser. No. 656,337

Claims priority, application Netherlands, July 29, 1966, 6610689

Int. Cl. C09k *1/44, 1/66*

U.S. Cl. 252—301.4 **2 Claims**

A red luminescent phosphor formed of a trivalent europium activated gadolinium or yttrium borate in which part of the borate is substituted by vanadium.

3,507,804

METHOD OF COPRECIPITATING MIXED RARE-EARTH ORTHOPHOSPHATES SUITABLE FOR MAKING PHOSPHOR

Richard C. Ropp, North Caldwell, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 633,426, Apr. 25, 1967. This application June 13, 1968, Ser. No. 736,839

Int. Cl. C09k *1/36*

U.S. Cl. 252—301.4 **11 Claims**

Method of precipitation of raw mix which is used to prepare improved rare-earth metal activated, rare-earth metal orthophosphates. The crystallinity and particle size of the rare-earth metal orthophosphate precipitate is determined by the concentration of rare-earth metal in a first solution and the concentration of an orthophosphoric acid second solution. The first solution is slowly added to the second solution while it is maintained acid. The efficiency of the precipitation can be maximized by controlling the concentration of the orthophosphoric acid solution.

3,507,805

LONG-AFTERGLOW PHOSPHOR

Willi Lehmann, Murrysville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 18, 1967, Ser. No. 631,669

Int. Cl. C09k *1/12*

U.S. Cl. 252—301.6 **5 Claims**

Zinc-sulfide phosphor is activated by gold and indium, and exhibits a superior phosphorescent afterglow after excitation by either daylight or ultraviolet.

3,507,806

MINERAL OIL-WATER GELS

Graham Barker, Fairlawn, and John T. Foley, Verona, N.J., assignors to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 2, 1966, Ser. No. 591,413

Int. Cl. B01j *13/00*

U.S. Cl. 252—316 **9 Claims**

A substantially clear and transparent gel composition consisting of:

(a) mineral oil
(b) a water-soluble diethanolamide
(c) an oil-soluble diethanolamide
(d) a polyhydroxy fatty acid monoester
(e) a phosphoric acid ester of an ethylene oxide adduct of an alkyl phenol or of an aliphatic monohydric alcohol, or water-soluble salt of such esters, and
(f) water.

3,507,807

CORROSION INHIBITING COMPOSITION CONTAINING A POTASSIUM SOAP OF TALL OIL, TOLUENE, ALKALI METAL PHOSPHATE, AND ALKALI METAL SILICATE

Taito Herman Rikhard Palikko, Kilo, Finland

No Drawing. Filed Dec. 12, 1966, Ser. No. 600,770

Int. Cl. A61l *23/00;* **C09k** *3/00;* **C23f** *11/00*

U.S. Cl. 252—389 **3 Claims**

A composition useful, for example, for preventing rust comprising a colloidal solution of 30–50% by weight of potassium soap of tall oil, 5–20% by weight of toluene, 1–5% by weight of condensed alkali metal phosphate, 1–5% by weight of alkali metal silicate, and the balance water.

3,507,808

NOVEL PEROXIDE COMPOSITIONS

Robert M. Douglas, Harrington Park, Michael Erchak, Jr., Ridgewood, and Kenneth W. Doak, Wyckoff, N.J., assignors to Dart Industries Inc., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 362,985, Apr. 27, 1964. This application Apr. 12, 1968, Ser. No. 721,078

Int. Cl. C08d *3/04*

U.S. Cl. 252—426 **4 Claims**

A solid substantially solvent-free peroxide composition of reduced shock sensitivity is disclosed which comprises up to 95 mole percent of benzoyl peroxide recrystallized from solution with at least 5 mole percent of decanoyl peroxide.

3,507,809

PREPARATION OF EPOXIDATION CATALYST SOLUTION

John Kollar, Wyckoff, N.J., assignor to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Jan. 3, 1967, Ser. No. 606,535

Int. Cl. C07d *1/08*

U.S. Cl. 252—429 **1 Claim**

The present invention pertains to the preparation of a catalyst solution by reacting a catalyst metal in the elemental form or in the form of an inorganic compound with a liquid aralkyl hydroperoxide in the substantial absence of olefinically unsaturated compounds. The catalyst solution which results is particularly useful in the production of oxirane compounds.

3,507,810

CATALYST FOR OXIDATION OF NAPHTHALENE TO PHTHALIC ACID ANHYDRIDE

William Eugene Sanborn, Wilton, and John Francis Lindsley, Glenbrook, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 18, 1967, Ser. No. 639,260

Int. Cl. B01j *11/82;* **C07c** *63/02*

U.S. Cl. 252—430 **4 Claims**

A process for making a catalyst for the oxidation of naphthalene to phthalic anhydride in which an organic flocculating agent is used to improve the distribution and quantity of components in the catalyst gel. The catalyst gel is atomized in the preparation of the finished catalyst at a particle speed sufficiently low to prevent the breakup of gel particles into excessive fines. For example, the catalyst may be prepared by the addition of a polyacrylamide to a high solids content silica xerogel-salt (potassium sulfate and vanadium oxide) slurry which is spray-dried at an atomizer speed below 12,000 revolutions per minute and a peripheral speed below 18,800 feet per minute.

3,507,811

CATALYST FOR THE REACTION OF HYDROCARBONS WITH STEAM

Phineas Davies and Isaac James Green, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 27, 1967, Ser. No. 619,033

Claims priority, application Great Britain, Mar. 14, 1966, 11,073/66

Int. Cl. B01j *11/06, 11/40;* **C01b** *2/18*

U.S. Cl. 252—455 **14 Claims**

A catalyst for the reaction of hydrocarbons with steam, carbon dioxide, oxygen or mixtures thereof and comprising a metal catalytically active in that reaction, refractory metal oxide support material and optionally a hydraulic cement, exhibits a high degree of mechanical strength yet at the same time high activity, if the said support material has been introduced during the preparation of the catalyst partly as such and partly by precipitation with a compound of the said active metal. The catalyst is especially suitable for use in the oxidative secondary reforming process.

3,507,812

METHOD FOR THE PREPARATION OF MIXED NONNOBLE METAL CATALYSTS

Warren Maxwell Smith, Fred J. Buchmann, Howard Emerson Merrill, and Harry Edwin Robson, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 23, 1968, Ser. No. 700,681

Int. Cl. B01j *11/40*

U.S. Cl. 252—455 **10 Claims**

The present disclosure relates to improved methods for the preparation of a mixed nonnoble metal catalyst. The preparative method of the present invention not only provides a more efficient method of preparing a nonnoble metal catalyst than methods previously known in the art, but also rather unexpectedlly results in a catalyst having substantially higher activity in hydrocarbon conversion processes than a catalyst of the same composition but prepared by methods previously known in the art. The present method involves the following preparative sequence:

(1) Mixing a crystalline alumino-silicate zeolite, in the sodium form, with a binder comprising an inorganic oxide gel and/or a clay and spray drying;

(2) Exchanging the zeolite composite with ammonium ion until a critical level of Na_2O content is reached;

(3) Forming the exchanged zeolite composite to desired shape and size for use in commercial operations;

(4) Treating the catalyst composite pellets with steam;

(5) Cation exchanging the zeolite composite with a metal cation selected from Groups I–B, II–B, or the nonnoble members of Group VIII of the Periodic Table; and

(6) Treating the metal cation exchanged catalyst composite with a hydrogenation component selected from Group V–B or Group VI–B of the Periodic Table.

3,507,813

OXIDATION CATALYST COMPRISING FUSED MIXTURE OF OXIDES OF VANADIUM, ZIRCONIUM AND LANTHANIDE SERIES METAL

Theodor Vrbaški, Harvey, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Apr. 3, 1963, Ser. No. 270,165, now Patent No. 3,306,915. Divided and this application May 17, 1966, Ser. No. 566,168

Int. Cl. B01j *11/06*

U.S. Cl. 252—464 **5 Claims**

Fused vanadium pentoxide catalysts containing promotional amounts of zirconium oxide and lanthanide series metal oxide are selective for the vapor phase oxidation of ortho-di(lower alkyl)benzenes to their corresponding anhydrides. Thus, for example, a catalyst comprising alpha-alumina having a partially fused coating of vanadium, zirconium and terbium oxides is highly selective for the vapor phase oxidation of ortho-xylene to phthalic anhydride.

3,507,814

MULTIFUNCTIONAL AZIRIDINO COMPOUNDS, POLYMERIC PRODUCTS THEREOF AND PRODUCTION PROCESSES

Heinz Uelzmann, Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Filed Jan. 13, 1967, Ser. No. 608,987
Int. Cl. C08g *23/06, 43/02*
U.S. Cl. 260—2 **16 Claims**

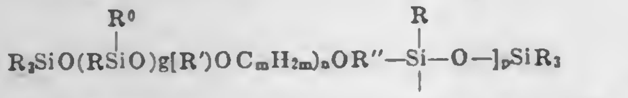
Multifunctional aziridino compounds are prepared by reaction of alkylenimines and similar aziridinyl hydrocarbons with glycidyl acrylate and similar unsaturated carboxyepoxy compounds. With equimolar proportions of reactants, epoxyaziridin compounds are obtained and with greater proportions of the alkylenimine reagents, diaziridino compounds are produced. The epoxyaziridino compounds may be converted to prepolymers which can be further polymerized with Lewis acid catalysts to form hard cross-linked resins. The diaziridino compounds are useful as polymer cross-linking and chain-extending agents. The polymers are useful as adhesive compositions.

3,507,815

URETHANE FOAM FORMULATIONS CONTAINING HYDROLYTICALLY STABLE SILOXANE-OXYALKYLENE COPOLYMERS

Donald L. Bailey, Sistersville, W. Va., and Anton S. Pater, Williamsville, N.Y., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Application Feb. 8, 1965, Ser. No. 431,194, which is a continuation-in-part of application Ser. No. 116,265, June 12, 1961. Divided and this application July 25, 1966, Ser. No. 567,376
Int. Cl. C08g *22/46, 53/10*
U.S. Cl. 260—2.5 **10 Claims**

1. A one-shot process for producing a flexible polyurethane foam which comprises forming a mixture of a major amount of a polyether containing at least two hydroxyl groups and having a molecular weight of about 1800 to 5000 and an organic polyisocyanate, a catalytic amount of a catalyst for the production of the polyurethane foam, a minor amount of a blowing agent and a foam stabilizing amount of a siloxane-oxyalkylene copolymer having the formula:



$$R_3SiO(R\overset{R^0}{\overset{|}{S}}iO)_g[R')OC_mH_{2m})_nOR''-\underset{|}{\overset{R}{\overset{|}{Si}}}-O-]_pSiR_3 \qquad (1)$$

wherein R is a monovalent hydrocarbon group, R^0 is a member selected from the group consisting of hydrogen and a monovalent hydrocarbon group, R′ is hydrogen or a monovalent hydrocarbon group, R″ is a divalent hydrocarbon group, *g* has a value of at least 0, *m* is an integer that has a value of at least 2, *n* is a number that has a value of at least 1, *p* is a number that has a value of at least 1, there are no more than three hydrogen atoms represented by R^0 in the copolymer, and at least 25 weight percent of the groups represented by (OC_mH_{2m}) are oxyethylene groups; and foaming and curing said mixture.

3,507,816

FOAMABLE POLYMERS CONTAINING A FLAME RETARDANT

David John Sims, Cardiff, Glamorgan, Wales, and Robert James Stephenson, Cwmbran, England, assignors to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed June 13, 1967, Ser. No. 645,625
Claims priority, application Great Britain, June 15, 1966, 26,750/66; July 27, 1966, 33,790/66
Int. Cl. C08f *47/10;* **C09k** *3/28*
U.S. Cl. 260—2.5 **4 Claims**

There is disclosed a novel foamable product comprising particles of a foamable polystyrene having incorporated therein a volatile pentabromophenyl allyl ether in the amount of 0.1 to 1.5 percent by weight of the particles as a flame retardant agent. The foamable particles are highly advantageously provided by a process in which the styrene polymer is polymerized in the presence of the pentabromophenyl allyl ether and the volatile blowing agent.

3,507,817

ACRYLIC-EPOXY-CARBOHYDRATE POLYETHER COATING COMPOSITIONS

Hyman M. Molotsky, Chicago, Ill., and Ronald J. Caimi, Philadelphia, Pa., assignors to CPC International Inc., a corporation of Delaware
No Drawing. Filed May 1, 1967, Ser. No. 634,842
Int. Cl. C08b *25/00, 25/02*
U.S. Cl. 260—9 **20 Claims**

Covers coating compositions derived from a thermosetting acrylic resin, an uncured epoxy resin, and a carbohydrate polyether. Also covers a method of preparing coatings therefrom by curing the reactive epoxy resin, acrylic and carbohydrate polyether. Th cured coatings or films are particularly characterized as possessing both the desired strength and flexibility necessary in a great variety of film applications.

3,507,818

SEALANTS FOR FLUID CONTAINERS

Robert Lee Roach, West Chester, Pa., assignor to West Chester Chemical Company, West Chester, Pa., a corporation of Pennsylvania
No Drawing. Continuation of application Ser. No. 127,819, July 31, 1961. This application June 16, 1966, Ser. No. 557,905
Int. Cl. C08d *7/14, 7/18*
U.S. Cl. 260—17 **12 Claims**

A stable, liquid, sealant composition for sealing and coating leaks in conduits, vessels, reservoirs, packing joints or surfaces of same, said surfaces having an electrical charge, the composition comprising a cationic elastomeric rubbery solids, a curing accelerator and a curing agent and a cationic and/or a non-ionic surface active agent.

3,507,819

CATALYTIC ESTERIFICATION OF EPOXY RESINS

Geert C. Vegter and Feije H. Sinnema, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 20, 1967, Ser. No. 617,067
Claims priority, application Netherlands, Feb. 22, 1966, 6602240
Int. Cl. C09d *3/58, 3/26;* **C08g** *30/04*
U.S. Cl. 260—18 **7 Claims**

When epoxy resins are esterified with fatty acids in the presence of stannous oxide, stannous hydroxide or stannous salts of weak acids, the cooking time is significantly reduced and the viscosity increase of the reaction mixture during cooking is suppressed.

3,507,820

PROCESS FOR PREPARING A POLYESTER COMPOUND FROM EPOXY RESIN MATERIAL OBTAINED FROM 2-METHYLEPICHLOROHYDRIN

Hiroshi Maeda, Chiba, Koichi Hasegawa and Kiyoshi Fukai, Ichihara, Hisashi Sekiguchi and Fumio Hayakawa, Chiba, and Michihisa Takemura, Ichihara, Japan, assignors, by mesne assignments, to Dainippon Ink and Chemicals, Incorporated, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Oct. 13, 1967, Ser. No. 675,045
Claims priority, application Japan, Oct. 13, 1966, 41/66,907; Dec. 1, 1966, 41/78,359; Aug. 23, 1967, 42/53,737
Int. Cl. C08g *17/01, 17/16, 17/18*
U.S. Cl. 260—22 **3 Claims**

A process for preparing a polyester compound, characterized by reacting an epoxy resin obtained from 2-methylepichlorohydrin and a divalent phenol with (1) a polyvalent carboxy compound, (2) a polyvalent carboxy compound and a polyhydric alcohol, or (3) a polyvalent carboxy compound, a polyhydric alcohol and a fatty acid.

3,507,821

COATING COMPOSITION OF A POLYMER HAVING PENDENT ESTER GROUPS

Joseph A. Vasta, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Original application Apr. 29, 1966, Ser. No. 546,189, now Patent No. 3,442,873, dated May 6, 1969. Divided and this application Nov. 21, 1968, Ser. No. 777,917
Int. Cl. C08f *21/02, 21/60*
U.S. Cl. 260—31.2 **19 Claims**

A coating composition of a polymer having pendent ester groups formed by:

(1) Preparing an esterification product by reacting

(a) an anhydride of an ethylenically unsaturated dicarboxylic acid,
(b) a glycidyl ester,
(c) an aromatic or an aliphatic dicarboxylic acid; wherein (a), (b) and (c) are reacted in a molar ratio of 1:3:1,

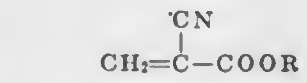
(2) Copolymerizing the esterification product with other ethylenically unsaturated monomers to form a polymer.

3,507,822

TOOTH COATING COMPOSITION

Torao Miyami, 707 Okudo-honcho, Katsushika-ku, Tokyo, Japan
No Drawing. Filed Aug. 18, 1967, Ser. No. 661,529
Int. Cl. C08f *15/16, 15/26, 45/38*
U.S. Cl. 260—31.8 **9 Claims**

The invention relates to a coating composition which is a mixture of a vinyl resin composition and a cyanoacrylate represented by the general formula



$$CH_2{=}\overset{CN}{\overset{|}{C}}-COOR$$

wherein R represents a hydrogen atom, or saturated straight or branched aliphatic hydrocarbon radicals having 1–8 carbon atoms.

3,507,823

ART OF PREPARING DYEABLE POLYACRYLONITRILE PRODUCTS

Louis E. Trapasso, Westfield, and Charles L. Smart, Millington, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 9, 1967, Ser. No. 621,765
Int. Cl. C08f *3/16*
U.S. Cl. 260—32.6 **22 Claims**

Dyeable (especially cationic-dyeable) acrylonitrile (AN) compositions and articles (e.g., films and filaments) are produced from blends of (I) homopolymeric or copolymeric AN containing from ca. 40% up to 100% AN monomer units and (II) a copolymer of (A) a water-soluble salt (e.g., Na or other alkali-metal salt) of vinyl sulfonic acid (VSAS) and (B) at least one dye diffusion-promoting ethylenically-unsaturated monomer (DDP) that is copolymerizable with the VSAS of (A). In the polymeric AN of (I) monomer units other than AN are units of at least one different ethylenically unsaturated monomer that is free from cationic dye sites and is copolymerizable with AN (e.g., the various styrenes, halogenated and nonhalogenated olefins, vinyl and vinylidene halides).

The monomer units of the VSAS in the copolymer of (II) constitute from 0.1 to about 2% of the total number of monomer units making up the copolymer. Examples of the DDP monomers of (B) are the vinyl esters, e.g., vinyl acetate, the acrylic and methacrylic esters, e.g., methyl acrylate and methyl methacrylate, acrylic acid, and the C_1–C_6 alpha-alkyl-substituted acrylic acids. The acrylic and alkyl-substituted acrylic acids can be either in free acid form or as a water-soluble salt thereof.

Sufficient copolymer of (II) is blended with the polymer of (I) to increase the cationic dye-receptivity of the latter, e.g., from 1% to ca. 25%, preferably from ca. 5% to ca. 15%, based on total polymer.

The components may be dry-blended, but are preferably blended while dissolved in a common solvent, e.g., dimethyl-acetamide. The solutions can be cast to form cationic-dyeable films or wet-spun to form cationic-dyeable filamentary materials and other shaped articles.

3,507,824

ENAMEL COMPOSITION FOR THE INSULATION OF HIGH-TEMPERATURE MAGNET WIRE

Wesley W. Pendleton, Muskegon, Mich., and George W. Ostrander, New Lebanon, Ohio, assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Original application Aug. 4, 1965, Ser. No. 477,248, now Patent No. 3,442,702. Divided and this application Nov. 22, 1968, Ser. No. 796,628
Int. Cl. C08g *51/04*
U.S. Cl. 260—37 **3 Claims**

Enamel for electrical insulation at high temperatures is made up of an organic resin, a solvent, suspended glass particles with the composition, in parts by weight of,

SiO_2:32–46, BaO:25–35, K_2O:10–13, Na_2O:4–6,

Li_2O:1–3, ZnO:6–10, CaF_2:1–4, CoO:0–1.2

NiO:0-1.2, and 10–30% of the weight of the glass particles of a suspension of refractory oxide.

3,507,825

CHLOROPRENE-SULFUR COPOLYMERS HAVING IMPROVED FLEX RESISTANCE THROUGH USE OF ORGANIC SULFIDES

Jean Philip Paris, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 24, 1967, Ser. No. 662,861
Int. Cl. C08g *51/58;* **C08f** *27/06*
U.S. Cl. 260—45.9 **5 Claims**

The present invention relates to (1) a sulfur-modified chloroprene polymer prepared by polymerizing in the presence of a dialkyl xanthogen disulfide, and having added thereto an amine or phenolic antioxidant and (2) a diaryl disulfide, the resulting cured polymer product having a significantly improved flex resistance property.

3,507,826
STABILIZATION OF POLY(VINYL ALKYL ETHER) VULCANIZATES WITH p.PHENYLENEDIAMINE MIXTURES

Joginder Lal, Akron, Ohio, and James E. McGrath, Somerville, N.J., assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 405,826, Oct. 22, 1964. This application Jan. 30, 1969, Ser. No. 795,350
Int. Cl. C08g *51/60*
U.S. Cl. 260—45.9 9 Claims

Poly(vinyl alkyl ether) vulcanizates stabilized with certain amine stabilizer mixtures.

3,507,827
STABILIZER COMPOSITION FOR LESSENING EARLY DISCOLORATION OF POLYVINYL CHLORIDE RESINS WHEN HEATED

Mark W. Pollock, Teaneck, N.J., assignor to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 417,513, Dec. 10, 1964, which is a continuation-in-part of application Ser. No. 336,887, Jan. 10, 1964. This application Jan. 27, 1967, Ser. No. 612,107
Int. Cl. C08f *45/58*
U.S. Cl. 260—45.75 17 Claims

A stabilizer combination is provided for decreasing early discoloration of polyvinyl chloride resins when heated at 350° F. and higher, including (1) a dialkyl, dicycloalkyl or alkylcycloalkyl tin mercapto carboxylic acid ester, and (2) an alpha- or beta-mercapto acid having at least three carbon atoms, or an alpha- or beta-mercapto alcohol having at least two carbon atoms. A typical combination is composed of dibutyltin diisooctyl thioglycollate and thiolactic acid.

Polyvinyl chloride resin compositions are also provided containing these stabilizers, and a process for improving the resistance of such resins to the development of early discoloration during the first thirty minutes of heating by incorporating these stabilizers therein.

3,507,828
THERMOSETTING RESIN MADE BY REACTION OF EPOXY COPOLYMER WITH POLYFUNCTIONAL AMINE AND THEN WITH ALDEHYDE

Henry Ashjian, East Brunswick, N.J.
(% Mobil Chemical Co., Metuchen, N.J.)
No Drawing. Filed Mar. 9, 1966, Ser. No. 532,881
Int. Cl. C08g *30/08*
U.S. Cl. 260—47 11 Claims

Thermosetting coating compositions are provided by forming a resinous epoxy-functional copolymer including a proportion of copolymerized ethylenically unsaturated epoxy compound and reacting this copolymer with a polyfunctional amine, especially melamine. This provides an hydroxy-functional derivative which is reacted with aldehyde such as formaldehyde so that, the final product will possess both alkylol and hydroxy functionality to enable thermosetting cure.

3,507,829
CROSSLINKING OF AROMATIC POLYMERS WITH ORGANIC POLYSULFONAZIDES

Edgar E. Bostick, Scotia, and Alfred R. Gilbert, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
No Drawing. Filed Apr. 11, 1966, Ser. No. 541,537
Int. Cl. C08f *27/08;* **C08g** *17/14, 51/74*
U.S. Cl. 260—47 6 Claims

Highly aromatic organic polymers are crosslinked under the influences of heat when admixed with an aromatic polysulfonazide. These polymers are useful as coating and as electrical wiring insulators, etc.

3,507,830
LINEAR POLYESTER AMIDES PREPARED FROM 4,6 DIOXA - 1-AZA-BICYCLO [3,3,0] OCTANES AND DICARBOXYLIC ACID ANHYDRIDES

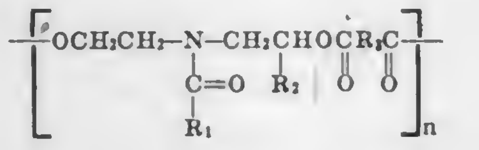
Roland Feinauer, Haltern, Germany, assignor to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed Jan. 17, 1968, Ser. No. 698,433

Claims priority, application Germany, Jan. 31, 1967, C 41,378

Int. Cl. C08g *20/30*
U.S. Cl. 260—47 10 Claims

Linear polyamidoesters, useful as plasticizers or for coatings, of the formula



$$-\left[\mathrm{OCH_2CH_2{-}\underset{\substack{|\\ C=O\\ |\\ R_1}}{N}{-}CH_2\underset{\substack{|\\ R_2}}{C}HO\underset{\substack{\|\\ O}}{C}R_3\underset{\substack{\|\\ O}}{C}}\right]_n-$$

wherein R_1 is an organic residue, R_2 is an organic residue or hydrogen, and R_3 is a 2 or 3 carbon atom chain, made by reacting an anhydride of a dicarboxylic acid, such as phthalic, maleic or succinic anhydride, with a 4,6-dioxa-1-azabicyclo[3,3,0]octane compound.

3,507,831
PROCESS FOR CURING EPOXY RESINS WITH POLYCARBOXYLIC ANHYDRIDES IN PRESENCE OF N-ALKYL IMIDAZOLES

Paul A. Avis and Jurrianus Bekooy, Delft, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 517,922, Jan. 3, 1966. This application Jan. 29, 1968, Ser. No. 701,475

Claims priority, application Netherlands, Apr. 13, 1965, 6504681

Int. Cl. C08g *23/20*
U.S. Cl. 260—47 11 Claims

Polyepoxides are converted to insoluble, infusible products by reacting said polyepoxides with a curing amount of a polycarboxylic anhydride in the presence of a from 0.1 to 10 parts by weight of polyepoxide of a N-alkyl imidazole or N-alkyl benzimidazole.

3,507,832
AMORPHOUS COPOLY (PARA-ORTHO-PHENYLENE OXIDE)

Horace R. Davis, Roseville Village, and Charles W. Taylor, East Oakdale Township, Washington County, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 641,464, May 26, 1967. This application July 22, 1968, Ser. No. 746,255

Int. Cl. C08g *23/17*
U.S. Cl. 260—47 2 Claims

Certain novel copoly (para-ortho-arylene oxides) are disclosed. These polymers can be easily handled and used in solutions and have excellent resistance to high temperatures. A process of chain extending the polymers is also disclosed. The polymers disclosed herein have many uses, particularly in the field of protective coatings.

3,507,833
STABILIZED POLYAMIDE COMPOSITION CONTAINING COPPER AND HALOGENATED PHOSPHITE ADDITIVES

Joachim Nentwig, Krefeld-Bockum, Germany, Peter Popper, Tokyo, Japan, and Hans Rudolph and Karl Heinz Hermann, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,249
Claims priority, application Germany, Mar. 10, 1966, F 48,630
Int. Cl. C08g *51/62*
U.S. Cl. 260—45.75 11 Claims

A polyamide composition stabilized against degradation effects of heat and oxygen, comprising a linear polyamide having recurring carbonamide groups in the polymer chain, a copper compound, and a halogen-containing aliphatic phosphite.

3,507,834
FILAMENTS OF SEGMENTED ELASTOMERS FROM STERICALLY HINDERED TERTIARY ARALKYL DIISOCYANATES AND DIAMINES

Emerson La Verne Wittbecker, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of applications Ser. No. 379,358, June 30, 1964, and Ser. No. 467,091, June 25, 1965. This application June 23, 1966, Ser. No. 559,732
Int. Cl. C08g *22/06, 22/10, 53/00*
U.S. Cl. 260—75 14 Claims

Filaments of segmented elastomeric polymers based on certain hindered tertiary aralkyl diisocyanates such as $\alpha,\alpha,\alpha',\alpha'$-tetramethyl-p-xylylene diisocyanates and/or certain hindered tertiary aralkyl diamines such as $\alpha,\alpha,\alpha',\alpha'$-tetramethyl-p-xylylene diamine exhibit a unique combination of high whiteness-retention and high elastic power.

3,507,835
POLYETHYLENE TEREPHTHALATE POLYMER COMPOSITION CONTAINING AT LEAST 0.5 WEIGHT PERCENT OF A SULFONATED PYRROLE

Robert W. Stackman, Morris Township, Morris County, N.J., and Donald E. Sargent, Schenectady, N.Y., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 29, 1966, Ser. No. 605,570
Int. Cl. C08g *17/14*
U.S. Cl. 260—75 8 Claims

A polymer composition having improved dyeability properties comprising a synthetic linear thermoplastic polymer and at least 0.5 weight percent of a sulfonated pyrrole.

3,507,836
PREPARATION OF POLYESTERS FROM A BIS-HYDROXYALKYL ESTER OF AN AROMATIC DICARBOXYLIC ACID

Mary E. Carter, Philadelphia, and Patricia A. Smith, Parkside, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed July 19, 1967, Ser. No. 654,377
Int. Cl. C08g *17/013;* **C07c** *67/00*
U.S. Cl. 260—75 8 Claims

Process of preparing polyester resin comprising carrying out: (1) a condensation reaction between a bis-hydroxyalkyl ester of an aromatic dicarboxylic acid and an aromatic dicarboxylic acid in the presence of a salt, hydroxide, or oxide of a metal having an atomic number of at least 28 to form a polyester prepolymer; and then (2) polycondensing the resulting said polyester prepolymer in the presence of a conventional polycondensation catalyst.

3,507,837
ACIDIC COMPOUNDS USED TO MODIFY CURING OF POLYMERS WITH MULTIAZIRIDINO COMPOUNDS

David C. Hidinger, Jr., Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
No Drawing. Continuation-in-part of application Ser. No. 402,342, Oct. 7, 1964. This application Jan. 17, 1967, Ser. No. 609,767
Int. Cl. C08f *27/08*
U.S. Cl. 260—78.4 10 Claims

Acidic compounds, such as Lewis acids, Bronsted acids, salts of weak bases and strong acids, etc., are used as promoters or catalysts in the curing of carboxyl containing polymers, e.g., carboxyl terminated polyalkadienes, carboxylic containing polyesters, etc., with multiaziridinyl hydrocarbons.

3,507,838
DIENE RUBBER:MALEIC ANHYDRIDE ADDUCTS NEUTRALIZED WITH TERTIARY AMINES

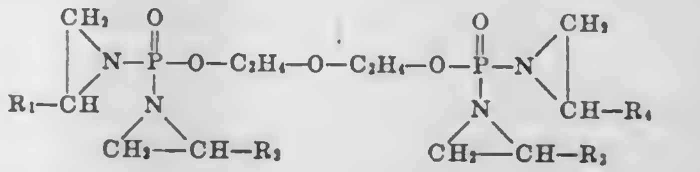
Christiaan Vervloet, Delft, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 16, 1968, Ser. No. 698,136
Claims priority, application Great Britain, May 2, 1967, 9,983/67
Int. Cl. C08f *1/90, 27/08*
U.S. Cl. 260—78.4 9 Claims

Elastomeric conjugated diene polymers having improved processability and reduced metal adhesion comprise diene rubbers adducted with 2–22% maleic anhydride and at least partially neutralized with a tertiary amine.

3,507,839
CURING PROCESS FOR CARBOXYL POLYMERS USING TETRAIMINES

Ray C. Christena, Millington, N.J., and Edward Broderick, Perkasie, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 171,260, Feb. 5, 1962. This application Oct. 5, 1965, Ser. No. 493,250
Int. Cl. C08d *15/00, 19/00*
U.S. Cl. 260—78.5 10 Claims

Polymeric materials containing carboxyl groups are cured with tetrafunctional imine compounds having the structure



wherein R_1, R_2, R_3 and R_4 are selected from the group consisting of H and CH_3.

3,507,840
METHOD OF REMOVING WATER FROM WATER-SOLUBLE POLYMERS

John R. Hurlock, Oak Lawn, Ill., assignor to Nalco Chemical Company, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 556,581, June 10, 1966. This application Apr. 27, 1967, Ser. No. 634,080
Int. Cl. C08f *1/88*
U.S. Cl. 260—80 5 Claims

An improved method for removing water from an aqueous solution containing a water soluble polymer without experiencing loss of polymer activity. The process is accomplished by the addition of certain metal salts to a water soluble polymer system of two liquid phases comprising water and an organic water-insoluble heat transfer medium.

3,507,841

TERPOLYMERS OF ETHYLENE, ACRYLONITRILE, AND AN UNSATURATED AMIDE

David W. McDonald, Texas City, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 12, 1965, Ser. No. 479,332

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.6 **8 Claims**

Substantially random addition terpolymers of ethylene, acrylonitrile, and an unsaturated amide prepared by polymerization at elevated temperatures and pressures in the presence of a free-radical-generating catalyst.

3,507,842

METHOD FOR SUPPRESSING MOLECULAR WEIGHT INCREASES DURING THE WATER - DEACTIVATION OF TRANSITION-METAL BASED ANIONIC-COORDINATION CATALYSTS

Hal G. Ginn, Baker, La., assignor to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana

No Drawing. Continuation-in-part of application Ser. No. 553,311, May 27, 1966. This application Aug. 3, 1966, Ser. No. 569,836

Int. Cl. C08f *15/40*

U.S. Cl. 260—80.78 **5 Claims**

The presence of molecular jump during deactivation of Ziegler type catalyst in the interpolymerization in solution of ethylene, propylene and a bridged ring compound selected of 5-ethylidene-2-norbornene, 5-methylene-2-norbornene and 5-isopropylene-2-norbornene by substantially instantaneous admixture of water with the solution less than 1 minute after polymerization has been completed with the water present in an amount within the range of 0.1 to 5 volumes of solution.

3,507,843

ACTIVATION OF VANADIUM-BASED CATALYST WITH PHOSPHORUS TRIHALIDES

Frederick C. Loveless, Oakland, N.J., assignor to Uniroyal, Inc., a corporation of New Jersey

Continuation of application Ser. No. 304,597, Aug. 26, 1963. This application Oct. 17, 1968, Ser. No. 772,460

Int. Cl. C08f *15/40, 1/56, 1/42*

U.S. Cl. 260—80.78 **7 Claims**

A hydrocarbon-soluble catalyst for making olefin copolymer rubber (e.g. EPDM) based on a vanadium salt (e.g. $VOCl_3$) and an alkylaluminum compound (e.g. ethylaluminum sesquihalide) is activated by adding phosphorus trichloride.

3,507,844

FLUOROELASTOMER SEALANTS

George Wood, Farnham, Surrey, England, assignor to Minister of Aviation in Her Britannic Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England

No Drawing. Filed Aug. 1, 1966, Ser. No. 569,041

Claims priority, application Great Britain, Aug. 3, 1965, 33,119/65; Nov. 30, 1965, 50,767/65

Int. Cl. C08f *27/02, 35/02, 29/16*

U.S. Cl. 260—87.7 **1 Claim**

A process for dehydrofluorinating a fluorocarbon elastomer which comprises dissolving the elastomer in dimethylformamide or dimethylacetamide, optionally also in the presence of an alkali cyanide, an alkali thiocyanate, or an alkaline earth metal nitrate.

3,507,845

PROCESS FOR PRODUCING ETHYLENE/VINYL CHLORIDE COPOLYMERS

Edwin D. Hornbaker, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Continuation of application Ser. No. 235,545, Nov. 5, 1962. This application Jan. 19, 1967, Ser. No. 610,452

Int. Cl. C08f *1/60, 1/62, 1/74*

U.S. Cl. 260—87.5 **10 Claims**

A vinyl chloride-ethylene copolymer having a chemically combined ethylene content of 9–22 percent by weight. The copolymer is characterized by having an inherent viscosity at 25° C. of at least 0.9 when dissolved in cyclohexanone at a concentration of 0.1 gram per 100 ml. The copolymer is prepared by copolymerizing vinyl chloride and ethylene at a temperature in the range of from about —25° C. to about 10° C. at a pressure ranging from about 2,000 to about 30,000 p.s.i., in the presence of a catalyst comprising the product of reaction between an organoborane and at least one member of the group consisting of molecular oxygen and peroxides. Example of a suitable catalyst is the product of reaction between a trialkyl borane and molecular oxygen.

3,507,846

METHOD FOR THE POLYMERIZATION OF VINYL PYRIDINE MONOMERS

Howard C. Haas, Arlington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Apr. 12, 1967, Ser. No. 630,182

Int. Cl. C08f *1/11, 7/12*

U.S. Cl. 260—88.3 **4 Claims**

Vinyl pyridine monomers may be substantially completely polymerized in a system comprising a polyvinyl alcohol suspending agent and containing from 78% to 85% by weight of water and a catalyst which is sufficiently soluble in the water phase of said system to cause polymerization of substantially all of the monomer present therein.

3,507,847

POLYACRYLAMIDE-BASED WET - STRENGTH RESIN AND PAPER HAVING A CONTENT THEREOF

Laurence Lyman Williams, Stamford, and Anthony Thomas Coscia, South Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Apr. 6, 1967, Ser. No. 628,979

Int. Cl. C08f *3/90*

U.S. Cl. 260—89.7 **10 Claims**

A diamine is reacted with sufficient of a water-soluble polyacrylamide in anhydrous or aqueous medium to form a polymer which is water-soluble, cationic and thermosetting. The polymer is hydrolysis-resistant and is a wet-strengthening agent useful in the manufacture of paper.

3,507,848

VULCANIZABLE COMPOSITION CONTAINING AMINE METAL SALT COMPLEX

Douglas Cameron Edwards, Sarnia, Ontario, and Peter Noel Lewis, Calgary, Alberta, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

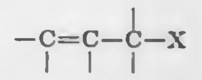
No Drawing. Filed Nov. 27, 1967, Ser. No. 685,955

Claims priority, application Canada, Nov. 28, 1966, 976,540

Int. Cl. C08d *5/02;* **C08f** *27/08*

U.S. Cl. 260—94.7 **10 Claims**

A heat curable sealant composition having a pot life of at least 30 minutes is provided by a mixture of (a) an olefinically unsaturated liquid polymer containing molecules of a polymerized C_4–C_8 diolefinic compound, a major proportion of said molecules containing two separated



$$-\underset{|}{C}=\underset{|}{C}-\overset{|}{\underset{|}{C}}-X$$

structures where X is a halogen atom such as Cl, Br or I, and (b) an amine-metal salt complex. The preferred liquid polymer is a polymer of butadiene and the complex is represented by a reaction product of an amine containing at least two nitrogen atoms such as methylated triethylene tetramine with a metal salt of Cu, Zn, Mg, Co or Ni. The proportion of the amine-metal salt complex in the mixture is about 0.5–15 parts by weight of amine in said complex per 100 parts by weight of liquid polymer.

3,507,849

POLYMERIZATION OF ETHYLENE

Gregory W. Daues, Jr., Dickinson, Tex., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed May 24, 1965, Ser. No. 458,401

Int. Cl. C08f *3/04*

U.S. Cl. 260—94.9 **3 Claims**

Control of gel contamination during start-ups by washing the reactor with xylene containing a hindered phenol.

3,507,850

POLYMERIC FUGITIVE AZO DYES DERIVED FROM METHACRYLATE ALKYL ESTER, METHACRYLIC ACID AND A DYE MONOMER CONTAINING SULFONIC ACID GROUPS AND A METHACRYLOYL GROUP

Werner Victor Cohen and Erik Kissa, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 25, 1966, Ser. No. 552,715

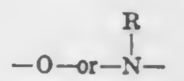
Int. Cl. C09b *43/00;* **D06p** *1/52*

U.S. Cl. 260—160 **11 Claims**

Polymeric fugitive dyes which are useful for color coding textile fibers, which are insensitive to pH changes encountered during normal textile fiber processing operations, and which are easily and completely removable from the textile fibers, said fugitive dyes derived from: alkyl methacrylate ester in which the alkyl group contains 1 to 18 carbon atoms for example ethyl, hexadecyl and octadecyl esters; methacrylic acid or a water-soluble salt thereof; and a dye monomer of the structure

$$DX—COC(CH_3)=CH_2$$

in which DX is a dye residue derived from an azo, anthraquinone or methine dye of the formula DX—H, which dye contains at least one sulfonic acid group or water-soluble salt thereof, such as an ammonium salt derived from a water soluble amine, and X is



$$-O-\text{or}-\overset{R}{\overset{|}{N}}-$$

wherein R is hydrogen or lower alkyl.

3,507,851

SYNTHESIS DERIVATIVES OF AGAROSE HAVING APPLICATION IN ELECTROPHORESIS ON GEL AND IN CHROMATOGRAPHY

Victor Ghetie, Sos. Oltenitei 67–69; Grigoras Dan Motet, Str. Bateriilor 4; and Dithelm Horst Schell, Balta Alba, bloc 39, all of Bucharest, Rumania

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,062

Claims priority, application Rumania, Mar. 24, 1966, 51,181

Int. Cl. C02b *1/56;* **C07c** *47/18;* **C08b** *19/00*

U.S. Cl. 260—209 **2 Claims**

These compounds are derivatives of agarose, being obtained both by introducing diethyl-aminoethyl and carboxymethyl groups into the molecule of agarose thereby obtaining products which can be used in electrophoresis, immunoelectrophoresis, and in chromatography in columns as ion-exchanging gels, or by crosslinking agarose with epichlorohydrin thereby obtaining products with gel-filtering properties, or by introducing diethyl-aminoethyl and carboxymethyl groups into the molecule of cross-linked agarose thereby obtaining products with no gelling capacity but, endowed with ion-exchanging properties.

3,507,852

EXTRACTION ESTERIFICATION PROCESS

William Kuchmy, 1593 Plank Road, Webster, N.Y. 14580

No Drawing. Filed Jan. 12, 1968, Ser. No. 697,316

Int. Cl. C08b *3/06, 3/20, 19/10*

U.S. Cl. 260—209.6 **3 Claims**

A process for the extraction and esterification of cellulosic and other products, using an azetropic mixture of a hydrocarbon and an acid anhydride as a combined esterifying agent and extracting solvent. The preferred solvent ingredients are heptane and acetic anhydride, and materials which may be extracted and esterified include cotton linters (either purified or raw) and milkweed fibers, and polyuronic alginate materials. The solvent in hot liquid phase is brought into contact with the material being extracted (which becomes the esterified product) and then goes to a still where the solvent is boiled, the solvent vapors are condensed and again brought into contact with the material being extracted, and so on. The boiling, condensation of vapors, contact with material being extracted, and return to the still are preferably carried out in a closed circuit apparatus, to provide a repetitive cycle continued as long as desired.

3,507,853

PRODUCTION AND RECOVERY OF METHYL α-D-MANNOPYRANOSIDE AND A MIXTURE OF PURE METHYL GLYCOSIDES

John Kelvin Hamilton and Franklin W. Herrick, Shelton, and Jim D. Wilson, Olympia, Wash., assignors to ITT Rayonier Incorporated, a corporation of Delaware

No Drawing. Filed Nov. 2, 1967, Ser. No. 680,020

Int. Cl. C07g *3/00*

U.S. Cl. 260—210 **9 Claims**

A method is disclosed for producing a mixture of purified methyl glycosides from mannose-containing plant materials. The mixture is then separated into essentially pure methyl α-D-mannopyranoside and a complex residue of methyl glycosides. The plant material is glycosidated under anhydrous conditions at an elevated temperature with methanol containing an acid catalyst to convert carbohydrate materials in said plant material or extract into simple methyl glycosides. The hot acidic solution is then neutralized to a pH of about 7 and the alcohol-insoluble inorganic salts removed if desired. The neutral solution is then evaporated to a thick syrup, cooled below 50° C. and diluted with from 1 to 2 times its weight of water at about 55° C. Water-insoluble noncarbohydrates and other impurities are removed and the solution is decolorized with an adsorptive material such as activated carbon. A clear, light-colored solution of methyl glycosides results from which methyl α-D-mannopyranoside can be preferentially and readily crystallized leaving a complex residue of pure methyl glycosides as a second useful product.

3,507,854
PROCESS FOR PREPARING THIAMINE DERIVATIVES

Genshun Sunagawa, Hiroshi Watanabe, and Seiji Mitsui, Tokyo, Japan, assignors to Sankyo Company, Limited, Chyvo-ku, Tokyo, Japan

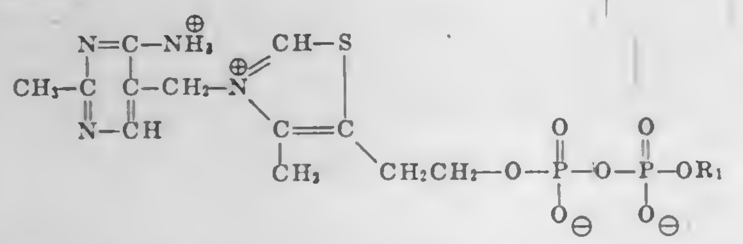
No Drawing. Filed Apr. 7, 1965, Ser. No. 446,403

Claims priority, application Japan, Apr. 8, 1964, 39/19,912

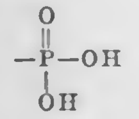
Int. Cl. C07d *51/51, 51/54, 99/12*

U.S. Cl. 260—211.5 **1 Claim**

1. A process for preparing a compound having the formula

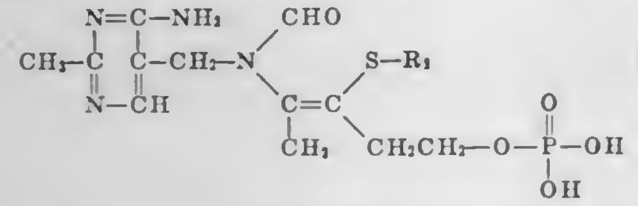


wherein R_1 is a member selected from the group consisting of hydrogen, the group

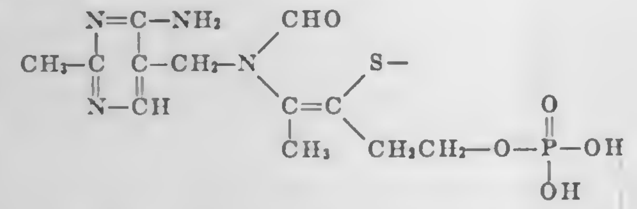


$$-\overset{\overset{O}{\|}}{\underset{\underset{OH}{|}}{P}}-OH$$

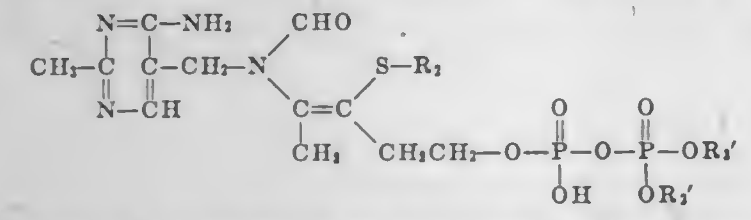
5′-adenosine and 5′-uridine which comprises reacting a compound having the formula



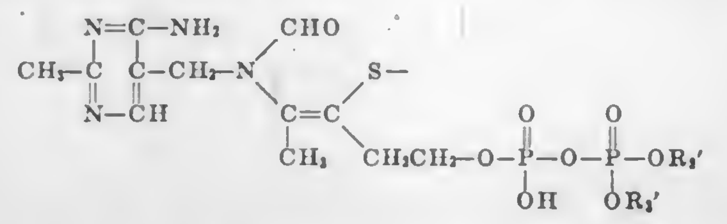
wherein R_2 is a member selected from the group consisting of aliphatic acyl of 2–4 carbon atoms, benzoyl alkylthio containing 1∼5 carbon atoms in the alkyl moiety and the group



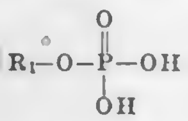
with a compound selected from the class consisting of diphenyl-phosphorohalidate and di(C_1—C_3— alkoxy-substituted) phenylphosphorohalidate in the presence of a tertiary amine to form a compound having the formula



wherein R'_3 is a member selected from the group consisting of phenyl and alkoxy-substituted phenyl having 1–3 carbon atoms in the alkoxy moiety and R_3 is a member selected from the group consisting of aliphatic acyl, aromatic acyl alkylthio containing 1∼5 carbon atoms in the alkyl moiety and the group



in which R'_3 is as defined above, and reacting the latter compound with a compound having the formula



$$R_1-O-\overset{\overset{O}{\|}}{\underset{\underset{OH}{|}}{P}}-OH$$

wherein R_1 is as defined above in the presence of a tertiary amine followed by treatment with a compound selected from the group consisting of hydrogen sulfide, an alkylmercaptan, an arylmercaptan, a mercapto-containing amino acid and thioglycolic acid.

3,507,855
PROCESS OF PREPARING CELLULOSE SULFATE AND STARCH SULFATE

Roy L. Whistler, Wabash Township, Tippecanoe County, Ind., assignor to Purdue Research Foundation, Lafayette, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 575,982, Aug. 30, 1966. This application May 3, 1967, Ser. No. 635,663

Int. Cl. C08b *5/14, 19/02*

U.S. Cl. 260—215 **11 Claims**

Method of preparing sulfated cellulose and sulfated starch by reaction of cellulose or starch, preferably preswollen in dimethyl sulfoxide, with a sulfur trioxide-dimethyl sulfoxide complex. A sulfur trioxide-dimethyl sulfoxide complex containing from 1 to about 3 moles of dimethyl sulfoxide for each mole of sulfur trioxide.

3,507,856
PURIFICATION OF CAPROLACTAM OBTAINED BY NITROSATION OF CYCLOHEXYL COMPOUNDS

Francesco Siclari, Cesano Maderno, Giuseppe Messina, Limbiate, and Edgardo Horak, Seveso, Italy, assignors to SNIA Viscosa Societa Nazionale Industria Applicazioni Viscose S.p.A., Milan, Italy, a company of Italy

No Drawing. Filed July 19, 1967. Ser. No. 654,384

Claims priority, application Italy, July 27, 1966, 17,414/66

Int. Cl. C07d *41/06*

U.S. Cl. 260—239.3 **4 Claims**

In the purification of caprolactam from nitrosation of cyclohexylic compounds and including amide-type volatile bases as impurities therefor, processing the impure caprolactam with a halogen and an alkaline agent to transform said amide-type volatile bases into amine compounds, and then remove said compound from the caprolactam.

3,507,857
AMIDINOHYDRAZONES OF KETOSTEROIDS

Kurt W. Ledig, Philadelphia, and Gerhard R. Wendt, Havertown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1967, Ser. No. 680,941

Int. Cl. C07c *173/10, 169/20*

U.S. Cl. 260—239.5 **13 Claims**

This invention is concerned with amidinohydrazones of 3-ketosteroids which have demonstrated usefulness as topical antibacterial agents.

3,507,858
2-PHENYLIMINO-3-SUBSTITUTED-5-BENZYLIDENE-4-THIAZOLIDONE

George W. Sawdey, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Original application May 13, 1964, Ser. No. 367,138, now Patent No. 3,314,794, dated Apr. 18, 1967. Divided and this application Aug. 11, 1966, Ser. No. 594,292

Int. Cl. C07d *91/18;* **C09b** *23/04*

U.S. Cl. 260—240 **9 Claims**

2 - phenylimino - 3 - substituted - 5 - benzylidene-4-thiazolidones, in which the substituent in the 3-position of said thiazolidone is either an alkyl group or a phenyl group such that at least one of the phenyl groups in the 3-position and the phenyl group of said phenylimino group has substituents in the 2- and 6-positions, are valuable ultraviolet absorbing agents for incorporating in photographic elements. The immediate ultraviolet absorbing agents are unexpectedly more stable than prior art 4-thiazolidone ultraviolet absorbing agents.

3,507,859
HETEROCYCLIC QUATERNARY SALTS, SENSITIZING DYES, AND PHOTOGRAPHIC EMULSIONS MADE THEREFROM

Friedrich Bauriedel, Dreieichenhain, Werner Franke, Wiesbaden, and Hilde Lang, Neu Isenburg, Germany, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

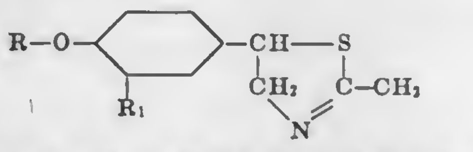
No Drawing. Filed Nov. 23, 1966, Ser. No. 596,471

Claims priority, application Germany, Jan. 20, 1966, A 51,377

Int. Cl. C09b *23/00;* **G03c** *1/28*

U.S. Cl. 260—240.1 **3 Claims**

Thiazoline bases having an aryl substituent in the 5-position which serve as intermediates for the preparation of cyanine, carbocyanine, merocyanine, and related photographic sensitizing dyes and styryl dyes. The bases have the formula:



where R is alkyl or aryl and R_1 is H, alkyl or aryl. New dyes are disclosed. The cyanine dyes are useful in photographic color emulsions and cause no change in the sensitivity spectrum and no bathochromatic shift in the sensitivity maximum and preserve selective sensitization in the orthochromatic domain.

3,507,860
PROCESS FOR THE PURIFICATION OF CRUDE 7-AMINOCEPHALOSPORANIC ACID AND ACID ADDITION SALTS OF 7-AMINO-CEPHALOSPORANIC ACID EMPLOYED THEREIN

Lewis Aubrey Wetherill, Harrow, William Graham, Pinner, and Michael John Covill, London, England, assignors to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed May 24, 1965, Ser. No. 458,446

Claims priority, application Great Britain, May 28, 1964, 22,155/64

Int. Cl. C07d *99/24*

U.S. Cl. 260—243 **10 Claims**

The purification of contaminated 7-aminocephalosporanic acid (7–ACA) by forming a solution of an acid addition salt of 7–ACA or its triloweralkylamine salt, the acid forming the addition salt being a hydrocarbyl sulphonic acid or nitric acid, removing any insoluble impurities from the solution, and crystallising out the acid addition salt. The recovered crystalline acid addition salts are new compounds.

3,507,861
CERTAIN 3-METHYL-CEPHALOSPORIN COMPOUNDS

Robert B. Morin and Billy G. Jackson, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 213,588, July 31, 1962. This application Sept. 14, 1966, Ser. No. 579,222

Int. Cl. C07d *99/24*

U.S. Cl. 260—243 **16 Claims**

Certain 3-methyl-cephalosporin compounds useful as antibiotics, e.g., 3-methyl-7-(D-α-aminophenylacetamido)-Δ^3-cephem-4-carboxylic acid, now known generically as cephalexin, especially of interest for its use as an antibiotic when administered by the oral route.

3,507,862
CLEAVAGE OF CEPHALOSPORIN C

Martha C. Stamper, and Thomas W. McIntyre, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Continuation-in-part of application Ser. No. 765,640, Oct. 7, 1968. This application Dec. 26, 1968, Ser. No. 787,247

Int. Cl. C07d *99/24*

U.S. Cl. 260—243 **12 Claims**

In the preparation of 7-aminocephalosporanic acid (7–ACA) by the chemical cleavage of cephalosporin C and salts thereof with nitrosyl chloride, increased yields are obtained by the addition of 2,2-dimethoxypropane or methyl formate at the completion of the reaction. The dimethoxypropane or methyl formate may be added prior to quenching the reaction or may be included in the quench solvent.

3,507,863
ISOINDOLONES AND METHOD FOR PREPARING SAME

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Original application Dec. 18, 1963, Ser. No. 331,372, now Patent No. 3,334,113, dated Aug. 1, 1967. Divided and this application Mar. 8, 1967, Ser. No. 621,472

Int. Cl. C07d *85/44, 87/20, 87/54*

U.S. Cl. 260—244 **11 Claims**

The compounds are of the class of tricyclic compounds having a heterocyclic ring of at least 5 ring atoms fused to the b-side of a 3-phenylphthalimidine, the heterocyclic ring containing one additional hetero atom which is in a 1,3-relationship with respect to the other hetero atom and also ortho to the point of fusion. The compounds are useful as anti-inflammatories and are prepared by reacting an o-benzoylbenzoic acid (or acid halide) with an appropriate ω-substituted alkyleneamine.

3,507,864

DICHLOROTRIAZINO SUBSTITUTED PHTHALOCYANINE DYESTUFFS

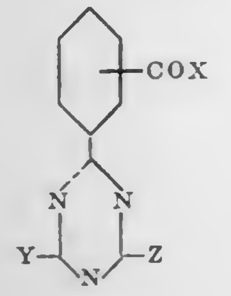
Asa W. Joyce, Millersville, Md., and Julian J. Leavitt, Plainfield, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation of application Ser. No. 125,942, July 24, 1961, which is a division of application Ser. No. 781,871, Dec. 22, 1958, now Patent No. 3,055,895, dated Sept. 25, 1962. This application Mar. 25, 1964, Ser. No. 354,757

Int. Cl. C07d *55/12*

U.S. Cl. 260—248 **1 Claim**

This invention relates to new dyes of the formula



wherein, in the benzoylene moiety, the remaining carbons are bonded to substituents selected from hydrogen, lower alkyl, lower alkoxy, chlorine, and bromine; Y is selected from chlorine, bromine, and —NHR; Z is selected from chlorine, bromine, and —NHR′; X is selected from chlorine, bromine, dialkylamino, diethanolamino, N-piperdyl, N-morpholinyl, and —NHR″; wherein R, R′, and R″ are each the remainder of an organic dye containing amino groups, such as an amino-azo dye, an amino-vat dye, or an amino-phthalocyanine dye, the —NH— moiety attached thereto being the residue of an amino group of such dye; with at least one of X, Y, and Z containing the remainder of such an organic dye.

A most important feature of the present invention is the linkage of the dye-residues of amino dyes to a novel carboxyphenyltriazine nucleus to produce a novel class of dyes. These novel dyes may be further characterized as ones wherein a benzoylene moiety is linked to a triazine nucleus with at least one dye residue linked to the carbonyl group of the benzoylene moiety or to a triazine carbon.

3,507,865

3-HYDROXY- AND 3-MERCAPTOPYRAZINAMIDOGUANIDINES THE CORRESPONDING ETHERS AND THIOETHERS AND PROCESSES FOR THEIR PREPARATION

James H. Jones, Blue Bell, and Edward J. Cragoe, Jr., Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 27, 1967, Ser. No. 634,105

Int Cl. C07d *51/76*

U.S. Cl. 260—250 **17 Claims**

3 - hydroxy- and 3 - mercaptopyrazinamidoguanidines and corresponding ethers and thioethers are described. These compounds which are optionally substituted on the 5 and/or 6-position of the pyrazine nucleus are prepared either by treatment of the corresponding ester with an aminoguanidine which may or may not carry substituents, or in the case of 3-hydroxy compounds, by diazotization of a 3-aminopyrazinamidoguanidine. The products have utility as diuretic agents in the treatment of disorders conducive to diuretic and/or saluretic therapy.

3,507,866

1H - IMIDAZO[4,5-b]PYRAZIN - 2 - ONE AND PROCESSES FOR THEIR PREPARATION

James H. Jones, Blue Bell, and Edward J. Cragoe, Jr., Lansdale, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of application Ser. No. 659,042, Aug. 8, 1967. This application May 9, 1968, Ser. No. 728,033

The portion of the term of the patent subsequent to Aug. 12, 1986, has been disclaimed

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 **24 Claims**

1H-imidazo[4,5-b]pyrazin-2-ones are described which are substituted with an amino or substituted amino group in the pyrazine moiety and optionally substituted on one or more the remaining available positions. These compounds are prepared principally by diazotization of a 3-aminopyrazinoic acid hydrazide, followed by heating of the intermediate acid azide. Certain of the substituted compounds are prepared by standard substitution reactions on the preformed 1H-imidazo[4,5-b]pyrazin-2-ones. The products have utility in at least one of the following areas: as antihypertensive agents, mild diuretic and saluretic agents, bronchodilating agents, inhibitors of gastric acid secretion, central nervous system stimulants, and cardiac stimulants.

3,507,867

2,3,4,6-TETRAHYDROPYRIMIDO[2,1-a]ISOINDOL-6-ONE

Theodore S. Sulkowski, Wayne, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 622,930, Mar. 14, 1967. This application Sept. 5, 1968, Ser. No. 757,774

Int. Cl. C07d *51/46*

U.S. Cl. 260—251 **1 Claim**

This invention is concerned with 2,3,4,6-tetrahydropyrimido[2,1-a]isoindol - 6 - one which is a useful intermediate for the preparation of tetrahydropyrimidoisoindolol compounds which are pharmacologically efficacious as antidepressants and diuretics. Further, this invention is concerned with the preparation of the subject compound by the condensation of phthalic anhydride and 1,3-diaminopropane.

3,507,868

IMIDAZO[2,1-b]THIAZOLES AND THIAZOLO[3,2-a]PYRIMIDINES

Robert E. Manning, Mountain Lakes, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 727,363, May 7, 1968. This application Oct. 21, 1968, Ser. No. 769,417

Int. Cl. C07d *51/46, 91/52*

U.S. Cl. 260—251 **14 Claims**

Indeno, naphtho and benzocyclohepta imidazo thiazoles and indeno, naphtho and benzocyclohepta thiazolo pyrimidines, e.g., 2,3 - dihydro-9H-indeno[2′,1′:2,3]imidazo [2,1 - b]thiazole, 3,4,10,11 - tetrahydro - 2H - naphtho [2′,1′:2,3]thiazolo[3,2 - a]pyrimidine and 2,3,10,11 - 9H-hexahydro benzocyclohepta[5,6-d]imidazo[2,1-b]thiazole are prepared. These compounds are useful as anorexics.

3,507,869

SUBSTITUTED THIAZOLES

William J. Houlihan and Robert E. Manning, Mountain Lakes, N.J., assignors to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 729,406, May 15, 1968, This application Feb. 27, 1969, Ser. No. 803,062

Int. Cl. C07d *51/46, 91/18, 91/26*

U.S. Cl. 260—251 **19 Claims**

Substituted thiazoles, e.g., 2 - chloroethyl - 3 - (3,4 - dimethylphenyl) - 5,6 - dihydroimidazo[2,1-b]thiazole hydrobromide, useful as antidepressants and anorectics.

3,507,870

1,4-DISUBSTITUTED-1,2,3,4-TETRAHYDROPHENAZINE-5,10-DIOXIDES

James David Johnston, Old Saybrook, Conn., assignor to Chas. Pfizer & Co. Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 18, 1966, Ser. No. 587,420. Divided and this application Dec. 18, 1968, Ser. No. 798,546

Int. Cl. C07d *51/80*

U.S. Cl. 260—267 **4 Claims**

A series of 3,4-dihydrophenazine- and 1,2,3,4-tetrahydrophenazine-5,10-dioxides and the non-toxic salts thereof used in controlling chronic respiratory disease in poultry and in promoting growth and improving feed efficiency of animals in general.

3,507,871

IMIDES OF 2:6-DIARYL-AMINO-NAPHTHALENE-1:4:5:8-TETRACARBOXYLIC ACID

Francis Irving and Donald Graham Wilkinson, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,052

Claims priority, application Great Britain, July 1, 1966, 29,610/66

Int. Cl. C07d *29/26;* **C07b** *53/00*

U.S. Cl. 260—281 **6 Claims**

Imides of 2:6 - dianilinonapthalene - 1:4:5:8-tetracarboxylic acid containing from two to four hydroxyalkyl groups, and the use of the imides as dyestuffs for the mass-coloration of synthetic linear polyesters.

3,507,872

INDOLYL-QUINOLINIUM DYESTUFFS

Gert Hegar, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed July 19, 1966, Ser. No. 566,206

Claims priority, application Switzerland, June 7, 1966, 8,198/66; Aug. 11, 1965, 71,294/65

Int. Cl. C07d *33/50, 57/04;* **C09b** *15/00*

U.S. Cl. 260—286 **10 Claims**

Water soluble basic dyestuffs for dyeing especially polyacrylonitrile fibres and corresponding to the general formula

$$(A-B)^{+}X^{-}$$

in which A is a quinolinium radical bound via its α- or γ-position, B is an indole radical bound via its 3-position and X is an anion.

3,507,873

(±)-8-AZA-19-NORPREGN-4-EN-3,20-DIONES

Richard Clarkson, Macclesfield, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,591

Claims priority, application Great Britain, May 17, 1963, 19,725/63

Int. Cl. C07d *39/02*

U.S. Cl. 260—289 **6 Claims**

8-aza-18-19-norpregn-4-en-3,20-diones which have progestational properties.

3,507,874

3-THIOPHENECARBOXYLIC ACID HYDRAZIDES

Real Laliberte, Laval, Quebec, Canada, assignor to Ayerst, McKenna & Harrison, Limited, St. Laurent, Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed Oct. 8, 1968, Ser. No. 765,971

Int. Cl. C07d *63/08*

U.S. Cl. 260—293.4 **7 Claims**

There are disclosed herein 3-thiophenecarboxylic acid hydrazides substituted in position 2 with aminophenyl or subsituted aminophenyl groups, in position4 with the imino group, and in position 5 with methyl, phenyl or substituted phenyl groups. The hydrazide group is substituted with two lower alkyl groups which may also be joined together to form a piperidino group together with the nitrogen to which they are attached. There are also disclosed the correspondingly substituted intermediate 2,4-thiophenedicarboxylic acid ester hydrazides. The compounds are useful as anthelmintic and amoebicidal agents, and methods for their preparation and use are also disclosed.

3,507,875

BASICALLY SUBSTITUTED BENZOIC ACID AMIDES

Ernst Jucker, Ettingen, and John Gmünder, Muttenz, Switzerland, assignors to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

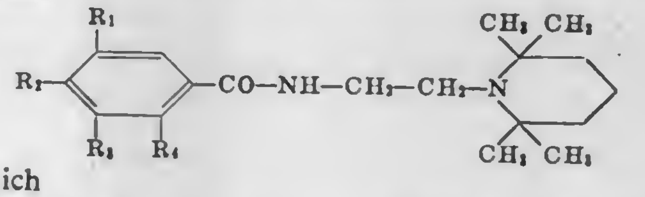
No Drawing. Filed Jan. 17, 1966, Ser. No. 520,856

Claims priority, application Switzerland, Jan. 19, 1965, 734/65; Apr. 6, 1965, 4,769/65; Aug. 25, 1965, 11,953/65

Int. Cl. C07d *29/34, 29/26, 29/14*

U.S. Cl. 260—293.4 **14 Claims**

Substituted benzoic acid amides having the general formula:



(I)

in which

(a) one of the substituents R_1, R_2 and R_3 is hydrogen, the second is hydrogen, fluorine, chlorine, bromine or methyl, the third is hydrogen, sulphamoyl or nitro, or
(b) one of the substituents R_1, R_2 and R_3 is hydrogen and the remaining two are chlorine, or
(c) each of R_1, R_2 and R_3 is methoxy, and R_4 is hydrogen or, when R_1 is sulphamoyl, R_2 is chlorine and R_3 is hydrogen, R_4 is chlorine,

and physiologically acceptable acid addition salts thereof having hypotensive activity are provided.

3,507,876

PYRROLIDINE AND PIPERIDINE NITROXIDE SPIN LABELLING COMPOUNDS

Harden M. McConnell and Seiji Ogawa, Stanford, and Carole L. Hamilton, Los Altos, Calif., assignors to Synvar Associates, Palo Alto, Calif., a partnership

Filed June 9, 1967, Ser. No. 645,023

Int. Cl. C07d *29/30, 27/04*

U.S. Cl. 260—294 **4 Claims**

Organic molecules containing a free radical nitroxyl group and having a haloacetamide or haloacetate attaching group for forming a chemical bond with a biologically active molecule, the attaching group being selective for sulfhydryl groups in the biologically active molecule.

3,507,877

ISOMERS OF INDOLO[2,3-a]QUINOLIZINE COMPOUNDS

Bryce Douglas, Phoenixville, Pa., and Jerry A. Weisbach, Cherry Hill, N.J., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 18, 1967, Ser. No. 631,620

Int. Cl. C07d *29/38*

U.S. Cl. 260—295.5 **1 Claim**

An isomer of 3 - acetyl - 3 - carbomethoxy-2-carbomethoxymethyl.- 1,2,3,4,6,7 - hexahydro - 12H-indolo[2,3-a] quinolizinium perchlorate having analgesic, antitussive and antidiarrheal activity is prepared from the corresponding isomer of 3-acetyl-3-carbomethoxy-2-carbomethoxymethyl - 1,2,3,4,6,7,12,12b - octahydroindolo[2,3-b] quinolizine by oxidizing with mercuric acetate in dilute acetic acid.

3,507,878

PROCESS FOR THE RECOVERY OF 2-ETHYL-2-OXAZOLINE

William D. Griffin, Morristown, Leon J. Schmehl, Lincoln Park, and Salvatore A. Casale, Morris Plains, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed July 24, 1967, Ser. No. 655,292

Int. Cl. C07d *85/36, 87/06*

U.S. Cl. 260—307 **5 Claims**

Low molecular weight oxazines and oxazolines may be separated from admixtures thereof with water by extraction of the mixture with diisopropyl benzene.

3,507,879

PROCESS FOR PREPARING INDOLYL-3-ACETONITRILE

Manfred Maurer, Dirmstein uber Frankenthal, Pfalz, Ludwig Rappen, Duisburg-Meiderich, Gerd Busse, Krefeld, and Winfried Orth, Schifferstadt, Germany, assignors to Rutgerswerke und Teerverwertung Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Jan. 4, 1968, Ser. No. 695,586

Claims priority, application Germany, Jan. 12, 1967, R 45,041

Int. Cl. C07d *27/56*

U.S. Cl. 260—319.1 **5 Claims**

Indolyl-3-acetonitrile is prepared in a single-stage process by alkylation of dialkyl-skatole-amine in aqueous suspension and direct reaction with alkali cyanide of the resulting trialkylskatyl-ammonium compound in the presence of an inert solvent, in which indolyl-3-acetonitrile is well soluble and which can be added prior to or after the reaction with alkali cyanide.

3,507,880

N-SUBSTITUTED IMIDES, ACID-AMIDES AND ESTER AMIDES

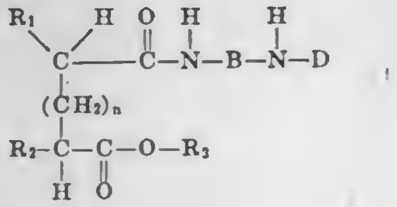
Elmar R. Altwicker, Somerville, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Aug. 11, 1966, Ser. No. 571,712

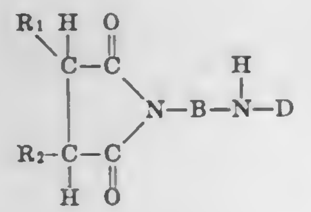
Int. Cl. C07d *27/52*

U.S. Cl. 260—326 **10 Claims**

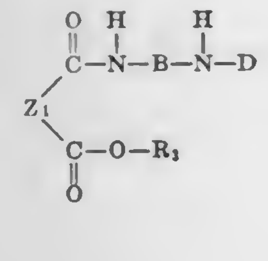
Compounds having the following formulae



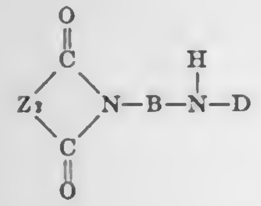
or



or



or



wherein R_1 and R_2 are independently selected from the group consisting of hydrogen and alkyl; R_3 is hydrogen or alkyl; Z_1 and Z_2 are vivalent mono-nuclear carbocyclic radicals; *n* is an integer of 0 to about 6; B is a phenylene group; and D is alkyl, cycloalkyl or aryl. The compounds are useful as stabilizing additives for lube oils, solid polyolefins, rubber and other organic material which is deleteriously affected by the action of ozone or oxygen.

3,507,881

SPIRO-TETRALINE SUCCINIMIDE COMPOUNDS

Rune Verner Sandberg, Jarna, Sweden, assignor to Aktiebolaget Astra, Sodertalje, Sweden, a Swedish company

No Drawing. Filed Sept. 7, 1966, Ser. No. 577,601

Claims priority, application Sweden, Sept. 17, 1965, 12,164/65

Int. Cl. C07d *27/10*

U.S. Cl. 260—326.5 **12 Claims**

Spiro-tetraline succinimide compounds containing besides the succinimide group, which may be substituted, a bivalent saturated hydrocarbon radical attached to the nitrogen of the amide group, and attached to said hydrocarbon radical any of certain amino groups. The application also discloses the use of such compounds in pharmaceutical preparation, specifically local anesthetics.

3,507,882

SUBSTITUTED 1,3-DIHYDRO-2,1,4-BENZOTHIADIAZEPINE-2,2-DIOXIDES

Otto Hromatka, Maximilian Knollmüller and Dieter Binder, Vienna, Austria, assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 5, 1967, Ser. No. 672,970

Int. Cl. C07d *99/00*

U.S. Cl. 260—327 **4 Claims**

5-phenyl-1,3-dihydro - 2,1,4 - benzothiadiazepine - 2,2-dioxides prepared by ring closure of a 2-chloromethylsulfonamidobenzophenone-β-oxime have tranquilizing activity. The benzo ring may be chloro or trifluoromethyl substituted, the 1-nitrogen atom may be alkylated and the 4-nitrogen atom may be an N-oxide or form a 4,5-epoxy linkage.

3,507,883

6-SUBSTITUTED B-NOR-TESTOSTERONE DERIVATIVES

Kenneth G. Holden, Stratford, N.J., and James F. Kerwin, Broomall, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Aug. 13, 1964, Ser. No. 389,468, now Patent No. 3,356,716, dated Dec. 5, 1967. Divided and this application Nov. 13, 1967, Ser. No. 682,514

Int. Cl. C07d *1/00, 1/02*

U.S. Cl. 260—348 **4 Claims**

Novel B-norsteroid intermediates are disclosed whose structures are characterized by having a 6,6-ethylene group together with a 17,20-epoxy ring. The intermediates are prepared by reacting a 6-methylene-B-norandrost-4-ene-3,17-dione with trimethylsulfoxonium iodide. The end products prepared using the disclosed intermediates have antiandrogenic activity (see U.S. Patent No. 3,334,140).

3,507,884

2,6-DIOXACYCLOHEXANONES HAVING AN UNSATURATED ALIPHATIC GROUP IN THE 4-POSITION

Fritz Hostettler and Eugene F. Cox, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Continuation of application Ser. No. 355,447, Mar. 27, 1964. This application Oct. 17, 1968, Ser. No. 770,891

Int. Cl. C07d *15/04*

U.S. Cl. 260—340.2 **19 Claims**

A class of 2,6-dioxacyclohexanones having an unsaturated group in the 4-position, e.g., 4-methyl-4-allyl-2,6-dioxacyclohexanone, are prepared by an Aldol condensation of an aldehyde with formaldehyde, followed by a Cannizzaro reaction and finally a lower temperature phosgenation or ester interchange. The compositions are useful in the production of linear solid polymeric products.

3,507,885

3-ALKYL-6H-DIBENZO[b,d]PYRANS

Kenneth Earl Fahrenholtz, Bloomfield, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 25, 1966, Ser. No. 537,298

Int. Cl. C07d *7/20*

U.S. Cl. 260—345.3 **29 Claims**

A process of preparing pyschotropic and analgesic 3-alkyl - 9 - hydrocarbyl(idine) - 6H - dibenzo[b,d]pyrans and novel intermediates therein.

3,507,886

PURIFICATION OF CRUDE PHTHALIC ANHYDRIDE BY THERMAL TREATMENT

Hubert Suter, Guenter Poehler, Karl-Heinz Mueller, and Friedrich Wirth, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed May 5, 1967, Ser. No. 636,280

Claims priority, application Germany, May 25, 1966, 1,259,870

Int. Cl. C07c *63/18*

U.S. Cl. 260—346.7 **9 Claims**

A continuous process for purifying crude phthalic anhydride by thermal treatment in a series of stirred vessels consisting of 2–5 stages at temperatures of 190–275° C., each stage having a temperature equal to, or up to 40° higher than, that of the preceding stage.

3,507,887

PROCESS OF PREPARING 2-ALKYL QUINIZARINS AND 2-ARYL-METHYLENE QUINIZARINS

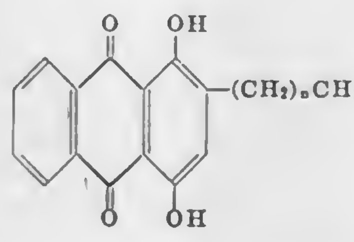
Grannis S. Johnson, Englewood, N.J., assignor to GAF Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 12, 1966, Ser. No. 586,019

Int. Cl. C09b *1/06*

U.S. Cl. 260—383 **7 Claims**

2-alkyl-quinizarins characterized by the following formula:



wherein *n* represents a numeral from 8 to 17. Such compounds are useful as dyestuff intermediates. The 2-alkylquinizarins and similar materials are produced by a process which comprises condensing 1 mol of leucoquinizarin with 1 to 1.5 mols of an aldehyde selected from the group consisting of saturated aliphatic aldehydes of from 1 to 18 carbon atoms, aromatic aldehydes containing from 1 to 3 fused benzene rings and heterocyclic aldehydes of the furan series at a temperature ranging from 80° to 125° C. in the presence of a polar organic hydroxy-containing solvent in which the leucoquinizarin and said aldehydes are soluble and in the presence of a negative ion as catalyst selected from the class consisting of hydroxide ions, acetate ions and carbonate ions, for a period of time until the said condensation is complete.

3,507,888

PROCESS AND INTERMEDIATES FOR MANUFACTURE OF 17-OXYGENATED ESTR-4-EN-3-ONES

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 30, 1966, Ser. No. 575,951

Int. Cl. C07c *169/10, 169/12*

U.S. Cl. 260—397.3 **7 Claims**

Novel intermediates and novel process involving the selective oximation of the 3-keto group of estr-5(10)-ene-3,17-dione followed by reaction of the 17-oxo group and cleavage of the 3-oximino group to yield the desired 17-oxygenated estr-4-en-3-ones.

3,507,889

PROCESS FOR THE PREPARATION OF 17α-DIHYDROEQUILENIN AND RELATED COMPOUNDS

David J. Marshall, Hampstead, Quebec, Canada, assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 11, 1968, Ser. No. 735,978

Int. Cl. C07c *167/26*

U.S. Cl. 260—397.5 **3 Claims**

There is a disclosed herein a process for preparing 17α-dihydroequilenin comprising reacting the benzyl or 2-tetrahydropyranyl ether or equilenin with an aryl sulfonylhydrazide to obtain the corresponding sulfonyl hydrazone, treating the latter with lithium aluminium hydride or with an alkyllithium compound to obtain the corresponding 3-ether of estra-1,3,5(10),6,8,16 hexaene, reacting the latter compound with an organic peracid to obtain the corresponding 3-ether of 16α,17α-epoxyestra-1,3,5(10),6,8-pentaene, reducing said last-named compound with lithium aluminium hydride to the corresponding 3-ether of 17α-dihydroequilenin said obtaining. 17α-dihydroequilenin therefrom by removal of the ether group. 17α-dihydroequilenin is a natural occurring estrogen, also useful as an intermediate in the preparation of 17α-dihydroequilin, and a method for that latter conversion is also given.

3,507,890

CONTINUOUS DIMERIZATION PROCESS

Gerhard Dieckelmann, Hilden, and Horst Rutzen, Dusseldorf-Holthausen, Germany, assignors to Henkel & Cie, G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany

No Drawing. Filed June 12, 1967, Ser. No. 645,462

Claims priority, application Germany, Aug. 24, 1966, H 60,326

Int. Cl. C08h *9/00;* **C09f** *7/06*

U.S. Cl. 260—407 **7 Claims**

Continuous process for the dimerization of esters of unsaturated fatty acids having 12 to 24 carbon atoms and saturated monoalcohols of 1 to 6 carbon atoms in the presence of saturated monoalcohols of 1 to 6 carbon atoms with good yields and no loss of catalyst.

3,507,891
CARBONYLATION

George W. Hearne, Lafayette, Kenneth E. Furman, Richmond, Rupert C. Morris, Berkeley, and John L. Van Winkle, San Lorenzo, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 6, 1966, Ser. No. 577,534

Int. Cl. C11c *3/00*

U.S. Cl. 260—410.9 **8 Claims**

An improved process for the alkoxycarbonylation of nonacetylenic olefinically unsaturated aliphatic hydrocarbons with carbon monoxide and lower aliphatic alcohol carried out in the presence of, as catalyst, a complex of cobalt, carbon monoxide, and substituted pyridine without ortho substitution but with one or more hydrocarbon moiety substituents of at least one carbon on any ring C-atom produces lower alkyl esters of carboxylic acids high in normal content at high conversions and at relatively low temperatures and pressures.

3,507,892
HEAVY METAL CHELATES OF AMINO HYDRAZIDE CHELATING AGENTS

Frederick C. Bersworth, East Orange, N.J., assignor to Weston Chemical Corporation, Morristown, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 17, 1967, Ser. No. 661,204

Int. Cl. C07f *13/00, 1/08, 15/02*

U.S. Cl. 260—429 **8 Claims**

Heavy metal chelates, iron, nickel, cobalt, manganese, magnesium, calcium, lead, barium, copper, aluminum, etc., reaction products of the metal ions with chelating agents which are the reaction products of hydrazine with synthetic poly-carboxylic amino acid compounds, characterized by the high stability of metal chelated per equivalent weight of the chelating agent, useful as sources of trace metals in agriculture.

3,507,893
PROCESS FOR PREPARING ORGANOTIN MERCAPTIDES

Gerald H. Reifenberg, Plainfield, and William J. Considine, Somerset, N.J., assignors to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 7, 1966, Ser. No. 532,101

Int. Cl. C07f *7/22*

U.S. Cl. 260—429.7 **3 Claims**

A process is provided for obtaining in a relatively simple and commercially advantageous manner certain organotin mercapto compounds by preparing organic thiostannate meal salts of the formula $R_aSnSM_{b/v}$ by reacting an organotin compound of the formula $R_aSmX_{b/v}$ wherein R is a hydrocarbon radical having between about 1–10 carbon atoms, X is selected from the group consisting of sulfide and an active halide, *a* is an integer 1–3, *b* is 4—*a*, and *v* is the valence of X with a metal sulfide $M_{2/v'}S$ wherein M is selected from the group consisting of an alkali metal and an alkaline earth metal and *v'* is the valence of M. Further, the invention includes reacting the organic thiostannate metal salt obtained above with an organic halide of the formula YR' wherein Y is an active halide and R' is a radical selected from the group consisting of alkyl, cycloalkyl, aralkyl, hydrocarbon residue of carboxylic acid salt, hydrocarbon residue of ester of carboxylic acid, and organic residue of acid halide to obtain organotin mercapto compound of the formula $R_aSn(SR')_b$ which are particularly useful as stabilizers.

3,507,894
NOVEL AMIDES OF 1,2,3,4-CYCLOPENTANE-TETRACARBOXYLIC ACID AND METAL COMPLEXES THEREOF

Ross Van Volkenburgh, Baton Rouge, La., assignor to Copolymer Rubber & Chemical Corporation, Baton Rouge, La., a corporation of Louisiana

No Drawing. Continuation-in-part of application Ser. No. 302,482, Aug. 15, 1963. This application July 17, 1967, Ser. No. 653,671

Int. Cl. C07j *15/06;* **C07c** *103/00, 61/06*

U.S. Cl. 260—439 **5 Claims**

Hydrocarbyl amides of 1,2,3,4-cyclopentanetetracarboxylic acid and metal complexes thereof, as exemplified by the tetra-(dimethylamide) of 1,2,3,4-cyclopentanetetracarboxylic acid and the complex thereof with cobalt. The polyamide may be used as a solvent, plasticizer, complexing agent for heavy metals, etc. The complex may be used as catalyst, drying agent, etc.

3,507,895
METHOD OF PRODUCING SODIUM ALUMINUM HYDRIDES

Bohuslav Čásenský, 6 E. Krasnohorske, Prague 1, Czechoslovakia; Jiří Macháček, 66 Hlavni, Krumvir, Czechoslovakia; and Jaroslav Vít, 1808 Bubenickova, Prague 6, Czechoslovakia

No Drawing. Continuation-in-part of application Ser. No. 611,845, Jan. 26, 1967. This application Mar. 24, 1967, Ser. No. 626,664

Claims priority, application Czechoslovakia, Jan. 31, 1966, 604/66; Mar. 22, 1966, 1,906/66; Mar. 26, 1966, 2,009/66

Int. Cl. C01b *6/24;* **C07c** *31/28*

U.S. Cl. 260—448 **3 Claims**

Method for making sodium aluminum hydrides of the general formula $Na_{1+n}AlH_xZ_{4+n-x}$ wherein *x* is an integral number between 1 and 4, inclusive, and *n* is 0, or wherein *x* is 6 and *n* is 2, and wherein Z is an organic rest derived by splitting off an active atom, such as hydrogen, from an organic compound. Regarding this latter compound, reference is made to the specification. At least one compound selected from the group consisting of $NaAlZ_4$, AlZ_3, ZH, $NaAlH_yZ_{4-y}$, $AlHZ_2$, and AlH_2Z, wherein *y* is an integral number between 1 and 3, inclusive, and is different from *x*, and wherein *z* has the meaning as above, is reacted, under hydrogen pressure, with aluminum and at least one substance selected from the group consisting of sodium, NaZ and sodium hydride.

For instance, $NaAlH_2(OCH_2CH_2OCH_3)_2$ is produced by reacting aluminum with sodium and

$$Al(OCH_2CH_2OCH_3)_3$$

The sodium aluminum hydrides are valuable as reducing and dehalogenating agents.

3,507,896
METHOD OF MAKING ALCOHOL-SOLUBLE COMPLEXES OF ALUMINUM

John L. Jones, North Plainfield, and Andrew M. Rubino, New Providence, N.J., assignors to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 603,133, Dec. 20, 1966, which is a continuation-in-part of application Ser. No. 472,684, July 16, 1965. This application Oct. 23, 1968, Ser. No. 770,103

The portion of the term of the patent subsequent to Jan. 7, 1986, has been disclaimed

Int. Cl. C07f *5/06*

U.S. Cl. 260—448 **10 Claims**

Alcohol-soluble complexes of aluminum are prepared by reacting aluminum powder and polyhydroxy compound in water, with either hydrochloric acid or aluminum chloride present, and then drying the resultant complex to form the alcohol-soluble aluminum complex.

3,507,897
NOVEL SILICON SULFONATE COMPOSITIONS AND NOVEL PROCESSES FOR MAKING SAME

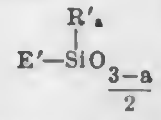
Bernard Kanner, Williamsville, N.Y., and Roscoe A. Pike, Holden, Mass., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 18, 1966, Ser. No. 565,745

Int. Cl. C07f *7/02;* **B01f** *17/54*

U.S. Cl. 260—448.2 **19 Claims**

Process for making novel silicon sulfonate compositions by reacting, in the presence of a catalytic amount of a sulfite salt, a bisulfite salt having a cation selected from the class consisting of monovalent, divalent and trivalent metal cations, ammonium cation and tetraalkylammonium cations with an epoxy silicon compound having in an amount of 0.1 to 100 mole percent an epoxy silicon unit of the formula:

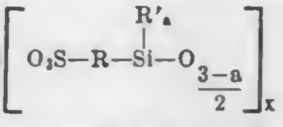


$$E'-\overset{R'_a}{\overset{|}{Si}}O_{\frac{3-a}{2}} \qquad (I)$$

wherein E' is a monovalent group having 3 to 18 carbon atoms selected from the class consisting of epoxyalkyl, epoxycycloalkyl, epoxyalkoxyalkyl and epoxycycloalkoxyalkyl groups, R' is a monovalent group from the class consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, alkenyl and cycloalkenyl groups and halogen-, alkoxy-, aryloxy- and cyano-substituted derivatives thereof, and *a* is an integer of 0 to 2 inclusive, and in an amount of 0.0 to 99.9 mole percent of a unit of the formula:

$$R''_bSiO_{\frac{4-b}{2}} \qquad (II)$$

wherein R'' is a monovalent group selected from the class consisting of hydrogen and a group from the class consisting of groups from which R' is selected and *b* is an integer of 1 to 3 inclusive; to form said novel silicon sulfonate having in an amount of 0.1 to 100 mole percent the silicon sulfonate unit for the formula:



$$M\left[O_3S-R-\overset{R'_a}{\overset{|}{Si}}-O_{\frac{3-a}{2}}\right]_x$$

wherein M is said cation of said bisulfite, R is a hydroxy-substituted divalent group having 3 to 18 carbon atoms selected from the class consisting of alkylene, cycloalkylene, alkyleneoxyalkylene, and cycloalkyleneoxyalkylene groups and said hydroxy substituent is bonded to a carbon atom vicinal to the carbon atom to which the —O_3S— group is bonded, R' is defined above, *a* is defined above and *x* is an integer of 1 to 3 inclusive equal to the valency of said cation and in an amount of 0.0 to 99.9 mole percent a unit having the Formula II.

The novel silicon sulfonate compositions have shown excellent properties as surface active agents in both aqueous and organic media. Solvent compositions containing the novel silicon sulfonate compositions are useful as emulsifying agents and surface active materials having unexpectedly low levels of surface tension and are useful in the production of emulsions for use in making polishes, treating baths for treating paper and textiles, foaming media and the like.

3,507,898
HALOGENATED PHENYLALKOXYSILANES AS HIGH TEMPERATURE FIRE RESISTANT FLUIDS

Manuel A. Pino, Oakland, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Jan. 15, 1968, Ser. No. 697,625

Int. Cl. C07f *7/04, 7/18*

U.S. Cl. 260—448.8 **4 Claims**

Thermally and hydrolytically stable hydraulic fluids are provided which are polyhalophenyl trialkoxysilanes, having aliphatic hydrocarbon groups of at least 5 carbon atoms.

3,507,899
PRODUCTION OF N-p-BROMOPHENYL-N'-METHYL-N'-METHOXYUREA

Wolfgang Vilsmeier, Bad Durkheim, and Herbert Maisack, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Feb. 14, 1967, Ser. No. 615,901

Claims priority, application Germany, Mar. 1, 1966, 1,568,084

Int. Cl. C07c *127/18*

U.S. Cl. 260—453 **5 Claims**

An improved method for the production of N-p-bromophenyl-N'-methyl-N'-methoxyurea by reacting N-phenyl-N'-methyl-N'-methoxyurea with bromine or bromine-evolving agents, such as hypobromous acid, its salts, or N-bromosuccinimide, advantageously in equivalent amounts in the presence of inert solvents, such as concentrated acetic acid or chlorohydrocarbons, and in the absence of sodium acetate or other acid-binding agents at temperatures of 0 to 40° C. N-p-bromophenyl-N'-methyl-N'-methoxyurea is obtained in very pure form. Formulation is therefore easier; consequently the content of active ingredient in the formulated product can be increased. N-p-bromophenyl-N'-methyl-N'-methoxyurea is used as a herbicide.

3,507,900
PROCESS FOR PREPARING ORGANIC ISOCYANATES

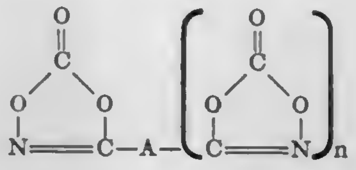
Emmett H. Burk, Jr., Glenwood, Ill., and Donald D. Carlos, Crown Point, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of applications Ser. No. 502,346, Ser. No. 502,464, Ser. No. 502,616, Ser. No. 502,619, and Ser. No. 502,620, all of Oct. 22, 1965. This application Mar. 18, 1968, Ser. No. 714,004

Int. Cl. C07c *119/04, 85/44;* **C07d** *83/08*

U.S. Cl. 260—453 **16 Claims**

A process of preparing organic isocyanates is disclosed; the process involves decomposing at elevated temperatures, preferably in the presence of an inert solvent, a cyclic nitrile carbonate compound having the structure:



wherein *n* has a value from 0 to 3 and A is aromatic or aliphatic (including cycloaliphatic) hydrocarbon.

3,507,901
METHOD FOR PREPARING METHYLENE BIS (THIOCYANATE)

Joseph Matt, Chicago, Eugene W. Hunter, La Grange, and Louis A. Goretta, Naperville, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Dec. 23, 1966, Ser. No. 604,122

Int. Cl. C07c *161/02;* **A01n** *9/18*

U.S. Cl. 260—454 **8 Claims**

The present invention is directed to an improved method for making the industrial biocide, methylene bis (thiocyanate). The invention also is concerend with conducting the reaction between a dihalo methane and an alkali or alkaline earth metal thiocyanate using water as a reaction medium. No organic solvents are required. The invention prescribes reacting the metal thiocyanate and dihalomethane under specific conditions of temperature, e.g., not in excess of 85° C., whereby an improved yield of a product is afforded which is characterized as being relatively free of polymerization or resinification products.

3,507,902
PROCESS FOR PREPARING ALPHA-CHLOROACRYLONITRILES

Nancy G. Renkert, Shaker Heights, and Janice L. Greene, Chagrin Falls, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed July 21, 1967, Ser. No. 654,951
Int. Cl. C07c *121/30*
U.S. Cl. 260—465.7 **8 Claims**

A process is described herein for preparing alpha-chloroacrylonitrile and related compounds. The process is carried out by heating 1,2-dichloro-1,2-dicyanocyclobutane or related compounds in the presence of a neutral, acidic, or basic catalytic solids at a temperature in the range of about 100–500° C. and at atmospheric or subatmospheric pressure. Compounds produced by the herein described process can be polymerized to yield polymers possessing a variety of properties, chief among which is flame resistance.

3,507,903
2,6-DICYANO-4-NITROANILINE AND PREPARATION THEREOF

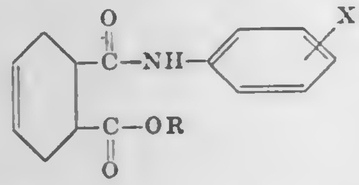
Alois Gottschlich and Klaus Leverenz, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 9, 1967, Ser. No. 673,998
Claims priority, application Germany, Oct. 15, 1966, F 50,453
Int. Cl. C07c *121/54, 107/06;* **C09b** *29/24*
U.S. Cl. 260—465 **3 Claims**

The compound 2,6-dicyano-4-nitroaniline, prepared by reacting 1,3-dicyano-5-nitrobenzene with hydroxylamine or its salts in the presence of alkaline compounds e.g. sodium hydroxide is useful as an intermediate in the preparation of azo dyestuffs.

3,507,904
NOVEL TETRAHYDROPHTHALAMIC ACIDS AND DERIVATIVES THEREOF

Herbert Schwartz, Chimes Terrace, Vineland, N.J., 08360, and Joseph B. Skaptason, 12700 Prospect Ave., Rte. 30, Kansas City, Mo. 64146
No Drawing. Filed Apr. 1, 1966, Ser. No. 539,266
Int. Cl. C07c *79/46, 101/00*
U.S. Cl. 260—471 **10 Claims**

Tetrahydrophthalamic compounds selected from the group consisting of compounds of the formula



(I)

wherein R is selected from the group consisting of hydrogen, NH_4, alkali metals, alkaline earth metals, alkyl ammonium, and lower alkyl of 1 to 7 carbon atoms, X is at least one member selected from the group consisting of halogen, lower alkyl, halogenated lower alkyl and sulfamoyl and *n* is an integer from 1 to 5 and imides of the said compounds. The invention also relates to novel herbicidal compositions and to a novel method of regulating the growth of plants.

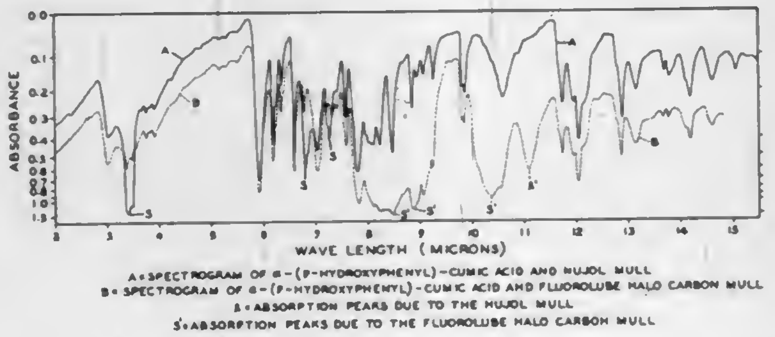
3,507,905
CONTINUOUS PREPARATION OF GLYCOL PHTHALATES

Antoine Girantet, La Mulatiere, Pierre Yves André Lafont, Foy-les-Lyon, and Jean François Roget and Philippe Yvon Tarbouriech, Lyon, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
Filed June 3, 1966, Ser. No. 555,208
Claims priority, application France, June 9, 1965, 20,074, Patent 1,449,727
Int. Cl. C07c *69/80, 69/82*
U.S. Cl. 260—475 **6 Claims**

The invention provides a process for preparing glycol phthalates, especially β-hydroxyethyl terephthalate, by passing a mixture in substantially stoichiometric proportions of a lower alkanol phthalate and a glycol into a first heated zone, continuously removing a lower alkanol, but substantially no glycol, overhead from the said zone, continuously removing liquid reaction product from the said zone and feeding to a second zone at a pressure not higher than the first zone, and withdrawing from the second zone, as vapour overhead, lower alkanol vapour and any excess of glycol, and, as liquid, glycol phthalate product.

3,507,906
POLYESTERS, INTERMEDIATES THEREFOR, AND PROCESSES RELATING THERETO

Bryce C. Oxenrider, Florham Park, and Morton H. Litt and Ferdinand M. Slavik, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Original application Aug. 17, 1964, Ser. No. 389,849, now Patent No. 3,398,121. Divided and this application Mar. 19, 1968, Ser. No. 735,944
Int. Cl. C07c *69/86, 69/90*
U.S. Cl. 260—479 **2 Claims**



A = SPECTROGRAM OF α-(P-HYDROXYPHENYL)-CUMIC ACID AND NUJOL MULL
B = SPECTROGRAM OF α-(P-HYDROXYPHENYL)-CUMIC ACID AND FLUOROLUBE HALO CARBON MULL
S = ABSORPTION PEAKS DUE TO THE NUJOL MULL
S' = ABSORPTION PEAKS DUE TO THE FLUOROLUBE HALO CARBON MULL

This invention relates to alpha-(hydroxyphenyl) cumic acid esters and a method for their preparation. These compounds are useful as monomers in the preparation of polyester resins.

3,507,907
PROCESS OF PRODUCING β-ALKOXY CROTONIC ACID ESTERS

Hans Brinkhoff, Munich, Germany, assignor to Spezialchemie G.m.b.H. & Co., Munich, Germany, a German company
No Drawing. Filed July 26, 1967, Ser. No. 655,991
Claims priority, application Germany, July 29, 1966, S 105,117
Int. Cl. C07c *69/66*
U.S. Cl. 260—484 **11 Claims**

An improved process of producing β-alkoxy crotonic acid lower alkyl esters, such as β-methoxy crotonic acid ethyl ester or β-ethoxy crotonic acid ethyl ester by reacting an orthoformic acid lower alkyl ester such as orthoformic acid trimethyl or triethyl ester with aceto acetic acid esters in alkanolic solution with the addition of a hydrogen halide such as hydrochloric acid as catalyst. The

reaction proceeds at room temperature within a short period of time. The β-lower alkoxy crotonic acid lower alkyl ester is recovered by fractional distillation in an almost quantitative yield and of a purity permitting its use, without further purification, as starting material in the synthesis of kavain and the like kava-α-pyrons by condensation of a γ-bromo-β-alkoxy crotonic acid ester with substituted or unsubstituted cinnamic aldehyde compounds.

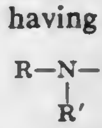
3,507,908
COPOLYMER OF A VINYL ESTER OF A FATTY ACID AND A DIALKYL FUMARATE

David W. Young, Homewood, and Thomas J. Clough, Glenwood, Ill., assignors to Sinclair Research, Inc., a corporation of Delaware
No Drawing. Original application July 29, 1963, Ser. No. 298,482, now Patent No. 3,413,103, dated Nov. 26, 1968. Divided and this application Nov. 22, 1967, Ser. No. 701,501
Int. Cl. C07c *69/60*
U.S. Cl. 260—485 **9 Claims**

A copolymer having a molecular weight of about 750 to 3000 which is prepared by copolymerizing the vinyl ester of a fatty acid having about 2 to 18 carbon atoms and a dialkyl fumarate wherein the alkyl groups contain about 8 to 18 carbon atoms on the average. The copolymerization is conducted at a temperature of about 50 to 125° C. and in the presence of a catalytic amount of a complex salt of a lower trialkyl aluminum and a compound can be

(A) a lower dialkyl ether;

(B) a tertiary amine having the general formula:



$$\begin{array}{c} R\text{—}N\text{—}R \\ | \\ R' \end{array}$$

wherein R is a lower alkyl group and R′ is a cyclic hydrocarbon radical containing 6 carbon atoms in the ring; and

(C) pyridine.

The molar ratio of dialkyl fumarate to vinyl ester is about 1:0.2 to 1:6.

3,507,909
PRODUCTION OF SULFONATE SALTS OF LIGHTER COLOR

Jennings P. Blackwell, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 22, 1968, Ser. No. 699,344
Int. Cl. C07b *13/02;* **C11d** *1/14;* **C07c** *139/04*
U.S. Cl. 260—513 **5 Claims**

This invention relates to the production of substantially colorless alkanesulfonates via sulfoxidation at a temperature in the range of from 0–50° C., extracting the sulfoxidation mixture while maintaining the temperature below 50° C., neutralizing the sulfonic and sulfuric acid components of the extract while maintaining the temperature below 50° C. and finally removing the residual sulfur dioxide from the thus neutralized extract.

3,507,910
[(1-ORGANOTHIO-2-NITROALKYL)PHENOXY]ALKANOIC ACIDS

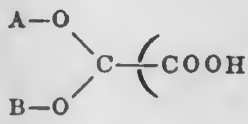
Everett M. Schultz, Ambler, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 23, 1967, Ser. No. 625,333
Int. Cl. C07c *103/26, 149/40*
U.S. Cl. 260—516 **11 Claims**

This invention relates to [(1-organothio-2-nitroalkyl) phenoxy]alkanoic acid products which are synthesized by the addition of mercaptan across the vinyl double bond of a [(2-nitro-1-alkenyl)phenoxy]alkanoic acid ester followed by the acid hydrolysis of the [(1-organothio-2-nitroalkyl)phenoxy]alkanoate intermediate thus formed to the corresponding acid. The products thus obtained and the corresponding ester and amide derivatives are diuretics and saluretics which are useful in the treatment of conditions associated with edema.

3,507,911
DI-SUBSTITUTED MALONIC ACIDS

Rudolf G. Griot and Johann R. Oetterli, Florham Park, N.J., assignors to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 547,771, May 5, 1966. This application Aug. 2, 1966, Ser. No. 577,559
Int. Cl. C07c *65/14*
U.S. Cl. 260—520 **22 Claims**

The compounds are useful therapeutically as hypocholestermics/hypolipemics and have the formula



$$\begin{array}{l} A\text{—}O \\ \qquad \diagdown \\ \qquad\quad C\text{—}(COOH)_2 \\ \qquad \diagup \\ B\text{—}O \end{array}$$

A may be phenyl or substituted phenyl and B is substituted phenyl which otherwise may be like or unlike A, e.g., bis(p-chlorophenoxy)malonic acid. The substituents include trifluoromethyl, (lower)alkanoylamido, (lower) alkylthio, cyclo(lower)alkyl, phenyl, phenoxy, phenylthio, anilino, benzoyl, phenyl(lower)alkyl, halogen, (lower) alkyl and nitro.

3,507,912
PROCESS FOR THE PREPARATION OF BENZENE CARBOXYLIC ACIDS

John D. Behun, Scotch Plains, N.J., and Gerassimos Frangatos, Athens, Greece, assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed Jan. 18, 1966, Ser. No. 521,430
Int. Cl. C07c *63/02*
U.S. Cl. 260—524 **10 Claims**

A process for the cobalt-catalyzed solution oxidation of a methyl benzene compound (e.g., p-xylene) to a benzene carboxylic acid (e.g., terephthalic acid) in the presence of a C_{4-6} aliphatic hydrocarbon (e.g., n-butane) which may promote the reaction and also form an aliphatic carboxylic acid (e.g., acetic acid) using reaction temperatures below 145° C. (preferably about 115–135° C.) and an oxygen-rich gas; the reaction mixture may also contain 2-butanol or a ketone activator.

3,507,913
METHOD OF MANUFACTURE OF TEREPHTHALIC ACID

Motoo Mato, Ootake-shi, Ariaki Sakurada, Iwakuni-shi, Koichi Okano and Yoshilo Yokota, Ootake-shi, and Shigeto Nakagawa, Kuga-gun, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 8, 1967, Ser. No. 614,562
Claims priority, application Japan, Feb. 14, 1966, 41/8,320; Mar. 8, 1966, 41/13,764
Int. Cl. C07c *63/02*
U.S. Cl. 260—524 **5 Claims**

Method of producing a fiber-grade terephthalic acid of high purity suitable for use as a starting material of polyesters by the so-called direct polymerization method, characterized in that the reaction is carried out in a specific combination of a reaction zone and a precipitating zone under specific conditions.

3,507,914

PROCESS FOR THE PREPARATION OF AROMATIC CARBOXYLIC ACIDS

Toshinobu Kesamaru, Ootake-shi, and Osamu Morita, Tokyo, Japan, assignors to Mitsui Petrochemical Industries, Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 14, 1967, Ser. No. 645,897

Int. Cl. C07c *51/20, 51/26*

U.S. Cl. 260—524 **11 Claims**

An improved process for the preparation of aromatic carboxylic acid by liquid phase oxidation of aromatic compound having at least one oxidizable aliphatic substituent with molecular oxygen in the presence of a catalyst system containing heavy metal and bromine under the high temperature and elevated pressure conditions, the improvement of which residing in that silicone as the promotor is caused to be concurrently present in the liquid phase reaction system with the catalyst, and whereby the object product is obtained with improved reaction rate and high yield.

3,507,915

PRODUCTION OF UNSATURATED ALIPHATIC ACIDS

Frank Christopher Newman, Great Bookham, Surrey, England, assignor to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed May 26, 1964, Ser. No. 370,318

Claims priority, application Great Britain, June 20, 1963, 24,512/63

Int. Cl. C07c *57/04*

U.S. Cl. 260—526 **6 Claims**

A process for the recovery of pure acrylic acid from an aqueous mixture of acrylic and acetic acids comprising extracting the aqueous mixed acids with a selective solvent for acrylic acid, washing the resultant solvent phase containing the mixed acids with water or with an aqueous solution of an inorganic salt, and fractionally distilling the washed solvent phase to recover substantially pure acrylic acid.

3,507,916

METHOD OF REMOVING AND PREVENTING THE FORMATION OF COLOR CONTAMINANTS IN METHACRYLIC ACID

Leslie Hunt Sutherland, Wilton, and Erwin F. Schoenbrunn and William F. Newell, Ridgefield, Conn., assignors to Escambia Chemical Corporation, Pace, Fla., a corporation of Delaware

No Drawing. Filed Mar. 29, 1967, Ser. No. 626,691

Int. Cl. C07c *57/04, 51/42*

U.S. Cl. 260—526 **7 Claims**

This disclosure concerns a method for removing and preventing the formation of color contaminants in methacrylic acid prepared from isobutane and its derivatives by contacting the methacrylic acid with metallic reducing agents in particulate form such as magnesium, calcium, zinc and cadmium preferably at elevated temperatures.

3,507,917

N-BROMINATED-N-CHLORINATED SULFONAMIDES

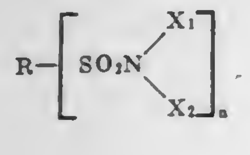
Laurene O. Peterson, Adrian, Mich. 49221

No Drawing. Continuation of application Ser. No. 482,256, Aug. 24, 1965, and a continuation-in-part of applications Ser. No. 119,756, Apr. 7, 1961, and Ser. No. 143,565, Oct. 9, 1961. This application Aug. 14, 1967, Ser. No. 660,527

Int. Cl. C07c *143/84*

U.S. Cl. 260—543 **3 Claims**

1. An N-halogenated sulfonamide having the formula:



$$R-\left[SO_2N\begin{matrix}X_1\\X_2\end{matrix}\right]_n$$

wherein R is a benzene ring, which may be substituted with lower alkyl having from one to three carbon atoms, lower alkoxy having from one to three carbon atoms, bromine, chlorine and iodine groups, and *n* is an integer from 1 to 2, when *n* is 1, the NX_1X_2 group being NBrCl, and when *n* is 2 at least one NX_1X_2 group being NBrCl, and the remaining X_1 and X_2 substituents being selected from the group consisting of hydrogen, bromine, chlorine, lower alkyl having from one to three carbon atoms, sodium, potassium, lithium, calcium, magnesium, barium, zinc, aluminum, iron, chromium and tin.

3,507,918

AMINE SALTS OF MONO- AND DIFLUOROPHOSPHORIC ACIDS

James G. Dadura, Fishkill, Edwin C. Knowles, Poughkeepsie, and Frederic C. McCoy, Beacon, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application June 1, 1965, Ser. No. 460,579, now Patent No. 3,422,017, dated Jan. 14, 1969. Divided and this application June 27, 1968, Ser. No. 768,563

Int. Cl. C07c *87/36, 87/50, 87/123*

U.S. Cl. 260—563 **10 Claims**

Oil soluble primary, secondary and tertiary amine salts of mono- and difluorophosphoric acids, useful as lubricant additives.

3,507,919

TRIPHENYLPROPYL AMINES

Benjamin Blank, Trevose, and William A. Zuccarello, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 27, 1967, Ser. No. 634,122

Int. Cl. C07c *87/28, 149/42, 145/00*

U.S. Cl. 260—570 **5 Claims**

Novel substituted triphenylpropylamines having antiadrenal activity are disclosed, within which genus certain ring - substituted - 2,3,3 - triphenylpropylamines showing selective anti-aldosterone activity. A process for their preparation starts with a benzophenone being converted to the corresponding benzhydryl halide. The halide is condensed with a phenyl acetonitrile to form a triphenylacetonitrile, which is reduced to the desired triphenylpropylamine.

3,507,920

HYDROXYDIBENZO[a,d]CYCLOHEPTEN-5-ONES AND ESTERS AND ETHERS THEREOF

John W. Schulenberg and Sydney Archer, Bethlehem, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 16, 1964, Ser. No. 404,506, now Patent No. 3,350,405, dated Oct. 31, 1967. Divided and this application Apr. 24, 1967, Ser. No. 632,938

Int. Cl. C07c *85/06, 87/06*

U.S. Cl. 260—590 **1 Claim**

Dibenzo[a,d]cyclohepten - 5 - ones and 10,11-dihydro derivatives thereof substituted on one of the benzene rings by an amino-lower-alkoxy group are prepared by reacting the corresponding hydroxydibenzo[a,b]cycloheptene-5-ones with an amino-lower-alkyl halide. The 5-carbonyl group is subsequently converted by reduction, Grignard and dehydration reactions to the groups CH_2, CH(OH), C(lower-alkyl)(OH), C(phenyl-lower-alkyl)(OH), C=(lower-alkylidene), C=(phenyl-lower-alkylidene), CH(lower-alkyl) or CH(phenyl-lower-alkyl). The compounds are useful as antidepressant agents.

3,507,921

3-SUBSTITUTED 5-NITROSALICYLALDEHYDES AND THEIR PREPARATION

Lloyd D. Taylor, Everett, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 302,010, Aug. 14, 1963. This application Aug. 20, 1965, Ser. No. 481,425

Int. Cl. C07c *47/56*

U.S. Cl. 260—600 **9 Claims**

5-nitrosalicylaldehydes having a substituent in the 3-position which is characterized by its ability to form a chelate with metals are prepared. The compounds are useful in the synthesis of photospirans.

3,507,922

PRODUCTION OF UNSATURATED ALDEHYDES AND KETONES

Brian Crosbie Fielding, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 8, 1965, Ser. No. 431,189

Claims priority, application Great Britain, Feb. 21, 1964, 7,391/64

Int. Cl. C07c *45/04*

U.S. Cl. 260—604 **7 Claims**

1-olefins are oxidized to unsaturated aldehydes or ketones, for example propylene to acrolein, by means of mercuric salts in two successive reactions, of which in the first an olefin/mercuric salt addition compound is formed and in the second the compound is decomposed by heating at about 90° C. or above in contact with an acid aqueous phase. A water-immiscible organic solvent for the aldehyde or ketone is present along with the reactants during the second or both reactions, for the purpose of removing the aldehyde or ketone from contact with the aqueous phase as it is formed in order to prevent their decomposition in side-reactions.

3,507,923

METHOD OF CAPPING ALLYL ENDBLOCKED OXYALKYLENE POLYMERS

Robert E. Gessner, Saint Marys, and Donald L. Bailey, Sisterville, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 6, 1967, Ser. No. 607,625

Int. Cl. C07c *43/14*

U.S. Cl. 260—615 **4 Claims**

In the manufacture of nonhydrolyzable siloxane-oxyalkylene copolymer surfactants, allyl alcohol started oxyalkylene polymers are capped with methyl groups without increasing the propenyl content by reacting the polymer with sodium or potassium methylate ($NaOCH_3$ or $KOCH_3$) in a thin film at 110° to 170° C. and pressure under 100 milliliters of mercury absolute while continuously distilling the methanol by-product from the reaction mixture, then reacting with methyl chloride, thereafter reacting with the silanic hydrogen of a hydrosiloxane copolymer.

3,507,924

METHOD OF PRODUCING AROMATIC NITRO COMPOUNDS

Christer Lennart Hakansson, Karlskoga, and John Martin Nilsson, Solna, Sweden, assignors to Aktiebolaget Bofors, Bofors, Sweden

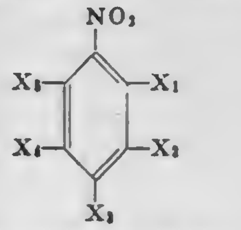
No Drawing. Filed June 11, 1968, Ser. No. 735,967

Claims priority, application Sweden, June 15, 1967, 8,433/67

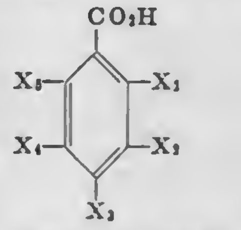
Int. Cl. C07c *79/10*

U.S. Cl. 260—645 **5 Claims**

Nitro-substituted aromatic compouds of the formula:



wherein X_1 to X_5 are hydrogen or nitro are obtained by heating the corresponding carboxylic acid:



with nitric acid under pressure. Instead of the carboxylic a corresponding aromatic compound containing a group which may be oxidized to a carboxyl, such as a methyl, may also be used.

3,507,925

NEW 4,5,6,6 - TETRAHALOTETRACYCLO [5,3,0,$0^{2,10}$,$0^{3,8}$]DEC - 5 - ENES AND METHOD OF PRODUCTION

Stephen W. Tobey, Sudbury, Mass., and David C. F. Law, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 7, 1968, Ser. No. 711,186

Int. Cl. C07c *23/20*

U.S. Cl. 260—648 **4 Claims**

New 4,4,5,6 - tetrahalotetracyclo[5,3,0,$0^{2,10}$,$0^{3,8}$]dec-5-enes, useful as bactericides and fungicides, and a new method for producing these compounds which comprises reacting a tetrahalocyclopropene with bicyclo[2,2,1]hepta-2,5-diene at a temperature of from 50° to 120° C.

3,507,926

PROCESS FOR CYCLOOLIGOMERIZING CONJUGATED DIENES

Jerome R. Olechowski, Trenton, N.J., assignor to Columbian Carbon Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1967, Ser. No. 694,049

Int. Cl. C07c *1/00*

U.S. Cl. 260—666 **10 Claims**

Processes are described for oligomerizing a conjugated diene in the presence of a catalyst comprising a chromium (II), (III) or (VI) halide and a hydrocarbyl aluminum compound and recovering the cyclic trimer product. The production of solid polymer in such system is minimized by employing these catalyst components in conjunction with a small quantity of an aluminum halide. Illustrations are presented of the preparation of such improved catalysts and their use to convert 1,3-butadiene to its cyclic trimer, 1,5,9-cyclododecatriene.

3,507,927

POLYMERIZATION PROCESSES EMPLOYING CHROMIUM SUB-HALIDE CATALYSTS

Jerome Robert Olechowski, Trenton, N.J., and Reginald F. Clark, Baton Rouge, La., assignors to Columbian Carbon Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 29, 1967, Ser. No. 694,408
Int. Cl. C07c *1/00*
U.S. Cl. 260—666 **22 Claims**

Processes are described for cyclooligomerizing conjugated aliphatic dienes in the presence of complex chromium sub-halides in which the formal valence of chromium is less than 2. The use of such catalysts, either alone or in combination with conventional Ziegler type reducing agents, is shown to produce cyclooctadiene and cyclododecatriene under moderate reaction conditions from 1,3-butadiene. Methods are also described for producing these complex chromium sub-halide catalysts by halogenating a chromium (O) complex.

3,507,928

ISOMERIZATION OF 1,3-CYCLOOCTADIENE

Robert E. Rinehart, Rutherford, N.J., assignor to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey
No Drawing. Application Oct. 3, 1963, Ser. No. 313,424, now Patent No. 3,433,808, which is a continuation-in-part of application Ser. No. 262,347, Mar. 4, 1963. Divided and this application Apr. 12, 1968, Ser. No. 763,434
Int. Cl. C07c *29/00*
U.S. Cl. 260—666 **1 Claim**

This invention relates to a new method for isomerizing certain monomeric olefins cyclic compounds.

3,507,929

DECOKING PROCESS FOR A PYROLYSIS REACTOR

John Happel, 69 Tompkins Ave., Hastings-on-Hudson, N.Y. 10706; Leonard Kramer, 2031 Central Road, Fort Lee, N.J. 07024; and George R. Koehler, 506 Prospect Ave., Laurence Harbor, N.J. 08879
Filed Nov. 30, 1966, Ser. No. 597,925
Int. Cl. C07c *11/24;* **C10g** *9/12;* **B01j** *1/00, 7/00*
U.S. Cl. 260—679 **5 Claims**

A process for the removal of coke formed during high temperature pyrolysis processes in which hydrogen at high temperature is passed through the system, the flow of hydrocarbon feed gas having been interrupted, the surfaces of the reactor which are in contact with coke and the reacting gases consisting of refractory carbides, borides, and mixtures thereof, and a process for pyrolysis of hydrocarbons to acetylene which employs the above defined step for removal of coke from the reactor system.

3,507,930

PROCESS FOR OLIGOMERIZING α-OLEFINS

Walter Herwig, Frankfurt am Main, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed May 15, 1967, Ser. No. 638,583
Claims priority, application Germany, May 21, 1966, F 49,258
Int. Cl. C07c *3/18, 11/02, 11/12*
U.S. Cl. 260—680 **12 Claims**

α-Olefins containing up to 8 carbon atoms, or mixtures of said α-olefins, are oligomerized in the presence of a catalyst system comprising a complex of a nickel halide with a phosphoric trisdialkylamide, to which complex there has been added an organoaluminum compound which may contain chlorine.

3,507,931

ISOMERIZATION OF PARAFFINIC HYDROCARBONS IN THE PRESENCE OF A MORDENITE CATALYST

Herbert C. Morris, Wappingers Falls, N.Y., and John P. Shillinglaw, Jr., Rock Hill, S.C., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,661
Int. Cl. C07c *5/30*
U.S. Cl. 260—683.65 **10 Claims**

Paraffinic hydrocarbons containing four to six carbon atoms are isomerized in the presence of a decationized mordenite having a silica to alumina mole ratio greater than about 20:1 and impregnated with a catalyst metal from Group I–B, Group VI–B or Group VIII of the Periodic Table. The isomerization is conducted in the presence of hydrogen at a temperature in the range of 250 to 400° F. which results in high selectivity and substantially reduced cracking.

3,507,932

METHACRYLATE GRAFT COPOLYMERS AND THEIR METHOD OF PREPARATION

Abraham Morduchowitz, Spring Valley, and John T. Nolan, Jr., Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application Dec. 23, 1965, Ser. No. 516,114, now Patent No. 3,370,009, dated Feb. 20, 1968. Divided and this application Feb. 16, 1967, Ser. No. 624,114
Int. Cl. C08g *45/04;* **C08f** *15/00, 19/00*
U.S. Cl. 260—836 **9 Claims**

Lubricating oil additives may be prepared by grafting a methacrylic acid ester wherein the ester group has 3–8 or 10–18 carbon atoms onto a hydroperoxidized polymeric backbone formed by the homopolymerization of a methacrylic acid ester having correspondingly 10–18 or 3–8 carbon atoms. In an example, 100 g. of octadecyl methacrylate was grafted onto 50 g. of hydroperoxidized polyisopropyl methacrylate.

3,507,933

SELF-EXTINGUISHING POLYESTER COMPOSITIONS OF 2,2-BIS(BROMOMETHYL)-1,3-PROPANEDIOL AND METHOD OF MAKING THE SAME

Eric R. Larsen, Midland, and Bernard R. Andrejewski, Auburn, and Donald L. Nelson, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 3, 1967, Ser. No. 620,283
Int. Cl. C08f *21/00, 21/02*
U.S. Cl. 260—869 **4 Claims**

Liquid compositions capable of curing to insoluble, infusible cross-linked flame-retardant products, and comprising blends of:

(1) a polyester of 2,2-bis(bromomethyl)-1,3-propanediol and an unsaturated dicarboxylic acid or anhydride
(2) a non-halogen containing polyester of an aliphatic polyol and an unsaturated dicarboxylic acid or anhydride, and
(3) a monovinyl aromatic compound and/or a lower alkyl ester of acrylic or methacrylic acid, e.g., styrene and/or methyl methacrylate.

3,507,934

BLOCK COPOLYMER COMPOSITIONS HAVING IMPROVED PROCESSABILITY

Harry B. Minor, Orinda, Alfred W. Shaw, Moraga, and Charles H. Wilcoxen, Jr., San Lorenzo, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 20, 1965, Ser. No. 515,220
Int. Cl. C08d *5/02;* **C08f** *27/24*
U.S. Cl. 260—876 **5 Claims**

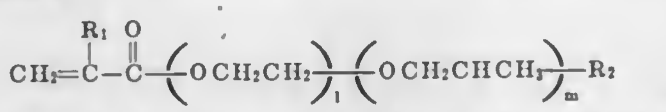
Block copoylmers are provided having the general configuration A—B—A, wherein the A blocks of a polyvinyl arene have a controlled spread of molecular weight species and the center block B is a conjugated diene.

3,507,935

ACRYLONITRILE POLYMER COMPOSITIONS AND FIBERS THEREFROM

Zenzi Izumi and Hideji Kitagawa, Masaki-cho, Iyo-gun, Isao Ito, Matsuyama-shi, and Kazuo Yuki and Hiroo Hiromoto, Masaki-cho, Iyo-gun, Japan, assignors to Toyo Rayon Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 22, 1968, Ser. No. 699,329
Claims priority, application Japan, Jan. 24, 1967, 42/4,314, 42/4,316; July 15, 1967, 42/45,313
Int. Cl. C08f *37/18, 29/56*
U.S. Cl. 260—898 **19 Claims**

Acrylonitrile polymer compositions having excellent properties for the manufacture of synthetic fibers with improved high and permanent antistatic characteristics and improved dye receptivity, which comprising an acrylonitrile polymer (A) which may contain not more than 60% by weight of a copolymerizable vinyl comonomer, and an acrylonitrile copolymer (B) containing 30 to 80% by weight of a comonomer represented by the following Formula 1:



$$CH_2{=}\overset{\overset{R_1}{|}}{C}-\overset{\overset{O}{\|}}{C}-\left(OCH_2CH_2\right)_l\left(OCH_2CHCH_3\right)_m-R_2 \tag{1}$$

wherein R_1 is a member selected from a hydrogen atom and a lower alkyl group; R_2 is a member selected from the group consisting of halogen atoms other than fluorine and organic residues: *l* is a positive integer having an average value of not less than about 20; and *m* is zero or a positive integer, which may further contain other copolymerizable vinyl comonomers having an ionizable radical, the amount of $(OCH_2CH_2)_l$ present in the comonomer of the Formula 1 being in the range of 0.2 to 15% by weight of the total amount of the polymers (A) and (B), and fibers made from such compositions.

3,507,936

BIS-ALKYLENE PYROPHOSPHATE-UREA REACTION AND REACTION PRODUCT

Robert S. Olson and Robert D. Wilcox, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Feb. 10, 1967, Ser. No. 615,062
Int. Cl. C07f *9/02;* **C07d** *105/02;* **B01j** *1/16*
U.S. Cl. 260—920 **10 Claims**

A bis-alkylene pyrophosphate is condensed at about 170° C. with about 3 molar equivalents of urea to produce a novel glassy solid product containing about 15–20% by weight of each of N and P and having utility as a corrosion inhibitor and as a slow-release fertilizer.

3,507,937

REVERSED ZWITTERIONIC PHOSPHORUS COMPOUNDS

Roger E. Zimmerer, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 4, 1966, Ser. No. 584,099
Int. Cl. C07f *9/02, 9/28;* **C11d** *1/34*
U.S. Cl. 260—924 **7 Claims**

Reversed zwitterionic compounds having a negatively charged center adjacent a hydrophobic chain and a positively charged center removed by a 2 to about 4 carbon atoms from the negatively charged center are disclosed. These compounds have the formula R—Z—R^1—X wherein R is an aliphatic radical, e.g., alkyl or alkenyl, containing from about 10 to about 20 carbon atoms; Z is a negatively charged radical selected from the group consisting of phosphate, phosphonate, and phosphinate radicals; R^1 is an alkylene radical containing from 2 to about 4 carbon atoms; and X is a positively charged radical selected from the group consisting of ammonium and tertiary sulfonium radicals; said ammonium radical having the formula

$$-\overset{\oplus}{N}R^2R^3R^4$$

wherein R^2, R^3, and R^4 are selected from the group consisting of hydrogen, methyl, and ethyl; said tertiary sulfonium radical having the formula

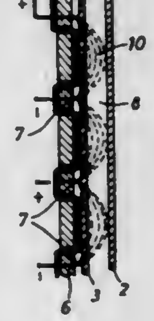
$$-\overset{\oplus}{S}R^5R^6$$

wherein R^5 and R^6 are selected from the group consisting of methyl and ethyl. The reversed zwitterionic compounds are useful as detergent compounds per se or can be used as zwitterionic detergent components in detergent compositions.

3,507,938

METHOD FOR PRODUCING SHAPED ARTICLES OF HARDENED SYNTHETIC RESIN HAVING A PIGMENT PATTERN INCORPORATED THEREIN

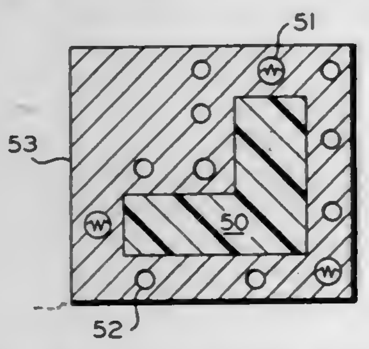
Heinz Hundsdiecker, Donauweg 27, Junkersdorf, near Cologne, Germany
Continuation of application Ser. No. 357,835, Apr. 6, 1964. This application June 12, 1968, Ser. No. 744,600
Int. Cl. B29c *11/00;* **B29d** *3/02*
U.S. Cl. 264—24 **6 Claims**



A pattern is produced in a body having a substantially flat face and formed of a hardenable synthetic resin having electrically orientable particles distributed therein, by placing, adjacent to the flat face and spaced from each other, at least two electric field generating electrode means each including an electrode and the means having different potentials so as to create within the body between the electrodes a curved electric field of force, whereby the electrically orientable particles in the hardenable synthetic resin will assume in the regions of the electrodes a steep angle of inclination relative to the flat face and will be directed halfway between the electrodes substantially parallel to the flat face so as to form within the hardenable synthetic resin body a substantially arc-shaped pattern of electrically orientable particles curved relative to the flat face of the body, and thereafter hardening the hardenable synthetic resin.

3,507,939
PLASTIC EXTRUSION

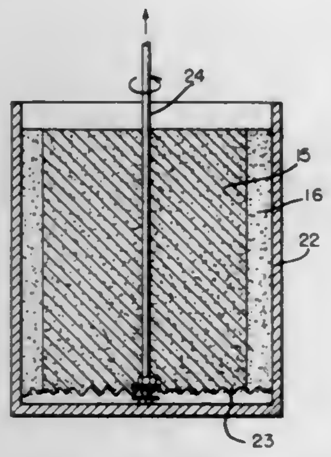
George E. Williams and Guy E. Carrow, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Dec. 12, 1966, Ser. No. 601,094
Int. Cl. B29f *3/08*
U.S. Cl. 264—40 **13 Claims**



Different circumferential portions of the cross section of a plastic extrusion die are heated or cooled at different rates to obtain an extrudate with reduced internal stresses.

3,507,940
SHAPED CHARGE BLENDING METHOD AND PRODUCT

George E. Gard, Lancaster, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1967, Ser. No. 623,020
Int. Cl. H01q *15/08*
U.S. Cl. 264—71 **17 Claims**

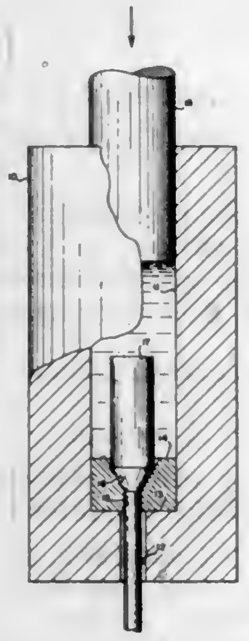


A charge of particulate first dielectric material, having a predetermined shape in two or three dimensions, is disposed adjacent to a particulate charge of second dielectric material. The composite charge is stirred in circles to evolve a mixture of the two materials which exhibits a dielectric constant gradient in two or three dimensions. The stirred mixture is then fused into a monolithic mass.

3,507,941
PROCESS TO INCREASE STRENGTH OF ARTIFICIAL ORGANIC MATERIALS

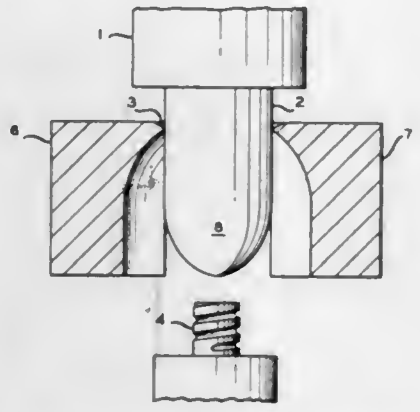
Joseph A. Kies, Chevy Chase, Md., Edward R. Seibert, Washington, D.C., and Alexander G. Rozner, Bethesda, and John E. Tydings, Rockville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 12, 1967, Ser. No. 653,304
Int. Cl. B29f *3/00*
U.S. Cl. 264—88 **2 Claims**

This disclosure is directed to a method of increasing the strength of polypropylene produced by the standard processes. As-received polypropylene is subjected to mechanical cold working by means of a cold-hydrostatic extrusion process which results in a substantial increase in the maximum usable tensile strength of the material. This tensile strength of the extruded material has been found to increase with the extrusion ratio, defined as a ratio of the cross-sectional area of the material before cold-hydrostatic extrusion to the cross-sectional area of the extrusion die.



3,507,942
METHOD OF BLOW-MOLDING A PLASTIC CLOSURE

Robert F. Lynch, Wayne, N.J., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 18, 1966, Ser. No. 565,862
Int. Cl. B29d *1/00, 23/03*
U.S. Cl. 264—96 **3 Claims**

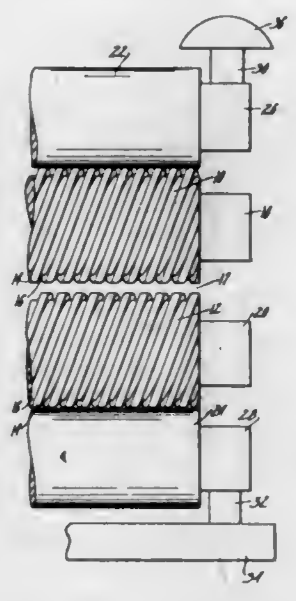


Process for the formation of a hollow, substantially enclosed container closure from thermoplastic material by blow-molding in a multisection mold having one section provided with a protruding mandrel to form container engaging means and the product resulting therefrom.

3,507,943
METHOD FOR ROLLING NONWOVEN FABRICS

John J. Such, Wrentham, and Arthur R. Olson, Walpole, Mass., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 492,644, Oct. 4, 1965. This application Feb. 3, 1966, Ser. No. 524,931
Int. Cl. D04h *1/64;* **B29g** *5/00;* **B29d** *7/14*
U.S. Cl. 264—103 **25 Claims**

A method directed to forming unwoven sheets of deformable textile materials by rolling is described. The unsynchronized non-meshing pair of rolls are engraved in a pattern of lands and grooves; the desired pattern is reproduced in the material without registry between the roll patterns. Impregnation, heated rolls, aperture formation, lamination, felting and plying are included among the embodiments.



3,507,944
REFRACTORY SLURRY AND METHOD OF CASTING UTILIZING ALUMINA COATED SILICA SOL BINDER AND HEXAMETHYLENETETRAMINE AS A SETTING AGENT

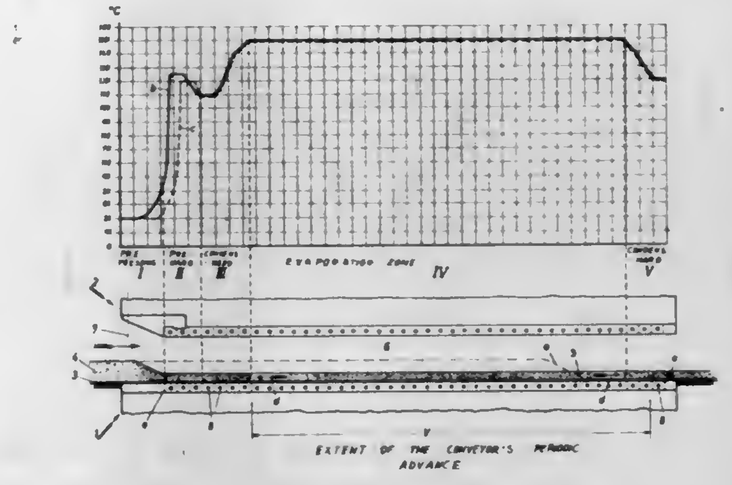
Earl P. Moore, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 9, 1968, Ser. No. 758,612
Int. Cl. C04b *33/02, 33/12*
U.S. Cl. 264—109 **3 Claims**

A refractory slurry and a method of making a refractory article from said slurry. The slurry having a pH of less than 5.7 consists of 50–97% refractory particles, 3–50% of a positively charged alumina coated silica sol and hexamethylenetetramine present in amounts up to 1% by weight of the slurry. The pH of the slurry is adjusted to below 5.7 prior to pouring into the mold and after pouring the slurry is set in the mold at an elevated temperature below 100° C. until it has sufficient strength for handling.

3,507,945
METHOD OF MANUFACTURING ENDLESS WOOD CHIP WEBS OR THE LIKE IN AN INTERMITTENT PRESS

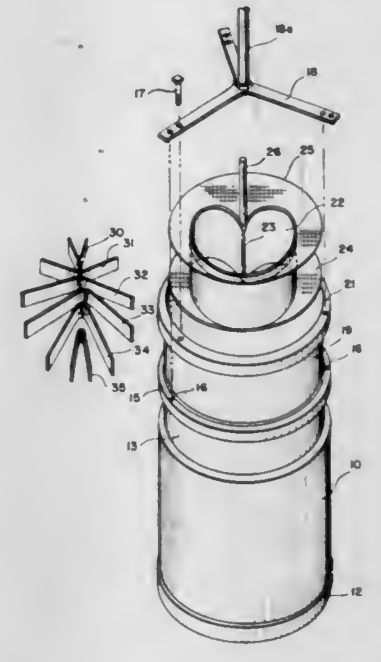
Kurt van Hüllen and Herbert Nopper, Krefeld, Germany, and Hans Grefen, Waregem, Belgium, assignors to Niederrheinische Maschinenfabrik Becker & Van Hullen, Krefeld, Germany
Continuation-in-part of application Ser. No. 507,868, Nov. 15, 1965. This application Oct. 11, 1968, Ser. No. 766,702
Int. Cl. B27j *7/00;* **B29g** *7/00*
U.S. Cl. 264—120 **2 Claims**

A method of manufacturing endless wood chip webs by advancing intermittently through a plurality of zones, while applying pressure and heat at each zone, a layer of wood chips and binding substance. The layer is passed through a pre-pressing zone at room temperature, through a pre-hardening zone at a sharply increased temperature, through a first condensation and hardening zone at a continuously increasing temperature, through an evaporation zone maintained at the increased temperature and through a second condensation and hardening zone which is at a temperature gradually decreasing from the temperature of the fourth zone to room temperature.



3,507,946
BLENDING METHOD AND APPARATUS

George E. Gard, Lancaster, and William K. Boak, Columbia, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1968, Ser. No. 774,614
Int. Cl. H01q *15/08*
U.S. Cl. 264—122 **6 Claims**

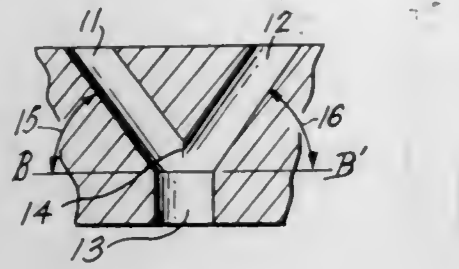


A shaped form is placed within a cylindrical mold and slowly moved along the mold axis. Different dividers are placed within the form in sequence as it is moved, and dielectric materials are dispensed into the mold adjacent said shaped form and dividers to produce differently shaped bodies of dielectric material at different axial levels in the mold. The resultant three-dimensionally shaped charge of dielectric material is then stirred, randomized, and fused into a monolithic mass.

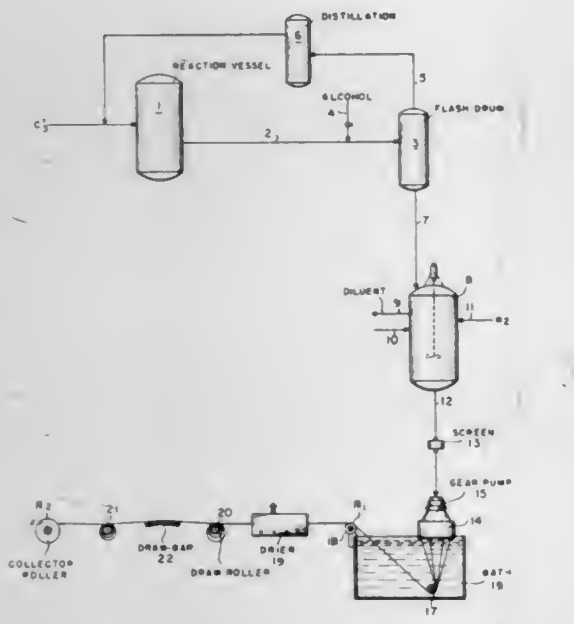
3,507,947
MELT EXTRUSION PROCESS AND SPINNERETTES

Joseph Mederic Grenier, Drummondville, Quebec, Canada, assignor to Chemcell Limited, Montreal, Quebec, Canada
Filed Nov. 6, 1967, Ser. No. 680,688
Int. Cl. B28b *3/20*
U.S. Cl. 264—176 **7 Claims**

A spinnerette for enhancing the stability of melt extrusion processes, particularly for the extrusion of cellulose triacetate continuous filaments, which includes a plurality of inlet canals converging into a single outlet canal leading to the spinning orifice, the apertures of said inlet canals each being smaller than the aperture of the common outlet canal, and the process of extruding therethrough.



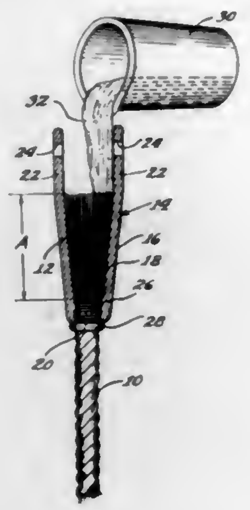
3,507,948
SOLUTION SPINNING OF POLYPROPYLENE
Robert R. Buntin, Baytown, Tex., assignor to Esso Research and Engineering Company
Filed Sept. 29, 1967, Ser. No. 671,705
Int. Cl. D01d *5/10;* **D01f** *7/06*
U.S. Cl. 264—203 7 Claims



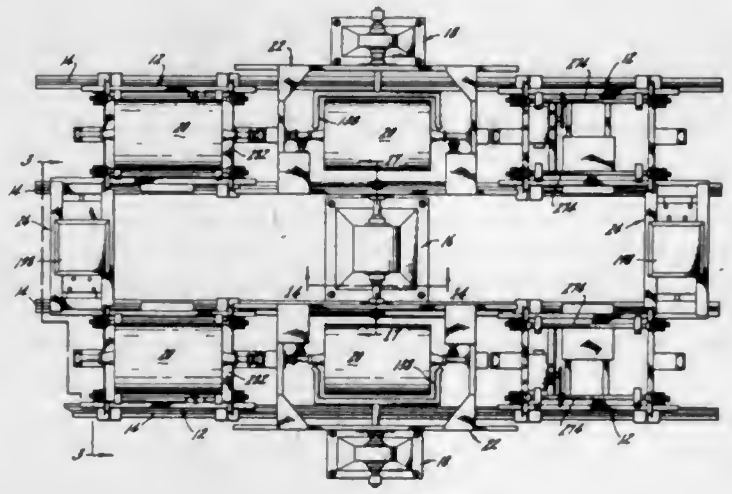
Polypropylene is spun from a concentrated solution in a solution spinning process through a short air gap into a water bath. The fibers are dried in a heated oven and may be drawn in line to produce high strength fibers.

3,507,949
METHOD OF SOCKETING STRANDS
Robert Edward Campbell, Doncaster, England, assignor to British Ropes Limited, Doncaster, England, a British company
Continuation-in-part of application Ser. No. 439,458, Mar. 12, 1965. This application June 11, 1968, Ser. No. 736,110
Int. Cl. F16g *11/00;* **B29d** *3/00;* **B29h** *9/02*
U.S. Cl. 264—263 3 Claims

A method of socketing ropes or strands of wire or natural or synthetic fibers, or combinations thereof, in which a cold setting resin is mixed with a controlled amount of particulate elemental thermally conducting metal powder, such as aluminum, the mixed composition being thereafter poured into a socket surrounding the separated strands or fibers therein so as to fill the voids between the strands or fibers whereupon the composition is hardened.



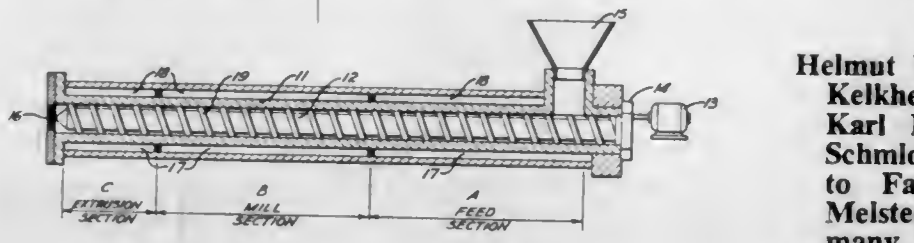
3,507,950
METHOD OF THERMOFUSION MOLDING
Louis H. Barnett and Henry P. Horton, Fort Worth, Tex., assignors to Vistron Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 307,587, Sept. 9, 1963. This application Apr. 24, 1967, Ser. No. 633,141
Int. Cl. B29c *5/04;* **B28b** *1/54*
U.S. Cl. 264—310 1 Claim



This invention relates to a method and apparatus for thermofusion molding of plastic resin materials in a mold which is rotatable in compound motion so as to form a layer of plastic material within the mould while being heated predominantly with infra-red radiation by a heat source embracing at least a part of said mold.

3,507,951
COLORED POLYCARBONATES AND PROCESS FOR PREPARING THE SAME
Andrew S. Morecroft, Bridgeville, and John V. Bailey, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 19, 1966, Ser. No. 566,354
Int. Cl. B29b *1/04*
U.S. Cl. 264—349 7 Claims

1. A method for preparing polycarbonates having a pigment uniformly dispersed therein which comprises introducing substantially simultaneously a pigment composition and polycarbonate resin pellets into an extruder equipped with a screw having a substantially uniform flight depth, a feed zone having a temperature of between about 260° C. and about 350° C. and an extrusion zone temperature of between about 160° C. and about 250° C., said extruder having a temperature profile gradient of between about 80° C. and about 120° C. between the feed zone and the extrusion zone, passing the pigment and polycarbonate through the zones with a low mechanical energy input, thereby maintaining a relatively low temperature and consequently high viscosity in the polycarbonate and exerting a high shear force on the pigment.

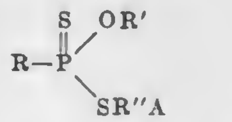


3,507,952
SUSTAINED RELEASE BOLUS FOR ANIMAL HUSBANDRY
Alvin B. Rednick, Cherry Hill, N.J., and Stanley J. Tucker, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 526,750, Feb. 11, 1966. This application Dec. 20, 1968, Ser. No. 785,567
Int. Cl. A61k *27/12, 9/00;* **A61j** *3/10*
U.S. Cl. 424—22 14 Claims

Veterinary sustained release dosage forms which remain in the rumeno-reticular sac of an animal over an extended period of time and in which the therapeutically active substance has a predictable and controlled release pattern. The compositions comprise a dense filler, a therapeutically active substance and a critical amount of a lubricant.

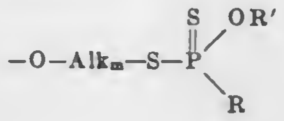
3,507,953
PESTICIDAL DITHIOPHOSPHONIC ACID ESTERS
Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 25, 1960, Ser. No. 17,500
Claims priority, application Germany, Mar. 28, 1959, F 28,059
Int. Cl. A01n *9/36;* **C07f** *9/40*
U.S. Cl. 424—205 18 Claims

1. A dithiophosphonic acid ester of the following formula:



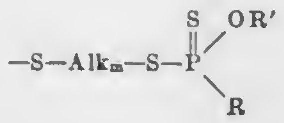
$$R-P(=S)(OR')(SR''A)$$

wherein R stands for a member selected from the group consisting of alkyl having up to 6 carbon atoms and cycloalkyl having up to 6 carbon atoms; R' stands for lower alkyl having up to 4 carbon atoms; R'' stands for lower alkylene having up to 4 carbon atoms; and A is a member selected from the group consisting of cyano, phenyl-carbonyl, lower alkyl phenyl-carbonyl, halophenyl-carbonyl, nitrophenyl-carbonyl-lower alkyl-carbonyl, phenyl, chlorophenyl, nitrophenyl,



$$-O-Alk_m-S-P(=S)(OR')(R)$$

and

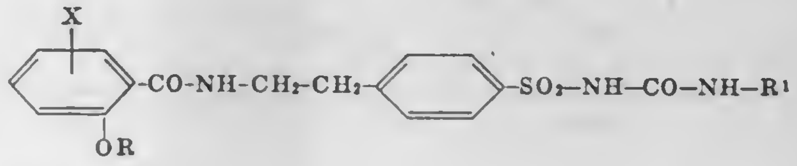


$$-S-Alk_m-S-P(=S)(OR')(R)$$

Alk_m in each case being alkylene of at least 1 carbon atom, the total number of carbon atoms in Alk_m and R'' being 4.

3,507,954
BENZENESULFONYL-UREAS AS ANTI-DIABETIC AGENTS
Helmut Weber, Frankfurt am Main, Walter Aumuller, Kelkheim, Taunus, Rudi Weyer, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, and Felix Helmut Schmidt, Mannheim-Neuostheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Original application July 13, 1966, Ser. No. 564,743, now Patent No. 3,454,635. Divided and this application Mar. 3, 1969, Ser. No. 813,387
Claims priority, application Germany, July 27, 1965, F 46,721; Dec. 21, 1965, F 47,816
Int. Cl. A61k *27/00*
U.S. Cl. 424—321 15 Claims

Benzenesulfonyl ureas of the formula



wherein:

R represents alkyl of 1 to 5 carbon atoms or lower alkenyl,

X represents halogen, preferably chlorine, lower alkyl, preferably methyl, or lower alkoxy, preferably methoxy,

R¹ represents cyclohexyl, methylcyclohexyl or ethylcyclohexyl, methyl and ethyl being preferably in 4-position of the cyclohexyl radical, endomethylene-cyclohexenylmethyl or endomethylene-cyclohexylmethyl, and physiologically tolerable salts thereof are found to have hypoglycemic activity in the treatment of diabetes upon oral administration in dosages of 0.5 to 100, preferably 2 to 10 milligrams.

3,507,955
SILICONE CONTAINING DENTIFRICES
Lloyd I. Osipow, New York, N.Y., assignor to Prev-Coat Corporation, Bridgeport, Conn., a corporation of Connecticut
No Drawing. Continuation-in-part of application Ser. No. 504,163, Oct. 23, 1965. This application Nov. 25, 1968, Ser. No. 778,815
Int. Cl. A61k *7/16*
U.S. Cl. 424—54 7 Claims

Anti-caries dentifrice compositions containing a dimethylpolysiloxane having a viscosity of 50 to 5000 centistokes and a small amount of an additive, such as a quaternized tertiary cyclic amine substituted on the nitrogen with an aliphatic radical of 8 to 22 carbon atoms.

3,507,956
TREATMENT OF YOUNG ANIMALS WITH DIALKYL BETA-CHLOROVINYL PHOSPHATE
Edward G. Batte, Raleigh, N.C., Tage J. Fogg, Allendale, N.J., and Maurice A. Schooley, White Plains, N.Y., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 27, 1967, Ser. No. 693,752
Int. Cl. A61k *27/00*
U.S. Cl. 424—78 4 Claims

The vitality of foeti and new-born young of mammals is increased by administering to the prospective mother prior to parturition an effective dosage of at least one dialkyl beta-chlorovinyl phosphate.

3,507,957

ANTIDEPRESSANT COMPOSITIONS AND METHODS EMPLOYING 4-ARYLBICYCLO[2.2.2]OCTYL URETHANS

Paul E. Aldrich, Sharpley, Del., assignor to E. I. du Pont de Nemours and Company, a corporation of Delaware
No Drawing. Filed Jan. 12, 1968, Ser. No. 697,302
Int. Cl. A61k *27/00*
U.S. Cl. 424—203 **8 Claims**

This invention teaches the preparation of 4-arylbicyclo [2.2.2]oct-1-yl urethans and methods of using and formulating the same as antidepressant agents.

Representative of the compounds within the scope of this invention are ethyl N-4-phenylbicyclo[2.2.2]oct-2-en-1-yl urethan, propyl N-4-(o-tolyl)bicyclo[2.2.2]octane-1-yl urethan, methyl N-4-(4-pyridyl)bicyclo[2.2.2]octane-1-yl urethan and propyl N-4-[4-(3-fluoropyridyl)] bicyclo[2.2.2]oct-2-ene-1-yl urethan.

3,507,958

COMPOSITIONS AND METHODS OF TREATING BACTERIA WITH CYCLOPROPYL-2-SULPHANILAMIDO-PYRIMIDINES

Markus Zimmermann, Riehen, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Original application Mar. 14, 1967, Ser. No. 622,899. Divided and this application Mar. 6, 1968, Ser. No. 730,969
Int. Cl. A61k *27/00*
U.S. Cl. 424—229 **6 Claims**

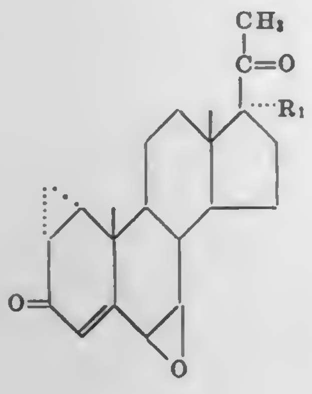
2-sulfanilamido-pyrimidines substituted by cyclopropyl group in 4-, 5- or 6-position which are antibacterial agents against gram-positive bacteria such as staphylococci, streptococci, pneumococci and against gram-negative bacteria such as Salmonella, Escherichia and Klebsiella strains; pharmaceutical compositions containing the aforesaid pyrimidines as antibacterial ingredients, and method of treating diseases caused by such bacteria, by administration of such pyrimidines or pharmaceutical compositions containing them.

3,507,959

6β,7β-EPOXYSTEROIDS

Henry Laurent, Hermann Steinbeck, and Rudolf Wiechert, Berlin, Germany, assignors to Schering AG, Berlin, Germany
No Drawing. Filed Mar. 19, 1968, Ser. No. 714,341
Claims priority, application Germany, Mar. 23, 1967, Sch 40,435; Mar. 31, 1967, Sch 40,469; Jan. 11, 1968, Sch 41,823
Int. Cl. C07c *173/00*
U.S. Cl. 424—241 **14 Claims**

6β,7β-epoxysteroids of the formula



wherein R_1 is hydroxy or acyloxy.

An example is 17 - acetoxy-6β,7β-epoxy-1α,2α-methylene-4-pregnene-3,20-dione.

The compounds are made by reacting corresponding 6β-hydroxy or acyloxy-7α-halogenosteroids with a base in an inert solvent and, if desired, esterifying any free 17-hydroxy group, the halogen in the starting compound being chlorine or bromine. The compounds have a strong progestational action, particularly after oral administration and do not cause oval suppression even at high doses.

3,507,960

ANTI-ANXIETY COMPOSITIONS AND A METHOD OF PRODUCING ANTI-ANXIETY ACTIVITY WITH COMBINATIONS OF AMOBARBITAL AND TRIFLUOPERAZINE

Leonard Cook, Abington, Pa., and Arnold B. Davidson, Cherry Hill, N.J., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 20, 1968, Ser. No. 714,418
Int. Cl. A61k *27/00*
U.S. Cl. 424—247 **11 Claims**

Pharmaceutical compositions having enhanced anti-anxiety activity comprising trifluoperazine and amobarbital in a 2:30 ratio and a method of producing anti-anxiety activity.

3,507,961

BENZENESULFONYL UREAS AS ANTI-DIABETIC AGENTS

Helmut Weber, Frankfurt am Main, Walter Aumuller, Kelkheim, Taunus, Rudi Weyer, Frankfurt am Main, Karl Muth, Kelkheim, Taunus, and Felix Helmut Schmidt, Mannheim, Neuostheim, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Original application Oct. 13, 1964, Ser. No. 403,641, now Patent No. 3,426,067, dated Feb. 4, 1969. Divided and this application Aug. 9, 1968, Ser. No. 766,008
Claims priority, application Germany, Oct. 19, 1963, F 41,042; Feb. 20, 1964, F 42,062; May 21, 1964, F 42,933; June 26, 1964, F 43,268
Int. Cl. A61k *27/00*
U.S. Cl. 424—275 **6 Claims**

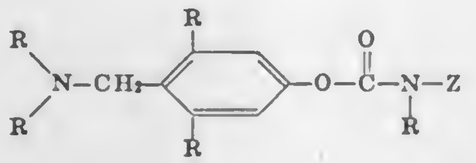
Benzenesulfonyl urea compounds that are effective as oral antidiabetic agents.

3,507,962

CONTROLLING LEAFMINER INSECTS WITH SELECTED CARBAMATE INSECTICIDES, INCLUDING 3,5-DIMETHYL-4-DIMETHYLAMINO-METHYL PHENYL-N-METHYLCARBAMATE

James L. Taylor, Gainesville, Fla., assignor to Thompson-Hayward Chemical Company, Kansas City, Kans., a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 565,727, July 18, 1966. This application May 9, 1969, Ser. No. 823,501
Int. Cl. A01n *9/00, 17/00, 17/08*
U.S. Cl. 424—300 **5 Claims**

A method of controlling insects of the order, Diptera, by contacting said insects with a pesticidally effective amount of a compound of the formula



wherein R is alkyl and Z is hydrogen or alkyl.

3,507,963

COMPOSITIONS AND METHODS FOR CONTROLLING FUNGI WITH N-BENZYLIDENE ALKYLAMINES

Raphael Menasse and Karl Gatzi, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 512,811, Dec. 9, 1965. This application Feb. 28, 1968, Ser. No. 708,808
Claims priority, application Switzerland, Dec. 14, 1964, 16,125/64
Int. Cl. A01n *9/20, 21/00*
U.S. Cl. 424—304 **7 Claims**

N-benzylidene alkylamines in which the alkyl group has from 8 to 18 carbon atoms, and in which the phenyl moiety is optionally substituted, are fungicidal agents. Compositions containing these compounds are fungicides and methods for combatting fungi use these compounds.

3,507,964

AGRICULTURAL PESTICIDAL COMPOSITIONS CONTAINING DIFLUORAMINO ORGANIC COMPOUNDS

Daniel D. Rosenfeld, Elizabeth, John R. Lovett, Edison, and Charles Wiener, Linden, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 10, 1964, Ser. No. 388,723
Int. Cl. A01n *9/02, 9/20*
U.S. Cl. 424—325 **8 Claims**

This invention relates to new and useful pesticidal compositions prepared with a class of compounds containing the difluoramino, —NF_2, group by virtue of which these compounds are active ingredients of pesticides, particularly fungicides, nematocides, and insecticides.

3,507,965

INSECTICIDAL AND MITICIDAL METHODS AND COMPOSITIONS OF CARBAMATE DERIVATIVES OF 2-ALKYL-THIO(OR OXY)ALKANALDOXIMES

Linwood K. Payne, Jr., Charleston, W. Va., and Mathias H. J. Weiden, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation of application Ser. No. 482,634, Aug. 25, 1965, which is a division of application Ser. No. 266,174, Sept. 25, 1963. This application Apr. 16, 1968, Ser. No. 721,872
The portion of the term of the patent subsequent to Nov. 9, 1982, has been disclaimed
Int. Cl. A01n *9/14, 9/20*
U.S. Cl. 424—327 **22 Claims**

Carbamate derivatives of 2-alkylthio(or oxy)alkanaldoximes, especially 2-methyl-2-methylthiopropionaldehyde N-methylcarbamoyloxime, possess exceptional systemic and selective activity against insect and mite pests.

3,507,966

SEDATIVE-HYPNOTIC AGENTS

Winfried Arnold, Brugglestrasse 9, 4104 Oberwil, Switzerland, and Frank H. Clarke, Jr., 14 Long Pond Road, Armonk, N.Y. 10504
No Drawing. Continuation-in-part of application Ser. No. 638,582, May 15, 1967. This application Mar. 4, 1969, Ser. No. 804,325
Int. Cl. A61k *27/00*
U.S. Cl. 424—343 **12 Claims**

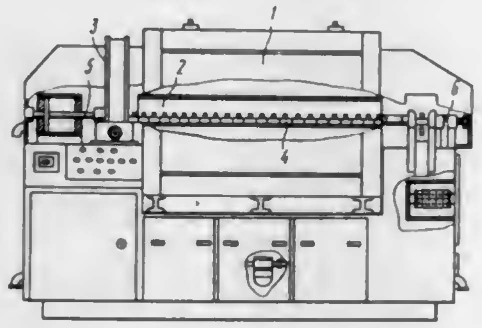
Method of effecting a sedative-hypnotic response in a warm-blooded animal containing a trihaloglycol and compositions for that method. An illustrative embodiment is a composition containing 1,1,1-trichloro-2,3-dihydroxypropane.

ELECTRICAL

3,507,967

DEVICE FOR HEAT TREATMENT OF WOUND RIBBON MAGNETIC CORES

Genrikh Fedorovich Dubrovin, Ulitsa Oktyabrskaya 36, and Vladimir Valerievich Voronov, Ulitsa Lermontova 10, kv. 19, both of Novgorod, U.S.S.R.
Filed July 3, 1968, Ser. No. 742,415
Int. Cl. F27b *9/06*
U.S. Cl. 13—1 **2 Claims**

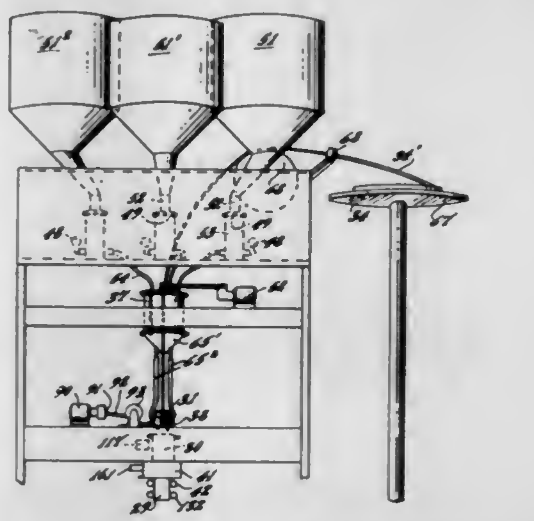


A device is provided with for heat treatment of wound ribbon magnetic cores. The device has a tunnel furnace with a duct having guides for the guided passage of a row of abutting cores, the cores being fed one by one by a push rod into row from an inclined storage device at the inlet of the furnace while concurrently the row is advanced and at the outlet of the furnace the endmost core is removed in synchronism with the feed.

3,507,968

ELECTROSLAG MELTING APPARATUS

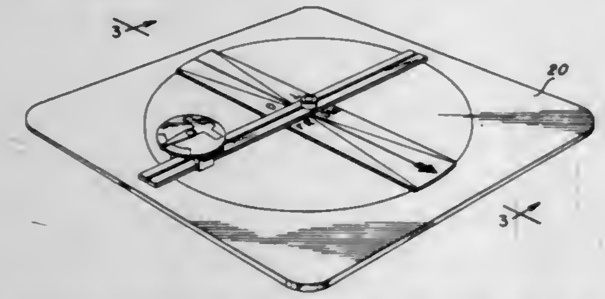
Robert C. Parsons, Wallingford, Pa., assignor to Arcos Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Original application Dec. 27, 1966, Ser. No. 605,044. Divided and this application Sept. 26, 1968, Ser. No. 762,783
Int. Cl. H05b *7/18, 3/60;* **C22d** *7/00*
U.S. Cl. 13—9 **3 Claims**



Apparatus for electroslag melting employing a crystallizer to surround molten slag, a molten metal pool and a solidified metal product which is being withdrawn therefrom. In one aspect a crystallizer is electrically insulated from the electrode and from the ground. In another aspect a crystallizer of minimal length is used, to permit direct application of water spray to the solidified metal product below the crystallizer in order to remove slag and produce a nearly vertical dendritic pattern. In another aspect the electrode is traversed in a rectangular crystallizer to form a heat pattern of large cross section and refine the metal most effectively.

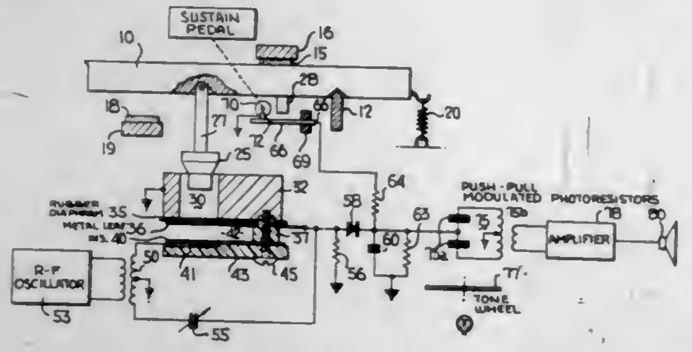
In another aspect a mixture of combined powders of controlled composition is fed to the slag pool adhering to the electrode. Steam and slag particles are preferably collected below the crystallizer so that they will not interfere with electrically conducting feed rollers engaging the solidified metal product. The invention contemplates that the slag level can be automatically controlled. The mixing of the powders is best accomplished by a rotary chop mixer.

3,507,969
AIRCRAFT PILOT TRAINING AID
Allan E. Greenwade, Phoenix, Ariz., assignor to A. J. Post Company, Phoenix, Ariz., a partnership
Filed Apr. 3, 1968, Ser. No. 718,455
Int. Cl. G01c *21/00;* **G09b** *9/08*
U.S. Cl. 35—10.2 **3 Claims**



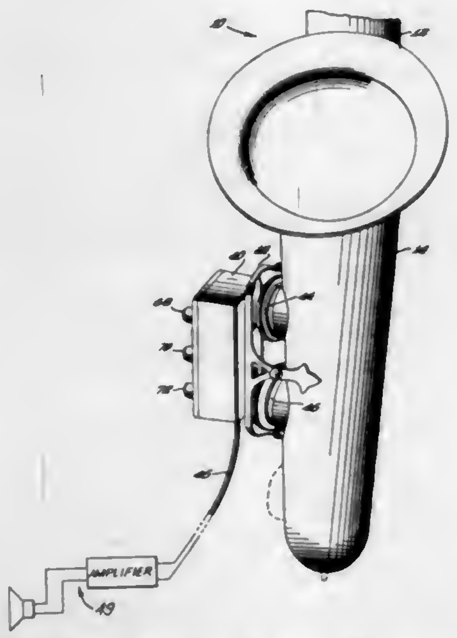
A support plate is utilized as a base having a pivot thereon representing an Omni station; compass degrees radiate from the Omni station and are marked on the support. A To/From marker is rotatably secured to the pivot and a support bar is rotatably secured to the pivot on top of the To/From marker. A disc having a representation of an aircraft thereon is rotatably and slidably secured to the support bar. The disc also includes a pointer pivotally secured thereto for representing the pointer of an aircraft-mounted Omni indicator.

3,507,970
TOUCH SENSITIVE ELECTRONIC MUSICAL INSTRUMENT RESPONSIVE TO ONLY TERMINAL VELOCITIES OF KEYS
Edward M. Jones, Cincinnati, Ohio, assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed Dec. 30, 1966, Ser. No. 606,078
Int. Cl. G10h *1/02*
U.S. Cl. 84—1.01 **17 Claims**



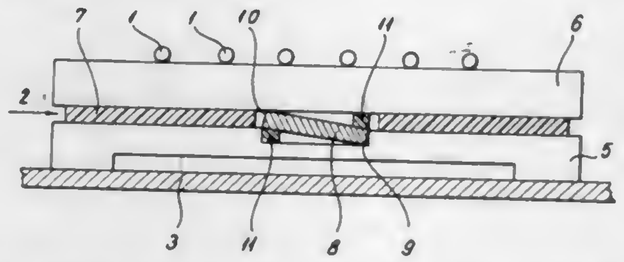
An electronic piano in which a touch sensitive transient voltage is produced by a novel electromagnetic or capacitive transducer in response to striking of the key of a keyboard. This voltage is stored in a capacitor or capacitors via a diode or diodes, and the stored voltage allowed to decay according to the normal decay rates of vibration amplitude of a struck piano string. The decay is accelerated, i.e., damping occurs, on releasing the key, or a sustain pedal may disable the acceleration circuit. Double and triple rate decays may be employed. The decaying voltage is employed to gate through a tone, or to turn on an oscillator or to control a photoresistor modulator subjected to chopped light by a tone wheel.

3,507,971
CONTROL ASSEMBLY FOR WIND INSTRUMENTS AND THE LIKE
John F. Feddersen, Elkhart, Ind., assignor to H. & A. Selmer, Inc., Elkhart, Ind., a corporation of Indiana
Filed Dec. 15, 1966, Ser. No. 601,939
Int. Cl. G10h *3/00*
U.S. Cl. 84—1.14 **8 Claims**



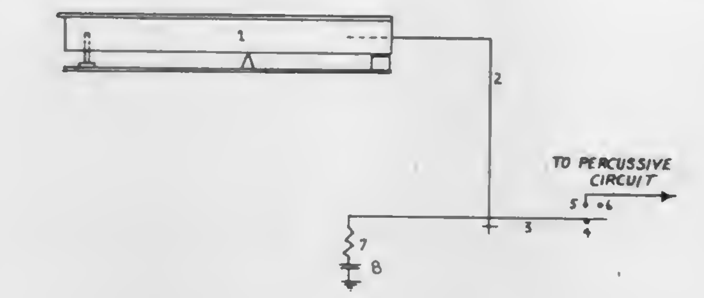
The disclosed embodiment of the present invention is a control unit which houses variable parameter elements associated with amplification and wave shaping of an audio signal generated by a transducer mounted on a wind instrument and a mounting means for locating the control unit within the immediate vicinity of the wind instrument and remotely from the sound reproduction system associated therewith. The disclosed wind instrument is of the type wherein the mouth of the musician initially generates an audio sound to be detected by the transducer mounted thereon, including by way of example and not by way of limitation, saxophones, clarinets, flutes, and various horns. The disclosed mounting means provides positioning of the control unit on the instrument itself or on the body of the player remote from the amplification and sound effects equipment. In some instances the control unit may be transferred from one instrument to another.

3,507,972
MICROPHONE BRIDGE FOR STRING INSTRUMENTS
Istvan Sebok, Szeged, Hungary, assignor to Szegedi Hangszergyar, Szeged, Hungary
Filed May 19, 1967, Ser. No. 639,724
Claims priority, application Hungary, July 14, 1966, SE 1,323
Int. Cl. G10h *3/00;* **G10d** *5/00*
U.S. Cl. 84—1.14 **3 Claims**



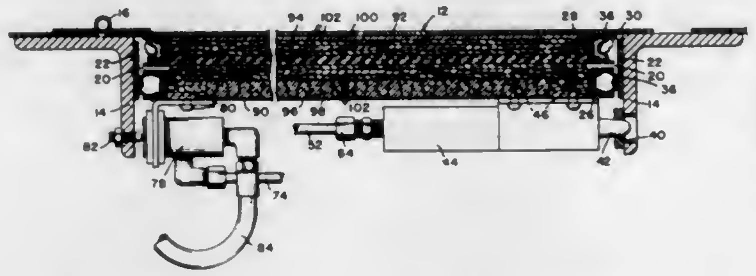
The present invention relates to a microphone bridge for string instruments made of two parts, one part engaging the strings and the other the resonator. A piezoelectric crystal is situated between the said two parts for transforming the vibration of the strings into sound frequency.

3,507,973
TOUCH SENSITIVE CAPACITOR TIMING PERCUSSION KEYING CIRCUIT
Lee De Pree, 17 E. 8th St., Holland, Mich. 49423
Filed May 1, 1968, Ser. No. 725,614
Int. Cl. G10h *1/00, 1/02*
U.S. Cl. 84—1.24 **2 Claims**



In an electronic pianoforte or similar percussive musical instrument, a key operated switch in conjunction with a capacitor, for supplying a controlled amplitude voltage pulse; the amplitude of the pulse dependent on the extent the capacitor is discharged by the timed operation of the switch, prior to the delivery of the pulse.

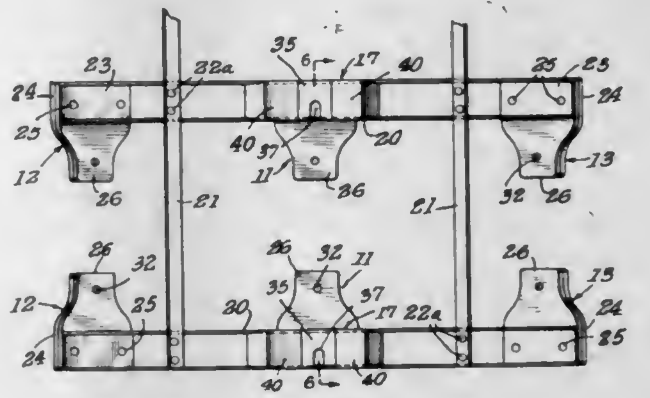
3,507,974
ELECTROMAGNETIC SHIELDED DOOR STRUCTURE
Don B. Clark, Ventura, and Theodore J. Roster, Oxnard, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 6, 1968, Ser. No. 710,948
Int. Cl. H05k *9/00;* **E06b** *7/23*
U.S. Cl. 174—35 **7 Claims**



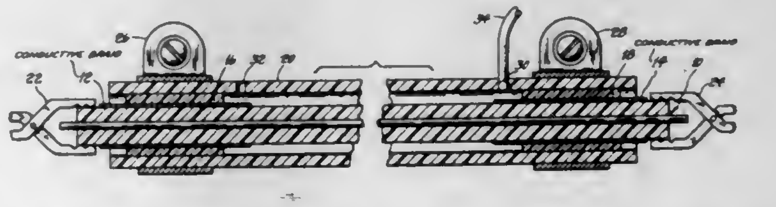
The description discloses an electromagnetic shielded door structure wherein the door has a peripheral groove about its edge and means disposed within the groove for electromagnetically shielding the door when in a closed position. Such means may include elongated finger stock which is flexible so as to engage a door frame in a flexed position and to disengage the door frame in a relaxed position; and an elongated bladder which is inflatable to force the finger stock to its flexed position in engagement with the door frame and deflatable to allow the finger stock to relax to its disengaging position.

3,507,975
TRANSFORMER-MOUNTING FRAME
James H. Scott, Hacienda Heights, Calif., assignor to Scott Engineering, Inc., Temple City, Calif., a corporation of California
Filed Jan. 27, 1969, Ser. No. 794,244
Int. Cl. F16m *13/02;* **H01f** *15/02*
U.S. Cl. 174—40 **6 Claims**

A rectangular frame having horizontal, parallel, upper and lower bracket arms with rearwardly angularly bent ends, and an insulator transformer-mounting block secured to each said arm end and intermediate said arm ends to provide three pairs of mounting blocks, each pair being adapted to mount a transformer, the frame, at each intermediate portion of the arms, having a bracket for connection with vertically spaced cross bolts on a pole for mounting the transformer-provided frame.

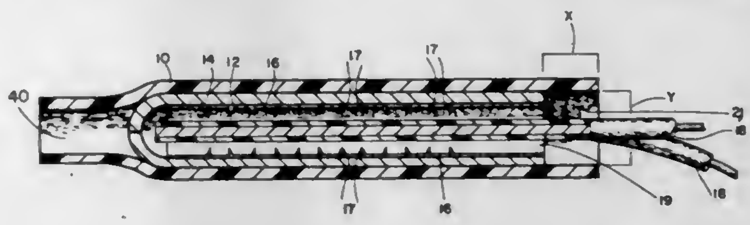


3,507,976
COAXIAL CABLE WITH INNER AND OUTER SODIUM CONDUCTORS
George J. Thompson, Jackson Heights, and Gumersindo Rodriguez, Laurelton, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 10, 1969, Ser. No. 805,771
Int. Cl. H02g *15/02;* **H01b** *11/18*
U.S. Cl. 174—74 **3 Claims**



A coaxial cable in which at least the outer conductor is of sodium terminated by polyethylene sealing rings through which extend conductive braids in electrical contact with the ends of the sodium conductor to serve as a lower loss radio frequency cable and one having more constant electrical characteristics when flexed.

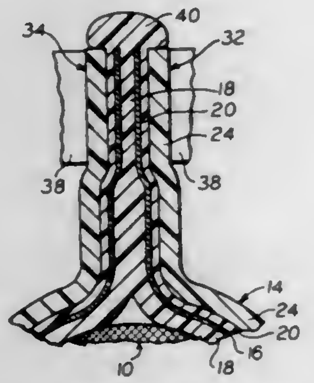
3,507,977
CONNECTORS FILLED WITH POLYETHYLENE GREASE
Brandon Bernard Pusey, Hickory, N.C., assignor to Superior Continental Corporation, Hickory, N.C., a corporation of Delaware
Filed Dec. 4, 1968, Ser. No. 781,184
Int. Cl. H02g *15/08;* **H01r** *5/12*
U.S. Cl. 174—87 **22 Claims**



Disclosed herein is an assemblage of components making up a connector used for high-speed splicing of pairs of insulated electrical conductors in a telephone cable. First and second metal tube-like containers, the second slidably fitting into the first to form a composite, is fitted into a heat-shrinkable plastic sleeve having an elastic memory. A filling compound disposed inside of the metal tubes and plastic sleeve, made of low molecular weight polyethylene material having a grease-like viscosity, completes the connector assembly makeup. The purpose of the grease-like polyethylene filling is to render a splice between two electrical conductors, made with such an assembly, essentially unreachable by water, either in the liquid or vapor form.

3,507,978
SHEATHED ELECTRICAL CABLE

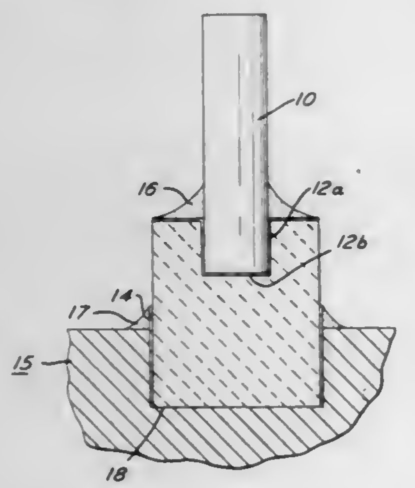
Ludwik Jachimowicz, Elizabeth, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed Dec. 11, 1967, Ser. No. 689,372
Int. Cl. H01b *7/18*
U.S. Cl. 174—105 12 Claims



This specification discloses an electric cable, particularly cable for telephone service, in which a core of individually insulated conductors is enclosed within a flexible metal foil sheath which is coated on both sides with polyolefin insulation. The outer coating or layer of insulation on the metal foil is composite and has an outer laminate of higher melting point than the inner laminate which is bonded to the metal foil. Edge portions of the coated metal sheath along a longitudinal seam are disposed in parallel relation to one another and joined by a double seam, or graduated seam, which is made by fusing confronting inner coatings of the insulation with part of the coating extruded over the edges of the metal sheath so that there is no exposed edge of the metal. The outer portion of the seam has a lower dielectric strength for localizing the path of lightning in the event that the cable is struck by lightning.

3,507,979
HIGH STRENGTH CERAMIC STANDOFF

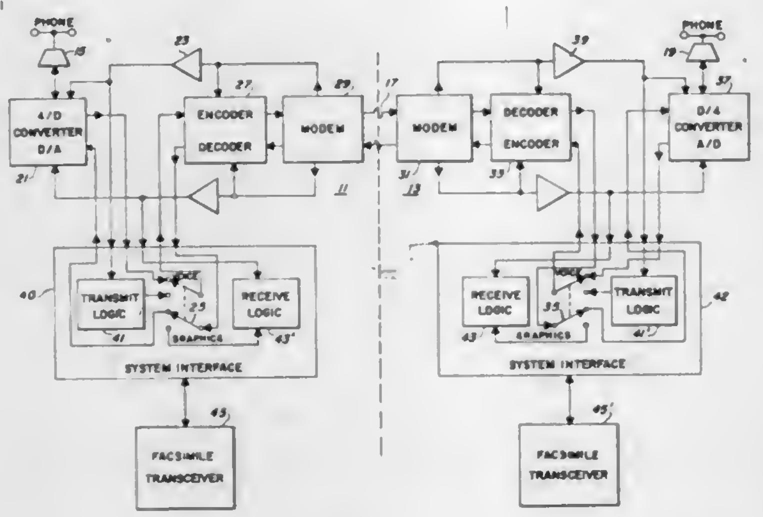
Gunduz Erkan, Hewitt, N.J., assignor to Fansteel, Inc., Mahwah, N.J., a corporation of New York
Filed Dec. 12, 1968, Ser. No. 783,318
Int. Cl. H01b *17/00;* C03c *27/04*
U.S. Cl. 174—176 8 Claims



A ceramic member having a blind hole in the upper end thereof is metalized (1) on its upper end and throughout the hole and (2) on a band formed about the bottom half of its outside surface. A terminal is seated within the hole and brazed to the upper end of the member. The metalized band is brazed to a metal base.

3,507,980
COMMUNICATION SYSTEM

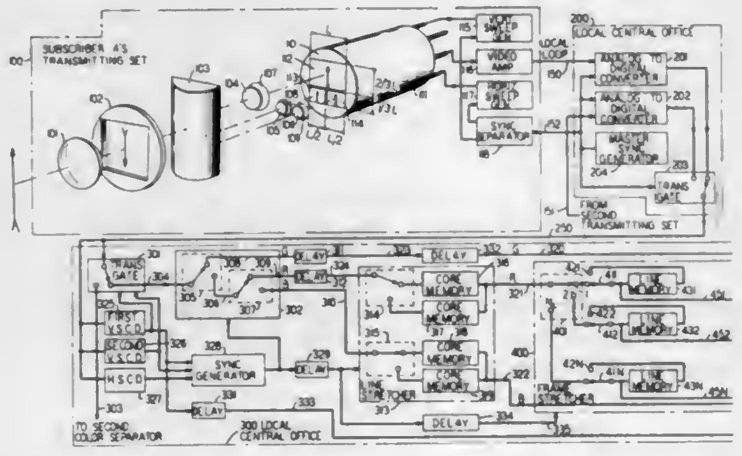
Robert H. Rugaber, Pittsford, and Eugene W. Yurgealitis, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Aug. 15, 1966, Ser. No. 572,596
Int. Cl. H04n *1/44*
U.S. Cl. 178—5.1 5 Claims



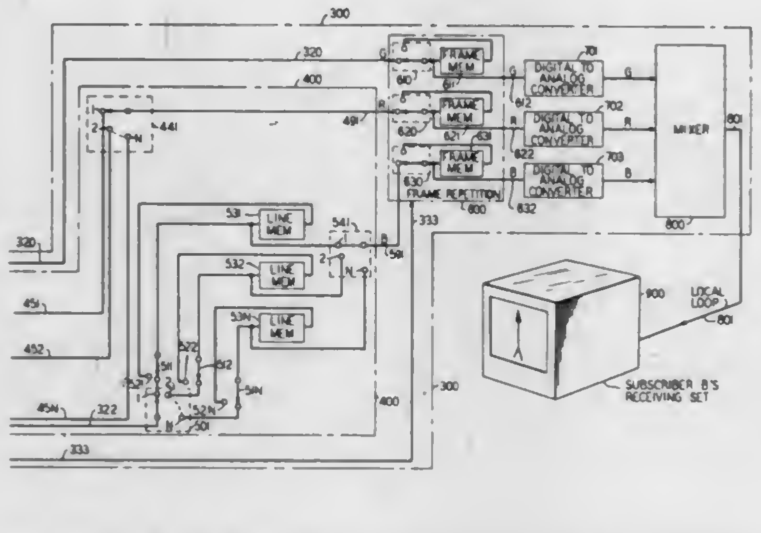
A logical interface apparatus for facilitating mode selection in a combined voice-graphic communication system operable over secure telephone channels. The output of a facsimile transceiver is amplitude and time quantized to generate a two level, digital signal prior to the coupling thereof to an encrypting apparatus at the transmitting terminal of the secure telephone line. After decoding at the receiving terminal, the two level video signal train in the graphics mode is employed to control the selective actuation of the marking apparatus of the facsimile transceiver. Further, a graphic mode loop check is included wherein the generation of a reverse supervisory signal on the transmission channel controls the initiation and duration of the graphic transmission mode.

3,507,981
SINGLE VIDICON COLOR VIDEO TELEPHONE SYSTEM

Robert L. Eilenberger, Colts Neck Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Dec. 19, 1966, Ser. No. 602,974
Int. Cl. H04n *9/06*
U.S. Cl. 178—5.2 7 Claims

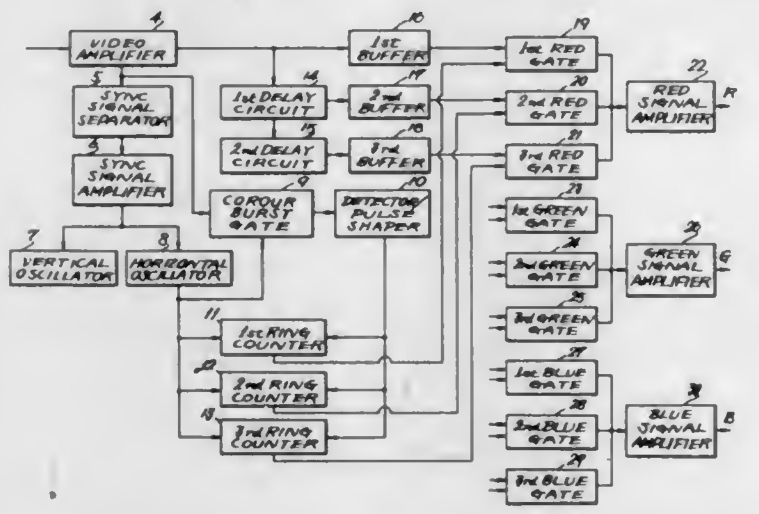


A video telephone system is described in which each subscriber's subset has a single vidicon camera tube which is scanned by a simple linear sweep having a constant rate throughout each frame. The scene to be transmitted is optically coupled to the face of the vidicon so as to produce three charge patterns representing the green, red and blue information from the scene. The areas of the charge pattern representing the red and blue information are caused to be equal, whereas the area of the green charge pattern is exactly twice as large in each of its two dimensions as the charge pattern for each of the other two colors. As a result picture resolution in approximately the correct proportion for each of the primary colors is obtained. The video signal resulting from every other complete vertical scan is multiplexed with the video signal from a second subscriber's subset and transmitted to a remote location. In the remote location the video signals are separated and the color information in each video signal is processed by apparatus which produces three continuous simultaneous color signals.



3,507,982
SEQUENTIAL TO SIMULTANEOUS CONVERSION SYSTEM

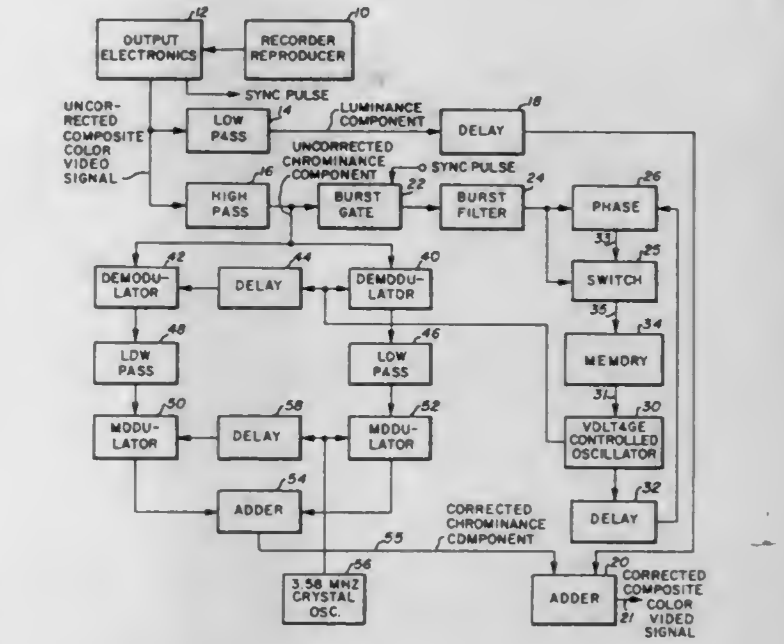
Yasumasa Sugihara, Kawasaki-shi, Japan, assignor to The General Corporation, Kanagawa-ken, Japan, a corporation of Japan
Filed Sept. 21, 1966, Ser. No. 581,021
Int. Cl. H04r *9/42*
U.S. Cl. 178—5.4 2 Claims



Apparatus for converting line sequential color signals to simultaneously presented color signals for display by a shadow mask picture tube. Three ring counters generate square wave gating signals which are applied to three gates corresponding to the three colors being displayed. Two of the sequential color signals are applied through delay circuits before gating to enable a simultaneous presentation.

3,507,983
REPRODUCTION SYSTEM AND METHOD FOR MAGNETICALLY STORED COLOR VIDEO SIGNALS

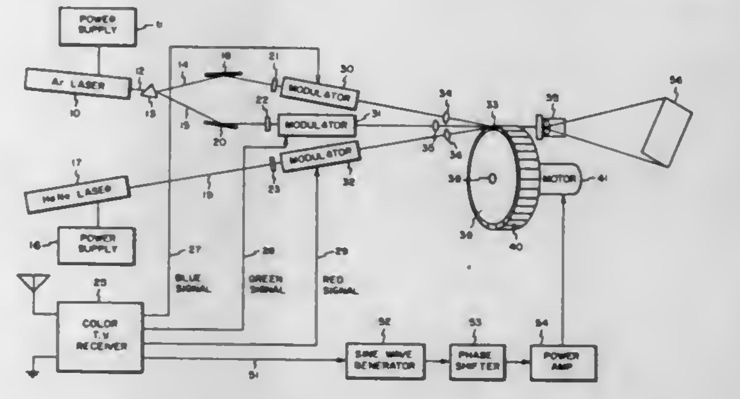
Eugene R. P. Leman, Los Gatos, Calif., assignor to International Video Corporation, Campbell, Calif., a corporation of California
Filed Nov. 4, 1966, Ser. No. 592,001
Int. Cl. H04n *1/22*
U.S. Cl. 178—5.4 9 Claims



A system for regenerating color video signals recorded on magnetic tape in which a local frequency signal for demodulation of the chroma signal is obtained as the output of a controllable oscillator where the control input for the oscillator is generated by phase and frequency comparison between every color burst and the output of the oscillator and in which the control signal for the oscillator is stored between color bursts and applied to the oscillator to maintain the phase and frequency of the oscillator during the interval between color bursts.

3,507,984
LASER MULTICOLOR TELEVISION DISPLAY APPARATUS

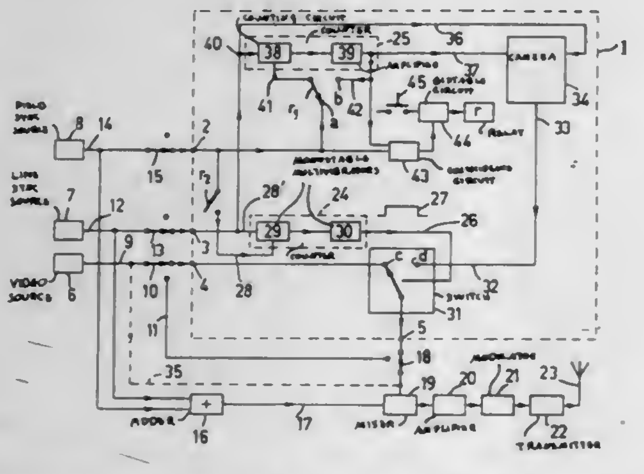
Gus Stavis, Briarcliff Manor, N.Y., assignor to Singer-General Precision, Inc., a corporation of Delaware
Filed Nov. 17, 1966, Ser. No. 595,106
Int. Cl. H04n *9/14*
U.S. Cl. 178—5.4 12 Claims



The disclosed embodiment of the invention is an optical scanning device for converting modulated laser beams into visual images. A rotatable drum is provided with a plurality of light transmissive multifiber bundles on its outer periphery. The ouput end of each bundle is torsionally displaced with respect to the input end by 180°, such that movement of the input end past a beam of light will produce one scan line at the output end. Each bundle is positioned with respect to the axis of the drum such that successive scan lines produced by adjacent bundles are displaced from one another. In one embodiment adjacent bundles have a different angular orientation with respect to the drum axis. In another embodiment adjacent bundles have a different radial position from the drum axis.

3,507,985
TELEVISION SYSTEM WITH AUXILIARY INFORMATION DURING THE VERTICAL RETRACE

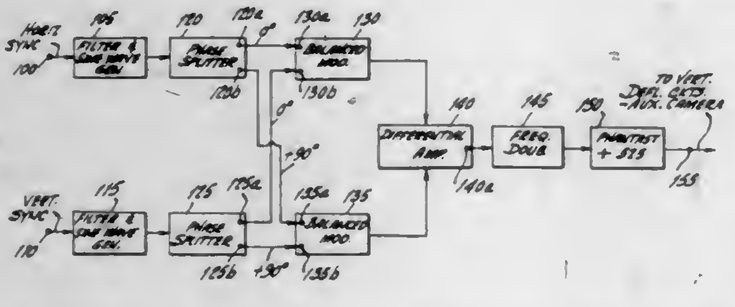
Bernard Breukink, Josias Fossen, and Wietze Martens, Enschede, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 27, 1966, Ser. No. 586,597
Claims priority, application Netherlands, Sept. 9, 1965, 6512583
Int. Cl. H04n *7/16*
U.S. Cl. 178—5.6 **15 Claims**



A television transmission system which transmits a normal signal and an auxiliary signal. Different portions of a picture comprising the auxiliary information are transmitted during the successive vertical retrace times of the normal signal. After a selected number of fields the picture will be completely transmitted. A main and an added counter supply the necessary vertical sweep for the auxiliary signal; the horizontal sweep is the same as for the normal signal. A separate display apparatus is used for the auxiliary signal.

3,507,986
SYNC SLIPPER

Robert F. Sanford, Princeton Junction, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed June 21, 1966, Ser. No. 559,210
Int. Cl. H04n *7/16*
U.S. Cl. 178—5.8 **10 Claims**



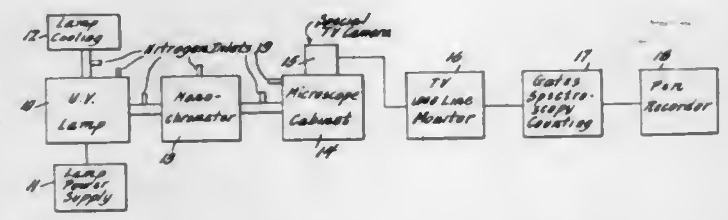
For use with a system which sequentially multiplexes message representative line scan video signals developed by an auxiliary pick-up camera with primary program video signals developed by a studio pick-up camera, means are provided which develops a constant and precise slip of one horizontal line per interlaced field between the vertical deflection for the primary and auxiliary video pick-up cameras employed.

ERRATUM

For Class 178—6 see:
Patent No. 3,508,005

3,507,987
HIGH RESOLUTION ULTRA-VIOLET MICROSCOPE SYSTEMS UTILIZING A VIDEO DISPLAY

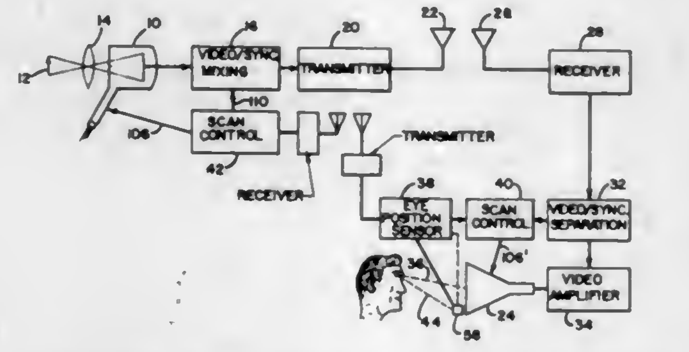
Francois J. G. van den Bosch, 11 Hillcrest Road, Cedar Grove, N.J. 07009
Filed Mar. 4, 1966, Ser. No. 531,703
Int. Cl. H04n *7/18*
U.S. Cl. 178—6.8 **3 Claims**



An improved ultra-violet microscope includes apparatus for selecting a specific area of a specimen for viewing on a video screen by delaying both the horizontal and vertical video signals representing the specimen which are generated by a video camera as an aid in observing a microscopic specimen.

3,507,988
NARROW-BAND, SINGLE-OBSERVER, TELEVISION APPARATUS

William S. Holmes, West Falls, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed Sept. 15, 1966, Ser. No. 579,655
Int. Cl. H04n *3/00, 5/38;* **H01j** *29/89*
U.S. Cl. 178—6.8 **5 Claims**

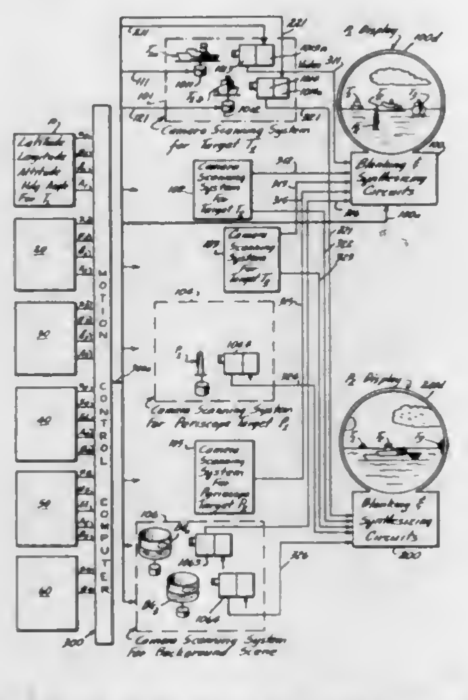


A narrow-band, single observer, television apparatus including an eye position sensor responsive to changes in direction of the eye's center of vision, scan controllers responsive to the eye position sensor and television camera and display tubes responsive to the scan controllers, the scan controllers generating spiral scanning patterns in the camera and display.

3,507,989
MULTIPLE OBSERVATION SYSTEM

Hanns H. Wolff, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 580,835, Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 535,659, Mar. 14, 1966. This application Jan. 27, 1967, Ser. No. 612,770
Int. Cl. H04n *7/06*
U.S. Cl. 178—6.8 **7 Claims**

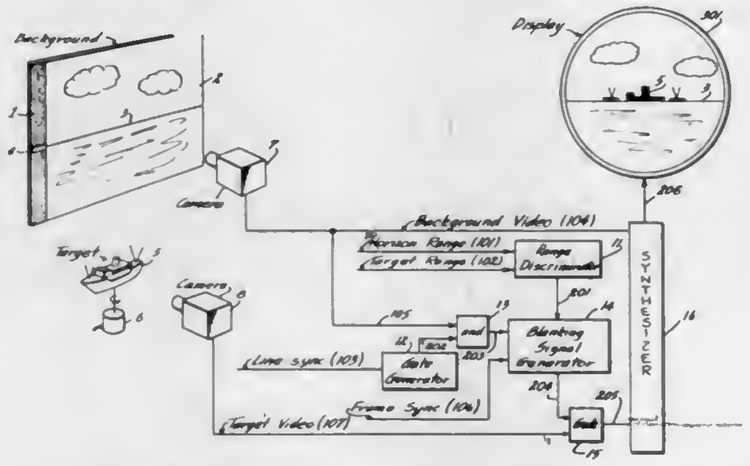
A simulator system using television techniques. Movable targets are observed by a plurality of groups of cameras which feed information through blanking and synthesizing circuits to a plurality of displays, each of which simulates the observation station of a periscope. Each periscope may in turn be represented by a movable model target observable in other periscopes. The system is controlled by continuous data from a computer which is in turn controlled by variable target course control means so that the view at each periscope is continuously modified to conform to the current position of both the targets and the observing periscopes.



Display
Camera Scanning System for Target
Blanking & Synthesizing Circuits
Latitude
Longitude
Altitude
MOTION CONTROL COMPUTER
Camera Scanning System for Periscope Target
Camera Scanning System for Background Scene

3,507,990
LONG RANGE TARGET

Hanns H. Wolff, Orlando, Fla., assignor to the United States of America as represented by the Secretary of the Navy
Continuation-in-part of application Ser. No. 580,835, Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 535,659, Mar. 14, 1966. This application Feb. 1, 1967, Ser. No. 613,980
Int. Cl. H04n *7/06*
U.S. Cl. 178—6.8 **4 Claims**

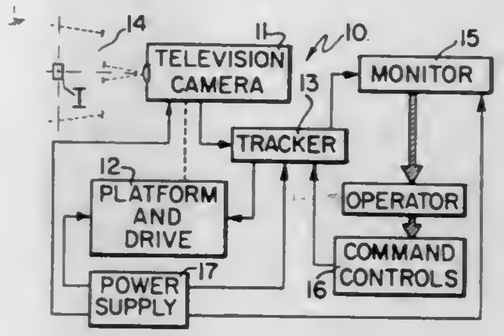


In an electronic synthesizer for synthesizing two or more scanning independent images, means indicating the horizon which control the blanking of those image parts that are hidden behind the horizon.

3,507,991
TRACKING SYSTEM APPARATUS AND SIGNAL PROCESSING METHODS

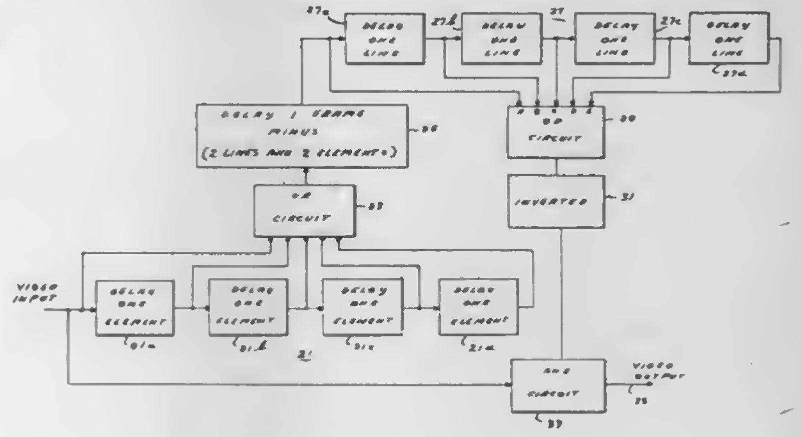
Lawrence J. Scotchie, Westerville, Ohio, and Wallace W. Windle, Utica, Mich., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed July 27, 1967, Ser. No. 658,308
Int. Cl. H04n *5/38, 7/18*
U.S. Cl. 178—6.8 **19 Claims**

A target tracking system having a single television camera sensor is provided with novel logic means and methods in the system tracker unit, such means and methods functioning with the available sensor electron beam deflection circuits to accomplish coordinated scanning of the camera field of view along lines having a direction at right angles to the direction of camera basic line scan for a selected number of scan lines during video signal blanking intervals. Target edge contrasts detected in the coordinate lines of scan, when singularly coincident in each coordinate line of scan with a variably-positioned coordinate direction tracking gate, are further processed to form tracking error correction signals for the coordinate direction.



3,507,992
MOVING TARGET DISCRIMINATOR

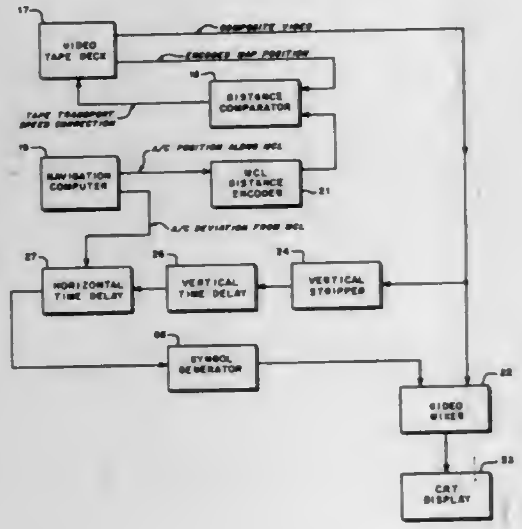
Richard H. Foote, Fort Wayne, Ind., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 26, 1967, Ser. No. 670,817
Int. Cl. H04n *7/00, 5/14*
U.S. Cl. 178—6.8 **5 Claims**



To separate moving targets, in the output of an image orthicon, from stationary targets, comparisons are made between the targets appearing in different frames. A two-level video signal is applied to an AND circuit in the moving target discriminator. The signal is also applied to a delay device with the output of the delay device being inverted and applied as an inhibiting signal to the second terminal of the AND circuit. To permit some signal motion the delayed inhibiting signal is made larger than the target signal by stretching the pulse width delaying the pulse one frame minus (2 lines plus 2 elements), passing the stretched and delayed signal through four one-line delay devices to provide an inhibiting signal covering a 5 element on five adjacent lines. Other refinements permit the detection of slow moving targets by recycling the inhibiting signal, and updating stored information after a predetermined number of frames. A selective updating system is also provided.

3,507,993
SITUATION DISPLAY FOR AIRCRAFT NAVIGATION EMPLOYING CRT DISPLAY OF THE MEAN COURSE LINE

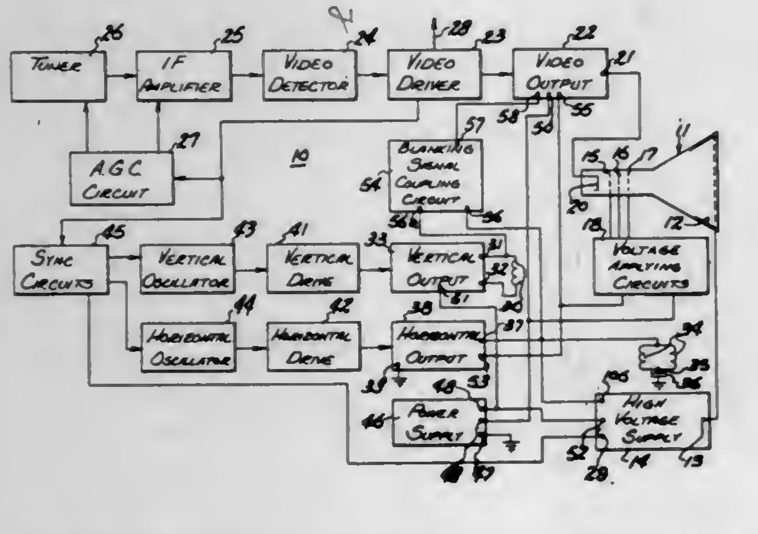
William G. Mulley, Warminster, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 4, 1968, Ser. No. 695,679
Int. Cl. H04n *5/78, 3/16*
U.S. Cl. 178—6.8 **8 Claims**



A method and apparatus for providing navigational and tactical information with correlative map information on a single CRT (cathode ray tube) display in an aircraft. The map information in video form is stored on a magnetic tape for a geographical area expected to be traversed during a mission of the aircraft. The tape is then placed in a video tape deck located in the aircraft at any conventional location and synchronized with aircraft ground position so that the navigational and tactical information generated during the mission are superimposed on the map information resulting in a single display in the aircraft instrument panel.

3,507,994
TELEVISION RETRACE BLANKING CIRCUITS

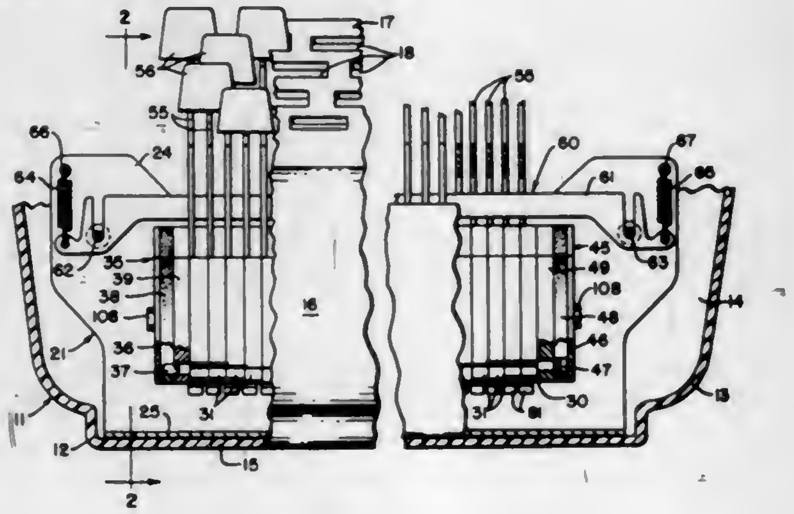
George A. Kent, Fort Wayne, and Richard J. Waring, Auburn, Ind., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed June 24, 1966, Ser. No. 560,230
Int. Cl. H04n *3/24*
U.S. Cl. 178—7.5 **11 Claims**



A solid state circuit is disclosed for blanking a television picture tube during horizontal and vertical retrace intervals. In the specific embodiment described both a direct coupling from the horizontal deflection amplifier and a coupling including clipping means from the vertical deflection amplifier are provided to the video output amplifier to cut off the amplifier during retrace intervals, thus blanking the picture tube. The purpose of the clipping means is to prevent possible shading of the picture by ramp portions of the vertical deflection signal.

3,507,995
PHOTOELECTRIC KEYBOARD

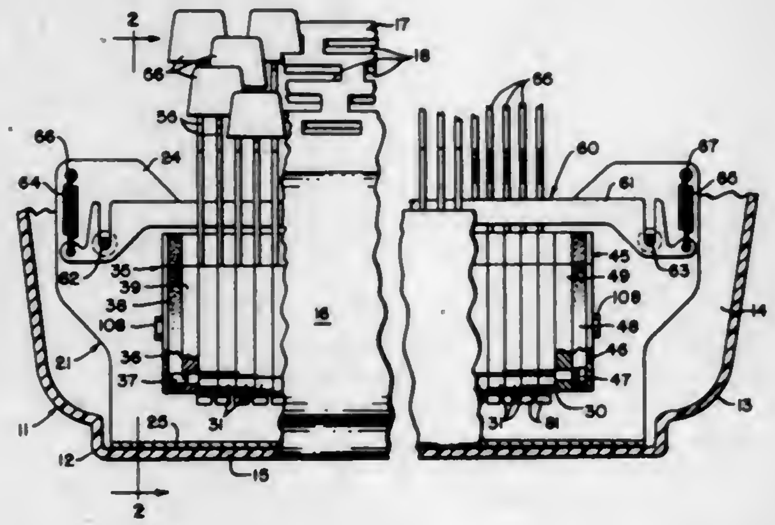
Robert J. Gianni, Glenview, and Dale A. Nonnemacher, Morton Grove, Ill., assignors to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Jan. 29, 1968, Ser. No. 701,377
Int. Cl. H04l *15/20*
U.S. Cl. 178—17 **10 Claims**



A keyboard comprises a plurality of similar character generating units which are mounted side by side between a light source and an array of photocells. Each keyboard includes a frame, a keytop mounted for reciprocatory movement on the frame and a coded photoelectric encoder. A driving member moves the encoder during an initial portion of the movement of the keytop and thereafter enables uncoupling of the encoder from the keytop so that the encoder returns to its initial position independently of the keytop.

3,507,996
PHOTOELECTRIC KEYBOARD

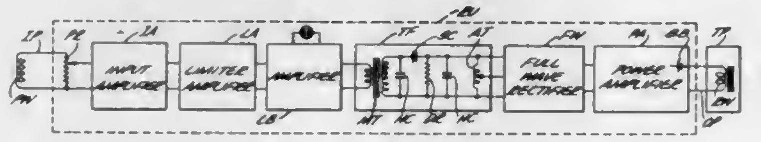
Theodore M. Leno, Arlington Heights, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Jan. 29, 1968, Ser. No. 701,378
Int. Cl. H04l *15/20*
U.S. Cl. 178—17 **6 Claims**



A keyboard comprises a plurality of similar character generating units mounted side by side between a light source and an array of photocells. The keyboard includes a frame and a keytop mounted for reciprocatory movement on the frame. A driving connection angularly moves a coded shutter on the frame during an initial portion of the movement of the keytop and for thereafter enables uncoupling of the shutter from the keytop so that the shutter returns to its initial position independently of the keytop.

3,507,997
FREQUENCY-SHIFT TELETYPEWRITER

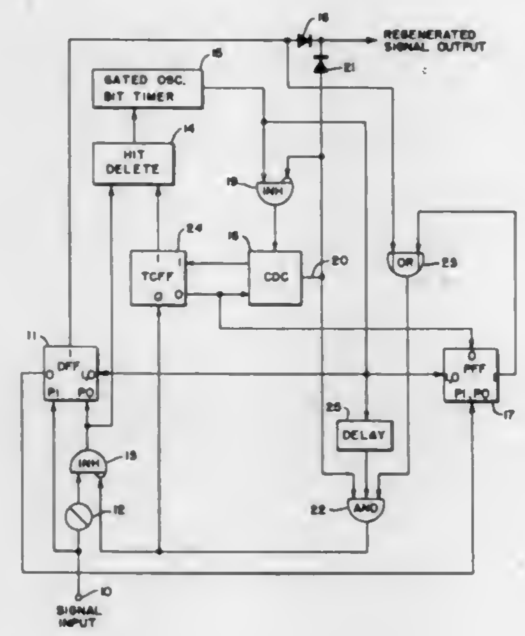
Robert H. Weitbrecht, 1966 Woodside Road, Redwood City, Calif. 94061
Filed Aug. 22, 1966, Ser. No. 574,217
Int. Cl. H04l *5/08*
U.S. Cl. 178—66 **13 Claims**



A transmitter and receiver are disclosed for a teletypewriter. The frequency-shift receiver responds to mark-frequency signals above a predetermined threshold to reduce the gain of the receiver during mark intervals, so that the receiver will not respond to spurious space-frequency signals, e.g., echoes. This is accomplished by a limiter amplifier in conjunction with a filter tuned to the space-frequency.

3,507,998
RESYNCHRONIZING CIRCUIT

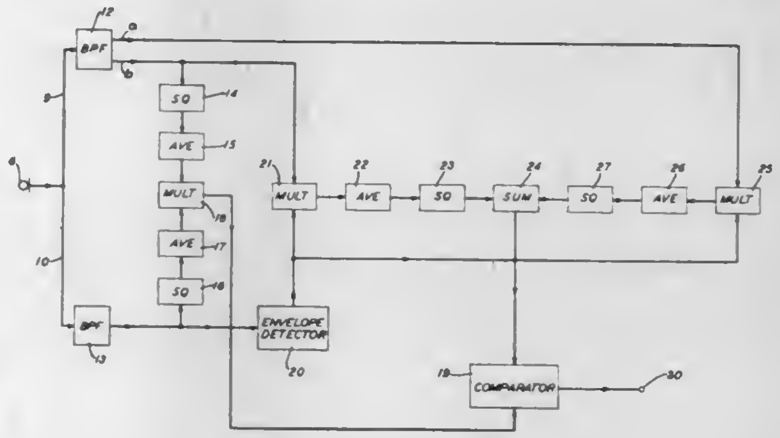
Frank E. Moeller, Elk Grove, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed Dec. 7, 1967, Ser. No. 688,853
Int. Cl. H04l *25/20*
U.S. Cl. 178—70 **6 Claims**



A resynchronizing signal regenerator for a start-stop permutation-encoded signal train samples for the presence of a stop signal and correct parity at the end of each received character. If the stop signal is present or if correct parity is found, correct character synchronization is assumed. If the sampled signal is not of the same type as the stop signal and if incorrect parity exists, lack of synchronization is indicated; a stop signal is inserted into the output of the regenerator; and recycling is delayed until an input signal having the same characteristics as a stop signal is detected or correct parity is obtained.

3,507,999
SPEECH-NOISE DISCRIMINATOR

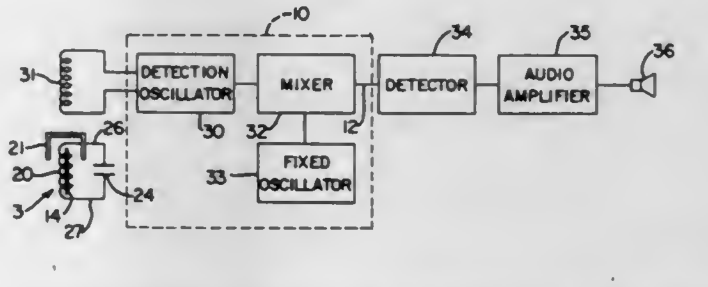
Manfred R. Schroeder, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 20, 1967, Ser. No. 692,230
Int. Cl. G10l *1/02*
U.S. Cl. 179—1 **9 Claims**



The presence of speech is detected in a speech-noise signal by examining signal components in a plurality of contiguous spectral regions for common periodicity. By comparing a signal representative of the degree of common periodicity between such spectral components with a reference signal proportional to the power of the received signal difficulties caused by relative variations in the noise level and in the frequency of the speech or noise signals are eliminated.

3,508,000
PRESSURE SENSITIVE ARTIFICIAL LARYNX

Calvin M. Snyder, Box 42, Kittredge, Colo. 80457
Filed Apr. 4, 1966, Ser. No. 540,064
Int. Cl. G10l *1/10*
U.S. Cl. 179—1 **9 Claims**

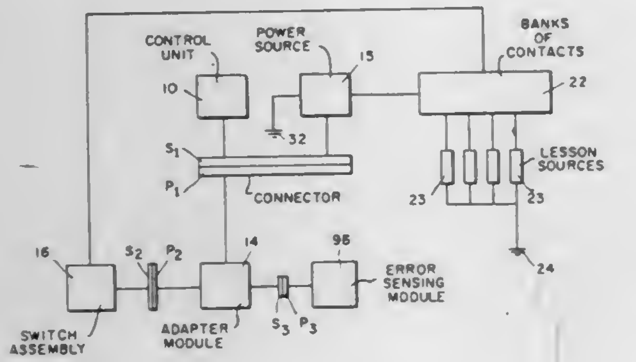


An apparatus and method for enabling a laryngectomee to speak understandably utilizes a sensor responsive to minute variations in air presure which is securely positioned in the dental structure of the user and is arranged to produce signals and transmit them electromagnetically to an external receiver. The signal is detected and amplified and a loudspeaker is employed to produce audible speech when the user produces such variations of pressure by movement of his vocal organs including the lips, tongue and soft palate.

3,508,001
ELECTRIC RETRIEVAL SYSTEM

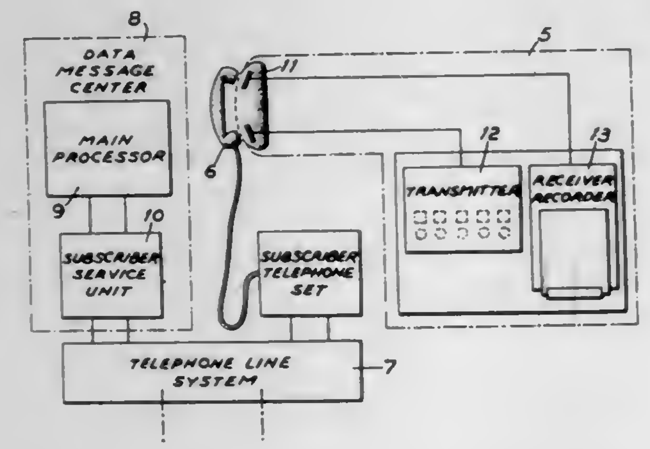
Edwin L. Hoover, Lafayette, Ind., assignor to P & H Electronics, Lafayette, Ind., a partnership
Filed June 24, 1966, Ser. No. 560,238
Int. Cl. H04r *3/00*
U.S. Cl. 179—1 **4 Claims**

An electric system having a group of listening stations for selecting messages from a remotely positioned plurality of message sources. For each listening station there is a bank of contacts arranged in rows and columns and connected to the various message sources which are swept by a set of wipers coupled to a loud speaker. The wipers form a part of a two-motion switching assembly which is controlled by a module connected to a selector switch at the listening station. Selection of a particular message is initiated by operating the selector switch at the listening station to furnish two signals to the module which controls the two directions of motion of the wipers on the bank of contacts. Apparatus is disclosed wherein the selector switch may be interchangeably replaced by either a dial switch, which furnishes a train of pulses, or a switch which supplies a pair of DC voltages corresponding in amplitude to the coordinates of the chosen location on the bank of contacts. In the case of a dial switch the first train of pulses moves the wipers in one direction while the second train of pulses moves said wipers in the other direction of movement on the bank of contacts. Where a switch is used for supplying DC voltages, said voltages are compared with DC voltages on a second set of contacts forming a part of said bank of contacts until a null condition results between the contact voltages at the wipers and the DC voltages from the selector switch. The number of listening stations can be multiplied by simply connecting additional banks of contacts and their associated circuitry to the message sources.

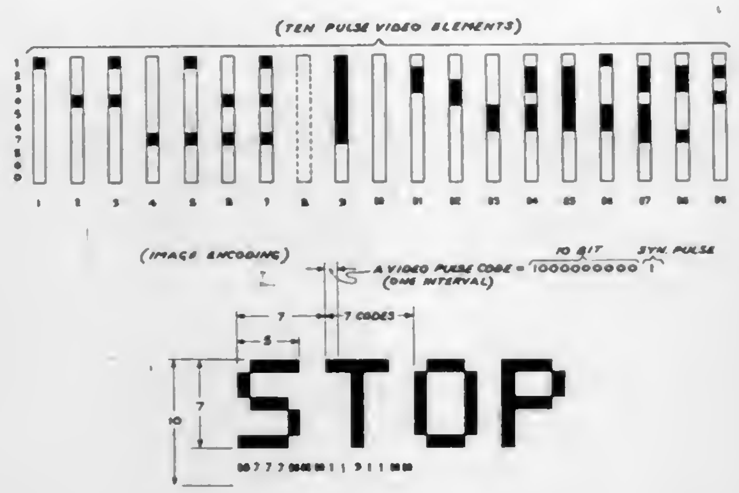


3,508,002
TELEPHONE LINE TRANSMISSION DATA SYSTEM

Werner Hauer, Nutley, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed May 13, 1966, Ser. No. 550,038
Int. Cl. H04m *11/00*
U.S. Cl. 179—2 **17 Claims**

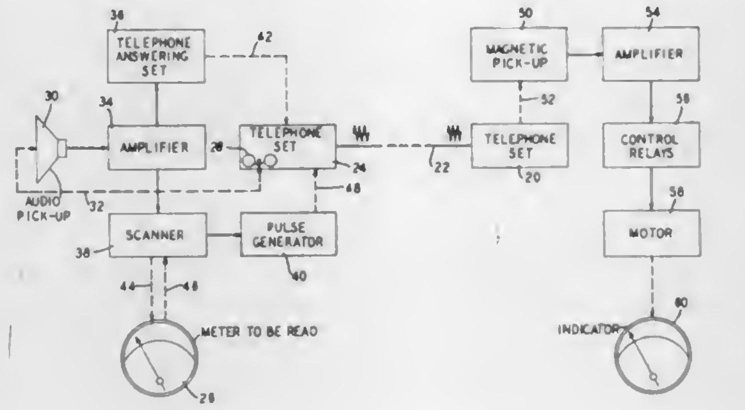


The data system according to the disclosure defines a transceiver-recorder for interrogating a computer center by a group of audio signals, and for receiving return audio signals which control a ten channel light flash recorder. This system allows direct communication with the computer center through telephone connections. The transceiver-recorder located at the receiving station is a battery powered portable unit utilizing a typewriter type keyboard for the data input and commercial self processing film for recording. The transceiver is connected to the telephone trhough a cradle for the handset.



3,508,003
TELEMETERING SYSTEM WITH CONVENTIONAL TELEPHONE COMMUNICATION CHANNEL USING TIME SPACED INFORMATION PULSES

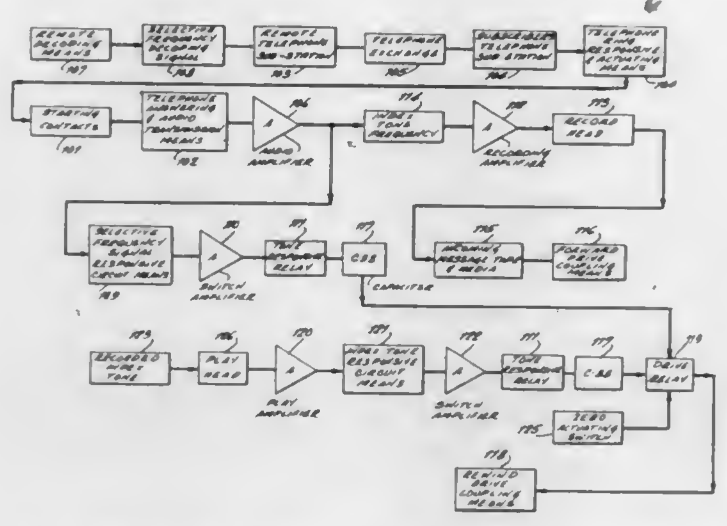
John C. Moyers, Highland, Ind., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 28, 1966, Ser. No. 568,645
Int. Cl. H04q *9/14;* **G08c** *19/36, 19/24*
U.S. Cl. 179—2 **4 Claims**



Telemetering system for obtaining at a calling station read-out of meter indication at a remote transmitting station, a conventional telephone communication channel with a telephone at each station, initial dialing at the calling station of the transmitting station number, and the audible ringing signal at the transmitting station starting an automatic read-out cycle of the system wherein the meter to be read has two reflecting mirrors at a fixed reference point and on the meter needle, respectively, the incoming ringing signal causing starting of a motor-driven optical scanner for producing an individual audible pulse as each mirror is scanned, and also causing lifting of the transmitting station telephone receiver for transmitting the spaced pulse signals to the calling station telephone, and electrical means at the calling station telephone utilizing the received spaced pulses for starting on the first pulse an indicator motor that is speed-synchronized with the scanning motor, and for stopping the motor on the second pulse for readout of the remote meter indication.

3,508,004
AUTOMATIC TELEPHONE ANSWERING APPARATUS WITH REMOTE PLAYBACK

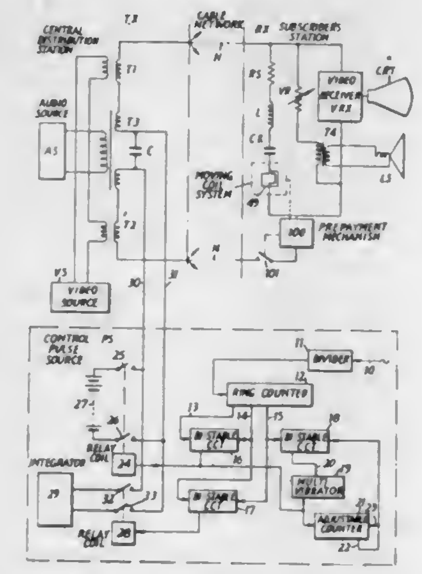
Herbert Waldman, Brooklyn, N.Y., assignor to Robosonics, Inc., Bronx, N.Y., a corporation of Delaware
Filed May 9, 1966, Ser. No. 548,585
Int. Cl. H04m *11/10*
U.S. Cl. 179—6 **6 Claims**



In a telephone answering apparatus having means to playback a recorded message in response to the ringing of a telephone, means to record incoming messages on a tape, and remotely operated means to playback said recorded incoming telephone messages, means to terminate said playback of said recorded incoming telephone messages, said terminating means comprising index tone responsive means operable in response to a pre-recorded index tone to terminate said playback of said recorded messages.

3,508,005
PRICE CONTROL AND AUDIENCE MONITORING IN SUBSCRIPTION TELEVISION AND LIKE SYSTEMS

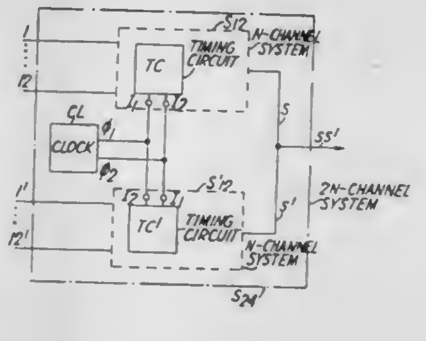
Gerhart Lothar Hamburger, Welwyn, England, assignor to Sangamo Weston Limited, Enfield, England, a British company
Continuation-in-part of application Ser. No. 369,990, May 25, 1964. This application Dec. 18, 1967, Ser. No. 691,513
Int. Cl. H04h *9/00;* **H04n** *7/02, 7/16*
U.S. Cl. 178—6 **8 Claims**



Subscription television system in which each of the subscribers is connected in parallel by a wire conductor network to the signal transmitting station, in which the number of active subscribers is measured at regular intervals of, say, 3 minutes by first charging a capacitor in each subscriber's apparatus by a relatively long duration direct current pulse and then discharging such capacitors through current integrating means and in which pulse-operated metering means in each active subscriber's apparatus is operated by each of such charging pulses and by each of a series of much shorter duration pulses sent after the discharge period following each charging pulse but before the next following charging pulse. The number of short pulses is varied to alter the programme charge and such pulses may be sent immediately following the discharge period or spread out over the period preceding the next charging pulse or randomly distributed in time.

3,508,006
TIME DIVISION MULTIPLEX TRANSMISSION SYSTEMS

Jean Victor Martens, Deurne, Belgium, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,969
Claims priority, application Netherlands, Apr. 26, 1965, 6505274
Int. Cl. H04j *3/00*
U.S. Cl. 179—15 **13 Claims**

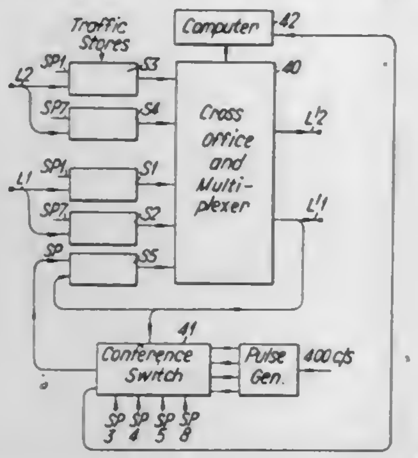


A PCM-TDM system including therein timing circuitry for generation of the various control pulse patterns of the system. The timing circuitry is composed of RTL circuits controlled by a double phase clock to produce a plurality of basic pulse signals whose transitions are controlled by the double phase clock. These basic pulse signals, in turn, produce the various control pulse patterns whose transitions are controlled by the transitions of the basic pulse signals. The accuracy of the length of the control pulse patterns is increased, since capacitors are eliminated as timing elements. The timing circuitry enables the combination of two similar N-channel PCM systems into a single 2N-channel system by simply reversing the input connections of the timing circuit of one N-channel system to the common double phase clock with respect to the input connections of the timing circuit of the other N-channel system.

3,508,007
CONFERENCE SWITCH FOR A MULTIPLE CHANNEL DIGITAL TELEPHONE SYSTEM

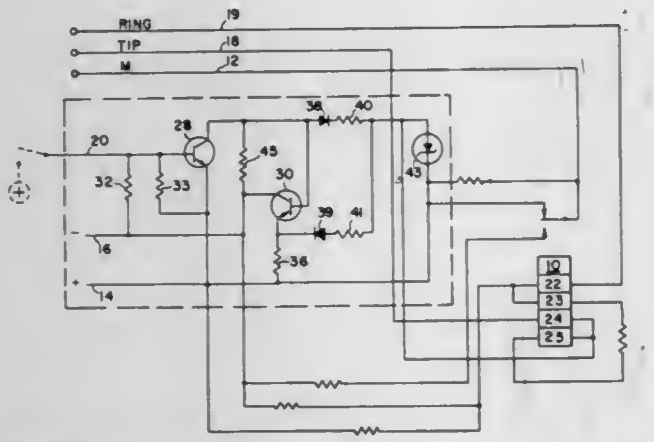
Laurence Goodall, Egham, Surrey, Peter Heaton, Highcliffe-on-Sea, and Norman West, Christchurch, England; said Goodall assignor to Ferranti Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland
Filed Aug. 25, 1966, Ser. No. 575,069
Claims priority, application Great Britain, Aug. 26, 1965, 36,649/65
Int. Cl. H04j *3/00;* **H04m** *3/56*
U.S. Cl. 179—15 **8 Claims**

A conference switch for a multiple-channel digital telephone systems is arranged so that only one subscriber may speak at once. The system operates in a time-division multiplex mode, and has a single detector common to all channels which actuates gating means to set up the seized channel and prevent seizure of any other channels. One or more of the subscribers may have preempt facilities.



3,508,008
SOLID STATE SIGNAL LEAD EXTENSION CIRCUIT FOR TELEPHONY

Frederick H. Gardner and Vaughn K. Munn, Rochester, N.Y., assignors to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed July 31, 1967, Ser. No. 657,320
Int. Cl. H04m *1/76*
U.S. Cl. 179—16 4 Claims

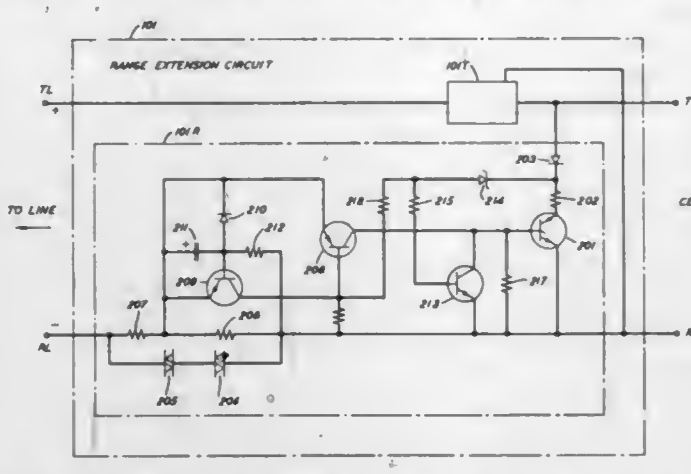


A signal lead extension circuit for use with DX signalling equipment including a pair of transistors connected in a mutually exclusive switching arrangement to replace the conventional mercury wetted relay. The transistors allow the conventional polar relay to operate responsively to incoming signal pulses received from a distant station, but not in response to out-going signal pulses. They also generate signals for application to the out-going line responsively to signals received from the DX equipment.

3,508,009
RANGE EXTENSION CIRCUIT

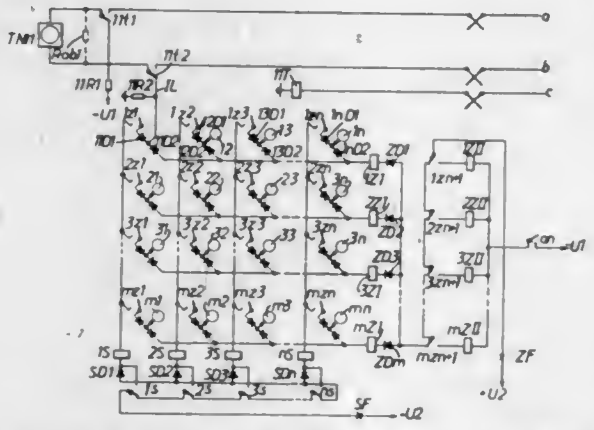
James L. Henry, Holmdel, and William L. Shafer, Jr., Short Hills, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 6, 1967, Ser. No. 665,754
Int. Cl. H04q *1/30*
U.S. Cl. 179—16 12 Claims

Circuitry is disclosed to place a signal-sensitive shunt across the central office end of a high resistance subscriber loop for signaling purposes whenever line current is detected. An R–C network is provided to disable the shunt after a timed interval so that during the talking period the total central office current can flow through the subscriber's telephone. A Zener diode is further provided which breaks down and conducts in the backward direction to disable the shunt whenever ringing current is applied to the loop. This insures that tripping of ringing will not occur until the circuit senses line current produced by the called telephone being placed in the off-hook state.



3,508,010
CIRCUIT FOR SUBSCRIBER IDENTIFICATION IN TELEPHONE OR TELEPRINTER EXCHANGES

Winfried Schuberth, Mauerbach, Austria, assignor to International Standard Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 12, 1966, Ser. No. 586,092
Claims priority, application Austria, Oct. 12, 1965, A 9,191/65
Int. Cl. H04q *3/24, 3/72*
U.S. Cl. 179—18 6 Claims



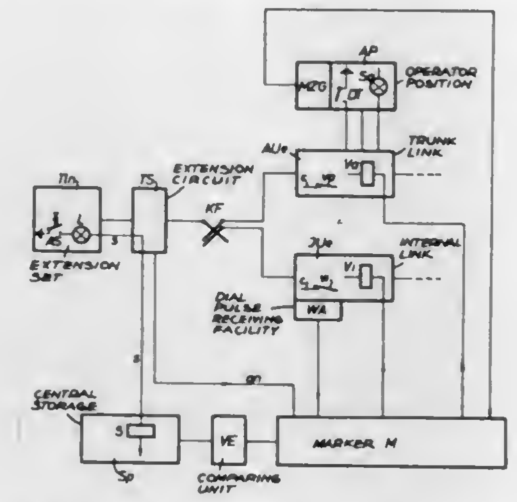
A circuit is provided to produce signals identifying calling subscribers while preventing spurious signals due to leakage resistance, loop resistance variations and voltage variations. Auxiliary potentials and resistors are coupled to the circuit to assure sufficiently large potential differentials when calling subscribers make contact so that distinctions may be made over potential differences due to leakage, etc. Transistor amplifiers are used to further distinguished between true and false indications.

3,508,011
ARRANGEMENT ENABLING A TELEPHONE SUBSCRIBER TO BLOCK HIMSELF AGAINST TERMINATING CALLS

Hilmar Dehlen, Munchingen, Wurttemberg, and Kurt Richter, Stuttgart-Rot, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 26, 1967, Ser. No. 612,015
Claims priority, application Germany, Feb. 11, 1966, St 24,987
Int. Cl. H04m *3/42*
U.S. Cl. 179—27 6 Claims

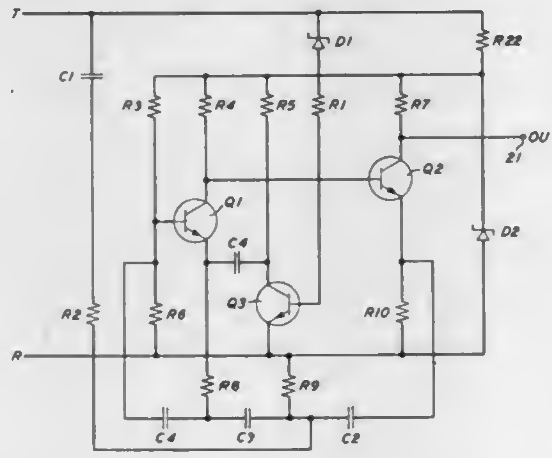
Means are provided in a private branch exchange enabling a subscriber to prevent incoming calls from reaching himself. The means is activated by a button on the receiver which may be pressed to connect the receiver through a special wire to a relay or other control unit in the central storage unit. The relay identifies that the

particular receiver having a particular call number to be stopped from receiving incoming calls. Calls into the control unit are all compared with stored numbers and if a call for a particular number coincides with a number to be blocked then that incoming call is blocked. An announcement is provided to inform callers that the call has been blocked. Means are provided enabling the operator to call the blocked extension in case of emergency or unusual urgency.



3,508,012
COMPATIBLE TONE RINGER

John J. Golembeski, North Plainfield, and Richard C. Levine, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 24, 1967, Ser. No. 685,489
Int. Cl. H04m *3/02, 5/12*
U.S. Cl. 179—84 8 Claims

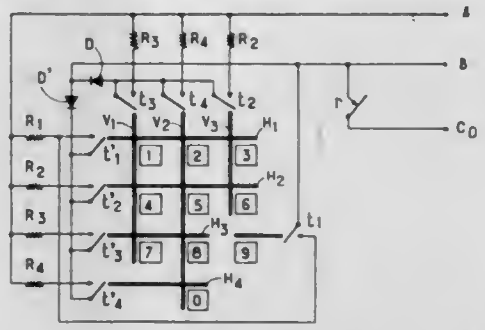


In a compatible tone ringer for a telephone set either conventional high voltage, low frequency ringing signals or low voltage, high frequency tone signals are applied to a transducer by way of a phase shift transistor oscillator. The oscillator is triggered by the high voltage input and the circuit elements in the feedback path of the oscillator operate as a bandpass filter for the tone signal inputs.

3,508,013
KEYBOARD FOR TELEPHONE DIALING UTILIZING IMPEDANCE VARIATION

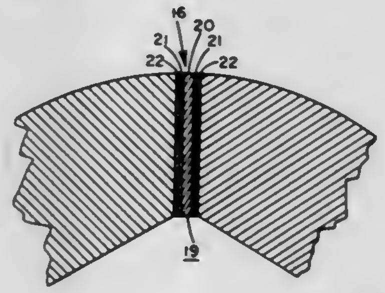
Claude Monin, Villennes-sur-Seine, France, assignor to C.I.T.-Compagnie Industrielle, des Telecommunications, Paris, France
Filed July 28, 1967, Ser. No. 656,879
Claims priority, application France, July 29, 1966, 71,558
Int. Cl. H04m *1/26*
U.S. Cl. 179—90 7 Claims

A keyboard device for dialing by impedance variation in which the act of operating any key on the keyboard causes on the one hand the positioning of two resistances connected to respective rectifier elements poled in opposite directions on the line-wires and on the other hand the disconnection of the station from the circuit, the identification of the key depressed taking place at the exchange through two successive measurements of the line current, one with direct supply and the other with reverse supply corresponding to the two resistances connected in circuit, wherein the device includes vertical driving bars and horizontal driving bars, one key actuating a vertical driving bar and a horizontal driving bar, each bar closing one working contact and positioning one resistance.



3,508,014
MULTILAYERED MAGNETIC TRANSDUCER GAP SPACER

Roger L. Mersing, Willoughby, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed June 27, 1967, Ser. No. 649,199
Int. Cl. G11b *5/24*
U.S. Cl. 179—100.2 15 Claims

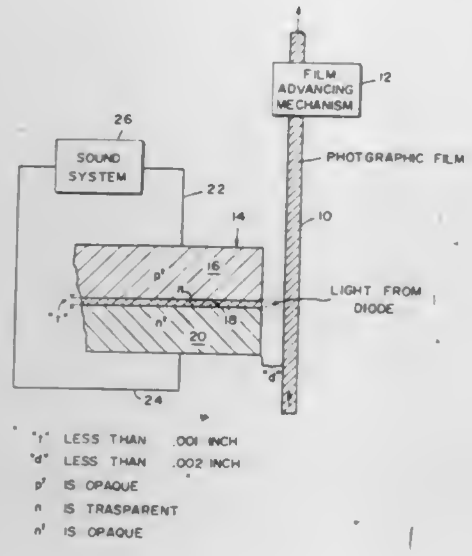


There is disclosed a magnetic transducing head for recording and/or reproducing high frequency signals having a transducing gap filled with a composite structure comprised of a film of insulating material deposited on the face portions of each pole piece, an intermediate bonding layer intimately secured to the outer face of the film of insulating material away from the pole face, and an electrically conductive coating intimately secured to the outer faces of the intermediate bonding layer and completely filling the transducer gap. The intermediate bonding layer characteristically adheres to both the film of the insulator and the conductive coating, and also reduces the specific resistivity of the conductor below the value it would have if the conductive coating were bonded directly to the film of the insulator.

3,508,015
ELECTROLUMINESCENT DIODE AND SOUND RECORDING SYSTEM

Allan S. Miller, Wellesley, and Paul L. Vitkus, Bedford, Mass., assignors to National Research Corporation, Newton Highlands, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 532,121, Mar. 7, 1966. This application June 9, 1966, Ser. No. 556,408
Int. Cl. G11b *7/00;* **G01d** *9/42*
U.S. Cl. 179—100.3 3 Claims

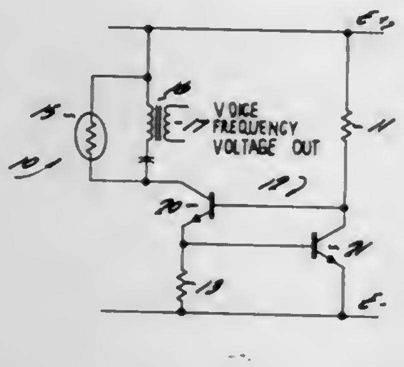
A sound recording system is provided wherein a light-emitting diode is positioned close to the edge of a photosensitive film. The diode has a junction formed between a first opaque layer of either p or n conductivity material and a transparent layer of the opposite conductivity ma-



terial. The thickness of the transparent layer measured in the direction of relative movement between the film and the light-emitting diode is less than .001 inch.

3,508,016
MICROPHONE FEED CIRCUIT

John M. Godfrey, West Acton, Mass., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Feb. 14, 1966, Ser. No. 527,352
Int. Cl. H04r *21/02*
U.S. Cl. 179—122 2 Claims

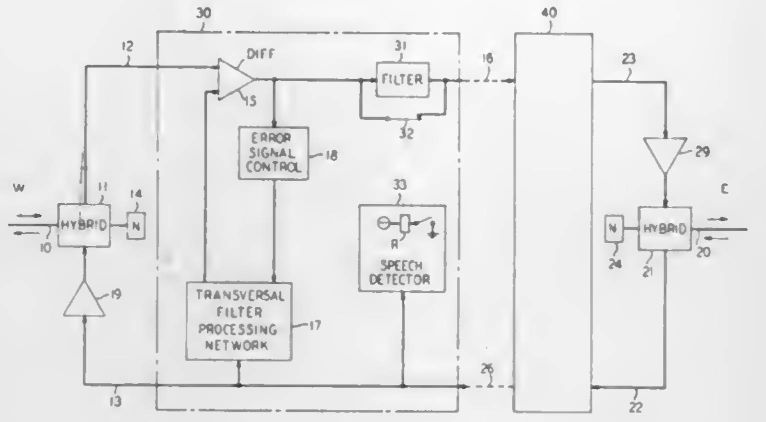


Means are provided for compensating for changes in the resistance of a microphone due to aging or environmental changes. Transistor circuits are used to maintain power output at a level value and thereby assure constant current as resistance varies.

3,508,017
ADAPTIVE ECHO CANCELLER WITH AN OUTPUT FILTER

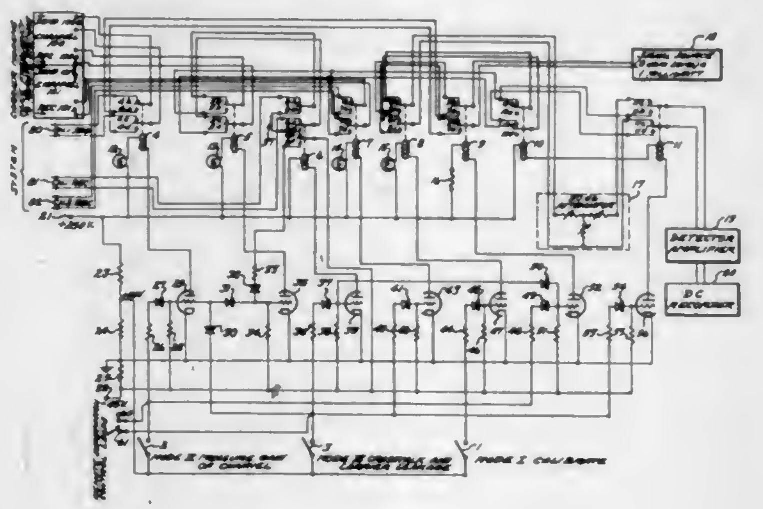
John E. Unrue, Jr., Freehold, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Dec. 8, 1967, Ser. No. 689,056
Int. Cl. H04b *3/20*
U.S. Cl. 179—170.2 10 Claims

An adaptive echo canceller utilizing a transversal filter type signal processing network is connected into each one of the two one-way transmission paths in a four-wire communications system. The power spectrum of the residual echo which remains after cancellation is concentrated at the edges of the frequency pass band of the transmission paths. In response to receiving an echo-producing signal at an echo canceller location, a speech detector associated with the echo canceller causes a filter having high attenuation at the band edges to be inserted after its respective echo canceller in order to reduce the level of the residual echo.



3,508,018
TESTING CIRCUITRY FOR MULTI-CHANNEL COMMUNICATION SYSTEM

Laurence E. Orne, Billerica, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 2, 1966, Ser. No. 554,900
Int. Cl. H04b *3/46*
U.S. Cl. 179—175.3 2 Claims

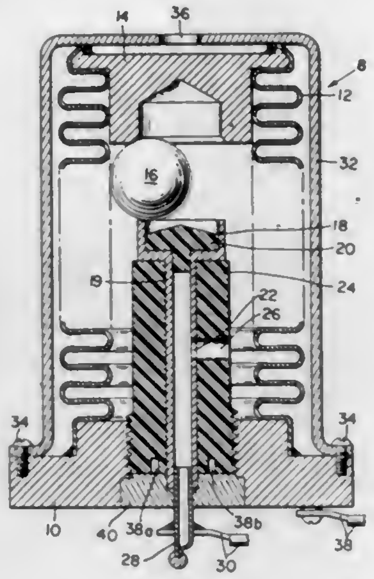


An integrated testing circuit for a multi-channel communication system including circuitry for calibrating, monitoring and measuring the signal quality, constancy, crosstalk and leakage of a plurality of frequency allocated communication channels derived from a single carrier frequency wherein the testing circuit utilizes voltage responsive relays and indicators built into component lines of the communication system.

3,508,019
APOGEE SENSING SWITCH

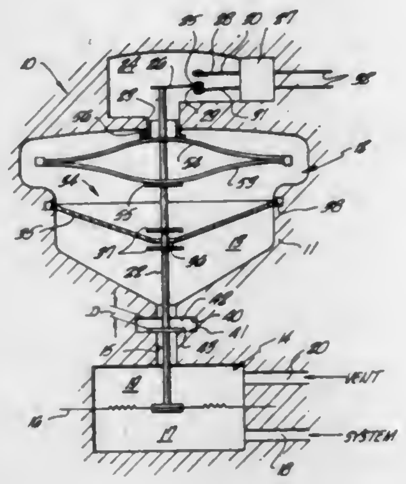
Sydney R. Crockett, Oxnard, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1967, Ser. No. 686,395
Int. Cl. H01h *35/14, 35/32*
U.S. Cl. 200—61.45 7 Claims

A switch sensitive to conditions occurring when a missile reaches its maximum altitude. It includes a pressure responsive bellows containing a normally caged conductive sphere. Decrease in ambient pressure incident to higher altitudes causes the bellows to expand and release the sphere, thereafter change in missile attitude causes the sphere to move to one side closing an electrical circuit.



3,508,020
LINEARIZATION OF NEGATIVE SPRING RATE SYSTEMS

Irven H. Culver, Playa Del Rey, Calif., assignor to Southwestern Industries, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 18, 1968, Ser. No. 713,957
Int. Cl. H01h *35/40;* **B21d** *7/06*
U.S. Cl. 200—83 12 Claims

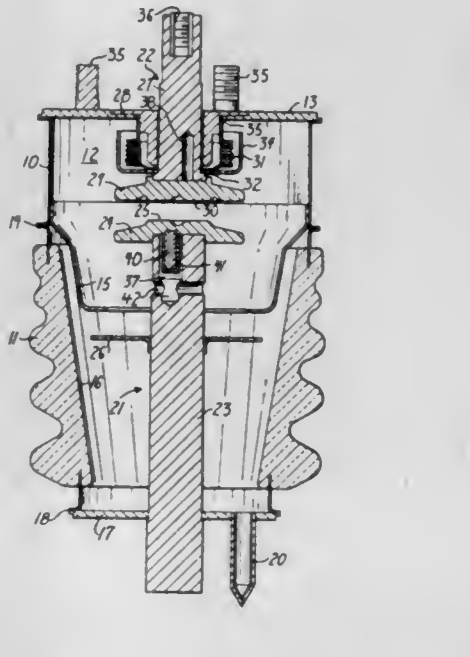


In an actuator device in which a movable actuator member is biased by a non-linear negative spring rate mechanism, the negative aspect of the spring rate being of principal importance, a secondary biasing mechanism having a positive spring rate sufficient, when added to the spring rate of the negative rate biasing mechanism, to produce a net negative spring rate which is substantially linear through the operating range of the actuator member.

3,508,021
VACUUM SWITCH

Donald R. Bellis, Coeur d'Alene, Idaho, assignor to Vacuum Power Components, Inc., Coeur d'Alene, Idaho, a corporation of Idaho
Filed Jan. 3, 1967, Ser. No. 606,776
Int. Cl. H01h *33/66*
U.S. Cl. 200—144 14 Claims

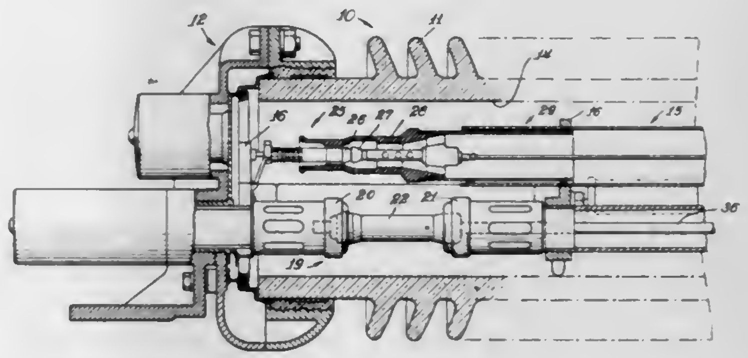
The disclosure describes a preferred embodiment of my invention concerning a vacuum switch comprising a housing having an annular metallic or conductive section **10** and an insulating or nonconductive section **11**. An inwardly directed baffle structure **15** is positioned substantially across the housing adjacent to the joinder of section **11** and **12**. The nonconductive section **11** has an annular wall **16** formed of glass or ceramic material. The switch has a stationary contact assembly **21** and an opposed movable contact assembly **22** that are mounted to the end walls **13** and **17** respectively. The stationary contact assembly **21** has a terminal rod **23** with an axial



cavity **37** formed therein offset from the longitudinal axis of the switch. The movable contact assembly **22** has a terminal rod **27** aligned and opposed to rod **23**. Rod **27** has an axial cavity **38** formed therein that is offset from the longitudinal axis and diametrically opposite cavity **37**. Contacts **24** and **29** are mounted on the adjacent ends of the rods **23** and **27** respectively. A passageway **42** is formed in rod **23** communicating with the cavity **37** and the exterior of the rod. A post **40** of gettering material is positioned in the cavity **37**.

3,508,022
HIGH VOLTAGE CIRCUIT INTERRUPTER WITH GRADED INSULATING OPERATING RODS

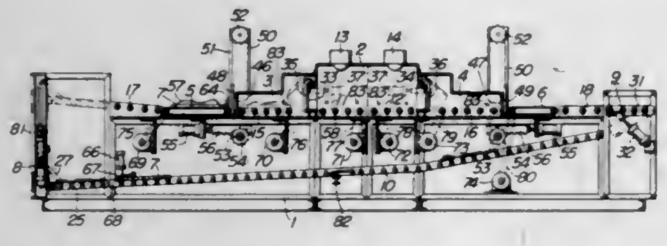
Leonard V. Chabala, Maywood, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed Nov. 9, 1967, Ser. No. 681,780
Int. Cl. H01h *9/38*
U.S. Cl. 200—146 8 Claims



The metal to insulation connections to the main and auxiliary operating rods for series connected main and auxiliary contacts are graded to inhibit voltage breakdown at these connections.

3,508,023
APPARATUS FOR HIGH FREQUENCY HEATING OF ARTICLES SUCCESSIVELY CONVEYED THERETHROUGH

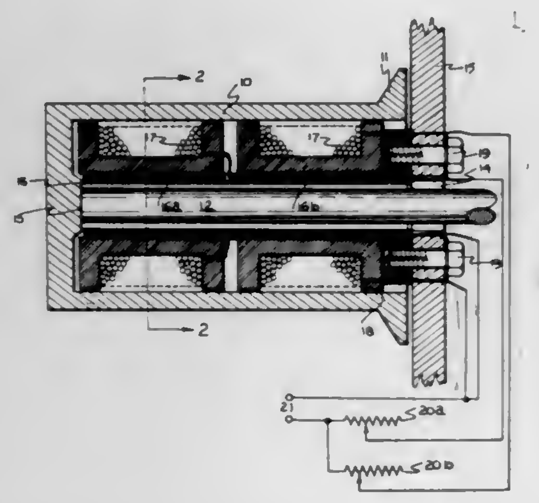
Kazunori Ueda, Neyagawa-shi, Shigeru Araki, Hirakata-shi, Minoru Yokoyama, Osaka, Toshitaka Onizuka, Kadoma-shi, Morimasa Ogawa, Takarazuka-shi, and Mituru Shimizu, Nara-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Mar. 11, 1968, Ser. No. 712,290
Claims priority, application Japan, Mar. 16, 1967, 42/16,920, 42/16,921, 42/16,922, 42/16,923, 42/16,924, 42/16,925
Int. Cl. H05b *5/00, 9/06*
U.S. Cl. 219—10.55 5 Claims



A high frequency heating apparatus having a heating chamber equipped with a high frequency generator and means for successively and automatically conveying articles such as foodstuffs into and out of the heating chamber so that the articles can successively be heat-treated in large quantities by the high frequency energy in a short period of time.

3,508,024
DUAL INDUCTANCE INDUCTION HEATER

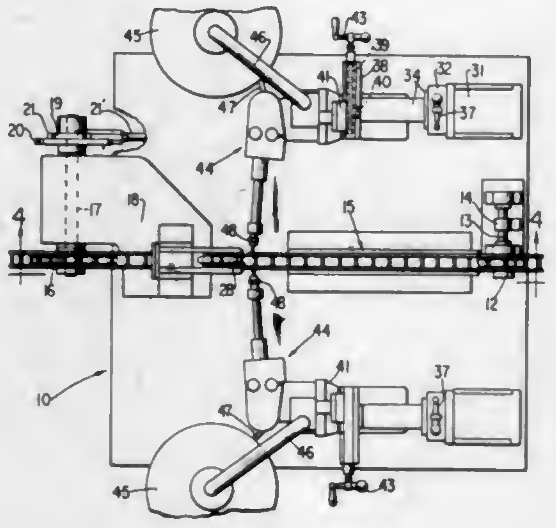
John W. Cannon, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed June 17, 1968, Ser. No. 737,589
Int. Cl. H05b *5/00, 9/06*
U.S. Cl. 219—10.61 1 Claim



A rotatable induction type heater roll in the form of a hollow, metallic cylinder having internal windings upon independently supported stationary magnetic cores within the cylinder coacting with it to induce heating currents in its wall, each of the windings being energized with alternating current and controlled independently of the other to compensate for heat losses at the ends of the cylinder and to provide for a predetermined heat distribution over the lateral surface of the cylinder.

3,508,025
WELDING MACHINE FOR PIN SPOTTING

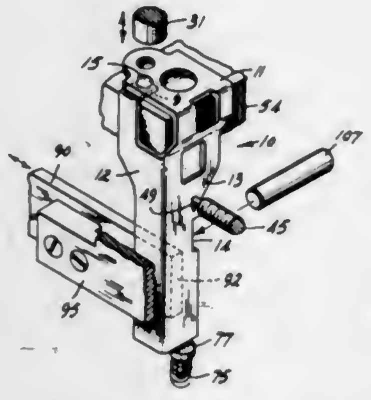
Don M. Glendenning, Franklin, Ind., assignor to The Locke Steel Chain Company, Huntington, Ind., a corporation of Connecticut
Original application Dec. 6, 1963, Ser. No. 328,650, now Patent No. 3,325,991, dated June 20, 1967. Divided and this application Mar. 22, 1967, Ser. No. 625,171
Int. Cl. B21l *3/02;* **H05b** *1/100*
U.S. Cl. 219—51 7 Claims



An apparatus for assembling chain having pintle pins including welding heads and timer cycle controls for welding each pintle pin to the legs of its link as the chain is indexed past the welding heads.

3,508,026
AUTOMATIC WELDING APPARATUS

William W. Campbell, Long Valley, Philip G. Krug, Jr., Colonia, and Gerard J. Liloia, Jr., Bloomfield, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 10, 1967, Ser. No. 637,499
Int. Cl. B23k *11/02*
U.S. Cl. 219—78 6 Claims

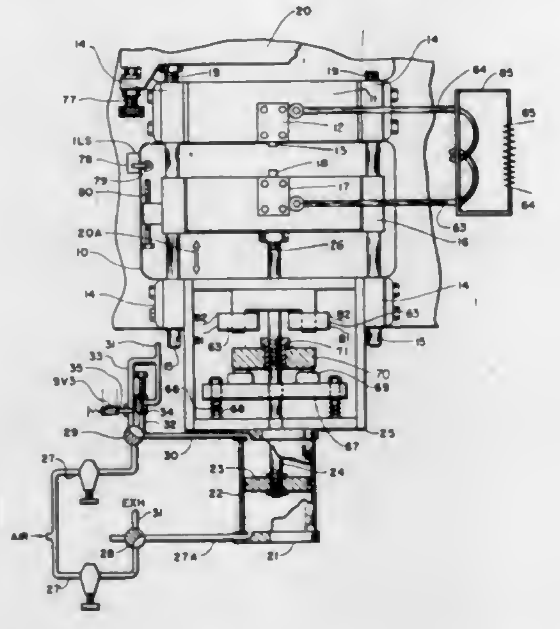


An apparatus especially suitable for welding together portions of a three-sided article such as a telephone jack frame. The apparatus includes means for positioning and securing the article, actuating means to effect the weld, and means for releasing and ejecting the article upon completion of the welding operation.

3,508,027
IMPACT WELDING MACHINES

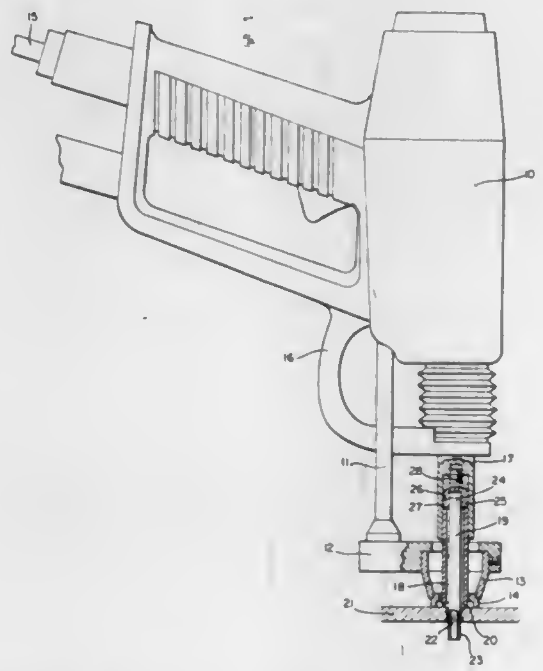
Arthur W. Schueler, Cincinnati, Ohio, assignor to Precision Welder and Flexopress Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 18, 1963, Ser. No. 324,534
Int. Cl. B23k *11/04*
U.S. Cl. 219—97 19 Claims

An impact welding machine includes both fixedly and slideably supported work holders. A fluid drive motor and magnetic armature are connected to the slideable work holder for driving it in the direction of the fixed work holder. Magnets are located in force receiving relationship with the armature. A bucking mechanism, intervened by a collapsible linkage, is connected to the movable holder for retarding movement in the direction of the fixed holder. Through the arrangement of fluid control valves, the drive system is controlled in a manner that motor overrides the retarding force of the bucking mechanism so that the movable holder is slowly advanced towards the fixed holder during the weld flash period. As the movable holder advances and the workpieces are heated, the intervening linkage is collapsed. At the same time, the magnets are activated to drive the workpieces into welding engagement unimpeded by the retarding force of the bucking mechanism.



3,508,028
SPUD WELDING APPARATUS

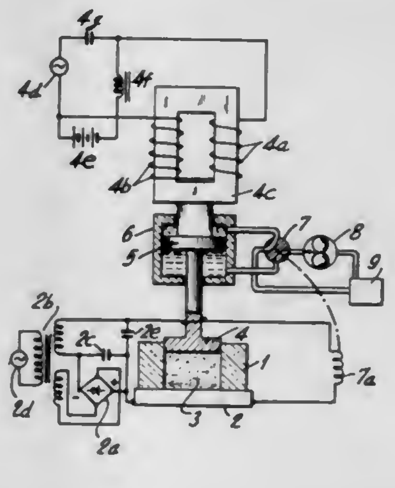
Charles C. Pease, 6320 Harvey Ave., Pennsauken, N.J. 08110
Continuation-in-part of application Ser. No. 633,844, Apr. 26, 1967. This application Mar. 3, 1969, Ser. No. 803,851
Int. Cl. B23k *9/00*
U.S. Cl. 219—136 5 Claims



Apparatus and method for welding hollow studs (spuds) over a hole in a workpiece which includes the use of a hollow arc shield disposed within the hollow spud and having one end thereof projecting into the hole in the workpiece to provide alignment for the spud over the hole and to maintain the hole free of molten metal during the welding operation. The spud preferably includes a chamfer in the weldable end thereof. The chuck for retaining the spud includes a second chuck therein for retaining one end of the internal arc shield and serves both as a retainer for the arc shield and as a stop member for the spud.

3,508,029
SERVOCONTROL SYSTEM FOR DISCHARGE SINTERING

Kiyoshi Inoue, Tokyo, Japan, assignor, by mesne assignments, to Lockheed Aircraft Corporation, Burbank, Calif., a corporation of California
Continuation-in-part of applications Ser. No. 356,714, Apr. 2, 1964, and Ser. No. 340,211, Jan. 27, 1964. This application July 11, 1967, Ser. No. 652,561
Claims priority, application Japan, Feb. 22, 1967, 42/11,570; Mar. 14, 1967, 42/15,943; Apr. 22, 1967, 42/25,716; July 5, 1967, 42/43,231
Int. Cl. B21j *1/06;* **H05b** *1/00*
U.S. Cl. 219—149 14 Claims

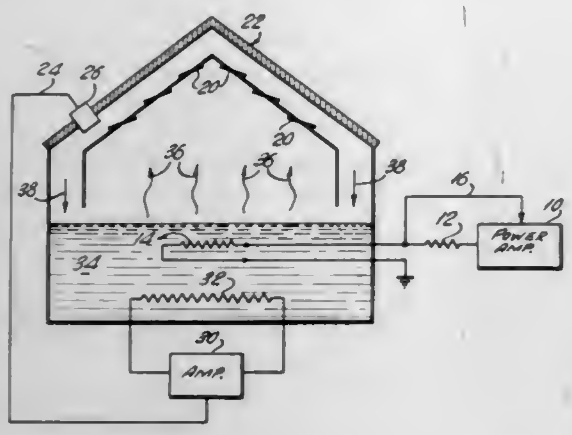


A servocontrol system for a movable electrode of a discharge system, especially for the spark-discharge sintering of conductive and nonconductive particles, wherein reversible drive means is provided for the movable electrode, and a servomechanism responsive to a parameter of the conditions of the gap between the electrodes (generally containing the sintered particles or the presintered mass of discrete particles), detects the parameter and converts it into a control signal for operating the drive means whereby the movable electrode follows the shrinkage of the sintered mass. Programming means (e.g. a cam) can be connected in the servocontrol circuit for augmenting the response of the drive means to the control signal when, for instance, it is desired to increase the pressure applied by the moving electrode to the mass of particles or the speed thereof after an initial movement at a lesser rate.

3,508,030
CONSTANT TEMPERATURE BATH FOR HIGH POWER PRECISION RESISTOR

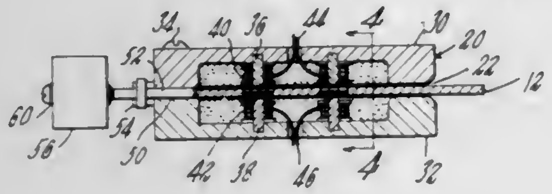
Loebe Julie, New York, N.Y., assignor to Julie Research Laboratories, Inc., New York, N.Y., a corporation of New York
Filed Jan. 26, 1966, Ser. No. 523,168
Int. Cl. H05b *1/00*
U.S. Cl. 219—209 2 Claims

A high dissipative electronic device, such as a precision resistor, is immersed in a liquid bath. The bath, of a dielectric liquid, is within an enclosure. A heater heats the bath to its boiling point. The enclosure includes a heat exchange means which, preferably, is controlled to maintain the bath temperature constant.



3,508,031
CONTROL SYSTEM EMPLOYING CARD HAVING CONDUCTIVE INSERTS

Irving B. Cooper, Jr., Marblehead, Mass., assignor to Industrial Instrumentations, Inc., Marblehead, Mass., a corporation of Massachusetts
Filed Aug. 23, 1965, Ser. No. 481,687
Int. Cl. G06k *7/00*
U.S. Cl. 235—61.11 21 Claims

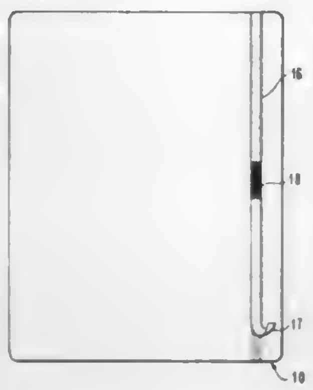


A security system includes a card having several copper discs in the order of 5 mils in thickness encased within opaque material and a card reader that has a sensing area in which the card is inserted. On one side of the sensing area are a group of primary windings disposed on pole pieces and on the opposite side of the sensing area are corresponding secondary windings, also disposed on pole pieces. The secondary windings are connected to corresponding silicon controlled rectifiers and, on insertion of a card into the reader a switch is closed which applies a pulse to the primary windings to generate magnetic fields. In response to those magnetic fields that are not absorbed by copper discs, the corresponding secondary windings generate output signals which trigger the controlled rectifiers to store the coded information on the card. On removal of the card from the sensing area, translation circuitry is actuated to operate a printer.

3,508,032
PRINTER HAVING COMBINED DATA INPUT AND AUTOMATIC DOCUMENT FEED MECHANISM

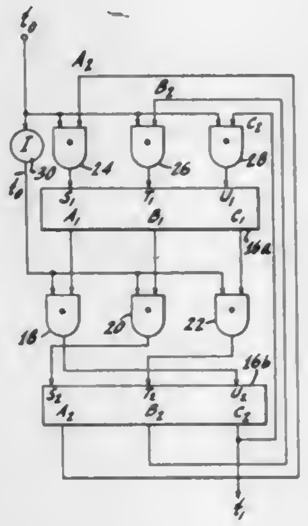
David L. MacDuffee, Lexington, Ky., and Joseph R. Stewart, Rockville, Md., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed June 27, 1967, Ser. No. 649,163
Int. Cl. G06k *7/08;* **B41j** *13/00*
U.S. Cl. 235—61.11 7 Claims

Accounting documents are automatically fed to a posting position by mechanism responsive to the physical location of "old balance" data recorded on a magnetic stripe portion of the document. The "old balance" data is recorded at a different physical location on the magnetic stripe each time the account is updated to condition the document for automatic new line positioning during a subsequent reinsertion.



3,508,033
COUNTER CIRCUITS

Anatole Turecki, North Palm Beach, Fla., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 17, 1967, Ser. No. 609,865
Int. Cl. H03k *29/00, 21/06*
U.S. Cl. 235—92 4 Claims



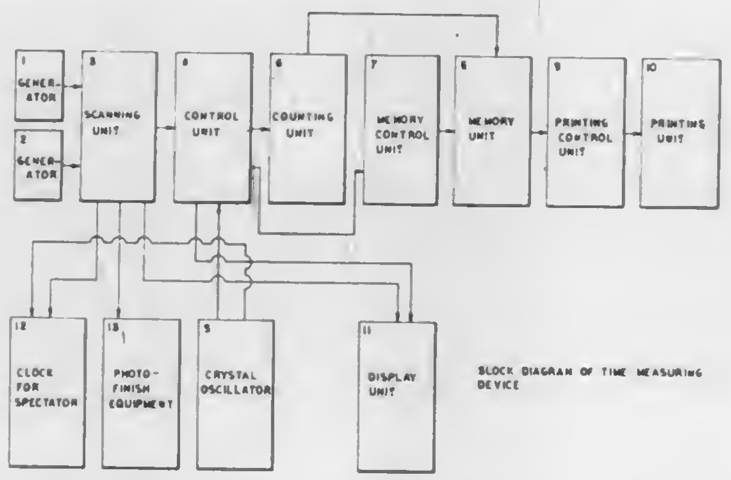
A counter stage comprising two *n*-state circuits, where $n \geqq 3$, and gates connecting the first circuit to the second and the second back to the first. During one-half cycle of a timing signal, one circuit receives an input through its gates which causes it to change state and the other circuit receives an input through its gates which causes it to retain its storage state and during the other half cycle of the timing signal, the reverse occurs. An *n*-base counter may be constructed by interconnecting a plurality of such stages, each stage after the first employing as its timing signal an output signal of the preceding stage.

3,508,034
TIME MEASURING DEVICE FOR SPORTS

Masatoshi Toyama, Ichikawa-shi, and Shiro Sugiyama and Kazuo Ito, Tokyo, Japan, assignors to Kabushiki Kaisha Daini Seikosha
Continuation-in-part of application Ser. No. 378,558, June 29, 1964. This application June 22, 1967, Ser. No. 649,086
Claims priority, application Japan, July 17, 1963, 38/38,616
Int. Cl. G06m *3/06*
U.S. Cl. 235—92 9 Claims

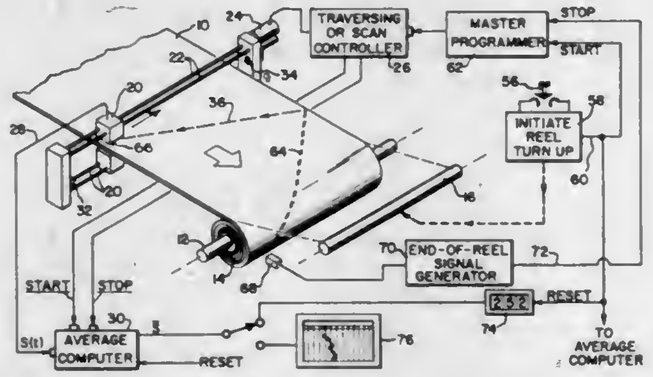
An electronic time measuring system for sports events has a quartz crystal oscillator for generating standard clock signals and an electronic counter for counting the time interval which elapses from the application thereto

of a start signal. There is further provided a memory unit for storing the counting results for the various events and the order of arrival thereof, and a printing unit for printing out in the order of arrival, the results stored in the memory unit. There is further provided a control unit for selecting the mode of timing in accordance with the character of the sports event and a scanning unit for converting the start and stop signals for the various sports events as well as the standard time signal into the appropriate waveform for transmission to the control unit. The electronic time measuring system is contemplated for use in conjunction with an electric clock which is synchronized with the start and stop signals in order to provide a visual indication of the elapse time since the start of the event including means for transmitting such signals to the clock from the scanning unit in order to temporarily stop the clock at the termination of the event, and to reset the clock for the next event.



3,508,035
ROLL AVERAGE COMPUTING METHOD AND APPARATUS

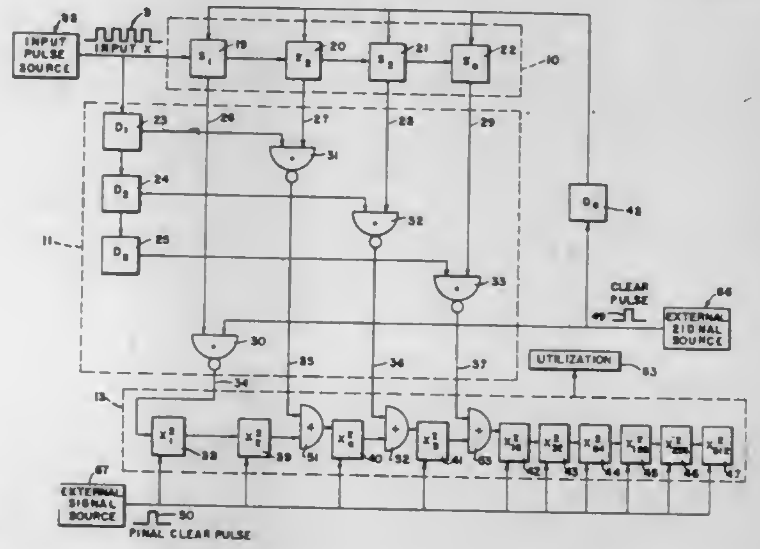
Charles M. Worthley, Orange Park, Fla., assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Nov. 8, 1966, Ser. No. 592,927
Int. Cl. G06g *7/32*
U.S. Cl. 235—151.3 14 Claims



Specifically disclosed is a method and apparatus for determining the average value of a property such as weight per unit area or moisture content, or the standard deviation of such property in a sheet material such as paper which is formed into a roll, or for automatically computing the weight of the roll in response to a scanning gauge which traverses back and forth across the width of the sheet before it is formed into a roll. A signal from the scanning gauge is integrated for a period of time determined automatically from signals generated at the beginning and end of the roll. The integrated signal is combined with signals indicative of the length and width of the material forming the roll to compute the weight of the roll. Separate, successive averages may be computed for each of the several traversing movements of the scanning gauge across the width of the sheet, and the average value of such averages provides the value for the measured property such as the weight per unit area which is used in the roll weight computation.

3,508,036
COMPUTING APPARATUS

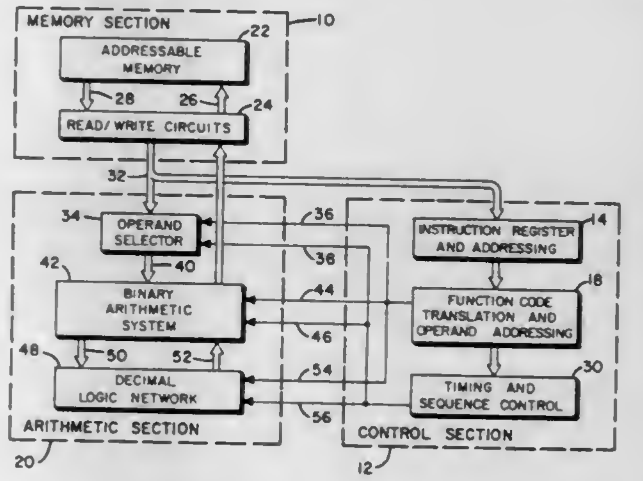
David H. Schaefer, 617 Rockford Road, Silver Spring, Md. 20902
Filed Sept. 6, 1966, Ser. No. 577,545
Int. Cl. G06f *7/38*
U.S. Cl. 235—156 10 Claims



A circuit for obtaining the sum of the squares of a plurality of numbers. The recognition of a unique relation between the binary representation of an integer to be squared and the binary representation of the difference between the square of that number and the square of the next previous number, makes possible a simple scheme for adding the number to be squared which is stored in a first register into selected higher order stages of a second register.

3,508,037
DECIMAL ADD/SUBTRACT CIRCUITRY

David M. Collins, St. Paul Park, and Gary J. Iverson, White Bear Lake, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 30, 1967, Ser. No. 612,479
Int. Cl. G06f *7/385*
U.S. Cl. 235—159 19 Claims



This disclosure relates to an arithmetic system for adding or subtracting a pair of decimal operands, where the decimal digits of each of the operands are expressed in binary coded form. The operands, in addition to the binary signals indicative of the decimal digits, include sign-indicating signals and format-defining signals. The system operates under programmed direction to generate either the sum or the difference while forming the appropriate sign of the result and while establishing the required format-defining signals. The binary coded decimal arithmetic system incorporates a binary adder and a decimal network in a binary data processing system. A programmable system of adding or subtracting coded operands which express values that cannot be stored in a single set of storage registers is also described.

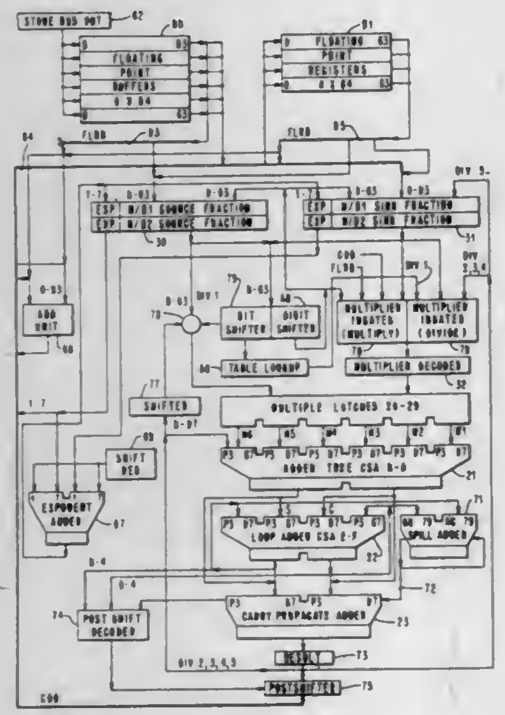
3,508,038
MULTIPLYING APPARATUS FOR PERFORMING DIVISION USING SUCCESSIVE APPROXIMATE RECIPROCALS OF A DIVISOR

Robert E. Goldschmidt, Wappingers Falls, and Don M. Powers, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Aug. 30, 1966, Ser. No. 576,157

Int. Cl. G06f *7/39*

U.S. Cl. 235—164 **6 Claims**



On successive cycles of operation, the multiplying apparatus is used for generating an approximate reciprocal of the divisor, and then the approximate reciprocal is utilized for multiplication with the dividend. By utilizing a carry save adder tree feeding a carry save adder loop, each being comprised of various latched circuits, the entire apparatus can be simultaneously performing the modification of the divisor reciprocal and performing a subsequent multiplication operation.

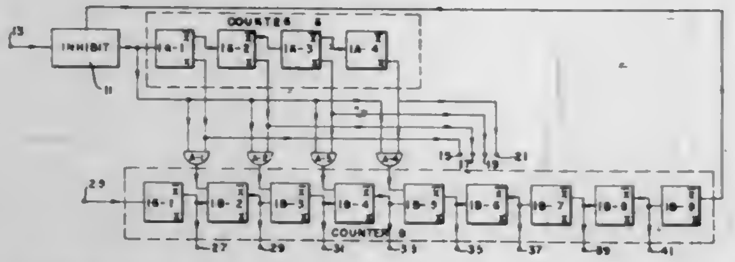
3,508,039
APPARATUS FOR COMPUTING SQUARE ROOTS

Rodger A. Cliff, College Park, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Nov. 30, 1966, Ser. No. 598,119

Int. Cl. G06f *7/38*

U.S. Cl. 235—158 **6 Claims**



Apparatus for obtaining a square root of a number wherein two binary registers are selectively interconnected by gates so that a numerical progression is subtracted from one register which contains a number the square root of which is desired.

3,508,040
FLASHLAMP CARTRIDGE ASSEMBLY

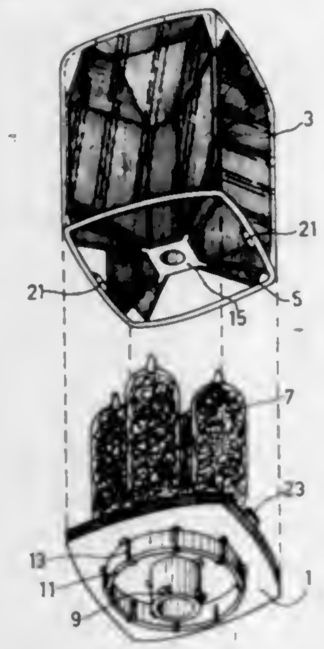
Johannes Kurt Bertrams, Hilden, Germany, and Gabriel Leonard Sypkens and Johannes Cornelis Blom, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, a corporation of Delaware

Filed June 28, 1967, Ser. No. 649,626

Claims priority, application Netherlands, July 2, 1966, 6609294

Int. Cl. G03b *15/02*

U.S. Cl. 240—1.3 **2 Claims**



A flashbulb cartridge assembly for cameras including a base which is rotatably mounted on a camera, a plurality of flashbulbs mounted on the base and a removable cover which contains a plurality of reflectors. The base and the flashbulbs constitute a throw-away unit with the cover and reflectors being reusable. A pin element axially disposed within the cover has one end thereof secured to the closed end of the cover, and a shoulder portion on the other end thereof which is engaged by edges of the reflectors to thereby define a plurality of cavities for receiving the flashbulbs. The cover has a plurality of detents on the lower edge thereof which engage a corresponding number of projections on the base member to provide a detachable snap connection between the base and the cover.

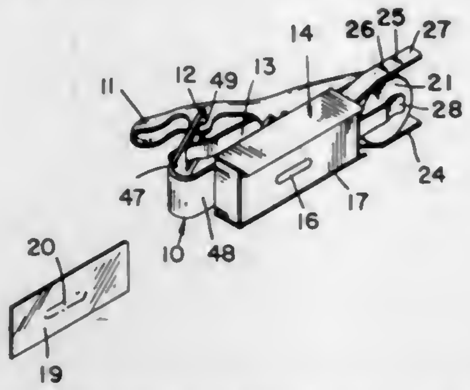
3,508,041
FLASHING TIE CLASP

Louis P. Sweany, Indianapolis, and Robert L. Meek, Jr., Greensburg, Ind., assignors to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Aug. 31, 1966, Ser. No. 577,110

Int. Cl. F21v *33/00*

U.S. Cl. 240—6.4 **5 Claims**



The combination of a piece of jewelry and a light source periodically activated by a solid state flasher means.

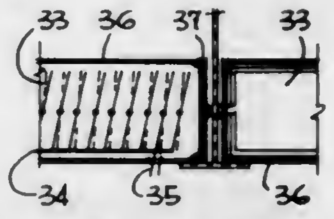
3,508,042
LIGHTING CONTROL DEVICE

Clifford Walter MacCoy, 542 Meadoway Park,
Worthington, Ohio 43085

Continuation-in-part of application Ser. No. 404,873, Oct. 19, 1964. This application July 10, 1968, Ser. No. 751,658

Int. Cl. F21s *1/14, 3/14*

U.S. Cl. 240—9 **9 Claims**



A device for controlling the illumination of an enclosed area by regulating the direction of incidence and reflectivity of the incoming light. Specifically, a grid panel has each of its louvers tilted at an angle along its vertical plane and wherein the surface of louvers is nonlinear with respect to the incident rays to cause the light to emanate therefrom in a given direction. The panel further comprises a plurality of sections with each of the louvers in a given section, relative to another section, oriented parallel with, or at a different angle along the horizontal axes to direct the projected light in a predetermined pattern.

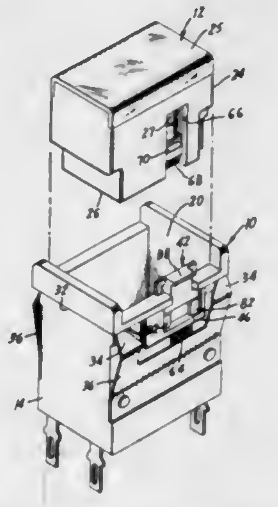
3,508,043
LOCKING MECHANISM

Robert C. Dellert, Bloomington, Ill., assignor to General Electric Company, a corporation of New York

Filed Aug. 1, 1967, Ser. No. 657,690

Int. Cl. F21v *21/08*

U.S. Cl. 240—52.1 **11 Claims**



A mechanism for locking a stationary indicator unit or a reciprocative illuminated push button unit within a cavity in a panel mounted housing. A cantilevered leaf spring which includes a portion extending into the housing cavity having a shoulder formed therein, is secured at one end to the housing wall, with the free end also being adjacent the housing wall. The shoulder formed in the spring engages a shoulder formed on the unit to retain the unit in the housing cavity. A stop slidably mounted on the housing wall is movable to a position wherein it engages the free end of the spring to restrict its deflection, thereby locking the unit in the housing cavity.

3,508,044
ILLUMINATED PLAQUE WATCH AND THE LIKE

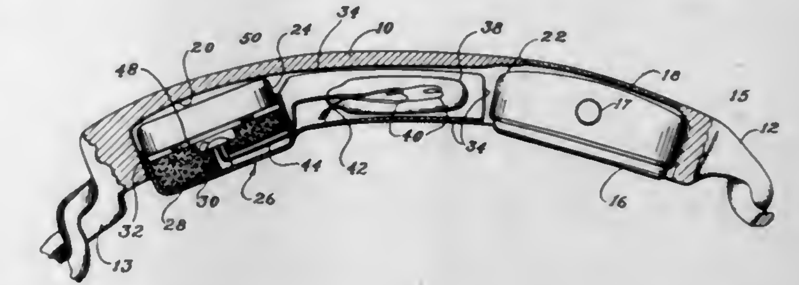
Milton Hochberg, 87—24 Midland Parkway,
Jamaica, N.Y. 11432

Filed Feb. 14, 1968, Ser. No. 705,453

Int. Cl. G04c *17/02*

U.S. Cl. 240—6.43 **5 Claims**

A plaque watch is illuminated by a battery and bulb in a replaceable assembly which snaps into a recess in the plaque. The lamp holder is a metal cup and a coextensive channel pivotably mounted in the recess. The bulb is secured in the channel and a battery is placed in the cup on a compressible insulating pad such that it contacts the plaque when in the recess. Leads from the bulb are connected to the lamp holder and to a contact member in the pad whereby pressure on the cup compresses the pad to allow connection btween the battery and the contact and to thereby complete the circuit lighting the bulb. A watch case is also mounted in the recess with a window proximate the recess for the lamp holder whereby light from the bulb illuminates the watch.



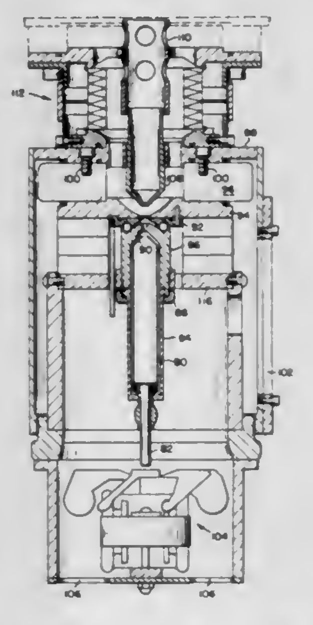
3,508,045
ANALYSIS BY BOMBARDMENT WITH CHEMICALLY REACTIVE IONS

Christian A. Andersen, Solvang, Calif., and Helmut J. Liebl, Munich, Germany, assignors to Applied Research Laboratories, Inc., Sunland, Calif., a corporation of Delaware

Continuation-in-part of application Ser. No. 678,840, Oct. 30, 1967. This application July 12, 1968, Ser. No. 753,822

Int. Cl. H01j *39/34, 37/26*

U.S. Cl. 250—41.9 **5 Claims**



Electronegative ions, especially those of the halogens, are used in an ion beam to bombard a specimen for chemical analysis by spectrometric analysis of secondary ions sputtered from the specimen in response to the bombardment.

3,508,046
RANGE MEASURING APPARATUS USING RADIOACTIVE MATERIAL

Nicholas Anton, Brooklyn, and Myron Youdin, Flushing, N.Y., assignors to Eon Corporation, Brooklyn, N.Y., a corporation of New York

Filed July 15, 1964, Ser. No. 382,762

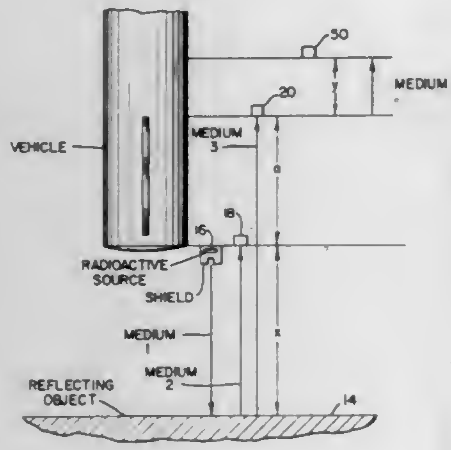
Int. Cl. G01n *23/12*

U.S. Cl. 250—43.5 **8 Claims**

1. Apparatus for measuring range between first and second objects comprising on said first object:

a source of radioactive material for emitting radioactive energy to impinge upon said second object, the impinging radioactive energy being reflected from the second object back to the first object and at least a portion of the reflected energy passing through a medium which causes an unknown amount of attenuation,

first means on said first object for detecting the amount of radioactive energy reflected back from said second object,



second and third means on said first object for detecting the amount of radioactive energy reflected from said second object, and passing through said medium with unknown attenuation,

and means connected to said first, second and third detecting means for deriving the range between said first and second objects as a function of the amounts of radioactive energy detected at each of said first, second and third detectors with the effect of the unknown attenuation factor being eliminated.

3,508,047

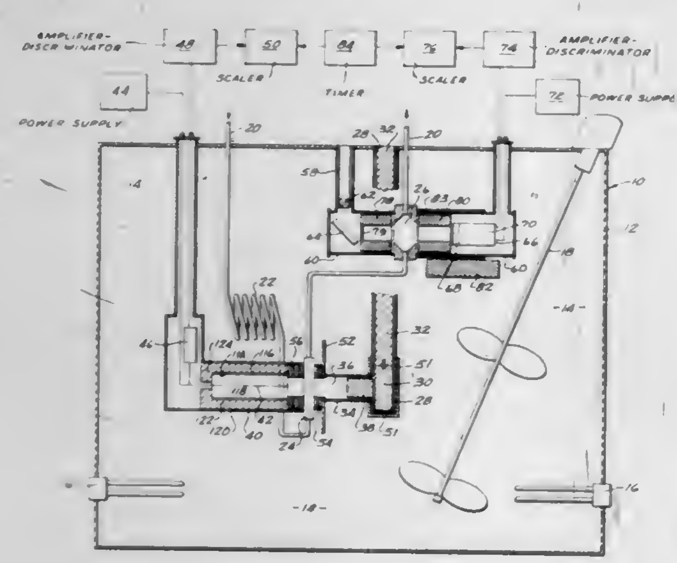
METHOD AND APPARATUS FOR THE ACCURATE ANALYSIS OF HYDROCARBON MATERIAL USING A MULTIPLE OF RADIATION SOURCES

William E. Mott, O'Hara Township, Allegheny County, and Donald F. Rhodes, Plum Borough, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed May 25, 1966, Ser. No. 552,741

Int. Cl. G01n *23/12;* **G01t** *3/00;* **H01j** *39/32*

U.S. Cl. 250—43.5 **10 Claims**



A method and apparatus for accurately determining the chemical composition and density of hydrocarbons by intercorrelating the transmitted radiation from a thermal neutron source and a high energy photon source with substantial elimination of the noise component of the transmitted radiation. Additional types of radiation are used for the analysis of other elements in the sample.

3,508,048

RADIOMETRIC ANALYSIS BY FLOWING SAMPLE THROUGH A CLOSED SYSTEM

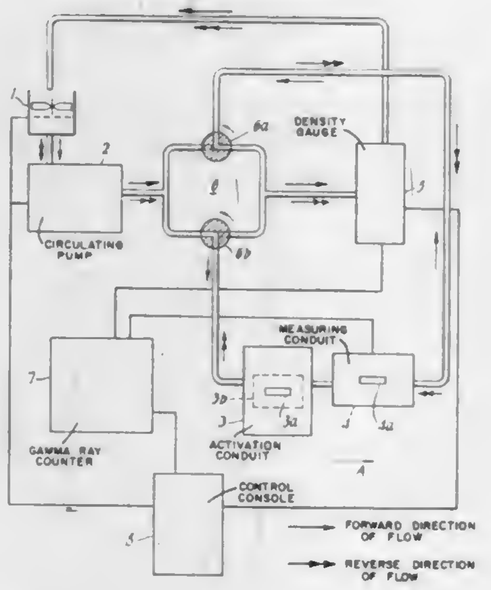
Peter Edward Starnes, Berkshire, England, assignor to Hilger & Watts Limited, London, England, a British company

Filed Apr. 5, 1967, Ser. No. 628,644

Claims priority, application Great Britain, Apr. 7, 1966, 15,777/66

Int. Cl. G01m *23/12;* **G01t** *1/16;* **H01j** *39/00*

U.S. Cl. 250—43.5 **11 Claims**



Method of, and apparatus for, analyzing by radioactive activation samples in which the sample material is circulated in fluid form or in the form of a suspension, through a closed loop at a substantially constant mass flow rate. While circulating, the sample is activated by a neutron source and the resulting secondary radiation detected, the circulation being continued until equilibrium between activation and decay is established. Thereafter the desired information is derived from the magnitude of the secondary radiation by reference to the corresponding magnitude of secondary radiation observed with standard materials.

3,508,049

CORPUSCULAR-RAY MICROSCOPE WITH AN OBJECTIVE LENS WHICH ALSO FORMS A CONDENSER-LENS FIELD

Wolfgang Dieter Riecke, Berlin, Germany, assignor to Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V., Gottingen, Germany, a corporation of Germany

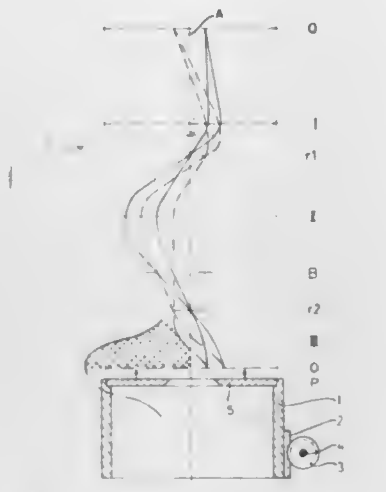
Filed July 27, 1967, Ser. No. 656,402

Claims priority, application Germany, Feb. 27, 1967, M 72,925

Int. Cl. H01j *37/26*

U.S. Cl. 250—49.5 **4 Claims**

An electromagnetic objective lens in corpuscular-ray microscope, such as an electron microscope, has a condenser-lens field which is directed toward the beam source and throws an image of an apertured area-limiting diaphragm onto the object plane of the objective lens proper, the object plane being electron-optically defined by a beam-transversal plane in the region where the objective lens has substantially maximal field strength. An axial-shift device is connected with the specimen carier for displacing it at constant magnetomotive force (ampere turns) of the objective lens within an axial displacement range within which all of the details to be investigated of any applicable specimen, regardless of its axial limension, can be shifted into the object plane where the image of the aperture diaphragm is also located. The axial-shift device is operated from the outside of the microscope by a gear, transmission acting on a cylindrical support for the specimen carrier which support coaxially surrounds the beam axis. In another embodiment the shift device is actuated from the outside by means of a cam mechanism which angularly displaces the specimen carrier about a pivot in the upward or downward direction.



3,508,050

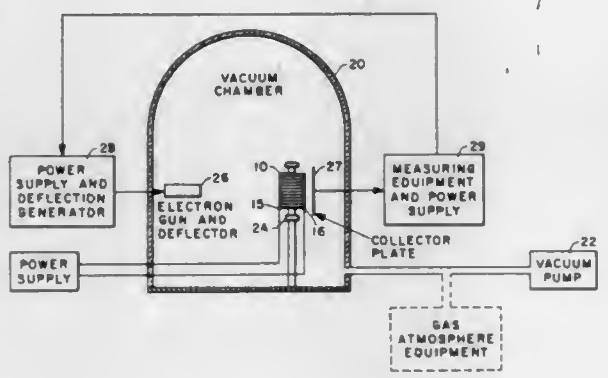
PROCESS FOR MEASURING AND EQUALIZING THE GAIN CHARACTERISTICS OF CHANNEL IMAGE INTENSIFIER ARRAYS

Klaus J. Hecker, Oberursel, Germany, assignor to the United States of America as represented by the Secretary of the Navy

Original application May 24, 1965, Ser. No. 458,523, now Patent No. 3,437,780. Divided and this application Aug. 16, 1968, Ser. No. 768,572

Int. Cl. H01j *39/12*

U.S. Cl. 250—49.5 **3 Claims**


VACUUM CHAMBER
20
28
POWER SUPPLY AND DEFLECTION GENERATOR
26
ELECTRON GUN AND DEFLECTOR
10
27
15
24
16
29
MEASURING EQUIPMENT AND POWER SUPPLY
COLLECTOR PLATE
POWER SUPPLY
22
VACUUM PUMP
GAS ATMOSPHERE EQUIPMENT

A process is disclosed for measuring and equalizing the gain characteristics of individual elements of a channel image intensifier array. The channel image intensifier array consists of a plurality of tube elements stacked in parallel relationship having their inner surfaces of a conductive secondary emissive material and electrode means on each end thereof. An electron beam of variable intensity is directed at the input surface of the channel image intensifier array such that electrons emerge from the output surface of the array onto a collector plate. A measuring means is connected to the collector plate for measuring one-by-one the gain of the different elements of the array which in turn supplies this information to an electron beam deflection system which controls the electron beam such that the gain characteristics of the individual elements are equalized.

3,508,051

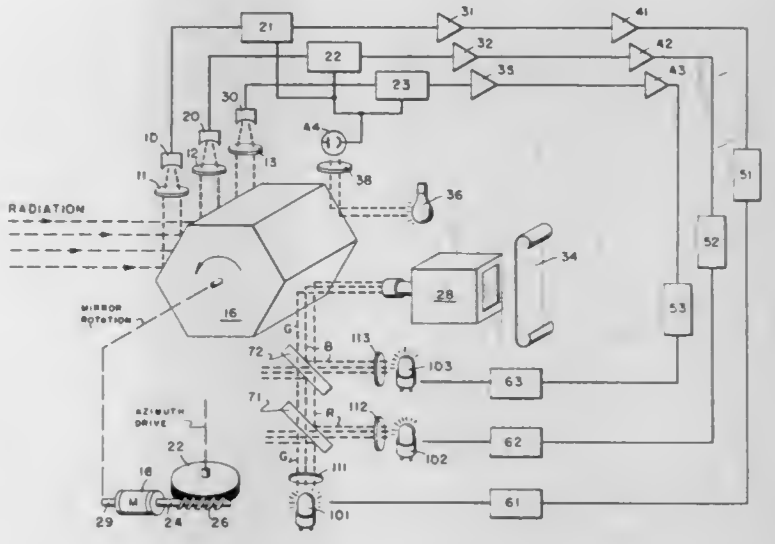
EMPLOYING A PLURALITY OF DICHROIC MIRRORS TO PRODUCE A THREE-COLOR IMAGE

Lawrence W. Nichols and Jesse Lamar, China Lake, Calif., assignors to the United States of America as represented by the Secretary of the Navy

Filed July 20, 1967, Ser. No. 655,722

Int. Cl. H01j *39/00*

U.S. Cl. 250—65 **4 Claims**



A system is provided for detecting and converting infrared signals to produce color in the visible spectrum and produce therefrom a three color photograph. Three narrow bands in the infrared spectrum are converted to the three primary colors and imaged on color film. The system utilizes a rotating mirror which scans in elevation and in azimuth to reflect infrared onto IR detectors which produce a current which is utilized to modulate glow tubes. The glow tube outputs are white light which is partially reflected and partially passed through dichroic mirrors to produce red, blue and green visible light which is then recorded on color film. The resultant color record represent the infrared pickup in a complete three color photograph.

3,508,052

NEUTRON ABSORPTION LOGGING WITH THERMAL NEUTRON-CAPTURE GAMMA RAYS HAVING ENERGIES OVER 2.2 MEV.

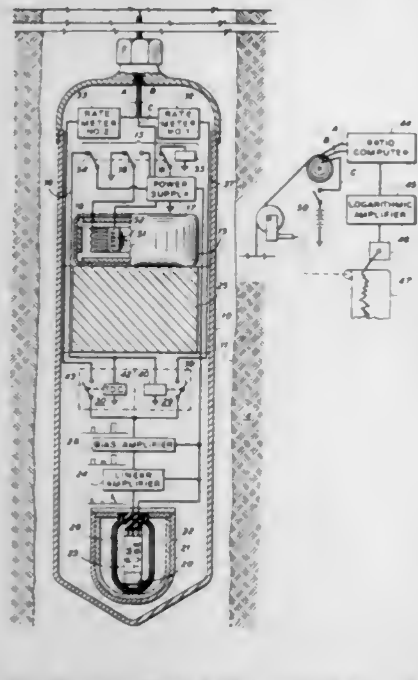
Delmar O. Seevers, Fullerton, Calif., assignor to Chevron Research Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 183,997, Mar. 27, 1962. This application Dec. 18, 1964, Ser. No. 422,065

Int. Cl. G01t *1/20, 1/16;* **H01j** *39/00*

U.S. Cl. 250—71.5 **11 Claims**

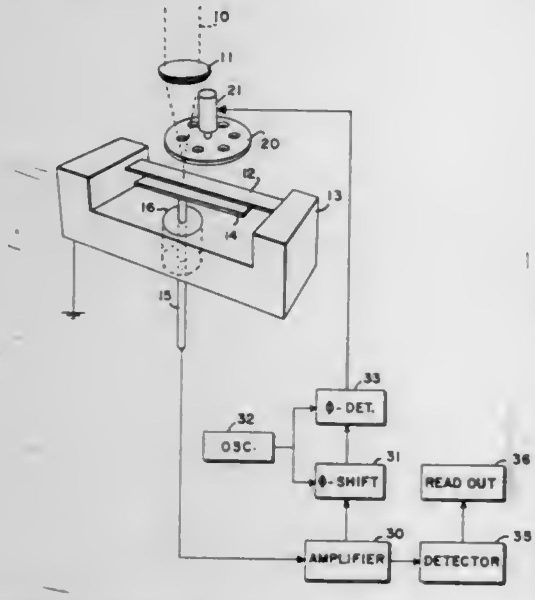
The invention is directed to a method of identifying oil and water interfaces behind a steel casing in a well bore by pulsing a fast neutron source and then after the source is off, detecting the rate of absorption of the neutrons that are thermalized by fluids within the well bore and the surrounding earth formations to generate thermal-neutron-capture gamma rays in chlorine nuclei and detecting only gamma rays having energies above about 2.2 mev. It has been discovered that even if neutron-capture-gamma rays are detected only after all neutrons are thermalized, such gamma rays from hydrogen in the borehole and formation fluids obscure the detection of chlorine, because thermal neutrons cannot be directed out of the borehole; thus, they are more likely to interact with available hydrogen nuclei in the well bore, even when fully thermalized. By using gamma rays with energies above 2.2 mev. the detection of salt is made insensitive to capture gamma rays generated by hydrogen nuclei in the well bore, or in salt water or oil in the formation. The rate of decay of thermal neutrons is then measured by recording the total number of gamma rays detected in two different counting periods after the neutron source is cut off.



In one embodiment the total number of hydrogen nuclei (indicative of total fluid content) is determined from the measured rate of decay of only the higher energy thermal-neutron-capture-gamma rays by establishing the total neutron flux at the time the neutron source is turned off.

3,508,053
THERMAL DETECTOR OF ELECTROMAGNETIC ENERGY BY MEANS OF A VIBRATING ELECTRODE

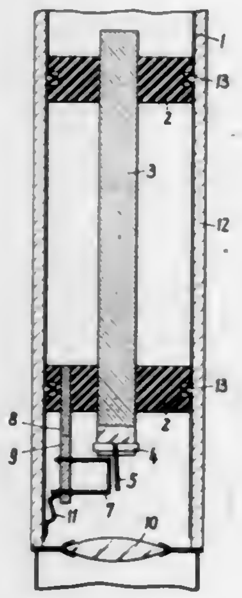
John Dimeff, San Jose, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Mar. 11, 1968, Ser. No. 711,970
Int. Cl. G01t *1/16*
U.S. Cl. 250—83 **2 Claims**



A thermal detector of electromagnetic energy containing a vibrating ribbon or other member characterized by a natural resonance frequency of vibration or other displacement, and which member is periodically displaced as a result of the periodic heating thereof by electromagnetic energy. A chopping wheel is provided to periodically attenuate any electromagnetic energy which may be incident the displacement member, this periodic attenuation being performed at a resonance frequency of the displacement member for maximum sensitivity. A fixed electrode is capacitively coupled to the displacement structure, and the amplitude of the periodic displacement thereof is sensed by detecting the amplitude of the resulting changes in capacitance between the displacement structure and the fixed electrode, to thereby provide an indication of the power level of any incident radiation. An automatic frequency control system responsive to the amplitude of the periodic displacement of the displacement structure is provided for stabilizing the attenuation frequency of the chopping wheel to a natural resonance frequency of the displacement structure.

3,508,054
DOSIMETER WITH TRANSPARENT ELECTRODE

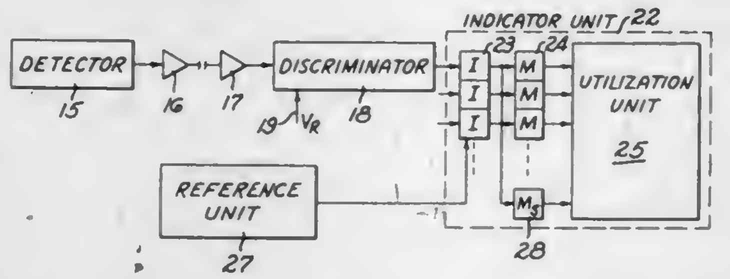
Rolf Hosemann and Günther Basler, Berlin, and Manfred Schiekel, Ulm (Danube), Germany, assignors to Telefunken Patentverwertungsgesellschaft m.b.H., Ulm (Danube), Germany
Filed Apr. 14, 1966, Ser. No. 542,589
Claims priority, application Germany, Apr. 15, 1965, T 28,398
Int. Cl. G01t *1/16;* **H01j** *39/00, 39/12*
U.S. Cl. 250—83.3 **12 Claims**



A dosimeter for measuring radiation includes an outer cylinder constituting a first electrode, an inner transparent rod constituting a second electrode and arranged concentrically with respect to the cylinder, a movable electrometer mounted within the outer cylinder and adjacent one end of the inner rod whereby it may be observed by light passing through the transparent rod.

3,508,055
SECURITY SYSTEM UTILIZING PENETRATING RADIATION

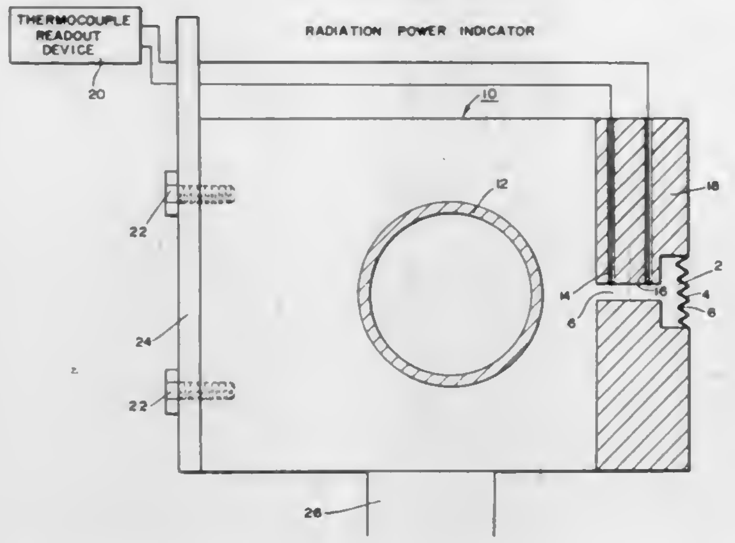
Donald E. Wright and Andrew H. Garry Gibson, Upland, Calif., assignors, by mesne assignments, to Tyco Laboratories, Inc., a corporation of Massachusetts
Filed May 12, 1966, Ser. No. 549,690
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **9 Claims**



A security system for detecting the presence of intruders in an area under surveillance. A source of penetrating radiation disposed at the perimeter of the area and a plurality of detectors within the area, with the detector output providing a measure of the radiation absorption by an intruder and thereby an indication of the identity of the intruder.

3,508,056
RADIATION POWER INDICATOR

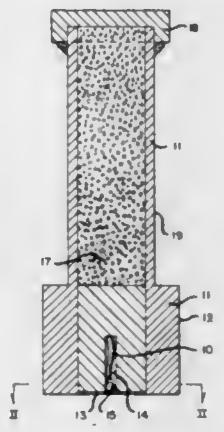
William C. Fricke, Reeds Ferry, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed June 15, 1967, Ser. No. 646,357
Int. Cl. G01k *17/16*
U.S. Cl. 250—83.3 **19 Claims**



A radiation power indicator useful for measuring the power in high power laser beams includes an energy absorbing detector and a heat sink for rapidly conducting thermal energy away from the detector. The incident beam power is measured as a function of the thermal gradient across a thermal conductor between the detector and the heat sink.

3,508,057
X-RAY SOURCES AND METHODS OF MAKING THE SAME

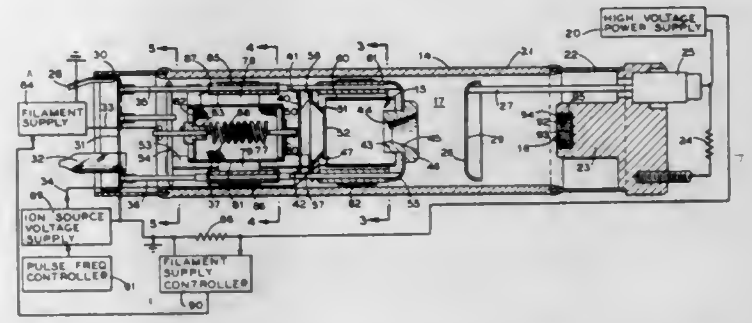
Bernard Keisch, Upper St. Clair Township, Allegheny County, Pa., assignor, by mesne assignments, to International Chemical & Nuclear Corporation, Burbank, Calif., a corporation of California
Filed Jan. 28, 1965, Ser. No. 428,791
Int. Cl. H01j *35/00*
U.S. Cl. 250—84 **12 Claims**



A radioactive source made up of a radioactive material within a sealed container having a thin wall or layer of metal defining a portion of a wall of said container integral with the adjacent portion of said container and capable of passing radiation from said radioactive material.

3,508,058
COMPACT NEUTRON GENERATOR TUBE STRUCTURE

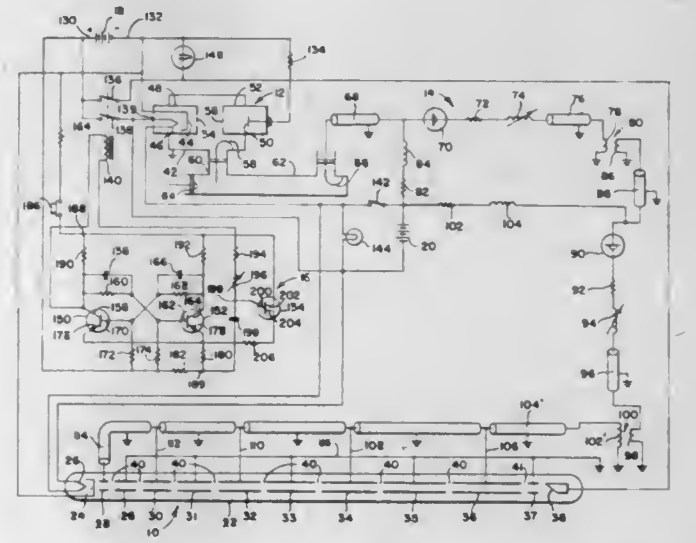
Arthur H. Frentrop, Ridgefield, Conn., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Mar. 31, 1967, Ser. No. 627,404
Int. Cl. G21g *3/04*
U.S. Cl. 250—84.5 **10 Claims**


HIGH VOLTAGE POWER SUPPLY
20
FILAMENT SUPPLY
ION SOURCE VOLTAGE SUPPLY
PULSE FREQ CONTROLLER
FILAMENT SUPPLY CONTROLLER
90

One embodiment of the invention describes a neutron generator tube in which the gas supply is thermally isolated from the ion source by reflective and conductive heat members. The conductive heat member is in thermal contact with the tube envelope to permit the envelope to dissipate waste heat from the ion source to an insulating gas (SF_6) in a well logging tool housing. The tool housing also is insulated from an ion source magnet to prevent arcing between the magnet and the tube envelope.

3,508,059
PORTABLE X-RAY APPARATUS

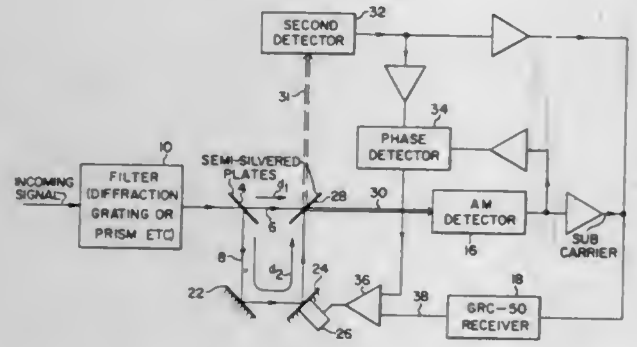
Charles Enoch Vanderpool, 2827 Forest View Ave., Baltimore, Md. 21214
Filed Mar. 10, 1966, Ser. No. 533,281
Int. Cl. H01j *35/16*
U.S. Cl. 250—90 **6 Claims**



Portable, low-powered X-ray generating apparatus includes a linear accelerator device having a series of drift tubes for accelerating an electron beam and directing it against an X-ray target to cause the emanation of a narrow band of X-rays therefrom. The drift tubes are of increasing length along the beam, but the tube most adjacent to the target is relatively small and is located as close to the target as possible. A microwave oscillator provides a high frequency wave which is coupled through a microwave amplifier and a coaxial transmission line to alternate ones of the drift tubes, the remaining drift tubes, including the last drift tube, being grounded. The sole source of energy is supplied by direct current batteries and a relatively low voltage of the order of hundreds of volts is supplied between the cathode of the linear accelerator device and the target. In one embodiment, the entire device is housed in a single housing with the linear accelerator contained within a shielding enclosure which consists of a pair of U-shaped lead channel members, the side walls of one of which is slipped between the side walls of the other with the base portions opposing one another to form a rectangular shielding enclosure. In another embodiment, a main housing encloses the voltage supply, a timing circuit, the microwave oscillator, and the microwave amplifier, while a probe housing in the form of a lead shield around a linear accelerator tube is coupled to the main housing by means of a flexible, low-loss coaxial cable.

3,508,060
LIGHT FREQUENCY RECEIVER

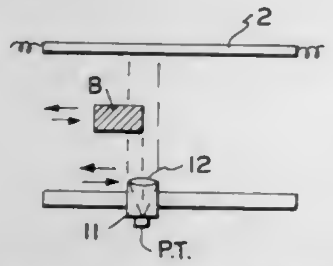
John R. Boykin, Arnold, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 14, 1965, Ser. No. 425,585
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 12 Claims



A light frequency receiver for detecting a subcarrier signal which frequency modulates a coherent light beam. The receiver seperates the beam into two differently directed components which are recombined after traveling different path lengths. The difference in path is made substantially equal to one-half wave length of the subcarrier frequency so that as one component advances in phase the other component will be retarded in phase to the same extent. The two components are vectorially added to provide a resultant having an amplitude which will vary in accordance with the subcarrier signal. To maximize the amplitude out of the system the path difference between the light components is adjusted to be equal to an odd multiple of quarter wave lengths at the light frequency.

3,508,061
PHOTOELECTRIC APPARATUS FOR TRACKING A MOVING OBJECT

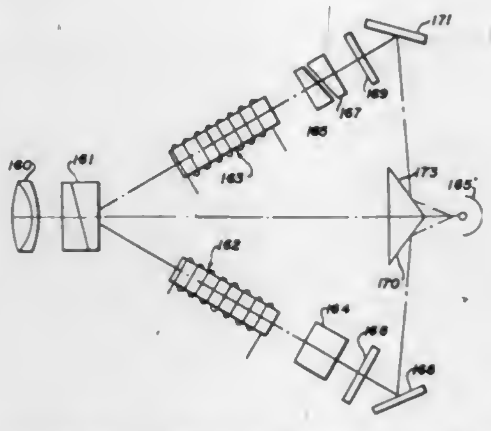
Hiroshi Hakata, Nara-shi, Keizo Maeda, Itami-shi, and Katsumi Higuchi, Osaka-shi, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan
Filed June 30, 1967, Ser. No. 650,541
Claims priority, application Japan, July 4, 1966, 41/43,671
Int. Cl. G01j *1/20;* **G01p** *3/36*
U.S. Cl. 250—203 6 Claims



A photoelectric apparatus for tracking a moving object in order to measure the various factors of its movement, which apparatus is composed of a parallel elongated light source and a traveling line of a light receiving means. The moving object is held between the source and the receiving means. Said light receiving means, which can move along said traveling line to track and measure the movement of said object, also serves to detect its own tracking error components by means of the variation in photoelectric current which is then utilized to correct the value of said measurement.

3,508,062
ELECTRO-OPTICAL TRACKING SYSTEMS

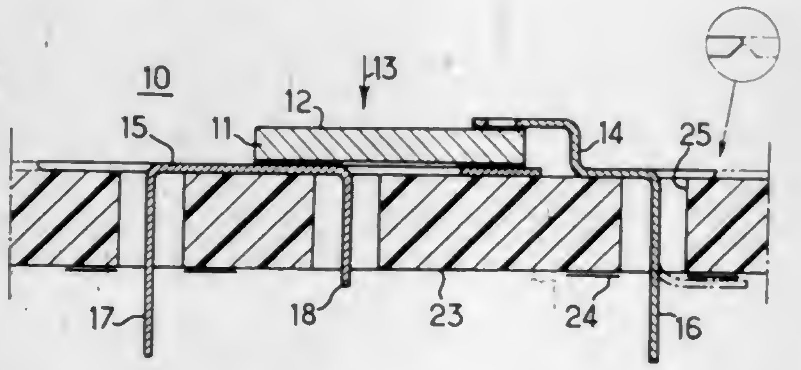
Robert J. Meltzer, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Original application July 1, 1963, Ser. No. 291,998, now Patent No. 3,438,712, dated Apr. 15, 1969. Divided and this application Mar. 29, 1968, Ser. No. 717,263
Int. Cl. G01j *1/26;* **G02f** *1/22*
U.S. Cl. 250—203 8 Claims



An electro-optical system is disclosed for forming an image of a radiation source with polarized light whose angle of polarization varies with the position of image with respect to the optic axis of the system. The system includes a polarization modulator, a pair of optically active elements of opposite rotation, such as prisms or plane parallel plates, and a photoelectric circuit to produce a signal whose phase depends on the sense and whose amplitude depends upon the amount of displacement of the image from the optic axis. The electro-optical system is combined into various systems including automatic tracking systems.

3,508,063
PLURAL CELL PHOTOELECTRIC STRUCTURE

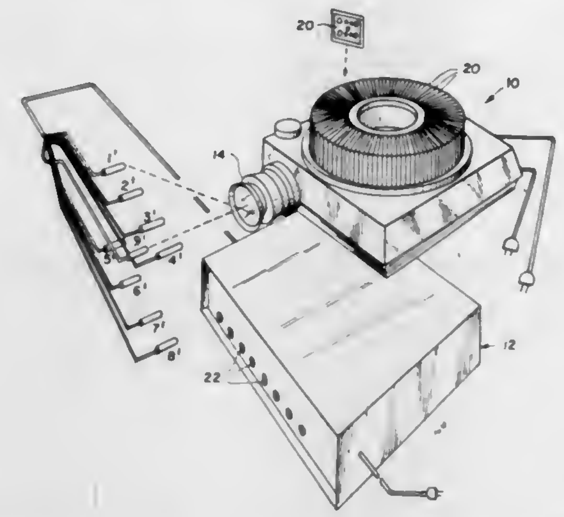
Jean-Claude Granger, Paris, and Jacques Raynaud, Brunoy, France, assignors to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
Filed May 13, 1968, Ser. No. 728,437
Claims priority, application France, June 6, 1967, 109,206
Int. Cl. H01c *7/08*
U.S. Cl. 250—211 7 Claims



For the purpose of forming devices for reading marks or perforations on or in recording media or the like, each photoelectric element comprises a cell, for example a photovoltaic cell, of parallelepipedic form, a first metal lug soldered to a portion of the light-sensitive face and a second lug partly soldered to the opposite face of the cell. This structure lends itself to the simultaneous production of a number of elements, in which each set of lugs is cut out of a common metal strip, which remains at the time of the soldering of the lugs to the cells, which is effected in a single operation. The elements are thereafter separated either partially or completely.

3,508,064
RADIATION SENSITIVE ELECTRICAL-OPTICAL PROGRAM SEQUENCER

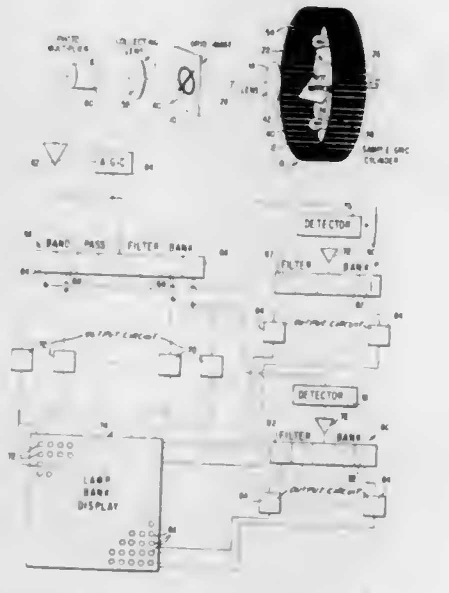
Richard F. Koplar, Pittsburgh, Pa., assignor to Richard F. Koplar/Eugene Dozzi/Associates, Pittsburgh, Pa.
Filed June 14, 1967, Ser. No. 646,080
Int. Cl. G08c *9/06*
U.S. Cl. 250—215 1 Claim



This invention relates to an electrical-optical program sequencer for controlling a plurality of film projectors or other devices in accordance with a program determined by a plurality of slides arranged in a circle, each including a pattern of openings through which light passes from a projector onto a matrix of photocells controlling various outputs, each corresponding to one of said openings, for selectively energizing the group of projectors or other controlled units. The speed and ease in which the program is changed, involving merely withdrawing and substituting one or more slides, is an important feature.

3,508,065
RADIATION SENSITIVE IMAGE ANALYZER USING MULTIPLE ANGLE LINE SCAN

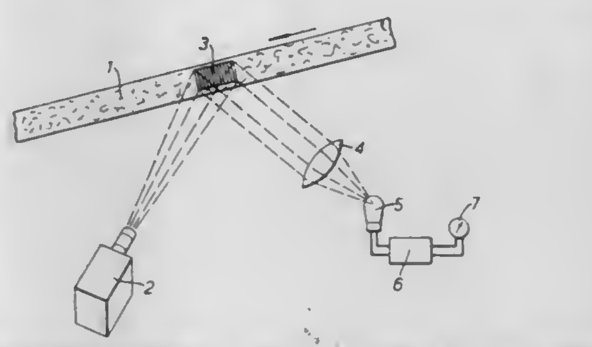
Warren L. Holford, 6001 Greeley Blvd., Springfield, Va. 22150
Filed Sept. 25, 1963, Ser. No. 311,489
Int. Cl. G01n *21/30;* **H01j** *39/12, 3/14*
U.S. Cl. 250—219 8 Claims



An image analyzer which, on the one hand, provides information characterizing the shape of the image being analyzed independent of its position or rotation on the processing field and which, on the other hand, provides useful information as to the relative position of the image in the field. The image analyzer employs a time integral scan wherein a plurality of scanning lines are swept successively across the image at differing angles to produce a continuous repetitive waveform.

3,508,066
APPARATUS COMPRISING LIGHT-ELECTRIC TRANSLATING DEVICE FOR MEASURING SPEED OF MOVING MEMBER HAVING AN ORDINARY SURFACE

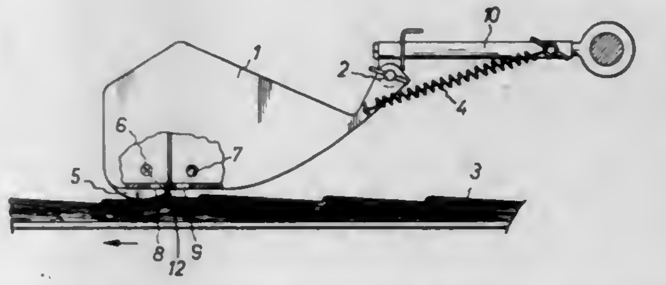
William Oliver Agar, Danbury, England, assignor to The Marconi Company Limited, London, England, a British Company
Filed June 16, 1966, Ser. No. 558,098
Int. Cl. G01n *21/30*
U.S. Cl. 250—219 11 Claims



A moving member with an ordinary surface is caused by its relative motion to modulate the light reaching a light-electric translating device so that the output of the device comprises a noise modulation the frequency of a speed-representative major component of which is measured to provide the relative velocity of the member. The member may be illuminated by light source means or may be itself light emissive. In one embodiment, a grating is interposed between the member and the translating device while in another embodiment a pattern of light and shade having lines transverse to the relative motion of the member is projected onto the member.

3,508,067
APPARATUS FOR COUNTING PRINTED PRODUCTS WHICH ARE ADVANCED IN SHEET-BY-SHEET LINE ARRANGEMENT

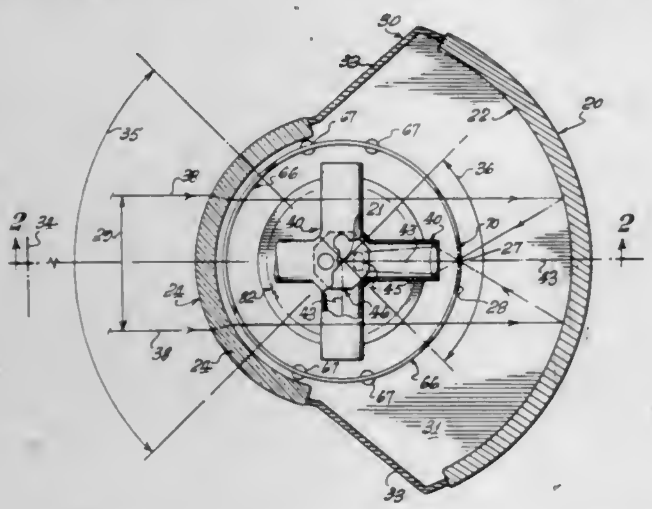
Guenther Urbasch, Zeidlerstrasse 45, and Wilhelm Kohfeldt, Thiedeweg 64, both of Hamburg, Germany
Filed Feb. 21, 1968, Ser. No. 707,129
Int. Cl. G06n *7/10*
U.S. Cl. 250—222 5 Claims



An apparatus for counting printed products which are fed in a sheet-by-sheet line arrangement and incorporating a counting head means provided with a light barrier means. The light barrier means can comprise a suitable light source and a photoelectric transducer means, for instance a photoelectric cell. The counting head means includes a slide surface which confronts the advancing printed products. This slide surface incorporates a web portion arranged between the light source and the photoelectric transducer means and which is disposed substantially transversely with respect to the light source. This web portion advantageously extends over the full width of the bundle of light rays emanating from the light source and is contacted by the forward fold edge or leading edge of each advancing printed product.

3,508,068
OPTICAL STRIP MAPPING SYSTEM

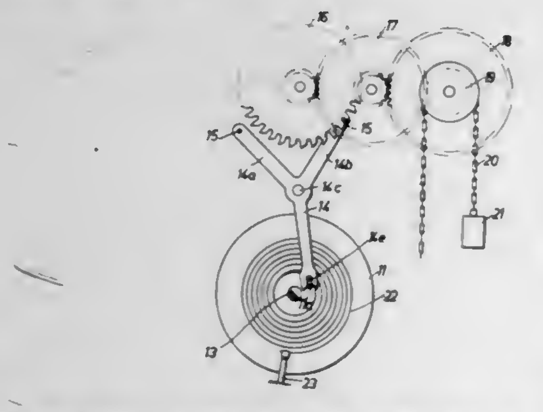
Clyde W. Harris and Robert S. Neiswander, Santa Barbara, Calif., assignors to The TE Company, Santa Barbara, Calif., a corporation of California
Filed Apr. 13, 1967, Ser. No. 630,729
Int. Cl. H01j *3/16, 5/16*
U.S. Cl. 250—236 **16 Claims**



A strip scene to be scanned is imaged onto an arcuate fixed grid. That primary image is then scanned by a moving optical relay system. The resulting signal is carrier encoded at a frequency imposed by the grid. That signal is demodulated, typically employing a reference signal derived from a second grid placed in side-by-side relation with the first and scanned by the same optical scanning device. For infrared images, the grid is temperature controlled and provides a thermal reference at each scene element. The optical scanner comprises several identical optical relay systems rotating continuously about the axis of the arcuate primary image in mutually fixed angular relation and successively scanning the image. Demodulation essentially without loss of resolution of the primary image is accomplished by electronically extracting a series of discrete signals each of which represents the average of the demodulated signal during a single cycle.

3,508,069
GENERATOR MEANS

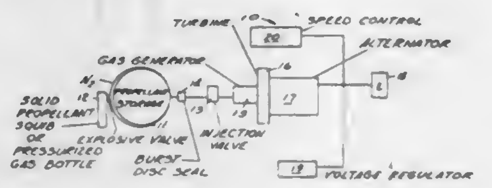
Wolfgang Priesemuth, Itzehoe-Nordoe, Germany
Filed Apr. 10, 1967, Ser. No. 629,529
Claims priority, application Germany, Apr. 22, 1966, P 39,253
Int. Cl. H02p *9/04*
U.S. Cl. 290—1 **9 Claims**



A generator system which comprises a plurality of electrical generators, the outputs of which are connected together in parallel while the rotatable parts of said generators are mounted on a common shaft. Each generator is staggered relative to the other generator so that the maximum reactive torques of respective generators are obtained at different angular positions of the shaft which latter is driven by driving means comprising storage means which are adapted to store mechanical energy and which are coupled to the shaft.

3,508,070
PULSED ENERGY POWER SYSTEM

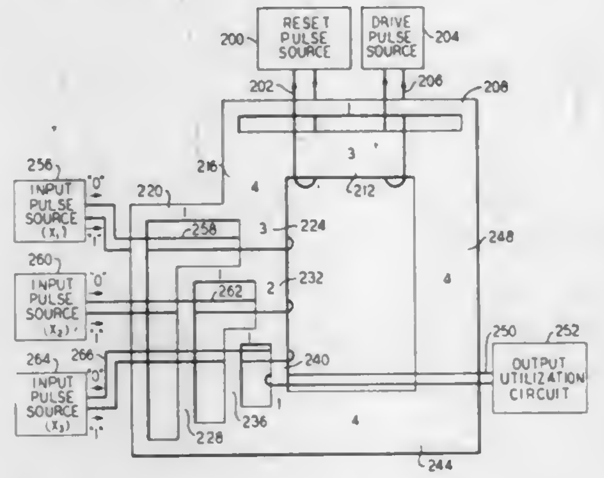
Benjamin Barish, Shaker Heights, and Arthur R. Thomson, Cleveland Heights, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Original application May 10, 1965, Ser. No. 454,439, now Patent No. 3,418,805, dated Dec. 31, 1968. Divided and this application Aug. 14, 1968, Ser. No. 765,738
Int. Cl. F02n *11/06*
U.S. Cl. 290—40 **6 Claims**



The invention is directed to a power control system for cyclically applying combustible gases to a turbine which, in turn, controls the operation of an alternating current voltage generator or the like. A control system includes a valve which is turned sequentially on and off in response to the speed of the generator.

3,508,071
BALANCED MAGNETIC LOGIC CIRCUITS

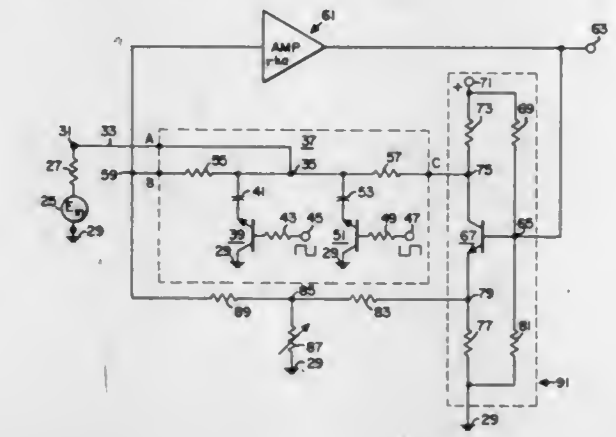
James K. Hsiao, Oxon Hill, Md., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Oct. 9, 1967, Ser. No. 673,694
Int. Cl. H03k *17/82*
U.S. Cl. 307—88 **17 Claims**



"OR" functions and "AND" functions of *n* input variables are realized by utilizing a balanced magnetic circuit element having *n*+1 legs. The elemental structure comprises a closed loop magnetic core including a drive leg in parallel with a shunt leg, two cross legs, one of which includes a plurality of branch legs branching from the long axis thereof, and a completing leg joining the terminations of the branch legs and cross legs. A drive winding and a reset winding are coupled to the drive leg and the drive and shunt legs, respectively. Input windings and an output winding may be coupled to various of the branch legs and the cross legs from which they branch to provide either the logical "AND" function or "OR" function of externally-applied input signals.

3,508,072
CONTROL APPARATUS

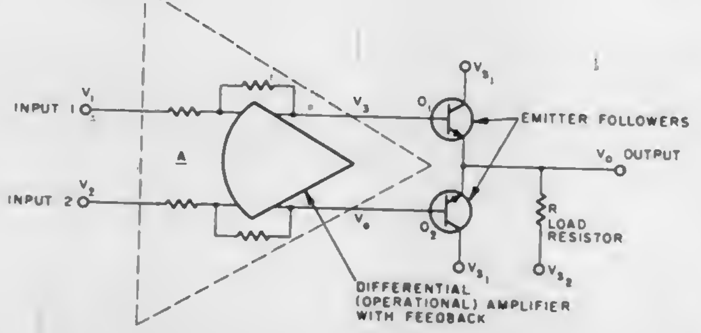
Cyral M. Walsh, Sepulveda, Calif., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 20, 1965, Ser. No. 498,845
Int. Cl. G06g *7/18*
U.S. Cl. 307—229 **8 Claims**



An integration circuit, for integrating both alternating and direct voltage signals, utilizing positive and negative feedback paths. The positive feedback path contains a synchronous lag circuit in the alternating version, which lag circuit receives the input signals to reduce timing errors and helps achieve a high degree of accuracy. The rate of change in the output affects the ratio of negative feedback to positive feedback.

3,508,073
COMPARATOR CIRCUIT

John W. Everly and Barry S. Todd, Corona, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Aug. 29, 1967, Ser. No. 664,220
Int. Cl. H03k *5/20*
U.S. Cl. 307—231 **3 Claims**

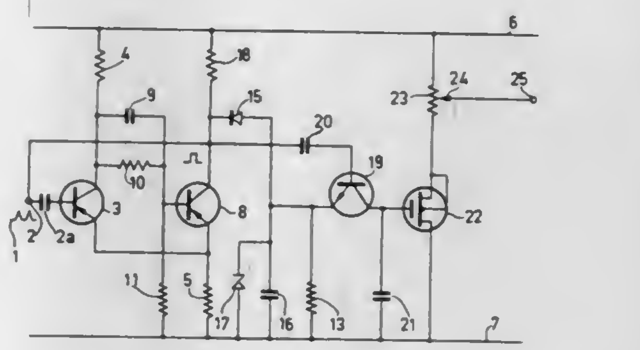


A circuit for obtaining the absolute value of the difference between two input signals consisting of a differential amplifier having small thermal drift and whose voltage gain and frequency response are controlled by simple feedback components; the two outputs of the differential amplifier are connected to the bases of two emitter followers whose emitters drive a common load without any rounding at the decision point.

3,508,074
FREQUENCY DEPENDENT GATING CIRCUIT ARRANGEMENT

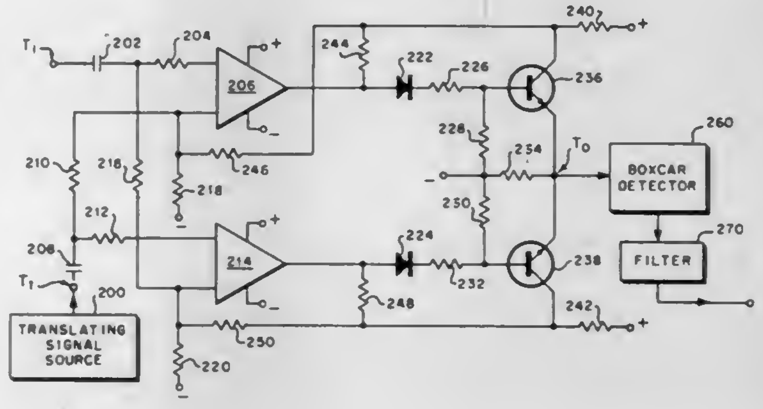
Keith Harold Williamson, Fetcham, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 2, 1967, Ser. No. 613,621
Claims priority, application Great Britain, Feb. 2, 1966, 4,416/66
Int. Cl. H03k *17/60*
U.S. Cl. 307—233 **7 Claims**

The following disclosure describes a circuit for connecting an input pulsating signal to an output voltage having an amplitude dependent upon the pulse frequency. The input pulses activate a monostable multivibrator for charging a first capacitor, and a gate activated by the input pulse signal transfers the charge to a second capacitor. The charge on the second capacitor can be employed to control an M.O.S.T.



3,508,075
SIGNAL PROCESSING APPARATUS AND METHOD FOR FREQUENCY TRANSLATING SIGNALS

Donald J. Savage, 605 Tennis Ave., Ardsley, Pa. 19038
Filed May 8, 1967, Ser. No. 637,885
Int. Cl. H03k *5/20*
U.S. Cl. 307—233 **20 Claims**

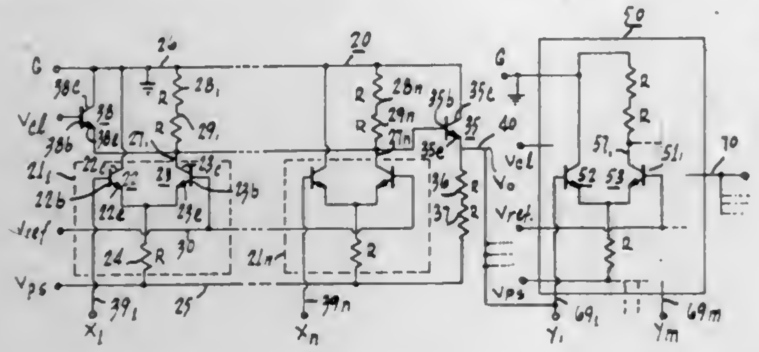


A frequency translator for processing signals having simple or complex waveforms including a differential amplifier for providing a pair of signals, one being the inverse of the other and each being indicative of the difference in amplitudes between the waveform which is to be downshifted in frequency and a frequency translation signal; an amplifier connected to receive and amplify the difference signal; a pair of similarly poled diodes connected to receive the amplified difference signals; and a summing and differential amplifier connected to receive the diode signals and provide, first, a translator output signal equal to the sum of the diode signals and, second, a pair of complementary feedback signals equivalent to the respective differences between the diode signals, which feedback signals are applied through the amplifier to the diodes.

3,508,076
LOGIC CIRCUITRY

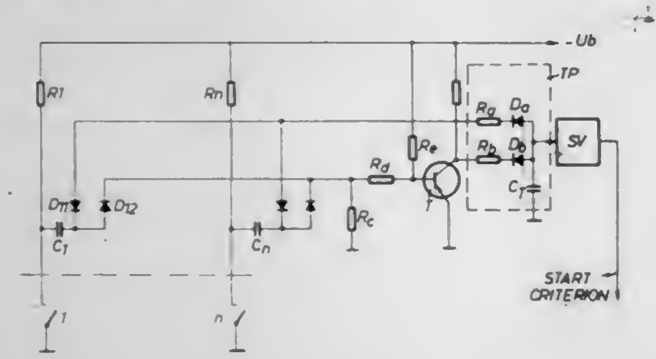
Robert O. Winder, Trenton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,825
Int. Cl. H03k *5/20, 19/34*
U.S. Cl. 307—235 **6 Claims**

A digital circuit family which includes compatible threshold and other logic circuit realizations is described. The circuit family which is readily implemented with current mode switches, emitter-follower transistors and single-valued resistors has near perfect tracking with V_{BE} (base-emitter junction voltage drop) and power supply voltages; is nonsaturating; includes majority, AND phantom OR circuit realizations; and is especially suited for large scale integrated circuit arrays.



3,508,077
ARRANGEMENT FOR ELECTRONIC FEEDING-IN REPORTING PULSES INDICATING THE CONTACT POSITION OF SWITCHES IN TELECONTROL SYSTEMS

Gustav Trautwein, Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 5, 1967, Ser. No. 651,302
Claims priority, application Germany, July 19, 1966, St 25,658
Int. Cl. H03k *5/20*
U.S. Cl. 307—236 **4 Claims**

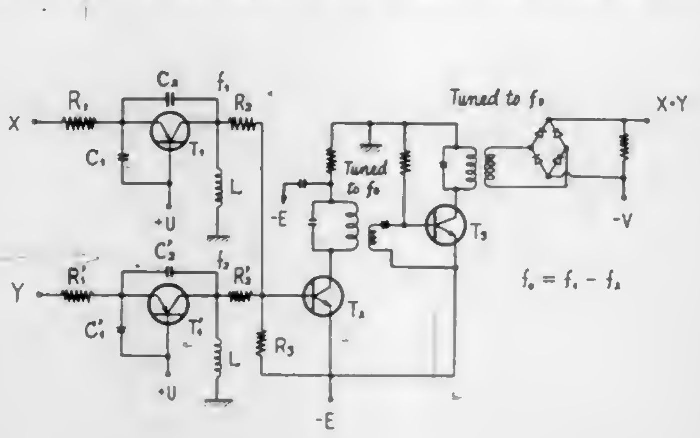


An arrangement is provided for remotely indicating changes in the contact position of telecontrol switches while eliminating undesirable transient signals which otherwise may cause a false indication. A differentiator provides a pulse whenever a contact either opens or closes. The pulse is transmitted to an OR-circuit via separate leads depending on the polarity. A low-pass filter following the OR-circuit flattens the leading edge of the differentiated pulses and in the process suppresses interfering transient signals which could otherwise cause a signal transmitter to operate and to falsely indicate a change in the switches.

3,508,078
FAIL-SAFE TYPE LOGIC CIRCUIT SYSTEM

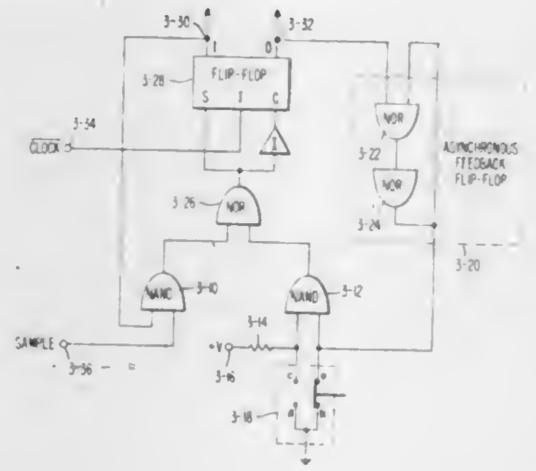
Yasuo Komamiya, Yokohama, Kazuyoshi Morisawa, Tokyo, Seiji Tsuchiya, Ohmiya-shi, Noriaki Takeuchi, Urawa-shi, and Kenji Okamoto, Tokyo, Japan, assignors to Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan
Filed Sept. 1, 1966, Ser. No. 576,716
Claims priority, application Japan, Sept. 2, 1965, 40/53,385; Sept. 25, 1965, 40/58,335; Dec. 15, 1965, 40/76,732; July 18, 1966, 41/46,522
Int. Cl. H03k *19/08, 19/24, 19/32*
U.S. Cl. 307—238 **6 Claims**

A fail-safe system comprising an oscillator capable of performing a logical operation having a threshold input level and operable at a certain frequency in response to an input higher than the threshold level, an amplifier connected to the oscillator to amplify the output signal of the oscillator, a rectifier connected to the output of the amplifier to rectify the output signal of the amplifier, and a power supply for applying a bias voltage which maximum voltage is equal to the threshold voltage, to make binary codes 1 and 0 to be used in the system correlate to D.C. voltages +V and −V, respectively, and to cause the output voltage level of the system −V or 0 in case any trouble occurs while its normal output voltage is +V, and the output voltage level of the system −V or 0 in case any trouble occurs in the system while its normal output voltage is −V, whereby the output voltage never becomes +V whenever any trouble occurs.



3,508,079
LOGIC SENSING CIRCUIT WITH SINGLE PUSHBUTTON OPERATION

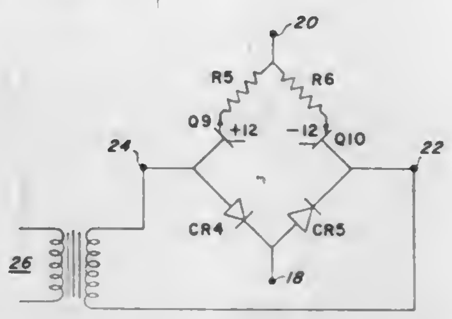
Edward W. Moll, King of Prussia, Pa., and Stanley C. Fenster, Parsippany, N.J., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 24, 1967, Ser. No. 633,222
Int. Cl. H03k *17/00*
U.S. Cl. 307—247 **9 Claims**



The present application discloses a switch logic sensing circuit which may be used in a data processing system. It utilizes a pushbutton switch in conjunction with a plurality of gates to provide a structure capable of sensing by logic means only, a pushbutton closure of undetermined time duration without sensing the same closure more than once until the pushbutton is released for reset. In addition, the disclosed apparatus provides a system for accomplishing this sensing which is inherently immune to switch contact bounce. Thus, it provides in one unit, a device which combines the features of antibounce and single sensing.

3,508,080
BRIDGE GATING NETWORK HAVING POWER GAIN

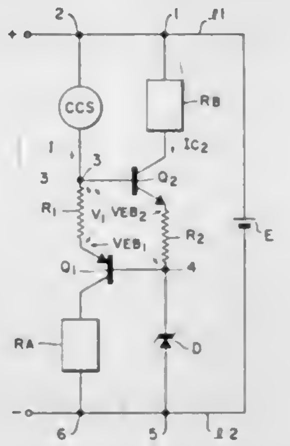
Stephen E. Townsend, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 14, 1966, Ser. No. 579,395
Int. Cl. H03k *17/00*
U.S. Cl. 307—254 **3 Claims**



A bridge gating network combining the functions of a bipolar gate and a bipolar amplifier circuit which requires only a small input signal and a small control signal in comparison with the gated output current.

3,508,081
CIRCUIT ARRANGEMENT FOR SUPPLYING A CURRENT SIGNAL TO ONE OR TWO LOADS

Toshiyuki Matsuda, Chigasaki-shi, Japan, assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,803
Claims priority, application Japan, Aug. 17, 1966, 41/53,677
Int. Cl. H03k *17/60*
U.S. Cl. 307—255 **4 Claims**

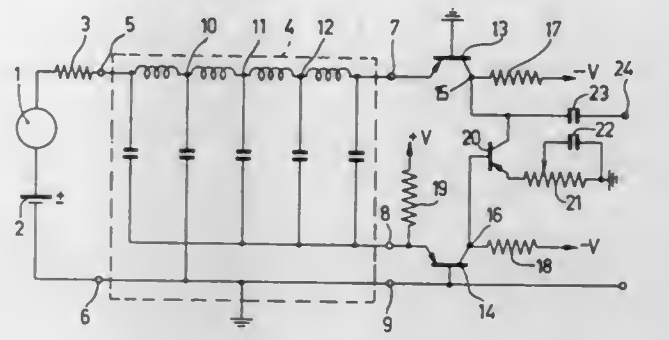


There is disclosed a simple transistor circuit whereby a signal may be applied simultaneously to two different load devices one of which has its common or reference lead connected to the negative side of a supply line and the other of which has its common or reference lead connected to the positive side of the supply line. The circuit involves a pair of transistors of opposite conductivity type so interconnected that the current through one of the transistors is made to follow the current through the other transistor; the current through the other transistor being that derived from a constant current signal source.

3,508,082
AN AMPLIFIER INCLUDING A DELAY LINE TO SHARPEN VIDEO PULSES

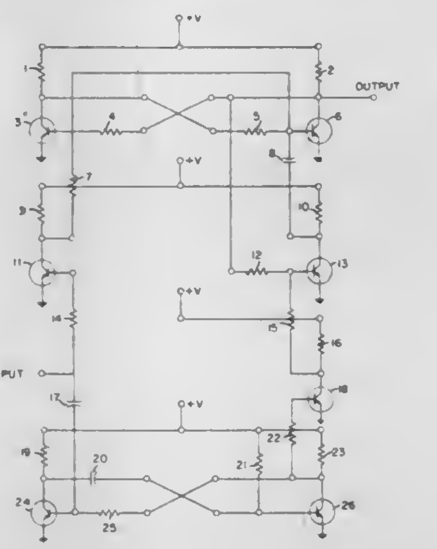
Hendrik Breimer, Emmasingel, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 18, 1967, Ser. No. 639,573
Claims priority, application Netherlands, June 11, 1966, 6608133
Int. Cl. H03k *5/01*
U.S. Cl. 307—268 **5 Claims**

A circuit for enhancing a stepwise function of a wave comprises a delay line that is inductive between its input and a first output, and capacitive between its input and a second output. The short circuit output currents of the delay line are converted to voltages, for example in grounded base stages, and combined after one of them is inverted. The circuit may be used for aperture correction of television signals.



3,508,083
SOLID STATE TIME DELAY CIRCUIT FOR VOLTAGE LEVEL INPUT CHANGES

Barry J. Stern, Hammond, Ind. (% Indiana Instruments, Inc., P.O. Box 8368, St. Petersburg, Fla. 33738)
Filed May 17, 1967, Ser. No. 639,151
Int. Cl. H03k *17/28, 3/10, 3/12*
U.S. Cl. 307—293 **1 Claim**

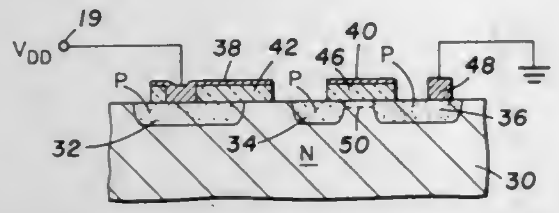


The present invention relates to a novel solid state time delay circuit for voltage level input changes which illustrates the art of changing the state of a bistable multivibrator on the high to low voltage change of the output of a timing monostable multivibrator by means of a set trigger monostable multivibrator interconnected with the bistable multivibrator. The circuit comprises seven interchangeable transistors, seven interchangeable collector load resistors, nine interchangeable base resistors, two interchangeable trigger capacitors, and one timing capacitor. Voltage switching at high speeds is attainable.

3,508,084
ENHANCEMENT-MODE MOS CIRCUITRY

Raymond M. Warner, Jr., West Palm Beach, Fla., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Oct. 6, 1967, Ser. No. 673,328
Int. Cl. H03k *23/08*
U.S. Cl. 307—304 **6 Claims**

A pair of enhancement-mode metal-oxide-semiconductor field effect transistor devices connected in series and each having a control gate commonly connected to a drain. One of the field effect transistor devices has a width-to-length channel ratio substantially less than the width-to-length channel ratio of the other field effect transistor device to act as a load resistance. The other transistor exhibits conduction characteristics similar to the breakdown characteristics of a Zener diode, and the series connected transistors are utilized in a plurality of circuits for both voltage and current regulation, as well as for switching applications.



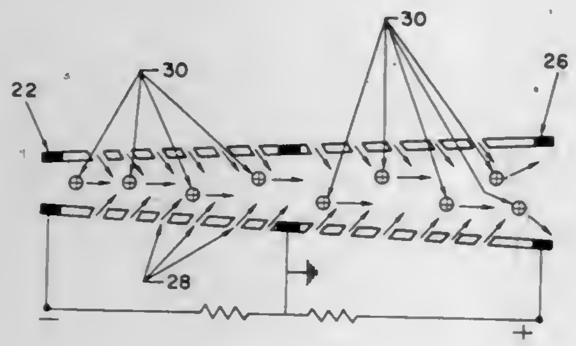
3,508,085
ELECTROGASDYNAMIC GENERATOR METHOD AND APPARATUS

Jan J. Rosciszewski, San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed Sept. 22, 1967, Ser. No. 669,945

Int. Cl. H02n *3/00*

U.S. Cl. 310—10 **8 Claims**



A device which employs a channel through which a fluid moves charged particles against an electric field to generate electric power. High charge density and thereby efficiency is maintained by injection of supplemental fluid to prevent the electro-static repulsion of like charges from entrapping the charged particles in the boundary layer.

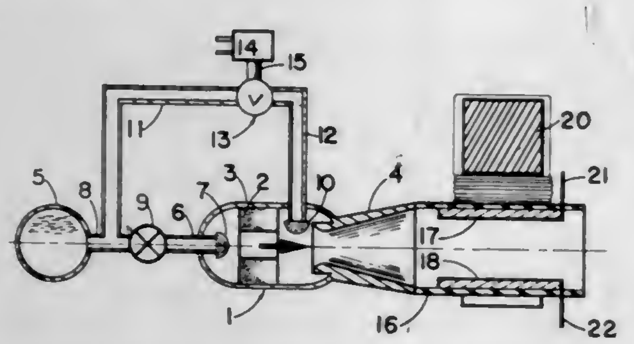
3,508,086
MAGNETOHYDRODYNAMIC ELECTRIC GENERATORS

John J. Allport, Saratoga, and Allen L. Holzman, Palo Alto, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 26, 1966, Ser. No. 581,919

Int. Cl. H02n *4/02*

U.S. Cl. 310—11 **1 Claim**



A magnetohydrodynamic electric generator is operated in a pulsed mode by passing a gas stream through an MHD duct. The gas stream is generated by reacting two components at a non-stoichiometric mixture ratio and is brought to high temperature by pulsing one of the components into the stream in amounts sufficient to bring the mixture to stoichiometric for the duration of the pulse. A rotating valve element having ports shorter than the diameter of the valve element is used to supply pulses as short as two milliseconds at frequencies as high as 100 pulses per second.

3,508,087
HOT ELECTRODES FOR MAGNETOHYDRODYNAMIC GENERATORS, IN PARTICULAR OF THE OPEN CYCLE TYPE

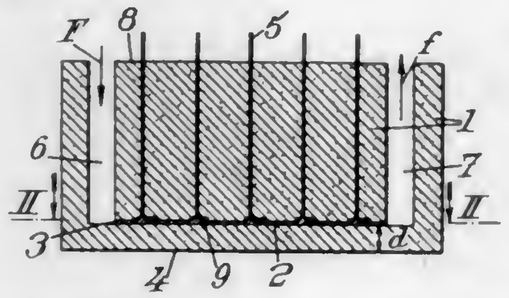
Jacques F. Millet, Paris, Raoul Graziotti, Argenteuil, and Michel M. Guillou, Gif-sur-Yvette, France, assignors to Electricite de France Service National, Paris, France, a society of France

Filed June 9, 1967, Ser. No. 644,880

Claims priority, application France, June 13, 1966, 65,284; Mar. 21, 1967, 99,618; May 26, 1967, 108,127

Int. Cl. G21d *7/02*

U.S. Cl. 310—11 **36 Claims**



A hot electrode of a magnetohydrodynamic generator consists of a mass of material having an ionic conduction, wherein is embedded a current collector, and means are provided for injecting an oxygen containing gas at the level of the cathode zone of the electrode, that is to say at the level of the surface of contact between the electrode and the current collector for a hot cathode or at the level of the surface of contact between the electrode and the plasma stream for a hot anode. For this purpose, in the case of a cathode, it may be provided, on the inside thereof, with a system of channels for the feed, the circulation and the outflow of a gaseous stream rich in oxygen at the level of said surface of contact.

3,508,088
LINEAR INDUCTION MOTOR

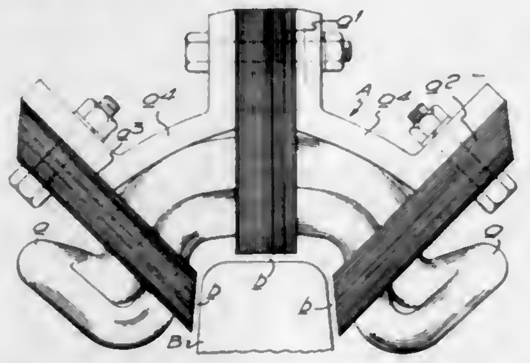
Anthony W. Davey, Long Whatton, England, assignor to Herbert Morris Limited, Loughborough, England, a company of Great Britain

Filed Sept. 14, 1967, Ser. No. 667,804

Claims priority, application Great Britain, Sept. 26, 1966, 43,578/66

Int. Cl. H02k *41/02*

U.S. Cl. 310—13 **3 Claims**



A linear induction motor driving unit for a travelling crane in which the moving member is mounted on a crab or trolley and arranged in a circle or a segment of a circle separated by an air gap from the stationary member.

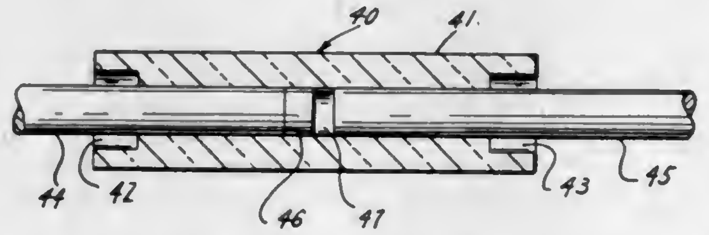
3,508,089
APPARATUS FOR CONVERTING HEAT DIRECTLY INTO ELECTRIC ENERGY

Clifton C. Cheshire, 7201 Alabonson Road, Houston, Tex.

Continuation-in-part of application Ser. No. 43,269, July 12, 1960, which is a continuation-in-part of application Ser. No. 782,271, Dec. 22, 1958. This application Mar. 31, 1967, Ser. No. 644,421

Int. Cl. H02n *3/00*

U.S. Cl. 310—4 **23 Claims**



This invention relates to methods and apparatus for translating heat energy or the like directly into electrical energy, wherein a cathode formed of an element high on the electromotive series is spaced very closely to an anode formed of an element lower on the electromotive series, wherein the close spacing is maintained and current flow facilitated by an oxide or salt of one of such elements, and wherein the cathode is heated to cause it to emit electrons.

3,508,090
THERMAL POWER PLANTS

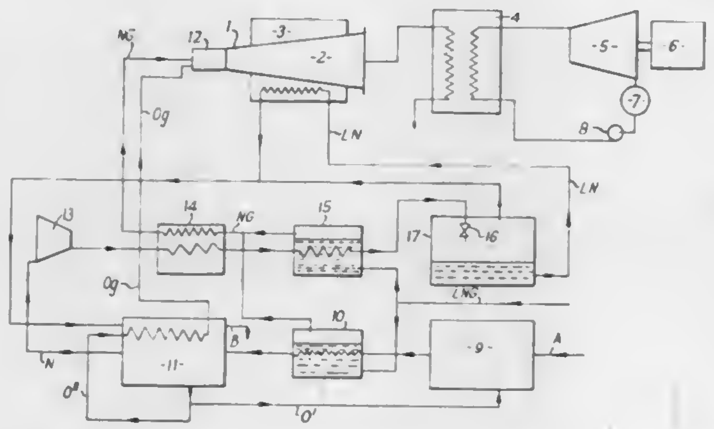
Felix Jeremy Philip Crampton and Terence Sidwell Wilkinson, Newcastle-upon-Tyne, England, assignors, by mesne assignments, to Conch International Methane Limited, Nassau, Bahamas, a company of the Bahamas

Filed July 7, 1965, Ser. No. 470,140

Claims priority, application Great Britain, July 7, 1964, 28,009/64

Int. Cl. G21d *7/02;* **H02k** *45/00*

U.S. Cl. 310—11 **2 Claims**



A thermal power plant is disclosed in which a magnetohydrodynamic generator employs liquefied natural gas both for cooling of the generator and as a fuel for the generator. Exhaust gases from the generator are also used as a source of heat for a secondary thermal power cycle.

3,508,091
DOUBLE CLAW TOOTH STATOR SYNCHRONOUS AND STEPPING MOTOR WITH INDICATOR

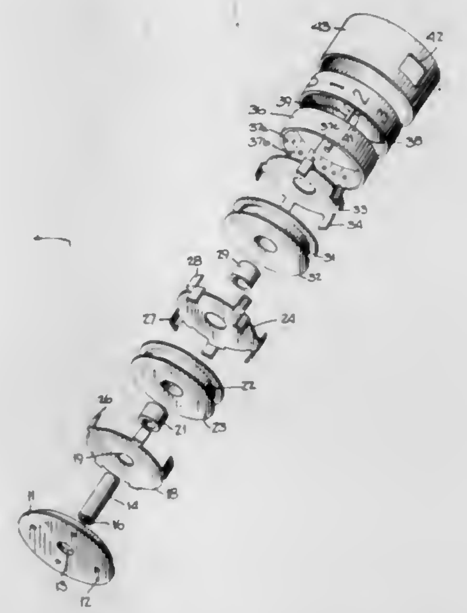
Richard J. Kavanaugh, Bristol, Conn., assignor to North American Philips Corporation, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 402,830, Oct. 9, 1964. This application Dec. 26, 1967, Ser. No. 693,617

Int. Cl. G08b *5/00;* **H02k** *21/00, 37/00*

U.S. Cl. 310—49 **20 Claims**

A synchronous and stepping motor with two stator sections, each having a plurality of interleaved claw tooth stator poles energized by a stator coil so that alternate poles are of opposite polarity. The stator sections are arranged end-to-end along a common axis and the poles of each section are angularly spaced apart by commensurate amounts, the poles of one section being angularly displaced with respect to the poles in the other section. The rotor is permanently magnetized to have magnetic poles angularly spaced apart commensurately with the poles in the stator sections, and the coils are so energized as to produce out-of-phase magnetic fields to rotate the rotor. The phase displacement of the magnetic fields may result from applying out-of-phase alternating currents or properly timed current pulses to the coils of the two stator sections, or it may result from the shading effect of a conductive coil form in one stator section. An outer cylindrical shell with indicia is provided on the rotor whereby the indicia may be viewed through an aperture in the cover.



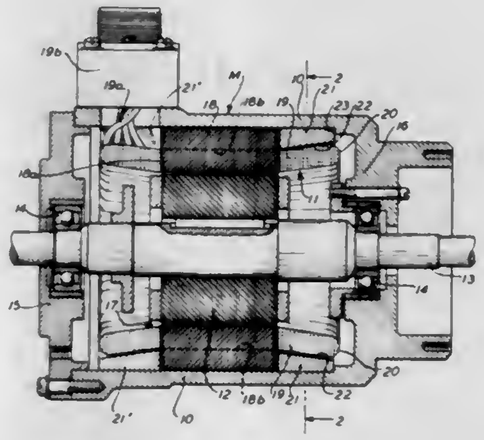
3,508,092
HEAT SINK FOR STATOR WINDING OF DYNAMO-ELECTRIC MACHINE

William M. Hallidy, Glendora, Calif., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 19, 1968, Ser. No. 738,262

Int. Cl. H02k *5/16*

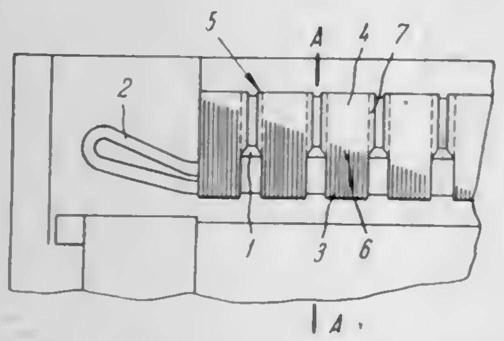
U.S. Cl. 310—64 **1 Claim**



An electric motor of compact size and comparatively large power rating has a heat sink for the stator winding, wherein an aluminum ring is interposed between the stator winding end-turns and the enclosing metal housing of the motor for transferring excessive heat from the winding. The winding end-turns, at one or both sides of the stator, depending on required heat dissipation, are mechanically and thermally bonded to the respective heat transfer ring or rings, by a heat conducting epoxy resin. The respective ring in turn, is mounted in direct heat conducting engagement with the inner wall of the motor housing for constituting in combination therewith, the heat sink.

3,508,093
DUCTED STATOR FOR ELECTRICAL MACHINES

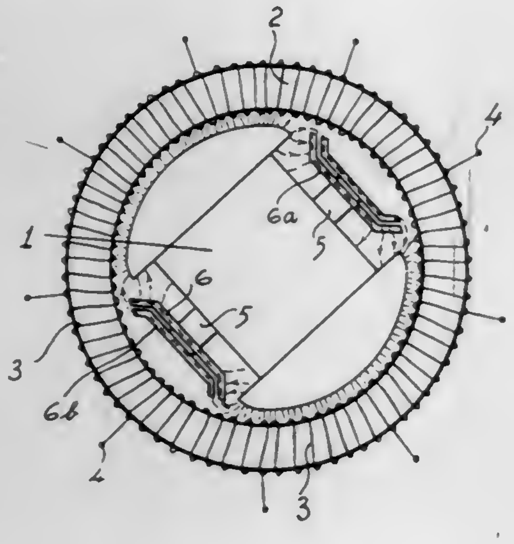
Vitaly Arsenievich Obukhov, Ulitsa Suvorova 34, kv. 15, Lysva, Permskoi oblasti, U.S.S.R.
Filed Dec. 9, 1968, Ser. No. 782,228
Int. Cl. H02k *1/20*
U.S. Cl. 310—65 **2 Claims**



A stator core made of a stack of laminations and provided with radial ventilating ducts is arranged to have a constant flow-passage area due to the use of supplemental laminations employed in the yoke region of the core as distinguished from the toothed or teeth region.

3,508,094
PERMANENT MAGNET A.C. GENERATOR HAVING MODIFIED WAVE FORM OUTPUT

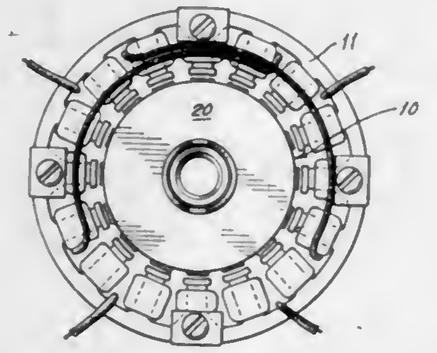
John Byrne, Omega 10, Saval Park Gardens, Dalkey, County Dublin, Ireland
Continuation-in-part of application Ser. No. 667,230, Sept. 12, 1967. This application Feb. 12, 1969, Ser. No. 798,611
Claims priority, application Ireland, Sept. 14, 1966, 1,029/66
Int. Cl. H02k *21/00, 39/00*
U.S. Cl. 310—86 **7 Claims**



An alternating current generator with permanent magnets for producing a substantially flat-topped output voltage, said generator comprising a rotor and stator combination for producing a magnetic field in the vicinity of the poles, screening elements located intermediate the generator poles for producing a pair of diametrically opposite screened zones of substantially zero flux density between the poles, a uniform winding for supporting induced voltage, equally spaced terminals on said winding, said terminals being spaced apart by an angular distance less than the angular distance defined by each of said screened zones.

3,508,095
PERMANENT MAGNET ALTERNATOR

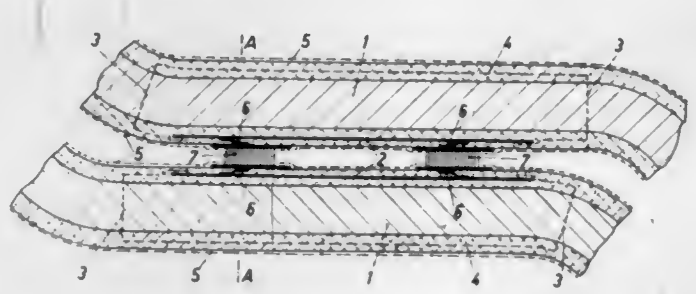
Louis I. Knudson and Richard C. Frink, Norwich, N.Y., assignors to General Laboratory Associates, Inc., Norwich, N.Y., a corporation of New York
Filed Apr. 10, 1968, Ser. No. 720,058
Int. Cl. H02k *21/12*
U.S. Cl. 310—156 **8 Claims**



A dynamoelectric machine according to which permanent bar magnets of optimum magnetic properties are incorporated in a rotor for high speed applications. In order to retain the permanent magnet bars, which tend to be physically brittle, against movement at such high speeds the ends of the magnets are locked in by end plates forming part of the rotor.

3,508,096
ARRANGEMENT FOR PREVENTING GLOW DISCHARGES BETWEEN INSULATED CONDUCTORS IN GENERATOR END TURNS

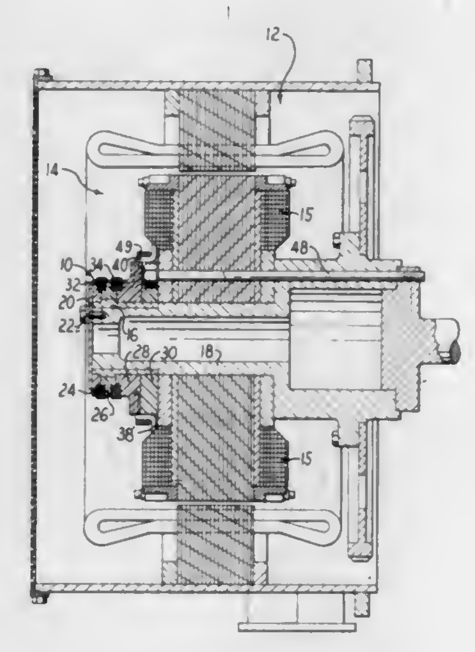
Ulrich Kull, Ennetbaden, and Roland Schuler, Otelfingen, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Nov. 25, 1968, Ser. No. 778,424
Claims priority, application Switzerland, Dec. 5, 1967, 17,035/67
Int. Cl. H02h *3/40*
U.S. Cl. 310—196 **4 Claims**



An arrangement for preventing glow discharges between two insulated electrical conductors having different potentials, particularly at the end turn portions of windings of high voltage rotary electrical machines, utilizes conductive layers embedded in the insulation of the two conductors where they approach one another in the end turn area and these conductive layers are electrically interconnected. Semiconductor layers are also embedded in the insulation and surround the winding conductors as well as the contact the conductive layers, and semiconductor layers are also applied to the exterior surfaces of the insulation. Intermediate supporting and spacing elements of semiconductive material reinforced with glass fiber are provided in the air gap between conductors.

3,508,097
LEAD RETAINING SLIP RING ASSEMBLY

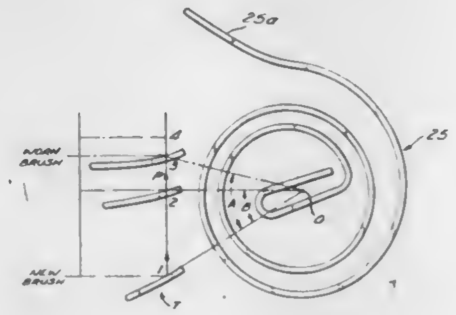
Charles L. Zuck, Jr., Washington, Ill., assignor to Caterpillar Tractor Co.. Peoria, Ill., a corporation of California
Filed Dec. 30, 1966, Ser. No. 606,256
Int. Cl. H01r *39/08*
U.S. Cl. 310—232 **4 Claims**



A slip ring apparatus supplies current to the rotor assembly field windings of an alternator device, utilizing preformed slip ring segments to retain and thus confine the interconnecting and terminal leads of the field windings.

3,508,098
BRUSH SPRING ASSEMBLY

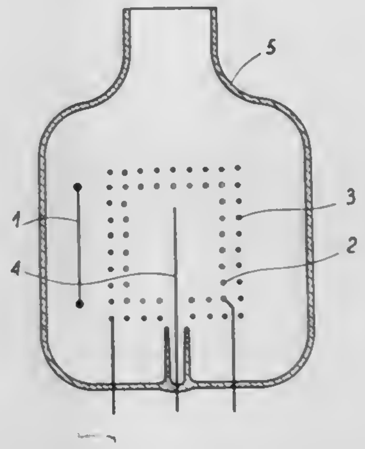
Donald A. Ciolli, Cleveland, Ohio, assignor to The Leece-Neville Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 23, 1968, Ser. No. 761,543
Int. Cl. H01r *39/40*
U.S. Cl. 310—246 **13 Claims**



A brush spring assembly for a motor or generator in which the brush spring urges the brush against the commutator with a force which, through most of the useful wear life of the brush, increases as the brush is worn away. The spring also exerts a side thrust on the brush to overcome any tendency of the brush to move laterally in the brush holder in a direction tangentially of the commutator.

3,508,099
IONIZATION GAUGE HEAD WITH REDUCED ELECTRONIC DESORPTION

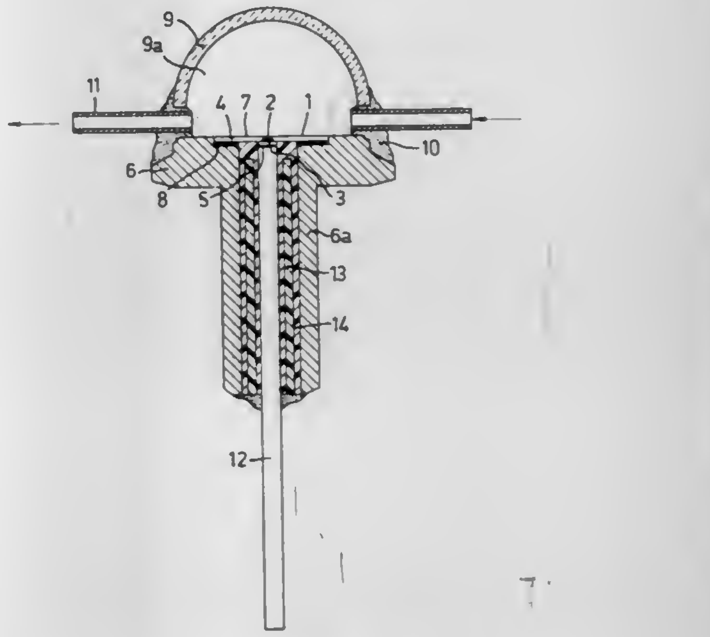
Janusz Groszkowski, Ul. Nowowiejska 22/7, Warsaw, Poland
Filed Feb. 16, 1968, Ser. No. 706,136
Int. Cl. G01n *27/62;* **H01j** *7/16, 41/00*
U.S. Cl. 313—7 **11 Claims**



An ionization gauge head having an anode constituted by two anode elements in the form of cages at different potentials placed in a vacuum adjacent a cathode to minimize the flow to the collector of ions being electronically desorbed.

3,508,100
ELECTROLUMINESCENT SEMICONDUCTOR DEVICES

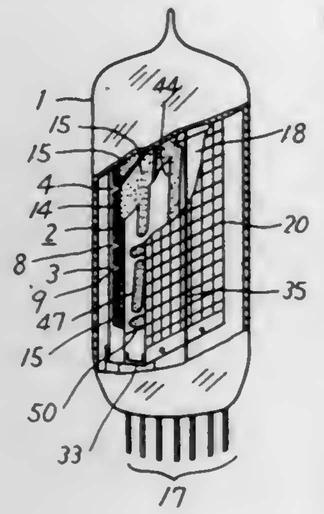
Jacques Tillays and Jean Claude Dubois, Caen, France, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,577
Claims priority, application France, Dec. 28, 1966, 89,153
Int. Cl. H05b *33/00*
U.S. Cl. 313—108 **9 Claims**



An electroluminescent semiconductor device having on the side from which the radiation emerges a transparent heat dissipator in the form of a solid or liquid for reducing the temperature of the semiconductor body portion through which the radiation passes in order to shift its absorption edge to reduce absorption losses.

3,508,101
CHARACTER INDICATING ELECTRON TUBE

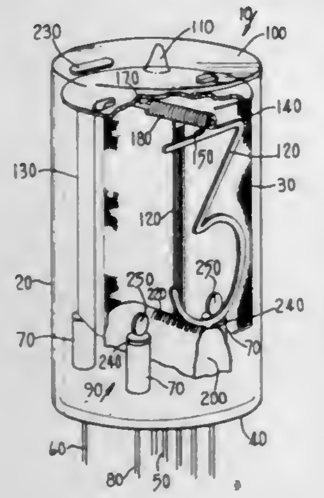
Mikiharu Tanji, Ise-shi, Japan, assignor to Ise Electronics Corporation, Ise-shi, Japan, a company of Japan
Filed Oct. 19, 1967, Ser. No. 676,580
Claims priority, application Japan, Mar. 27, 1967, 42/19,047
Int. Cl. H01j *7/42;* **H01k** *1/60*
U.S. Cl. 313—109.5 **6 Claims**



The character indicating tube in accordance with the invention includes a sectionalized anode, a grid and cathode and means for energizing selected anode sections to produce characters, such as the numerals 1–9 and 0, and the like.

3,508,102
INDICATOR TUBE WITH ELECTRODES SUPPORTED BY A RIGID INSULATING MASS

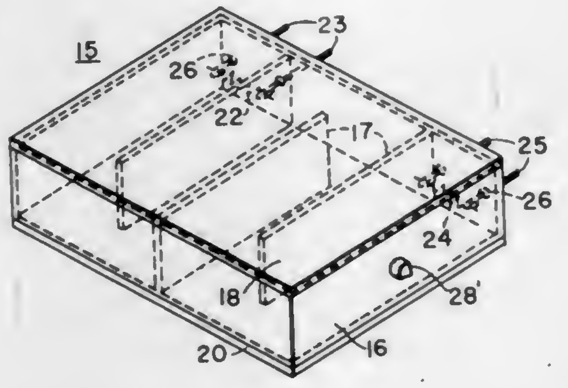
Arthur B. Shesser, Plainfield, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 30, 1968, Ser. No. 725,381
Int. Cl. H01j *1/88;* **H01k** *1/60*
U.S. Cl. 313—109.5 **6 Claims**



The disclosure is of a cold cathode, gas-filled indicator tube which has an envelope of minimal diameter and length and includes a stack of cathode electrodes in the form of characters which face the side wall of the envelope. The envelope includes a flat base and a flat dome which lie close to the upper and lower ends of the cathode electrodes. Support for the upper end of the electrode assembly may be provided in different ways, and, at the lower end, tube pins support the anode and cathodes. In addition, the cathode leads and the tube pins to which they are connected are embedded in a mass of insulating material which serves to shield the cathode leads and the tube pins and to provide a rigid support for the lower ends of the cathode characters. The mass of insulating material is shaped to prevent the deposition of continuous paths of sputtered cathode metal between adjacent cathode characters.

3,508,103
LAMINATED METAL-GLASS PANEL FLUORESCENT LAMP

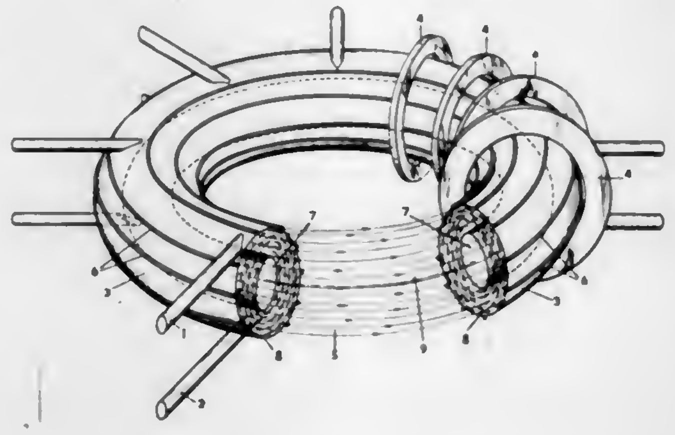
Robert G. Young, Nutley, N.J., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 7, 1967, Ser. No. 621,322
Int. Cl. H01j *1/62, 63/04*
U.S. Cl. 313—109 **11 Claims**



A preformed core assembly of sheet metal or glass having closed sides is sealed in sandwiched relationship between two vitreous plates one of which is light transmitting. The inner surfaces of the core assembly and plates are coated with phosphor and the resulting envelope is evacuated, mercury-dosed and charged with a fill gas through a glass tube that is sealed through a side wall of the core assembly. Partitions and various structural modifications are employed to provide planar fluorescent lamps with tortuous discharge paths and lamps of frame-like configuration for edge lighting pictures, mirrors and the like.

3,508,104
APPARATUS FOR THE STABLE CONFINEMENT OF A PLASMA

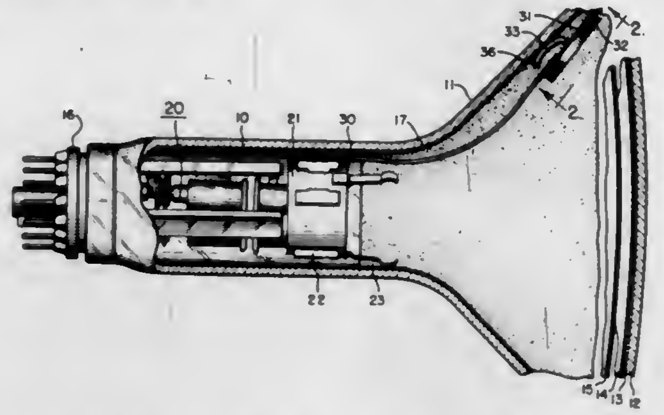
Cornelis Marius Braams, Utrecht, Netherlands, assignor to Stichting voor Fundamenteel Onderzoek der Materie, Utrecht, Netherlands, a foundation of the Netherlands
Filed July 3, 1967, Ser. No. 650,885
Int. Cl. H05h *1/02*
U.S. Cl. 313—161 **2 Claims**



A plasma is stabilized against magnetohydrodynamic and velocity-space instabilities by being confined by a cold gas blanket in a toroidal magnetic field. A ring whirl helps to define the equilibrium position, to stabilize against deviations from the steady-state, and to allow a poloidal field component.

3,508,105
GETTER ARRANGEMENT FOR CATHODE-RAY TUBES

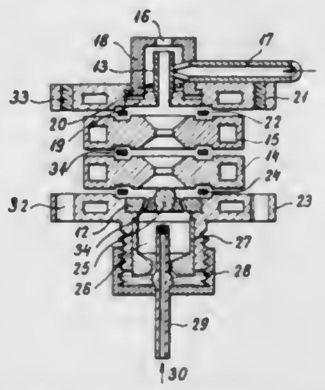
Nicholas P. Pappadis, Chicago, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Feb. 12, 1968, Ser. No. 704,712
Int. Cl. H01j *19/70, 7/18*
U.S. Cl. 313—178 **2 Claims**



An antenna-type getter is carried at the free end of a spring extending from the final electrode of the gun mount of a cathode-ray tube. The spring is long enough and so configured that the getter ring is positioned close to the wall of the bell of the envelope. A sled is carried by the getter ring and its runners, which are the only contact between the getter and the envelope, are configured to provide essentially point contact with the tube wall.

3,508,106
HIGH-GRADE CONTAMINATIONLESS PLASMA BURNER AS LIGHT SOURCE FOR SPECTROSCOPY

Lajos Vecsernyes, Budapest, Hungary, assignor to Tavkozlesi Kutato Intezet, Budapest, Hungary
Filed Apr. 14, 1967, Ser. No. 631,000
Claims priority, application Hungary, Apr. 16, 1966, TA–892
Int. Cl. H01j *7/24, 3/00*
U.S. Cl. 313—231 **3 Claims**

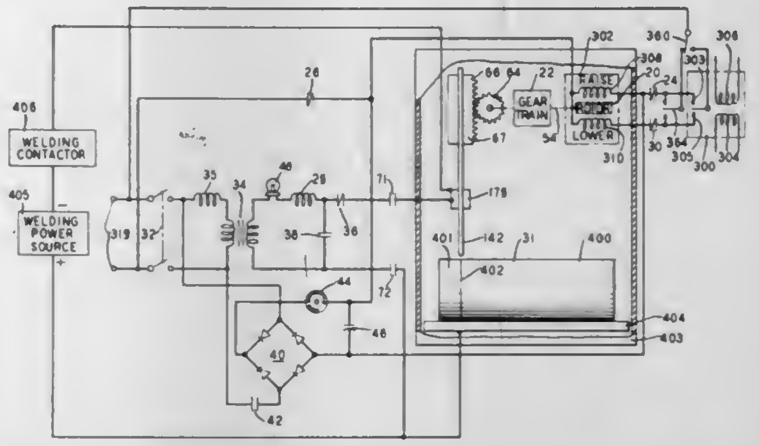


A direct current plasma jet having a cathode adapted to guide the arc and plasma and being removably mounted in a block, said cathode and block being at least partly surrounded by a bell having a plasma outlet aligned with the outlet of said cathode. Said bell is formed with a further aperture through which a sample guide tube protrudes. A protective ring is arranged around the cathode within the bell.

3,508,107
APPARATUS AND METHOD FOR A CLOSED VESSEL WELDING OPERATION

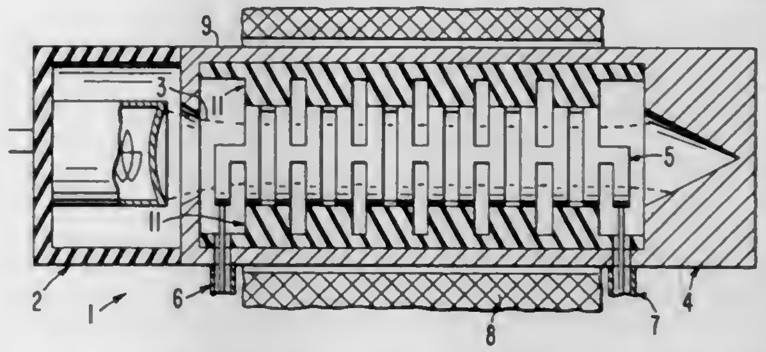
Harold O. Jones, Landing, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 21, 1966, Ser. No. 595,860
Int. Cl. B23k *9/12*
U.S. Cl. 314—73 **6 Claims**

Apparatus and method for remote control of the spacing between a welding electrode and a workpiece in a closed vessel comprising means for moving the electrode toward the workpiece, means responsive to electrical contact between the electrode and workpiece to stop movement of the electrode, means to indicate contact, and means including a dial-type selector switch for moving the electrode a predetermined distance away from contact with the workpiece.



3,508,108
COMB-SHAPED CERAMIC SUPPORTS FOR HELIX DERIVED SLOW WAVE CIRCUITS

Frederick L. Salisbury, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 16, 1967, Ser. No. 609,521
Int. Cl. H01j *25/34*
U.S. Cl. 315—3.5 **4 Claims**

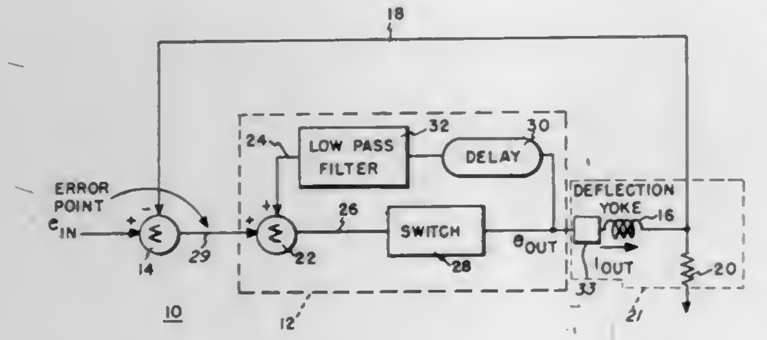


Comb-shaped ceramic dielectric support structures are provided for supporting helix derived slow wave circuits such as helices, ring-and-bar and double ring-and-bar circuits. The fingers or teeth of the comb-shaped structures supportively contact the outer periphery of the loop or ring segments, and in some cases the bars, with the space between the supporting fingers being disposed in registry with the space between adjacent ring or loop portions of the circuit, whereby the capacitive loading of the circuit is minimized while providing ample support and thermal conductivity from the circuit to its surroundings. Several methods for fabricating comb supported slow wave circuits are described. One method calls for photoetching the circuit, forming same into a tube and brazing it into a pair of opposed combs which have been fabricated by slotting metallized blocks of beryllia to form the comb-shaped structures.

3,508,109
DEFLECTION AMPLIFIER

Philip A. Congdon, Marlboro, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Jan. 27, 1969, Ser. No. 794,192
Int. Cl. H01j *29/76*
U.S. Cl. 315—27 **7 Claims**

An amplifier which is primarily a switching amplifier employing a very fast switch in the configuration of a non-linear, forward path with linear, passive feedback around the path used in driving a magnetic deflection yoke. In operation, no active circuit element delivering power to the load operates in a linear mode but rather



all the devices delivering power to the load function as switches and dissipate an accordingly small amount of power themselves while delivering maximum available power to the load.

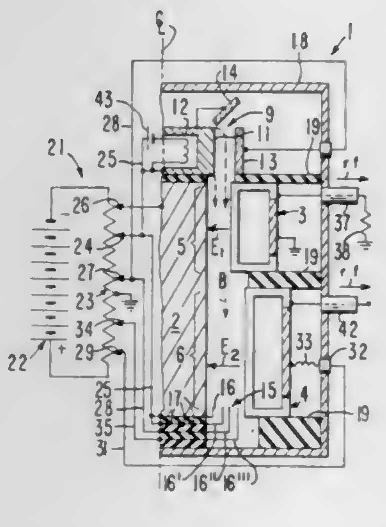
3,508,110
DUAL STAGE AXIALLY INJECTED REENTRANT STREAM CROSSED-FIELD TUBE

George K. Farney, New Providence, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed Oct. 5, 1967, Ser. No. 673,195

Int. Cl. H01j *25/34*

U.S. Cl. 315—39.3 **10 Claims**



A dual stage axially injected reentrant stream crossed-field tube is disclosed. The tube includes a cylindrical non-emissive cathode sole surrounded by axially spaced first and second slow wave circuits to define a pair of axially spaced circular crossed-field interaction regions or stages. An electron gun is provided at one end of the crossed-field interaction regions for projecting an annular beam of electrons axially through the interaction regions to a collector structure disposed at the opposite end of the interaction regions. Signal wave energy to be amplified is applied to the slow wave circuit in the first stage. The signal energy cumulatively interacts with the electron stream to produce rotating spokes of space charge in the axially drifting stream. The spokes of space charge drift axially into the second crossed-field interaction region for exciting microwave energy on the second slow wave circuit. Cumulative interaction with the second slow wave circuit in the second stage produces an amplified output signal which is extracted and fed to a suitable load. In a preferred embodiment, the second slow wave circuit is operated at a D.C. potential substantially higher than the D.C. potential applied to the anode slow wave circuit in the first stage for improving the efficiency and gain of the tube. For example, in the first crossed-field interaction region the slow wave circuit is operated with a voltage V which is typically 4 to 5 times the synchronous voltage V_0. However, in the second stage the slow wave circuit is operated at a potential which is between 10 and 25 times the synchronous voltage V_0.

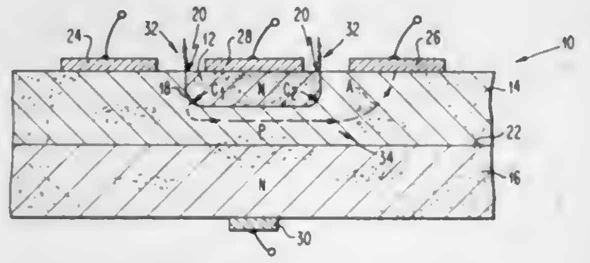
3,508,111
LIGHT EMITTING SEMICONDUCTOR DEVICE WITH LIGHT EMISSION FROM SELECTED PORTION(S) OF P-N JUNCTION

Lewis A. Davidson, Wappingers Falls, and John P. Wasula, Troy, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Sept. 21, 1966, Ser. No. 581,074

Int. Cl. H05b *33/00, 41/44*

U.S. Cl. 315—169 **14 Claims**



A P-N junction light source having such a spatial control of the emitted light is composed of a semiconductor material having at least one P-N light emitting junction. Means are provided to allow a localized bias across at least certain portions of the P-N junction to cause light emission at the desired portion of the P-N junction. An isolating substrate junction may be used to form a lower portion of the light source and is below the P-N junction. Means are provided for adjusting the lateral current between the substrate junction and the P-N junction to control the light emission area along the P-N junction.

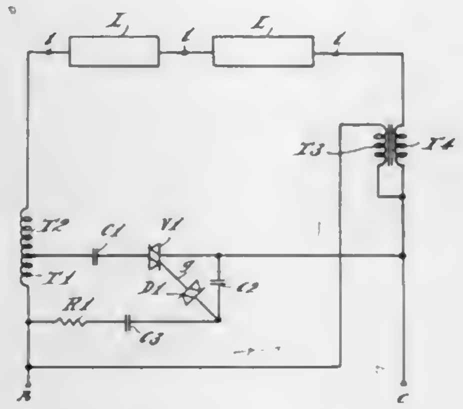
3,508,112
CIRCUIT FOR APPLYING IONIZING PULSES AND BOOSTED ALTERNATING CURRENT TO AN ARC DISCHARGE LAMP

Sandford C. Peek, Ipswich, Mass., assignor to Sylvania Electric Products, Inc., a corporation of Delaware

Filed June 29, 1967, Ser. No. 649,917

Int. Cl. H05b *41/14*

U.S. Cl. 315—240 **3 Claims**



An electronic circuit having a pulse generating circuit for applying ionizing pulses to a fluorescent lamp which draws discharge current from an alternating current supply, and a transformer connected to the supply for boosting the alternating current applied to the lamp.

3,508,113
INFORMATION-TRANSFER APPARATUS

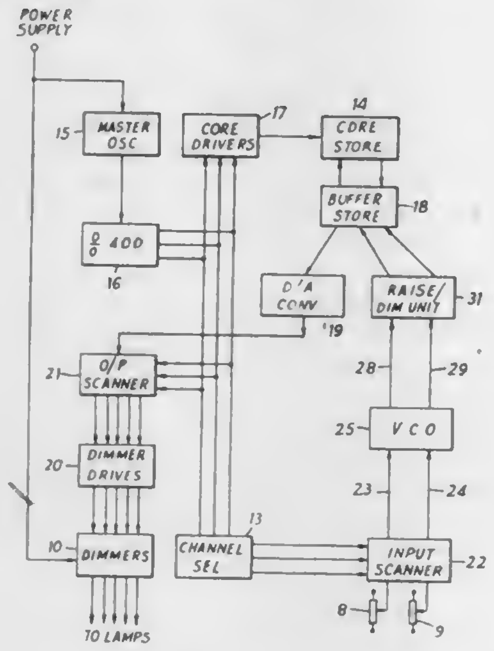
Anthony Leonard Isaacs, London, England, assignor to Thorn Electronics Limited, Lane, London, England

Filed Jan. 19, 1968, Ser. No. 699,207

Claims priority, application Great Britain, Feb. 10, 1967, 6,568/67

Int. Cl. H05b *37/02*

U.S. Cl. 315—292 **11 Claims**



An information-transfer apparatus in which the information is modulated on to a carrier from whence it is recovered by demodulation and used to modulate a second carrier. In order to avoid interfering modulation of the second carrier by beats between harmonics thereof and harmonics of the first carrier the two carriers are locked in harmonic relationship with their frequencies equal to *mf* and *nf* respectively where *m* and *n* are both integers less than 10 and may be equal.

3,508,114
AUTOMATIC PROGRAM CONTROLLED STAGE LIGHTING SYSTEM

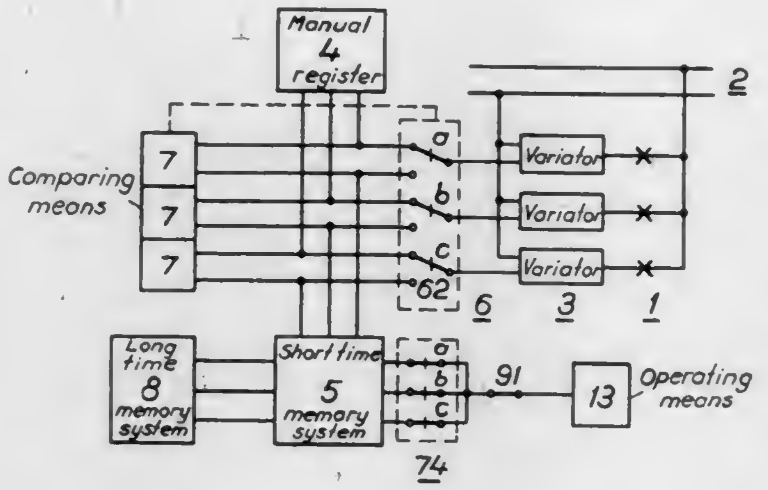
Sven-Erik Johansson, Tage Gustafsson, and Stig Norback, Vasteras, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation

Filed July 22, 1968, Ser. No. 746,336

Claims priority, application Sweden, July 25, 1967, 10,818/67

Int. Cl. G05f *1/00;* **H05b** *37/02, 39/04, 41/36*

U.S. Cl. 315—292 **8 Claims**



An automatic program control system for a stage lighting system which contains a number of individually controllable light circuits and a remote control arrangement for varying the light provided by each circuit has a manual register with controlled circuits for each light varying means so that the light varying means can be preset with desired light values. A short time memory has at least one memory circuit for each light varying means and a step switch for each memory circuit for setting a certain output signal therefrom. A long time memory system can be connected to the step switch of the short time memory system so as to receive and record signals or to furnish recorded signals. There is a common operating means for the step switches of the memory circuits. The control signal of the light varying means set in the manual register is compared with the output signal set with the step switch of the corresponding short time memory circuit and the light varying means is switched over from the manual register to the short time memory in response to the output of the comparing means.

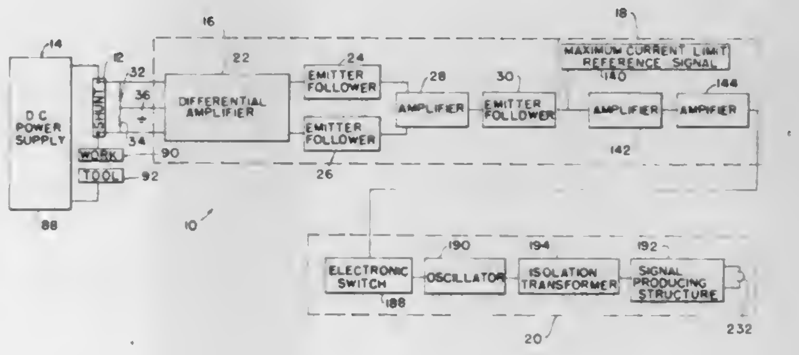
3,508,115
CIRCUIT FOR AND METHOD OF CURRENT RESPONSIVE ELECTRONIC CONTROL

Robert W. Drushel, Farmington, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed Aug. 22, 1966, Ser. No. 573,999

Int. Cl. H02h *3/08, 7/00;* **G08b** *21/00*

U.S. Cl. 317—27 **12 Claims**



A circuit for and method of cutting off an electrical machining circuit in response to an excessive current in the circuit. The circuit includes a shunt positioned in the electrical machining circuit, a double ended differential amplifier connected across the shunt and a pair of emitter followers connected to the output of the differential amplifier collectively operable to provide a single ended output signal proportional to the current in the shunt, structure for providing an adjustable maximum current limit reference signal and compare it to the single ended output to provide a trip signal in response to the current in the shunt reaching a predetermined selected value in relation to the maximum current limit reference signal and an electronic switch, a unijunction transistor oscillator, isolating transformer and silicon controlled rectifier connected in series to provide an output control signal in response to the trip signal.

3,508,116
INDUCTIVELY TRIGGERED BREAKERLESS IGNITION SYSTEM WITH VARIABLE MAGNETIC SHUNT

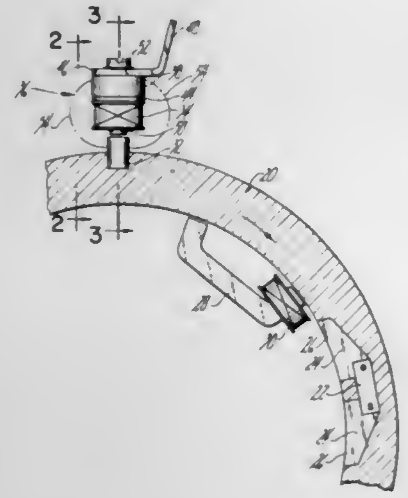
Bob O. Burson, East Longmeadow, Mass., assignor to R. E. Phelon Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts

Filed Sept. 9, 1968, Ser. No. 758,443

Int. Cl. H01t *13/40;* **F23q** *3/00*

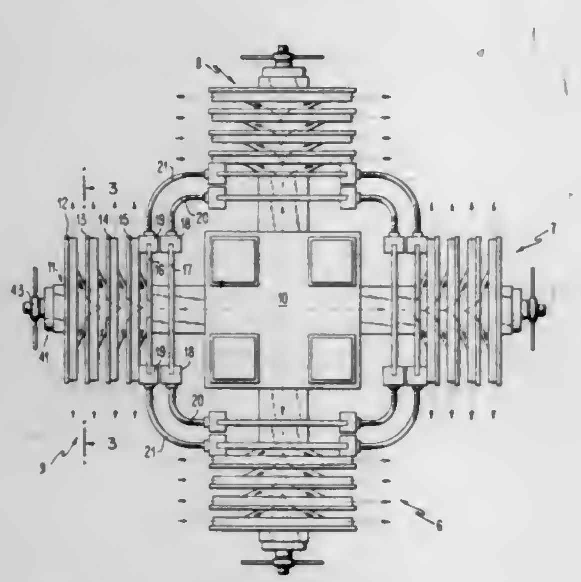
U.S. Cl. 317—81 **7 Claims**

An ignition system for a spark ignited engine includes a silicon controlled rectifier for controlling the firing of the associated spark plug. The silicon controlled rectifier is triggered by signals provided by a triggering magnet and coil assembly mounted adjacent a rotating part of the engine including an iron pin or other pole means for varying the reluctance of the magnetic circuit through the triggering coil as the rotating part is rotated to induce a triggering voltage signal in the coil. A means is also provided for establishing a shunt circuit of adjustable reluctance for the flux produced by the magnet to permit the system to be easily calibrated to fire at a desired given point or angular position of said rotating part at a given speed thereof, thereby compensating for variations from unit to unit in the parts of the system.



3,508,117
CIRCUIT ASSEMBLY

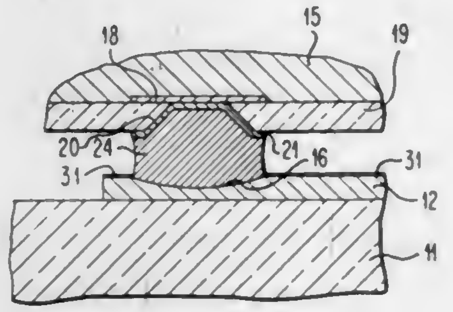
David E. Cuzner, Romsey, England, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 1, 1968, Ser. No. 741,700
Claims priority, application Great Britain, July 28, 1967, 34,757/67, 34,758/67
Int. Cl. H05k *7/20*
U.S. Cl. 317—100 **23 Claims**



A circuit assembly, particularly suitable for mounting integrated circuit modules, is provided in which the circuit elements are closely spaced, interconnection lengths minimized and improved cooling provided. The circuit assembly comprises a plurality of parallel spaced-apart printed circuit cards each formed with a central aperture around which are disposed circuit modules. A tube, the walls of which are formed by apertured multi-layered circuit boards, extends through the apertures of all the circuit cards and provides the interconnections between different circuit cards. The connections between the circuit cards and the circuit boards of the tube are provided by spring fingers fixed to the circuit cards and cammed into contact with the circuit boards of the tube. The tube communicates with a central air box and directs cooling air at the modules on the circuit cards through the apertures in the multi-layered circuit boards.

3,508,118
CIRCUIT STRUCTURE

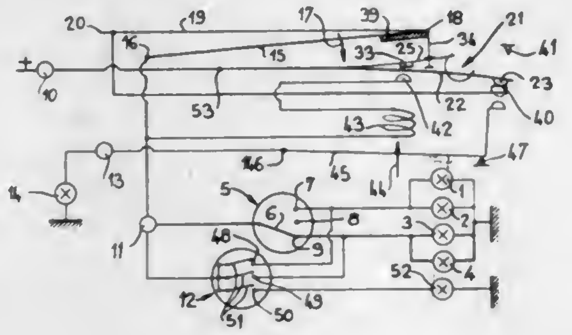
Seymour Merrin, Fairfield, Conn., and Melvyn D. Silver and Edward M. Suden, Suitland, Md., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Original application Dec. 13, 1965, Ser. No. 513,412, now Patent No. 3,436,818, dated Apr. 8, 1969. Divided and this application Jan. 24, 1969, Ser. No. 794,014
Int. Cl. H01l *19/00*
U.S. Cl. 317—101 **6 Claims**



A microminiature circuit structure includes a substrate having a plurality of connecting areas. A microminiature chip device having a face with solder wettable terminal areas is bonded to the substrate by means of a plurality of connectors which establish a unified joint between terminal and connecting areas. The connectors are made of a solder which will only partially wet the connecting areas.

3,508,119
FLASHER UNIT FOR A VEHICLE

Gaston Cartier, 8 Avenue de la Liberation, Cluses, France
Filed June 19, 1967, Ser. No. 647,066
Claims priority, application France, Dec. 5, 1966, 48,023
Int. Cl. H01h *47/22, 61/06;* **B60q** *1/38*
U.S. Cl. 317—132 **4 Claims**

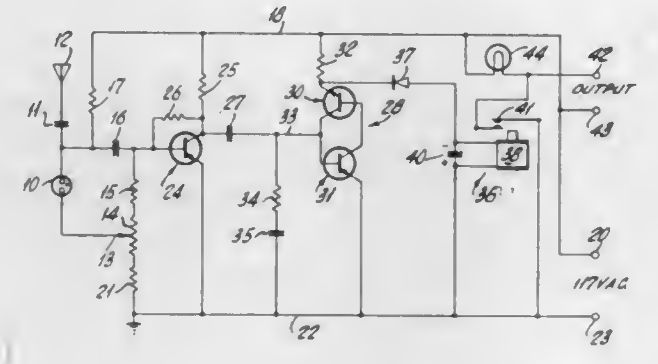


A flasher unit for a vehicle has the usual direction indication lamps 1–4 (FIGURE 1) and a selector switch 5 to select the indicator required. The flashing is provided by a tumbler switch 21 which is operated by an unstable spring element which can be tripped mechanically by spring blade 18 which is itself stressed by a wire 19. Current can flow through the wire 19, and the expansion of the wire relaxes the blade 18 and trips the switch 21, so that the current by-passes the wire. The circuit therefore alternately includes and by-passes the wire 19 to produce flashing.

A warning switch 12 connects all the lamps to the current supply but retains the flashing effect.

3,508,120
SEMICONDUCTOR SWITCHING CIRCUIT

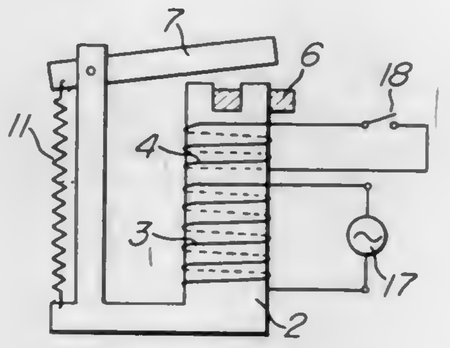
Carl E. Atkins, Montclair, N.J., assignor to Wagner Electric Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 550,765, May 17, 1966. This application Aug. 20, 1968, Ser. No. 755,507
Int. Cl. H03k *17/30*
U.S. Cl. 317—148.5 **8 Claims**



A pair of complementary transistors are connected in the regenerative feedback configuration to form a solid-state switching circuit. A resistor and a capacitor are series-connected between the base and emitter of one transistor to provide bias voltage to the switching circuit and to introduce positive hysteresis into the circuit.

3,508,121
ALTERNATING CURRENT ELECTROMAGNETIC APPARATUS

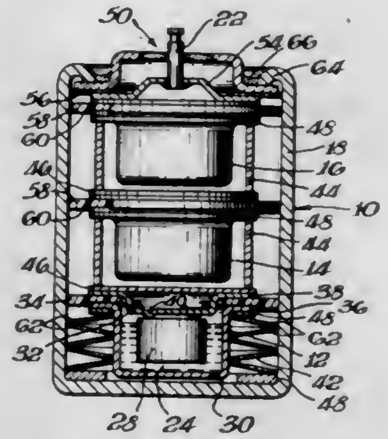
Tsuneo Kobayashi, Hirakata-shi, and Koichi Yoshimura, Kadoma-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan
Filed Aug. 12, 1966, Ser. No. 572,034
Claims priority, application Japan, Oct. 13, 1965, 40/83,943 (utility model)
Int. Cl. H01h *47/00;* **H01f** *7/14*
U.S. Cl. 317—155.5 **15 Claims**



An electromagnetic apparatus comprising a high voltage exciting winding to be connected to an AC power source, a low voltage control winding not connected to any power source, a stationary iron core on which the two windings are wound, and a movable iron core disposed opposite the stationary iron core. The exciting winding and control winding are wound on a single bobbin whereby the movable iron core will be actuated under the control of said low voltage control winding.

3,508,122
ELECTROLYTIC CAPACITOR

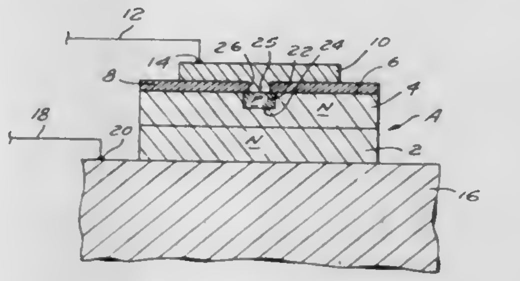
Ronald A. Baker, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Mar. 19, 1968, Ser. No. 714,294
Int. Cl. H01g *1/00*
U.S. Cl. 317—230 **10 Claims**



A plurality of electrolytic capacitor cells are enclosed within a tubular container with a compressive means disposed around the cell body for exerting an inline force on peripheral sealing flanges of the cells.

3,508,123
OXIDE-TYPE VARACTOR WITH INCREASED CAPACITANCE RANGE

Barry J. Liles, Jackson Heights, N.Y., assignor to General Instrument Corporation, Newark, N.J., a corporation of New Jersey
Filed July 13, 1966, Ser. No. 564,937
Int. Cl. H01l *3/00*
U.S. Cl. 317—234 **10 Claims**

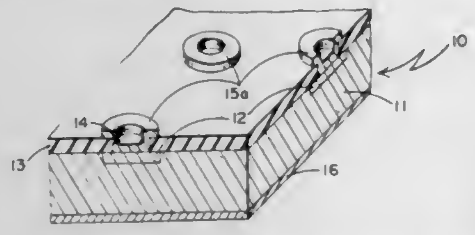


In an oxide-type varactor, in which a dielectric layer is interposed between a first electrode and a semiconductor body of first conductivity type, the construction being such that the capacitance between the electrode and the semiconductor body is appreciable and is controllably variable with change in the bias applied to the device, the range over which the capacitance can be varied with change in bias is appreciably increased by providing in the semiconductor body beneath the electrode a small area of second conductivity type to which the electrode is electrically connected, a junction being defined between the two areas of opposite conductivity type.

3,508,124
SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURE

Wilfred L. Boulé, Antrim, and Elvery Dean Lowry, Hillsboro, N.H., and Clifford Orman, Winchester, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 712,121
Int. Cl. H01l *1/14*
U.S. Cl. 317—234 **15 Claims**

Silicon planar diode in which the silicon die is attached to molybdenum pins by (a) thin layers of silver alloyed to the silicon, (b) thicker layers of silver bonded to the thin layers, and (c) layers of silver and germanium bonded to the thick silver layers and to the molybdenum



pins. A glass sleeve encircles the die and is sealed to the molybdenum pins.

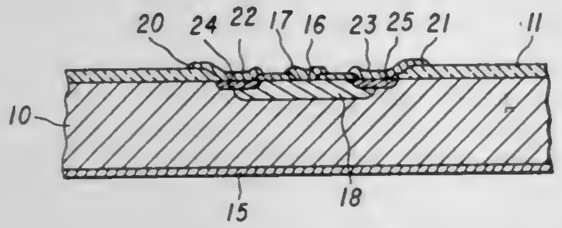
3,508,125
MICROWAVE MIXER DIODE COMPRISING A SCHOTTKY BARRIER JUNCTION

Alfred Ertel and Tom M. Hyltin, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Continuation of application Ser. No. 519,039, Jan. 6, 1966. This application June 4, 1968, Ser. No. 769,460

Int. Cl. H01l *5/02*

U.S. Cl. 317—234 **15 Claims**



This invention relates to semiconductor devices, and more particularly to metal-semiconductor barrier rectifying devices which are especially suited for use in integrated microwave circuits as mixer diodes.

3,508,126
SEMICONDUCTOR PHOTODIODE WITH P-N JUNCTION SPACED FROM HETEROJUNCTION

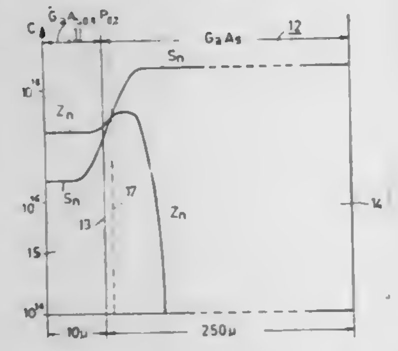
Peter Colin Newman and Andrew Francis Beer, Crawley, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 480,344, Aug. 17, 1965. This application July 18, 1968, Ser. No. 750,997

Claims priority, application Great Britain, Aug. 19, 1964, 33,876/64; Apr. 7, 1965, 14,739/65

Int. Cl. H01l *15/00*

U.S. Cl. 317—235 **8 Claims**



A semiconductor photodiode having a heterojunction between portions of different bandgaps and a p-n junction between regions of opposite conductivity type. The p-n junction is located wholly within the smaller bandgap portion spaced from the heterojunction such that the depletion region lies in the smaller bandgap portion of smaller absorption length. The radiation received is impinged on the larger bandgap portion and passes through same to become absorbed in the smaller bandgap portion within or near the depletion region.

3,508,127
SEMICONDUCTOR INTEGRATED CIRCUITS

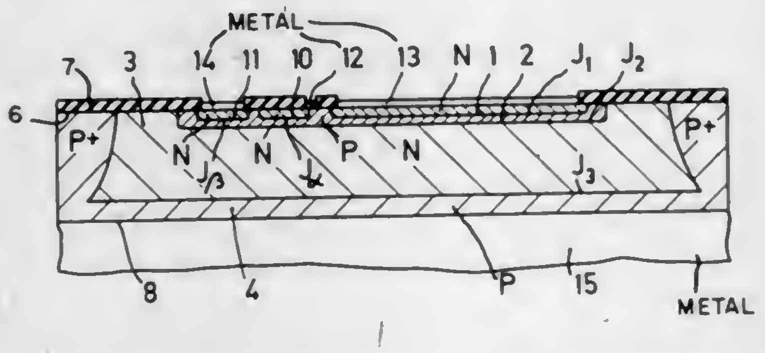
Gerald David Bergman, Bushey Heath, and Tony C. Denton, Watford, England, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed July 25, 1968, Ser. No. 747,654

Claims priority, application Great Britain, Aug. 9, 1967, 36,515/67

Int. Cl. H01l *11/00, 9/00*

U.S. Cl. 317—235 **7 Claims**



A semiconductor integrated circuit of the planar type comprising a transverse 4-layer or 5-layer thyristor having in a middle base region a lateral 3-layer trigger diode for turning the thyristor on. The trigger diode includes a shorted junction. The entire circuit can be made by standard diffused planar technology.

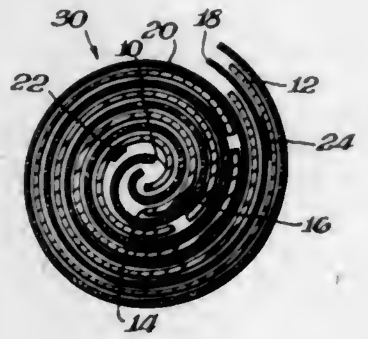
3,508,128
SERIES-CONNECTED CAPACITOR SECTIONS

William M. Allison, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed July 11, 1968, Ser. No. 744,160

Int. Cl. H01g *3/04, 3/175, 3/28*

U.S. Cl. 317—258 **9 Claims**



Two rolled capacitor sections each have an inner electrode and an outermost electrode which by capacitive overlap are internally series-connected by at least one floating electrode. The outermost electrode overlaps itself and extends volutely at least a small distance beyond every other electrode. The two capacitor sections are series-connected by an electrical connection between the outermost electrode of each section.

3,508,129
ELECTRONIC SYSTEM FOR CORRECTING TRACKING ERRORS

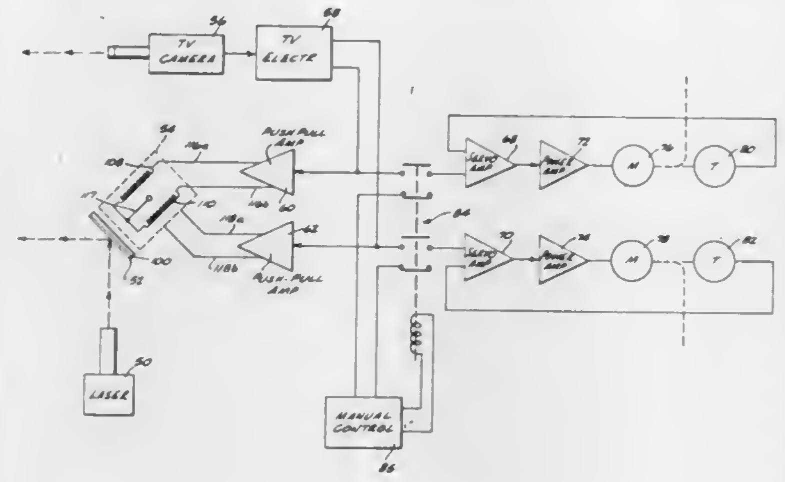
Sydney J. Goldberg, Inglewood, and Raymond H. Griest, Los Angeles, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Oct. 21, 1966, Ser. No. 588,459

Int. Cl. G05b *6/02*

U.S. Cl. 318—18 **9 Claims**

This invention comprises the combination of a tracking system which provides target displacement errors such as from a TV tracker and an analog servo system which nullifies these displacement errors within a tracking system servo loop, such as a manually operated anti-aircraft gun or the like.



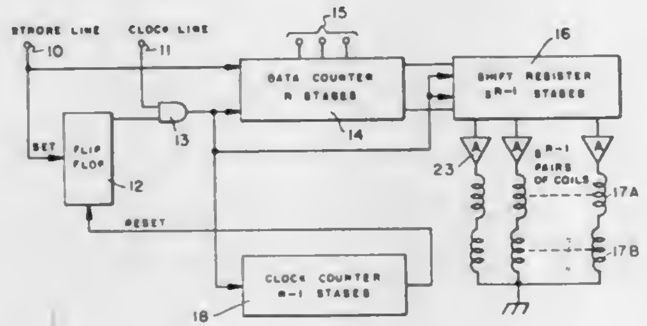
3,508,130
DIGITAL MOTOR

Lyman F. Van Buskirk, Ridgecrest, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 23, 1968, Ser. No. 707,493

Int. Cl. H02p *7/28*

U.S. Cl. 318—138 **2 Claims**



A digital controlled shaft rotating device which will seek a discrete position in response to a binary command.

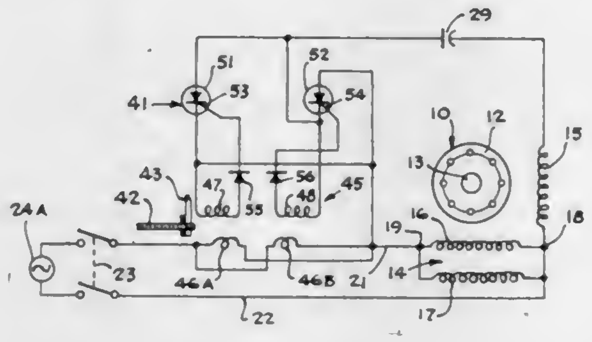
3,508,131
SCR ACTUATED SINGLE-PHASE MOTOR CONTROLS

Alexander J. Lewus, Phoenix, Ariz.

Continuation-in-part of application Ser. No. 362,764, Apr. 27, 1964. This application Sept. 8, 1967, Ser. No. 666,433

Int. Cl. H02p *7/62*

U.S. Cl. 318—227 **8 Claims**



External control circuits for single-phase electric motors of the split-phase, capacitor-start inductance-run, and capacitor-start capacitor-run kinds in which energization of the starting winding is controlled by two signal-controlled rectifiers energized from air-gap sensing transformer having an adjustable magnetic core. In each circuit, the primary winding of the transformer is connected in series with the power circuit for the main or running winding of the motor; in one circuit the transformer has two primaries that are connected in series for high voltage operation and in parallel for low voltage operation of a dual-voltage motor. The sensing transformer has two secondary windings, respectively connected to the gate electrodes of two signal-controlled rectifiers. The two rectifiers are directly connected, in parallel with each other but in opposed polarities, in series with the motor starting winding. The transformer is provided with an adjustable magnetic core to balance and adjust the conduction levels of the two SCR's. No resistance or other impedance is incorporated in the triggering circuits for the SCR's, affording maximum sensitivity and close control of the triggering level of the SCR's. Adjustment of the transformer allows for a limited forward voltage drop across the two SCR's, increasing the dephasing action of the starting circuit and improving the starting torque of the motor.

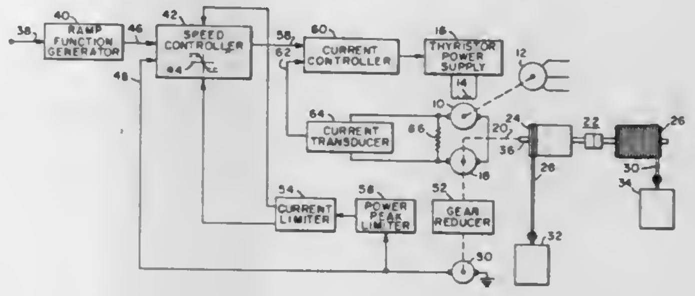
3,508,132
POWER PEAK LIMITING CONTROL FOR DIRECT CURRENT DRIVES

Robert S. Peterson, Williamsville, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 19, 1968, Ser. No. 738,297

Int. Cl. H02p *1/00, 3/00*

U.S. Cl. 318—271 **10 Claims**



Described is a motor control system employing conventional voltage and current regulators, and additionally including means for modifying the current limit of the system as a function of motor voltage or speed. In accordance with the invention, the power peak limiting feature is effective only during motoring conditions to avoid input power peaks, but not effective during regeneration conditions to afford maximum braking effect.

3,508,133
METHOD AND APPARATUS FOR CONTROLLING THE OVERRUN OF ROTARY MEMBER

Franz Schneider, Eugen Waller, and Hans Hauser, Goppingen, Germany, assignors to L. Schuler G.m.b.H., Goppingen, Germany

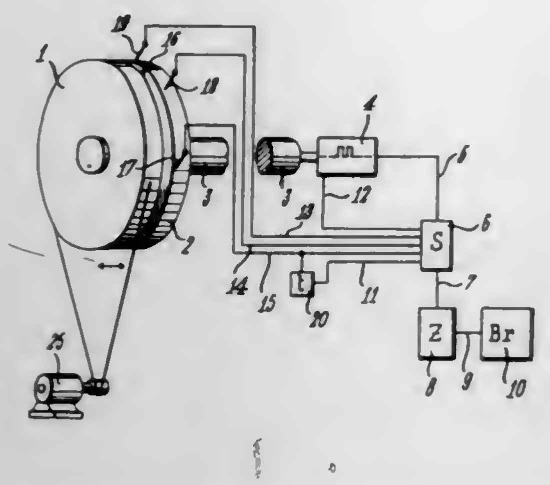
Filed Apr. 26, 1966, Ser. No. 545,498

Claims priority, application Germany, Apr. 29, 1965, Sch 36,959

Int. Cl. H02p *1/00, 3/00*

U.S. Cl. 318—275 **15 Claims**

Method and apparatus for adjusting the angular position of a rotating shaft at which said shaft is caused to stop including means for measuring the rotary speed of the shaft during a fractional portion of a cycle thereof and means for varying the angular position at which the brake is made operative automatically as a function of the measured speed including means for adjusting for the overrun of the previous operation.



3,508,134

ELECTRONIC MOTOR CONTROL CIRCUITS RESPONSIVE TO BACK EMF

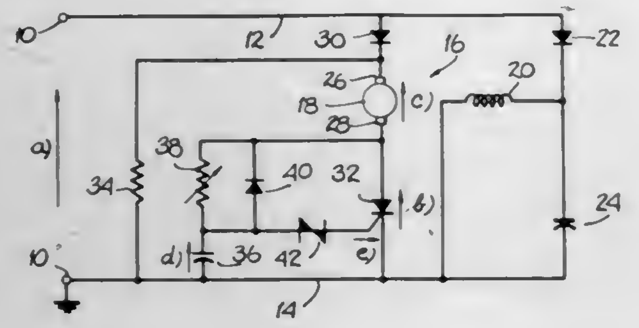
Peter Dosch, Im Rank, Jona, and Mandred Paul Oehmann, Wattwil, Switzerland, assignors to Heberlein & Co. AG., Wattwil, Switzerland, a corporation of Switzerland

Continuation-in-part of application Ser. No. 504,917, Oct. 24, 1965. This application Dec. 6, 1966, Ser. No. 599,541

Claims priority, application Switzerland, May 25, 1965, 7,313/65

Int. Cl. H02p *5/16*

U.S. Cl. 318—331 **8 Claims**



Electronic motor control circuits for regulating the speed and torque of DC shunt motors under varying load conditions the circuit comprising means for comparing the back EMF of the motor with the breakdown potential of a trigger element to achieve low speed regulation, and further including means for comparing the motor back EMF with the applied supply voltage in the higher speed range.

3,508,135

DEVICE COMPRISING A PLURALITY OF SERIES-ARRANGED, SEMICONDUCTOR CONTROLLED RECTIFIERS

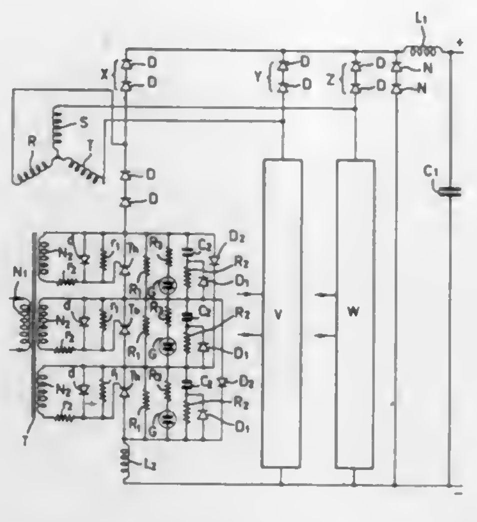
Rients Jan Dijkstra, Hilversum, Netherlands, Leendert Johannes Hofland, Hermuhlheim, Cologne, Germany, and Jacobus Franciscus van Dam, Stadskanaal, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 21, 1967, Ser. No. 684,818

Int. Cl. H02m *1/18;* **H03k** *17/00;* **G08b** *21/00*

U.S. Cl. 321—11 **10 Claims**

A high voltage rectifier comprising a plurality of semiconductor controlled rectifiers connected in series between an AC voltage source and a load. A plurality of avalanche diodes is individually connected in parallel with individual pairs of the controlled rectifiers. The avalanche breakdown voltage of the diodes is less than twice the minimum forward anode-cathode breakdown voltage of a controlled rectifier and is greater than the maximum forward anode-cathode breakdown voltage of a single controlled rectifier. One or more rectifiers are connected in series with the controlled rectifiers and with the same polarity.



3,508,136

APPARATUS FOR OBTAINING A CARRIER FREQUENCY SHIFTING AT A CONSTANT PHASE ANGLE IN FREQUENCY MODULATION

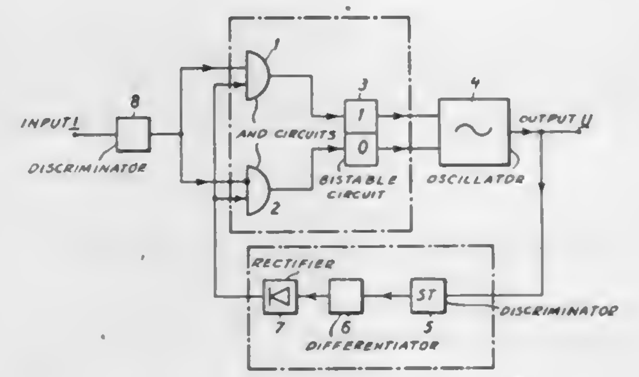
Sigurd Pareli Danielsen, Bandhagen, Jan-Erik Hagen, Farsta, and Walter Herbert Erwin Widl, Bandhagen, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed Oct. 12, 1967, Ser. No. 674,912

Claims priority, application Sweden, Dec. 12, 1966, 16,987/66

Int. Cl. H04l *27/10;* **H03c** *3/00*

U.S. Cl. 332—14 **5 Claims**



There is disclosed a distortion-free transmitter which receives amplitude modulated signals representing binary digital information and transmits frequency modulated carrier signals switching between two frequencies in accordance with the binary digital information.

The amplitude modulated signals are fed in opposite phases to inputs of two AND-gates the outputs of which are fed to the set and clear terminals of a bistable switching circuit which controls a frequency shift oscillator. The output of the oscillator is fed back via an amplitude sensitive pulse generator to other inputs of the AND-gates to control the passage of the amplitude modulated signals through the AND-gates. Consequently, the time of switching of the bistable circuit and, therefore, the frequency switching of the oscillator are controlled to occur at a particular phase of the carrier signals generated by the oscillator.

3,508,137

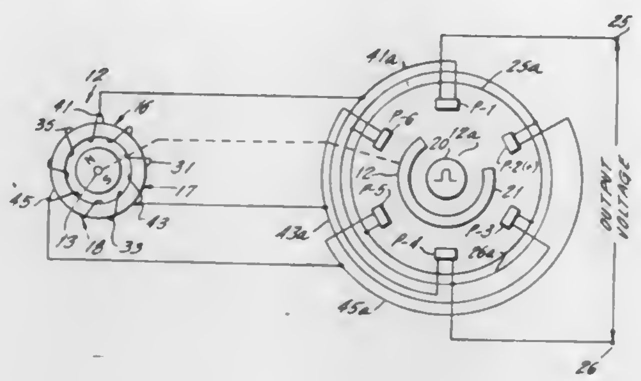
BRUSHLESS D.C. TACHOMETER

Roy K. Hill, Bristol, Tenn., assignor to Sperry Rand Corporation, Sperry Farragut Division, Bristol, Tenn., a corporation of Delaware

Continuation-in-part of application Ser. No. 228,849, Oct. 8, 1962. This application Sept. 29, 1967, Ser. No. 671,842

Int. Cl. H02m *7/30, 7/86;* **G01p** *3/68*

U.S. Cl. 321—28 **9 Claims**



A brushless D.C. tachometer is constructed with a permanent magnet rotor having a flux field cutting the conductors of a stator winding to induce voltages therein. Static switching means connects stator winding sections in predetermined order to the output terminals of the tachometer so that for a given direction of rotor rotation predetermined voltage polarities appear at the output terminals. The static switching means is constructed of a plurality of symmetrical bilateral type phototransistors or a plurality of pairs of reverse-parallel connected nonsymmetrical phototransistors. It appears that phototransistors, when illuminated, generate internal voltages resulting in only minute internal voltage drops, thereby improving output linearity of the tachometer.

3,508,138

GENERATOR WITH PLURAL OUTPUT COILS CONNECTED IN EITHER SERIES OR PARALLEL

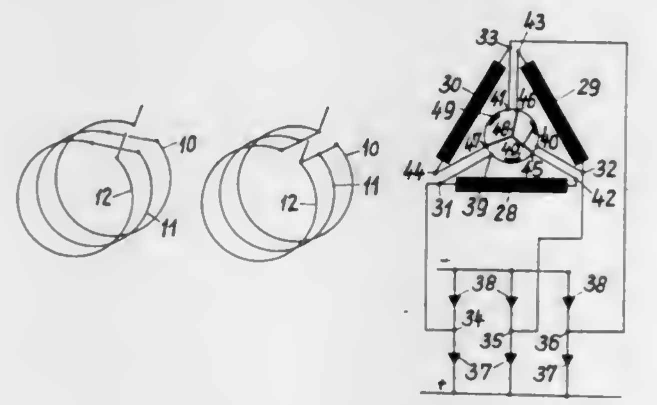
Oskar Hermann Schatz, Mulheim, Germany, assignor to Fried. Krupp Gesellschaft mit beschrankter Haftung, Essen, Germany

Filed July 5, 1967, Ser. No. 651,311

Claims priority, application Germany, July 6, 1966, 1,538,344

Int. Cl. H02p *9/02*

U.S. Cl. 322—90 **9 Claims**



A generator for motor vehicles having a plurality of coils, in which voltages are induced when the generator is driven with means for connecting the coils so that the voltages therein are additive for low speed generator operation or so that the currents in the coils are additive for high speed generator operation.

3,508,139

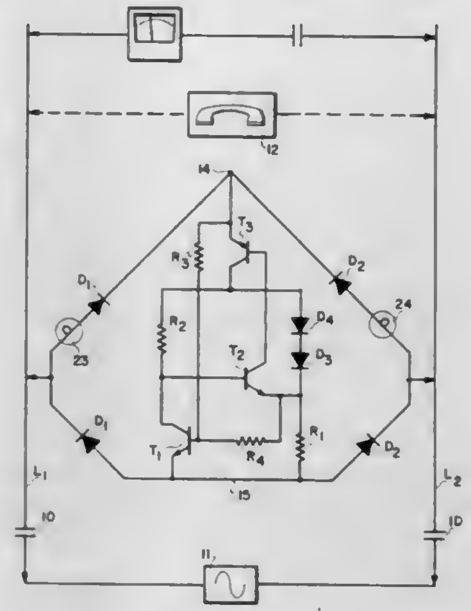
DRAWING CONSTANT CURRENT FROM A LINE

Edward W. Rummel, Cleveland, Ohio, assignor to Western Reserve Electronics Inc., Cleveland, Ohio, a corporation of Ohio

Filed Mar. 14, 1967, Ser. No. 623,096

Int. Cl. G05f *1/20;* **H02m** *7/18;* **H02j** *13/00*

U.S. Cl. 323—4 **4 Claims**



A transistorized device connected across a telephone line to draw constant current therefrom to enable testing of the line. The device is connected to the line by a diode bridge having lamps in the bridge arms to indicate line polarity.

3,508,140

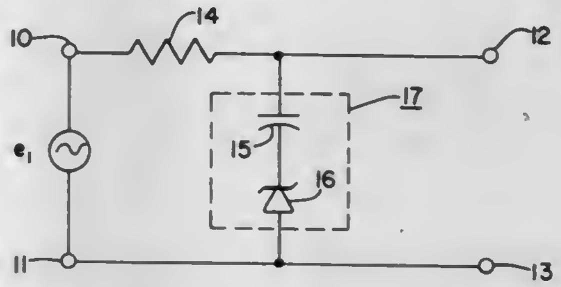
SYMMETRICAL VOLTAGE LIMITING DEVICE APPARATUS

Adrian J. Moses, Rush City, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed May 17, 1967, Ser. No. 639,093

Int. Cl. G05f *3/04;* **H02m** *5/12*

U.S. Cl. 323—81 **2 Claims**



A simple limiter circuit which provides symmetrical limiting of an AC voltage. A capacitor connected in series with a Zener diode becomes charged to provide a bias voltage for the diode which causes the series combination to have a symmetrical limiting characteristic.

3,508,141

DETERIORATION DECISION SYSTEM FOR PHOTOTELEGRAPHIC RECEIVER GLOW MODULATION TUBE

Kunio Tanaka and Takashi Ogawa, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, under the law of Japan

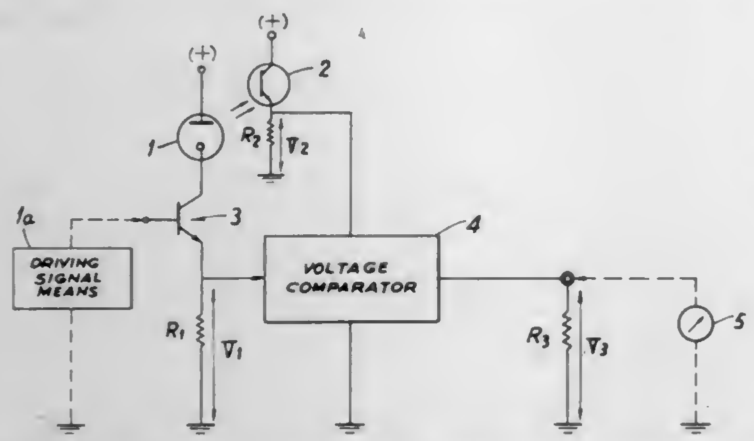
Filed Feb. 7, 1968, Ser. No. 703,757

Claims priority, application Japan, Feb. 9, 1967, 42/7,912

Int. Cl. G01r *31/22*

U.S. Cl. 324—24 **5 Claims**

A method and circuit are provided for determining the degree of deterioration of a glow modulation tube, the circuit including means for developing a voltage V_1 proportional to the discharge current of the tube, means for developing a voltage V_2 proportional to the light output of the tube, a voltage comparator for comparing a change of voltage V_2 with respect to the voltage V_1 after a period



of time, and indicator means for reading such change as indicative of said degree of deterioration.

3,508,142

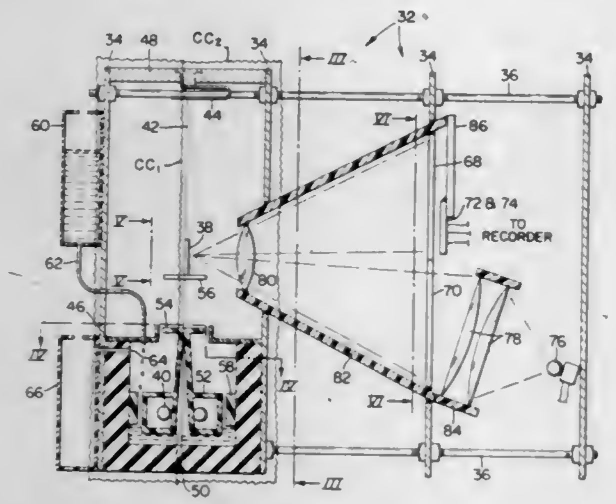
MAGNETOMETER UTILIZING A MIRROR AND A MAGNET, THE LATTER BEING MOVABLE RELATIVE TO SAID MIRROR TO A CONNECT AND DISCONNECT POSITION

Jean H. Filloux, La Jolla, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 17, 1968, Ser. No. 737,718

Int. Cl. G01r *33/02*

U.S. Cl. 324—48 13 Claims



The description discloses a magnetometer for measuring the earth's magnetic fluctuations. The magnetometer may include a taut wire which is connected between the bottom of an open container to a top support means; a mirror mounted on the wire; a float located in the container and mounted for movement along and about the wire; a magnet mounted on the float; and means for filling the container with a liquid to raise the float to engage the mirror. A means may be provided for sensing the movement of the mirror, which movement will correspond to magnetic fluctuations imposed upon the magnet.

3,508,143

OSCILLATOR TYPE ELECTRICAL APPARATUS INCLUDING OSCILLATION INTERRUPTION MEANS FOR TESTING INSULATION OF COILS AND THE LIKE

Shoichi Kuroda, Kamakura-shi, Japan, assignor to Eiwa Electricity Co., Ltd., Tokyo, Japan

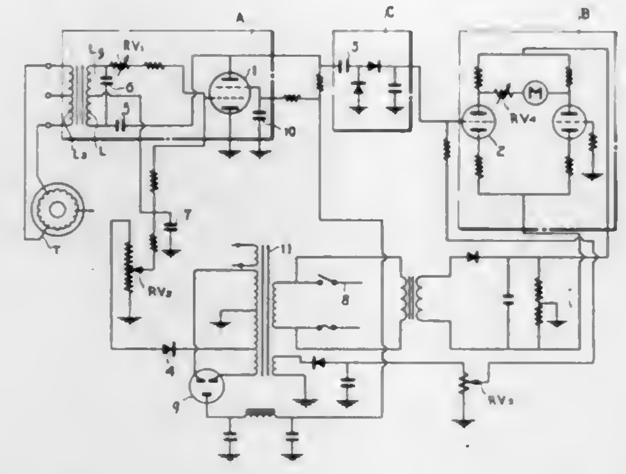
Filed May 6, 1968, Ser. No. 726,655

Claims priority, application Japan, June 26, 1967, 42/40,687

Int. Cl. G01r *31/12, 31/06*

U.S. Cl. 324—54 10 Claims

An electrical apparatus for testing the insulation of windings and the like includes an oscillator, a voltage doubling rectifier, a vacuum tube voltmeter, a source of low frequency A.C. potential, and a source of D.C. potential. The oscillator includes a thermionic valve having a control grid, a tank circuit, a control grid winding coupled to the tank circuit, and an adjustable resistance connecting the control grid winding to the control grid. A D.C. blocking condenser connects the grid of one tube of the vacuum tube voltmeter to the anode of the oscillator thermionic valve, and the negative terminal of the source of D.C. potential is connected to the junction point between the condenser and the control grid of the vacuum tube of the voltmeter. A diode connects the source of A.C. potential to the control grid of the oscillator thermionic valve and blocks application of the positive halfwave of A.C. potential to such control grid. A secondary coil is inductively coupled to the inductance of the tank circuit and has terminals for interchangeable connection thereto of windings to be tested.



3,508,144

COMPARING PEAK AMPLITUDES OF TEST SIGNAL PULSES WITH SIGNALS OCCURRING DURING THE TIME INTERVAL THEREBETWEEN AS A MEASURE OF TRANSMISSION LINE QUALITY

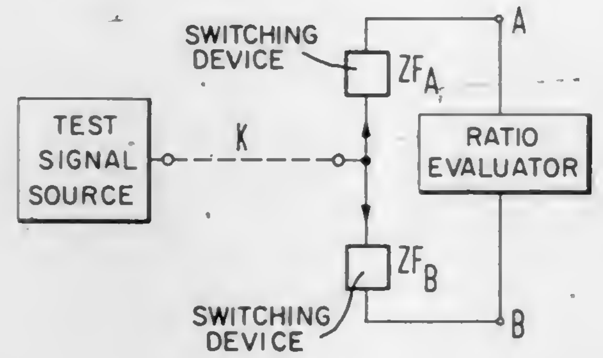
Hans Ferdinand Mayer, 9c Hellmannstrasse, 8 Munich-Solln, Germany

Filed May 5, 1967, Ser. No. 636,522

Claims priority, application Germany, May 9, 1966, S 103,695

Int. Cl. G01r *27/00*

U.S. Cl. 324—57 2 Claims



A process for the supervision of transmission lines, to determine transmission line quality. Successive time spaced test signal pulses are fed to the input of the transmission line being supervised, said line having predetermined band width characteristics. The peak amplitudes of the test signal pulses are detected and measured at the output of the transmission line, and the peak amplitude of any signals occurring during the time interval therebetween are separately detected and measured. The detected signals are then evaluated to determine the ratio therebetween, the ratio being indicative of transmission line quality as determined by factors such as distortion caused by the line and noise signals, etc.

3,508,145

MEASUREMENT OF MOISTURE IN SHEET MATERIALS BY USE OF A SLOTTED WAVEGUIDE

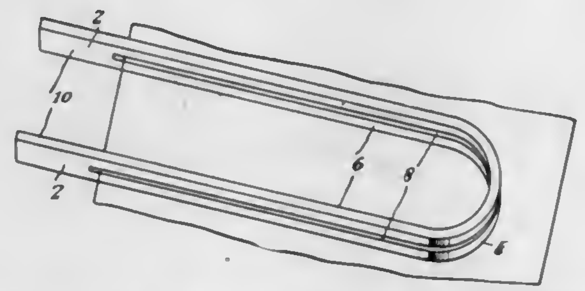
William Charles Reed, Whitley Bay, Northumberland, and Jack Bilbrough, Newcastle-upon-Tyne, England, assignors, by mesne assignments, to The Rank Organisation Limited, London, England, a company of Great Britain.

Filed Aug. 29, 1966, Ser. No. 575,871

Claims priority, application Great Britain, Sept. 2, 1965, 37,512/65

Int. Cl. G01r *27/04*

U.S. Cl. 324—58.5 11 Claims



The specification describes apparatus for the measurement of the moisture content of sheet material using microwave energy in a waveguide that has slots in opposed walls that define a planar path for the sheet material so that the material can be introduced in to the waveguide through the slots. The slotted portion of the waveguide occupies a curved path such that the length within the extent of the slots lies to one side of a straight line joining the ends of the slots to make it possible to introduce the sheet into the waveguide by relative movement in the plane of the sheet. In a further development, waveguide branch portions that are themselves unslotted diverge from the ends of the slots to join again at a station transversely spaced from the slots so that the slotted region can be brought into coincidence with a part of a sheet remote from the edges of the sheet to measure the moisture content in that part alone.

3,508,146

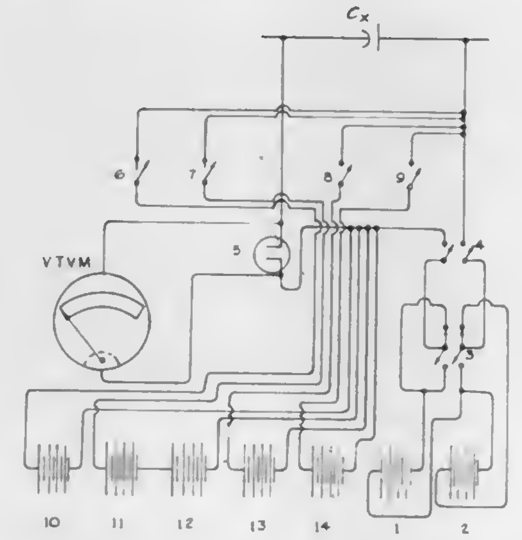
MEASUREMENT OF VOLTAGE-LEAKAGE IN CAPACITORS

Thomas Jefferson Jackson, 2203 Summerville Road, Phenix City, Ala. 36867

Continuation of application Ser. No. 471,856, July 14, 1965. This application Aug. 14, 1968, Ser. No. 756,720

Int. Cl. G01r *11/52, 27/26*

U.S. Cl. 324—60 1 Claim



A method and means employing a neon bulb and a VTVM for visually indicating and accurately measuring the exact value of any voltage-leakage and analyzing the condition of a capacitor while it remains connected to a substantially no-load test circuit.

3,508,147

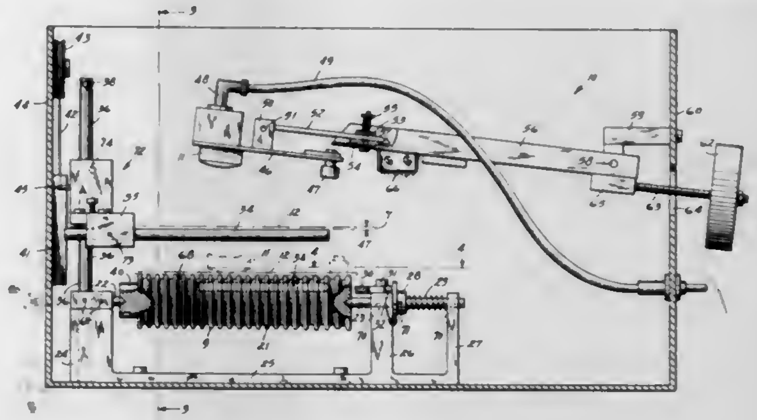
CAPACITANCE BRIDGE HAVING A REFERENCE CAPACITOR MADE FROM THE SAME MATERIAL UNDER TEST

Walter Trowbridge Eppler, Cranford, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 11, 1968, Ser. No. 736,096

Int. Cl. G01r *27/26;* **B29h**

U.S. Cl. 324—61 4 Claims



A reference capacitor coupled to a capacitance bridge is used for measuring the thickness of an insulated jacket as it is being extruded onto a metallic cable sheath. The reference capacitor dielectric comprises a slab of insulation made from the same batch which constitutes a sample taken from the same production quantity of plastic material used for the jacket extrusion. The slab has a thickness specified for the jacket thickness. A conductive member of the same material and having the same peripheral shape as the cable sheath is supported in a fixture. The slab is mounted on a table in the fixture and lowered to rest on the conductive member. A probe is mounted in the fixture to make operative contact with the slab. The foregoing combination serves as the reference capacitor coupled to the bridge. The probe has the same electrical properties as a second probe in the bridge monitoring arm which second probe senses the cable jacket as it is being extruded on the cable sheath in accordance with conventional practice.

3,508,148

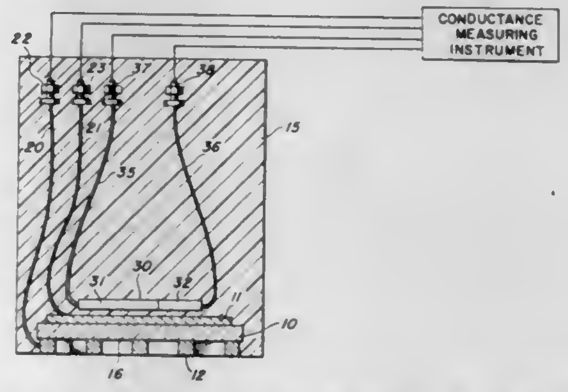
IN-PLACE SOIL WATER CONDUCTIVITY TESTER

Carl G. Enfield, Tucson, Ariz., assignor to Burr-Brown Research Corporation, a corporation of Arizona

Filed June 21, 1968, Ser. No. 739,063

Int. Cl. G01r *27/22*

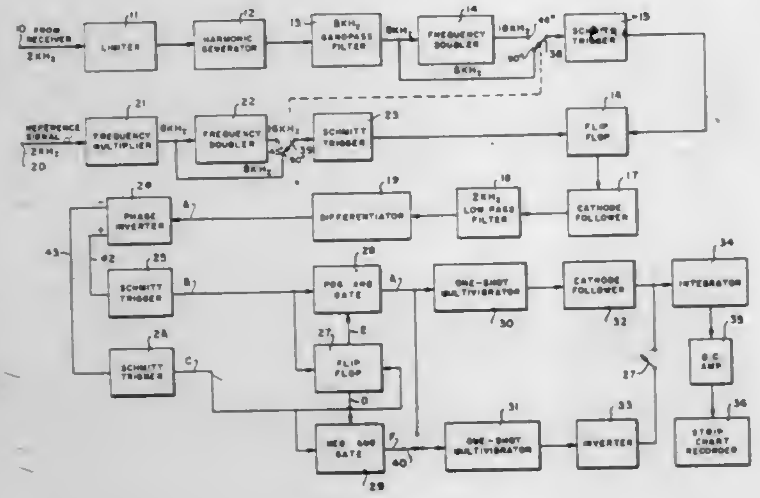
U.S. Cl. 324—65 5 Claims



A square porous glass plate having a platinum grid electrode fused to one side thereof and a platinum plate electrode fused to the opposite side thereof. The glass plate and electrodes are enclosed within an electrical insulation material leaving the platinum grid electrode and glass plate visible through the grid electrode exposed. A temperature compensation network is positioned within the insulation material to compensate for the temperature dependency of the soil system being measured.

3,508,149
MEASUREMENT OF REPETITION RATE OF PHASE VARIATIONS BETWEEN TWO SIGNALS

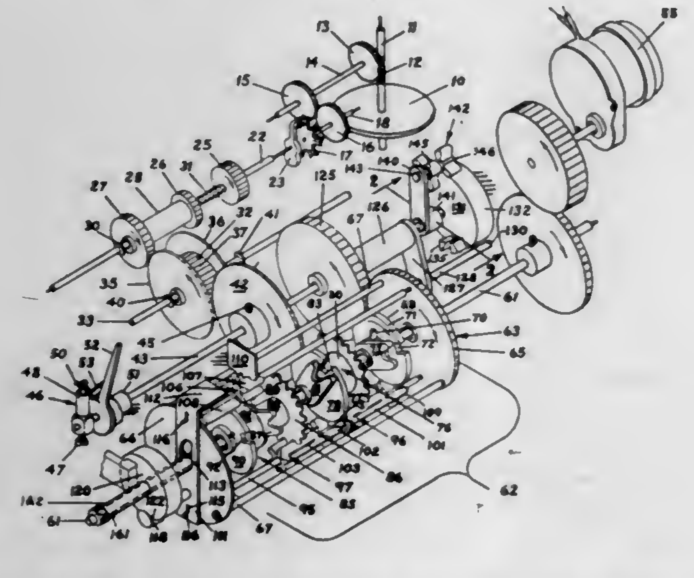
James L. Auterman, Ann Arbor, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 24, 1967, Ser. No. 677,792
Int. Cl. G01r *25/00*
U.S. Cl. 324—85 **6 Claims**



Apparatus for measuring predetermined values of phase difference between two signals includes frequency multiplier stages for each of the two signal channels. The channels each control a flip-flop the output of which is a pulse whose width represents the amount of phase difference. The flip-flop output is fed through a low pass filter the output of which is a phase sensitive voltage and then differentiated and fed to a phase inverter having separate positive triggers related to the positive and negative pulses from the differentiator. The triggers are fed to an AND gate and flip-flop combination which prevents erroneous phase differences from being registered. The outputs of the combination are fed through one-shot multivibrators to an integrator and then recorded on a graphic recorder representing the average frequency of occurrence of the predetermined phase difference.

3,508,150
BLOCK INTERVAL DEMAND REGISTER WITH GENEVA RESET

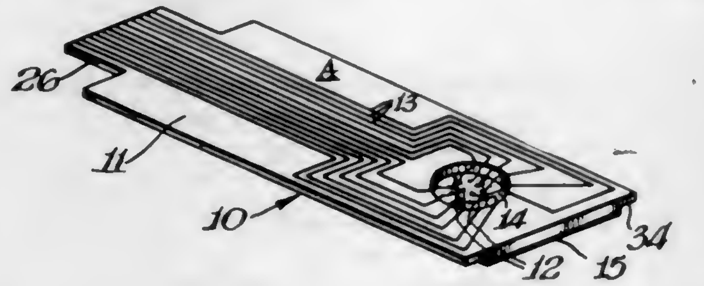
Robert A. Brown, Lafayette, and David L. Reiff, Jr., Battle Ground, Ind., assignors to Duncan Electric Company, Inc., Lafayette, Ind., a corporation of Indiana
Filed July 25, 1966, Ser. No. 567,679
Int. Cl. F16h *27/06;* **G01r** *1/40*
U.S. Cl. 324—103 **6 Claims**



At the end of each measuring interval (block interval) a back-pusher orbits one revolution, sweeping back a pinionlike member in the same orbit. The pinionlike member is carried by an arm on the same shaft as the maximum demand pusher which is to be reset to zero. As the zero point is approached, a tooth of the pinionlike element which has been riding on the circumference of a disk ducks into a notch, permitting the pinionlike element to turn with respect to its carrying arm, thereby decelerating the pusher which stops at the zero point as the turning of the pinionlike element permits the back-pusher to escape.

3,508,151
CARD TYPE PROBE HEAD HAVING KNOB ANCHORED CONTACTING ENDS

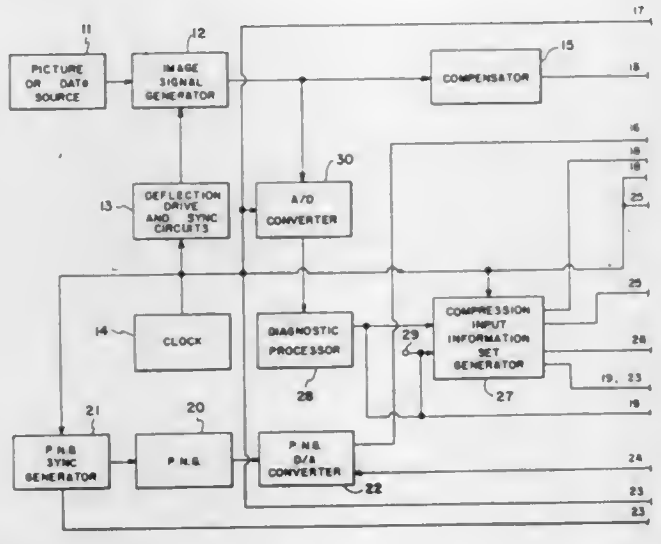
Edward C. Forcier, Worcester, Mass., assignor, by mesne assignments, to Sprague Electric Company, a corporation of Massachusetts
Filed Apr. 18, 1966, Ser. No. 543,235
Int. Cl. G01r *31/22*
U.S. Cl. 324—158 **4 Claims**



A probe head includes an insulating card having a plurality of electrical contacts extending from a common terminal area along one surface of the card to an aperture located remote from the terminal area. An insulating film across the aperture carries a plurality of closely spaced wires secured in the film and individually extending to the electrical contacts on the surface of the card. The insulating film has sufficient flexibility to permit the secured wires to be urged into contact with probe areas on a semiconductive device.

3,508,152
ADAPTIVE COMPRESSION OF COMMUNICATION SIGNALS

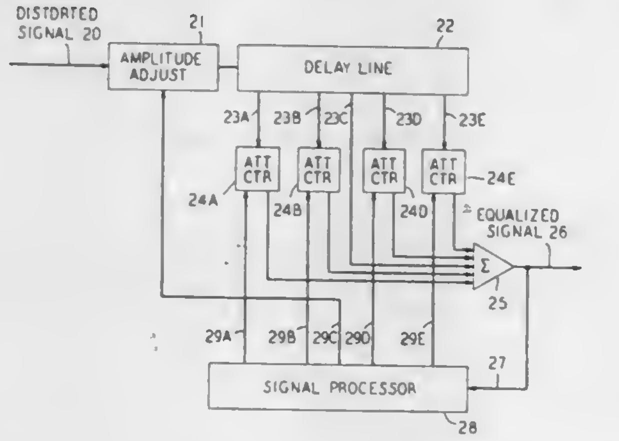
Wilford E. Sivertson, Jr., Rte. 3, Box 164, Yorktown, Va. 23490
Filed Oct. 31, 1966, Ser. No. 591,004
Int. Cl. H04b *1/66;* **H04n** *7/00*
U.S. Cl. 325—42 **9 Claims**



The invention consists of an improvement in a pulse code modulated communication system of the type in which pseudo-random noise is added to the transmitted signal prior to transmission to achieve bandwidth compression. In prior systems compression was limited to positive integers and to one fixed value of compression, set prior to use, and thereafter unalterable. The present invention obtains positive mixed number compression ratios as well as positive integer compression ratios. The invention utilizes an adaptive variable resolution technique in which the compression ratios are automatically changed as the quality of the transmitted signal changes and in which a level of pseudo-random noise corresponding to each compression ratio is added to the transmitted signal prior to encoding.

3,508,153
AUTOMATIC EQUALIZER FOR PARTIAL-RESPONSE DATA TRANSMISSION SYSTEMS

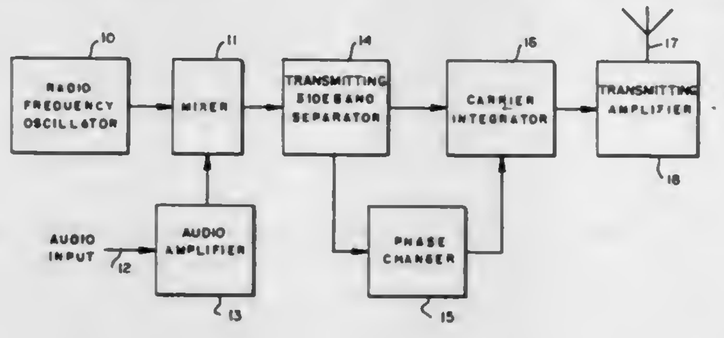
Allan M. Gerrish, Little Silver, N.J., Erich Port, Stuttgart, Germany, and John R. Sheehan, Red Bank, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Sept. 11, 1967, Ser. No. 666,732
Int. Cl. H04b *1/12, 3/04*
U.S. Cl. 325—42 **12 Claims**



The tapped transversal delay-line filter can be modified to increase its utility as an automatic equalizer for partial-response digital data signals, i.e., signals whose impulse response has nonzero samples extending over more than one sampling period, by cross-correlating and comparing error and polarity components derived from more than one time-spaced sample of distorted signals traversing the equalizer for each incremental adjustment of the several tap attenuators. The relative polarities of such multiple samples are further taken into consideration in deciding whether or not to increment a given tap attenuator.

3,508,154
MEANS FOR SUPPRESSING INTERFERENCE IN RADIO CIRCUITS

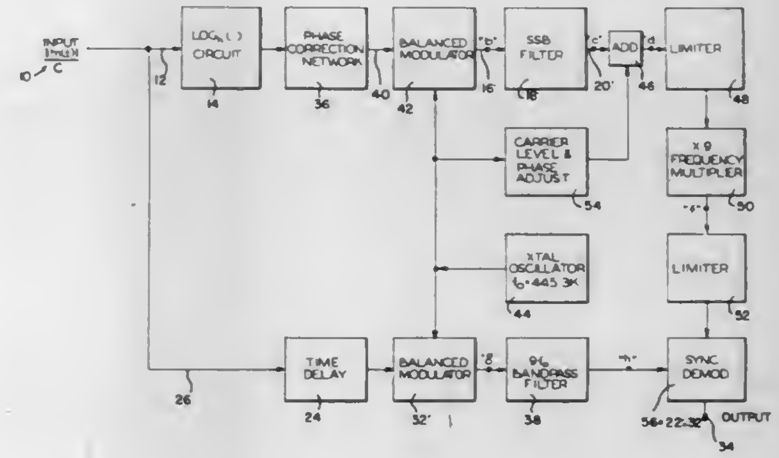
David W. Kermode, P.O. Box 126, Ridgecrest, Calif. 93555
Filed Feb. 20, 1967, Ser. No. 618,282
Int. Cl. H04b *1/68*
U.S. Cl. 325—50 **1 Claim**



A means for suppressing interference in a radio circuit wherein the carrier is divided into upper and lower sidebands. Each sideband is separately modulated by identical modulating signals. One sideband is shifted in phase with respect to the other and both sidebands are transmitted. A receiver shifts the phase of the non-phase-shifted sideband by the same amount as the shift placed on the phase-shifted sideband, combines, and demodulates the sidebands, so that noise added to the sidebands attenuates.

3,508,155
ASYNCHRONOUS SINGLE SIDEBAND RADIO RECEPTION SYSTEMS

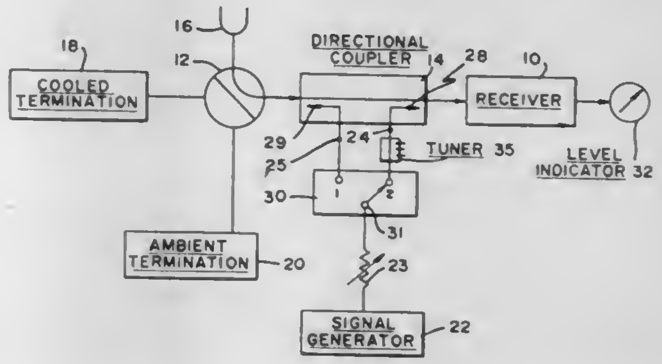
Herbert B. Voelcker, Jr., Rochester, N.Y., assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York
Filed July 26, 1965, Ser. No. 474,600
Int. Cl. H04b *1/68, 1/06*
U.S. Cl. 325—329 **22 Claims**



A system of radio communication employing single sideband (SSB) modulation. Asynchronous demodulation of conventional SSB signals is accomplished using only envelope properties. A carrier component of a certain minimal strength is added to the signal to provide for distortionless reception. The phase modulation component of such a constrained SSB signal is uniquely related to the envelop and may be generated from the envelope. The phase and envelope components define the SSB signal completely, and may be used in various mathematically equivalent ways to recover the modulating signal.

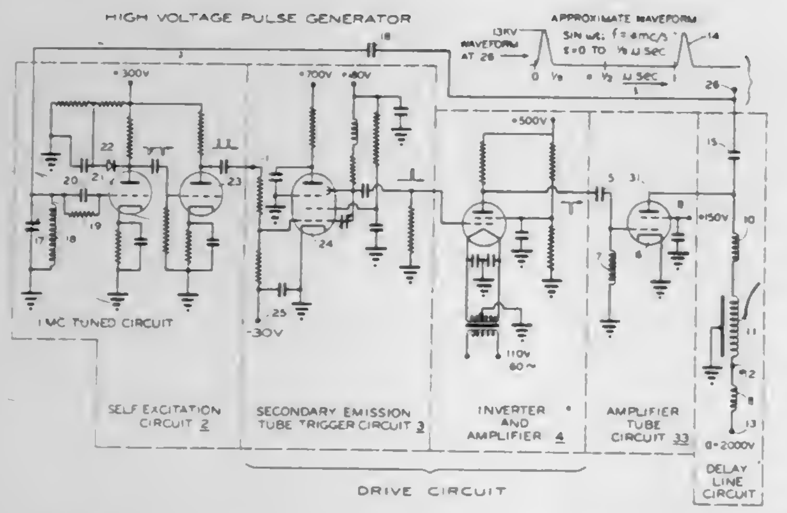
3,508,156
REFLECTOMETER FOR RECEIVER INPUT IMPEDANCE MATCH MEASUREMENT

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Charles T. Stelzried, La Crescenta, Calif.
Filed June 27, 1967, Ser. No. 649,358
Int. Cl. H04b *1/18*
U.S. Cl. 325—363 **8 Claims**



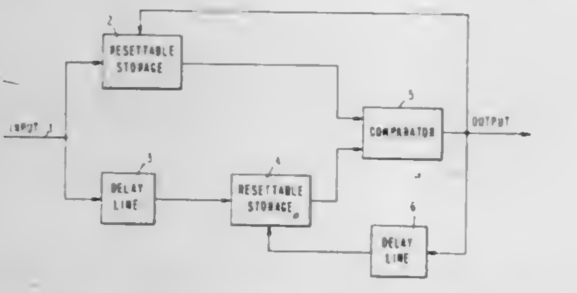
A receiver input system in which a receiver is coupled to an antenna or other terminations through a directional coupler, used in the prior art to inject signals from a separate source into the receiver for receiver gain measurements. In the present invention, a two position switch is provided between the source and the directional coupler. The switch directs the signal toward or away from the receiver. When the signal is directed away from the receiver, some will be reflected back into the receiver due to any impedance mismatch. The difference in its output when signals are either reflected thereto or incidentally received thereby is a measure of impedance mismatch.

3,508,157
HIGH-VOLTAGE PULSE GENERATOR
Ralph C. Mobley, 2585 Stoodleigh Drive,
Rochester, Mich. 48063
Filed Aug. 28, 1967, Ser. No. 663,820
Int. Cl. H03k *5/159*
U.S. Cl. 328—56 **22 Claims**



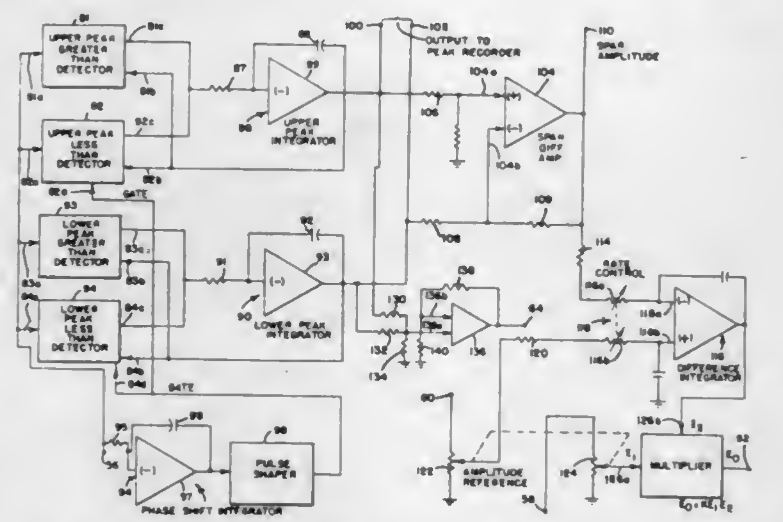
An excitation circuit provides one narrow low-voltage positive pulse per microsecond. The pulses are amplified and fed to one end of a delay line. A voltage source is connected to a radio frequency choke at the other end of the delay line where pulses are reflected in phase with subsequent pulses, thus reinforcing them to substantially higher voltage than that of the voltage source. The circuit can be duplicated and connected in push-pull to opposite ends of the delay line.

3,508,158
INFORMATION DETECTOR EMPLOYING A GREATEST-OF DETECTOR
Joseph F. Marchese, Potomac, Md., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 28, 1967, Ser. No. 656,854
Int. Cl. H03k *5/20*
U.S. Cl. 328—117 **4 Claims**



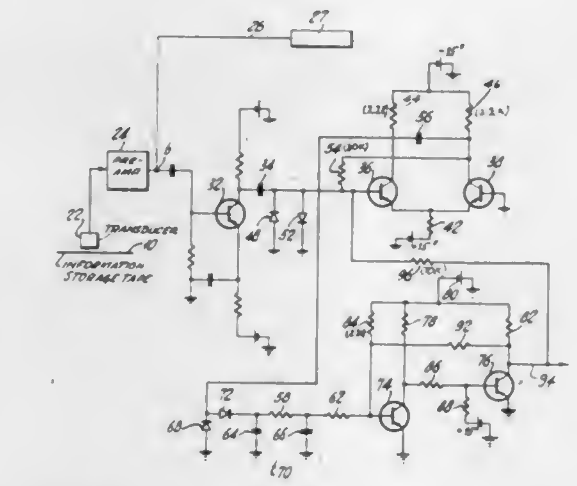
A detector for determining the greatest pulse in an incoming waveform including storage means for storing the greatest amplitude of the incoming waveform, and means for comparing this stored amplitude to the greatest amplitude of the same waveform delayed by a fixed period of time, and means for indicating the greatest pulse when the two amplitudes are identical.

3,508,159
AMPLITUDE CONTROL CIRCUIT
Donald E. Marpe, Bloomington, Minn., assignor to MTS Systems Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 27, 1967, Ser. No. 670,977
Int. Cl. H03b *3/02*
U.S. Cl. 328—168 **12 Claims**



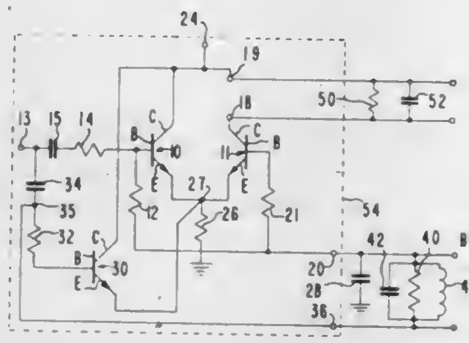
A materials test system involves the measurement of the force applied to the specimen by means of a load cell and suitable transducer conditioning circuitry so as to obtain an output voltage which is proportional to the applied force. An amplitude control circuit compares the peak-to-peak amplitude or span of the transducer output voltage with a reference voltage which is proportional to the desired amplitude of applied force. If the transducer output voltage span is not equal to the reference voltage, the amplitude control circuit applies a proportional correction signal to a load controller which will either decrease or increase the amplitude of the applied force as required. The amplitude control circuit allows the system to be operated in either a resonant or nonresonant mode.

3,508,160
CIRCUIT RESPONSIVE TO INFORMATION PULSE GROUPS
Eleuthere Poumakis, Danville, Calif., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Oct. 19, 1966, Ser. No. 587,924
Int. Cl. H03k *5/20*
U.S. Cl. 328—119 **4 Claims**



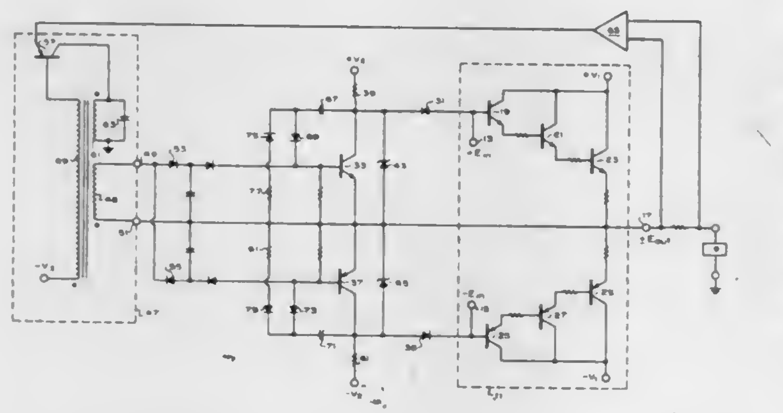
The specification and drawings disclose a noise-immune envelope detection circuit for reading information recorded in a block format. A first bistable multivibrator circuit is biased initially to provide high noise immunity. An integrator couples the output of this first bistable circuit to a second bistable circuit which lowers the initial bias after the first bistable circuit has been triggered a certain number of times.

3,508,161
SEMICONDUCTOR CIRCUIT FOR HIGH GAIN AMPLIFICATION OR FM QUADRATURE DETECTION
David Bingham, Mountain View, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 630,870
Int. Cl. H03d *3/14;* **H03f** *3/68*
U.S. Cl. 329—103 **9 Claims**



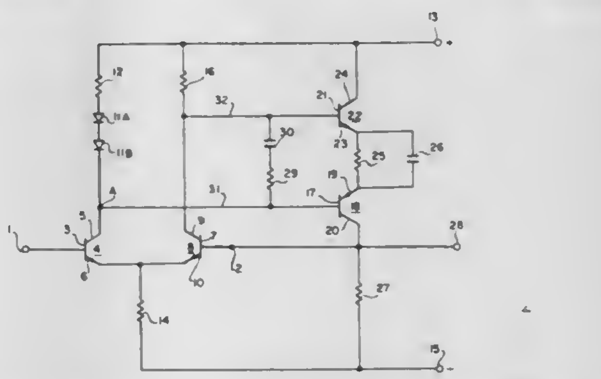
Describes a multifunction circuit that operates as a high-gain amplifier, or with slight modification as a quadrature detector, with a substantial portion thereof capable of being formed as a monolithic semiconductor integrated circuit. Featured are versatile operating modes especially suitable for use in frequency modulation systems and in television sound systems. For the quadrature detector mode, the circuit employs a phase-shift means and a phase-frequency means to eliminate the need of a transformer. In addition, an integrating means is placed across the output terminals to provide an output signal having a shifting D-C level linearly proportional to frequency variations in the input signal.

3,508,162
MEANS FOR LIMITING CURRENT IN A POWER SUPPLY AMPLIFIER
Mark F. Eisenberg, North Plainfield, N.J., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 5, 1968, Ser. No. 734,680
Int. Cl. H03f *1/34, 3/20, 3/26*
U.S. Cl. 330—11 **4 Claims**



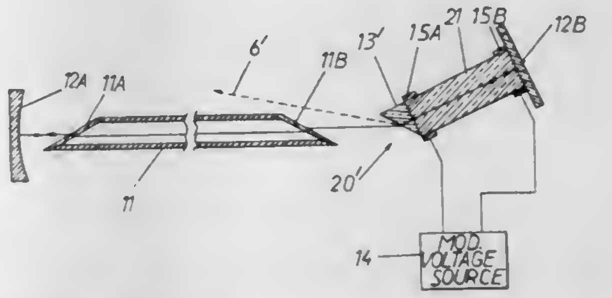
Two transistors respectively provide low impedance current paths between the positive and negative signal inputs and the dual polarity output of a transistor power amplifier, thereby rendering the amplifier inoperative to protect it during an overload condition. The two transistors are controlled respectively by the rectified positive and negative components of a signal produced by an oscillator. The oscillator is energized by a sensing amplifier responsive to load current.

3,508,163
UNITY GAIN DIFFERENTIAL AMPLIFIER
Troy C. Stark, Campbell, and Egon F. Donner, San Jose, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 28, 1967, Ser. No. 686,220
Int. Cl. H03f *3/68*
U.S. Cl. 330—30 **5 Claims**



A two-stage differential amplifier having unity gain is disclosed. The circuit used greatly reduces the common mode noise signal, has a low temperature coefficient, and is adaptable to monolithic integration because of the low value capacitors utilized and the relatively wide tolerance limits on the components.

3,508,164
INTERNAL-MODULATION TYPE OPTICAL MASER DEVICE WITH A BIREFRINGENCE PRISM
Teiji Uchida, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Sept. 8, 1965, Ser. No. 485,684
Claims priority, application Japan, Sept. 8, 1964, 39/51,276
Int. Cl. H01s *3/11*
U.S. Cl. 331—94.5 **5 Claims**



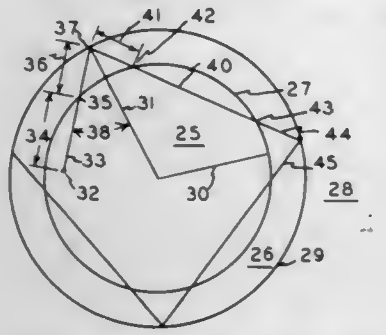
An internal modulation type optical maser device includes a laser light source, a pair of reflectors, and a crystal modulating member between one of the reflectors and the source. The crystal modulating member is provided with two end surfaces perpendicular to an optical axis. A birefringent prism of triangular cross section is positioned in the reciprocating light path between the source and the crystal contiguous the modulating member and is formed of a material whose refractive index for extraordinary rays is approximately equal to the refractive index of the crystal for ordinary rays.

3,508,165
CLADDINGS FOR LASERS
Van O. Nicolai, 1200 S. Courthouse Road,
Arlington, Va. 22204
Filed Nov. 17, 1965, Ser. No. 508,397
Int. Cl. H01s *3/05, 3/06, 3/16*
U.S. Cl. 331—94.5 **2 Claims**

1. An improved laser rod, comprising:

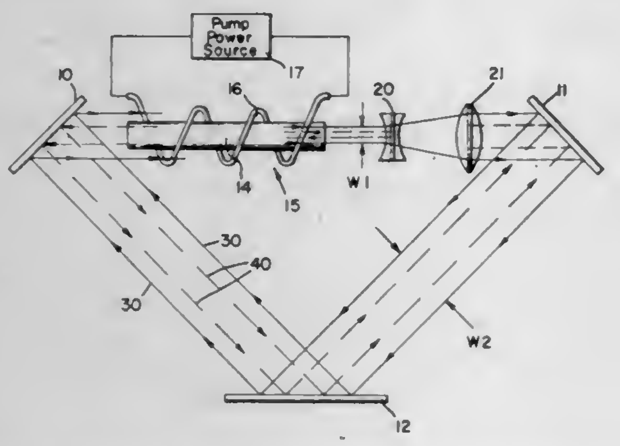
(a) a core material consisting of a first host material and a first dopant material, said core material pumpable at a first optical wavelength to emit radiation at a second wavelength; and

(b) means, including a layer about said core material consisting of a second host material and a second dopant material wherein said first and second host materials are lanthanum aluminate and said first dopant is chromium, and said second dopant is thulium, said cladding layer is transparent at the first optical wavelength and opaque at said second wavelength, and the index of refraction in the core material is substantial equal to that of the cladding layer.



3,508,166
PASSIVE OPTICAL ISOLATOR

William W. Simmons, Palos Verdes Peninsula, and Robert S. Witte, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Oct. 9, 1967, Ser. No. 673,781
Int. Cl. H01s *3/00*
U.S. Cl. 331—94.5 **8 Claims**



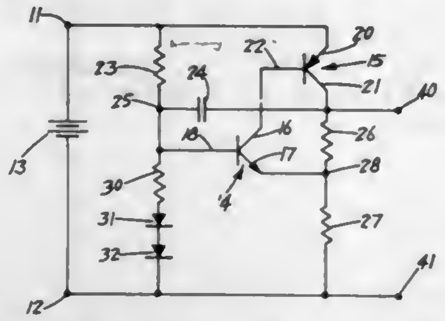
The invention is directed to a device for generating traveling wave oscillations in a laser loop cavity. The invention is based on the technique of having the gain of the cavity different for a clockwise wave vs. a counterclockwise wave. In one embodiment of the invention, an active element is pumped by an optical light source to emit a beam of coherent radiation. Reflectors direct the emitted beam from one end of the active element to the other end, forming a closed loop cavity.

An optical element comprised of at least two lenses is interposed in the beam path within the loop cavity. This element serves to expand the cross-sectional area of the beam for rays traveling in one of the preferred cavity directions and to contract the cross-sectional area of the beam for rays traveling in the other preferred cavity direction. The magnitude of beam expansion is such that a portion of the expanded beam bypasses the active element.

3,508,167
PULSE GENERATOR

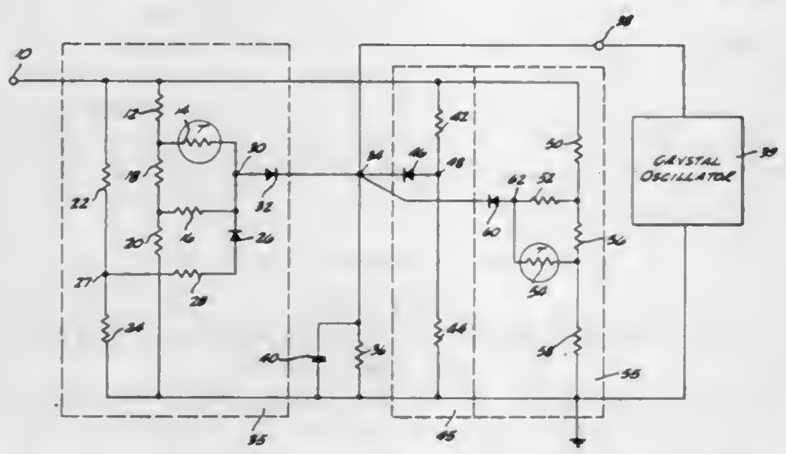
Roger B. Russell, Jr., Thousand Oaks, Calif., assignor to Mennen-Greatbatch Electronics, Inc., Clarence, N.Y., a corporation of New York
Filed June 28, 1968, Ser. No. 740,910
Int. Cl. H03k *3/26*
U.S. Cl. 331—111 **17 Claims**

A semiconductor pulse generator having a pulse width and pulse repetition rate which are relatively independent of load and supply voltage. The semiconductor elements are relegated to switching functions so that timing is substantially independent of transistor gain characteristics. The pulse generator includes a shunt circuit which provides a preferred current path for operating the pulse timer to decrease the effect of transistor characteristics on pulse timing and a variable reference voltage circuit which makes pulse timing substantially independent of wide fluctuations in source voltage.



3,508,168
CRYSTAL OSCILLATOR TEMPERATURE COMPENSATING CIRCUIT

Yum T. Chan, Huntington Beach, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed May 23, 1968, Ser. No. 731,498
Int. Cl. H03b *5/36*
U.S. Cl. 331—116 **2 Claims**



In the disclosed crystal oscillator temperature compensating circuit, a plurality of voltage producing circuit portions are used to provide an overall voltage vs. temperature characteristic having (as a function of increasing temperature) a negative slope over a low temperature range, substantially zero slope over a middle temperature range, and a positive slope over a high temperature range. Each circuit portion producing a temperature dependent voltage includes a thermistor coupled in series with highly temperature stable resistors. Diodes are used to selectively electrically connect and disconnect the respective voltage producing circuit portions to the crystal oscillator to be temperature compensated.

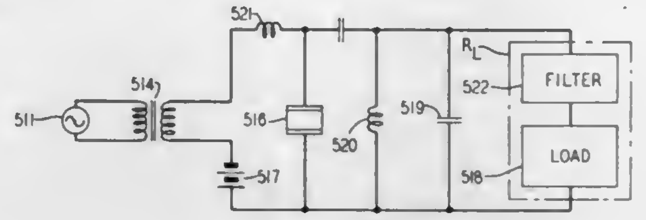
ERRATUM

For Class 332—14 see:
Patent No. 3,508,136

3,508,169
APPARATUS INCLUDING LSA OSCILLATOR CIRCUITS

John A. Copeland III, North Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed June 20, 1967, Ser. No. 647,419
Int. Cl. H03c *1/14;* **H03f** *3/10;* **H02m** *5/20*
U.S. Cl. 332—52 **13 Claims**

In one embodiment, an input signal is applied to an LSA oscillator circuit where it mixes with the oscillatory frequency f_{LSA} to give a difference frequency f_a that is amplified. In another embodiment, a signal of frequency f_a applied to an LSA oscillator modulates the oscillatory output frequency. In another embodiment, an input frequency f_a mixes with the oscillatory frequency to give an amplified sum frequency. In all the above embodiments, f_a conforms to the relationship

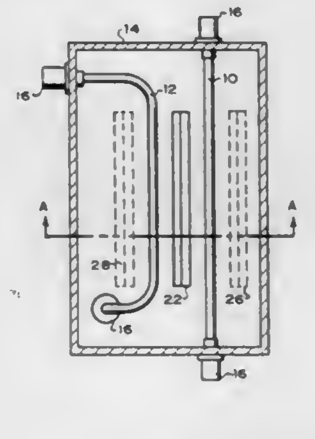


$$f_a \lesssim \frac{f_{LSA}}{Q}$$

where Q is the quality factor of the oscillator resonance circuit.

3,508,170
DIRECTIONAL COUPLERS HAVING DIRECTIVITY ENHANCING MEANS

Howard C. Poulter, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Continuation of application Ser. No. 475,165, July 27, 1965. This application Sept. 27, 1968, Ser. No. 768,609
Int. Cl. H01p *5/14, 3/08*
U.S. Cl. 333—10 **13 Claims**

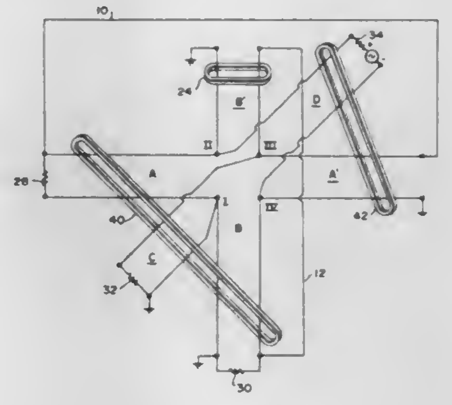


A TEM mode coupler having primary and auxiliary conductors includes a directivity-enhancing structure adjacent to at least one of these conductors in the coupling region where they are parallel to one another. The directivity-enhancing structure alters the ratio of the strengths of the electric and magnetic fields coupling between the primary and auxiliary conductors in this coupling region to reduce a nondirectional signal produced in the region where these conductors diverge from one another and thereby improve the directivity of the coupler.

3,508,171
TRANSMISSION LINE HYBRIDS HAVING NOT MORE THAN FOUR AND NOT LESS THAN TWO FERRITE ELEMENTS

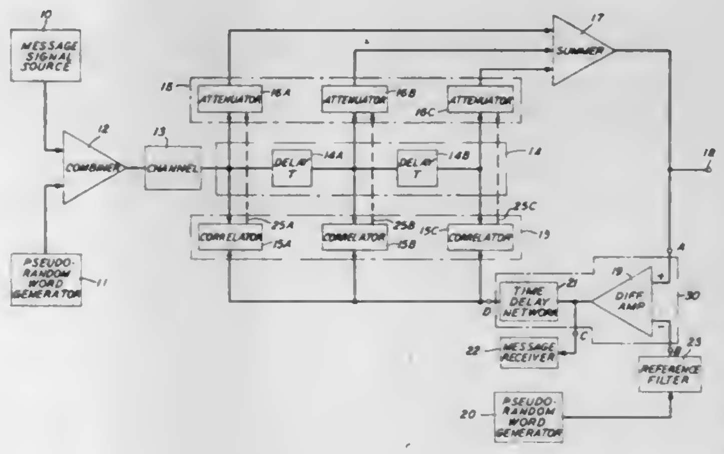
Allen F. Podell, Cambridge, Mass., assignor to Adams-Russell Co., Inc., Waltham, Mass., a corporation of Massachusetts
Filed Aug. 22, 1968, Ser. No. 754,678
Int. Cl. H01p *5/12*
U.S. Cl. 333—11 **10 Claims**

The specification describes a low loss four port transmission line hybrid circuit. Four of the six transmission lines forming the hybrid are connected in a bridge configuration. The two non-bridge connected lines are connected to the diagonal terminals of the bridge. The non-bridge connected ends of opposed lines forming the bridge are electrically connected together. In contrast to prior constructions, this specification discloses both balanced and unbalanced hybrid circuits of the type described using not more than four or less than two separate ferrite elements.



3,508,172
ADAPTIVE MEAN-SQUARE EQUALIZER FOR DATA TRANSMISSION

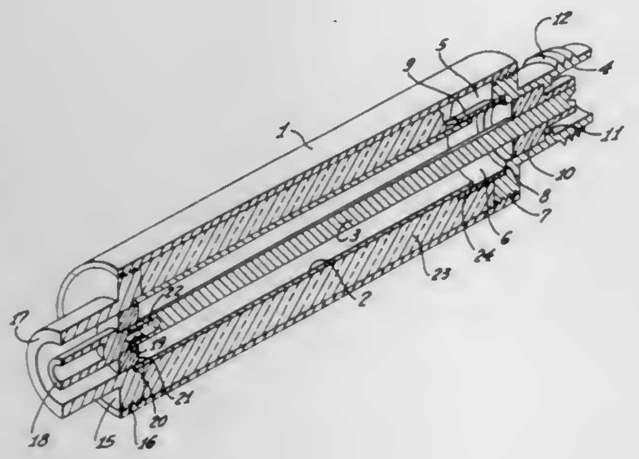
Ernest R. Kretzmer, Holmdel, N.J., Erich Port, Zurich, Switzerland, and Harry R. Rudin, Jr., Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Jan. 23, 1968, Ser. No. 699,953
Int. Cl. H04b *3/04, 3/06, 3/14*
U.S. Cl. 333—18 **8 Claims**



The automatic mean-square transversal filter equalizer is made adaptive to time variations in the frequency-response characteristics of a transmission medium during actual message transmission. A pseudo-random word test signal generated continuously during transmission of a message, which may be either digital or analog in nature, is readily separated from the message signal at a receiver by correlating the total received signal with an identical pseudo-random word generated at the receiver. The receiver-generated word, after passing through a filter having the frequency-response characteristic desired for the transmission medium, is synchronized with the transmitted word in a known fashion. The message, being nonperiodic, does not contribute to the correlation process and is detected conventionally. The correlation results, varying slowly in time from word to word, are made blind to the presence of the message signal by inserting a long period of delay in the control loop of the equalizer.

3,508,173
BROAD-BAND GAIN EQUALIZER

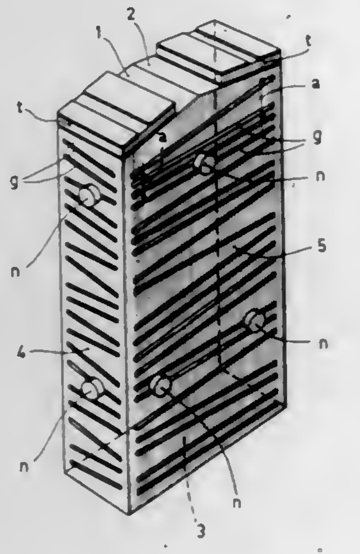
Paul W. Crapuchettes, Woodside, Calif., assignor to Litton Precision Products, Inc., San Carlos, Calif., a corporation of Delaware
Filed June 6, 1967, Ser. No. 644,006
Int. Cl. H03h *7/38, 7/14*
U.S. Cl. 333—28 **15 Claims**



A microwave network is adapted to be coupled with an O-type traveling wave tube so as to provide broad band equalization of the tube characteristics. The network includes an inner coaxial transmission line coaxially surrounded by an outer coaxial transmission line with a microwave passage therebetween. The outer coaxial transmission line includes a short-circuit termination located at a predetermined distance from the microwave passage and a body of dissipative material is disposed physically blocking this passage.

3,508,174
ULTRASONIC DELAY BODY

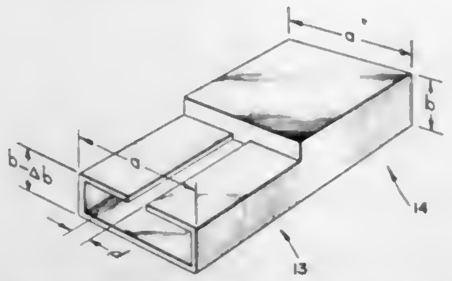
Franciscus Theodorus Backers and Franciscus Arnoldus Ludovicus Suijkerbuijk, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1967, Ser. No. 618,159
Claims priority, application Netherlands, Mar. 31, 1966, 6604240
Int. Cl. H03h *7/30*
U.S. Cl. 333—30 **6 Claims**



An ultrasonic delay line comprising a glass body having one or more faces provided with molded grooves and lugs. The molded grooves are irregularly spaced to reduce undesired reflections within the delay body.

3,508,175
CONTIGUOUS SLOTTED AND UNSLOTTED WAVEGUIDE PORTIONS HAVING SUBSTANTIALLY THE SAME CHARACTERISTIC IMPEDANCE

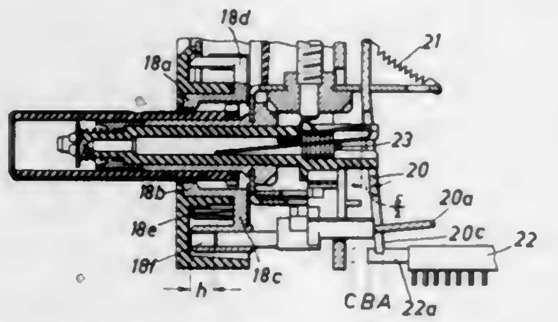
Andrew Alford, 120 Cross St., Winchester, Mass. 01890
Filed May 5, 1967, Ser. No. 636,478
Int. Cl. H03h *7/38;* **G01r** *27/06*
U.S. Cl. 333—33 **7 Claims**



A slotted waveguide portion contiguous with an unslotted waveguide portion are arranged so that both have substantially the same characteristic wave impedance and propagation characteristics by making the slotted portion a little bit wider and/or a little bit shorter than the unslotted portion.

3,508,176
PUSH-BUTTON CHANNEL SELECTING UNITS FOR MULTIBAND RECEIVERS HAVING CAPACITANCE DIODE TUNING MEANS

Wolfgang Labude, M. Luthes Str. 23½, and Karlheinz Bauer, Muhlbach Rhonlick 22, both of Bad Neustadt, Saale, Germany
Filed Feb. 15, 1968, Ser. No. 705,781
Claims priority, application Germany, Feb. 18, 1967, P 41,444; Mar. 4, 1967, P 41,550; Mar. 14, 1967, P 41,633
Int. Cl. H03j *5/04*
U.S. Cl. 334—7 **20 Claims**

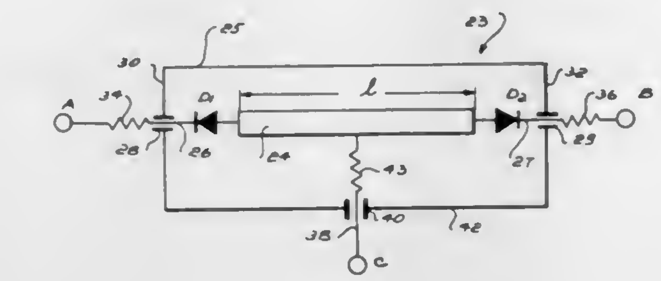


Channel selecting unit for high-frequency receivers, particularly television sets, having at least two frequency bands, comprising a number of channel stores and mutually releasing, rotatable and slidable push-buttons for channel switching, channel tuning and band selection. The push-buttons are manually movable into a pulled-out or pushed-in position for carrying out certain functions while other functions of selecting, switching and tuning are carried out by rotating the push-buttons and/or by bringing them into the opposite longitudinal pushed-in or pulled-out position, respectively.

3,508,177
TRANSMISSION LINE UHF TUNING CIRCUIT CAPABLE OF OPERATING WITHIN TWO FREQUENCY BANDS

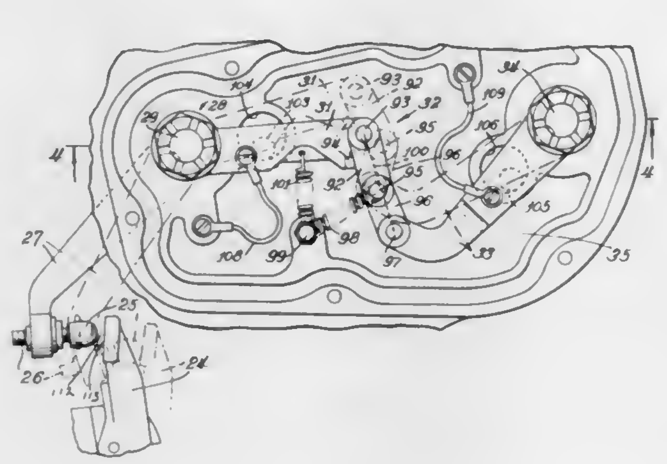
Takeo Suzuki, Tokyo, Japan, assignor to Alps Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Sept. 4, 1968, Ser. No. 757,395
Claims priority, application Japan, Sept. 19, 1967, 42/59,605, 42/59,606
Int. Cl. H03j *3/18, 5/00*
U.S. Cl. 334—15 **10 Claims**

A resonant UHF tuning circuit capable of operating in two frequency bands comprises a transmission line arranged within a resonant cavity with first and second capacitive devices operatively connected to each end of that line, one of the capacitive devices being selectively enabled and disabled, thereby to selectively operate the circuit in one or the other of the frequency bands.



3,508,178
HIGH VOLTAGE SWITCH HAVING AUXILIARY LATCH OPERATING MEANS FOR THE CURRENT INTERRUPTER

Leonard V. Chabala, Maywood, and Edward J. Rogers, Chicago, Ill., assignors to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed Apr. 3, 1968, Ser. No. 718,428
Int. Cl. H01h *3/02, 9/00, 31/00*
U.S. Cl. 335—1 **12 Claims**

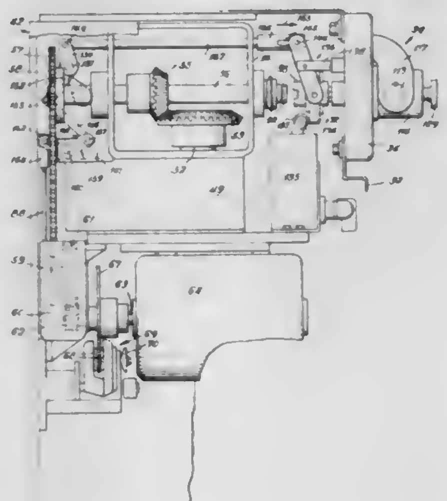


A collapsible toggle linkage interconnects an auxiliary trip operator and the latch that restrains spring operated current interrupting means to permit resetting of the latch independently of return of the auxiliary trip operator to non-operated position and an auxiliary latch permits operation of the auxiliary trip operator only when a solenoid operator is energized.

3,508,179
MOTOR DRIVEN OPERATOR FOR HIGH VOLTAGE SWITCH

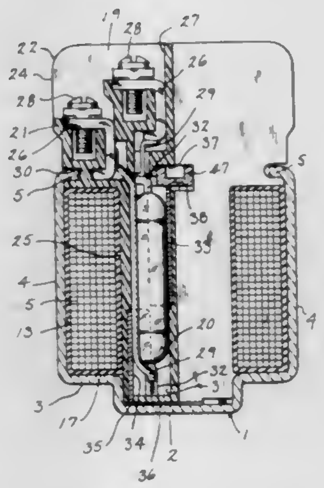
Joseph Bernatt, Arlington Heights, and David M. Evans, Wheeling, Ill., assignors to S & C Electric Company, Chicago, Ill., a corporation of Delaware
Filed May 16, 1968, Ser. No. 729,565
Int. Cl. H01h *3/54*
U.S. Cl. 335—68 **19 Claims**

The drive shaft for operating a three phase high voltage switch is rotated to less than a complete revolution in one direction or the other to close or open the switch by an electric motor that drives through a speed reducing train. A manually operable handle, foldable in non-operated position and non-detachably connected to the speed reducing train, permits manual operation. A hand crank interlock switch is opened when the handle is unfolded to prevent energization of the motor. A selector handle operates a clutch to disconnect the drive shaft from the motor. The clutch can be clutched only when the drive shaft and motor are in the same annular relation as shown by indicators operated individually from the drive shaft and the motor. A limit switch driven by the motor deenergizes it in the switch closed and switch open positions. The motor is stopped by a spring operated brake that is released when the motor is energized, when the manually operable handle is unfolded and when the selector handle unclutches the clutch. Auxiliary trip windings for the switch poles are prevented from being energized by a decoupling switch operated by the selector handle in unclutching the clutch.



3,508,180
RELAY WITH SEALED CONTACT SWITCH MODULES

Joseph C. Mayer, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed June 14, 1968, Ser. No. 737,061
Int. Cl. H01h *1/66, 9/08*
U.S. Cl. 335—152 **7 Claims**



A relay includes a plurality of magnetically operable sealed contact switches which are contained in individual, separately removable, modular switch cases, the cases and switches being associated with a common coil for simultaneous magnetic operation thereof. The cases include magnetic flux concentrators extending along the associated switches to define desired operating flux paths.

The relay includes a housing for the coil and switch cases which holds the several elements together, the housing including magnetic conducting means in magnetic association with and interconnecting the flux concentrators to define a closed flux path.

3,508,181

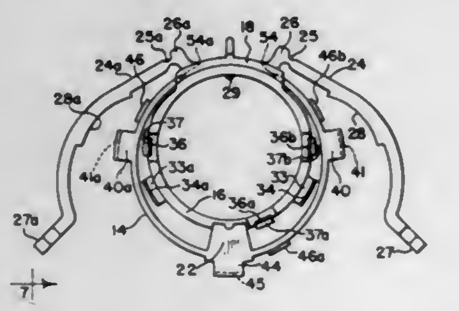
BLUE LATERAL MAGNET ASSEMBLY

Robert Richard Melone, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Jan. 31, 1968, Ser. No. 702,115

Int. Cl. H01f *1/00;* **H01j** *29/70*

U.S. Cl. 335—212 **11 Claims**



A retainer for a blue lateral and purity ring magnet assembly to be mounted on the neck of a television tube and including a pair of axially spaced annular mounting members joined together at peripherally spaced areas with each mounting member having peripherally spaced radially extending shoulder means disposed therearound for mounting therebetween a pair of blue lateral ring magnets on one mounting member and a pair of purity ring magnets on the other mounting member, and further including tube clamping members disposed between the mounting members with means to secure the same together in position for mounting the retainer and assembled ring magnets on the neck of a television tube.

3,508,182

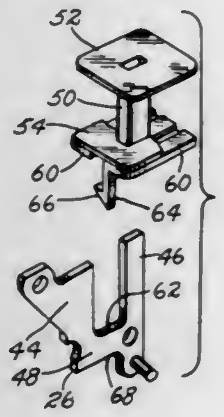
READILY REPLACEABLE ELECTROMAGNET

Andrew R. Lang, Detroit, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Feb. 6, 1968, Ser. No. 703,436

Int. Cl. H01f *7/20*

U.S. Cl. 335—296 **1 Claim**



An electromagnetic device in which the core and coil are rigidly held together by a snap-action latch member which is readily releasable to allow easy removal of the coil from the core. The snap-action latch member is carried by a resilient pad which is affixed to one end of the spool on which the coil is wrapped. In the assembled device the resilient pad is interposed between the spool and a web which extends laterally from the magnetic core.

3,508,183

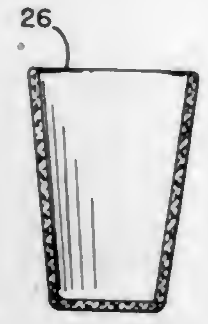
MAGNETICALLY RESPONSIVE SILVERWARE AND CHINAWARE

Charles P. Pinckard, 1301 E. Morehead St., Charlotte, N.C. 28204

Filed Oct. 17, 1967, Ser. No. 675,934

Int. Cl. H01f *7/02*

U.S. Cl. 335—303 **6 Claims**



Articles of silverware and chinaware which are formed from a shaped quantity of non-magnetic material and contain a preselective amount of magnetically attractive material to permit the attraction and movement of the article in response to a controlled magnetic field.

3,508,184

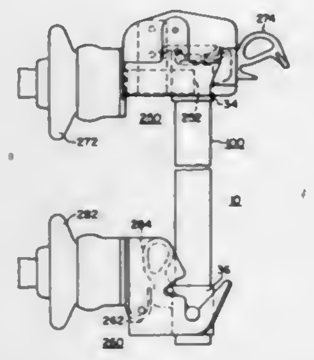
FUSE HAVING IMPROVED MEANS FOR REDUCING THE FORCE APPLIED TO A FUSIBLE MEANS

Frank L. Cameron, Irwin, and Clayton T. Walker, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 27, 1969, Ser. No. 794,045

Int. Cl. H01h *71/10, 71/20*

U.S. Cl. 337—150 **8 Claims**



A fuse structure having a fusible means disposed inside an electrically insulating casing and electrically connected in series with an elongated electrically conducting member which is axially movable through a body of arc-extinguishing material and which is biased in one axial direction by a spring means, the fusible means being operatively connected to the elongated conducting member by means for reducing the force applied to the fusible means to less than the force applied to the elongated conducting member by the spring means.

3,508,185

THERMISTOR FOR MEASURING SURFACE TEMPERATURE

Leonid Naumovich Tulchinsky, Ulitsa Kominterna 20, kv. 4, Kiev, U.S.S.R.

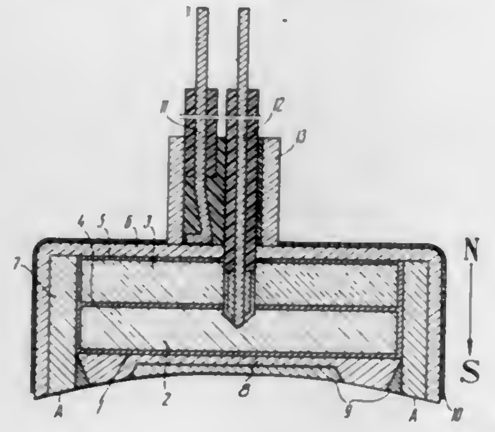
Filed May 25, 1967, Ser. No. 641,319

Int. Cl. H01c *7/04*

U.S. Cl. 338—22 **7 Claims**

A thermistor for measuring the surface temperature of ferromagnetic bodies and thin envelopes made of a non-magnetic material which, in order to provide a good thermal contact of the sensitive element with the surface under

check without outer pressure or being mechanically attached thereto and without affecting adversely the properties of that surface, comprises a permanent magnet used as a sensitive element, retained on the surface under check by the magnetic attactive force and made of a magnetically hard ferrite magnetized during manufacturing thereof;



metal electrodes used to supply current to said sensitive element, the current allowing to measure the sensitive element resistance depending on the temperature of the surface under check; terminals used to connect the thermistor to a measuring circuit; and a thermal-insulating coat insulating the thermistor from the ambient medium.

3,508,186

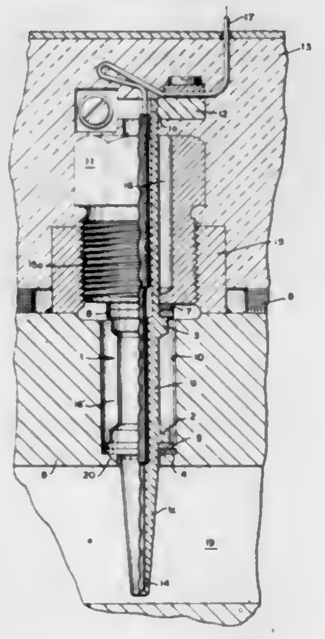
RESISTANCE THERMOMETER

Bernd Böhm, Erwin Genz, Peter Nilse, Wilhelm-Pieck-Stadt Guben, and Siegfried Socher, Wilhelm-Pieck-Stadt Guben-Kaltenborn, Germany, assignors to VEB Chemiefaserkombinat Wilhelm-Pieck-Stadt Guben, Germany

Filed Apr. 16, 1968, Ser. No. 721,684

Int. Cl. C01k *7/22;* **H01c** *7/04*

U.S. Cl. 338—28 **7 Claims**



The temperature sensing resistor inset is fitted within a conical lower portion of an elongated protective receptacle. The middle portion of the receptacle is provided with a radially protruding lower abutment ring for abutting an inner flange in a bore of a heated wall, and with a radially protruding upper abutment ring for counteracting a tubular pressing screw disposed around the upper portion of the receptacle to engage a screw socket mounted at the site of installation. Respective contact surfaces are termally insulated.

3,508,187

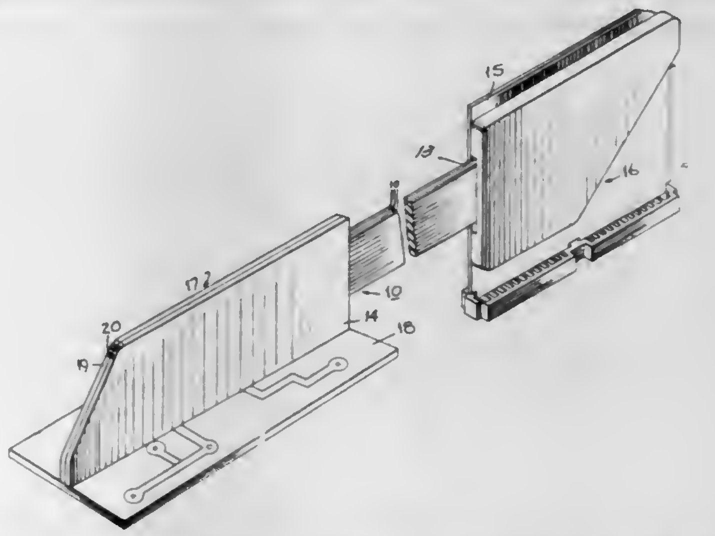
INTERCONNECTION SYSTEM FOR A CIRCUIT BOARD ASSEMBLY

David J. Crimmins, Pennington, N.J., assignor to Thomas & Betts Corporation, a corporation of New Jersey

Filed May 3, 1967, Ser. No. 635,732

Int. Cl. H05k *7/08, 1/06*

U.S. Cl. 339—17 **11 Claims**



The interconnection system includes a flat cable having rolled conductors therein which are stripped and connected to the circuit paths of a circuit board. The conductors are soldered directly to the circuit paths or indirectly through contact pins. The ends of the flat cable are held in connectors to avoid strain or rupturing of the conductors at the circuit paths.

3,508,188

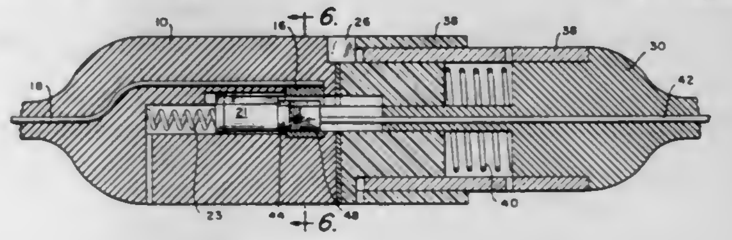
UNDERWATER ELECTRICAL QUICK DISCONNECT

Jon R. Buck, 11706 Idlewood Road, Wheaton, Md. 20902

Filed Aug. 27, 1968, Ser. No. 755,544

Int. Cl. H01r *13/52, 33/36*

U.S. Cl. 339—42 **12 Claims**



A water-tight electrical connector which can be connected and disconnected in an electrical conductive atmosphere without exposing the electrical contact members of the connectors to the ambient atmosphere. The connector is maintained water tight by the use of reciprocally mounted seals in each connector half of identical shape. When the two connector housings are connected one seal attached to the pin member of one of the housings forces a seal in the socket member back into its housing and prevents water from entering the socket when the pin is inserted.

3,508,189

ELECTRICAL JUNCTION

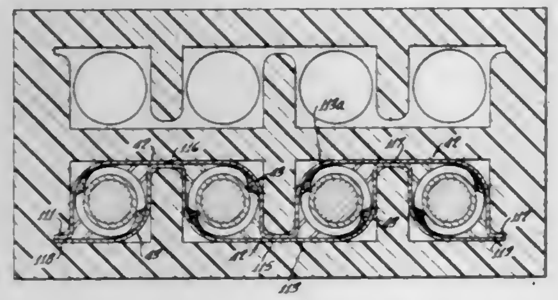
Perrin C. Culver, Oceanside, Calif., assignor to The Deutsch Company Electronic Components Division, Banning, Calif., a corporation of California

Filed June 3, 1968, Ser. No. 734,114

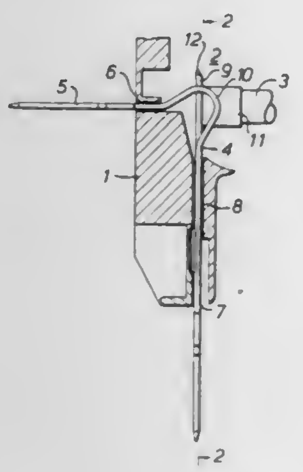
Int. Cl. H01r *13/12*

U.S. Cl. 339—205 **21 Claims**

An electrical connector that includes a body of dielectric material having at least one opening therein, and a duality of sheet metal members in the opening, the sheet metal members including side edge portions, which are in adjacency and received in lateral slots extending from the opening, and having opposed arcuate portions within the opening, each arcuate portion including a resilient tab directed inwardly toward the axis of the opening to a position adjacent the rearward shoulder of a contact received therein, each sheet metal member also including an oblique portion, these portions being in opposed relationship in the two sheet metal elements and defining arcuate segments which engage opposite sides of the forward pin portion of the contact to effect an electrical connection therewith, the rearward edges of the arcuate segments of the oblique portions presenting surfaces that preclude movement of the contact in the forward direction, the sheet metal members being adapted for construction to receive either one contact in each opening, or pairs of contacts in each opening in an end-to-end relationship, and also being adapted for construction in strips extending to additional openings for receiving additional contacts and connecting the contacts for electrical current to flow therebetween through the sheet metal members.

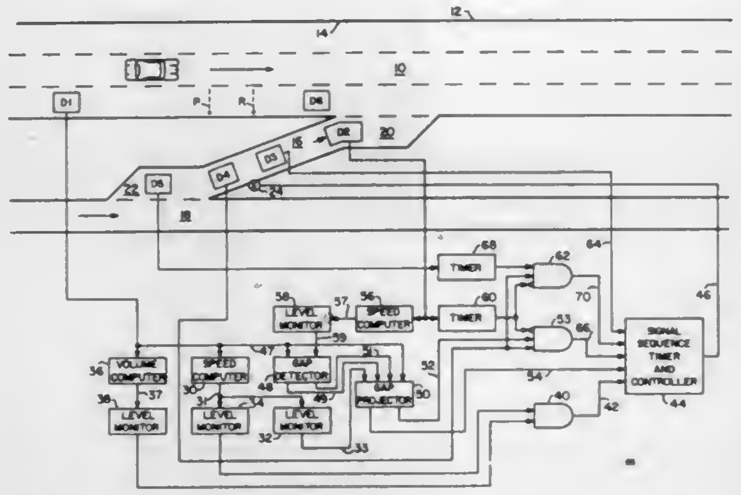


3,508,190
FUSE CONNECTOR
Raymond Stanley Willis, 42 Ridgeway, Ruislip, England
Filed Aug. 28, 1967, Ser. No. 663,733
Claims priority, application Great Britain, Sept. 8, 1966, 40,100/66
Int. Cl. H01r *11/22*
U.S. Cl. 339—256 **7 Claims**



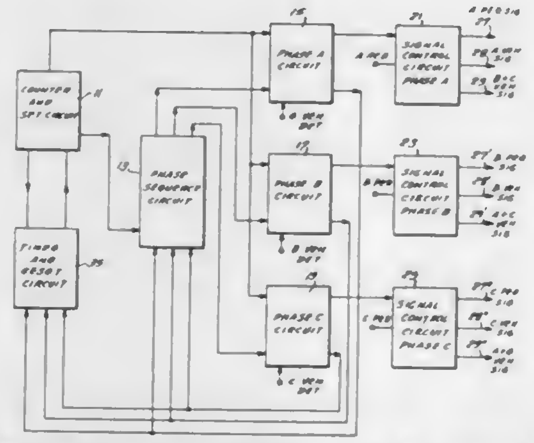
A fuse connector comprises a tab member connected to another tab member via spaced arcuate side arms to define a fuse end cap receiving area and between which the end cap is received. A resilient tab portion extends outwardly from one of the tab members between the side arms for engagement with the end of the end cap.

3,508,191
EXPRESSWAY RAMP TRAFFIC CONTROL SYSTEM
John L. Barker, Norwalk, and Charles L. Du Vivier, Darien, Conn., and Ludwig R. Pallat, Rochester, N.Y., assignors to LFE Corporation, Waltham, Mass., a corporation of Delaware
Filed Feb. 21, 1967, Ser. No. 617,567
Int. Cl. G08g *1/08, 1/095*
U.S. Cl. 340—36 **12 Claims**



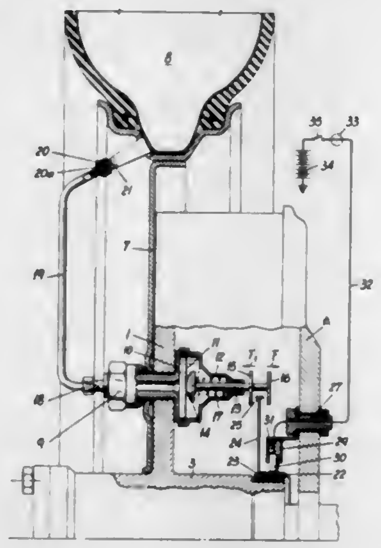
A system for controlling entrance of vehicles onto a limited-access roadway from an entrance ramp. Gaps between vehicles on the roadway are detected upstream of the ramp by means of vehicle detection pulses. Movement of each gap toward the ramp is matched by movement of a gap-indicating signal through a shift register. If a gap is long enough to permit a vehicle to merge into it, the gap-indicating signal is transferred to a second shift register which provides the required delay before operating a traffic control signal adjacent the ramp to release a vehicle, enabling it to reach the merging area when the gap is there.

3,508,192
MULTI-PHASE TRAFFIC ACTUATED CONTROL SYSTEM
Peter C. Brockett, Milford, and Charles L. Du Vivier, Darien, Conn., assignors to LFE Corporation, Waltham, Mass., a corporation of Delaware
Filed Oct. 14, 1966, Ser. No. 586,881
Int. Cl. G08g *1/08*
U.S. Cl. 340—37 **6 Claims**



A traffic actuated multi-phase traffic signal controller comprising modular components of solid state logic circuitry linked by solid state logic gating circuits. Individual phase circuit units for phases A, B and C have inputs for respective vehicle detectors and for pedestrian actuated devices, and outputs for signal control. The phase circuit units are coupled one at a time with a single multi-step counter by means of a phase sequence circuit which preselects, in a preparatory step in the counter circuit in the right of way period of any one phase, the phase circuit next to be coupled to the counter circuit, based on gating circuits indicating presence or absence of stored traffic actuation on the respective remaining phases awaiting right of way. The multi-step counter circuit provides control outputs for the respective steps for selection of timing controls and traffic actuated control for minimum initial, extendible and maximum green signal periods and for clearance signal periods for the coupled phase circuit, as well as for the preparatory step and subsequent completion step for next phase selection. Separate steps in the counter sequence are provided for pedestrian WALK and WAIT clearance signal sequence during the green signal period for vehicle traffic, with resetting of the counter for WALK–WAIT sequence in response to pedestrian actuation under certain conditions, and with setting of the counter to skip the pedestrian WALK and clearance steps in absence of pedestrian actuation.

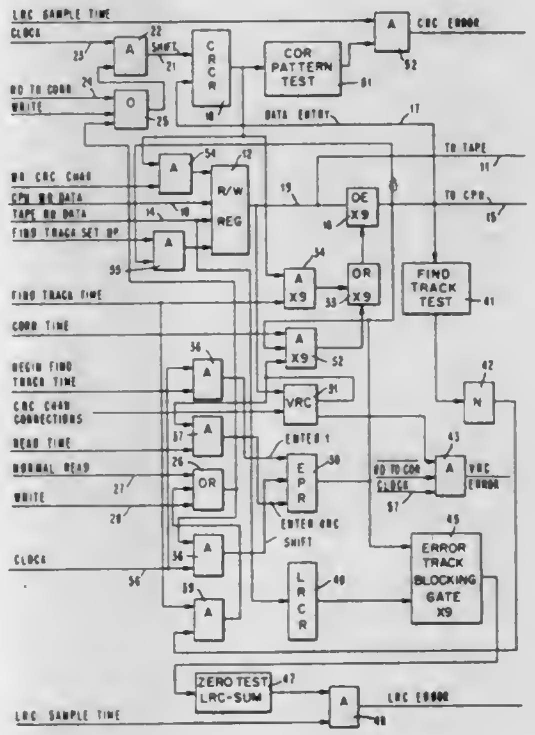
3,508,193
INDICATOR OF AIR-PRESSURE IN TYRES
Vilim Giovannelli and Nicolas Giovannelli, both of 756 Egipto St., Villa Martelli, Buenos Aires, Argentina
Filed May 8, 1967, Ser. No. 636,696
Int. Cl. B60c *23/04*
U.S. Cl. 340—58 **7 Claims**



The indicator consists of two parts: one is fixed to the rotatable part of the wheel and the other is attached to a fixed part of the same or to a fixed part of he vehicle. The rotatable part consists of a closed casing divided by a membrane. One of the resulting chambers is connected to the tyre valve by means of a flexible tube which is provided with means for partially keeping open the said valve. The other chamber houses a spring-loaded element pressing against the membrane. This elements carries contacts which in their turn, under certain circumstances, contact a ring concentric with the hub of the wheel. The fixed part carries a spring-loaded contact in slidable engagement with the ring. This contact is connected to the alarm means and to the source of power. The changes in pressure reflect on the membrane in both ways putting into touch a contact of the spring-loaded element that presses against the membrane with the ring and thus closing the electrical circuit which excites the alarm means.

3,508,194
ERROR DETECTION AND CORRECTION SYSTEM
David T. Brown, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 6, 1964, Ser. No. 357,368
Int. Cl. G08b *29/00;* **G06f** *11/00*
U.S. Cl. 340—146.1 **10 Claims**

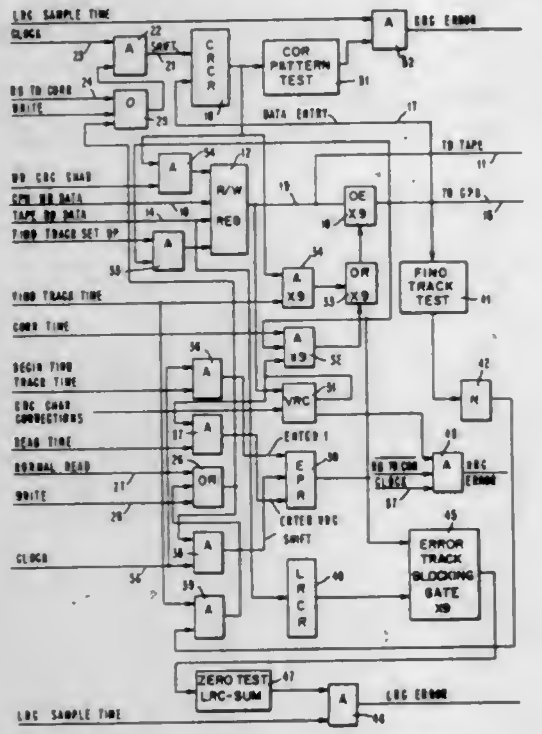
Locating any tape track having an error in a data block. The bit positions in a byte are in respectively different tape tracks. To locate any track having from one to all bit positions erroneous, a first cyclic storage means (CRC shift register) receives all of the bits of every byte in parallel, including a CRC redundancy byte, for an entire block. A second cyclic storage means (EP shift register) serially receives the output from a byte redundancy check (VRC) circuit which checks the parity for each byte in the block. Each storage means has at least end-around feedback. The CRC shift register is also used to generate and write the CRC byte at the end of a tape block. After a block is read, the two cyclic storage means should have bit patterns which correspond in a predetermined manner if no error occurred in the block. An error is indicated by non-correspondence. Then the pattern of one storage means is moved relative to the pattern in the other until the patterns correspond. The track in the block having the erroneous bits is determined by the number of bit positions of relative movement needed to obtain correspondence between the patterns. A diagonal redundancy byte is effective as the cyclic redundancy byte where the number of tape tracks is a prime number, such as 1, 2, 3, 5, 7, 11, 13, etc.



3,508,195
ERROR DETECTION AND CORRECTION MEANS
Frederick F. Sellers, Jr., Hopewell Junction, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 6, 1964, Ser. No. 357,371
Int. Cl. G08b *29/00, 1/00;* **G06f** *11/00*
U.S. Cl. 340—146.1 **16 Claims**

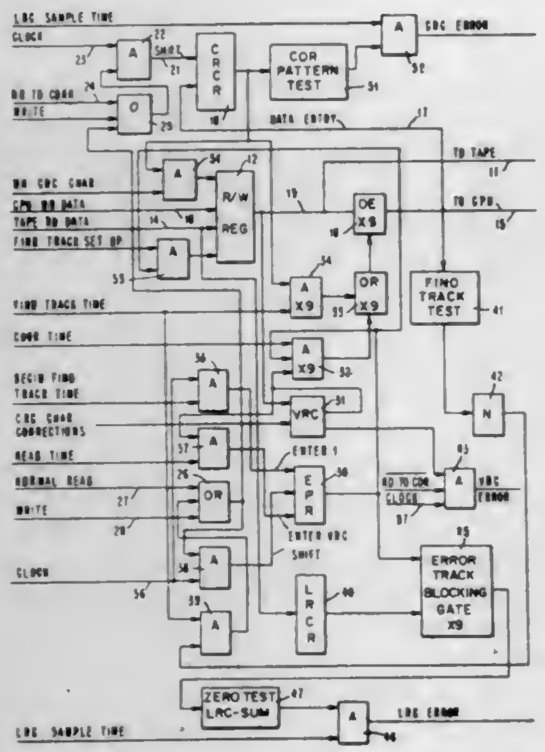
Improvements on locating and detecting errors in any tape track in a data block using VRC redundancy to check each byte and a Cyclic Redundancy Check (CRC) byte for all the bits in the block as claimed in Patent application Ser. No. 357,368 filed by D. T. Brown on Apr. 6, 1964. The bit positions in a byte are in respective different tape tracks. A Longitudinal Redundancy Check Character (LRCC) also is stored with the block. The LRCC generation may include the CRC byte as well as all other bytes in the block. The error detecting power of the LRCC is much les than that of the CRC. However their error detecting abilities are non-overlapping. Error location and correction for the block is done by using only the VRC and CRC redundancies. A possibility exists in all error correction schemes for a false correction. The non-overlapping ability of the LRCC is used here to detect a false correction after error correction has been completed.

Special features are also provided in generating the CRC byte which include: The effectiveness of the CRC is extended for non-prime numbers of tape tracks (such as nine) by constructing the CRC generator with at least one internal feedback path in addition to end-around feedback. Furthermore, the CRC generator also inverts certain bits of the CRC byte in order to obtain a final CRC readback pattern in the absence of tape error which can be represented by a binary polynomial factorable by (1+X). The latter pattern control extends the effectiveness of the error correcting system.



3,508,196
ERROR DETECTION AND CORRECTION FEATURES

Frederick F. Sellers, Jr., Hopewell Junction, and David T. Brown, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 357,367, Apr. 6, 1964. This application Dec. 6, 1968, Ser. No. 797,301
Int. Cl. G08b *29/00;* G06f *11/00*
U.S. Cl. 340—146.1 28 Claims



Improvements in locating and correcting errors in any tape track in a data block using byte (VRC) redundancy and a Cyclic Redundancy Check (CRC) byte for all the bits in the block, claimed in application Ser. No. 357,371 filed Apr. 6, 1964. The bit positions in a byte are in respectively different tape tracks. To locate a track having from one to all bit positions erroneous, a CRC shift register receives every byte parallel-y-bit, including the CRC byte, for an entire block. An Error Pattern (EP) shift register serially receives the output of a VRC check circuit which checks each byte. The CRC and EP shift registers each are similar with an even number of internal feedback paths and end-around feedback.

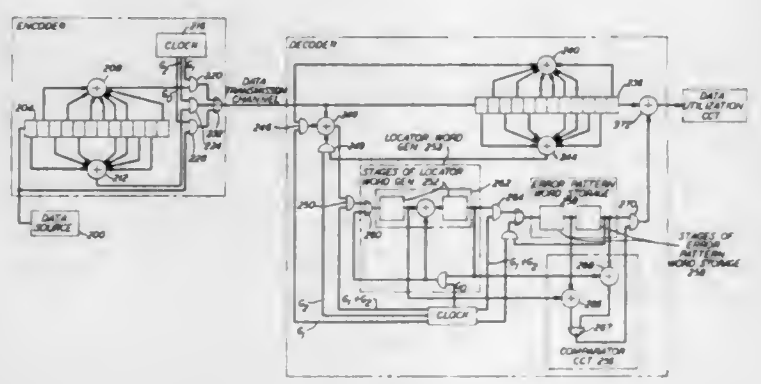
The CRC shift register is also used to generate and write the CRC byte at the end of each tape block. Its *even* number of internal feedback paths enables control of odd or even parity required for the CRC byte. After such control is obtained the CRC byte parity can be chosen by inverting predetermined CRC bit positions and counting bytes in a block, which can have any number.

Obtaining odd/even parity predictability, obtaining error pattern control, and obtaining operation for backward and forward tape reading are enabled by constructing each shift register feedback arrangement to represent a self-reciprocal polynominal in the Galois field. Alternatively bidirectional tape reading may be obtained by also reversing the CRC register connections without changing its shifting direction, or reversing its direction of shifting

After a block is read, the two cyclic storage means should have bit patterns which correspond in a predetermined manner if no error occurred in the block. An error is indicated by non-correspondence. Then the pattern of one storage means is moved relative to the pattern in the other until the patterns correspond. The number of bit positions of relative movement needed to obtain pattern correspondence between the patterns determines the track in error. Any number of tracks may be used and variable length blocks of any length may be accommodated.

3,508,197
SINGLE CHARACTER ERROR AND BURST-ERROR CORRECTING SYSTEMS UTILIZING CONVOLUTION CODES

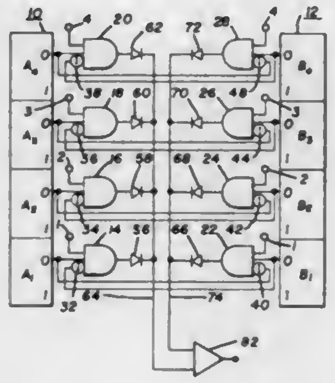
Shih Y. Tong, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Dec. 23, 1966, Ser. No. 604,226
Int. Cl. H03k *13/34;* H04l *1/10*
U.S. Cl. 340—146.1 4 Claims


ENCODER
CLOCK
DATA TRANSMISSION CHANNEL
DATA SOURCE
DECODER
LOCATOR WORD GEN
STAGES OF LOCATOR WORD GEN
ERROR PATTERN WORD STORAGE
CLOCK
DATA UTILIZATION CCT
STAGES OF ERROR PATTERN WORD STORAGE
COMPARATOR CCT

A system is disclosed for utilizing a convolution code of rate $(2^l-1)/2^l$ to correct any number of bit errors in a single character of l-bit length. The correction is accomplished at a receiving terminal by generating from a received sequence of characters an error pattern word which identifies the erroneous bits of the character in error and a locator word which identifies which of the received characters contains the arroneous bits. Upon detection of an erroneous character, the error pattern word is added to the erroneous character to obtain the corrected version thereof. By appropriate interleaving of characters, the system can also be used for burst-error correction.

3,508,198
BINARY COMPARATOR CIRCUIT

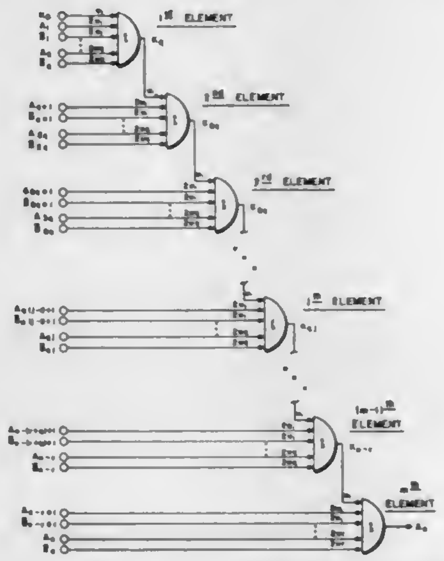
William F. Coombs, Jr., Irondequoit, and Alexander E. Martens, Greece, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed June 12, 1967, Ser. No. 645,291
Int. Cl. G06f *7/02*
U.S. Cl. 340—146.2 13 Claims



The comparator circuit includes 2*n* gate circuits, a pair for each digit order of two *n* bit binary words to be compared. A first group of *n* gate circuits receives binary signals of a first word and complementary signals of corresponding digit orders of the second word. A second group of *n* gate circuits receives binary signals of the second word and complementary signals of the corresponding digit orders of the first word. Each pair of the 2*n* gate circuits receive equal weighting potentials in increasing magnitudes according to their corresponding digit order. The weighting potentials are passed by the gate circuits when enabled. Diodes couple the outputs of the first and second group of gate circuits to separate input circuits of a differential amplifier.

3,508,199
TERNARY COMPARATOR

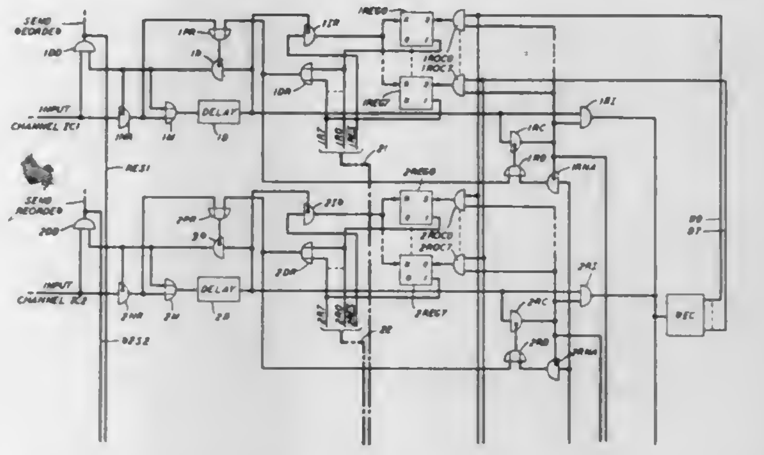
William H. Hanson, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application Sept. 30, 1965, Ser. No. 491,594, now Patent No. 3,346,730. Divided and this application May 5, 1967, Ser. No. 636,479
Int. Cl. G06f *7/04*
U.S. Cl. 340—146.2 4 Claims



A ternary comparator utilizing multi-input ternary threshold logic elements for performing ternary arithmetical operations.

3,508,200
SIGNAL RECEIVING SYSTEM HAVING RECIRCULATING DELAY LINES

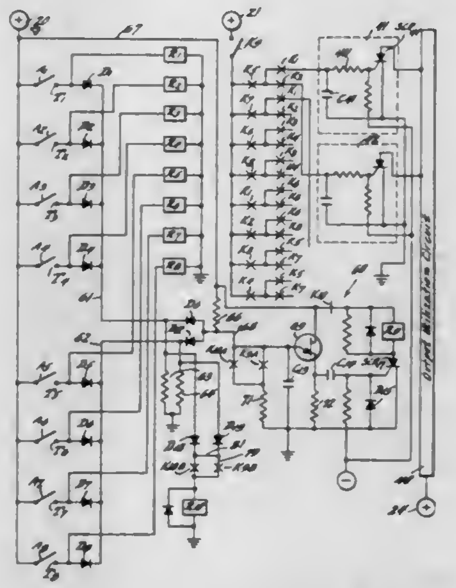
Amos E. Joel, Jr., South Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 9, 1966, Ser. No. 533,094
Int. Cl. H04q *11/04*
U.S. Cl. 340—147 21 Claims



An arrangement wherein a single multifrequency receiver is asynchronously time-shared by a plurality of randomly active multifrequency sources on a signal present basis. Overlapping sequential signals received at random from various sources are gated into the receiver on a race basis. If a signal does not persist long enough after transmission, decoding and registration of a preceding signal to permit receiver response thereto, a recirculating delay line memory retains sufficient of the later signal to permit a proper receiver response.

3,508,201
TRANSLATOR CIRCUIT

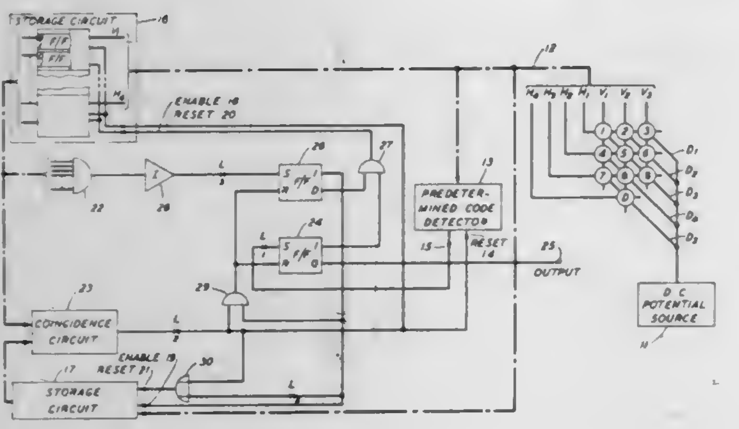
Joseph A. Morale, Brooklyn, N.Y., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 17, 1967, Ser. No. 624,070
Int. Cl. H04q *3/02*
U.S. Cl. 340—147 13 Claims



A translator circuit receives a pair of intelligence pulses at input terminals in a pair of separate banks, and selectively operates relays to close associated contacts for conditioning a current path to one of a group of selected output drive circuits. If the input pulses are of sufficient duration and are simultaneously received, a triggering switch is closed to apply power to the conditioned current path to operate the selected output drive circuit. The translator circuit is conditioned for the next operation only after all the pulses are removed from input terminals.

3,508,202
ELECTRONIC COMBINATION LOCK

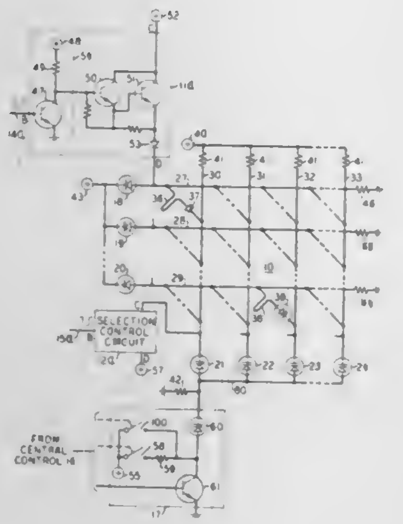
Amos E. Joel, Jr., South Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Apr. 17, 1967, Ser. No. 631,286
Int. Cl. H04q *3/02*
U.S. Cl. 340—147 **3 Claims**



A detector circuit and flip-flop circuit arangement forming part of a combination lock is set only after a predetermined input code is applied. After this arrangement is set, a storage circuit stores a random input code. The lock is now locked and may be left. To reopen the lock, a storage circuit-coincidence circuit arrangement recognizes a reapplication of the random code and resets all of the circuitry.

3,508,203
ACCESS MATRIX WITH CHARGE STORAGE DIODE SELECTION SWITCHES

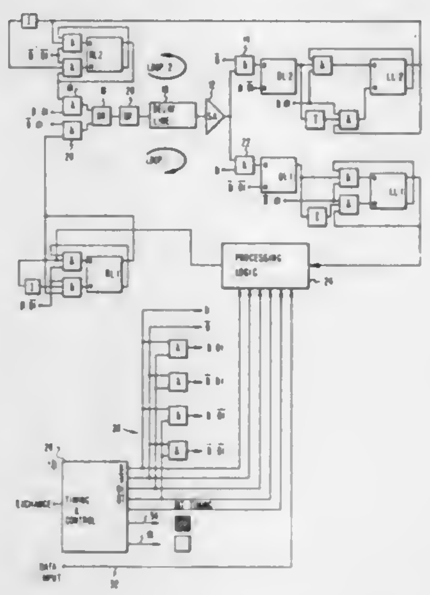
Sigurd G. Waaben, Princeton, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,817
Int. Cl. H04q *9/00*
U.S. Cl. 340—166 **13 Claims**



Charge storage diodes in the selected rails of an access matrix are charged in their forward conducting direction by low current switches which are controlled by matrix address signals. When the matrix current control circuit is activated to supply drive current to the selected crosspoint load of the matrix such current discharges the rail charge storage diodes. Each crosspoint load of the matrix is further connectable to control a circuit of a further matrix. A common current control circuit for the matrix includes plural selectable charge storage diodes with different diode current carrier lifetimes for limiting matrix output current amplitude.

3,508,204
RECIRCULATING DATA STORAGE SYSTEM

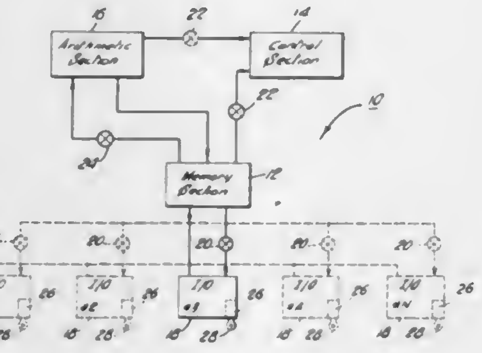
Alfred Cutaia, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 31, 1966, Ser. No. 590,958
Int. Cl. G11c *21/00*
U.S. Cl. 340—172.5 **5 Claims**



A recirculating data storage system which includes serial data storage means, such as a delay line, having an input and an output; first and second data feedback loops connecting the input and output; the first data feedback loop including data processing logic circuits and the second feedback loop being exclusive of these logic circuits; gating means for sequentially directing a first set of data units presented to said output into the first loop and for directing a second set of data units, interspersed among the first set, into the second loop; and control means for selectively reversing the operation of the gating means whereby the first set of data units is directed into the second loop and the second set of data units is directed into the first loop.

3,508,205
COMMUNICATIONS SECURITY SYSTEM

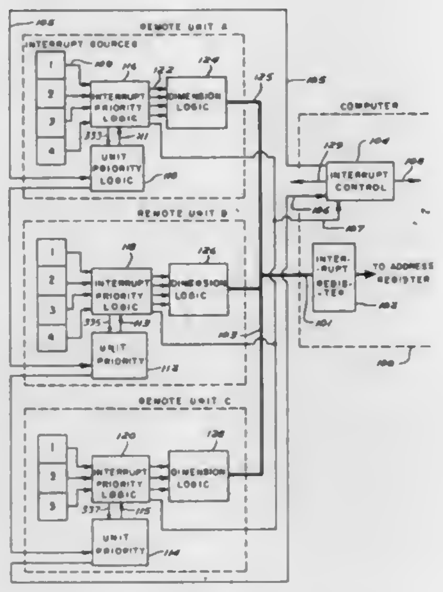
Elmer C. Kubie, Chappaqua, N.Y., assignor to Computer Usage Company, Inc., Mount Kisco, N.Y.
Filed Jan. 17, 1967, Ser. No. 609,842
Int. Cl. G05b *1/00*
U.S. Cl. 340—172.5 **17 Claims**



System for locking information transmitted, stored or operated upon in a computer or other information communication system. Mechanically-operated locks are used in conjunction with devices for prohibiting the transmission or other operation upon the information unless there is a match between a lock identification signal generated by unlocking the proper lock and a lock selector signal stored with the information.

3,508,206
DIMENSIONED INTERRUPT

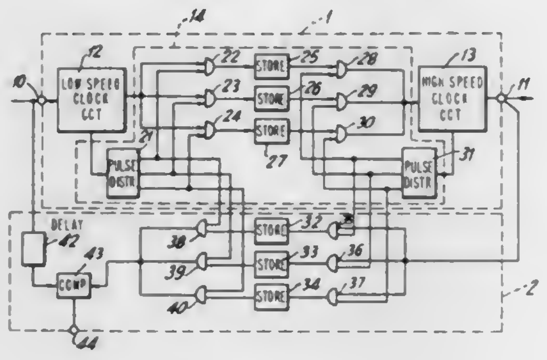
Gayle R. Norberg, Columbia Heights, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed May 1, 1967, Ser. No. 635,153
Int. Cl. H04j *3/14*
U.S. Cl. 340—172.5 **5 Claims**



An apparatus for interrupting the operation of a digital computer from a plurality of remote equipments wherein the time delay imposed upon the computer to recognize and process the interrupting signal is minimized.

3,508,207
SUPERVISORY METHOD COMPRISING VARIABLE DELAY-TIME MEMORY FOR CODE TRANSMISSION SYSTEM

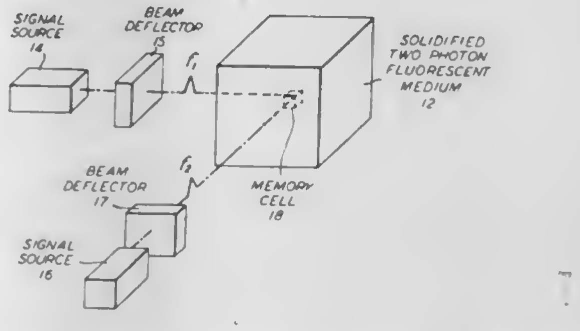
Seiichiro Shigaki, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo-to, Japan
Filed Nov. 16, 1967, Ser. No. 683,587
Claims priority, application Japan, Nov. 19, 1966, 41/76,022
Int. Cl. G11c *7/00*
U.S. Cl. 340—172.5 **3 Claims**



A supervisory arrangement for an apparatus coupling the code pulses of two systems having independent clock frequencies and including a convertor with a variable delay-time memory where the input signals are written into the memory by a first clock and the output signals are read by a second clock. It is characterized by the provision of a second variable delay-time memory in which output signal pulses of the converter are written by using the reading address of the first memory as the writing address and the memorized contents are read out by using the writing address of the first memory as the reading address, and a comparator in which the output signal pulses of the second memory are compared with the input signal pulses of the convertor.

3,508,208
OPTICAL ORGANIC MEMORY DEVICE

Michel A. Duguay, Berkeley Heights, and Peter M. Rentzepis, Millington, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 27, 1967, Ser. No. 693,872
Int. Cl. G11c *13/02;* **H01s** *3/00;* **C09k** *1/02*
U.S. Cl. 340—173 **10 Claims**

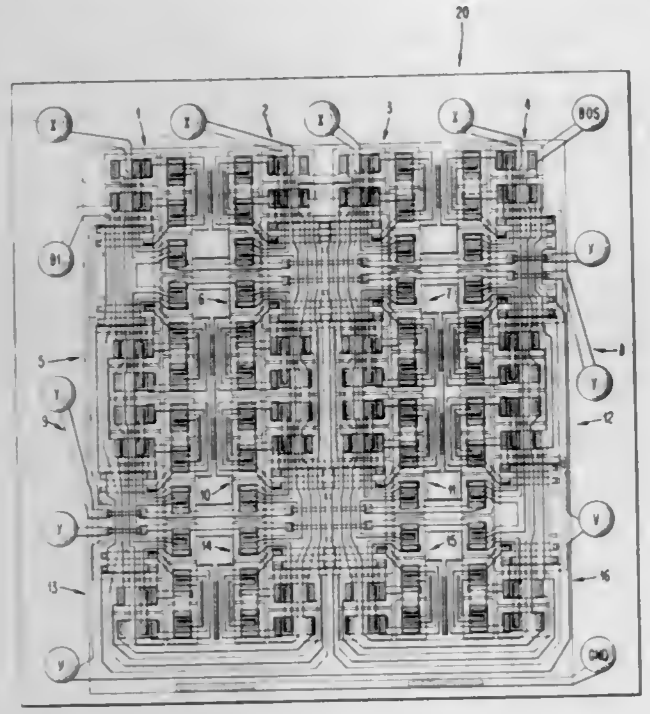


An optical memory device includes a two-photon fluorescent medium which has been solidified (e.g., frozen or dispersed in a polymer). Information is written into a selected region of the medium when a pair of picosecond pulses are made to be coincident and to overlap within the selected region. The overlapping pulses create, by two-photon absorption, orgnaic free radicals which store the information at an energy level intermediate the fluorescent level and the ground state. The radicals store indefinitely the desired information which may be read out by interrogating the medium with a second pair of coincident and overlapping picosecond pulses. In the case where the medium is frozen, interrogation may also be accomplished by directing a collimated infrared light beam into the selected region thereby causing that region to liquefy and its associated radicals to undergo recombination. In each of the aforementioned cases, the interrogate beam causes the interrogated region to fluoresce, the radiation emitted being sensed by an appropriate light detector.

3,508,209
MONOLITHIC INTEGRATED MEMORY ARRAY STRUCTURE INCLUDING FABRICATION AND PACKAGE THEREFOR

Benjamin Agusta, Paul H. Bardell, and Paul P. Castrucci, Poughkeepsie, Robert A. Henle, Hyde Park, and Raymond P. Pecoraro, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Mar. 31, 1966, Ser. No. 539,210
Int. Cl. G11c *5/04, 11/40;* **H01l** *19/00*
U.S. Cl. 340—173 **14 Claims**

A monolithic integrated semiconductor structure is described that has a plurality of functionally isolated individual cells that are electrically interconnected. Each of the cells is an object or mirror image cell that is vertically, horizontally and diagonally displaced from the object cell. The plurality of cells provide a memory array with electrical components of each memory cell composed of active and passive semiconductor devices. Other important aspects of the structure include underpass connections and active devices in a common portion of the structure which are electrically interconnected at the same node potential by means of a highly doped buried region within the common portion of the structure.



3,508,210

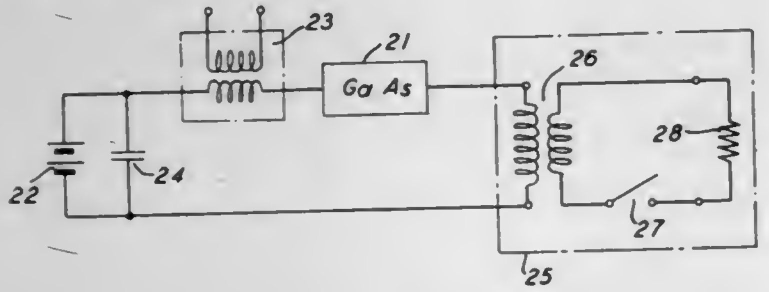
MEMORY ELEMENT USING TWO-VALLEY SEMICONDUCTOR

Michiyuki Uenohara, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 12, 1966, Ser. No. 542,168

Int. Cl. G11c *11/36*

U.S. Cl. 340—173 **5 Claims**



Circuits are disclosed for utilizing the discovery that a two-valley semiconductor will continue to oscillate after the bias voltage falls below the threshold required to initiate oscillation provided the bias voltage remains above a minimum sustaining voltage of oscillation. These circuits test the presence or absence of oscillatory power, the amplitude of the average current flow, or the state of the resistivity in the two-valley semiconductor.

3,508,211

ELECTRICALLY ALTERABLE NON-DESTRUCTIVE READOUT FIELD EFFECT TRANSISTOR MEMORY

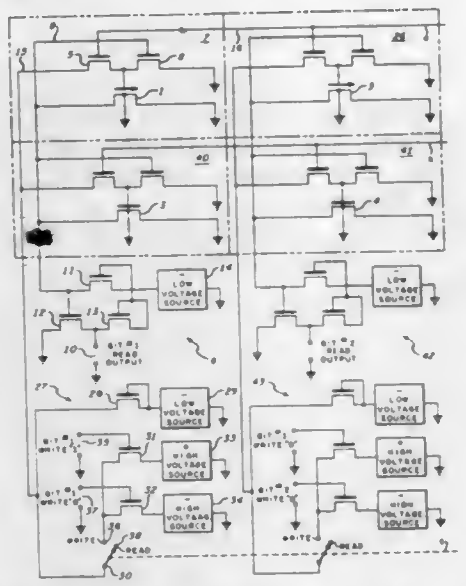
Horst A. R. Wegener, Carlisle, Mass., assignor to Sperry Rand Corporation, a corporation of Delaware

Filed June 23, 1967, Ser. No. 648,414

Int. Cl. G11c *11/40;* **H01l** *11/14*

U.S. Cl. 340—173 **8 Claims**

A memory applicable for use in digital computers comprising insulated gate field effect transistors for each digital datum memory cell. One of said transistors utilizes silicon nitride as the gate insulating material and has an electrically alterable conduction threshold. The other transistors have a fixed conduction threshold. Additional field effect transistor circuits are provided for the application of voltage pulses to the variable threshold transistor via the fixed threshold transistors to set the threshold value and to sense the value of the set threshold.



3,508,212

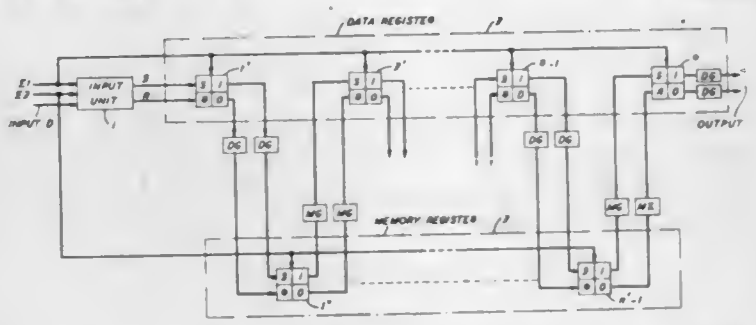
SHIFT REGISTER CIRCUIT

Cyrus F. Ault, Wheaton, Ill., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Jan. 16, 1968, Ser. No. 698,256

Int. Cl. G11c *19/00;* **H03k** *23/00*

U.S. Cl. 340—173 **15 Claims**



A semiconductor shift register comprised of two parallel banks of flip-flops interconnected by transistor gates is disclosed. Shifting is accomplished by pulsing the collector potential applied to the flip-flops of one bank to gate data into it from the other bank, and vice versa.

3,508,213

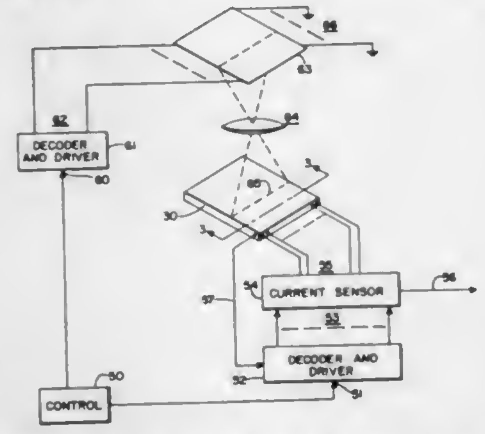
FERROELECTRIC MEMORY APPARATUS USING THE TRANSCHARGER PRINCIPLE OF OPERATION

Charles W. Hastings, Falcon Heights, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed June 14, 1967, Ser. No. 646,007

Int. Cl. G11c *11/22*

U.S. Cl. 340—173.2 **9 Claims**



This specification discloses a bulk memory which uses a sheet of ferroelectric material as the storage medium wherein the transcharger principle of operation is used to store and read information.

3,508,214

SEMIPERMANENT MAGNETIC CORE STORAGE MATRICES

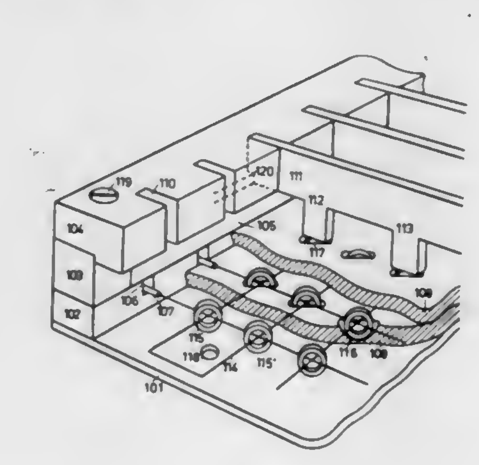
Gerhardus Bernardus Visschedijk, Hengelo, Overijsel, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijsel, Netherlands

Filed Oct. 16, 1964, Ser. No. 404,293

Claims priority, application Netherlands, Oct. 18, 1963, 299,494

Int. Cl. G11c *17/00, 5/04*

U.S. Cl. 340—174 **13 Claims**



A magnetic core storage matrix having means for disabling selected core of the matrix. The disabling means includes a plurality of notched magnetic bars on the upper side of the matrix having teeth aligned with and projecting close to the selected cores. A soft iron plate extends along the lower side of the matrix adjacent the cores. A magnetic circuit including magnetizing means for producing a magnetic flux completes a magnetic path that includes the notched bars, selected cores and the iron plate. The magnetic flux saturates the selected cores so that they do not respond to input signals applied to the drive lines of the matrix.

3,508,215

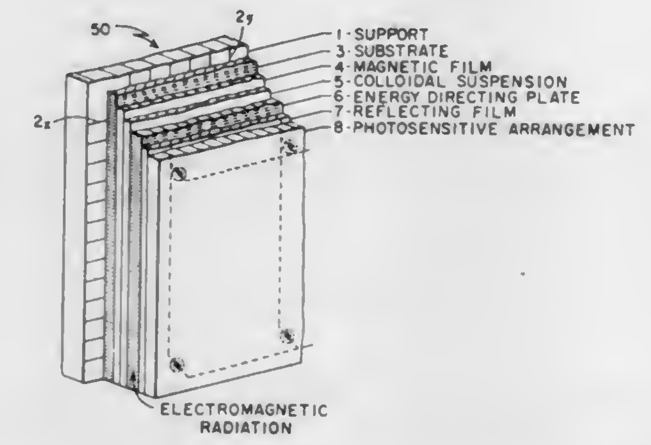
MAGNETIC THIN FILM MEMORY APPARATUS

Edmund U. Cohler, Brookline, and Harvey Rubinstein, Lynnfield, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Nov. 25, 1966, Ser. No. 596,939

Int. Cl. G11b *5/00;* **G02b** *5/18;* **G02f** *1/22*

U.S. Cl. 340—174 **11 Claims**



A thin film magnetic data processing apparatus for use in a memory correlator. A colloidal suspension of ferromagnetic particles is disposed on a magnetic film and magnetic fields are applied to discrete areas of the film to establish a first magnetization direction or a second magnetization direction in each area whereby dense-banded microdomains are established parallel to the magnetization direction in the area and information is stored in the area. The ferromagnetic particles in the colloidal suspension align with the fields of the microdomains to form magneto-optic diffraction gratings on the discrete areas of the film, the diffraction grating formed on each discrete area of the film being parallel to the magnetization direction in the area.

3,508,216

MAGNETIC MEMORY ELEMENT HAVING A FILM OF NONMAGNETIC ELECTRICALLY CONDUCTIVE MATERIAL THEREABOUT

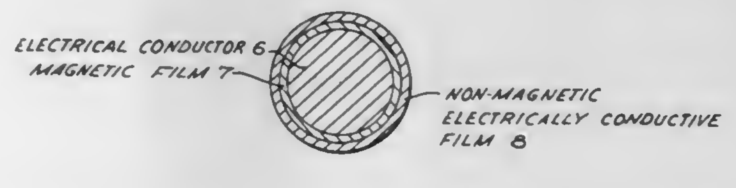
Toshihiro Hoshi, Kawasaki-shi, Japan, assignor to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan

Filed Oct. 26, 1966, Ser. No. 589,723

Claims priority, application Japan, Oct. 29, 1965, 40/66,450

Int. Cl. G11c *11/14, 17/00*

U.S. Cl. 340—174 **20 Claims**



Each memory conductor of a thin film memory device has a film of magnetic material on the surface area thereof and a film of non-magnetic electrically conductive material of less than 4 microns thickness on the film of magnetic material.

3,508,217

DIGITAL STORAGE SYSTEMS UTILIZING A STACK OF ENCODED CONDUCTORS

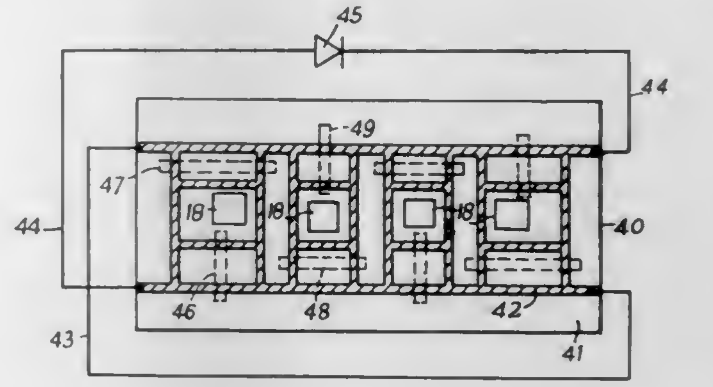
Howard Anthony Dorey, Godalming, England, assignor to The Solartron Electronic Group Limited, Farnborough, England, a corporation of the United Kingdom

Filed Sept. 26, 1966, Ser. No. 581,995

Claims priority, application Great Britain, Sept. 28, 1965, 41,221/65

Int. Cl. G11c *11/06, 5/02, 17/00*

U.S. Cl. 340—174 **6 Claims**



In accordance with one embodiment of this invention, a blank for a memory or information storage system and a system formed by a stack of such blanks is disclosed. The blank comprises an insulating board having a row of apertures therein and mounts an electrically conductive pattern. The conductive pattern links a core disposed in each aperture in one directional sense to provide a binary 1 and in an opposite directional sense to provide a binary 0 whereby greater discrimination is typically realized. The pattern includes a conductive loop about each aperture and two elongated electrical conductors extend along different sides of the row of apertures, the two conductors being spaced from the conductive loops. At least one, and preferably two, spaced apart, electrically conductive strips extend laterally from each conductor toward one aperture to electrically connect each loop to a corresponding one of the conductors.

3,508,218

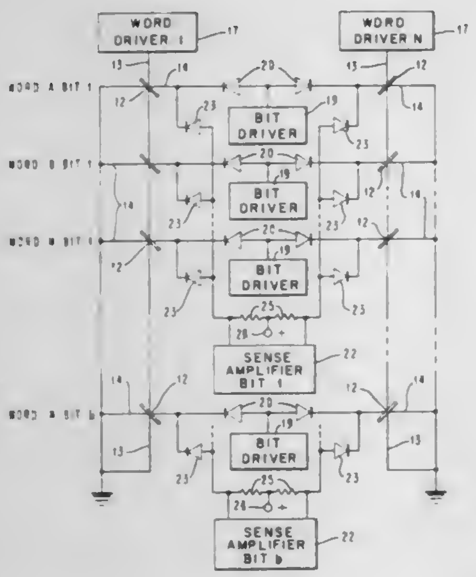
2¼ D MEMORY

John W. Sumilas, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,082

Int. Cl. G11c *5/02, 7/00*

U.S. Cl. 340—174 **7 Claims**



Organization for coincident current magnetic memory in which current on one wire excites a group of storage elements that correspond to several distinct words, one of which is to be read and others of which are not. Circuit for establishing inhibit currents on other wires associated with words that are to be not read and to sense the signals that appear on corresponding wires of the word that is to be read.

3,508,219

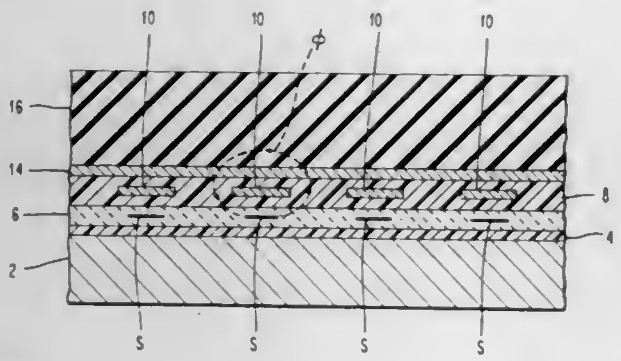
THIN FILM MEMORY KEEPER

James M. Brownlow, Crompond, and Kurt R. Grebe, Beacon, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,142

Int. Cl. C04b *35/26;* **G11c** *11/14;* **H01f** *10/06*

U.S. Cl. 340—174 **4 Claims**



A thin film memory matrix operated by coincident current selection has its switching characteristics improved by employing a novel flexible keeper in conjunction with such matrix. The novel flexible keeper and its method of manufacture make up the inventive contribution.

3,508,220

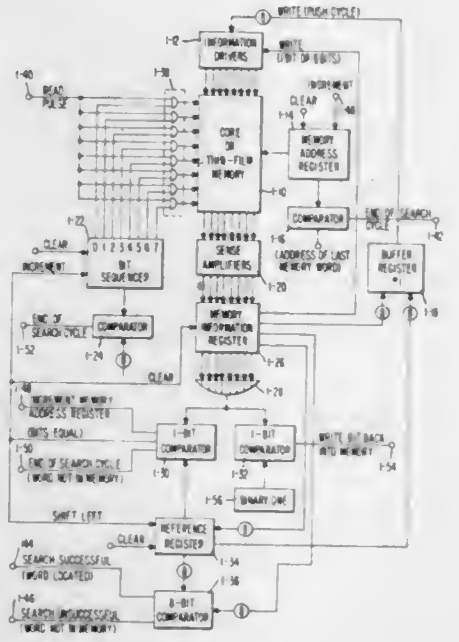
FAST ACCESS CONTENT-ORGANIZED DESTRUCTIVE READOUT MEMORY

William Stampler, Hatboro, Pa., assignor to Burrougs Corporation, Detroit, Mich., a corporation of Michigan

Filed July 31, 1967, Ser. No. 657,210

Int. Cl. G11c *11/02, 15/00*

U.S. Cl. 340—174 **9 Claims**



A content organized (in descending or ascending order) memory which incorporates both conventional structure addressing and a new form of content addressing in which only one bit of a word is read out at a time during a search operation. In searching the contents of the memory, bit sequencing hardware and comparison circuits sequentially reads out each bit, from the most significant to the least significant, in the memory and provides an indication of equality or inequality with the respective bit of a reference word. When the comparison indicates equality, the next bit in the same word is selected for comparison; however, if the comparison indicates inequality, the same bit in succeeding words is sequentially selected until equality is indicated. In this manner the least significant bit which matches the corresponding reference word bit is ultimately registered. An indication that the reference word matches the stored word, or that no such word exists in the memory, may be achieved without interrogating all words in the memory.

A hardware-implemental "push cycle" content organizes words prior to inserting them into the memory. A delete cycle removes words and eliminates "empty" locations in the memory.

3,508,221

MAGNETIC DOMAIN PROPAGATION SHEET

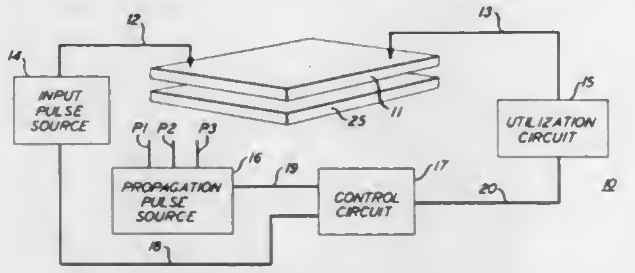
Alfred A. Thiele, East Orange, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Aug. 30, 1967, Ser. No. 664,524

Int. Cl. G11c *9/00*

U.S. Cl. 340—174 **8 Claims**

Magnetic devices including sheets of magnetic materials in which single wall domains are moved may be operated in two different modes. One of those modes is termed the "bias-dominated" mode wherein the domains retain a stable shape during operation. Conditions for optimizing this mode of operation are described.



3,508,222

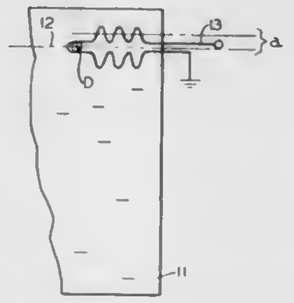
READOUT IMPLEMENTATION FOR MAGNETIC MEMORY

Andrew H. Bobeck, Chatham, and Paul C. Michaelis, Watchung, N.J., and William Shockley, Stanford, Calif., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Sept. 1, 1967, Ser. No. 665,086

Int. Cl. G11c *11/14, 19/00*

U.S. Cl. 340—174 **9 Claims**



Magnetic gain is realized by expanding a single wall domain into a relatively large area of magnetic material encompassed by an output conductor loop. A repetitive geometry for that loop not only enables modulated signals to be generated in the loop as domains are expanded there, but also permits significantly increased gain when a domain, once expanded, is later collapsed within the loops.

3,508,223

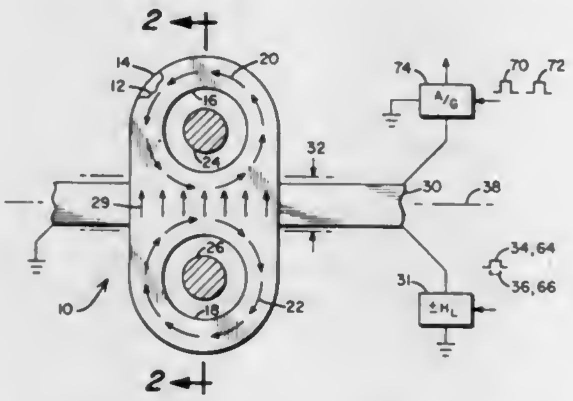
BAKORE MEMORY SIMULTANEOUSLY STORING IN DRO AND NDRO MODES

Robert J. Bergman, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 2, 1967, Ser. No. 672,686

Int. Cl. G11c *11/08, 11/14*

U.S. Cl. 340—174 **3 Claims**



A single magnetizable memory element that permits the simultaneous storage of logically different bits of digital information in the destructive readout (DRO) mode and in the nondestructive readout (NDRO) mode. The NDRO storage mode involves the relative angle of skew of the element's magnetic easy axis from a line parallel to the applied longitudinal field H_1 while the DRO storage mode involves the relative polarity of the element's magnetization along the element's easy axis.

3,508,224

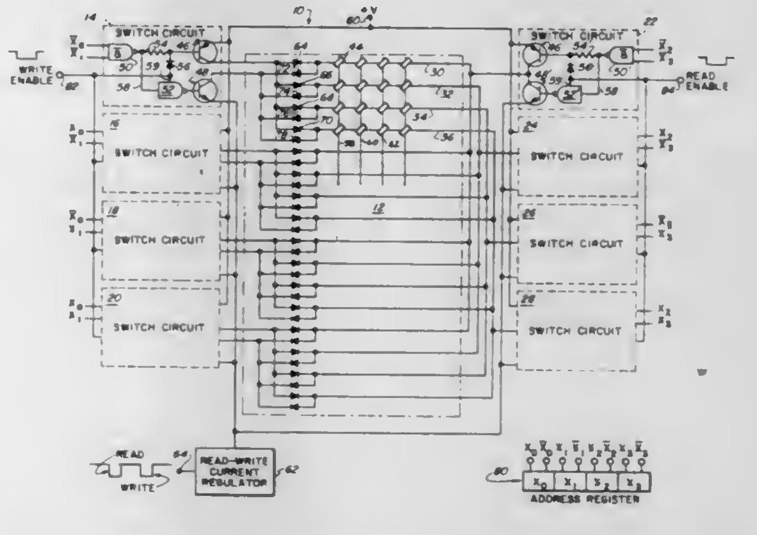
SOLID-STATE SELECTION MATRIX FOR COMPUTER MEMORY APPLICATIONS

Harry Putterman, Elizabeth, N.J., assignor to Singer-General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed Oct. 25, 1967, Ser. No. 678,093

Int. Cl. H03k *3/26;* **G11c** *7/00*

U.S. Cl. 340—174 **7 Claims**



A memory apparatus such as a linear organized memory of the type having an array of binary magnetizable elements, each coupled to a conductive line, employs switching apparatus at each end of each line to facilitate proper, timed electrical excitation of the line. The lines are arranged in a set and another set of sensing lines are perpendicular to the lines of the one set with the memory elements located at the respective intersections of lines.

Energization of each of the one set of lines by write current in one direction and read current in the other direction is controlled by switching circuits at respective ends thereof. The switches of each circuit comprise a pair of transistors of opposite types interconnected to each other and to the lines so that in response to a single pulse applied to one of the switches, either Write Enable to one or Read Enable to the other, a low resistance current path is established between a potential source, the switch at one end of the line, the line itself, the switch at the other end of the line and a current regulator for controlling the current intensity in the line. In each instance one transistor of each switch is conductive and the other is nonconductive and in each case, the enabling pulse reverses the conductive states of the transistors of the switch to which the pulse is applied to complete a current path.

3,508,225

MEMORY DEVICE EMPLOYING A PROPAGATION MEDIUM

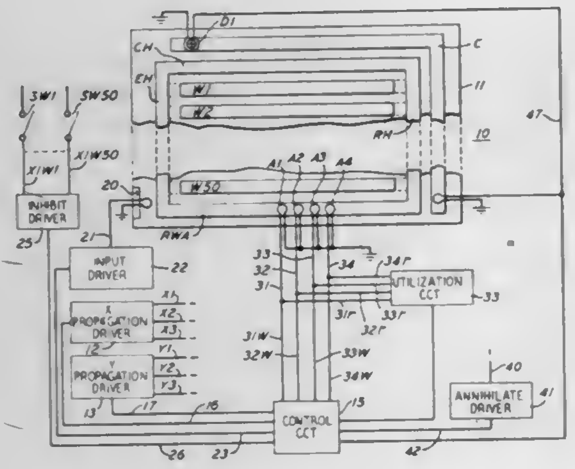
James L. Smith, Bedminster, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Nov. 22, 1967, Ser. No. 685,143

Int. Cl. G11c *11/14, 19/00*

U.S. Cl. 340—174 **10 Claims**

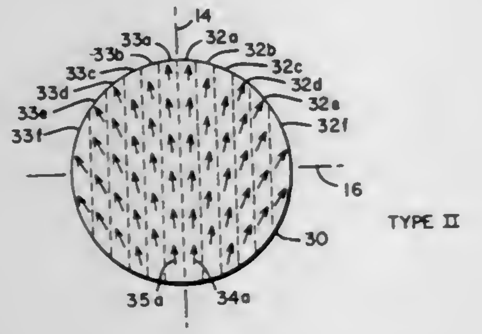
A memory arrangement comprising a plurality of propagation channels is described. The channels fan-in to a common "recirculating" channel at both input and output ends. Each propagation channel serves as an information storage location. Write and read operations are carried out by means of write and read windings coupled to the common channel. Information is moved to the common channel for a read or write operation by advancing information in the common channel and in the selected storage channel. The arrangement requires very few lead connections and is characterized by a high signal-to-noise ratio.



3,508,226
CONTROLLED MAGNETIC EASY AXIS DISPERSION IN MAGNETIZABLE ELEMENTS

Paul E. Oberg, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 29, 1967, Ser. No. 686,413
Int. Cl. G11c *11/14*
U.S. Cl. 340—174 **2 Claims**



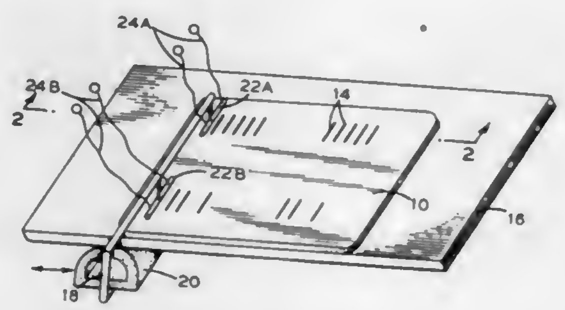
Methods of and apparatus for producing a magnetizable element having perdetermined varying easy axis dispersion, i.e., magnetic field anisotropy orientation, having a linear or controllable angular dispersion curve over a substantial percentage of its irreversibly switchable magnetization.

3,508,227
INFORMATION SIGNAL GENERATION APPARATUS

Evelyn Berezin, New York, Edgar Wolf, New Hyde Park, William D. Cohen, Syosset, and Francis C. Marino, Huntington, N.Y., assignors to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware

Filed Aug. 5, 1966, Ser. No. 570,577
Int. Cl. G11b *5/62*
U.S. Cl. 340—174.1 **6 Claims**

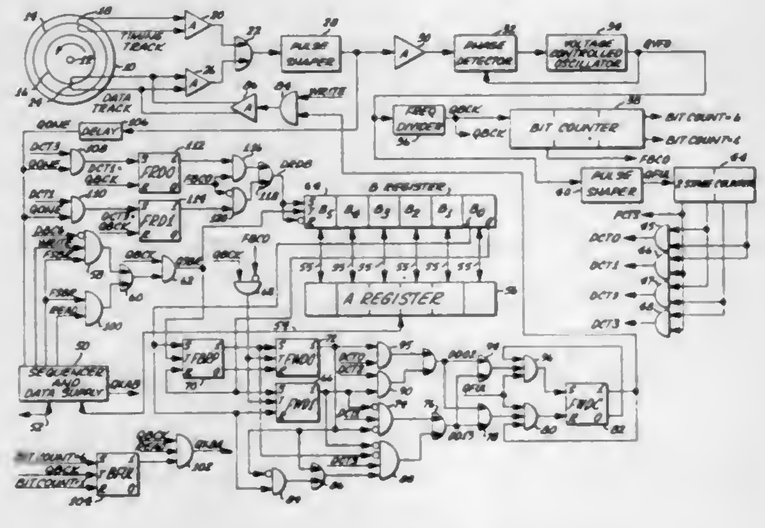
An information signal generating apparatus including a planar magnetic field shielding element which is provided with apertures representing coded information and through which a magnetic flux from a magnetic field source disposed on one side of the planar element is adapted to pass. A signal generator which may be in the form of an elongated electrical conductor is disposed on the other side of the planar element and is movable across the planar element so that a current is induced in the conductor when it cuts across the magnetic lines of force passing through the aperture thereby to produce electrical signals.



3,508,228
DIGITAL CODING SCHEME PROVIDING INDICIUM AT CELL BOUNDARIES UNDER PRESCRIBED CIRCUMSTANCES TO FACILITATE SELF-CLOCKING

Joseph E. Bishop, Scottsdale, Ariz., assignor to General Electric Company, a corporation of New York

Filed Mar. 28, 1967, Ser. No. 626,553
Int. Cl. G11b *5/00, 5/06*
U.S. Cl. 340—174.1 **3 Claims**



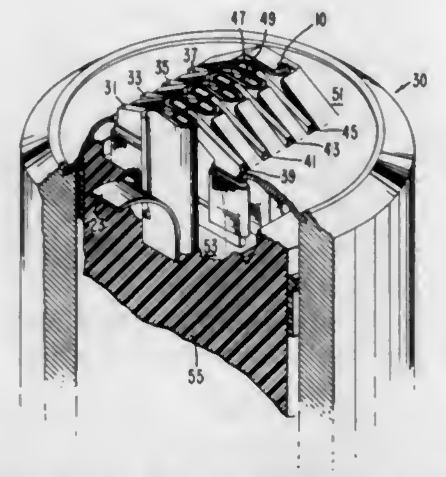
Described herein is a system for recording digital information onto and for reading digital information from a storage medium by the placing of an indicia on a storage medium at particular points within designated areas on the storage medium. By its relative positioning within the specific area, the indicia is representative of specified increments of information.

3,508,229
FERRITE ELEMENT HOLDER

John Stencel, Jr., Bloomfield Hills, and Howard P. White, Livonia, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed June 21, 1967, Ser. No. 647,720
Int. Cl. G11b *5/10, 5/50*
U.S. Cl. 340—174.1 **1 Claim**

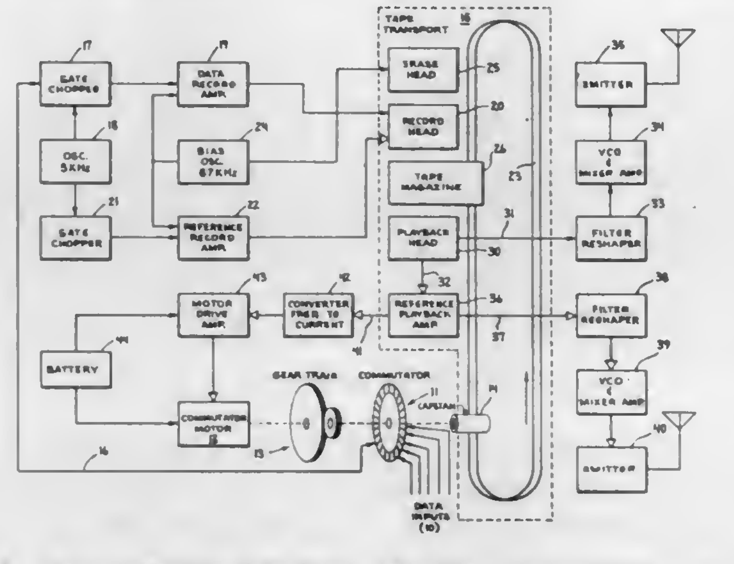
An improved holder for aligning and supporting a plurality of oppositely oriented ferrite elements in a magnetic transducer. The holder is made of corrugated spring metal which is bent to form gripping faces within each corrugation. A flexure is provided at each end of the holder to resiliently support the ferrites.



3,508,230
SPACE CRAFT REENTRY BLACKOUT RECORDER

Georges M. Cnudde, Menlo Park, and Robert O. Hutchinson, Mountain View, Calif., assignors to Lockheed Missiles & Space Company, Sunnyvale, Calif., a corporation of California

Filed Sept. 8, 1967, Ser. No. 667,328
Int. Cl. G11b *5/00;* **G08c** *15/06;* **G04b** *7/00*
U.S. Cl. 340—174.1 **7 Claims**



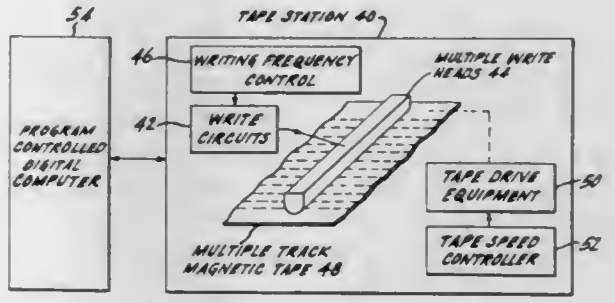
A space reentry blackout recorder transmitting system having a tape recorder with erase and recording heads and a playback head with a tape magazine between the recording head and playback head to produce playback delay for the amount of time taken by the tape in passing in and out of the tape magazine. The information signals, time-shared by a commutator, are modulated by a low frequency operating gating means for recording which, after being played back for radio link transmission, are reshaped and filtered in the transmission circuits to reproduce the information signals accurately. The same oscillator that produces the low frequency is used to supply a reference frequency that is played back to control tape speed.

3,508,231
TEST TAPE WITH PRESELECTED SKEW

Robert Levin, Cherry Hill, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Apr. 11, 1968, Ser. No. 720,714
Int. Cl. G06f *11/00;* **G11b** *5/46, 15/46*
U.S. Cl. 340—174.1 **5 Claims**

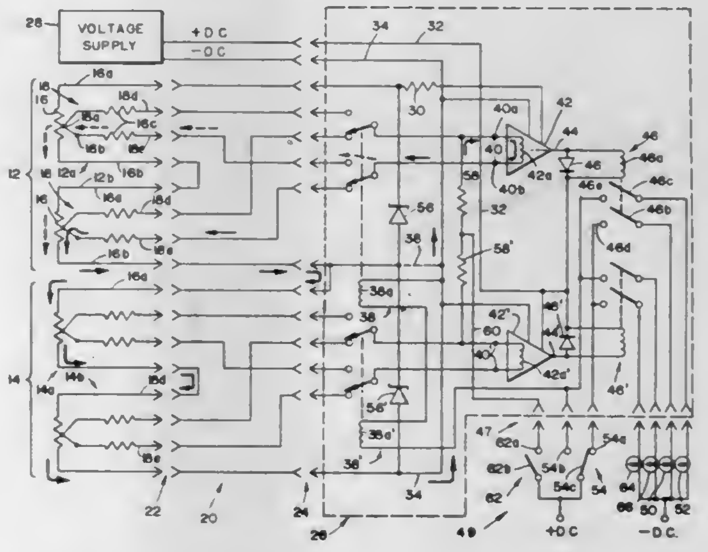
A method of placing information on a magnetic test tape employed to measure the sensitivity of a tap station to "skew" distortion. A plurality of bits, not more than one of which represents a given binary value, and the others of which represent the other binary value, is recorded along a length of track normally sufficient for the storage of only a single bit. By appropriately choosing the position of the bit representing the given binary value, skew, in a precise measurable amount is simulated.



3,508,232
ELECTRICAL MONITORING SYSTEM HAVING READY PERFORMANCE TESTING CAPABILITY

Sidney B. Williams, Lexington, and Vernon C. Westcott, Lincoln, Mass., assignors to Trans-Sonics, Inc., Lexington, Mass.

Filed Jan. 6, 1967, Ser. No. 607,722
Int. Cl. H04q *9/00*
U.S. Cl. 340—214 **3 Claims**



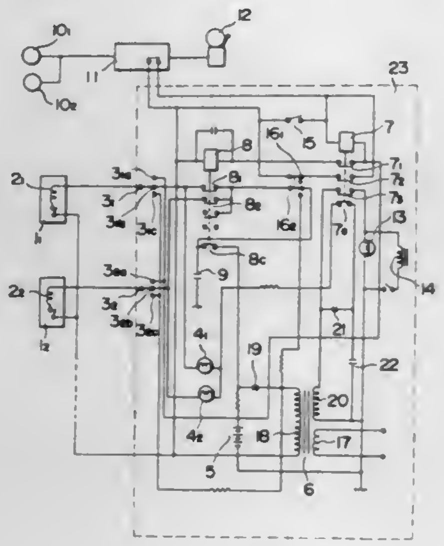
A performance testing capability is provided for an electrical system that monitors a physical condition with a sensor operating an output device when a selected condition is sensed. The test signal is applied in parallel with the sensor signal and actuates the output device only when a first path, including the sensor and its interconnections with the output device, and a second path through the elements of the output device are both intact.

3,508,233
COMBINATION OF ELECTRICAL LOCK SYSTEM AND FIRE ALARM SYSTEM

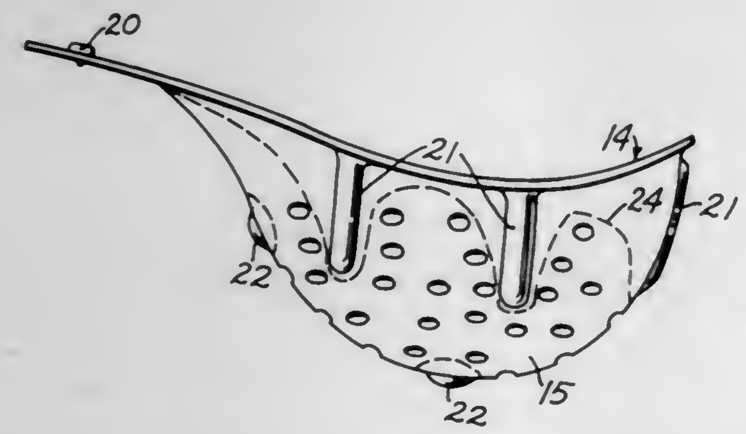
Kazuo Sugiyama, Mitaka-shi, Tokyo, Japan, assignor to Heiwa Denki Kabushiki Kaisha, Kawasaki-shi, Japan

Filed May 25, 1967, Ser. No. 641,316
Claims priority, application Japan, June 3, 1966, 41/35,408
Int. Cl. G08b *17/00;* **H01h** *47/04*
U.S. Cl. 340—222 **1 Claim**

A combination of electrical locks, especially those of doors for emergency exits, and a fire alarm system. When a fire breaks out, such normally closed locks are simultaneously unlocked by the actuation of the fire alarm system which is functionally connected to a control device for the locks. Each lock can be selectively locked or unlocked by operating the control device. Also, the simultaneous locking and unlocking of all the locks can be effected as occasion demands.



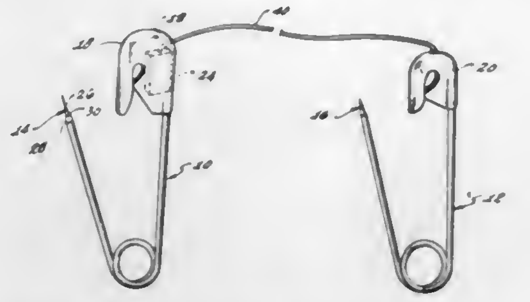
3,508,234
BED WETTING ALARM AND TRAINER
Joe W. Snyder, 15288 SE. La Marquita Way, Milwaukie, Oreg. 97222
Filed May 26, 1967, Ser. No. 641,637
Int. Cl. G08b *21/00*
U.S. Cl. 340—235 **9 Claims**



An alarm to alert a person subject to involuntary release of urine, comprising a sealed housing of electrically insulated material inclosing the alarm apparatus. One wall of the housing facing the body of the user is formed with a concave recessed pocket. Fitted within this pocket is a removable complementary insert that is perforated to permit passage of urine into the pocket. Opposed surfaces of the insert and pocket are electrically conductive, non-conductive areas being divided to terminate the alarm when the person is standing erect. The fastening elements that hold the removable inserts to the housing are also utilized as part of the electrical alarm circuit.

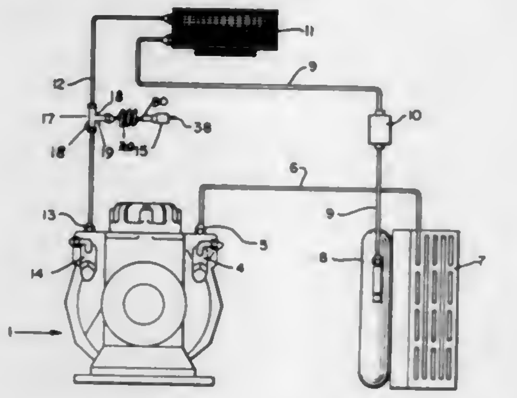
3,508,235
COMBINED DIAPER FASTENER AND SIGNALLING DEVICE
Joyce B. Baisden, 2021 Lemon Heights Drive, Santa Ana, Calif. 92705
Filed Apr. 18, 1967, Ser. No. 631,676
Int. Cl. G08b *21/00*
U.S. Cl. 340—235 **9 Claims**

Diaper pin constructions are made to form galvanic couples, as a single pin with portions of different metals, or separate pins of different metals. A radio frequency transmitter is housed in the enlarged head of such a pin.



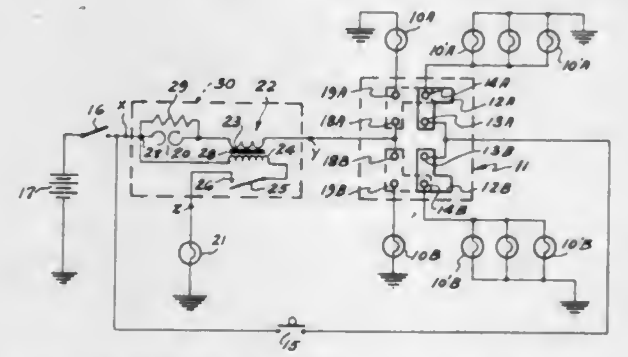
When the diaper becomes wet, the galvanic couple is activated to energize the broadcast transmitter.

3,508,236
FLUID PRESSURE SYSTEM WARNING DEVICE
Robert H. Adams, Tucson, Ariz.
(P.O. Box 751, Bedford, Ind. 47421)
Filed Mar. 28, 1967, Ser. No. 626,528
Int. Cl. G08b *21/00*
U.S. Cl. 340—240 **5 Claims**



Discloses a warning system for a fluid pressure system, consisting of a pressure responsive switch, mounted in communication with the low pressure side of the system, which is responsive to reduction in fluid pressure in the system, to make a signaling electrical circuit and warn the operator.

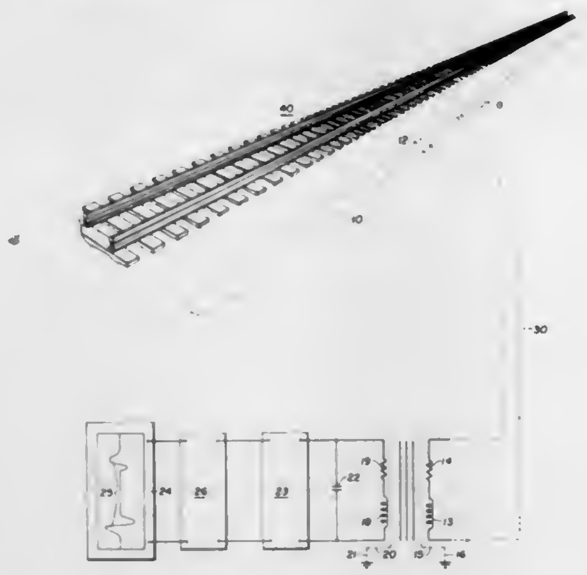
3,508,237
LAMP OUTAGE INDICATING CIRCUITS
Samuel Kimmelman, Cranford, N.J., assignor to Ideal Corporation, Brooklyn, N.Y., a corporation of New York
Filed Dec. 1, 1967, Ser. No. 687,356
Int. Cl. G08b *21/00*
U.S. Cl. 340—251 **9 Claims**



A lamp outage indicating circuit for energizing from a variable voltage D.C. current source a group of parallel connected lamps includes an electrical signal device controlled by relay contacts positionable by the ampere turn values of first and second coils of the relay, current flow from the source through the lamp group being directed through the first coil in series therewith, and the second coil receiving current flow from the source separately from the lamp group so that the flows of current through the coils vary similarly with changes in the

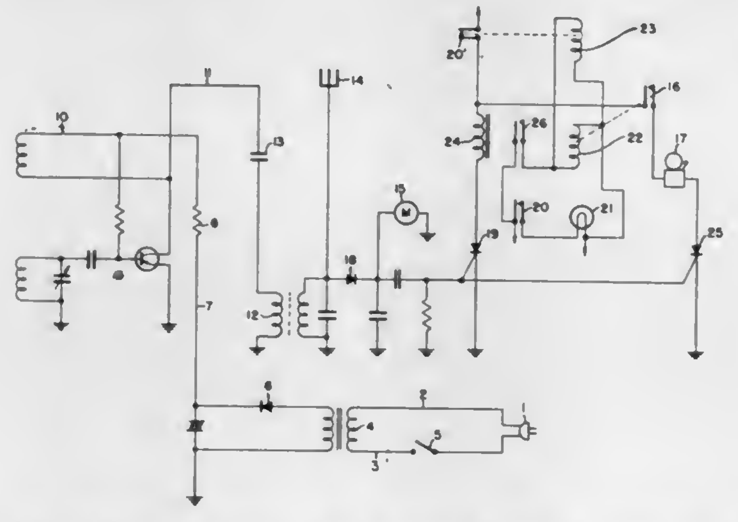
source voltage and only the current flow through the first coil changes with outage of a lamp to give rise to the relationship of the respective ampere turn values by which the relay contacts are positioned to cause the signal device to give a lamp outage indication.

3,508,238
INTRUSION DETECTION SYSTEM
Buford M. Baker, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed July 18, 1966, Ser. No. 566,041
Int. Cl. G08b *13/26;* **G08g** *1/00*
U.S. Cl. 340—258 **6 Claims**



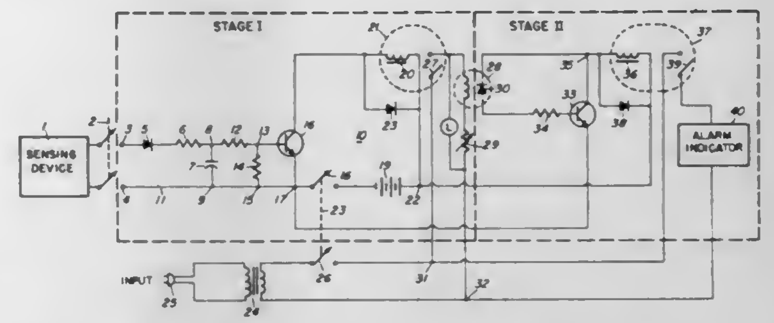
Detection of the entry into a given area of the earth's surface of any magnetic body may be accomplished by a detecting system which utilizes the earth's magnetic field and changes therein anywhere in a large area. A pair of alike loops are located immediately beneath the earth's surface where intrusion of a magnetic body is to be detected. A reactance amplifier is provided for amplifying the signals from the loops which are connected in series opposition to the primary winding of the transformer for coupling said loops to the reactance amplifier.

3,508,239
BURGLAR ALARM
John Victor Fontaine, 2817 NE. 26th Court, Fort Lauderdale, Fla. 33306
Filed Mar. 15, 1967, Ser. No. 623,361
Int. Cl. G08b *13/26*
U.S. Cl. 340—258 **4 Claims**



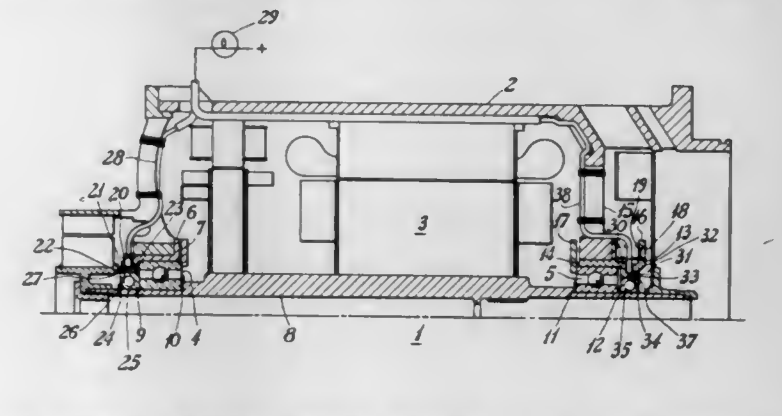
An electronic alarm and warning device including a transistor oscillator connected to a current source, a tuned coil in circuit with the transistor oscillator and tuned in accordance with the frequency of the oscillator to develop a predetermined voltage, a door knob sensor connected to the tuned coil, a silicon controlled switch connected to the tuned coil so that the predetermined voltage is insufficient to fire the switch but a change in voltage produced when a person touches or closely approaches the door knob sensor is sufficient to fire the silicon controlled switch, and an alarm signal means actuated in response to firing of the silicon controlled switch to provide a signal. The alarm signal means preferably includes a relay energized by conduction of the silicon controlled switch to in turn energize a lamp providing a warning signal. Also included in the alarm signal means is an audible alarm device connected to a second silicon controlled switch which is fired only if another change of voltage at the tuned coil occurs after a predetermined delay set by a timer.

3,508,240
ANNUNCIATOR SYSTEM
William M. Rabenstein, Alamosa, Colo., and George Kojima, Hawaii National Park, Hawaii, assignors to the United States of America as represented by the Secretary of the Interior
Filed Oct. 24, 1968, Ser. No. 770,210
Int. Cl. G08b *21/00*
U.S. Cl. 340—261 **2 Claims**



The output signal of a seismograph sensing device is fed into a two stage annunciator circuit. The signal activates a first stage heater coil in the thermal environment of a second stage reverse biased diode. A seismograph signal of prolonged duration is indicative of imminent volcanic activity. Such a signal raises the diode to the reverse breakdown temperature at which the diode becomes conductive in the cathode to anode direction, activating an alarm.

3,508,241
BEARING FAILURE SENSING DEVICE
Frederick Milton Potter, Little Silver, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Sept. 6, 1967, Ser. No. 665,859
Int. Cl. F16c *19/52;* **G08b** *21/00*
U.S. Cl. 340—269 **8 Claims**



A bearing failure sensing device having an auxiliary bearing mounted on the shaft and normally having a clearance from the bearing housing and means to provide a signal upon the auxiliary bearing contacting the bearing housing.

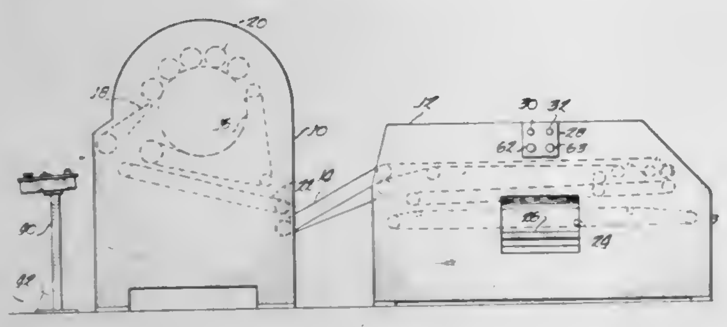
3,508,242
QUALITY CONTROL CIRCUIT HAVING TIMER CONTROLLED SIGNALS

Eduard F. Kamberg and Richard J. Roberts, Deerfield, Ill., assignors to Chicago Dryer Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 24, 1967, Ser. No. 685,570

Int. Cl. G08b *1/08*

U.S. Cl. 340—309.1 **2 Claims**



Two spaced stations are employed with an ironer-folder combination for processing washed sheets or the like. Either of two buttons of a sending station disposed at the feed end of the ironer is actuated by the attendant feeding the sheet. When a torn or stained sheet is noted in the course of feeding the same into the ironer, a time delay relay is energized by a button and is adapted to close a circuit energizing a signal light disposed in a receiving station disposed at the discharge opening of the folder. The signal light is energized at the precise instant that the defective sheet is exiting the folder.

3,508,243
TELEMETRY ARRANGEMENTS UTILIZING POWER DISTRIBUTING NETWORKS FOR MEASURING CONSUMPTION

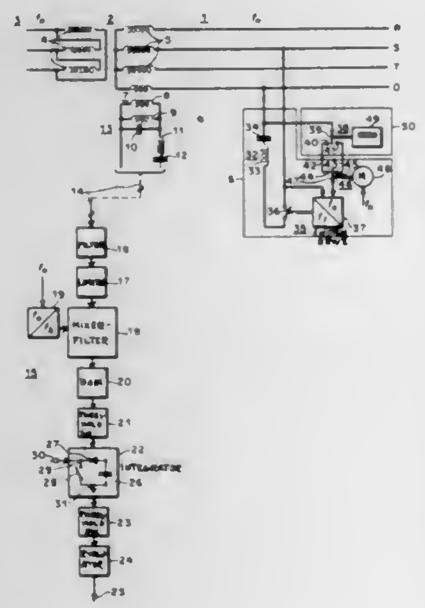
Alex Nyfeler, Baar, Zug, Alfred Spalti, Zug, and Hansjorg Vonarburg, Lucerne, Switzerland, assignors to Electrometre S.A., Zug, Switzerland, a corporation of Switzerland

Filed Jan. 9, 1967, Ser. No. 607,989

Claims priority, application Switzerland, Jan. 13, 1966, 460/66

Int. Cl. H04m *11/04*

U.S. Cl. 340—310 **16 Claims**



A telemetry system utilizing power distribution networks including a transmitter wherein a resonant circuit is periodically connected to the power distribution network thereby impressing bursts of audio signals on the power distribution network. The transmitter also includes circuitry responsive to a consumption meter wherein a switch is actuated each time a given quantity of the medium is consumed, and sampling circuitry which periodically interrogates the switch in order to detect a change in its state. The telemetry system also includes a receiver connected to the power distribution network which detects the bursts of audio signals by hetero dyning with a local signal and integrating the result.

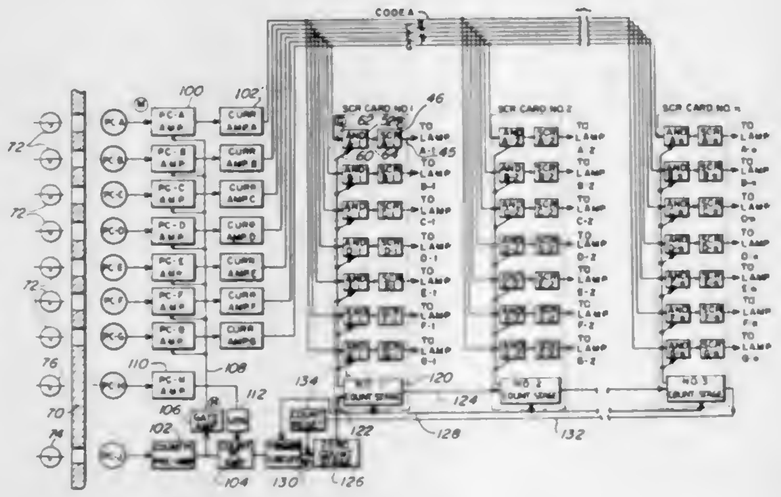
3,508,244
VISUAL DISPLAY APPARATUS AND CONTROL THEREFOR

Charles E. Warren, Perrysville, Ind., assignor to Signatrol, Inc., Danville, Ill., a corporation of Illinois

Filed Dec. 2, 1965, Ser. No. 511,127

Int. Cl. G09f *9/32*

U.S. Cl. 340—324 **20 Claims**



Disclosed is a controlled visual display device having a bank of lamps arranged in a space coded matrix. A similarly spaced coded transducer is influenced by a coded display information card which is to be transported thereacross. A memory bank, also space coded, is interposed between the bank of lamps and transducer. Interaction initiated by the relative movement of the information card causes a wipe on effect of the visual display.

3,508,245
PHOTOGRAPHIC REPRODUCTION

Haydn Victor Purdy, Fontenoy Road, London, SW. 12, England, and Ronald Campbell McIntosh, Skimpans, Welham Green, Hertfordshire, England

Filed Nov. 12, 1965, Ser. No. 507,507

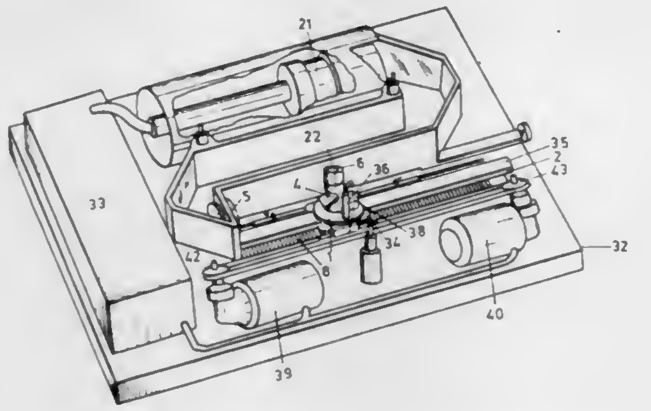
Claims priority, application Great Britain, Nov. 13, 1964, 46,388/64

Int. Cl. G08b *23/00;* **H04n** *5/84*

U.S. Cl. 340—324 **14 Claims**

Photographic reproduction equipment includes a matrix of rectangular subjects, including a space subject. A scanning cathode ray tube scans the rectangular subjects in raster fashion and a print-out cathode ray tube is used as a photographic source of light to expose a photo-sensitive sheet. A carriage moves along a path parallel to the axis of the print-out tube. The photo-sensitive sheet is held by a support in a fixed printing position parallel to and spaced from the path of movement of the carriage. There is an optical system on the carriage which directs the beam from the print-out tube through a right angle to the photo-sensitive sheet. An electro-optical grating system has a portion mounted on the carriage and a portion adjacent the carriage and generates electrical pulses during the movement of the carriage. A program means

controls the scanning cathode ray tube to scan the subjects of said matrix. A raster control means controls the scanning tube in accordance with the electrical pulses generated by the electro-optical grating system. A print-out control means applies successive trace signals generated by the scanning tube, which trace signals are generated on the print-out tube under control of the pulses generated by the grating system so that a succession of traces generated by the print-out tube and corresponding to a number of scan subjects are applied, by the portion of the optical system adjacent the carriage, in parallel relation along a linear printing position of a stationary photosensitive sheet on said support. Means are provided for moving successive spaced line positions on a sheet on the sheet support to said printing position.



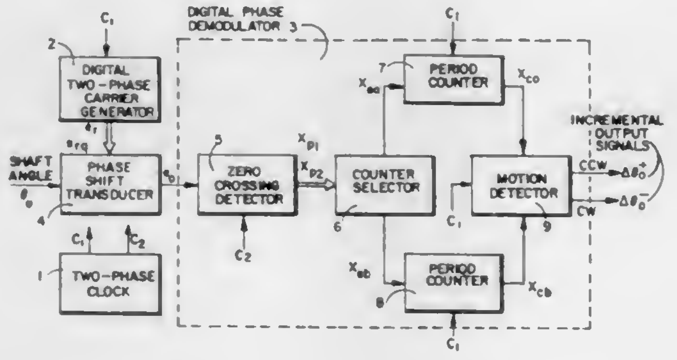
3,508,246
FINE-RESOLUTION DIGITAL POSITION ENCODER

Charles E. Lenz, Fullerton, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware

Filed June 11, 1965, Ser. No. 463,090

Int. Cl. G08c *1/00*

U.S. Cl. 340—347 **9 Claims**



A position encoder for generating digital signals as a function of angular or linear position, wherein a periodically varying signal, modulated as a function of input position, is applied to a zero crossing detector which produces enabling signals as a function of the phase of the input signal. Counter means, responsive to the enabling signals, provides first pulses of predetermined duration as a function of alternate enabling signals and second pulses of predetermined duration as a function of the remaining enabling signals. A motion detector responsive to the first and second pulses provides a first output pulse when the first and second pulses are simultaneously true and a second output pulse when the first and second pulses are simultaneously false.

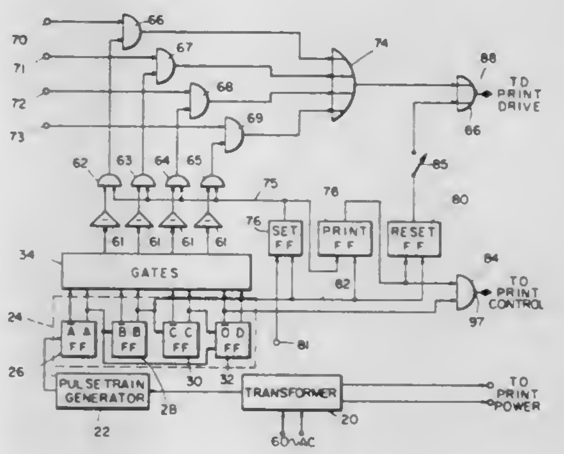
3,508,247
DIGITAL DEVICE

Bernard M. Gordon, Magnolia, and Ivan H. Kirsch, Hyde Park, Mass., assignors, by direct and mesne assignments, to Gordon Engineering Company, Waltham, Mass., a limited partnership

Filed Oct. 21, 1965, Ser. No. 499,772

Int. Cl. B41b *27/10;* **C06f** *7/12;* **H03k** *13/24*

U.S. Cl. 340—347 **14 Claims**



An apparatus for controlling a printer comprises a clock pulse generator having a rate that is determined by AC line power frequency, a divider to producing four reference pulse sequences in binary coded decimal format, four AND gates for receiving the reference pulse sequences as well as information input signals, and an OR gate for buffering the pulse trains from the AND gates in order to produce a decimal sequence of stepping pulses.

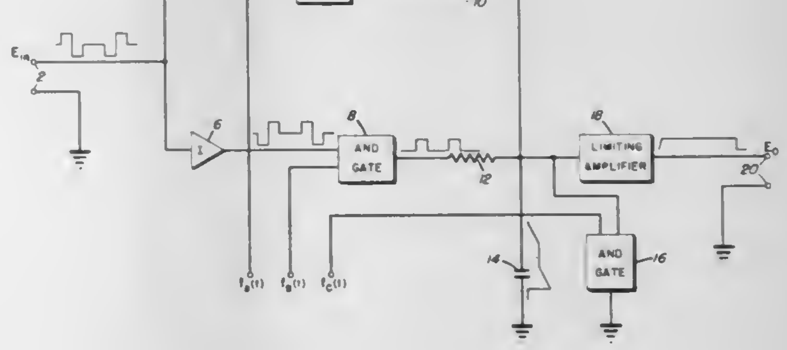
3,508,248
PHASE MODULATOR DECODER

Thomas A. Stansell, Jr., Ellicott City, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Oct. 22, 1965, Ser. No. 502,696

Int. Cl. H03k *13/24*

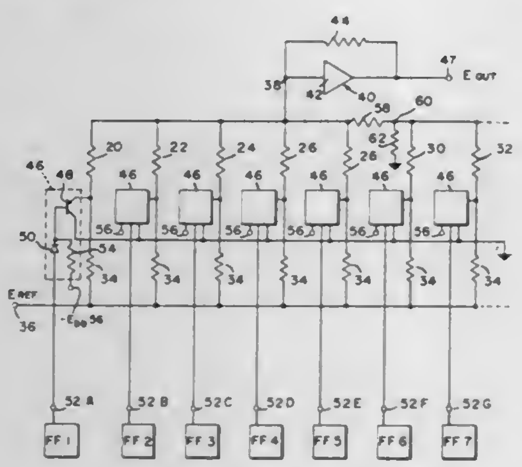
U.S. Cl. 340—347 **6 Claims**



Circuitry for decoding input doublet code information wherein one binary code character is represented by the occurrence of a pulse doublet containing a positive pulse followed by a negative pulse and the other binary code character is represented by the occurrence of the inverse pulse doublet. The input doublet code information is applied directly to a first AND gate and, through an inverter, to a second AND gate. The AND gates are controlled to pass single polarity pulses to a common integrator during each code character so as to produce opposite polarity unipolar pulses for the two code characters respectively.

3,508,249
DIGITAL-TO-ANALOG CONVERTER

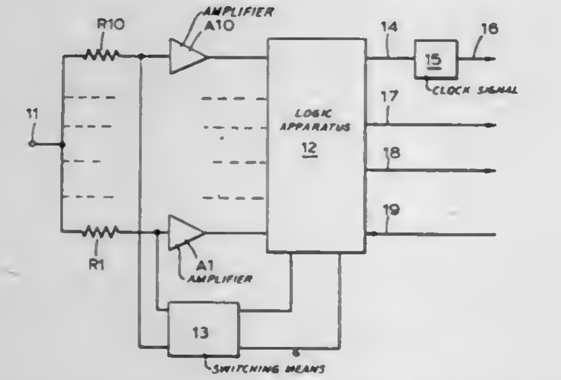
Bernard M. Gordon, Magnolia, Mass., assignor to Gordon Engineering Company, Waltham, Mass., a limited partnership of Massachusetts
Filed Apr. 4, 1966, Ser. No. 540,012
Int. Cl. H03k *13/04*
U.S. Cl. 340—347 7 Claims



In a successive approximation device for converting digital data to analog form, a diode-transistor combination is provided for unipolar switching of a bipolar reference voltage with respect to a resistive divider network in order to afford an inexpensive and compact converter.

3,508,250
DEVICE FOR RANGE SWITCHING ANALOG VALUES FROM FIRST TO SECOND RANGES TO PRECISELY DETERMINE DIGITAL VALUE FROM ANALOG QUANTITY

John Harold Charles Wells, Horsham, England, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 17, 1966, Ser. No. 550,860
Claims priority, application Great Britain, May 17, 1965, 20,739/65
Int. Cl. H03k *13/175*
U.S. Cl. 340—347 3 Claims

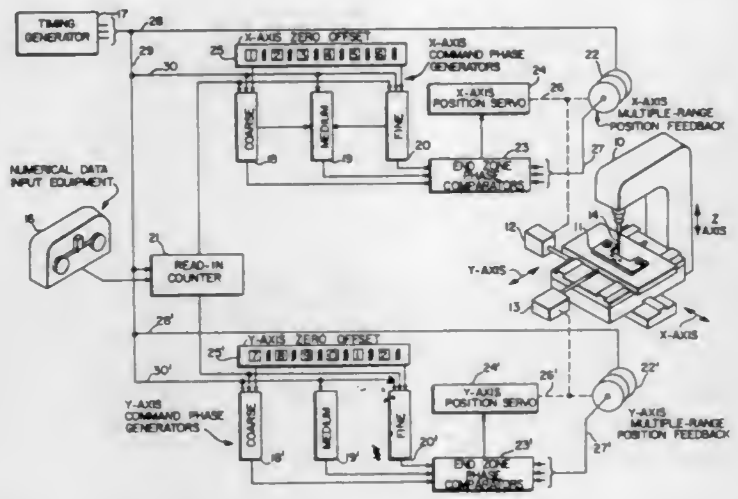


An analog-to-digital converter utilizing a series of comparators operative over a first range for generating a first level digital signal, a logic circuit connected to the comparators and responding to the indicated comparator range for re-setting a second range into the comparators. The final digital signal is thereby formed with high accuracy.

3,508,251
DATA CONVERSION SYSTEMS

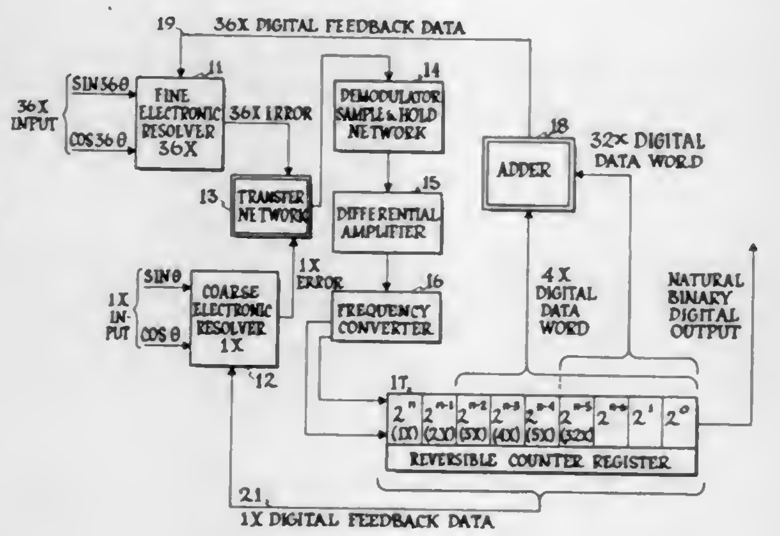
Leroy U. C. Kelling, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Continuation of application Ser. No. 272,827, Apr. 11, 1963. This application June 16, 1966, Ser. No. 558,145
Int. Cl. G08c *9/00, 11/00;* **G06f** *7/38*
U.S. Cl. 340—347 12 Claims

The invention relates to the derivation of coarse, intermediate and fine ranges of data from a single input number wherein the intermediate range differs from either the coarse or fine range by other than a factor of ten. Counters associated with each of said ranges have their binary stages weighted in accordance with different binary coded decimal forms and differ in their total count storage capacity to accommodate the other than ten factor.


TIMING GENERATOR
17
28
29
30
X-AXIS ZERO OFFSET
X-AXIS COMMAND PHASE GENERATORS
X-AXIS POSITION SERVO
END ZONE PHASE COMPARATOR
X-AXIS MULTIPLE-RANGE POSITION FEEDBACK
COARSE
MEDIUM
FINE
NUMERICAL DATA INPUT EQUIPMENT
READ-IN COUNTER
Z AXIS
X-AXIS
Y-AXIS
Y-AXIS ZERO OFFSET
Y-AXIS COMMAND PHASE GENERATORS
Y-AXIS POSITION SERVO
END ZONE PHASE COMPARATOR
Y-AXIS MULTIPLE-RANGE POSITION FEEDBACK

3,508,252
ANALOG TO DIGITAL AND DIGITAL TO ANALOG SIGNAL CONVERTERS

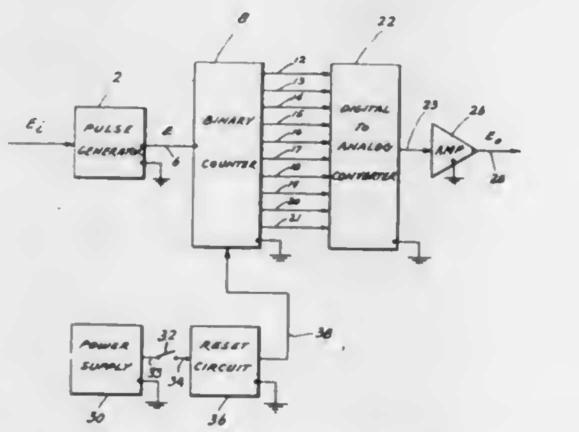
Albert M. Van Blarcom, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1966, Ser. No. 583,713
Int. Cl. H03k *13/20*
U.S. Cl. 340—347 11 Claims



1. An electronic analog to digital converter for converting analog signals to digital signals having a digital value representative of input analog signals comprising first differential resolving means for adding signals of an analog angular input and a digital angular input at a first speed to generate an output signal representative of the difference between said angular input signals at said first speed, second differential resolving means for adding signals of an analog angular input and a digital angular input at a second speed to generate an output signal representative of the difference between said angular input signal at said second speed, a transfer network for summing said output signals and which is operatively associated with further signal processing means including a voltage to frequency converter to provide a variable frequency output signal that causes reversible counter means to count up or down at variable rates to provide a pulsed wave-form digital output signal, adding means coupled to the output from said reversible counting means for adding together the outputs from selected counter stages thereof, means for coupling the output from said adding means back to the input of said first differential resolving means, and means for coupling the outputs from all counter stages back to the input of said second differential resolving means.

3,508,253
RESET NETWORK FOR DIGITAL COUNTER

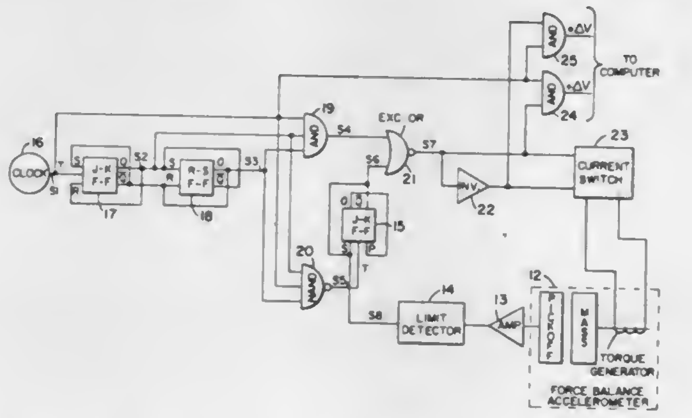
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Filed Nov. 4, 1966, Ser. No. 592,045
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 5 Claims



A reset network for a counter of the type which provides a plurality of digital outputs. The reset network provides a pulse for controlling the counter so that the counter provides a predetermined digital output used as a reference for subsequent counting sequences.

3,508,254
ACCELEROMETER SYSTEM

Lester M. Ross, Huntsville, Ala., and Brooks H. Grimme, Orlando, Fla., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 26, 1967, Ser. No. 634,810
Int. Cl. H03k *13/17*
U.S. Cl. 340—347 2 Claims

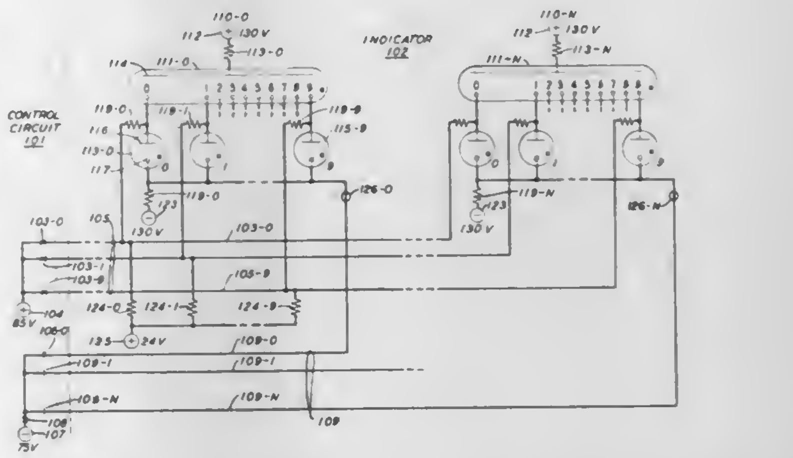


A rebalancing system for an analog accelerometer. The system converts the analog output signal of the accelerometer to a digital output signal for use by a computer. The digital output signal is also used to rebalance the accelerometer.

3,508,255
PLURAL ORDER VISUAL INDICATOR

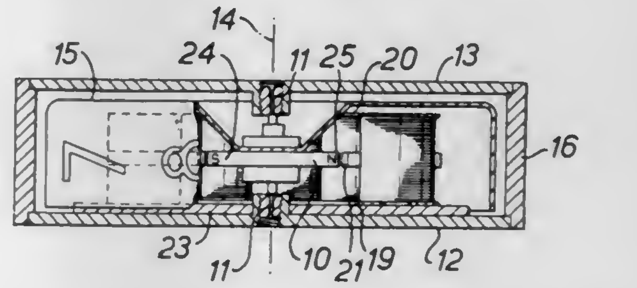
John A. Hackett, Matawan, and George Riddell, Lincroft, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Aug. 30, 1967, Ser. No. 664,359
Int. Cl. G08b *5/00*
U.S. Cl. 340—372 4 Claims

A remotely controlled plural order indicator is disclosed which uses gaseous type indicator tubes to display numerical data. The information to be displayed is applied sequentially, digit by digit, over a bus common to all orders. A steering circuit, also remotely controlled, causes the sequentially received digits to be displayed by the tubes of successive orders. Neon tubes are used as its two state elements to lock in an initiated display when the steering circuit advances to the next order.



3,508,256
ELECTROMAGNETIC POSITIONED INDICATOR WHEEL

Dennis William Dudley, Tewkesbury, and Arthur James Edge, Cheltenham, England, and Gerald Noel Wright, Edinburgh, Scotland, assignors to Smiths Industries Limited, London, England
Filed Jan. 17, 1967, Ser. No. 609,892
Claims priority, application Great Britain, Jan. 20, 1966, 2,746/66
Int. Cl. G08b *5/22*
U.S. Cl. 340—378 10 Claims

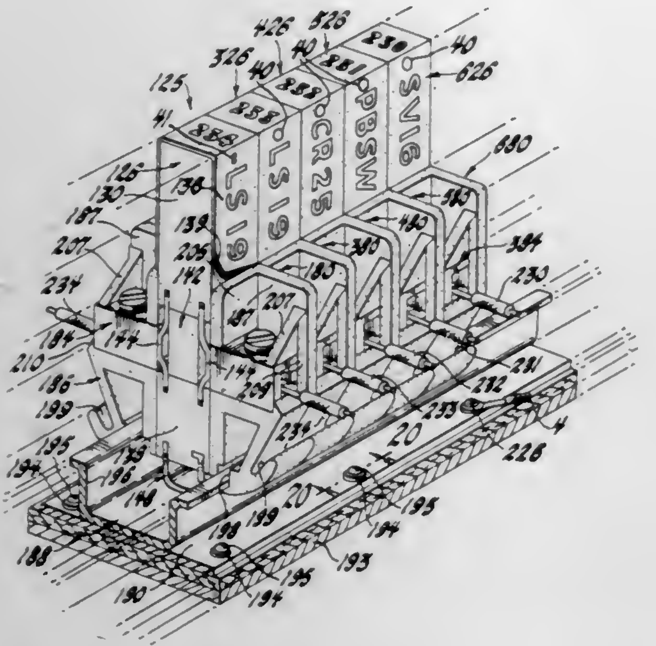


An electromagnetic digital-drum indicator having a magnet rotatable within a circle of individually energizable pole-pieces, the pole-pieces projecting towards the magnet from at least one yoke-member that is spaced from the magnet along the rotational axis. The yoke-member interconnects the pole-pieces with low magnetic reluctance so that the magnet once attracted into register with any pole-piece remains there by its own magnetization until attracted away by pulse-energization of another pole-piece.

3,508,257
ELECTRICAL CONTROL CIRCUITRY

Garner H. Grogan, Jr., Pontiac, Mich., assignor to Security Electric Corporation, Pontiac, Mich., a corporation of Michigan
Filed Sept. 12, 1966, Ser. No. 578,525
Int. Cl. G09f *7/08*
U.S. Cl. 340—381 12 Claims

A combined electrical connector and monitoring terminal block which is supported on a track member by means of flexible legs engaging the flanges of the track member. The terminal block includes a bulb supported in an interior cavity of the main body portion of the terminal block for indicating when an electrical component connected to the terminal block has been energized. The track is utilized

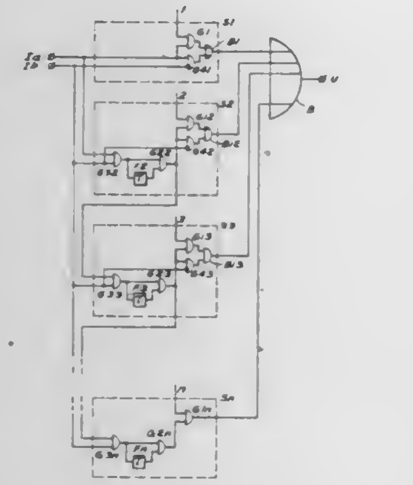


to form a common ground conductor for one side of the bulb of each terminal block when mounted on the tracks in a stacked relation.

3,508,258
METHOD AND ARRANGEMENT FOR CHOOSING A TARGET WITH A DEFINITE ORDER NUMBER BY MEANS OF A TARGET SEEKER

Lars Werner Sjostrom, Kallered, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed July 24, 1968, Ser. No. 747,140
Claims priority, application Sweden, Aug. 31, 1967, 12,072/67
Int. Cl. G01s *9/02*
U.S. Cl. 343—5 **2 Claims**

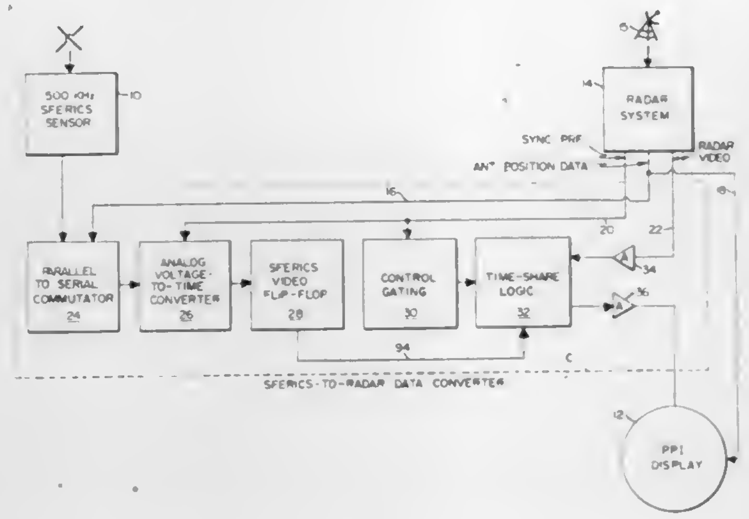


A target seeker in a high speed carrier such as a missile has associated therewith apparatus for choosing a target having a given ordinal number from a group of targets approaching the carrier. The ordinal numbers are assigned on the basis of the distance of the target from the carrier. The apparatus effectively counts the on-coming targets as they enter a definite distance range band and when the target having the given ordinal number enters the band, the apparatus emits a signal. The signal can be used to initiate hunting or arming devices.

3,508,259
SFERICS-TO-RADAR DATA CONVERTER

George F. Andrews, Miami, Fla., assignor to Research Corporation, New York, N.Y., a non-profit corporation of New York

Filed Nov. 29, 1968, Ser. No. 779,961
Int. Cl. G01s *9/00;* **G01w** *1/02, 1/16*
U.S. Cl. 343—6 **17 Claims**

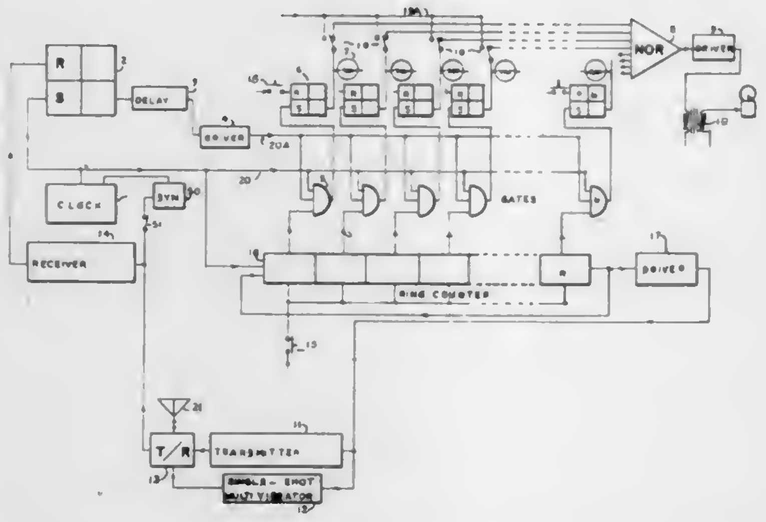


A single cathode-ray tube (PPI) display of both sferics information and rho-theta radar information is provided so as to permit simultaneous viewing of both signals. A time-sharing display system, where the innermost portion of the PPI is used to portray the sferics data in 5.6 degree sectors in the form of vectors, with vector length being proportional to output data of the sferic sensor in each of 64 sectors. The sferics data is converted to video signals which appear on the PPI display, while the normal radar video is inhibited. The radar video then occupies the remaining display time, and thus appears on the outermost portion of the PPI.

3,508,260
TRANSPONDER MONITORING SYSTEM

**Edward S. Stein, 5717 Nevada Ave.,
Washington, D.C. 20015**

Filed Sept. 3, 1968, Ser. No. 757,048
Int. Cl. G01s *9/56*
U.S. Cl. 343—6.5 **10 Claims**

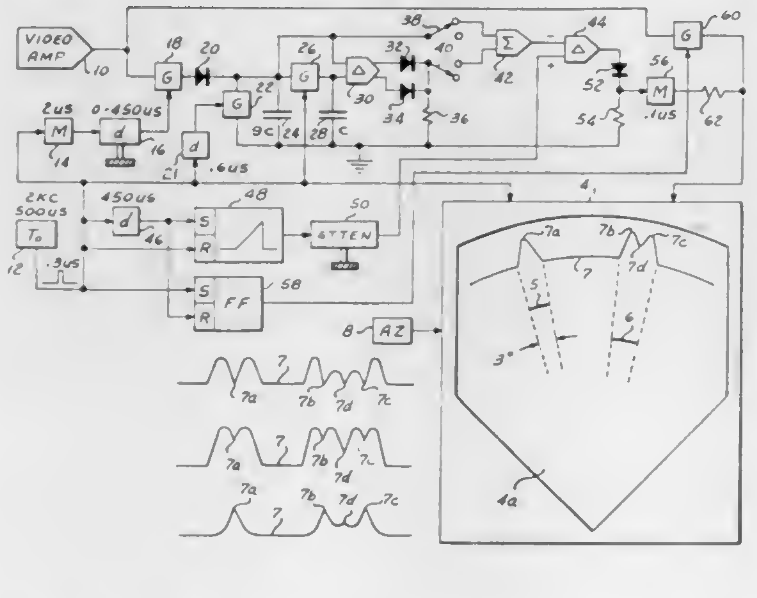


A monitoring system comprising a monitoring station having a transmitter to transmit regularly occurring triggering pulses, a receiver to receive response pulses, and lamps to separately indicate whether or not said response pulses are received or not; and a plurality of responder stations each having a receiver for receiving said triggering pulses, a transmitter for transmitting response pulses, delay lines for delaying the transmission of the response pulses to a predetermined time interval different from those at each of the other responder stations, and "AND" gates responsive to a condition under surveillance to interrupt the transmission of said response pulses when the condition reaches an abnormal state.

3,508,261
PPI DISPLAY SYSTEM INCLUDING AN AUXILIARY AMPLITUDE VERSUS AZIMUTH DISPLAY

Paul M. Danzer, Norwalk, and Kenneth Solomon, Trumbull, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 22, 1968, Ser. No. 722,940
Int. Cl. G01s *7/10, 7/12*
U.S. Cl. 343—11 **12 Claims**

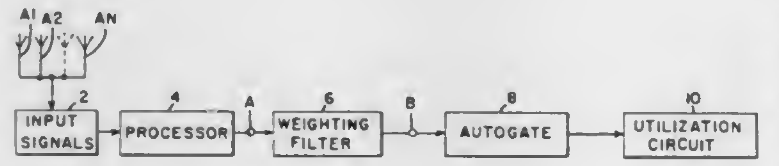


This invention samples a radar return signal and displays an auxiliary amplitude versus azimuth display on the outer margin of a conventional display tube which also displays a PPI of the radar return signal. The auxiliary display enables the accurate determination of the azimuthal center of a target.

3,508,262
RADAR SYSTEM

Paul W. Howells, Morrisville, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 9, 1962, Ser. No. 166,735
Int. Cl. G01s *7/28*
U.S. Cl. 343—17.1 **10 Claims**

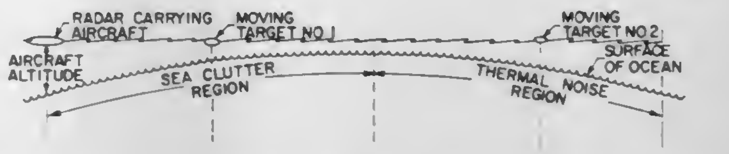


8. An electronic circuit for improving the signal-to-noise ratio of received signals comprising a circuit for receiving a plurality of signals of known modulation but of unknown Doppler shift, means coupled to said circuit for adjusting the phase of and integrating said signals to provide a plurality of coherent output signals, filter means for receiving said coherent output signals and weighting them to provide new output signals having improved resolution, and means for receiving said new output signals and supplying them as signals suitable for use in operating selected visual indicators.

3,508,263
APPARATUS FOR ENHANCING THE TARGET DETECTION CAPABILITIES OF COMPRESSED-PULSE AMTI RADARS

Lowell V. Thompson, Ventura, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 28, 1966, Ser. No. 569,561
Int. Cl. G01s *7/32*
U.S. Cl. 343—17.2 **2 Claims**

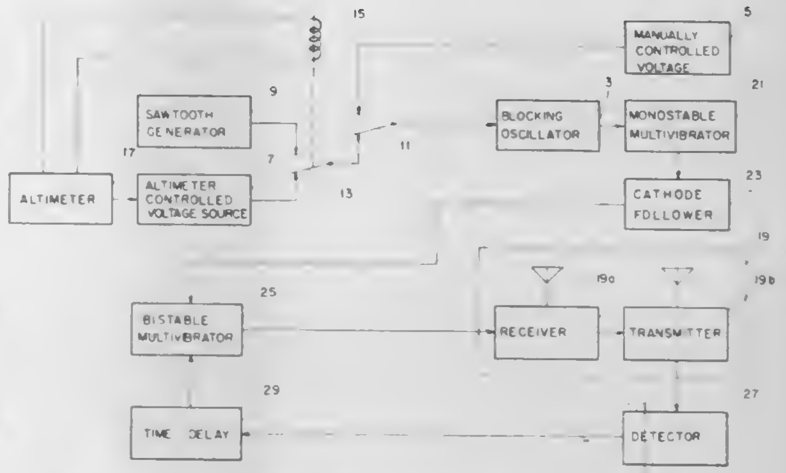


Apparatus for enhancing the target-detection capabilities of an airborne radar under conditions where a considerable amount of sea clutter is present. The invention system acts to delay the video to be regulated by precisely the time period required to measure the signal and "smooth" a regulating voltage, thus achieving a time-coincident regulation. A portion of the video signal is passed through a filter which removes the high-frequency components, and the output of this filter is inverted in phase and added to the remaining portion of the video signal after the latter is time-delayed, thus providing uniform signal peaks to a threshold network.

3,508,264
MEANS FOR AVOIDING SEA RETURN

John S. Prichard, Freeport, and Lawrence I. Algase, Bethpage, N.Y., assignors to the United States of America as represented by the Secretary of the Navy

Filed Apr. 29, 1960, Ser. No. 25,809
Int. Cl. H04k *3/00;* **G01s** *7/34*
U.S. Cl. 343—18 **4 Claims**



A jamming transmitter is comprised of a superregenerator and a blocking oscillator which determines the quench period of the superregenerator. A voltage source coupled to an altimeter controls the blocking oscillator so that the sensitive period of the superregenerator does not occur during periods at which ground reflected energy of the transmitter is being received at the superregenerator.

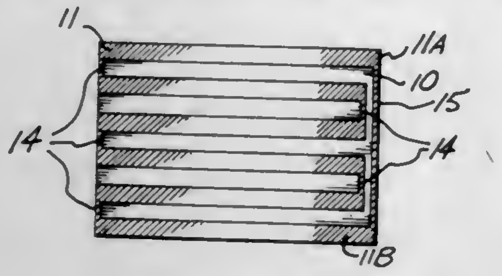
3,508,265
PHASE CANCELLATION RADIO FREQUENCY SHIELD

**Teddy V. Ellis, 4004 13th Ave. S.,
Seattle, Wash. 98108**

Filed May 20, 1968, Ser. No. 730,281
Int. Cl. G01s *7/36*
U.S. Cl. 343—18 **8 Claims**

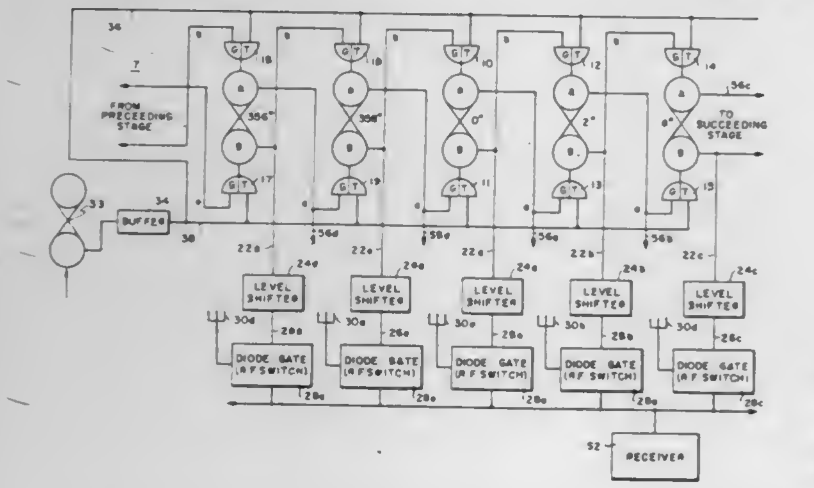
This application discloses a number of embodiments of a novel method and apparatus for shielding against electromagnetic energy in the radio frequency (RF) band.

A composite structure of conductive and insulating materials is disclosed with conductive strips being arranged in a pattern on the insulating material such that electromagnetic energy in the RF band coupled to the strips will undergo a phase reversal and in effect be re-radiated in a phase which is such that cancellation occurs. In one embodiment the thin conductive strips are arranged in complete closed loops around the surface of a container adapted for holding electronic equipment which is to be shielded from RF fields or which is to house electronic equipment in a manner to prevent the escape of undesired RF fields. A unique RF gasket is disclosed for use with the container to permit ready access to the interior of the container while simultaneously avoiding the problems heretofore encountered with such containers having access lids. Specific details and theories of operation for the unique phase canceling shields are disclosed.



3,508,266
SOLID STATE COMMUTATOR

Paul E. Martin, San Antonio, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 24, 1968, Ser. No. 739,304
Int. Cl. H01q *3/24*
U.S. Cl. 343—100 **3 Claims**

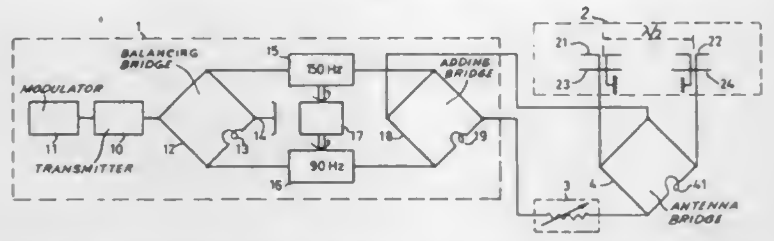


A programmable ring counter chain comprising a cascade of steerable bistable devices is selectively steered to provide sequential activation of output elements such as RF switches in selected ordered arrays whereby, for example, certain antennas or groups thereof of an antenna array may be activated at different positions in relation to beam azimuth to adjust direction finding response.

3,508,267
AIRPORT RUNWAY DISTANCE METER

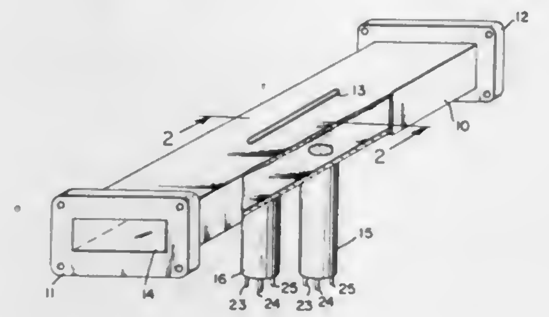
Jacques Y. Villiers, Orly-Aerogare, France, assignor to Agence Nationale de Valorisation de la Recherche, Paris, France, a body corporate of France
Filed Dec. 24, 1968, Ser. No. 786,721
Claims priority, application France, Dec. 28, 1967, 134,122
Int. Cl. G01s *1/14*
U.S. Cl. 343—109 **3 Claims**

Airport runway distance meter adapted to give to an airplane its distance on the runway from a given point thereof. This distance meter comprises a generator of a carrier signal, means for modulating said carrier signal by two audio-frequency modulation signals and forming two amplitude-modulated signals, each including a carrier component and two sideband components, means for adding and subtracting said two amplitude-modulated signals and thereby forming a first signal comprising the carrier component and the sum of the two sideband components and a second signal formed by the difference of the two sideband components, means for attenuating the second signal, a first and a second antenna located sideways with respect to the runway and having identical radiation patterns spaced 90° apart from one another and means for feeding to said first and second antenna said first signal and said attenuated second signal.



3,508,268
WAVEGUIDE SLOT RADIATOR WITH ELECTRONIC PHASE AND AMPLITUDE CONTROL

Barry J. Forman, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,217
Int. Cl. H01q *13/10;* **H01p** *1/22*
U.S. Cl. 343—701 **3 Claims**

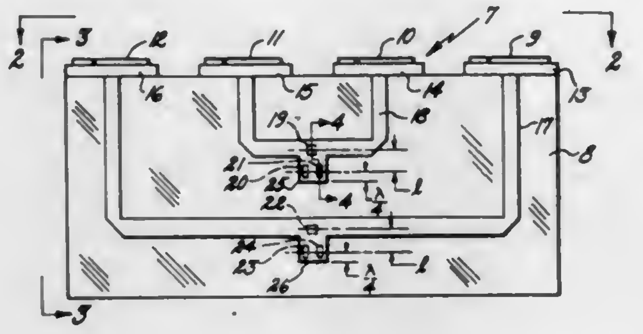


A waveguide slot radiating and coupling device having independently controllable amplitude and phase characteristics. Control of the characteristics of the slot radiating and coupling device is obtained through the use of variable lumped reactance plasma elements employed as irises in the vicinity of the waveguide slot. The variable lumped reactance plasma elements provide low-loss RF control properties and an ability to withstand RF power levels greater than that obtainable with semiconductor devices. In a preferred embodiment a plurality of variable lumped reactance plasma elements are disposed in the vicinity of a slot in a waveguide. Continuous control of the amplitude and phase of the slot coupling or radiation over a wide range is obtained.

3,508,269
ACTIVE RETRODIRECTIVE ANTENNA ARRAY EMPLOYING SPIRAL ELEMENTS AND TUNNEL DIODE AMPLIFIERS

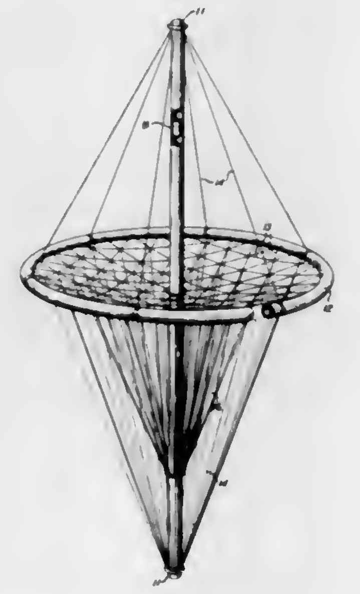
Anthony F. Snyder, Boonville, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed May 2, 1968, Ser. No. 726,190
Int. Cl. H01q *1/36*
U.S. Cl. 343—701 **5 Claims**

There is disclosed herein an active retrodirective antenna array. The array consists of a plurality of antenna element pairs having conjugate antenna elements connected equidistant from the array center by microwave transmission lines. A negative resistance bilateral amplifier is integrated into each transmission line. Amplifier susceptance cancelling means are also integrated into each transmission line. A particular illustrative embodiment of the invention includes equiangular spiral antenna elements, balanced strip transmission lines, tunnel diode amplifiers, and susceptance cancelling means comprising resistance loaded open circuited transmission line stubs.



3,508,270
INFLATABLE COMMUNICATIONS ANTENNA SATELLITE

John S. Cook, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Jan. 4, 1967, Ser. No. 607,202
Int. Cl. H01q *15/20, 1/28, 19/12*
U.S. Cl. 343—705 **4 Claims**

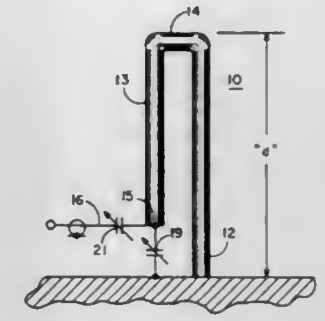


An antenna comprising an inflatable torus disposed about an inflatable mast connected, one to the other, by a guy wire system. Weight of the antenna is significantly reduced by using a reflective surface comprising a network of wire members suspended between the torus and the mast.

3,508,271
FOLDED MONOPOLE ANTENNA

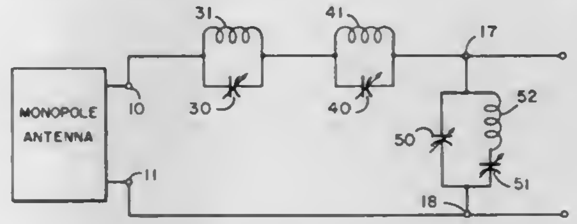
John A. Kuecken, Pittsford, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 24, 1966, Ser. No. 588,916
Int. Cl. H01q *9/10, 9/38*
U.S. Cl. 343—745 **4 Claims**

A folded monopole antenna is described. The antenna includes a grounded leg and an ungrounded leg. A feed point is provided at the free end of the ungrounded leg. Both legs have substantially the same height, at least 1/36 of a wavelength of the operating frequency. The antenna is made of pipe of such material and diameter that its radiation resistance will be of a substantial quantity when the height is greater than 1/36 of the wavelength. The antenna is matched by a matching network, including a shunt capacitor connected from the feed point to ground and a series capacitor. Capacitors alone may be used when the reactance presented by the antenna at the feed point is entirely inductive.



3,508,272
TUNABLE COUPLER FOR ELECTRICALLY SHORT MONOPOLE ANTENNAS

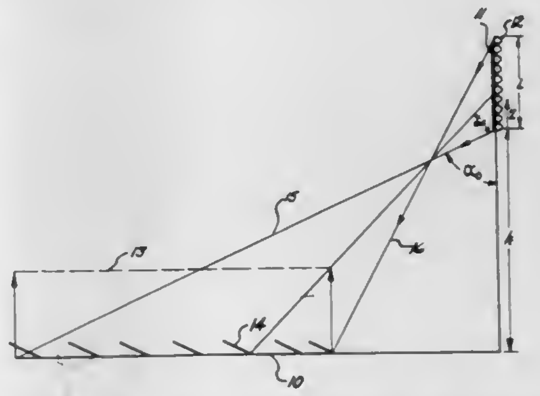
Peter J. Khan and Gary A. Vander Haagen, Ann Arbor, Mich., and David E. Oliver, Cedar Rapids, Iowa, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed July 29, 1968, Ser. No. 748,468
Int. Cl. H01q *9/00, 1/50*
U.S. Cl. 343—745 **4 Claims**



A wide-range electronically tunable antenna coupling system for use with electrically short monopole antennae. Impedance matching is realized by the use of a unique varactor diode circuit which provides tunable impedance matching over a very wide range of frequencies.

3,508,273
DISPERSION CORRECTING ANTENNA FEED

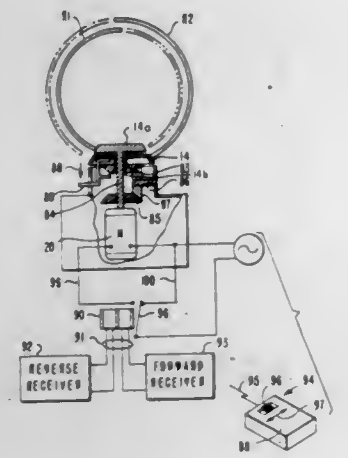
Allan C. Schell, Winchester, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 14, 1967, Ser. No. 623,523
Int. Cl. H01q *19/06*
U.S. Cl. 343—754 **3 Claims**



An antenna feed that corrects for the frequency dispersive properties of zoned antennas, such as the multiple reflector type of antenna. It is utilized as a feed, or primary illuminator, for very large antennas. The antenna feed is comprised of a line feed or a planar array in which the individual radiating elements are interconnected by transmission lines whose length have been chosen to compensate for the external path length differences across the antenna aperture.

3,508,274
MOTOR DRIVEN PORTABLE DIPOLE ANTENNA

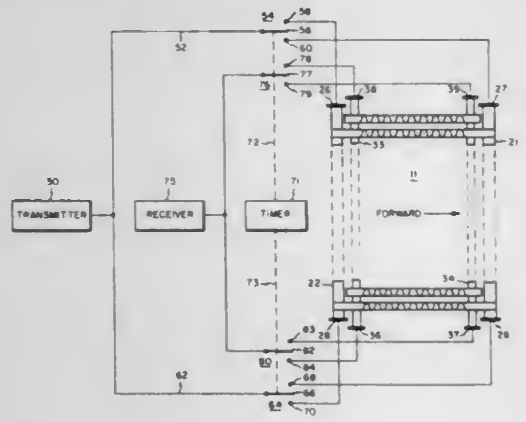
Raymond B. Kesler and Roy V. Hurtig, both of 1754 E. Atchison St., Altadena, Calif. 91001
Filed Dec. 14, 1966, Ser. No. 601,699
Int. Cl. H01q *3/00, 9/16*
U.S. Cl. 343—758 5 Claims



Antenna devices are disclosed principally intended for indoor use which consist of counterrotable dipole elements of several configurations driven by a motor through gearing means. The motor is electrically operated and its forward and reverse motion controlled by manually operated switches which are directly wired to the motor or which can be actuated by remotely located means by wireless radio or acoustic signals. The housing for the motor may include indicia to show the pointing direction of antenna elements.

3,508,275
DOPPLER ARRAY WITH INTERLEAVED TRANSMITTING AND RECEIVING SLOTTED WAVEGUIDES

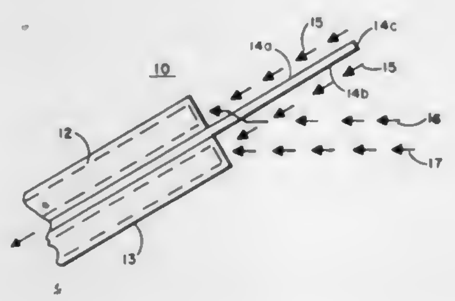
Emile J. Deveau and John C. Rolfs, Pleasantville, N.Y., assignors to Singer-General Precision, Inc., a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,496
Int. Cl. H01q *13/10*
U.S. Cl. 343—768 6 Claims



Slotted waveguide sections are used for transmitting and receiving microwave frequency modulated continuous wave signals. The transmitting and receiving arrays are arranged in planar configuration. In order to obtain maximum isolation between transmitted and received signals and at the same time provide a compact structure the transmitting and receiving waveguide sections are interleaved so that a planar structure having alternate transmitting and receiving slotted waveguide sections is formed. Separate transverse feed waveguide sections at each end of the antenna are provided for coupling the transmitted and received signals to the respective slotted array. The feed waveguide sections are provided with coupling ports at both ends so that four pairs of input and output ports are provided. Suitable switching circuits are provided to switch the signals to the various ports so that four pairs of signal beams are transmitted and received.

3,508,276
WAVEGUIDE ANTENNA WITH DIELECTRIC GUIDING STRUCTURE AT APERTURE

Eugene L. Rope and Gus P. Tricoles, San Diego, Calif., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 17, 1966, Ser. No. 587,284
Int. Cl. H01q *13/10*
U.S. Cl. 343—771 11 Claims

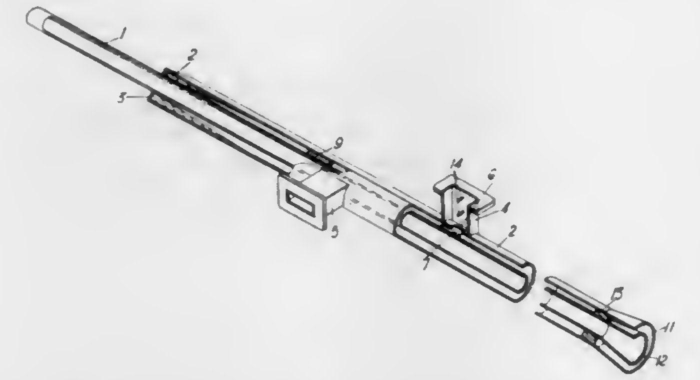


A microwave antenna which readily provides monopulse reception is described. The antenna includes a dielectric slab sandwiched between two open-ended wave guides and extending outwardly from their open ends. When an incoming wave is incident on the slab, it causes two guided waves to be excited and propagated towards the open ends of the wave guides. Unguided waves also pass directly into the open ends and after refraction through the slabs. The waves interfere with each other and the open ends may be placed at a position of maximum power, such that two separate signals are induced, one in each guide. These signals may be combined to provide sum and difference patterns for monopulse operation.

3,508,277
COAXIAL HORNS WITH CROSS-POLARIZED FEEDS OF DIFFERENT FREQUENCIES

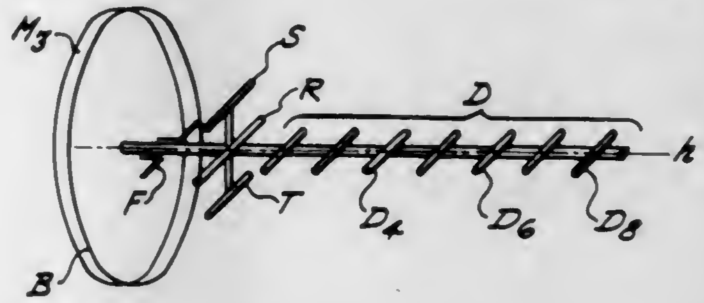
David George Ware, Bexley, and Graham Leslie Bartholomew, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 5, 1967, Ser. No. 636,440
Claims priority, application Great Britain, May 27, 1966, 23,912/66
Int. Cl. H01q *13/00*
U.S. Cl. 343—776 17 Claims

A waveguide junction for combining four independent microwave signals and feeding them to a common load. Two circular waveguides are mounted coaxially with respect to each other and two signals lying in an upper frequency band and having orthogonal planes of polarization are fed into the inner waveguide. Two mode converters are coupled to the outer waveguide to convert two respective input signals lying in a lower frequency band into two H_{11} coaxial mode signals having orthogonal planes of polarization. The two lower frequency band signals are transmitted between the two waveguides. Horns are provided at the ends of the waveguides for feeding to a common load, such as an antenna.



3,508,278
SHORT BACKFIRE ANTENNA

Hermann W. Ehrenspeck, 94 Farnham St., Belmont, Mass. 02178
Filed Feb. 28, 1968, Ser. No. 708,910
Int. Cl. H01q *19/30, 19/10*
U.S. Cl. 343—819 14 Claims

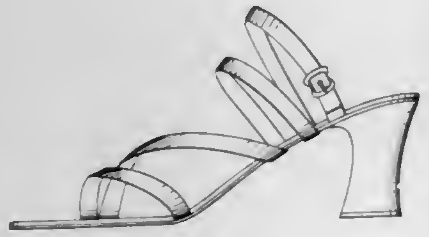


A directional antenna system in the form of a combination of a cavity-type antenna and a slow-wave endfire antenna to provide a slow-wave structure energized by an extremely efficient feed in the form of a cavity radiator.

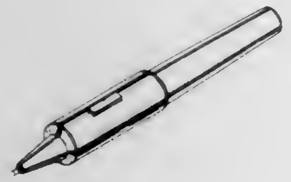
DESIGNS

APRIL 21, 1970

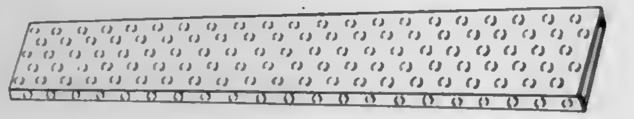
217,217
SHOE OR SIMILAR ARTICLE
David Evins, New York County, N.Y., assignor to Evins Incorporated, New York, N.Y.
Filed Aug. 18, 1969, Ser. No. 18,723
Term of patent 7 years
Int. Cl. D2—*04*
U.S. Cl. D2—290



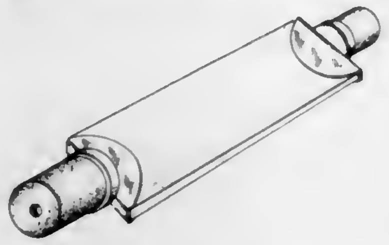
217,218
HAND DRILL
David Staub, % Concept, Inc., Airport Station, St. Petersburg, Fla. 33732
Filed May 21, 1969, Ser. No. 17,267
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—61



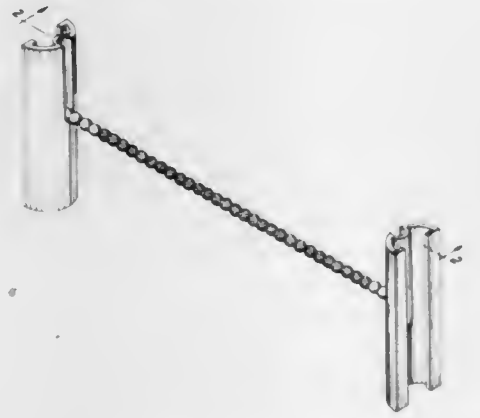
217,219
HOLLOW FLAT FILE
James A. Coon, 929 Drever St., West Sacramento, Calif. 95691, and Elwin Theobald, 4631 Solano Way, Fair Oaks, Calif. 95628
Filed Aug. 20, 1968, Ser. No. 13,206
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—90



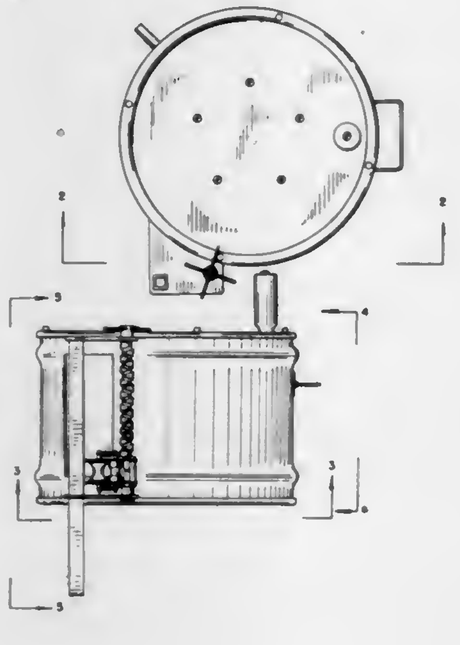
217,220
ABRASIVE HAND TOOL
Robert W. Martin, 1057 Pennington Road, Trenton, N.J. 08618
Filed Feb. 24, 1969, Ser. No. 15,866
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—90



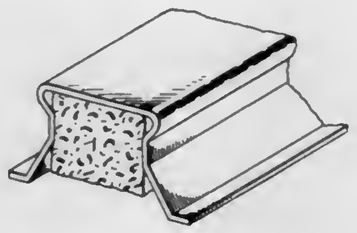
217,221
POCKET CHAIN SAW OR SIMILAR ARTICLE
Elmer W. Swanberg, 1420 E. 58th Ave., Spokane, Wash. 99203
Filed July 10, 1969, Ser. No. 18,172
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—95



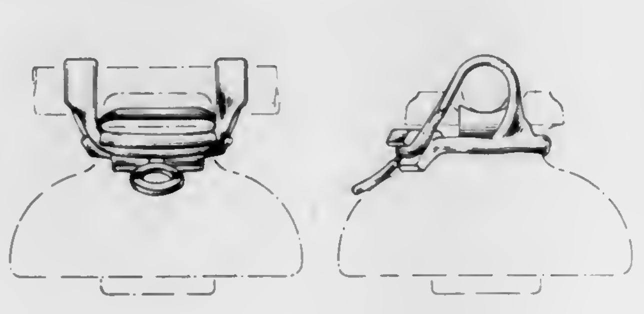
217,222
HOSE REEL DRUM
Mgrdich G. Atanosian, 5887 Pine, Taylor, Mich. 48180
Filed Apr. 21, 1969, Ser. No. 16,818
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—222



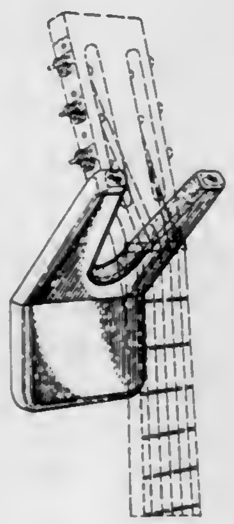
217,223
FASTENING PLATE FOR CONCRETE
Friedrich Karl Knobl, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Mar. 5, 1969, Ser. No. 16,048
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—228



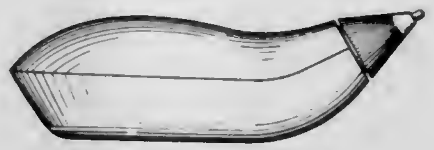
217,224
POST INSULATOR TIE OR SIMILAR ARTICLE
James P. Markham, Webster St., Milford, N.H. 03055
Filed Dec. 24, 1968, Ser. No. 15,109
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—230



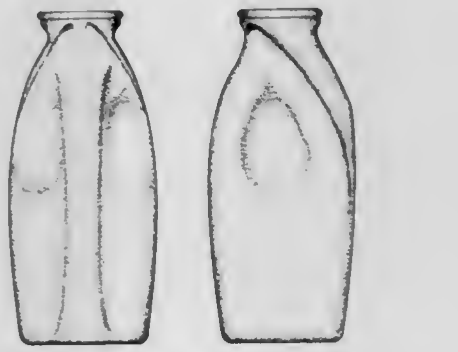
217,225
HANGER BRACKET FOR GUITARS AND THE LIKE
Thomas J. Fitzsimmons, 1708 Military Ave., Omaha, Nebr. 68111
Filed June 12, 1969, Ser. No. 17,681
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—233



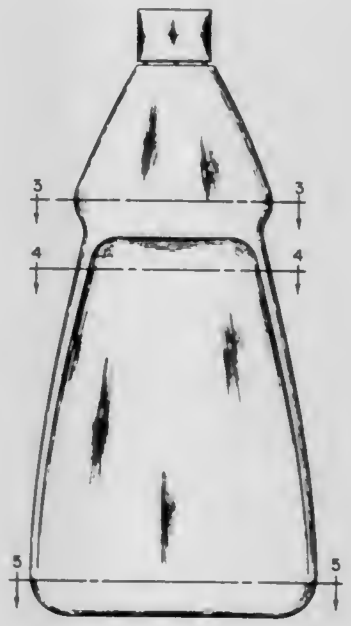
217,226
BOTTLE
Curt Johnny Lind, Alvsjo, Sweden, assignor to Molnlycke Aktiebolag Krokslatt, Goteborg, Sweden
Filed Apr. 3, 1969, Ser. No. 16,566
Claims priority, application Denmark Oct. 3, 1968
Term of patent 7 years
Int. Cl. D9—*01*
U.S. Cl. D9—2



217,227
BOTTLE
Robert P. Christiansen, Pewaukee, Wis., assignor to Waukesha Fruit Products, Inc., Waukesha, Wis., a corporation of Wisconsin
Filed July 22, 1969, Ser. No. 18,332
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—55



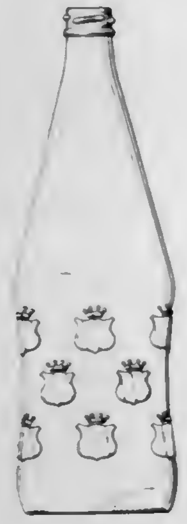
217,228
BOTTLE
David G. Hills, Collinsville, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed July 22, 1969, Ser. No. 18,291
Term of patent 14 years
Int. Cl. D9—*01*
U.S. Cl. D9—89



217,229
BOTTLE

John B. Onthank, Atlanta, Ga., assignor, by mesne assignments, to Canada Dry Corporation, New York, N.Y., a corporation of Delaware
Filed June 18, 1968, Ser. No. 12,400
Term of patent 14 years
Int. Cl. D9—*01*

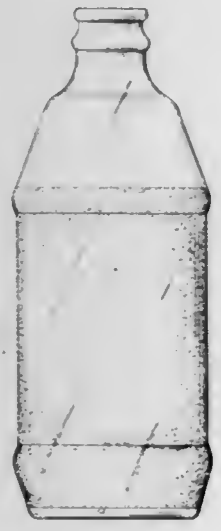
U.S. Cl. D9—114



217,230
BOTTLE

Robert Kissig, Larkspur, Calif., assignor to Feigenson, Incorporated, Detroit, Mich., a corporation of Michigan
Filed Sept. 2, 1969, Ser. No. 18,964
Term of patent 14 years
Int. Cl. D9—*01*

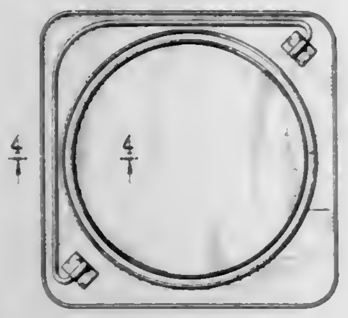
U.S. Cl. D9—119



217,231
CONTAINER FOR PAINT OR THE LIKE

Howard B. Pashman, 74 Lake Shore Drive, Eastchester, N.Y. 10709
Filed Mar. 25, 1968, Ser. No. 11,128
Term of patent 14 years
Int. Cl. D9—*07*

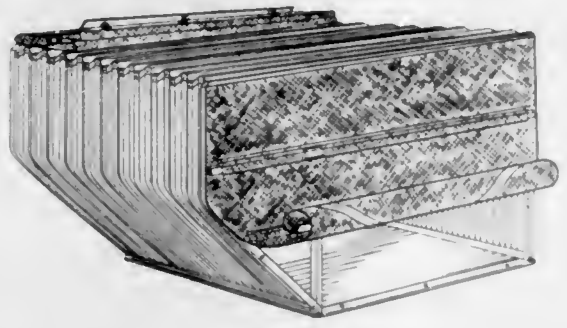
U.S. Cl. D9—239



217,232
SHIPPING CONTAINER

Oscar W. Meller, Akron, Edsel F. Moffitt, Tallmadge, and Frank C. Morse and Gerald L. Woodling, Akron, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed Nov. 29, 1968, Ser. No. 14,718
Term of patent 14 years
Int. Cl. D9—*05*

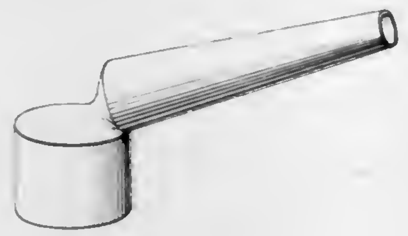
U.S. Cl. D9—246



217,233
COMBINED CAN OPENER AND POURING SPOUT

George R. Stehl, Stony Brook, N.Y., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 22, 1969, Ser. No. 18,814
Term of patent 14 years
Int. Cl. D9—*99*

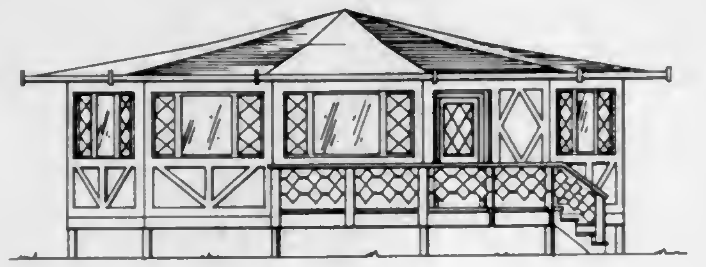
U.S. Cl. D9—290



217,234
BUILDING

Alvin E. Miller, 606 E. Magee Road, Tucson, Ariz. 85704
Continuation-in-part of design application Ser. No. 10,862, Mar. 6, 1968. This application Mar. 24, 1969, Ser. No. 16,419
Term of patent 14 years
Int. Cl. D25—*04*

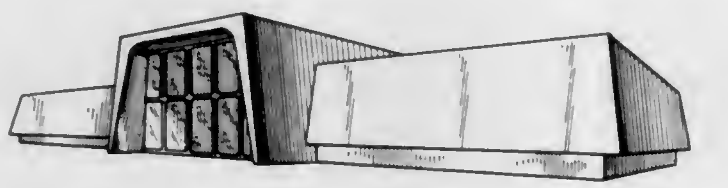
U.S. Cl. D13—1



217,235
INFORMATION-CENTER BUILDING

Henry L. Lawshe, Fort Collins, Colo., assignor to Tra-Vel, Incorporated, Fort Collins, Colo., a corporation of Delaware
Filed May 26, 1969, Ser. No. 17,319
Term of patent 14 years
Int. Cl. D25—*04*

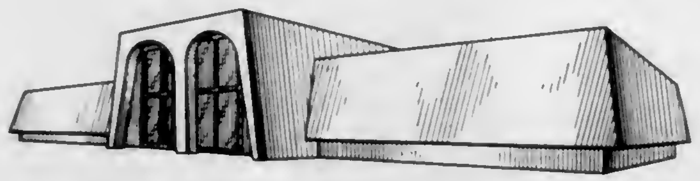
U.S. Cl. D13—1



217,236
INFORMATION-CENTER BUILDING

Henry L. Lawshe, Fort Collins, Colo., assignor to Tra-Vel, Incorporated, Fort Collins, Colo., a corporation of Delaware
Filed May 26, 1969, Ser. No. 17,332
Term of patent 14 years
Int. Cl. D25—*04*

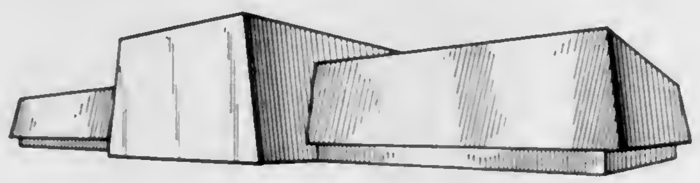
U.S. Cl. D13—1



217,237
INFORMATION-CENTER BUILDING

Henry L. Lawshe, Fort Collins, Colo., assignor to Tra-Vel, Incorporated, Fort Collins, Colo., a corporation of Delaware
Filed May 26, 1969, Ser. No. 17,362
Term of patent 14 years
Int. Cl. D25—*04*

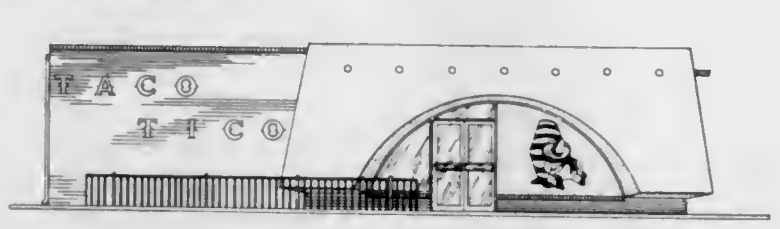
U.S. Cl. D13—1



217,238
BUILDING

William L. Hanney, Wichita, Kans., assignor to Taco Tico, Inc., Wichita, Kans., a corporation of Kansas
Filed June 16, 1969, Ser. No. 17,713
Term of patent 14 years
Int. Cl. D25—*04*

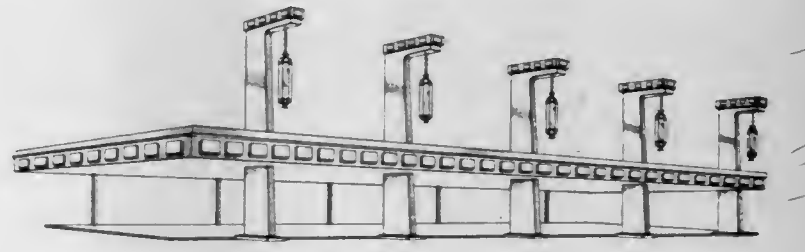
U.S. Cl. D13—1



217,239
CAR WASH STRUCTURE

James W. Baker, Santa Monica, Calif., assignor to Hunter Structures, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Aug. 27, 1969, Ser. No. 18,874
Term of patent 14 years
Int. Cl. D25—*04*

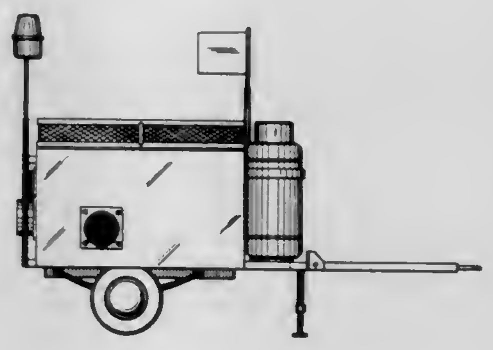
U.S. Cl. D13—1



217,240
MOBILE COMBINATION MOTOR-GENERATOR, AIR COMPRESSOR, HEATER, BLOWER AND WATER PUMP

Stanley A. Holtkamp, Centralia, Ill., assignor to Holtkamp Co., Centralia, Ill., a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 14,644
Term of patent 14 years
Int. Cl. D12—*10*

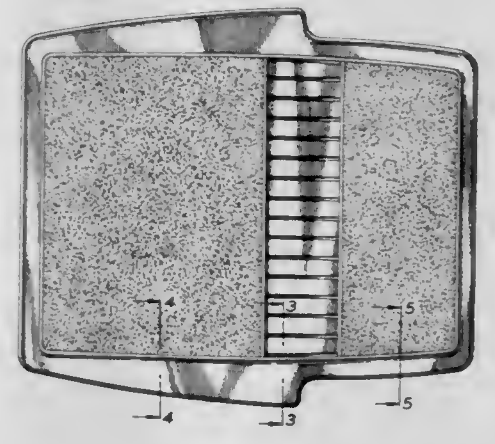
U.S. Cl. D14—3



217,241
AUTOMOBILE FLOOR MAT

William C. Gerber, Wooster, Ohio, assignor to Rubbermaid Incorporated, Wooster, Ohio, a corporation of Ohio
Filed May 12, 1969, Ser. No. 17,110
Term of patent 14 years
Int. Cl. D12—*14*

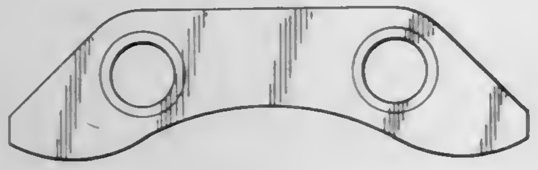
U.S. Cl. D14—5



217,242
TRACTOR TREAD SHOE OR THE LIKE

Edouard Martin Comellas, Montreal, Quebec, Canada (40 Rue de la Fonderie, Cap de la Madeleine, Quebec, Canada)
Filed Sept. 13, 1968, Ser. No. 13,525
Term of patent 14 years
Int. Cl. D12—*14*

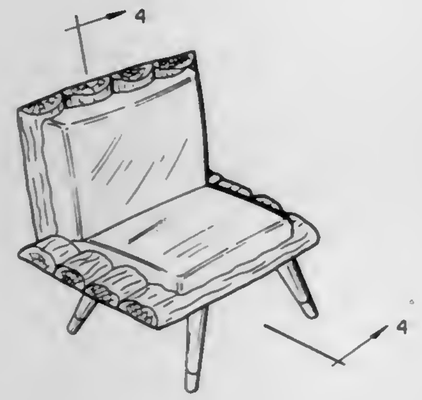
U.S. Cl. D14—6



217,243
CHAIR

John Gawrys, Belleville, Mich.
(8555 Massery Lane, Santee, Calif. 92071)
Filed Feb. 5, 1968, Ser. No. 10,424
Term of patent 14 years
Int. Cl. D6—*01*

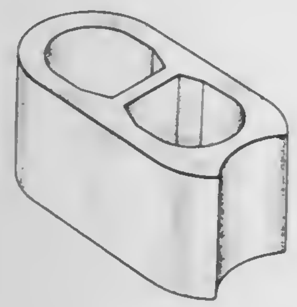
U.S. Cl. D15—1



217,244
BUILDING BLOCK

Robert C. Fairfield, Toronto, Ontario, Canada, assignor to Dufair Limited, Toronto, Ontario, Canada, a corporation of Canada
Filed Jan. 24, 1969, Ser. No. 15,494
Term of patent 14 years
Int. Cl. D25—*01*

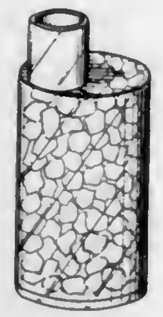
U.S. Cl. D18—2



217,245
FILTER CARTRIDGE FOR AQUARIUMS

Herbert R. Axelrod, Deal, N.J., assignor to Miracle Pet Products, Inc., Jersey City, N.J., a corporation of New Jersey
Filed Mar. 28, 1969, Ser. No. 16,510
Term of patent 14 years
Int. Cl. D23—*01*

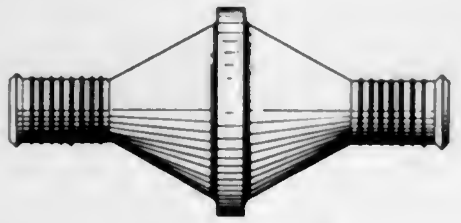
U.S. Cl. D23—4



217,246
FLUID PRESSURE CONTROL VALVE FOR AUTOMOTIVE HEATERS

Walter R. Armand, 1320 Speer Blvd., Denver, Colo. 80204
Filed Feb. 27, 1969, Ser. No. 15,953
Term of patent 14 years
Int. Cl. D23—*01*

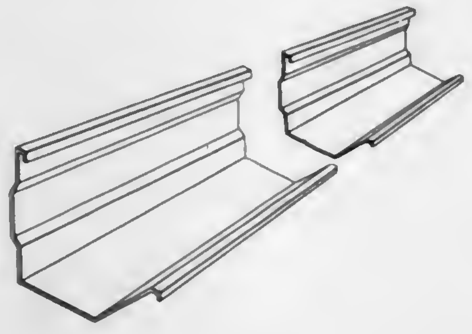
U.S. Cl. D23—21



217,247
CONSTRUCTION OF A FASCIA GUTTER

David J. Brown, Olivers Battery, England, assignor to Conder International Limited, Winchester, Hampshire, England, a company of Great Britain
Filed Nov. 4, 1968, Ser. No. 14,305
Claims priority, application Great Britain May 9, 1968
Term of patent 14 years
Int. Cl. D23—*01*

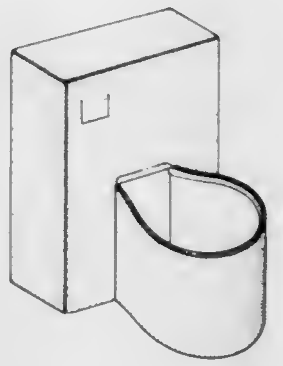
U.S. Cl. D23—45



217,248
WATER CLOSET COVER

Margarete Basner, 18511 Margareta, Detroit, Mich. 48219
Filed Feb. 24, 1969, Ser. No. 15,888
Term of patent 14 years
Int. Cl. D23—*02*

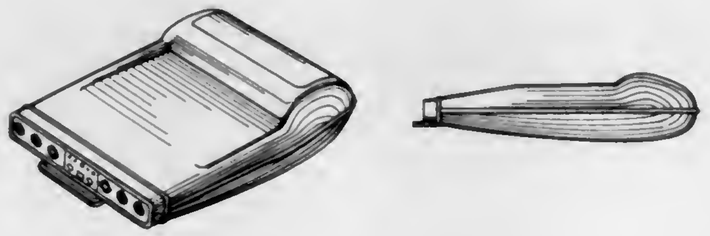
U.S. Cl. D23—68



217,249
DENTAL CONSOLE UNIT

John Daniel Krantz, Inglewood, Calif., assignor to Coastal Dynamics Corporation, a corporation of California
Filed Apr. 3, 1969, Ser. No. 16,571
Term of patent 14 years
Int. Cl. D24—*03*

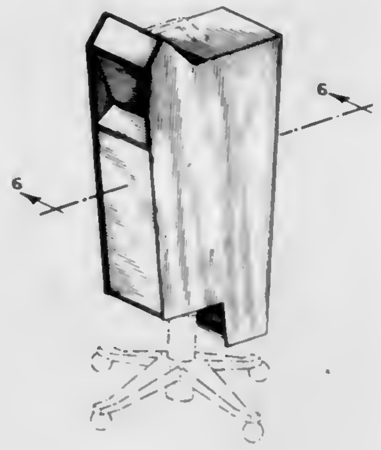
U.S. Cl. D24—1



217,250
DENTAL UNIT

John M. Gardella, Matawan, N.J., and Anthony Ciavattoni, Staten Island, N.Y., assignors to Pennwalt Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Aug. 8, 1969, Ser. No. 18,603
Term of patent 14 years
Int. Cl. D24—*03*

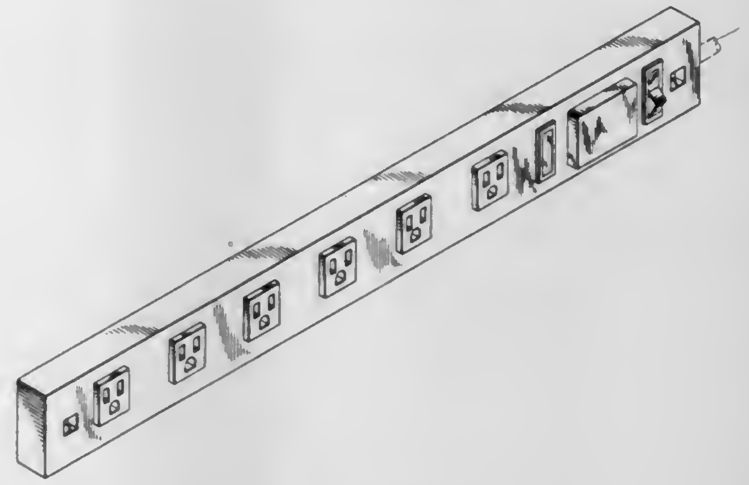
U.S. Cl. D24—1



217,251
MULTIPLE ELECTRIC OUTLET BAR

Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York
Filed Apr. 16, 1969, Ser. No. 16,777
Term of patent 14 years
Int. Cl. D13—*03*

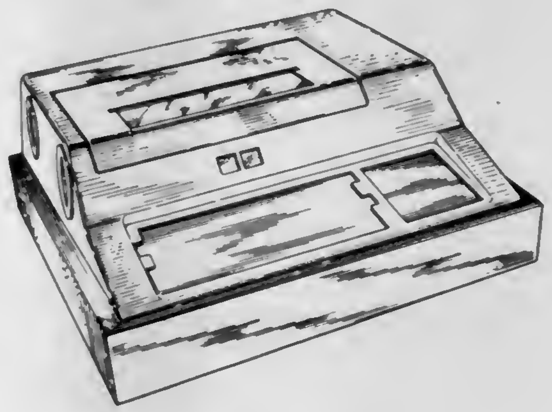
U.S. Cl. D26—1



217,252
CASE FOR A DATA COMMUNICATION TERMINAL

Donald L. Tripp, Mountain Lakes, N.J., assignor to Computer Transceiver Systems, Inc., Upper Saddle River, N.J., a corporation of New York
Filed Apr. 23, 1969, Ser. No. 16,864
Term of patent 14 years
Int. Cl. D20—*02*

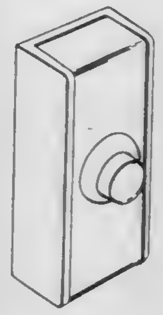
U.S. Cl. D26—5



217,253
PUSH BUTTON ELECTRICAL SWITCH

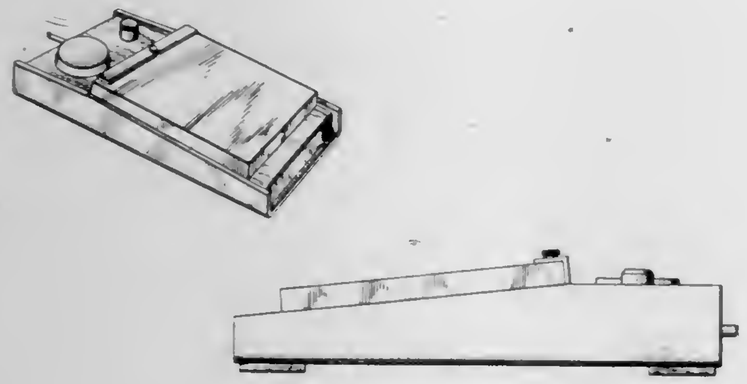
John Doggart, Macclesfield, England, assignor to V & E Friedland Limited, Macclesfield, Cheshire, England, a British company
Filed Sept. 9, 1968, Ser. No. 13,463
Claims priority, application Great Britain Mar. 26, 1968
Term of patent 14 years
Int. Cl. D13—*03*

U.S. Cl. D26—13



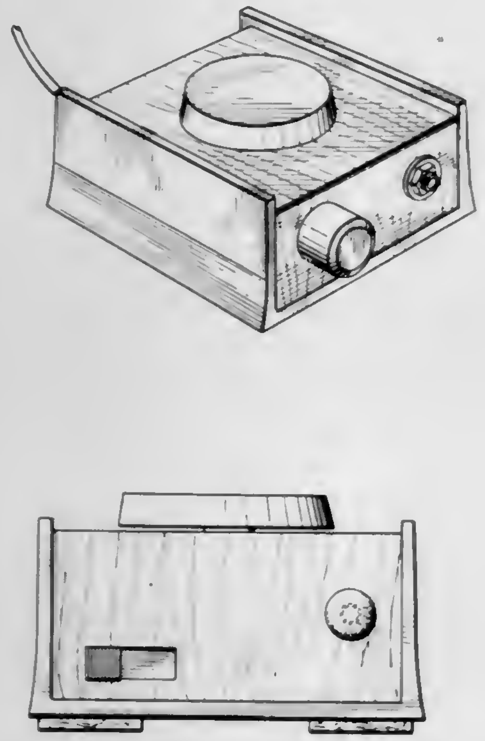
217,254
TRANSCRIBING UNIT FOR A DICTATION SYSTEM

Fred C. Bolick, Jr., Atlanta, Ga., assignor to Lanier Electronic Laboratory, Inc., Atlanta, Ga., a corporation of Georgia
Filed Apr. 16, 1969, Ser. No. 16,760
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



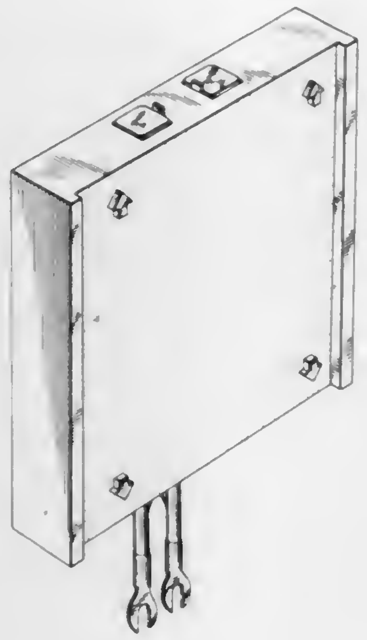
217,255
DESK TRANSCRIPTION UNIT FOR A DICTATING SYSTEM

Fred C. Bolick, Jr., Atlanta, Ga., assignor to Lanier Electronic Laboratories, Inc., Atlanta, Ga., a corporation of Georgia
Filed Apr. 16, 1969, Ser. No. 16,786
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



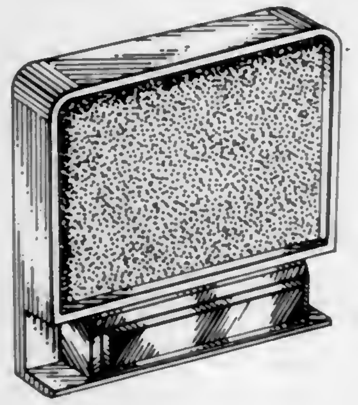
217,256
TELEVISION INTERFERENCE FILTER

Robert D. Kahn, Rockville Centre, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y., a corporation of New York
Filed Apr. 25, 1969, Ser. No. 16,902
Term of patent 14 years
Int. Cl. D14—*03*
U.S. Cl. D26—14



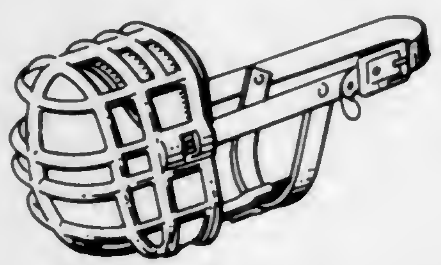
217,257
SERVICE PIN

Berkley J. Baker, Woodland Hills, and Frank La Haye, Los Angeles, Calif., assignors to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware
Filed July 10, 1968, Ser. No. 12,683
Term of patent 14 years
Int. Cl. D11—*03*
U.S. Cl. D29—2



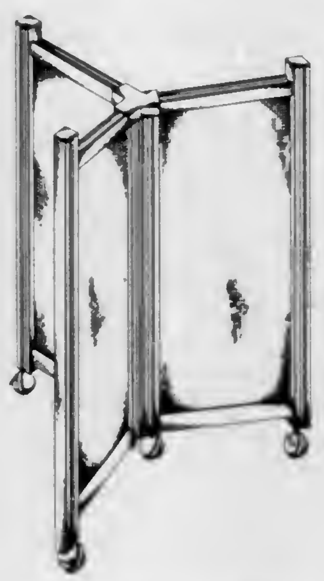
217,258
CANINE MUZZLE

Anthony J. Lupo, Sr., 5321 NW. 180th Terrace, Opa Locka, Fla. 33054
Filed Sept. 30, 1968, Ser. No. 13,764
Term of patent 14 years
Int. Cl. D30—*04*
U.S. Cl. D30—38



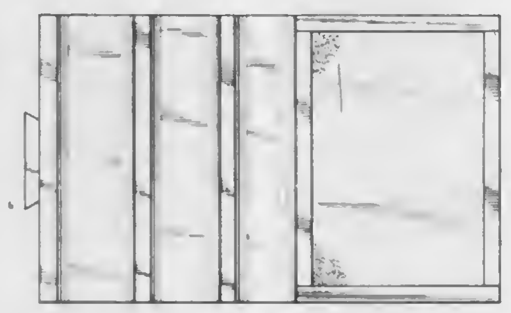
217,259
PORTABLE FOLDABLE PARTITION

Harry Cohn, Jr., Portola Valley, Arthur W. Le Gette, Orinda, and William G. Papsco, Portola Valley, Calif., assignors to Papsco Building Products Inc., a corporation of California
Filed Aug. 26, 1968, Ser. No. 13,285
Term of patent 14 years
Int. Cl. D6—*99*
U.S. Cl. D33—1



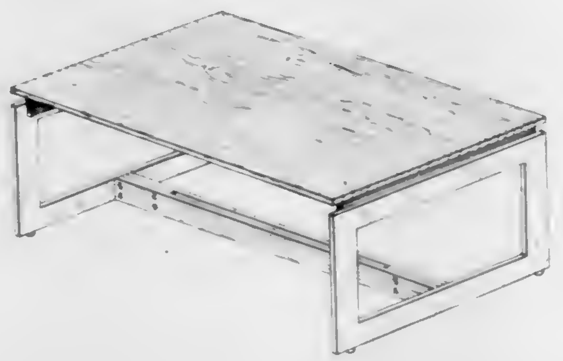
217,260
CADDY OR SIMILAR ARTICLE

Norman P. McLeod, 1114 W. St. Andrews Place, Santa Ana, Calif. 92802
Filed Nov. 7, 1968, Ser. No. 14,344
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—3



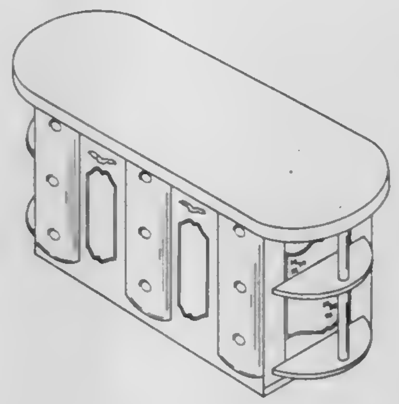
217,261
TABLE

John L. Gianfagna, 102 Crestwood Circle, Marietta, Ohio 45750
Continuation-in-part of design application Ser. No. 9,045, Oct. 18, 1967. This application July 17, 1968, Ser. No. 12,808
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—14



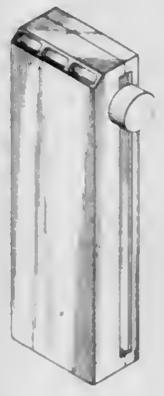
217,262
COMBINED BAR AND STEREO CABINET UNIT

William H. Woods, 97 W. Norwood, Memphis, Tenn. 35109
Filed Mar. 4, 1969, Ser. No. 16,021
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—19



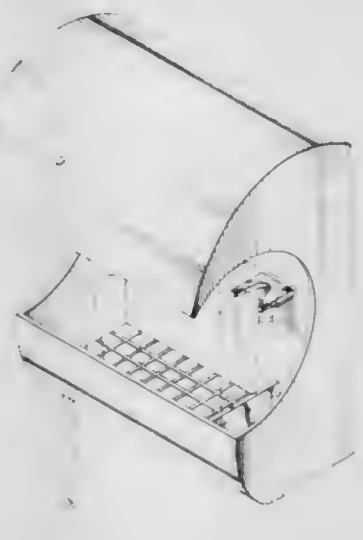
217,263
COMBINED HOLDER AND DISPENSER

Michael R. Manning, 344 Laurel Ave., Cheltenham Township, Pa. 19012
Filed Mar. 7, 1969, Ser. No. 16,113
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—26



217,264
HOLDER FOR TOILET ARTICLES OR THE LIKE

Ralph E. Armstrong, 2717 Malibu Road, Boise, Idaho 83705
Filed June 18, 1969, Ser. No. 17,762
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D33—26

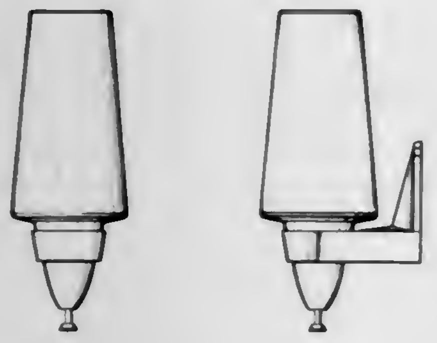


217,265
SOAP DISPENSER

Frank B. Roth, St. Louis, Mo., assignor to Continental Manufacturing Company, St. Louis, Mo., a corporation of Missouri

Filed May 12, 1969, Ser. No. 17,117
Term of patent 14 years
Int. Cl. D6—*01*

U.S. Cl. D33—30

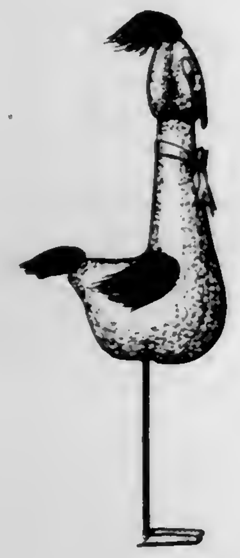


217,266
TOY BIRD FIGURE

Aubrey Greene, 29 Cooper Road, Scarsdale, N.Y. 10583

Filed July 22, 1969, Ser. No. 18,292
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—2

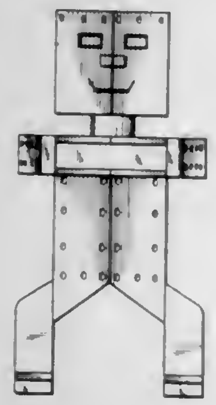


217,267
TOY FIGURE

Jerome S. Tally, New York, N.Y., assignor to Stahlwood Toy Mfg. Co., Inc., a corporation of New York

Filed May 9, 1969, Ser. No. 17,093
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—4

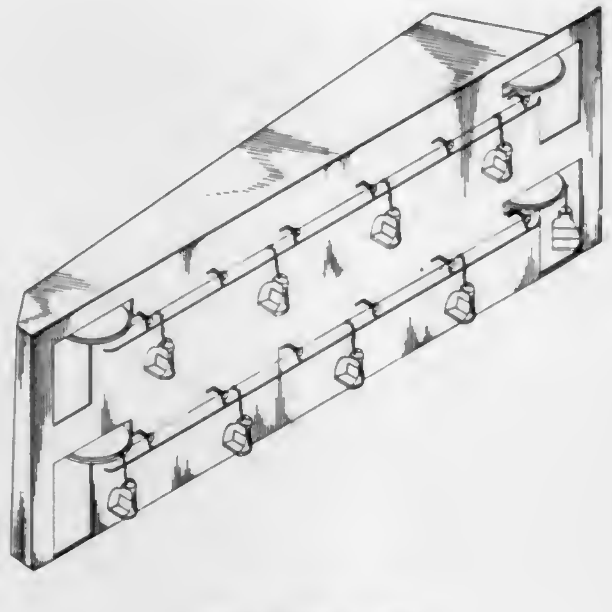


217,268
AMUSEMENT RIDE BUILDING

Samuel P. Goforth and Joseph A. Goforth, Shelby, N.C., assignors to Goforth Brothers, Inc., Shelby, N.C., a corporation of North Carolina

Filed Jan. 31, 1968, Ser. No. 10,377
Term of patent 14 years
Int. Cl. D21—*04*

U.S. Cl. D34—5

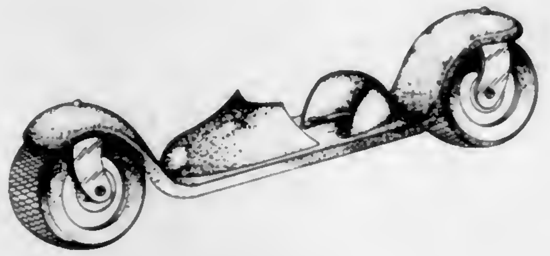


217,269
ROLLER SKATE

Elmer W. Swanberg, 1420 E. 58th Ave., Spokane, Wash. 99203

Filed July 24, 1969, Ser. No. 18,367
Term of patent 14 years
Int. Cl. D21—*04*

U.S. Cl. D34—14

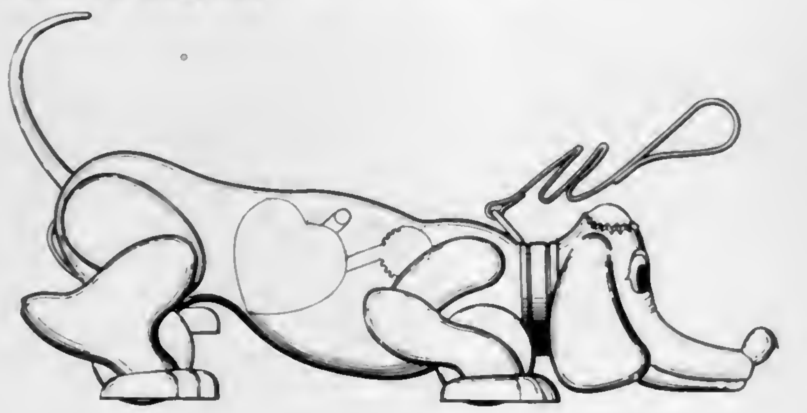


217,270
DOG PULL TOY

George W. Dunbar, Nashville, Tenn., assignor to Kusan Inc., Nashville, Tenn., a corporation of Kentucky

Filed Mar. 19, 1969, Ser. No. 16,324
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—15

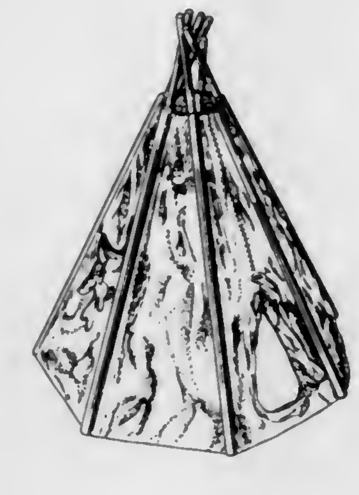


217,271
TOY WIGWAM

John A. Stitt, Bearsden, Scotland, assignor to Model Toys Limited, Shotts, Scotland, a British company

Filed Apr. 28, 1969, Ser. No. 16,912
Claims priority, application Great Britain Nov. 12, 1968
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—15

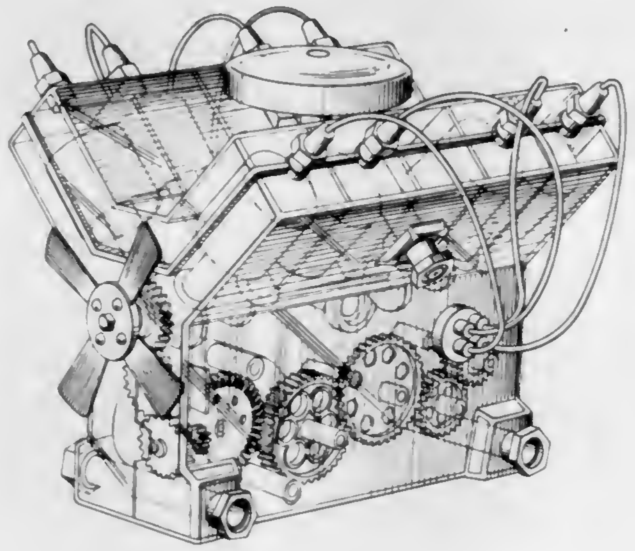


217,272
TOY ENGINE

Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York

Filed May 23, 1969, Ser. No. 17,302
Term of patent 14 years
Int. Cl. D21—*02*

U.S. Cl. D34—15

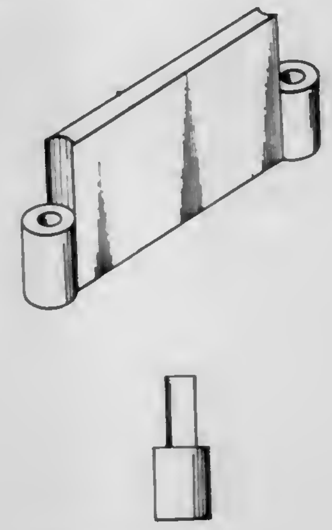


217,273
BLOCK FOR PLANTER AND WALL CONSTRUCTION

Philip Adelman, 1500 Hickory Ave., Torrance, Calif. 90503

Continuation-in-part of design applications Ser. No. 5,903, Feb. 21, 1967, and Ser. No. 7,753 and Ser. No. 7,754, both of July 10, 1967. This application Jan. 21, 1969, Ser. No. 17,193
Term of patent 14 years
Int. Cl. D25—*01*

U.S. Cl. D35—1

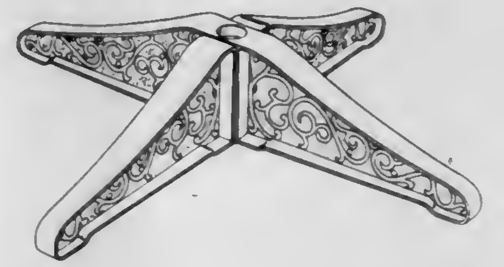


217,274
CHRISTMAS TREE SUPPORT STAND OR SIMILAR ARTICLE

Duncan Tong, Rm. 423, Central Bldg., 3 Pedder St., Hong Kong

Filed Oct. 11, 1968, Ser. No. 13,943
Claims priority, application Great Britain June 14, 1968
Term of patent 7 years
Int. Cl. D6—*01*

U.S. Cl. D35—3

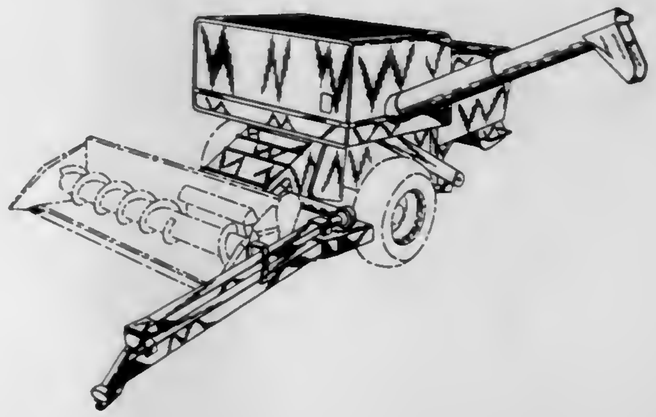


217,275
COMBINE

Robert L. Malcolm and Darwin C. Bichel, East Moline, Ill., and Henry Dreyfuss and James M. Conner, South Pasadena, Calif., assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 10, 1968, Ser. No. 13,474
Term of patent 14 years
Int. Cl. D15—*03*

U.S. Cl. D40—1

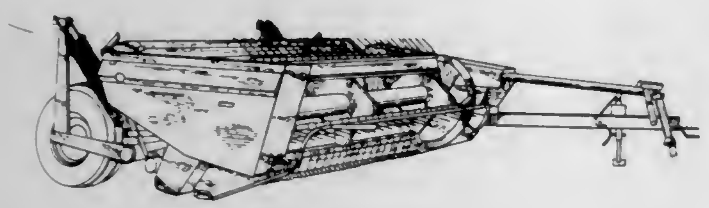


217,276

AGRICULTURAL MOWING CONDITIONING MACHINE

Constantine J. Kermes and Henry N. Lausch, Lancaster County, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Apr. 9, 1969, Ser. No. 16,656
Term of patent 14 years
Int. Cl. D15—*03*

U.S. Cl. D40—1

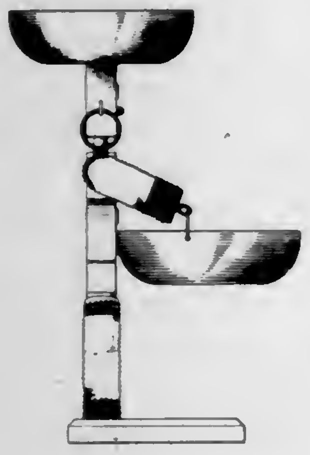


217,277

SNACK SERVER

George Kasperan, Jr., 4 Christopher Drive, Rockville, Conn. 06066
Filed Apr. 21, 1969, Ser. No. 16,824
Term of patent 14 years
Int. Cl. D7—*99*

U.S. Cl. D44—10

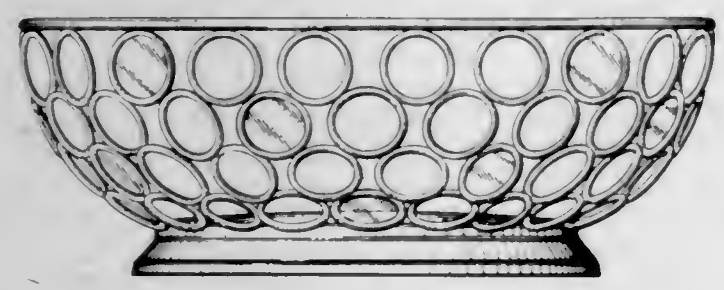


217,278

BASKET FOR FRUIT OR THE LIKE

Shelia M. Chandler, Baton Rouge, La., assignor to Textron Inc., Providence, R.I.
Filed July 3, 1968, Ser. No. 12,606
Term of patent 14 years
Int. Cl. D7—*01*

U.S. Cl. D44—15

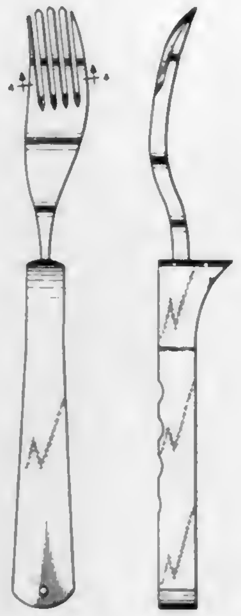


217,279

SAUTE FORK

Harvey F. Trainum, 3024 McLemore St., Norfolk, Va. 23509
Filed July 3, 1969, Ser. No. 18,043
Term of patent 14 years
Int. Cl. D7—*03*

U.S. Cl. D44—29

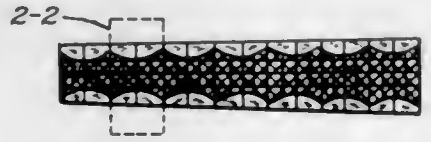


217,280

LINK CHAIN FOR A BRACELET OR SIMILAR ARTICLE

Yuen Sang Poon, Hong Kong, assignor to Baldwin Bracelet Corporation, New York, N.Y., a corporation of New York
Filed Nov. 14, 1968, Ser. No. 14,450
Term of patent 14 years
Int. Cl. D11—*01*

U.S. Cl. D45—4

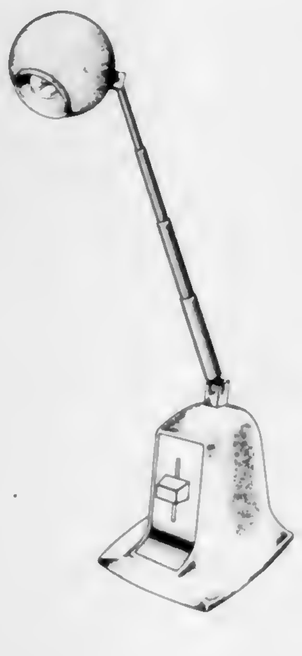


217,281

DESK LAMP

Shoji Ishikawa, Nara, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Mar. 18, 1969, Ser. No. 16,307
Term of patent 14 years
Int. Cl. D26—*02*

U.S. Cl. D48—20

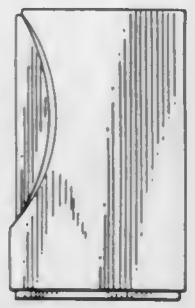


217,282

LIGHTER

Marcel Quercia, Paris, France, assignor to Flaminaire Marcel Quercia, Paris, France
Filed Sept. 25, 1968, Ser. No. 13,712
Claims priority, application France Apr. 12, 1968
Term of patent 14 years
Int. Cl. D27—*05*

U.S. Cl. D48—27

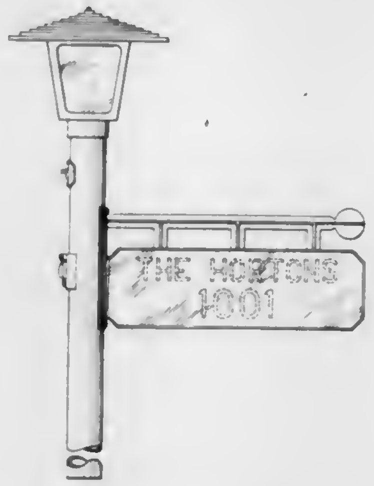


217,283

COMBINED YARD LAMP AND IDENTIFICATION SIGN

Frank Horton, 302 Broadway, Lamar, Mo. 64759
Filed Jan. 10, 1969, Ser. No. 15,297
Term of patent 14 years
Int. Cl. D26—*03;* D8—*03*

U.S. Cl. D48—31

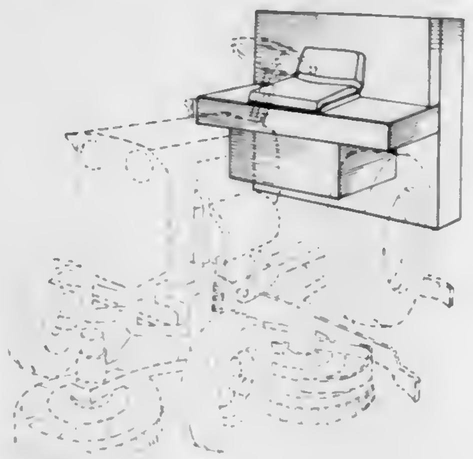


217,284

COMBINED SEAT AND LIQUID TANK FOR AN INDUSTRIAL POWER-DRIVEN FLOOR SCRUBBER

Walter G. Ashton, Stone Park, Ill., assignor to Star Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed June 19, 1968, Ser. No. 12,434
Term of patent 14 years
Int. Cl. D15—*06*

U.S. Cl. D49—9.1

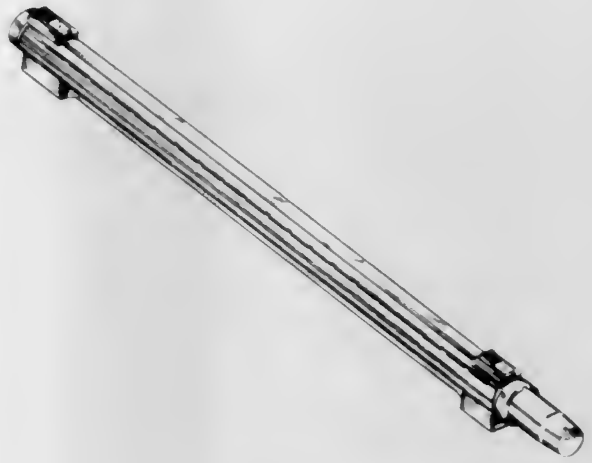


217,285

TELESCOPING WAND FOR A VACUUM CLEANER

James Anderson, 48 Lombardy Road, Baie d Durfe, Quebec, Canada
Filed Feb. 14, 1969, Ser. No. 15,780
Term of patent 14 years
Int. Cl. D15—*07*

U.S. Cl. D49—17

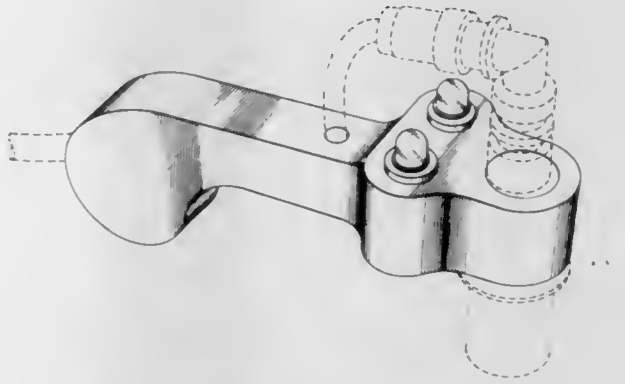


217,286

HANDLE FOR AN ULTRASONIC BOND TESTING PROBE OR SIMILAR ARTICLE

Charles S. Phelan, Tustin, Calif., assignor to Shurtronics Corporation, a corporation of California
Filed Nov. 13, 1968, Ser. No. 14,429
Term of patent 14 years
Int. Cl. D9—*04*

U.S. Cl. D52—1

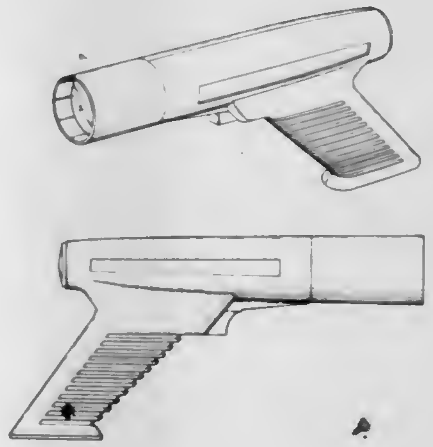


217,287

TIMING LIGHT

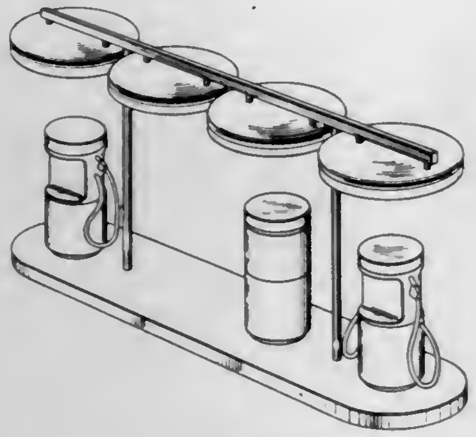
Edwin L. Schwartz, 16604 Park Lane Place, Los Angeles, Calif. 90049
Filed Sept. 26, 1969, Ser. No. 19,310
Term of patent 14 years
Int. Cl. D26—*04*

U.S. Cl. D52—1



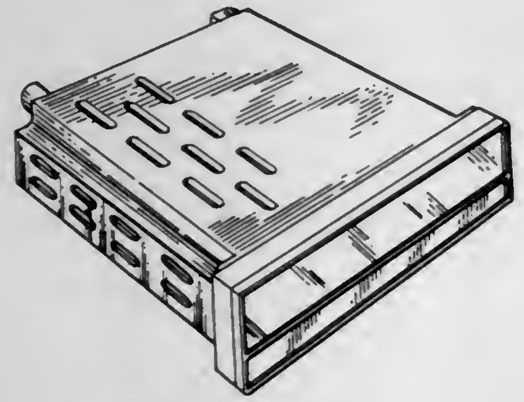
217,288
GASOLINE SERVICE STATION ISLAND

Eliot F. Noyes, Canaan, Conn., assignor to Mobil Oil Corporation, a corporation of New York
Filed Apr. 10, 1969, Ser. No. 16,680
Term of patent 14 years
Int. Cl. D10—*99;* D26—*03*
U.S. Cl. D52—2



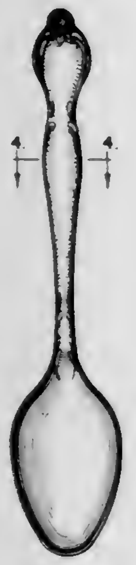
217,289
DIGITAL PANEL METER

Joseph R. Andreaggi, Short Hills, N.J., assignor to Weston Instruments, Inc., Newark, N.J., a corporation of Delaware
Filed Mar. 10, 1969, Ser. No. 16,170
Term of patent 14 years
Int. Cl. D10—*11*
U.S. Cl. D52—6



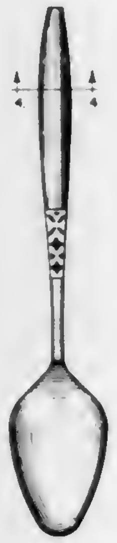
217,290
SPOON OR SIMILAR ARTICLE

Arnold Thaler, Highland Park, Ill., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 11, 1968, Ser. No. 13,488
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



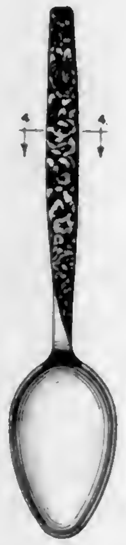
217,291
SPOON OR SIMILAR ARTICLE

Marion Weeber, New York, N.Y., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 27, 1969, Ser. No. 17,370
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



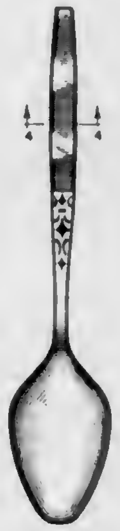
217,292
SPOON OR SIMILAR ARTICLE

Marion Weeber, New York, N.Y., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed May 27, 1969, Ser. No. 17,371
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



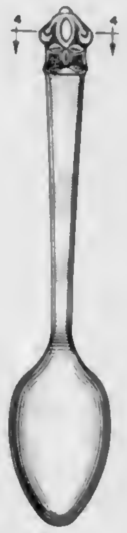
217,293
SPOON OR SIMILAR ARTICLE

Marion Weeber, New York, N.Y., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed June 3, 1969, Ser. No. 17,497
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



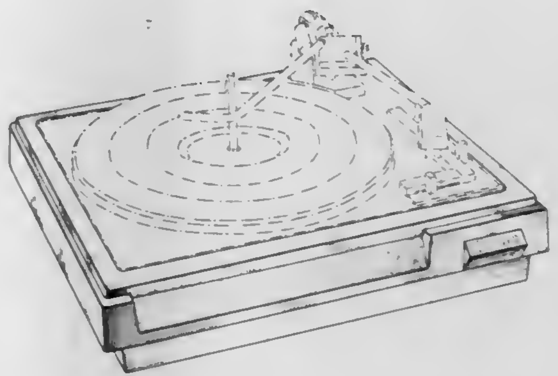
217,294
SPOON OR SIMILAR ARTICLE

Marion Weeber, New York, N.Y., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed June 9, 1969, Ser. No. 17,581
Term of patent 14 years
Int. Cl. D7—*03*
U.S. Cl. D54—12



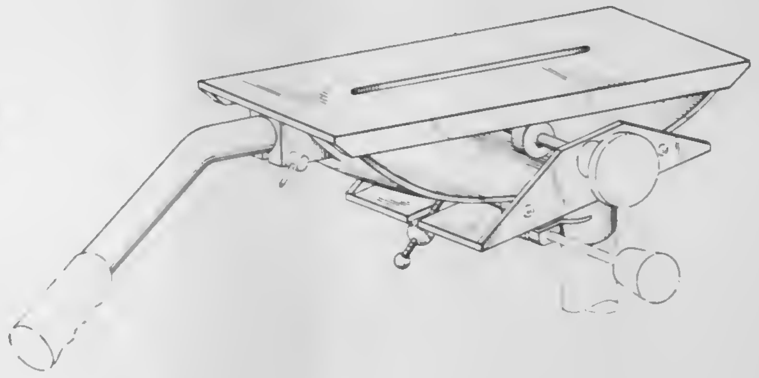
217,295
PHONOGRAPH RECORD CHANGER BASE

Earl E. Hoyt, Northvale, N.J., assignor to BSR (U.S.A.) Limited, Blauvelt, N.Y., a corporation of New York
Filed Dec. 2, 1968, Ser. No. 14,732
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D56—4



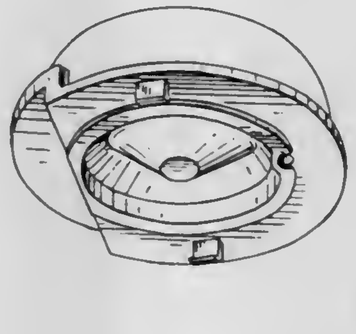
217,296
TRIPOD HEAD

Elias Edward Resk, 645 Pine Brook Blvd., New Rochelle, N.Y. 10804
Filed Aug. 21, 1968, Ser. No. 13,231
Term of patent 14 years
Int. Cl. D16—*07*
U.S. Cl. D61—1



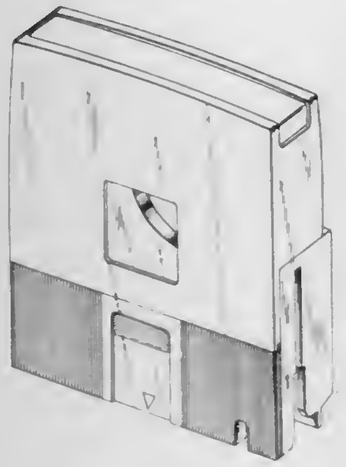
217,297
INCIDENT LIGHT MODIFYING ATTACHMENT FOR A PHOTOGRAPHIC EXPOSURE METER

Denis Connelly, Littleheath, Hertfordshire, England, assignor to Sangamo Weston Limited
Filed Jan. 17, 1969, Ser. No. 15,547
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



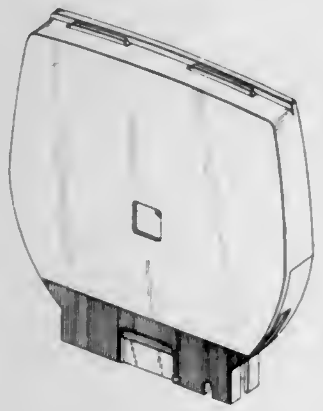
217,298
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 27, 1969, Ser. No. 17,915
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



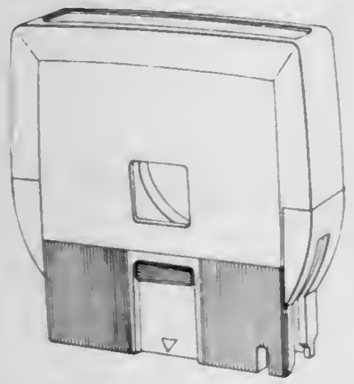
217,299
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 27, 1969, Ser. No. 17,917
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



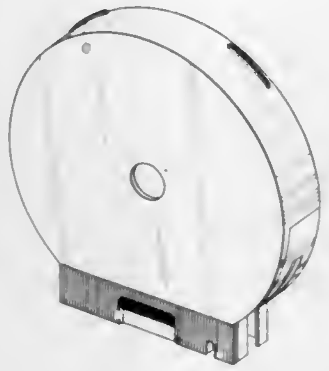
217,300
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 27, 1969, Ser. No. 17,918
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



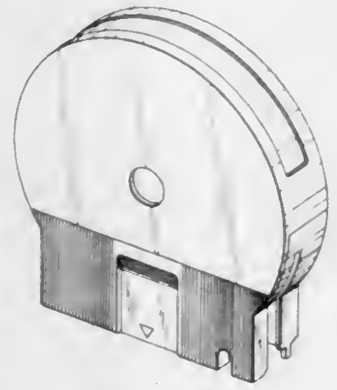
217,301
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 30, 1969, Ser. No. 17,973
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



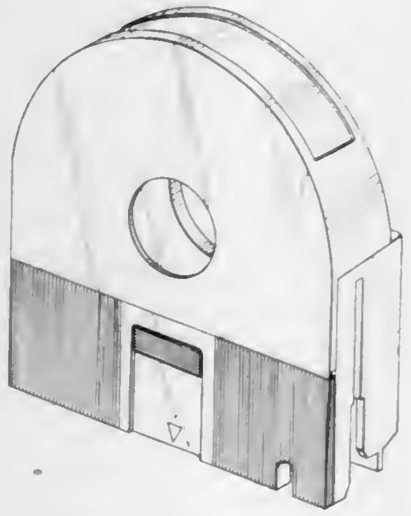
217,302
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 30, 1969, Ser. No. 17,974
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



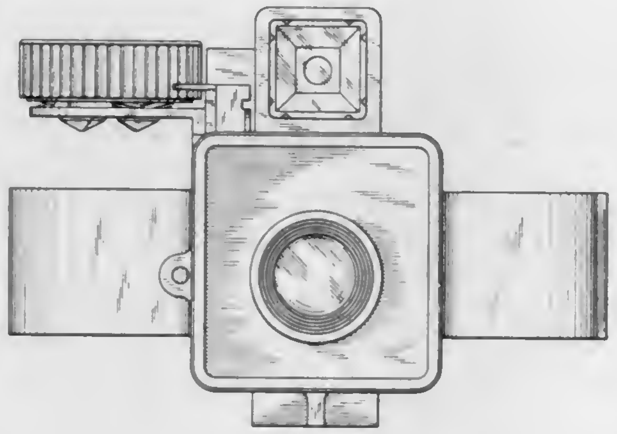
217,303
FILM CARTRIDGE OR THE LIKE

Dianne B. Ainslie and Arthur H. Crapsey, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 30, 1969, Ser. No. 17,975
Term of patent 14 years
Int. Cl. D16—*99*
U.S. Cl. D61—1



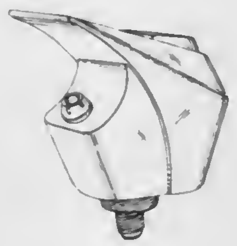
217,304
PHOTOGRAPHIC CAMERA

Jay Doblin, Chicago, Ill., assignor to Whitehouse Products, Inc.
Filed Aug. 6, 1969, Ser. No. 18,562
Term of patent 14 years
Int. Cl. D16—*01*
U.S. Cl. D61—1



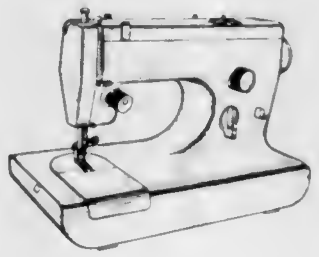
217,305
DISPENSING HEAD ASSEMBLY FOR A FLUID DISPENSING SYSTEM

Warren E. Turner, Succasunna, N.J., assignor to H. H. Thermostats, Inc., Cedar Grove, N.J., a corporation of New Jersey
Filed Mar. 18, 1969, Ser. No. 16,313
Term of patent 14 years
Int. Cl. D23—*01*
U.S. Cl. D67—4



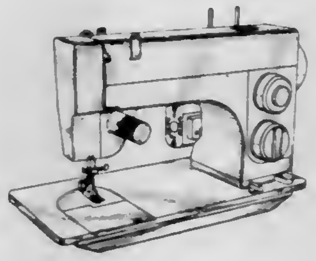
217,306
SEWING MACHINE

Kenneth Grange, London, Hampstead, England, assignor to Maruzen Mishin Kabushiki Kaisha (Maruzen Sewing Machine Co., Ltd.), Osaka Prefecture, Japan
Filed Mar. 28, 1969, Ser. No. 16,518
Term of patent 14 years
Int. Cl. D15—*09*
U.S. Cl. D70—1



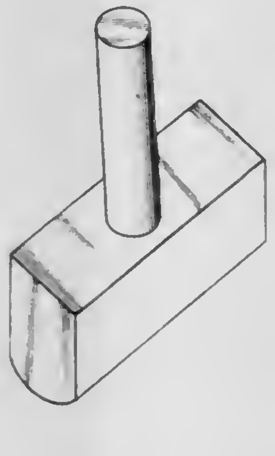
217,307
SEWING MACHINE

Kenneth Grange, London, England, assignor to Maruzen Mishin Kabushiki Kaisha (Maruzen Sewing Machine Co., Ltd.), Osaka, Japan
Filed May 23, 1969, Ser. No. 17,300
Term of patent 14 years
Int. Cl. D15—*09*
U.S. Cl. D70—1



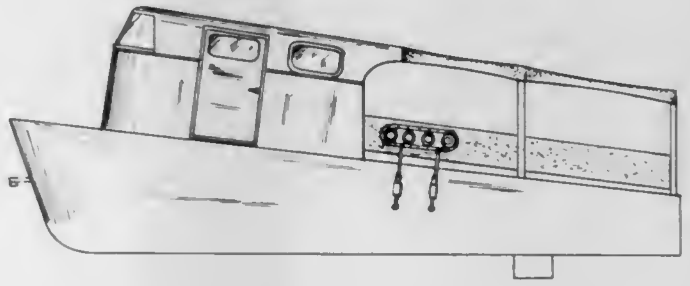
217,308
POSTAGE STAMP SEALER OR THE LIKE

Thomas P. O'Donnell, Kings County, N.Y.
(220 Highland Blvd., Brooklyn, N.Y. 11207)
Filed Feb. 2, 1968, Ser. No. 10,416
Term of patent 14 years
Int. Cl. D19—*02*
U.S. Cl. D74—1

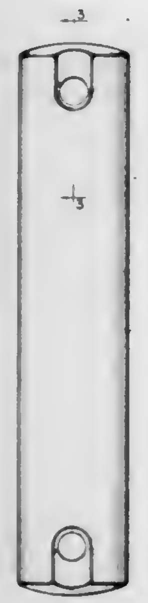


217,309
BOAT

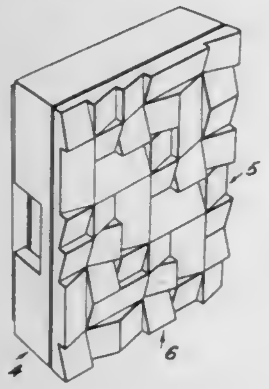
Leo Stein, P.O. Box 1063, F.D.R. Station,
New York, N.Y. 10022
Filed Nov. 14, 1968, Ser. No. 14,456
Term of patent 14 years
Int. Cl. D12—*06*
U.S. Cl. D71—1



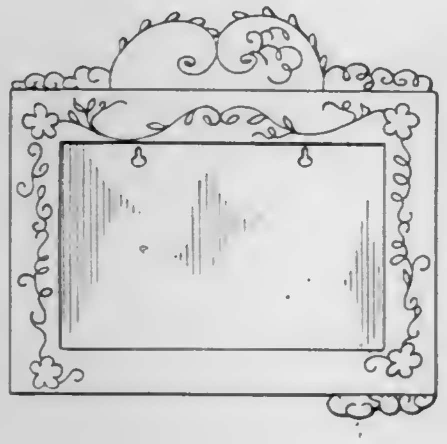
217,310
BOAT FENDER OR SIMILAR ARTICLE
John W. Duckett and Clarke Reynolds, Tiburon, Calif., assignors to American Molded Products, Ltd., a limited partnership, Sausalito, Calif.
Filed Apr. 28, 1969, Ser. No. 16,917
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D71—1



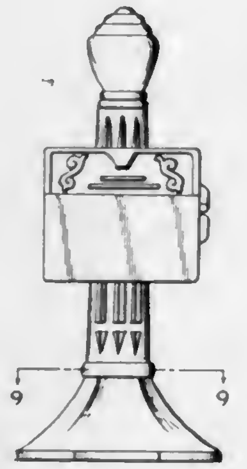
217,311
WALL CHIME
John Doggart, Macclesfield, England, assignor to V & E Friedland Limited, Macclesfield, England, a British company
Filed Sept. 9, 1968, Ser. No. 13,447
Claims priority, application Great Britain Mar. 26, 1968
Term of patent 14 years
Int. Cl. D31
U.S. Cl. D72—1



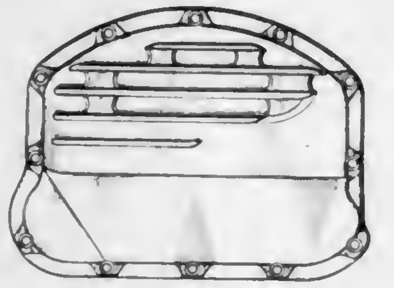
217,312
CARD FILE BOX OR THE LIKE
Alice C. Sharon, Rte. 1, Fowler, Colo. 81039
Filed June 29, 1967, Ser. No. 7,646
Term of patent 14 years
Int. Cl. D19—*99*
U.S. Cl. D74—2



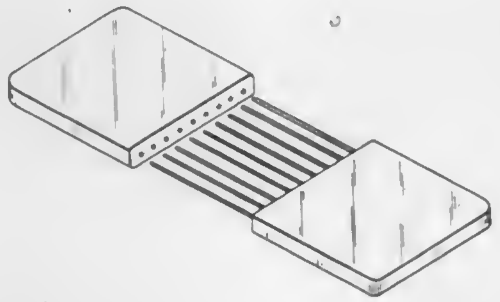
217,313
COMBINED LETTER OPENER AND HOLDER FOR STAMPS OR THE LIKE
Harold Charles Dowit, 11835 Sheldon St., Sun Valley, Calif. 91352
Filed Oct. 18, 1968, Ser. No. 14,051
Term of patent 14 years
Int. Cl. D19—*02*
U.S. Cl. D74—5



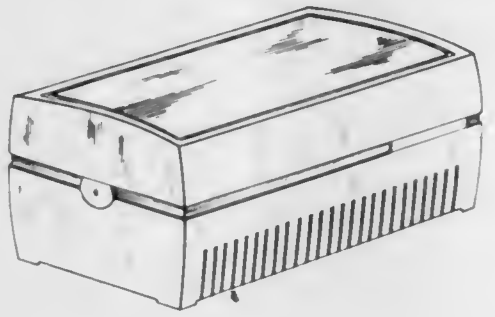
217,314
MOTORCYCLE ROCKER ARM COVER
Jefferson R. Smith, Torrance, Calif. (1872 W. 166th St., Gardena, Calif. 90247)
Filed June 3, 1969, Ser. No. 17,499
Term of patent 14 years
Int. Cl. D15—*01*
U.S. Cl. D77—1



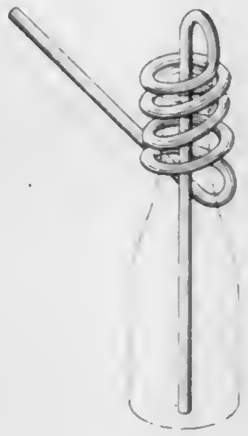
217,315
POCKET COMB
Paul E. Brooks, 15347 Princeton, Detroit, Mich. 48238
Filed Oct. 16, 1968, Ser. No. 14,018
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—8



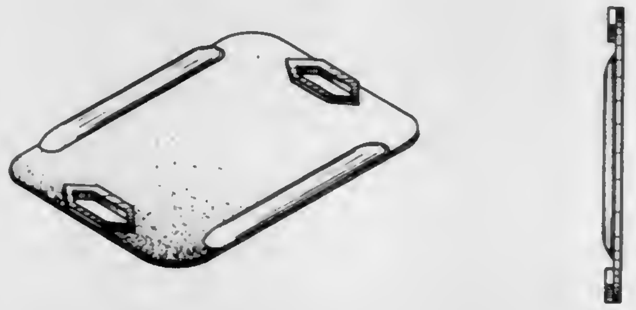
217,316
CARRYING CASE FOR A PORTABLE ELECTRICAL APPLIANCE
Raymond T. Cassidy, Stratford, Conn., and Manfred K. Hegemann, Nyack, N.Y., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 13, 1969, Ser. No. 15,314
Term of patent 14 years
Int. Cl. D28—*03*
U.S. Cl. D86—10



217,317
DRINKING STRAW
John Homorodean, Jr., and Edwin E. Gentilly, both of P.O. Box 8664, Cleveland, Ohio 44135
Filed May 28, 1969, Ser. No. 17,402
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D94—3

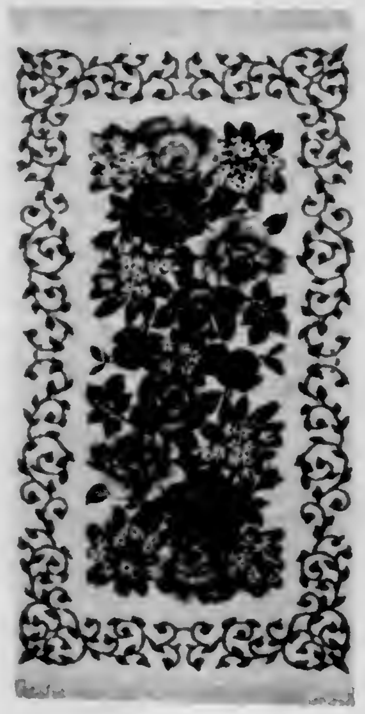


217,318
IDENTIFICATION PLATE OR SIMILAR ARTICLE
Diann J. Walldorf, Somerset, N.J., assignor to Thomas & Betts Corporation, Elizabeth, N.J., a corporation of New Jersey
Filed Feb. 28, 1969, Ser. No. 15,969
Term of patent 14 years
Int. Cl. D20—*99*
U.S. Cl. D96—3



217,319
TOWEL OR SIMILAR ARTICLE
Edward C. Taiman, Tarrytown, N.Y., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed Nov. 25, 1968, Ser. No. 14,625
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26

217,320
TOWEL OR SIMILAR ARTICLE
Connie C. Willoughby, New York, N.Y., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed June 2, 1969, Ser. No. 17,453
Term of patent 14 years
Int. Cl. D6—*09*
U.S. Cl. D92—26



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TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF APRIL, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- A. J. Industries, Inc.: *See—*
  - Patchen, Lee H., 3,507,208.
- AB Bonnierforetagen: *See—*
  - Spencer, Robert L., 3,507,492.
- Abcor Inc.: *See—*
  - Crowley, Richard P., Takata, Victor T., and Pessa, Edmund L., 3,507,097.
- Abeck, Wilhelm: *See—*
  - Eichler, Wolfgang, Abeck, Wilhelm, and Hund, Franz 3,507,694.
- ACF Industries, Incorporated: *See—*
  - Jeep, Charles W., Jr., and Davis, Rooney W., 3,507,582.
  - Terlecky, Boris S., and Grob, Leonardus F.A., 3,507,225.
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  - Striplin, Marcus M., Jr., and Achorn, Frank P. 3,507,614.
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- Adams, John R., Jr., and Salvin, Victor S., to Celanese Corporation. Dye receptive fibers and method of preparing same. 3,506,991, Cl. 008-173.
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  - Southerland, Arthur, Jr., Annibale, Joseph R., Adams, Paul V., and Todd, Willis H. 3,507,241.
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- Adams-Russell Co., Inc.: *See—*
  - Podell, Allen F., 3,508,171.
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  - Smith, William E., 3,507,356.
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  - Zartler, Herbert P., 3,507,314.
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- Agee, Marie H., Sautter, Theodore C., and Cojei, Peter, to Howell Industries, Inc. Seat mounting with telescopically arranged slide means. 3,507,472, Cl. 248-429.
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  - Villiers, Jacques Y., 3,508,267.
- Agfa Aktiengesellschaft: *See—*
  - Eichler, Wolfgang, Abeck, Wilhelm, and Hund, Franz, 3,507,694.
- Agusta, Benjamin, Bardell, Paul H., Castrucci, Paul P., Henle, Robert A., and Pecoraro, Raymond P., to International Business Machines Corporation. Monolithic integrated memory array structure including fabrication and package therefor. 3,508,209, Cl. 340-173.
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  - Aiken, Howard H., Parvin, Allan I., Janowsk Seymour, Taitel, Charles M., and Skurnik, Harold, 3,507,020.
- Aileo, Jackson Anthony, to Gentex Corporation. Seal for earcup or the like. 3,506,980, Cl. 002-209.
- Ailsa Craig Curling Stones Limited: *See—*
  - Spencer, Hugh, 3,507,498.
- Air Reduction Company, Incorporated: *See—*
  - Hallidy, William M., 3,508,092.
  - Jones, Harold O., 3,508,107.
  - Moyers, John C., 3,508,003.
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  - Ueda, Yasuo, Takatsu, Akira, and Aizawa, Tatsu 3,507,693.
- Aktiebolaget Astra: *See—*
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  - Froman, Karl Goran Ernst, Karker, Stig Rutger, and Tarandi, Taivo, 3,507,522.
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  - Hakansson, Christer Lennart, and Nilsson, John Martin, 3,507,924.
- Aktiebolaget Svenska Metallverken: *See—*
  - Andersson, Anders Sigvard, 3,507,455.
- Aktiebolaget Tudor: *See—*
  - Sundberg, Erik Gustav, 3,507,698.
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  - Kull, Ulrich, and Schuler, Roland, 3,508,096.
- Aldrich, Paul E., to Du Pont de Nemours, E. I., and Company. Antidepressant compositions and methods employing 4-arylbicyclo[2.2.2]octyl urethans. 3,507,957, Cl. 424-263.
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- Alfsen, Christian A., to Microform Data Systems, Inc., mesne. Optical readout assembly. 3,507,557, Cl. 350-202.
- Algase, Lawrence I.: *See—*
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  - Dewez, Fernand J., Jr., 3,507,633.
- Allaben, Charles M., Jr., to Borg-Warner Corporation, mesne. Electromagtic clutch actuator. 3,507,374, Cl. 192-084.
- Alldred, Cyrus A., Jr., and Conrad, Lucas J., to Reynolds, R. J., Tobacco Company. Process for separating meat from bones. 3,507,387, Cl. 209-002.
- Allegheny Ludlum Steel Corporation: *See—*
  - Shaw, Richard B., 3,507,642.
- Allen, Maurice B., to Stone, William, Jr. Animal-actuated drinking valve with float. 3,507,255, Cl. 119-072.5
- Allen-Bradley Company: *See—*
  - Mayer, Joseph C., 3,508,180.
- Allied Chemical Corporation: *See—*
  - Griffin, William D., Schmehl, Leon J., and Casale, Salvatore A., 3,507,878.
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  - Boyajian, Myron J., 3,507,350.
  - Gilbertson, Gary O., Longshore, Donald W., and Schott, Robert E., 3,507,372.
- Allison, William M., to Sprague Electric Company. Series-connected capacitor sections. 3,508,128, Cl. 317-258.
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- Allport, John J., and Holzman, Allen L., to United Aircraft Corporation. Magnetohydrodynamic electric generators. 3,508,086, Cl. 310-011.
- Alps Electric Company, Limited: *See—*
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  - Tassaro, Alfred F., 3,507,140.
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  - Dreyer, Heinz, 3,507,452.
- Amchem Products, Inc.: *See—*
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  - Joyce, Asa W., and Leavitt, Julian J., 3,507,864.
  - Sanborn, William Eugene, and Lindsley, John Francis, 3,507,810.
  - Shaw, Robert Frank, 3,507,759.
  - Williams, Laurence Lyman, and Coscia, Anthony Thomas, 3,507,847.

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  - Ledig, Kurt W., and Wendt, Gerhard R., 3,507,857.
  - Marshall, David J., 3,507,889.
  - Sulkowski, Theodore S., 3,507,867.
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  - Hathaway, Richard A., 3,507,435.
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  - Tobler, Jakob, and Cochon, Robert, 3,507,507.
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- Andersson, Anders Sigvard, to Aktiebolaget Svenska Metallverken. Expansible mandrel. 3,507,455, Cl. 242-072.1
- Ando, Noriyoshi: *See*—
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  - Larsen, Eric R., Andrejewski, Bernard R., and Nelson, Donald L. 3,507,933.
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- Ankersen, Borge Richard. Incinerating apparatus and methods. 3,507,232, Cl. 110-008.
- Annibale, Joseph R.: *See*—
  - Southerland, Arthur, Jr., Annibale, Joseph R., Adams, Paul V., and Todd, Willis H. 3,507,241.
- Antipov, Igor, Feinberg, Irving, Van de Zande, Charles H., Wing, Wailey L., and Berger, Horst H., to International Business Machines Corporation. Test sites for monolithic circuits. 3,507,036, Cl. 029-574.
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  - Suwa, Isao, 3,507,454.
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  - Weis, Frank G., Mikkelson, Kenneth A., and Appleberry, Robert M. 3,507,393.
- Appleby & Ireland Limited: *See*—
  - Lancaster, Charles George, 3,507,468.
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  - Schunberg, John W., and Archer, Sydner 3,507,920.
- Architectural Research Corporation: *See*—
  - Prusinski, Richard C., Fermani, Marcello, Torcolacci, Attilio, and Fermani, Luigi, 3,507,738.
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  - Egan, Richard R., and Smiens, Leon D., 3,507,798.
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Murphy, Tom H., and Tucker, Don E. Continuous cryogenic process combining liquid gas and mechanical refrigeration. 3,507,128, Cl. 062-063.

Murray, Edward D., and Prince, Margaret P., to Labatt, John, Limited. Process for preparing milk coagulating enzyme complex. 3,507,750, Cl. 195-066.

Murty, Dasika R. K., and Florey, Klaus G., to Squibb, E. R., & Sons, Inc., mesne. Apparatus and method for determining thyroid function. 3,507,618, Cl. 023-230.

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Nichols, Lawrence W., and Lamar, Jesse, to United States of America, Navy. Infrared radiometer employing a plurality of dichroic mirrors to produce a three-color image. 3,508,051, Cl. 250-065.

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- Prochnow, Claus, to Rollei-Werke Franke & Heidecke. Supporting means for photographic cameras. 3,507,203, Cl. 095-086.
- Prochnow, Claus, and Bode, Kurt, to Rollei-Werke Franke & Heidecke. Rollfilm cassette. 3,507,197, Cl. 095-031.
- Prochnow, Claus, and Weiss, Richard, to Rollei-Werke Franke & Heidecke. Photographic camera. 3,507,200, Cl. 095-051.
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Design Patents

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DEFENSIVE PUBLICATIONS APPLICATIONS

(Notice of Dec. 16, 1969, 869 O.G. 687)

42 : T873,012

47 : T873,010

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80 : T873,011

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE

Official Gazette of the United States Patent Office

April 21, 1970 Volume 873 Number 3

TRADEMARKS

NOTICES

Errata

In the OFFICIAL GAZETTE of Jan. 13, 1970 at page TM 105 under Trademark Registrations Canceled, "760,525. FOWLER. Cl. 16." should be deleted and *760,525. DUROX. Cl. 16.* should be inserted.

In the OFFICIAL GAZETTE of Jan. 20, 1970 at page TM 149 under Class 101 Advertising and Business, "884,791. ITS. International Timesharing Corporation. SN 322,845. Pub. 9–2–69. Filed 3–27–69." should be deleted and *884,791. ITS. International Timesharing Corporation. SN 322,945. Pub. 9–2–69. Filed 3–27–69.* should be inserted.

In the OFFICIAL GAZETTE of Mar. 17, 1970 at page TM 135 under Class 21 Electrical Apparatus, Machines and Supplies, "887,814. INSTA-COLOR. General Electric Company. SN 326,762. Pub. 12–30–69. Filed 5–8–69." should be deleted and *887,814. INSTA-COLOR. General Electric Company. SN 326,862. Pub. 12–30–69. Filed 5–8–69.* should be inserted.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406 (COCA-COLA), The Coca Cola Company, Tonic syrup or beverage; **Reg. No. 47,189**, same, Non-alcoholic maltless beverages and the syrups for making such beverages; **Reg. No. 238,145**, same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146**, same; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, **filed** Jan. 8, 1970, D.C., E.D. Mo. (St. Louis), Doc. 70–C-11(2), *The Coca-Cola Co. v. L & H, Inc. doing business as Cove Cocktail Lounge, etc.* **Same, filed** Nov. 5, 1969, D.C.N.J. (Camden), Doc. C–1317–69, *The Coca-Cola Company v. Isadore A. Cohen, doing business as Al's Deli-Land, also known as Al & Joe's Deli-Land.* Consent judgment permanent injunction in favor of plaintiff, Feb. 16, 1970.

Reg. No. 47,189. (See Reg. No. 22,406.)

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21, 090
Date of oldest new application	January 24, 1969
Date of oldest amended application (filing date)	February 21, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4–4–69	11–9–67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	1–24–69	10–20–66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	9–4–69	2–21–66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3–21–69	11–15–66
Renewals (All Classes)	2–5–70	....
Sec. 12(c) Publications (All Classes)	2–12–70	....

For the Quarter January 1, 1970 through March 31, 1970

Applications Filed	8159
Registrations Issued	5317
Renewals Issued	1290
Cancellations Under Section 8	1440

Applications filed during the month of March 1970—2,908

Registrations Issued	362—No. 889,542 to No. 889,903
Renewals Issued	120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 231,389 (ALCOA), Aluminum Company of America, Ingots of aluminum and aluminum base alloys; **Reg. No. 284,996**, same, Aluminum sand mold and permanent mold castings, aluminum billets and ingots, aluminum forgings and extruded shapes, aluminum foil and sheet, aluminum solder, and granulated aluminum; **Reg. No. 284,997** ("ALCOA" AND DESIGN), same; **Reg. No. 285,251** (ALCOA), same, Aluminum cable, steel-reinforced aluminum cable, and condenser blades, all for electrical use; **Reg. No. 286,617**, same, Metal cable clamps, devices for preventing vibration of electric cables, non-ferrous tubing, rivets, and nails; **Reg. No. 286,618** ("ALCOA" AND REPRESENTATION OF SHIELD), same; **Reg. No. 288,976** (ALCOA), same, Aluminum shingles, corrugated roofing, down spouts, and gutters and flashings; **Reg. No. 288,977** ("ALCOA" AND REPRESENTATION OF SHIELD), same, **filed** Aug. 19, 1969, D.C., C.D. Calif. (Los Angeles), Doc. 69–1639–IH, *Aluminum Company of America* v. *Dave Jacobson*.

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 284,996. (See Reg. No. 231,389.)

Reg. No. 284,997. (See Reg. No. 231,389.)

Reg. No. 285,251. (See Reg. No. 231,389.)

Reg. No. 286,617. (See Reg. No. 231,389.)

Reg. No. 286,618. (See Reg. No. 231,389.)

Reg. No. 288,976. (See Reg. No. 231,389.)

Reg. No. 288,977. (See Reg. No. 231,389.)

Reg. No. 415,755. (See Reg. No. 22,406.)

Reg. No. 617,131 (VOLKSWAGEN), Volkswagenwerk, GmbH, Vehicles—namely, automobiles and trucks, aircraft, boats, and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 631,649** (VW IN CIRCLE), same, **Reg. No. 653,695** (VW), same; **Reg. No. 790,621** (VOLKSWAGEN), same, Automobiles and trucks, aircraft, and boats; and parts of and accessories for automobiles—namely, radiators, direction indicators, windshield defrosters, anti-dazzle appliances, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 790,959** (VW AND DESIGN), same; **Reg. No. 791,311** (VW), same; **Reg. No. 804,869** (VW AND DESIGN), same, Repair and reconditioning of motor vehicles, aircraft and boats; **Reg. No. 808,381** (VOLKSWAGEN), same, Vehicles—namely, automobiles and trucks, aircraft, and boats; and parts and accessories for automobiles and trucks, aircraft and boats—namely, radiators, direction indicators, windshield wipers, shock absorbers, brakes, and baggage racks; **Reg. No. 815,632** (VW), same, Repair, reconditioning and replacement of motors and accessories and parts thereof, and repair and reconditioning of motor vehicles, aircraft, and boats; **Reg. No. 819,297** (VOLKSWAGEN), same, **filed** Feb. 13, 1970, D.C., S.D. Fla. (Miami), Doc. 70–187–C–TC, *Volkswagenwerk Aktiengesellschaft* v. *Herbert C. Wernsing, doing business as Herb's Volkswagen Repairs.*

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 757,835 (REPRESENTATION OF MALE CHEF WITH HAT AND CANE), Kentucky Fried Chicken, Inc., Freshly prepared chicken and gravy, packaged and sold in retail trade; **Reg. No. 805,773** (COLONEL SANDERS' RECIPE), Kentucky Fried Chicken Corporation, Restaurant services; **Reg. No. 806,104** (HUMAN HEAD DESIGN), same; **Reg. No. 807,043** (DESIGN HUMAN FIGURE WITH CHEF'S HAT AND CANE), same; **Reg. No. 810,835** (DESIGN HUMAN HEAD), same, Fried chicken, cooked and frozen; cooking sauce, gravy, gravy base mix, and an herb and spice mix; chicken parts (gizzards and livers); fish and shrimp; biscuits, baked beans; Bar-B-Q (chicken and pork); prepared potatoes; salads; maple syrup; and candy; **Reg. No. 813,559** (COL. SANDERS' RECIPE KENTUCKY FRIED CHICKEN, same, Frozen and fresh prepared chicken and gravy, packaged and sold in retail trade, prepared potatoes, chicken parts, (gizzards and livers), fish and shrimp, biscuits, baked beans, barbecue (chicken and pork), and salads; **Reg. No. 814,610** (COL. SANDERS' RECIPE), same, Fried chicken, cooked and frozen; cooking sauce, gravy, gravy base mix, and an herb and spice mix; prepared potatoes; chicken parts (gizzards and livers); fish and shrimp; biscuits; baked beans; Bar-B-Q (chicken and pork); salads; maple syrup; and candy; **Reg. No. 838,062** (COLONEL SANDERS' RECIPE KENTUCKY FRIED CHICKEN), Restaurant services; **Reg. No. 846,026** (DESIGN MAN DRESSED IN WHITE SUIT), same, **filed** Jan. 9, 1970, D.C., E.D. Mich. (Detroit), Doc. 34222, *Kentucky Fried Chicken Corp.* v. *Colonel's Fried Chicken, Inc.*

Reg. No. 790,612. (See Reg. No. 617,131.)

Reg. No. 790,959. (See Reg. No. 617,131.)

Reg. No. 791,311. (See Reg. No. 617,131.)

Reg. No. 804,869. (See Reg. No. 617,131.)

Reg. No. 805,773. (See Reg. No. 757,835.)

Reg. No. 806,104. (See Reg. No. 757,835.)

Reg. No. 807,043. (See Reg. No. 757,835.)

Reg. No. 808,381. (See Reg. No. 617,131.)

Reg. No. 810,835. (See Reg. No. 757,835.)

Reg. No. 813,559. (See Reg. No. 757,835.)

Reg. No. 814,610. (See Reg. No. 757,835.)

Reg. No. 815,632. (See Reg. No. 617,131.)

Reg. No. 819,297. (See Reg. No. 617,131.)

Reg. No. 838,062. (See Reg. No. 757,835.)

Reg. No. 846,026. (See Reg. No. 757,835.)

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MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962. 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 283,325. Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany. Filed Oct. 25, 1967.

MIPOLAM

Owner of German Reg. No. 808,882, dated Aug. 27, 1965; and U.S. Reg. No. 674,775.

Class 1—Raw or Partly Prepared Materials

For Synthetic Resinous Materials in the Form of Filaments, Tapes, Wires, Foils, and Profile Sections for General Use in Industrial Arts (Int. Cls. 17 and 22).

Class 7—Cordage

For Synthetic Resinous Materials in the Form of Twines (Int. Cl. 22).

Class 20—Linoleum and Oiled Cloth

For Floor Coverings in the Form of Tiles or Sheets and Wall Coverings in the Form of Sheets or Rolls Made of Synthetic Resinous Material (Int. Cl. 27).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Textile Carpeting Made From or With the Use of Synthetic Resinous Materials (Int. Cl. 27).

Class 50—Merchandise Not Otherwise Classified

For Floor Mats Made From or With the use of Synthetic Resinous Materials (Int. Cl. 27).

SN 291,228. Claus Koenig KG, Erlangen, Germany. Filed Feb. 16, 1968.

REGU

Priority claimed under Sec. 44(d) on German application filed Aug. 23, 1967; Reg. No. 840,719, dated Jan. 2, 1968.

Class 1—Raw or Partly Prepared Materials

For Transparent, Colored or Opaque Sheets of Synthetic Material, Cellulose and Fibre Films (Int. Cls. 1 and 16).

Class 5—Adhesives

For Adhesives—Namely, Adhesive Strips, Adhesive Bands, Adhesive Sealing Bands, Adhesive Sheets, Sheets or Strips of Felt Provided With an Adhesive or Self-Sticking Layer or Zone, Adhesive Tapes Having a Narrow Adhesive Zone Adjacent to a Non-Adhesive Zone, Said Adhesive Zone Being Adapted for Attaching the Strip or Tape to the Margin of Sheets of Paper or Drawings, and the Foregoing Adhesives in the Form of Impact Adhesives That is Adhesives Which are Activated by Impact or Pressure (Int. Cl. 1).

Class 14—Metals and Metal Castings and Forgings

For Metal Foils (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Office Equipment—Namely, Tape Dispensing Machines, Machines for Binding Printed Material, Machines for Reinforcing Edges of Printed Material and Drawings, Hole Reinforcing Machines for Sheet Materials, Paper and Sheet Material Folding Machines, and Stapling and/or Stitching Machines (Int. Cl. 16).

Class 37—Paper and Stationery

For Paper Tapes, Peel-Off Strips or Sheets for Use With Adhesive Articles, Covering Strips of Paper for Double Face Adhesive Sheets and Tapes, Cardboard Backing Sheets, Strips and Carrier Bands of Cardboard for Use on Adhesive Articles; Writing, Drawing, and Artists Materials—Namely, Pencils for Writing on Smooth Surfaces, Drawing Papers, Tracing Sheets, Stencils, and Stylusses (Int. Cl. 16).

Class 38—Prints and Publications

For Adhesive Printed and Lettered Arrangements—Namely, Printed Labels, Paper, Plastic or Metal Letterings, Symbols, Pictures or Drawings in the Form of Strips or Sheets (Int. Cl. 16).

SN 294,703. TAC Technical Instrument Corporation, Trenton, N.J. Filed Apr. 2, 1968.

TACTIC

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Generators (Int. Cl. 7).
First use May 1966.

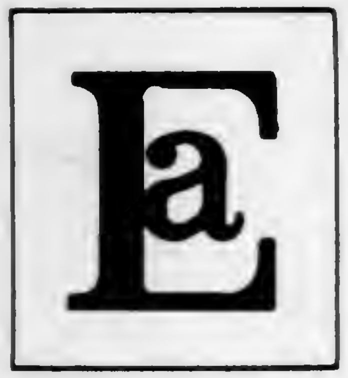
Class 26—Measuring and Scientific Appliances

For Equipment for Use in Testing Materials, Both in the Laboratory and in Regular Production Thereof—Namely, Tube Weld Testers, Systems for the Test and Inspection of Tube and Bar Stock by Ultrasonic Wave Energy, Together with Components Thereof and Sensing Probes and Conductivity Alarms for Detecting Holidays in Thin Film Coatings (Int. Cl. 9).
First use May 1963.

Class 100—Miscellaneous

For Electronic Circuit Development; Evaluation of Electronic Materials and Components for Others; and Theoretical and Applied Research and Development and Consultative Services in the Electronics, Instrumentation, Industrial Control, and Mechanical Design Fields (Int. Cl. 42).
First use 1962.

SN 297,854. Eaton Allen Corp, Brooklyn, N.Y. Filed May 10, 1968.



Owner of Reg. Nos. 838,391 and 848,193.

Class 11—Inks and Inking Materials

For Carbon Paper, Ink Ribbons, Stamp Pads, and Duplicating Fluid (Int. Cl. 16).

Class 37—Paper and Stationery

For Paper Containing a Coating of Transference Substance for Use in Masking Erroneously Typed Impressions on Originals and Carbon Copies so as to Prepare the Paper for receiving a Different Impression, Mimeograph Stencils, and Typewriter Pads (Int. Cl. 16).

First use at least as early as 1961.

SN 299,235. Jeneal Studios, Inc., Houston, Tex. Filed May 28, 1968.

JENEAL

Class 51—Cosmetics and Toilet Preparations

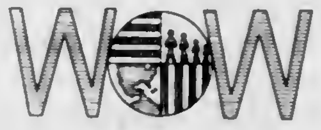
For Facial Make Up Base, Face Powder, Lipstick, Lip Liner, Rouge, Eye Shadow, Eye Liner, Eyebrow Make Up, Mascara, Bath Oil, Cologne, Shading Cream for Adding Color, Facial Pack, Moisturizing Lotion, Hormone Cream, Hormone Oil, Hand Lotion, Skin Freshener, Cosmetic Astringent, and Cosmetic Cleansing Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Shampoo and Toilet Soap (Int. Cl. 3).

First use Mar. 29, 1967.

SN 299,445. Edu-Cast Incorporated, Detroit, Mich. Filed May 31, 1968.



The drawing is lined for the colors red and blue.

Class 36—Musical Instruments and Supplies

For Phonograph Records (Int. Cl. 9).

Class 38—Prints and Publications

For Film Strips (Int. Cl. 9).

First use Nov. 17, 1967.

SN 302,553. Eskimo Pie Corporation, Richmond, Va. Filed July 12, 1968.

ESKIMO PIE

Owner of Reg. Nos. 300,055, 582,870, and others.

Class 2—Receptacles

For Wrappers, Cartons, and Bags for Packaging Frozen Desserts (Int. Cl. 16).
First use on or about Oct. 1, 1921.

Class 14—Metals and Metal Castings and Forgings

For Packaging Materials Made of Metallic Foil (Int. Cl. 6).
First use on or about Oct. 1, 1921.

Class 37—Paper and Stationery

For Packaging Paper, Paper Laminates, and Metallic Foil Laminated to Paper (Int. Cl. 16).
First use on or about Oct. 1, 1921.

Class 46—Foods and Ingredients of Foods

For Frozen Foods—Namely, Desserts Made of Ice Cream, Custard, Ice Milk, Sherbert, Ices, and Combinations Thereof Either With or Without a Confectionary Coating (Int. Cl. 30).
First use on or about Oct. 3, 1921.

Class 101—Advertising and Business

For Services to Others Involving the Establishment and Operation of Frozen Confection Businesses (Int. Cl. 35).
First use on or about Oct. 3, 1921.

SN 304,846. American Bravo Co., Los Angeles, Calif. Filed Aug. 12, 1968.

BRAVO

Class 2—Receptacles

For Canisters as Wooden Boxes and Glass Jars; and Carriers for Wine Decanters, Jars, and Bottles (Int. Cl. 21).

Class 8—Smokers' Articles, Not Including Tobacco Products

For Cigarette Lighters; Ashtrays and Wooden and Metal Ashtray Holders (Int. Cl. 34).

Class 32—Furniture and Upholstery

For Bookends and Stands for Wine Decanters, Jars, and Bottles (Int. Cl. 20).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Wooden and Metal Candlesticks, and Wooden and Metal Candelabras (Int. Cls. 11 and 21).

Class 37—Paper and Stationery

For Paperweights (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Decorative Accessories and Giftwares—Namely, Miniature Balance Scales; Miniature Chests; Miniature Wheelbarrows; Miniature Military Field Pieces; Shields and Swords; Novelty Figurines of Birds, Fish, Animals, and Clowns (Int. Cl. 20).

First use Mar. 18, 1968.

SN 306,087. EVG Entwicklungs & Verwertungs-Gesellschaft mbH, Graz, Austria. Filed July 22, 1968.

EVG

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wire Mesh Coiling Machines, Wire Straightening Machines, and Shears (Int. Cl. 7).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Resistance Welding Machines (Int. Cl. 7).

First use 1950.

SN 315,513. General Motors Corporation, Detroit, Mich. Filed Jan. 2, 1969.

CONCEPT

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Dishwashers (Int. Cl. 7).

Class 24—Laundry Appliances and Machines

For Laundry Washers and Dryers (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Refrigerators-Freezers (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Conditioners, Cooking Ranges, and Ovens (Int. Cl. 11).

First use Dec. 7, 1968.

SN 316,921. Boliden Aktiebolag, Stockholm, Sweden. Filed Jan. 21, 1969.

BOLIDEN

Owner of U.S. Reg. Nos. 759,034 and 774,327.

Class 6—Chemicals and Chemical Compositions

For Chemical Compositions for Preserving Wood Products (Int. Cl. 2).
First use 1935; in commerce May 1949.

Class 12—Construction Materials

For Chemically Treated Construction Materials—Namely, Lumber, Posts, Poles, and Pilings (Int. Cl. 19).
First use 1935; in commerce June 1949.

SN 317,355. Masonite Corporation, Chicago, Ill. Filed Jan. 23, 1969.

CHEMWOOD

Class 32—Furniture and Upholstery

For Furniture Parts for Tables, Chairs, Sofas, and Case Goods Which Include Bedroom and Dining Room Suites (Int. Cl. 20).

Class 50—Merchandise Not Otherwise Classified

For Wall Plaques of High Density Polyurethane Material (Int. Cl. 20).

First use Oct. 31, 1967.

SN 318,125. Phywe Aktiengesellschaft, Gottingen, Germany. Filed Feb. 3, 1969.

PHYWE

Owner of German Reg. No. 742,971, dated Nov. 28, 1960.

Class 26—Measuring and Scientific Appliances

For pH Measuring Apparatus, Microscopes, Substages for Microscopes and Parts Therefor, Laboratory Glassware, Lasers; Temperature, Electrical, Magnetic Field and X-Ray Measuring Apparatus; Surveying Apparatus, Models of Computer Control Boards (Int. Cl. 9).

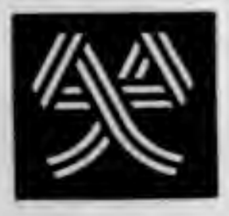
Class 38—Prints and Publications

For Text Books and Text Pamphlets (Int. Cl. 16).

Class 50—Merchandise Not Otherwise Classified

For Anatomical Models of Man, Plants and Animals, Printing Blocks (Matrices) (Int. Cl. 16).

SN 318,354. Koninklijke Textielfabrieken Nijverdal-Ten Cate NV., Almelo, Netherlands. Filed Feb. 5, 1969.



Owner of Dutch Reg. No. 139,060, dated Sept. 19, 1960.

Class 39—Clothing

For Men's Apparel—Namely, Dress Shirts, Undershirts, Night Shirts, Leather and Fabric Gloves, Caps, Hats, Shoes, Woven and Knit Sport Shirts, Suits, Coats, Sport Coats, Slacks, Belts, Suspenders, Suburban Coats, Outer Jackets, Robes, Smoking Jackets, Rainwear, Sweaters, Pajamas, Neckwear, Under Shorts and Bermuda Shorts; Ladies' Apparel—Namely, Dresses, Evening Dresses, Junior Dresses, Sweaters, Slacks, Bermuda Shorts, Coats, Suits, Belts, Leather and Fabric Gloves, Raincoats, Suburban Coats, Sport Shirts, Beach Wear, Hosiery, Panties, Slips, Gown and Robes; Children's and Infants' Clothing—Namely, Caps, Shirts, Booties, Socks, Coats, Dresses, Robes, Sweaters, Rompers, and Leggings; Hospital Garments—Namely, Examining Gowns, Laboratory Coats, Smocks and Head Covers; Nurses' Uniforms, and Women's and Children's shoes (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Woven and Knitted Fabrics for Use in the Garment Industry, Filter Cloth, Straining Cloth and Other Textile Cloth for Technical Purposes; Towels, Dish and Drying Cloths, Floor Rugs, Table Cloths, Napkins and Textile Fabrics for Household Use; Sheets, Pillow Cases, Ticks, Blankets, Bed Spreads and Other Bed Clothes; Carpets, Corridor and Stair Carpets; Sofa Throws, Wall Tapestry, Curtains, Net Curtains, Upholstery Fabrics, Slipcovers and Furnishing Fabrics, Lace, Embroidery, and Netted Millinery Fabrics; Fleece Fabrics, Fleece Lining Fabrics, and Tent Cloth (Int. Cls. 24 and 27).

Class 43—Thread and Yarn

For Yarns and Threads (Int. Cl. 23).

Class 50—Merchandise Not Otherwise Classified

For Flags, Tarpaulins, Stand of Colors or Banners (Int. Cls. 22 and 24).

SN 319,178. Magid-Robinson Co., Inc., New York, N.Y. Filed Feb. 14, 1969.

MERITHENE

Class 1—Raw or Partly Prepared Materials

For Vinyl Sheeting for Making Ladies' Handbags, Luggage, Belts, and the Like; Synthetic Polymeric Material in the Form of Film, Sheets, and Other Shapes for General Use (Int. Cl. 17).

Class 20—Linoleum and Oiled Cloth

For Vinyl Wall Coverings, Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like, in the Form of Rolls, Rugs, and Tiles (Int. Cl. 27).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Shower Curtains, and Table-Cloths Made of Vinyl Film (Int. Cl. 24).

First use December 1948.

SN 326,582. Sperry Rand Corporation, New York, N.Y. Filed May 7, 1969.

SPERRY RAND

Owner of Reg. Nos. 861,350, 878,587, and others.

Class 5—Adhesives

For Library Paste; Liquid Plastic for Book Repair; Contact Cement and Glue (Int. Cl. 1).

Class 11—Inks and Inking Materials

For Ink Pads and Ink Therefor (Int. Cl. 16).

Class 14—Metals and Metal Castings and Forgings

For Gold Leaf (Int. C. 2).

Class 16—Protective and Decorative Coatings

For Lacquer, Lacquer Thinner, and Furniture Finish—Namely, Stains and Varnishes (Int. Cl. 2).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gluing Machines of the Counter or Deck Type; Pencil Sharpeners; Electric Hand Operated Erasing Machines; Numbering Machines; and Rubber Hand Stamps (Int. Cl. 16).

Class 29—Brooms, Brushes, and Dusters

For Gluing and Paint Brushes (Int. Cl. 16).

Class 32—Furniture and Upholstery

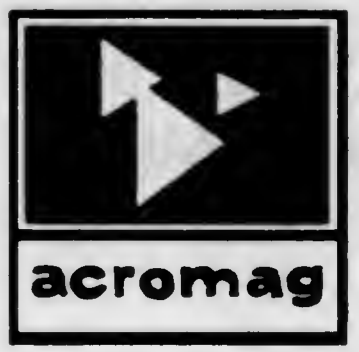
For Book Cases; Book Supports; Shelving; Cupboards; Cabinets; Lockers; Stands for Supporting Articles Such as Books, Coats, Hats, etc.; Desks; Carrels; Chairs; Museum Exhibit Cases (Int. Cl. 20).

Class 37—Paper and Stationery

For Periodical and Pamphlet Binders; Charts; Record Books; Binders for Holding New Newspapers; Loose Leaf Binders; Book Mending Kits; Blank and Partially Printed Labels and Label Holders for Receiving and Displaying Labels; Celluloid Pockets and Protectors; Erasers; Binder Rings; Library Record Cards and Forms (Int. Cl. 16).

First use Oct. 20, 1967.

SN 326,942. Acromag Incorporated, Wixom, Mich. Filed May 12, 1969.



Owner of Reg. No. 670,858.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Apparatus—namely, Amplifiers, Relays, Voltage Current Transmitters, A.C. to D.C. Converters, Signal Isolators, and Power Supplies (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Electronic Measuring Equipment—Namely, Metal Testers, Thermocouple References, and Totalizers (Int. Cl. 9).

First use on or about February 1964.

SN 328,522. Armour-Dial, Inc., Chicago, Ill. Filed May 28, 1969.

LYA

Class 51—Cosmetics and Toilet Preparations

For Personal Deodorant (Int. Cl. 5).

Class 52—Detergents and Soaps

For Toilet Bar Soap (Int. Cl. 3).

First use on or prior to Mar. 27, 1969.

SN 328,616. Dynagraphic Systems, Inc., Cedar Knolls, N.J. Filed May 29, 1969.

DYNAGRAPHIC

Class 6—Chemicals and Chemical Compositions

For Electrostatic Liquid Toner (Int. Cl. 1).

Class 21—Electrical Apparatus, Machines, and Supplies

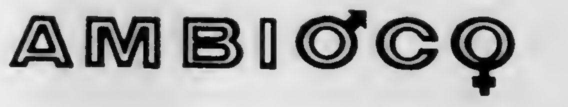
For Electrostatic Copying Machines (Int. Cl. 16).

Class 37—Paper and Stationery

For Electrostatic Paper (Int. Cl. 16).

First use at least as early as Jan. 30, 1969.

SN 330,319. American Biological Control Laboratories, Inc., Tenafly, N.J. Filed June 18, 1969.



Class 6—Chemicals and Chemical Compositions

For Sterilization Control Kits—Namely, Biological Spores and Bacterial Spore Strips Used for Culture Tests in Determining the Efficiency of Sterilization (Int. Cl. 5).
First use Oct. 15, 1967.

Class 100—Miscellaneous

For Laboratory Biological Testing Services (Int. Cl. 42).
First use Oct. 1, 1968.

SN 330,990. Ponte Vedra Corporation, d.b.a. Ponte Vedra Club, Ponte Vedra Beach, Fla. Filed June 26, 1969.

PONTE VEDRA CLUB

For the purposes of registration, no claim is made to the exclusive right to use the word "Club" apart from the mark as shown.

Class 100—Miscellaneous

For Providing Hotel, Restaurant, and Bar Services (Int. Cl. 42).
First use on or before Sept. 25, 1937.

Class 107—Education and Entertainment

For Country Club Services, Including Golf and Clubhouse Services, Tennis and Swimming Pool Services (Int. Cl. 41).
First use at least as early as 1928.

SN 331,592. Dart Industries Inc., d.b.a. Syroco, Los Angeles, Calif. Filed July 2, 1969.

SYROCO ART

Applicant disclaims the word "Art" apart from the mark as shown.

Class 32—Furniture and Upholstery

For Framed Pictures and Frames (Int. Cl. 20).

Class 38—Prints and Publications

For Pictures (Int. Cl. 16).

First use Apr. 15, 1969.

SN 332,641. Saxon Industries, Inc., New York, N.Y. Filed July 16, 1969.

BM®T

Owner of Reg. Nos. 753,112, 753,186, and 753,738.

Class 2—Receptacles

For Cartons and Corrugated Shipping Containers Made Wholly or Partly of Paper, Paper Plates and Paper Cups (Int. Cl. 16).

Class 7—Cordage

For Twines (Int. Cl. 22).

Class 12—Construction Materials

For Building Papers (Int. Cl. 19).

Class 37—Paper and Stationery

For Printing and Writing Papers, Envelopes, Corrugated Paper, Wrapping Paper, Paper Sealing Tape, Wax Paper, Crepe Paper, Industrial Wadding, and Absorbent Paper Suitable for Hygienic, Cosmetic, and Cleaning Purposes (Int. Cl. 16).

First use July 1, 1969.

Class 24—Laundry Appliances and Machines

For Electric Washing Machines and Electric Laundry Dryers (Int. Cl. 7).

Class 31—Filters and Refrigerators

For Electric Refrigerators (Int. Cl. 11).

First use Aug. 21, 1969.

SN 333,494. Glamorise Foundations, Inc., New York, N.Y. Filed July 25, 1969.

FLEX-TEX

Class 39—Clothing

For Foundation Garments (Int. Cl. 25).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Natural and Synthetic Fabrics for Use in Foundation Garments (Int. Cl. 24).

First use June 23, 1969.

SN 339,494. Felix Storch, Inc., Astoria, N.Y. Filed Oct. 2, 1969.

SUMMIT

SN 345,538. Federal Employees' Distributing Company, d.b.a. Fedco, Inc., Los Angeles, Calif. Filed Dec. 8, 1969.

FEDCAL

Owner of Reg. Nos. 646,261, 649,270, and others.

Class 4—Abrasives and Polishing Materials

For Floor Wax (Int. Cl. 3).
First use at least as early as 1959.

Class 6—Chemicals and Chemical Compositions

For Household Bleach, Household Ammonia, and Fabric Softener (Int. Cl. 3).
First use at least as early as 1959.

Class 15—Oils and Greases

For Gasoline (Int. Cl. 4).
First use at least as early as 1954.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Garbage Disposers (Int. Cl. 7).
First use at least as early as 1954.

Class 22—Games, Toys, and Sporting Goods

For Children's Wagons (Int. Cl. 28).
First use at least as early as 1954.

Class 52—Detergents and Soaps

For All Purpose Detergent, Automatic Dishwashing Detergent, Liquid Soap for Hand Washing of Dishes, Enzyme Active Laundry Detergent, Cold Water Laundry Detergent, Rug and Upholstery Shampoo, Bowl Cleaner, and Scouring Cleanser (Int. Cl. 3).
First use at least as early as 1954.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 329,071. The Fouke Company, Greenville, S.C. Filed June 4, 1969.

THE FOUKE SEALMARK OF FASHION

Owner of Reg. Nos. 696,928 and 865,151.
For Seal Skins (Int. Cl. 18).
First use Sept. 21, 1968

SN 329,830. Brown Shoe Company, Inc., St. Louis, Mo. Filed June 12, 1969.

EVERKLEEN

For Shoe Leather (Int. Cl. 18).
First use Apr. 25, 1969.

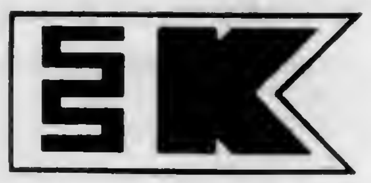
SN 330,013. Safeway Stores, Incorporated, Oakland, Calif. Filed June 13, 1969.

OZARK

Owner of Reg. No. 778,913.
For Fluid Charcoal Briquet Fire Lighting Compound. (Int. Cl. 4).
First use May 24, 1968.

Class 2—Receptacles

SN 314,237. S. S. Kresge Company, Detroit, Mich. Filed Dec. 11, 1968.



For Slide Trays, Film Cans, Slide Storage Boxes and Film Storage Boxes (Int. Cl. 6).
First use on or before Aug. 28, 1968.

SN 329,305. Coast Carton Corporation, Montebello, Calif. Filed June 6, 1969.

COAST CARTON

The word "Carton" is disclaimed apart from the mark as shown.
For Folded Paper Containers (Int. Cl. 16).
First use on or about July 15, 1960.

SN 329,853. W. R. Grace & Co., Duncan, S.C. Filed June 12, 1969.

SHRINKTAINER

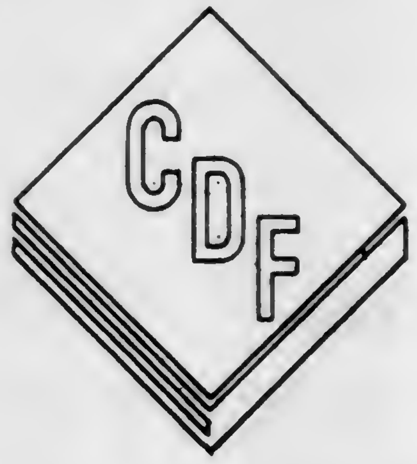
For Packages Made From Plastic Films (Int. Cl. 20).
First use May 27, 1969.

SN 335,520. Pacific Plastic Products, Inc. South San Francisco, Calif. Filed Aug. 18, 1969.

Jewel ware

Applicant disclaims any exclusive use to the word "Ware" apart from the mark as shown.
For Plastic Containers—Namely, Plastic Tumblers and Plastic Dishes (Int. Cl. 21).
First use Oct. 11, 1968.

SN 337,261. The Budd Company, Philadelphia, Pa. Filed Sept. 8, 1969.



For Containers Made of Vulcanized Fiber for Receiving Textile Rovings and Sliver (Int. Cl. 20).
First use at least as early as the end of 1962.

SN 337,875. Aeronca, Inc., Torrance, Calif. Filed Sept. 15, 1969.

AERO VAN

For Containers for Transporting Freight on Airplanes (Int. Cl. 20).
First use Feb. 28, 1968.

SN 338,914. Keyes Fibre Company, Waterville, Maine. Filed Sept. 25, 1969.

CRADL-PAK

Owner of Reg. No. 573,603.
For Egg Cartons (Int. Cl. 16).
First use Jan. 29, 1952.

SN 339,305. Containair Systems Corp., Springfield Gardens, N.Y. Filed Sept. 30, 1969.

FASTON

For Collapsible, Reusable Shipping Containers (Int. Cl. 20).
First use Sept. 15, 1969.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 300,410. Pappagallo, Inc., New York, N.Y. Filed June 14, 1968.

Pappagallo

For Handbags (Int. Cl. 18).
First use at least as early as January 1961.

SN 319,827. John C. Stires II, d.b.a. Stires & Company, El Centro, Calif. Filed Mar. 13, 1969.

PANTHER BAG

Applicant disclaims the word "Bag" apart from the mark as shown.
For Leather Garment Bag (Int. Cl. 18).
First use Dec. 1, 1966.

SN 323,712. The Lea Company, Elgin, Ill. Filed Apr. 4, 1969.

LEACO

For Animal Equipment—Namely, Collars, Harnesses, and Leashes (Int. Cl. 18).
First use 1925.

SN 330,196. Rapid-American Corporation, New York, N.Y. Filed June 16, 1969.

ZIPSTER

For Luggage—Namely, Handbags, Suitcases, and Trunks (Int. Cl. 18).
First use May 10, 1969.

SN 345,703. A. H. Robins Company, Incorporated, Richmond, Va. Filed Dec. 9, 1969.

BANSECT

For Dog and Cat Collars Incorporating an Insecticide, Which Vaporizes and Kills Fleas and Ticks (Int. Cl. 18).
First use Nov. 19, 1969.

Class 4 — Abrasives and Polishing Materials

SN 332,028. Madison Chemical Division of Chemtrust Industries Corp., Maywood, Ill. Filed July 8, 1969.

STEEL-ONE!

For Stainless Steel Polish (Int. Cl. 3).
First use Aug. 15, 1964.

SN 342,138. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed Oct. 30, 1969.

MILACRON

Owner of Reg. No. 769,478.
For Abrasive Wheels (Int. Cl. 7).
First use Oct. 17, 1969.

Class 5 — Adhesives

SN 311,048. Western Insulfoam Corporation, Seattle, Wash., by change of name from Marine Commuter Corporation, doing business as Western Insulfoam, Seattle, Wash. Filed Oct. 31, 1968.

INSULSTIC

For Industrial Adhesives—Namely, Adhesives for Bonding Plastic Foam Sheets and Blocks to Floors, Roofs and Walls (Int. Cl. 1).
First use Dec. 29, 1966.

SN 319,981. USM Corporation, Boston, Mass. Filed Feb. 24, 1969.

STITCH WITCHERY

For Thermally Activatable Adhesive in Net Form (Int. Cl. 1).
First use October 1968.

Class 6 — Chemicals and Chemical Compositions

SN 292,035. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Feb. 27, 1968.

MOLETTE

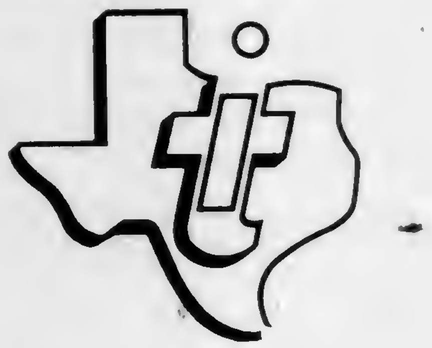
For Optical Brightener for Use in Laundries to Enhance the Appearance of Both White and Colored Fabrics (Int. Cl. 3).
First use Feb. 2, 1968.

SN 315,205. CMP Industries, Inc., Albany, N.Y. Filed Dec. 26, 1968.

koldmount

For Self-Curing Resin Liquid for Mounting and Embedding Specimens (Int. Cl. 1).
First use August 1959.

SN 318,243. Texas Instruments Incorporated, Dallas, Tex. Filed Feb. 3, 1969.



Owner of Reg. Nos. 575,975, 732,574, and others.
For Elemental Silicon for Use as a Raw Material and in Further Manufacturing (Int. Cl. 1).
First use July 1957.

SN 327,549. Inmont Corporation, New York, N.Y. Filed May 9, 1969.

INMONT

For Textile Dyestuffs, Textile Printing Pastes and Textile Printing Colors and Extenders and Thinners for Such Dyestuffs, Pastes, and Colors; Emulsified Binders for Colors Used in Printing and in Dyeing Textiles; Pigmented Resin Composition for Application to Textiles and to Plastic Films; Accelerators for Resins Packaged in a Cartridge or Dispenser for Same; Surface Active Agent with Rust Inhibitor; Conditioner for Metal Surfaces and Galvenized and Zinc Surfaces Preparatory to Painting the Same; Concrete Curing Compound; and Modifying Additives for Phenolic Resin Enamels, Pigment Dispersions and Flatting Agents for the Lacquer, Varnish and Paint Trades (Int. Cls. 1 and 2).
First use on or about Apr. 11, 1969.

SN 329,374. Monsanto Company, St. Louis, Mo. Filed June 6, 1969.

CAT-OX A

For Oxidation Catalyst (Int. Cl. 1).
First use May 15, 1969.

SN 332,845. Nippon Denso Kabushiki Kaisha Kariya, Aichi, Japan. Filed July 17, 1969.

NIPPONDENSO

For Refrigerating Agents (Int. Cl. 1).
First use April 1968; in commerce August 1968.

Class 7 — Cordage

SN 328,425. Industrial Sales Co., Inc., Baltimore, Md. Filed May 27, 1969.

POWER-STRAND

For Wire Rope (Int. Cl. 6).
First use July 18, 1966.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 316,226. Michaels of Oregon Co., Portland, Oreg. Filed Jan. 9, 1969.

MICHAELS

For Swivels for Guns (Int. Cl. 13).
First use May 3, 1947.

SN 321,772. Cincinnati Industries, Inc., Cincinnati, Ohio. Filed Mar. 14, 1969.

cindu Safe
GUN-TOTE

Owner of Reg. Nos. 598,921 and 600,381.
For Protective Carrying and Storage Cases for Firearms (Int. Cl. 13).
First use on or about Mar. 1, 1968.

SN 324,237. Bernard J. Semel, Washington, D.C. Filed Apr. 10, 1969.

CARNIVAL

For Fireworks (Int. Cl. 13).
First use about March 1965.

SN 324,238. Bernard J. Semel, Washington, D.C. Filed Apr. 10, 1969.

JUBILEE

For Fireworks (Int. Cl. 13).
First use May 1967.

SN 324,239. Bernard J. Semel, Washington, D.C. Filed Apr. 10, 1969.

MONUMENT

For Fireworks (Int. Cl. 13).
First use May 1968.

SN 324,240. Bernard J. Semel, Washington, D.C. Filed Apr. 10, 1969.

JUPITER

For Fireworks (Int. Cl. 13).
First use June 1968.

Class 10 — Fertilizers

SN 338,716. Gulf Oil Corporation, Pittsburgh, Pa. Filed Sept. 24, 1969.

X-TRA-L

For Supplemental Plant Nutrient Elements for Fertilizers (Int. Cl. 1).
First use on or about Apr. 22, 1966.

Class 11 — Inks and Inking Materials

SN 332,228. Gotham Ink & Color Co., Inc. Long Island City, N.Y. Filed July 10, 1969.

DUOROTO

For Rotogravure Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Rotogravure Application; and Varnishes, Vehicles and Thinners for Rotogravure Inks and Rotogravure Coatings (Int. Cl. 2).
First use Jan. 24, 1964.

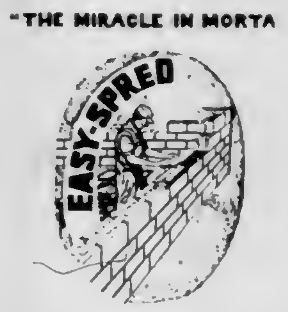
Class 12 — Construction Materials

SN 301,898. American Metal Climax, Inc., New York, N.Y. Filed July 3, 1968.

SLIDEMATIC

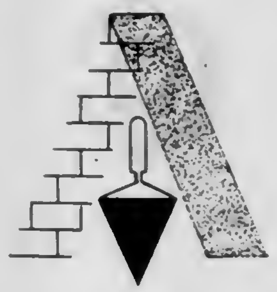
For Units Comprising Doors and Automatic Controls for Operation Thereof (Int. Cl. 6).
First use July 21, 1967.

SN 312,288. Easy-Spred, Inc., Bradenton, Fla. Filed Nov. 15, 1968.



Without waiving common law rights, no claim is made to the words "The Miracle in Mortar," per se, apart from the other features, as well as the illustration of the mortar in use, shown in the drawing. The stippling in the background of the mark does not indicate color.
Owner of Reg. Nos. 756,258 and 756,562.
For Mortar for Use in Laying Concrete Block, Brick and Roof Tile (Int. Cl. 19).
First use Jan. 31, 1960.

SN 314,771. Ampress Brick Company, Inc., Des Plaines, Ill. Filed Dec. 18, 1968.



Applicant disclaims the representation of the brick wall and trowel apart from the mark as shown. The mark consists of the letter "A" having one leg formed by a representation of laid brick, the other leg formed by a stripe, and the crossbar formed by a trowel.
For Construction Materials—Namely, Building Bricks, Fire Bricks, Building Blocks, Glass Blocks; Precast Cement Products—Namely, Splash Blocks, Chimney Blocks, Window Sills, Chimney Caps and Lintels; Flue Liners; Flue Pipes; Vitrified Clay Coping Sections; Flashing and Metal Lintels (Int. Cls. 6 and 19).
First use Oct. 31, 1961.

SN 320,297. Venesta Limited, London, England. Filed Feb. 27, 1969.

VENESTA

For Composition Boards of Wood, now Known as Plywood (Int. Cl. 19).

First use on or prior to 1898; in commerce December 1930.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 300,324. Atlas Corporation, New York, N.Y. Filed June 13, 1968.

WESTERN SKY INDUSTRIES

For Fastening Devices—Namely, Self-Locking Bushings and Grommets (Int. Cl. 6).

First use Jan. 9, 1956.

SN 307,109. Lily Mills Company, Shelby, N.C. Filed Sept. 11, 1968.

FASHION THIN

For Slide Fasteners (Int. Cl. 26).

First use on or about Sept. 3, 1968.

SN 319,189. Parker-Hannifin Corporation, Cleveland, Ohio. Filed Feb. 14, 1969.

DUBL-BARB

For Hose Couplings (Int. Cl. 6).

First use Dec. 5, 1967.

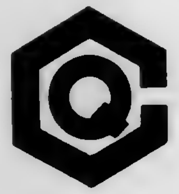
SN 328,239. Norris Dispensers, Inc., Hot Springs, Ark. Filed May 26, 1969.

SANEZE

For Counterbalanced Pinchcock Valves and Valves With Operating Handles for Refrigerated Bulk Liquid Cabinets (Int. Cls. 6 and 11).

First use May 2, 1969.

SN 331,561. Julian A. Lipman, d.b.a. Chemiquip Company, New York, N.Y. Filed June 30, 1969.



For Pressure Snubbers, Pressure Limiting Valves, Check Valves, Flow Restricters, Bleed Valves, and Excess Flow Valves (Int. Cl. 6).

First use at least as early as Jan. 1, 1969.

SN 331,997. Continental Copper & Steel Industries, Inc., New York, N.Y. Filed July 8, 1969.

HANOVER GREEN

Applicant disclaims exclusive rights in the word "Green" apart from the mark as shown and without disclaiming any rights at common law.

Owner of Reg. Nos. 428,371, 749,655, and others.

For Wire Screening and Wire Cloth (Int. Cl. 6).

First use May 15, 1960; Jan. 1, 1911, as to "Hanover."

SN 338,790. Kirsch Company, Sturgis, Mich. Filed Sept. 24, 1969.

VINTAGE

For Curtain Rods and Parts and Accessories Therefor (Int. Cl. 20).

First use Sept. 3, 1969.

SN 339,000. Continental Steel Corporation, Kokomo, Ind. Filed Sept. 26, 1969.

SAFE-T-LINK

For Chain Link Fabric (Int. Cl. 6).

First use Aug. 14, 1969.

SN 344,501. Calumet & Hecla Corporation, Allen Park, Mich. Filed Nov. 25, 1969.

KORO-TEX

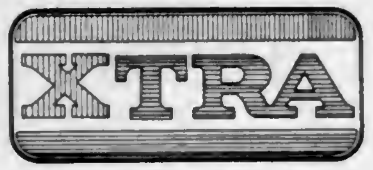
Owner of Reg. Nos. 49,516, 640,900, and 846,263.

For Metallic Tubing for Use in Evaporative Heat Transfer Applications, Such as Air Conditioning and Refrigeration, and Petroleum and Chemical Processing (Int. Cl. 6).

First use on or prior to Oct. 31, 1969.

Class 15—Oils and Greases

SN 308,999. Warren Petroleum Corporation, Providence, R.I. Filed Oct. 7, 1968.



The drawing is lined for the colors red and blue. The word "Xtra" is disclaimed apart from the mark as shown.

For Gasoline and Motor Lubricating Oil (Int. Cl. 4).

First use Sept. 24, 1968.

SN 331,185. Gibson Greeting Cards, Inc., Cincinnati, Ohio. Filed June 27, 1969.

GLOW-SCENT

For Candles (Int. Cl. 4).

First use on or about June 1, 1969.

SN 334,391. Southwest Grease & Oil Co., Inc., Wichita, Kans. Filed Aug. 4, 1969.

SCT

For Motor Oil Additives (Int. Cl. 1).

First use in or before September 1961.

SN 342,139. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed Oct. 30, 1969.

MILACRON

Owner of Reg. No. 769,478.

For Metal Cutting Fluid Concentrate (Int. Cl. 4).

First use Oct. 17, 1969.

SN 345,904. Suni Candle Corporation, Redwood City, Calif. Filed Dec. 11, 1969.

CASINO

For Candles (Int. Cl. 4).

First use Nov. 12, 1969.

Class 16—Protective and Decorative Coatings

SN 295,559. Rust-Oleum Corporation, Evanston, Ill. Filed Apr. 12, 1968.

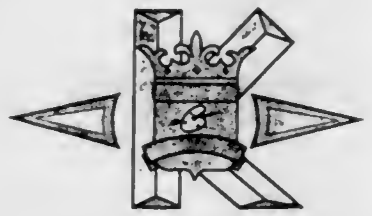
NEW COLOR HORIZONS

Applicant disclaims the words "New Color" separate and apart from the mark as shown.

For Protective and Decorative Coating Compositions—Namely, Surface Coating Compositions Containing Oils, Resins, or Other Vehicles, for Use in the Prevention of Surface Deterioration or Corrosion on Metal, Wood, Masonry or Other Surfaces, and for Decorative Purposes (Int. Cl. 2).

First use on or about Nov. 15, 1967.

SN 301,942. John C. Kaiser Company, Dubuque, Iowa. Filed July 3, 1968.



The drawing is lined for the colors red and gold. The mark consists of a stylized letter "K" and design.

For Interior and Exterior Paints (Int. Cl. 2).

First use Apr. 13, 1961.

SN 310,086. Fuller Laboratories, Inc., Eden Prairie, Minn. Filed Oct. 21, 1968.

RESTOR-IT

For Gun Bluing (Int. Cl. 2).

First use 1956.

SN 311,537. Wailes Dove Bitumastic Limited, Hebburn, Durham, England. Filed Nov. 6, 1968.

COMASTIC

Owner of British Reg. Nos. 906,520, dated Mar. 10, 1967; and 918,723, dated Dec. 19, 1967.

For Bituminous Coatings in the Nature of a Paint for Use on Metals, Concrete, and Other Surfaces (Int. Cl. 2).

SN 328,623. Harco Chemical Company, Cranford, N.J. Filed May 29, 1969.

PEEL-IT

For Masking Coating in the Nature of a Paint Adapted To Be Removed or Peeled Off After Serving a Temporary Purpose (Int. Cl. 2).

First use in or about December 1945.

SN 333,809. California Products Corporation, Cambridge, Mass. Filed July 29, 1969.

ALLSHEEN

For Acrylic Latex Enamel for Wallboard (All Types) Asbestos Board, Smooth Plaster, Woodwork, Stucco, Masonry, Concrete and Dry Walls (Int. Cl. 2).

First use Apr. 21, 1966.

Class 17—Tobacco Products

SN 308,632. Ramon Coscolin Azagra, Saragossa, Spain. Filed Oct. 1, 1968.

LESS

Owner of Spanish Reg. No. 546,072, dated Sept. 4, 1968.

For Cigarettes (Int. Cl. 34).

SN 314,730. Rapaport International Inc., Yabucoa, Puerto Rico. Filed Dec. 17, 1968.

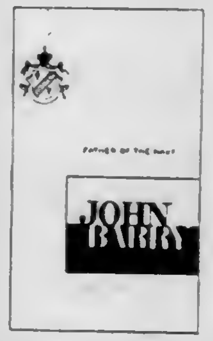
BOND LEAF

The word "Leaf" is disclaimed apart from the mark as shown.

For Rolled Tobacco in Sheet Form Used for Cigarettes and Cigars as Wrappers or Binders (Int. Cl. 34).

First use July 1, 1968.

SN 314,915. Rembrandt Tobacco Corporation (Overseas) Limited, Zurich, Switzerland. Filed Dec. 19, 1968.

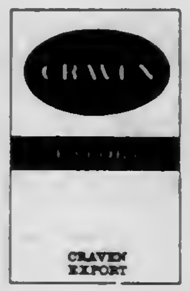


John Barry is the name of a deceased U.S. naval officer, who lived in the eighteenth century. Owner of U.S. Reg. No. 865,212.

For Cigarettes (Int. Cl. 34).

First use Aug. 1, 1968; in commerce Aug. 1, 1968.

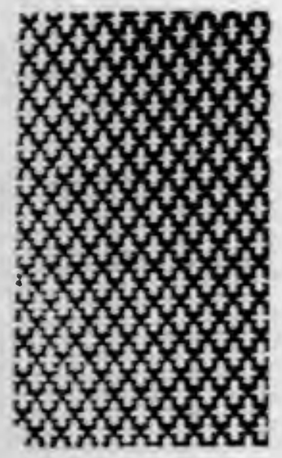
SN 315,050. Carreras Limited, Basildon, Essex, England. Filed Dec. 23, 1968.



Applicant makes no claim to the word "Export" apart from the mark as shown. Owner of British Reg. No. B874,450, dated Jan. 20, 1965; and U.S. Reg. Nos. 43,162, 574,864, and 819,783.

For Cigarettes (Int. Cl. 34).

SN 324,157. American Brands, Inc., New York, N.Y., by change of name from The American Tobacco Company, New York, N.Y. Filed Apr. 10, 1969.



For Cigarettes (Int. Cl. 34).
First use Sept. 11, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

SN 298,796. Bristol-Myers Company, New York, N.Y. Filed May 22, 1968.

VECTOR

For Analgesic (Int. Cl. 5).
First use Apr. 1, 1968.

SN 306,868. Dr. Atzinger & Co. K.G. Pharmazeutische Fabrik, Passau, Germany. Filed Sept. 9, 1968.

LEUKONA

Owner of German Reg. No. 480,842, dated Aug. 28, 1935.
For Medicinal Preparations—Namely, Metabolic Baths, for Treatment of Metabolic Disorders, Allergy, Urticaria, Unpleasant Perspiration, and Corpulence, and the Like (Int. Cl. 5).

SN 327,595. Clairol Incorporated, New York, N.Y. Filed May 19, 1969.

LIQUIDATOR

For Medicated All Purpose Astringent Skin Lotion (Int. Cl. 5).
First use Jan. 31, 1969.

SN 328,071. Peter Hand, Inc., Waukegan, Ill., by change of name from Peter Hand Foundation, Inc., Waukegan, Ill. Filed May 22, 1969.

BIOFAC

Owner of Reg. No. 817,677.
For Livestock and Poultry Feed Supplement (Int. Cl. 5).
First use Feb. 14, 1969.

SN 328,414. Bristol-Myers Company, New York, N.Y. Filed May 27, 1969.

RESPAIRE

For Cough and Cold Remedy (Int. Cl. 5).
First use Apr. 1, 1969.

SN 330,085. Allergan Pharmaceuticals, Santa Ana, Calif. Filed June 16, 1969.

KERAMED

For Dermatological Preparation (Int. Cl. 5).
First use Mar. 21, 1969.

SN 332,436. American Home Products Corporation, New York, N.Y. Filed July 14, 1969.

HAPPY DAY

For Analgesic Preparations (Int. Cl. 5).
First use July 1, 1969.
Subj. to Intf. with SN 341,342.

SN 332,670. Richardson-Merrell Inc., New York, N.Y. Filed July 16, 1969.

CLERASIL

Owner of Reg. Nos. 593,778 and 602,540.
For Medicated Preparations for Use in the Treatment of Acne, Pimples, and Other Skin Conditions (Int. Cl. 5).
First use June 20, 1969.

SN 335,168. Ingram Pharmaceutical Co., San Francisco, Calif. Filed Aug. 13, 1969.

TOPIC

For Preparation for Symptomatic Relief of Cutaneous Itching (Int. Cl. 5).
First use June 1968.

SN 341,342. Thompson Medical Company, Inc., New York, N.Y. Filed Oct. 22, 1969.

HAPPY DAY

For Sedative for Nervous Tension (Int. Cl. 5).
First use Feb. 25, 1969.
Subj. to Intf. with SN 332,436.

SN 344,619. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

SINE-AID

Owner of Reg. No. 661,844.
For Headache Preparation (Int. Cl. 5).
First use Aug. 25, 1969.

Class 19 — Vehicles

SN 298,396. Aristocrat Travel Products, Morgan Hill, Calif. Filed May 17, 1968.

PICKUP-PARTNER

For Travel Trailers and Pick-Up Campers (Int. Cl. 12).
First use Oct. 21, 1960.

SN 298,858. Henry A. Patnaude, d.b.a. Hydro Systems Engineering Co., Sacramento, Calif. Filed May 22, 1968.

HEPA-DOLLY

For Wheeled Dollies for Pool Covers (Int. Cl. 12).
First use June 15, 1967.

SN 307,182. Antique Auto Parts, Inc., Rosemead, Calif. Filed Sept. 12, 1968.

WHEEL-A-DAPS

For Automobile Accessories—Namely, Devices for Mounting Vehicle Wheels to Disparate Automobile Wheel Mounts (Int. Cl. 12).
First use February 1966.

SN 320,861. S.p.A. Teodoro Carnielli & C., Vittorio Veneto (Treviso), Italy. Filed Mar. 5, 1969.

MOTOGRAZIELLA

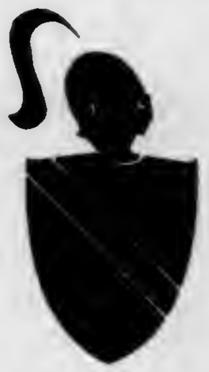
Owner of Italian Reg. No. 224,728, dated Apr. 3, 1968.
For Motorcycles and Motorized Bicycles (Int. Cl. 12).

SN 323,027. Leonard M. Snyder, Pasadena, Calif. Filed Mar. 27, 1969.

TURBO SPOILER

For Decorative Device for Automobile Hood (Int. Cl. 12).
First use on or about Mar. 14, 1969.

SN 324,723. Knight Homes Corporation, Savannah, Ga. Filed Apr. 16, 1969.



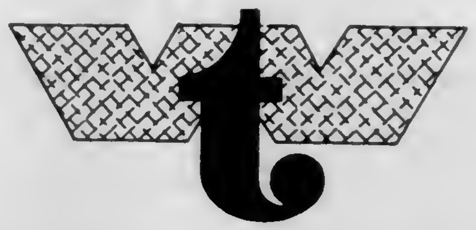
"Value-Quality" is disclaimed apart from the mark as shown.
For Mobile Homes With Their Own Chassis and Mounted on Wheels and Self Contained (Int. Cl. 12).
First use Dec. 15, 1968.

SN 331,074. Service Parts, Inc., South Bend, Ind. Filed June 26, 1969.

RADI-ACC

For Coolant Recovery Unit for Use With Pressurized Automotive Cooling Systems in the Nature of a Radiator Coolant Overflow Accumulator for Cars, Trucks and Tractors, and Consisting of an Accumulator Bottle, a Mounting Bracket and Plastic Tubing (Int. Cl. 12).
First use June 17, 1969.

SN 331,256. Wisconsin Trailer Co., Inc., Richfield, Wis. Filed June 27, 1969.



The drawing is lined for the color orange, but no claim is made as to the color. Owner of Reg. No. 870,358.
For Tilting Deck Trailers, Low Bed Trailers, and Non-Tilting Trailers (Int. Cl. 12).
First use May 12, 1969.

SN 332,932. Farenwald Enterprises, Inc., Lancaster, Pa. Filed July 18, 1969.

FEi

For Travel Trailers (Int. Cl. 12).
First use Feb. 7, 1969.

SN 345,643. Kelsey-Hayes Company, Romulus, Mich. Filed Dec. 8, 1969.

TRU-CENTRIC

For Wheels for Automotive Vehicles (Int. Cl. 12).
First use Feb. 28, 1969.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 254,717. Precision Winding Company, Inc., Santa Ana, Calif. Filed Sept. 19, 1966.

TRANSENSOR

For Vehicle Detector (Int. Cl. 9).
First use Sept. 15, 1965.

SN 308,779. General Signal Corporation, Rochester, N.Y. Filed Oct. 3, 1968.

WEE Z

Applicant claims no exclusive rights in "Z" as the name of the goods.
For High Frequency Impedance Bonds for Railroad Track Circuits (Int. Cl. 9).
First use June 22, 1966.

SN 317,452. Instrument Specialties Company, Inc., West Paterson, N.J. Filed Jan. 24, 1969.

MAGNEFIL

For Magnetic Insert Strip Used as a Component for Shielding Gaskets for Electrical Equipment (Int. Cl. 17).
First use Sept. 19, 1968.

SN 319,622. McGraw-Edison Company, Elgin, Ill. Filed Feb. 19, 1969.

UNIDOR

For Luminaires (Int. Cl. 11).
First use Jan. 9, 1969.

SN 324,853. United Co-Operatives, Inc., Alliance, Ohio. Filed Apr. 17, 1969.

MUSTANG

For Electric Fence Controllers (Int. Cl. 9).
First use on or about Nov. 15, 1967.

SN 325,274. Mathews Electronics Corporation, Mobile, Ala. Filed Apr. 17, 1968.

M EC

For Electric Motors and Portable Vacuum Cleaners (Int. Cls. 7 and 9).
First use at least as early as February 1968.

SN 328,022. Acton Laboratories, Inc., Acton, Mass. Filed May 22, 1969.

DELAMP

For Delay Equalizer for Communication Lines (Int. Cl. 9).
First use May 5, 1969.

SN 331,780. Thomas & Betts Corporation, Elizabeth, N.J. Filed July 3, 1969.

SHUR-CODE

For Indicia Bearing Sleeves Constructed From Paper, Fabric, Plastic or the Like for Use in Marking Electrical Wires, Cables, Conduit, Tubes, Rods or the Like (Int. Cl. 9).
First use in or about October 1956.

SN 335,122. Components, Inc., Biddeford, Maine. Filed Aug. 12, 1969.

GOLDTAN

For Electrical Capacitors (Int. Cl. 9).
First use Apr. 30, 1969.

SN 338,432. Procter-Silex Incorporated, Philadelphia, Pa. Filed Sept. 19, 1969.

lifelong

Owner of Reg. No. 850,107.
For Vacuum Cleaners (Int. Cl. 9).
First use in or about August 1969.

SN 338,543. Controlled Power Corporation, Farmington, Mich. Filed Sept. 22, 1969.

RXPO

For Electric Power Systems, Electric Power Controls and Components Thereof—Namely, Direct Current Power Supplies, Alternating Current to Direct Current Converters, Rectifying Circuits, and Voltage or Current Regulators (Int. Cl. 9).
First use June 30, 1969.

SN 340,131. Diversa-Graphics, Inc., New York, N.Y. Filed Oct. 8, 1969.

BRUNSWICK

Owner of Reg. No. 211,118.
For Television Sets (Int. Cl. 9).
First use July 11, 1969.

SN 341,710. Tubal Industries, Inc., Elk Grove Village, Ill. Filed Oct. 24, 1969.

UNIMASK

For Electronic Lens Inside a Color TV Picture Tube Commonly Known as an Aperture or Shadow Mask (Int. Cl. 9).
First use Apr. 25, 1969.

SN 342,033. Fedtro, Inc., Rockville Centre, N.Y. Filed Oct. 29, 1969.

SIGNAL-GLO

For Multiple Electric Outlet Units (Int. Cl. 9).
First use Oct. 17, 1969.

SN 342,045. Haydon Switch & Instrument, Inc., Waterbury, Conn. Filed Oct. 29, 1969.

CHRONETIC

For Electric Motors Having Speed Control Mechanisms (Int. Cl. 7).
First use Sept. 23, 1969.

SN 342,077. Stromberg-Carlson Corporation, Rochester, N.Y. Filed Oct. 29, 1969.

CROSSREED

For Telecommunication Systems, Telecommunication Switching Equipment, and Parts Thereof (Int. Cl. 9).
First use Sept. 5, 1969.

Class 22—Games, Toys, and Sporting Goods

SN 295,648. Kiddie Brush & Toy Company, Inc., Jonesville, Mich. Filed Apr. 15, 1968.

TUMB·L WHEEL

The word "Wheel" is disclaimed apart from the mark as shown except that all rights in the common law mark are reserved.
For Rotating Wheel-Type Toy (Int. Cl. 28).
First use Feb. 23, 1968.

SN 299,996. Northwestern Golf Company, Chicago, Ill. Filed June 7, 1968.

SENIOR

For Golf Clubs (Int. Cl. 28).
First use January 1966.

SN 305,476. Munro Games Limited, Burlington, Ontario, Canada. Filed Aug. 19, 1968.

NATIONAL HOCKEY

For Equipment Comprising Movable Toy Figures for Manipulation by Participants in a Parlor Type Game (Int. Cl. 28).
First use at least as early as 1948; in commerce at least as early as 1948.
Subj. to Intf. with SN 310,352.

SN 305,477. Munro Games Limited, Burlington, Ontario, Canada. Filed Aug. 19, 1968.

NATIONAL HOCKEY LEAGUE

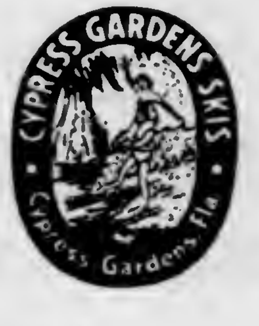
For Equipment Comprising Movable Toy Figures for Manipulation by Participants in a Parlor Type Game (Int. Cl. 28).
First use Aug. 9, 1968; in commerce Aug. 9, 1968.
Subj. to Intf. with SN 310,352.

SN 307,872. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co., Westport, Conn. Filed Sept. 20, 1968.

fun t' mental

For Equipment Sold as Units for Learning Games and Puzzles for Children and Adults (Int. Cl. 28).
First use Sept. 19, 1968.

SN 315,388. Cypress Gardens Skis, Inc., Cypress Gardens, Fla. Filed Dec. 30, 1968.



Owner of Reg. No. 707,747.
For Flotation Equipment—Namely, Safety Jackets and Belts (Int. Cl. 9).
First use September 1968.

SN 334,940. Mattel, Inc., Hawthorne, Calif. Filed Aug. 11, 1969.

SPEED SHIFT

For Toy Automobile and Accessories Therefor (Int. Cl. 28).
First use June 23, 1969.

SN 336,377. Mattel, Inc., Hawthorne, Calif. Filed Aug. 27, 1969.

ANGIE 'N TANGIE

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use July 8, 1969.

SN 336,984. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

BABY SATIN

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use June 18, 1969.

SN 336,986. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

BABY ROCKAWAY

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use June 23, 1969.

SN 336,987. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

FIRE-BRAND

For Toy Guns (Int. Cl. 28).
First use Aug. 8, 1969.

SN 336,988. Mattel, Inc., Hawthorne, Calif. Filed Sept. 4, 1969.

BABY DIN-DIN

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use June 23, 1969.

SN 338,847. Mattel, Inc., Hawthorne, Calif. Filed Sept. 25, 1969.

FLIPSY FLOPSY

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use July 30, 1969.

SN 338,850. Mattel, Inc., Hawthorne, Calif. Filed Sept. 25, 1969.

ANYHOWIE

For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Aug. 5, 1969.

SN 338,851. Mattel, Inc., Hawthorne, Calif. Filed Sept. 25, 1969.

AIRO-ZOOMER

For Toy Airplane (Int. Cl. 28).
First use July 30, 1969.

SN 339,090. Mattel, Inc., Hawthorne, Calif. Filed Sept. 29, 1969.

FALSE ALARM

For Equipment Sold as a Unit for Playing an Action Game (Int. Cl. 28).
First use Aug. 26, 1969.

SN 339,092. Mattel, Inc., Hawthorne, Calif. Filed Sept. 29, 1969.

TESS 'N JESS

For Pair of Dolls, Including Doll Clothing and Doll Accessories (Int. Cl. 28).
First use July 30, 1969.

SN 340,329. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

POLYTAIRE

For Equipment for Playing a Peg Jumping Game (Int. Cl. 28).
First use June 18, 1969.

SN 340,333. Parker Brothers, Inc., Salem, Mass. Filed Oct. 10, 1969.

SITUATION 7

Owner of Reg. No. 861,625.
For Equipment for Playing a Space Puzzle Game (Int. Cl. 28).
First use June 19, 1969.

SN 341,754. Mattel, Inc., Hawthorne, Calif. Filed Oct. 27, 1969.

HAIRY HURRY

For Toy Tops (Int. Cl. 28).
First use Sept. 8, 1969.

SN 341,755. Mattel, Inc., Hawthorne, Calif. Filed Oct. 27, 1969.

MAGNAGOOP

Owner of Reg. Nos. 798,778, 837,511, and others.
For Plastic Material Containing Magnetic Material for Use With a Toy Molding Set (Int. Cl. 28).
First use Sept. 8, 1969.

SN 342,119. Ideal Toy Corporation, Hollis, N.Y. Filed Oct. 30, 1969.

FLATSY

For Dolls (Int. Cl. 28).
First use Dec. 12, 1968.

SN 345,759. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969

TURNING POINT

For Equipment Sold as a Unit for Playing a Board Game (Int. Cl. 28).
First use Oct. 24, 1969.

SN 345,765. Mattel, Inc., Hawthorne, Calif. Filed Dec. 10, 1969.

BABY TENDER TOUCH

No claim of exclusive right is made for the word "Baby" apart from the mark.
For Dolls, Doll Clothing, and Doll Accessories (Int. Cl. 28).
First use Oct. 30, 1969.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 294,475. Continental Aviation and Engineering Corporation, Detroit, Mich. Filed Mar. 29, 1968.

The drawing is lined for the color red.
For Gas Turbine Compressors; Turbojet, Turbofan, Turboprop, and Turboshaft Powerplants for Aircraft, Vehicle and Industrial Applications; Component Systems, Accessories and Parts for Such Powerplants—Namely, Centrifugal and Axial Compressors, Turbines, Engine Housings, Combustor Housings, Exhaust and Jet Discharge Nozzles, Reduction Gearing, Power Transmissions and Shafts, Propeller Shafts, Fuel Pumps and Fuel Injectors, Igniters, Oil Pumps, Heat Exchangers, Powerplant and Accessory Mountings, Accessory Drive Mechanisms, Fuel and Oil Systems, Regenerators, Torque Meters, Speed Sensors, Turbochargers, and Fuel Controls (Int. Cl. 7).
First use December 1966.

SN 308,322. William F. Shepherd, Inc., Cincinnati, Ohio. Filed Sept. 26, 1968.

The word "Vend" is disclaimed except as used in the combination shown. The drawing is lined for the color orange.
For Coin-Operated Vending Machines (Int. Cl. 9).
First use Sept. 14, 1968.

SN 311,821. Phillip A. Brooks, d.b.a. Alan Manufacturing Co., Chicago, Ill. Filed Nov. 12, 1968.

WIPE OUT

For Hand Tool for Washing Walls, Ceilings, Floors, and Other Washable Surfaces (Int. Cl. 8).
First use Mar. 18, 1968.
Subj. to Intf. with SN 298,120.

SN 318,379. Allis-Chalmers Manufacturing Company, Milwaukee, Wis. Filed Feb. 5, 1969.

MULTIPLEX

For Equipment for Manufacturing Paper From Pulp—Namely, Headboxes and Parts Thereof (Int. Cl. 7).
First use June 17, 1964.

SN 331,299. Thomas F. Adams, Farmington, Mich. Filed June 30, 1969.

UP-A-DECK

For Truck Mounted Manually Operated Loading Platforms (Int. Cl. 7).
First use Dec. 27, 1968.

SN 331,719. George F. Brock, Jr., d.b.a. L. R. Brock Company, El Monte, Calif. Filed July 3, 1969.

CALIFORNIA FLEXRAKE

For Hand Tools—Namely, Leaf and Lawn Rakes (Int. Cl. 8).
First use at least as early as April 1947.

SN 333,289. Nicholson File Company, Providence, R.I. Filed July 23, 1969.

BI-METALOY

For Band Saws and Parts Thereof (Int. Cl. 7).
First use July 11, 1969.

SN 333,427. Oneida Ltd., Oneida, N.Y. Filed July 24, 1969.

WOODLARK

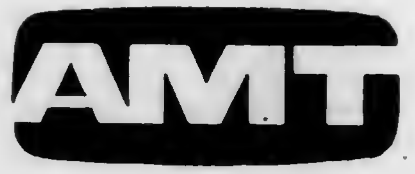
Owner of Reg. Nos. 645,394, 857,468, and 857,866.
For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use May 29, 1969.

SN 333,428. Oneida Ltd., Oneida, N.Y. Filed July 24, 1969.

LOUISIANA

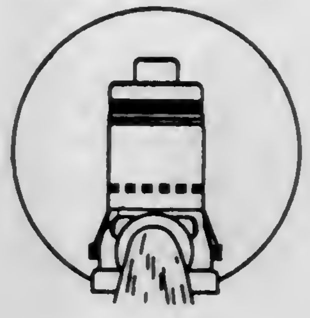
For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use May 29, 1969.

SN 334,537. American Machine & Tool Company, Inc., Royersford, Pa. Filed Aug. 6, 1969.



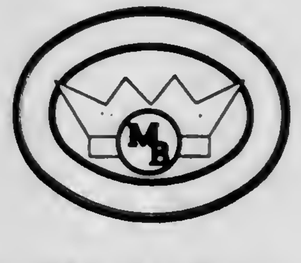
Owner of Reg. No. 772,789.
For Circular Saws (Both Radial and Conventional); Drill Presses; Sabre Saws; Shapers; Jointers; and Band Saws for Wood Working, Metal Working and Plastic Working; and Wood Lathes and Centrifugal Pumps (Int. Cl. 7).
First use Feb. 1, 1968.

SN 336,647. Layne & Bowler Pump Company, City of Industry, Calif. Filed Aug. 29, 1969.



Owner of Reg. Nos. 329,374 and 755,940.
For Rotary Pumps Including Centrifugal, Propeller and Turbine Pumps, and Variations Thereof (Int. Cl. 7).
First use in or about October 1964.

SN 336,982. Robert B. Evans, d.b.a. M-B Company, New Holstein, Wis. Filed Sept. 4, 1969.



Owner of Reg. Nos. 502,701 and 503,582.
For Truck-Mounted, Self-Propelled and Manually Propelled Traffic and Safety Line Stripers; Truck-Mounted and Trailer-Type Solid Waste Collection Units; Truck-Mounted, Tractor Mounted and Pull-Type Rotary Pavement Sweepers; Motorized, Self-Propelled and Towed-Type Pick-Up Sweepers; Platform-Type Freight Conveyors; Underbody Scraper Units for Trucks; and Guide Markers for Marking Wet Traffic and Safety Lines, Lanes and Obstructions (Int. Cl. 7).
First use Jan. 29, 1964.

SN 337,325. The Kaydon Engineering Corporation, Muskegon, Mich. Filed Sept. 8, 1969.

REALI-SEAL

For Anti-Friction Bearings (Int. Cl. 7).
First use June 20, 1969.

SN 337,511. Beloit Corporation, Beloit, Wis. Filed Sept. 10, 1969.

For Machinery for Making Paper—Namely, Formers Wherein the Paper Web Is Formed Between Two Opposed Forming Surfaces (Int. Cl. 7).
First use June 25, 1969.

SN 337,534. E. Fröhlich AG, Muhlehorn, Switzerland. Filed Sept. 10, 1969.

EFF-FIX

Priority claimed under Sec. 44(d) on Swiss Reg. No. 238,539, dated Apr. 16, 1969.
For Weaving Healds With Transport Holes, Heald Frames, Weaving Harnesses, Drop Wires With Transport Holes With Their Corresponding Transport Needles and Threading Bridge, and Warp Stop Motions, All Being Parts of Weaving Machines (Int. Cl. 7).

SN 338,240. Golden Arrow Manufacturing Limited, Calgary, Tiberta, Canada. Filed Sept. 18, 1969.

MUSTANG

For Reciprocating Piston Pumps (Int. Cl. 7).
First use Sept. 1, 1969; in commerce Sept. 1, 1969.

SN 338,487. Polaroid Corporation, Cambridge, Mass. Filed Sept. 22, 1969.

POLAROID

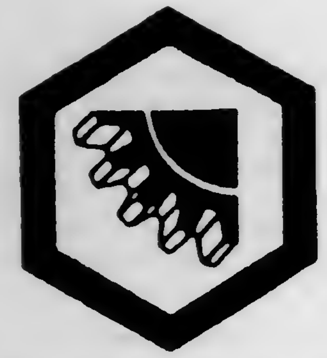
Owner of Reg. No. 391,449 and Others.
For Machinery for the Production of Laminated, Pouched Cards—Namely, Laminators, Die Cutters, and Pouch Sealers (Int. Cl. 7).
First use at least as early as September 1966.

SN 339,020. The Kaydon Engineering Corporation, Muskegon, Mich. Filed Sept. 26, 1969.

REALI-SLIM

For Anti-Friction Bearings (Int. Cl. 7).
First use on or about Apr. 10, 1956.

SN 339,300. Combined Engineered Products Limited, Toronto, Ontario, Canada. Filed Sept. 30, 1969.



Owner of Canadian Reg. No. 163,458, dated June 13, 1969.
For Gears, Speed Reducers (and Increasers), Flexible Coupling (for Shafts), Car Pullers (or Spotters) for Moving Railroad Cars, and Chain Drives (Int. Cl. 7).

SN 339,372. True Temper Corporation, Cleveland, Ohio. Filed Sept. 30, 1969.

POWER-COLLAR

For Shovels (Int. Cl. 8).
First use Sept. 4, 1969.

SN 340,203. Sweetheart Plastics, Inc., Wilmington, Mass. Filed Oct. 8, 1969.

SILENT SERVICE

The word "Service" is disclaimed apart from the mark as shown.
For Disposable Plastic Cutlery (Int. Cl. 8).
First use Aug. 8, 1968.

SN 342,141. The Cincinnati Milling Machine Company, Cincinnati, Ohio. Filed Oct. 30, 1969.

MILACRON

Owner of Reg. No. 769,478.
For Machine Tools (Int. Cl. 7).
First use Oct. 17, 1969.

SN 345,895. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Dec. 11, 1969.

LUV-BUG

For Hand Sprayers and Dusters (Int. Cl. 8).
First use Oct. 1, 1969.

Class 26—Measuring and Scientific Appliances

SN 281,477. Microdyne, Inc., Rolling Meadows, Ill. Filed Sept. 29, 1967.

MICRODYNE

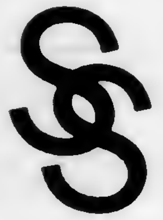
For Peak Tonnage Indicators for Presses, Digital and Analog Weigh Batch Control Systems, Digital Voltmeters, Strain Gauge Couplers, Programmable Pre-Set Counters, Digital Ratiometers, and Solid State Speed Monitors (Int. Cl. 9).
First use spring of 1958.

SN 301,110. Wheaton Glass Company, Millville, N.J. Filed June 21, 1968.

CLEAR-SEAL

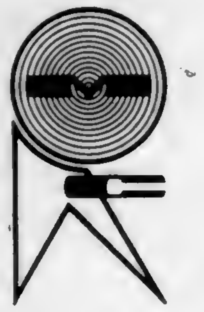
For Laboratory Glassware—Namely, Joints and Stopcocks (Int. Cl. 9).
First use Mar. 21, 1968.

SN 301,111. Wheaton Glass Company, Millville, N.J. Filed June 21, 1968.



For Laboratory Glassware—Namely, Stopcocks (Int. Cl. 9).
First use Mar. 25, 1968.

SN 303,704. Radiation Materials Corporation, Waltham, Mass. Filed July 26, 1968.



For Radioactive Sources; Handling Tools for Radioactive Sources; Containers for Radioactive Sources; Radioactive Scanner Calibration Kit; Radioactive Protective Devices—Namely, Lead Bricks, Lead Glass Bricks, Radioactively Opaque Windows, Lead Carrying Shields, Lead Storage Containers, Waste Containers, Lead Safes and Lead-Lined Refrigerators; Radioactive Sensitive Smears; Radioactive Warning Devices—Namely, Labels, Signs, Tags and Ropes, Dosimeters; Radioactive Protective Devices for Individuals, Namely, Respirators, Anticontaminant Hoods and Coveralls, Materials and Devices for Cleaning Radioactive-Contaminated Areas, Survey Meters for Radioactive Detection, Radioactive Air Monitors, Radioactive Probes, and Counters (Int. Cls. 6 and 9).
First use at least as early as May 13, 1968.

SN 305,877. Becton, Dickinson and Company, East Rutherford, N.J. Filed Aug. 26, 1968.

Y PLATE

For Culture Media Containers—Namely, Petri Dishes (Int. Cl. 9).
First use Jan. 16, 1962.

SN 305,878. Becton, Dickinson and Company, East Rutherford, N.J. Filed Aug. 26, 1968.

X PLATE

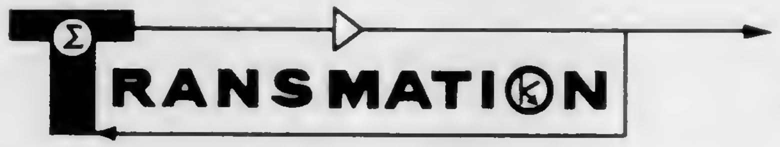
For Culture Media Containers—Namely, Petri Dishes (Int. Cl. 9).
First use Sept. 7, 1960.

SN 306,937. Nordac S.A., Archamps, France. Filed Sept. 9, 1968.

NORALP

Priority claimed under Sec. 44(d) on French Reg. No. 737,-011, dated Mar. 25, 1968.
For Evaporation Rate and Thickness Monitors (Int. Cl. 9).

SN 307,691. Transmation, Inc., Rochester, N.Y. Filed Sept. 18, 1968.



For Electronic Monitoring Equipment for Digitally Remotely Indicating or Recording Signals and Instrumentation Circuitry (Int. Cl. 9).
First use Mar. 19, 1964.

SN 309,442. Digital Automation Co., Inc., Pennington, N.J. Filed Oct. 11, 1968.

DAC

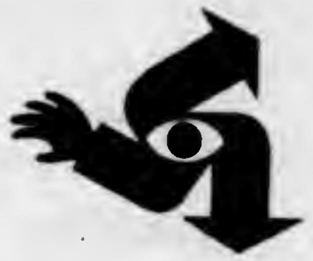
For X-Ray and Gamma Ray Radiation Detecting and Measuring Equipment and Components Thereof; and Digital Data Interfaces (Int. Cl. 9).
First use Mar. 1, 1968.

SN 310,500. Soiltest, Inc., Evanston, Ill. Filed Oct. 24, 1968.

MEMORY SCOUT

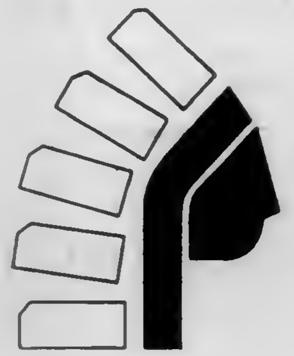
For Magnetic Tape Recorder for Recording and Storing Seismic and Related Data (Int. Cl. 9).
First use Sept. 23, 1968.

SN 321,556. Visual Needs, Inc., Rochester, N.Y. Filed Mar. 12, 1969.



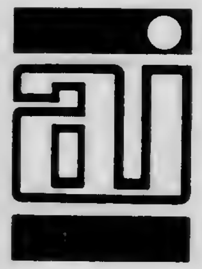
For Educational Kits Containing Parquetry Blocks for Development and Measurement of Perceptual Motor-Efficiency (Int. Cl. 16).
First use Sept. 14, 1968.

SN 321,579. Mohawk Industrial Laboratories, Inc., Vernon, N.Y. Filed Apr. 9, 1969.



For Automatic Coding and Programming Data Filing and Retrieval Machines (Int. Cl. 9).
First use Mar. 4, 1969.

SN 325,321. Vincent J. Alessi, d.b.a. Alessi Industries, El Segundo, Calif. Filed Apr. 23, 1969.



The word "Industries" is disclaimed apart from the mark as a whole.
For Electronic Test Instruments, to wit, Micropositioners, Universal Traversing Stage for Vacuum Shuck and Test Probes (Int. Cl. 9).
First use Dec. 18, 1967.

SN 327,345. American Optical Corporation, Southbridge, Mass. Filed May 15, 1969.

SUNVOGUES

For Sunglasses (Int. Cl. 9).
First use September 1964.

SN 337,571. Neotec Corporation, Rockville, Md. Filed Sept. 10, 1969.

COLORMATE 2000

For Color Measuring Instruments—Namely, Reflectometers and Spectrophotometers (Int. Cl. 9).
First use May 29, 1969.

SN 337,675. Mueller Welt Contact Lenses, Inc., Chicago, Ill. Filed Sept. 11, 1969.

SILCON

For Contact Lenses (Int. Cl. 9).
First use Aug. 12, 1969.

SN 338,026. American Optical Corporation, Southbridge, Mass. Filed Sept. 16, 1969.

TOUR-GUARD

For Safety Spectacles (Int. Cl. 9).
First use as early as Nov. 1, 1966.

SN 338,235. Endevco Corporation, d.b.a. The Digitron Company, Pasadena, Calif. Filed Sept. 18, 1969.

MINILEVER

For Rotary Switches (Int. Cl. 9).
First use July 31, 1969.

SN 338,387. General Electric Company, Schenectady, N.Y. Filed Sept. 19, 1969.

COMMANDIR

For Electronic Data Processing Systems and Components (Int. Cl. 9).
First use June 16, 1969.

SN 338,571. Information Control Corporation, El Segundo, Calif. Filed Sept. 22, 1969.

MIL RAC

For Core Memory for Storing Information for Use in Electronic Devices (Int. Cl. 9).
First use June 5, 1967.

SN 338,981. American Optical Corporation, Southbridge, Mass. Filed Sept. 26, 1969.

INSIGHT

For Ophthalmic Frames, Mountings and Parts Therefor (Int. Cl. 9).
First use Sept. 13, 1968.

SN 339,213. Nalco Chemical Company, Chicago, Ill. Filed Sept. 29, 1969.

AQUAGRAPH

For Device in the Nature of a Slide Rule Which Is Used for Making Computations, in Relation to Water Treatment (Int. Cl. 9).
First use 1943.

SN 340,641. Robertson Photo-Mechanix, Inc., Des Plaines, Ill. Filed Oct. 6, 1969.

OPTIMIL

For Graphic Arts Cameras, and Parts Thereof (Int. Cl. 9).
First use Sept. 11, 1969.

SN 342,853. GAF Corporation, New York, N.Y. Filed Nov. 6, 1969.

GOLDCREST

Owner of Reg. No. 780,972.
For Photographic Cameras, Projectors, Camera Lenses, Lens Adapters, Lens Hoods, Lens Converters, Lens Reversing Rings, Bellowscopes, Slide Duplicators, Flash Guns, Flash Brackets, Light Meters, Strobes, Developing Tanks, Tripods, Binoculars, and Camera Bags (Int. Cl. 9).
First use Sept. 15, 1963.

SN 344,799. Thexton Manufacturing Company, Hopkins, Minn. Filed Nov. 28, 1969.

TELE-TIP

For Acidity Sensing Indicator Sold in Connection With an Anti-Freeze Tester (Int. Cl. 9).
First use Aug. 27, 1969.

Class 27 — Horological Instruments

SN 271,222. Bulova Watch Company, Inc., Flushing, N.Y. Filed May 11, 1967.

COMMANDER

For Watches and Parts Thereof (Int. Cl. 14).
First use Dec. 31, 1940.

SN 325,368. Manufacture des Montres Universal Perret Freres S.A., Geneva, Switzerland. Filed Apr. 23, 1969.

GOLDEN SHADOW

Owner of Swiss Reg. No. 215,955, dated Feb. 2, 1966.
For Watches and Parts of Watches (Int. Cl. 14).

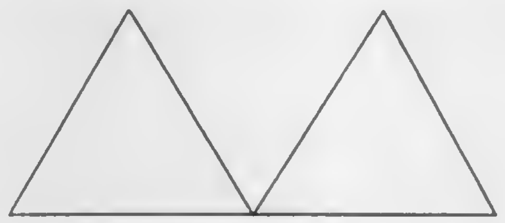
SN 332,298. Waltham Watch Company, Chicago, Ill. Filed July 11, 1969.

INSTA-SET

For Watches (Int. Cl. 14).
First use June 26, 1969.

Class 28 — Jewelry and Precious-Metal Ware

SN 333,633. Marcus & Marcus Jewelry Co., Inc., Miami, Fla. Filed July 28, 1969.



For Jewelry (Int. Cl. 14).
First use June 1, 1969.

SN 335,593. Litton Precision Products, Inc., Morris Plains, N.J. Filed Aug. 18, 1969.

Diamonair

For Simulated Diamonds for Use in Jewelry (Int. Cl. 14).
First use Apr. 30, 1969.

SN 339,285. NSC Corporation, Chicago, Ill. Filed Sept. 30, 1969.

JACKIE JEWEL

Without waiving its common law rights therein, applicant disclaims the word "Jewel" apart from the mark as shown.
For Jewelry (Int. Cl. 14).
First use on or about Sept. 15, 1969.

SN 345,263. C. H. Stuart & Co., Inc., Newark, N.Y. Filed Dec. 4, 1969.

PROMISE

Owner of Reg. No. 511,949.
For Sterling Silver Flat Tableware and Holloware (Int. Cl. 8).
First use on or about Mar. 25, 1948.

Class 29 — Brooms, Brushes, and Dusters

SN 341,398. Laitner Brush Company, Detroit, Mich. Filed Oct. 22, 1969.

DEMON

Owner of Reg. No. 599,964.
For Brushes (Int. Cl. 21).
First use Oct. 15, 1953.

Class 32 — Furniture and Upholstery

SN 310,912. Neiman Steel Equipment Company, Inc., Philadelphia, Pa. Filed Oct. 30, 1968.

EASI-BILT

For Sliding Steel Shelf Units Including Shelves, Uprights, Panels, Label Holders, Bin Dividers, Shelf Boxes and Box Dividers (Int. Cl. 20).
First use November 1960.

SN 313,734. Sealy, Incorporated, Chicago, Ill. Filed Dec. 4, 1968.

DURA-LUX

For Mattresses and Box Springs (Int. Cl. 20).
First use Oct. 28, 1968.

SN 316,079. Coronet Manufacturing Corporation, Pittsburgh, Pa. Filed Jan. 8, 1969.

MAGIC MITRE

Applicant disclaims "Mitre" apart from the mark as shown.
For Step Tables, End Tables, Cocktail Tables, Lamp Tables, T.V. Carts, Commodes, Coffee Tables, Consoles, Bunching Tables, Buffets, Hutches, and Buffet-Hutch Combinations (Int. Cl. 20).
First use Mar. 14, 1968.

SN 334,665. Advertising Metal Display Co., Chicago, Ill. Filed Aug. 7, 1969.

AMD

For Advertising and Merchandising Display Fixtures, Display Racks, Display Stands, Wheeled Stands, and Cabinets Including Display Cabinets and Tool Cabinets (Int. Cl. 20).
First use in or about November 1941.

SN 339,038. Principle Business Enterprises, Inc., Waterville, Ohio. Filed Sept. 26, 1969.

SNUGGLE FLUFF

For Pillows (Int. Cl. 20).
First use Apr. 25, 1968.

SN 340,048. Sirco Manufacturing, Inc., Missoula, Mont. Filed Oct. 7, 1969.

SIRCO

For Furniture—Namely, Sewing Machine Tables, Desks, Utility Tables and Cabinets, and Writing Shelves To Be Attached to Chairs (Int. Cl. 20).
First use Feb. 15, 1966.

SN 341,156. Joanna Western Mills Company, Chicago, Ill. Filed Oct. 20, 1969.

IVANHOE

For Window Shades (Int. Cl. 20).
First use in 1916.

SN 341,527. Kornylak Corporation, Hamilton, Ohio. Filed Oct. 23, 1969.

PALLETFLO

For Storage Racks for Pallet Loads (Int. Cl. 20).
First use Apr. 16, 1962.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 312,551. Aero-Flow Dynamics, Inc., Linden, N.J. Filed Nov. 19, 1968.

STEADYAIR

Owner of Reg. Nos. 747,628 and 760,729.
For Air Heating and Ventilating Unit Systems Sold as Modular Packages of Assembled or Disassembled Component Sections Including a Fan Section and a Heater Section With or Without One or More Additional Sections as Follows: Filter Section, Damper Section, Air Mixing Box Section, Combination Filter-Mixing Box Section, Air Inlet Secton, and/or Air Discharge Section Including Discharge Sections of the Revolving Discharge Type (Int. Cl. 11).
First use Dec. 10, 1965.

SN 313,056. McGraw-Edison Company, Elgin, Ill. Filed Nov. 29, 1968.

TOASTMASTER

Owner of Reg. Nos. 197,304, 745,719, and Others.
For Baseboard Heaters, Humidifiers, Ventilating Fans, Commercial Coffee Urns, Buffet Ranges, and Portable Electric Heaters (Int. Cl. 11).
First use as early as May 20, 1924.

SN 318,457. Protronic Industries, Inc., Anaheim, Calif. Filed Feb. 5, 1969.

percus/arc

No trademark rights are claimed for the word "Arc" apart from its use in the mark as a whole.
For Percussive Arc Welding Systems and Parts Therefor (Int. Cl. 9).
First use on or before Sept. 16, 1968.

SN 321,787. Mearl E. Ellison, d.b.a. Mearl Ellison, Bellflower, Calif. Filed Mar. 14, 1969.

THERMAL ART

For Combined Decorative Picture and Room Heating Device (Int. Cl. 11).
First use Mar. 23, 1966.

SN 339,299. CVI Corporation, Columbus, Ohio. Filed Sept. 30, 1969.

ASTROFIN

For Cryogenic Vaporizer (Int. Cl. 11).
First use July 11, 1969.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 308,827. Toro Manufacturing Corporation, Minneapolis, Minn. Filed Oct. 3, 1968.

TORO

For Tires, Drive Belts, and Fluid Handling Hose (Int. Cls. 7, 12, and 17).
First use at least as early as 1957, on tires.

SN 320,186. The Signal Companies, Inc., d.b.a. Signal Oil and Gas Company, Los Angeles, Calif. Filed Feb. 26, 1969.

FORTUNE

Owner of Reg. Nos. 542,124 and 798,324.
For Tires (Int. Cl. 12).
First use Sept. 26, 1968.

SN 323,172. Mr. Tire Inc., McKee City, N.J. Filed Mar. 28, 1969.

MR. TIRE

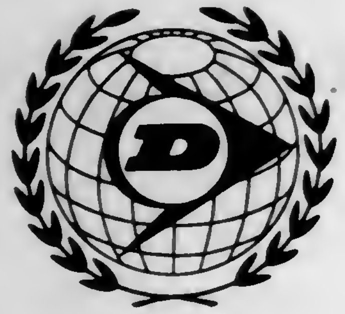
No claim is made to the word "Tire" apart from the mark as shown.
For Automobile Tires (Int. Cl. 12).
First use Apr. 4, 1963.

SN 329,181. J. S. Penney Company, Inc., New York, N.Y. Filed June 3, 1969.

SCAT-TRAC F/X

For Automotive Tires (Int. Cl. 12).
First use Apr. 2, 1969.

SN 331,032. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed June 26, 1969.



Owner of Reg. No. 811,358.
For Tires (Int. Cl. 12).
First use since Jan. 10, 1963.

SN 333,144. S. S. Kresge Company, Detroit, Mich. Filed July 22, 1969.

Kmart

Owner of Reg. Nos. 831,214, 851,370, and others.
For Tire Inner Tubes (Int. Cl. 12).
First use on or before June 20, 1969.

SN 333,433. Plastic and Rubber Products Company, Ontario, Calif. Filed July 24, 1969.

PARCOTE

Owner of Reg. Nos. 544,842 and 699,823.
For Plastic-Coated Rubber Parts—Namely, O-Rings, Washers, Seals, Valve Seats for Providing a Fluid Type Seal When a Valve Is Seated Thereon, Wiper Seals, and Gaskets (Int. Cl. 17).
First use May 5, 1969.

SN 344,798. Sonic Distributors, Inc., Southfield, Mich. Filed Nov. 28, 1969.

SAXON

For Non-Metallic Tires (Int. Cl. 12).
First use at least as early as October 1969.

SN 346,313. Smith-Blair, Inc., South San Francisco, Calif. Filed Dec. 15, 1969.

KEE-LOK

For Pipe Clamp Gaskets (Int. Cl. 17).
First use as early as Mar. 30, 1963.

Class 36 — Musical Instruments and Supplies

SN 330,470. ARS Nova ARS Antiqua Recordings, Washington, D.C. Filed June 19, 1969.

ARS NOVA
ARS ANTIQUA
RECORDINGS

No registration rights are claimed for the word "Recordings" apart from the mark as shown, but applicant waives none of its common law rights in the mark as shown or any feature theof. "Antiqua" is a Latin word meaning "old."
For Phonograph Records (Int. Cl. 9).
First use Feb. 24, 1969.

SN 334,857. Monument Record Corp., Hendersonville, Tenn. Filed Aug. 8, 1969.

SOUND
STAGE
7

Applicant disclaims the word "Sound" apart from the mark as shown.
For Phonograph Records (Int. Cl. 9).
First use Aug. 7, 1963.

SN 339,382. Arnold E. Yeargin, d.b.a. Solid Gold Records, Nashville, Tenn. Filed Sept. 30, 1969.

SOLID GOLD

For Phonograph Records (Int. Cl. 9).
First use July 25, 1963.

SN 346,245. Hammond Corporation, Deerfield, Ill. Filed Dec. 15, 1969.

AQUARIUS

For Electric Organs (Int. Cl. 15).
First use Nov. 13, 1969.

Class 37— Paper and Stationery

SN 315,541. Decolage, Inc., Los Angeles, Calif. Filed Jan. 2, 1969.

DESKOTIQUE

For Accessories for Desks—Namely, Paper Holders, Pencil Containers, Paper Clip Holders, and Blotter Holders (Int. Cl. 16).
First use Nov. 13, 1968.

SN 334,977. Burnham Products Corporation, Long Island City, N.Y. Filed Aug. 11, 1969.

FEATHERGLIDE

For Ballpoint Pens, Fiber Tipped Pens, Felt Tipped Pens and Mechanical Pencils (Int. Cl. 16).
First use July 30, 1969.

SN 335,948. Concel Inc., New York, N.Y. Filed Aug. 22, 1969.

EXCITE

For Facial Tissue, Bathroom Tissue, Paper Luncheon Napkins, Paper Dinner Napkins, and Paper Towels (Int. Cl. 16).
First use July 24, 1969.

SN 336,105. Ethyl Corporation, Richmond, Va. Filed Aug. 25, 1969.

OXALITE

For Uncoated Printing Paper (Int. Cl. 16).
First use May 28, 1969.

SN 336,708. G. C. Murphy Company, McKeesport, Pa. Filed Aug. 29, 1969.

REGAL

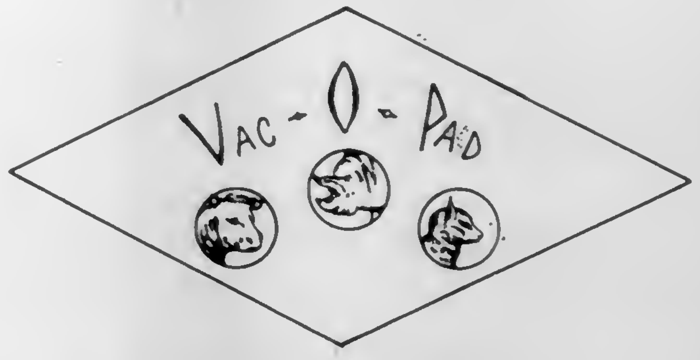
Owner of Reg. No. 803,123.
For Bathroom Tissue (Int. Cl. 16).
First use Nov. 16, 1963.

SN 336,929. The C. R. Gibson Company, Norwalk, Conn. Filed Sept. 3, 1969.

RANDOM-MOUNT

For Photograph Albums and Album Pages (Int. Cl. 16).
First use on or about July 14, 1969.

SN 338,046. Eilers Manufacturing, Inc., Huron, S. Dak. Filed Sept. 16, 1969.



For Paper Liners for Packaged Meat and Other Edible Products (Int. Cl. 16).
First use Aug. 1, 1969.

SN 338,754. Combined Paper Mills, Inc., Combined Locks, Wis. Filed Sept. 24, 1969.

PERMAFLEX

For Offset and Letterpress Printing Paper (Int. Cl. 16).
First use July 17, 1969.

SN 339,204. Ludlow Corporation, Needham, Mass. Filed Sept. 29, 1969.

MULTI-CAST

For Release Coated Casting Papers (Int. Cl. 16).
First use May 17, 1968.

SN 339,488. Individual Systems, Inc., Atlanta, Ga. Filed Aug. 29, 1969.

ISI
SYSTEMS, inc.

The words "Individualized Systems, Inc." are disclaimed as part of the mark.
For Printed Forms and Papers (Int. Cl. 16).
First use May 1, 1957.

SN 339,734. Micropoint Engineering Company, Sunnyvale, Calif. Filed Oct. 3, 1969.

FLUID TIP

For Refillable and Non-Refillable Writing Instruments and Refills for the Refillable Type (Int. Cl. 16).
First use Aug. 5, 1969.

SN 339,888. Hasbro Industries, Inc., Pawtucket, R.I. Filed Oct. 6, 1969.

HAPPYTIME

For Pencils (Int. Cl. 16).
First use on or about Sept. 17, 1969.

SN 339,912. Micropoint Engineering Company, Sunnyvale, Calif. Filed Oct. 6, 1969.

FLUID POINT

For Refillable and Non-Refillable Writing Instruments and Refills for the Refillable Type (Int. Cl. 16).
First use Aug. 5, 1969.

SN 341,021. Diagraph-Bradley Industries, Inc., Herrin, Ill. Filed Oct. 17, 1969.

PERMA-LINE

For Felt-Tip Markers (Int. Cl. 16).
First use Oct. 3, 1969.

SN 341,539. Mac Karlan, New York, N.Y. Filed Oct. 23, 1969.

TABTYPE

For Correction Sheet Having a Transfer Coating for Masking Eroneously Typed Impressions (Int. Cl. 16).
First use Oct. 17, 1969.

SN 341,684. National Tea Co., Chicago, Ill. Filed Oct. 24, 1969.

EASY LIFE

Owner of Reg. Nos. 718,764, 811,715, and others.
For Paper Napkins for Household Purposes (Int. Cl. 16).
First use September 1966.

SN 344,324. Brown Company, New York, N.Y. Filed Nov. 24, 1969.

TECHNI-KRAFT

For Uncoated Kraft Papers (Int. Cl. 16).
First use on or about July 1, 1968.

Class 38 — Prints and Publications

SN 315,817. Director Publications, Inc., St. Louis, Mo. Filed Dec. 31, 1968.

The BANK BOARD Letter

Applicant disclaims the terminology "Letter" apart from the mark as shown.
For Newsletter Published From Time to Time (Int. Cl. 16).
First use Dec. 15, 1968.

SN 318,837. Stanley Publishing Company, d.b.a. High Performance News & Products Publishing Corp., Chicago, Ill. Filed Feb. 10, 1969.

HIGH PERFORMANCE NEWS & PRODUCTS

For Trade Newspaper (Int. Cl. 16).
First use Feb. 1, 1969.

SN 321,875. Photocompositors, Inc., Shawnee Mission, Kans. Filed Mar. 17, 1969.

YOUNG AMERICA TODAY

Owner of Reg. No. 862,434.
For Periodical Publication in the Nature of a Magazine (Int. Cl. 16).
First use July 24, 1968.

SN 324,816. Daniel C. Hanna, d.b.a. Hanna Enterprises, Portland, Oreg. Filed Apr. 17, 1969.

HANNASCOPE

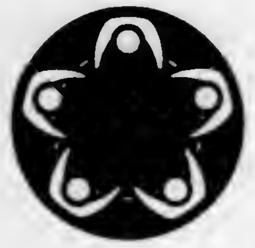
For Magazine Dealing With People, Products and Progress in the Car Wash Industry (Int. Cl. 16).
First use Jan. 2, 1968.

SN 327,589. Calvin Communications, Incorporated, Kansas City, Mo. Filed May 19, 1969.

A CALVIN PRODUCTION

The word "Production" is disclaimed apart from the mark as shown. Owner of Reg. No. 623,007.
For Motion Picture Films and Film Strips (Int. Cl. 9).
First use during 1959.

SN 329,209. American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies, Minneapolis, Minn. Filed June 5, 1969.



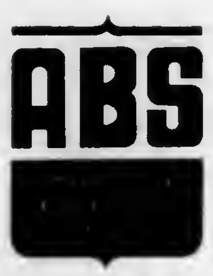
For Publications—Namely, Pamphlets Containing the Results of Research Projects (Int. Cl. 16).
First use Feb. 10, 1969.

SN 330,225. The Viking Press, Inc., New York, N.Y. Filed June 16, 1969.

VIKING COMPASS

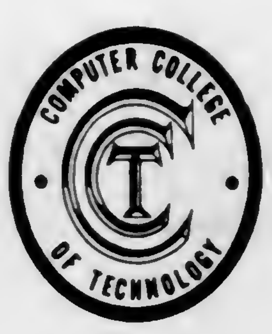
Owner of Reg. No. 211,649.
For Paperback Books (Int. Cl. 16).
First use March 1968; at least as early as 1956, as to the word "Compass."

SN 330,341. American Breeders Service, Inc., Deforest, Wis. Filed June 18, 1969.



Owner of Reg. Nos. 603,333, 603,334, and others.
For Magazines, Directories, Information Sheets, Newsletters, Books, Booklets and Other Publications Issued From Time to Time Pertaining Generally to the Science and Business of Artificial Breeding of Animals and Related Subjects (Int. Cl. 16).
First use Apr. 1, 1960.

SN 332,920. Computer College of Technology, Inc., Miami Beach, Fla. Filed July 18, 1969.



The words "Computer College of Technology" are disclaimed apart from the mark as a whole.
For Lesson Booklets for Computer Programming (Int. Cl. 16).
First use Nov. 14, 1968.

SN 334,248. The Mitchum Company, Paris, Tenn. Filed Aug. 1, 1969.

CONFIDENTIALLY YOURS

For Magazine or Newspaper Column on the Subject of Beauty and Cosmetics (Int. Cl. 16).
First use Mar. 10, 1969.

SN 334,290. The American Israelite Company, Cincinnati, Ohio. Filed Aug. 4, 1969.

THE AMERICAN ISRAELITE

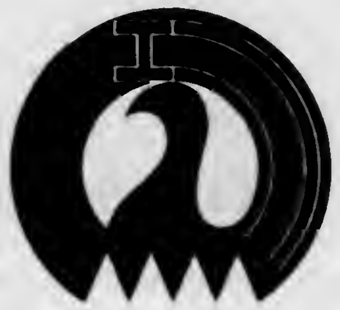
For Weekly Newspaper (Int. Cl. 16).
First use in or about 1855.

SN 338,086. Institute of Scrap Iron & Steel, Inc., Washington, D.C. Filed Sept. 17, 1969.

PhoenixQuarterly

For Periodic Journal Relating to the Scrap Iron and Steel Industry (Int. Cl. 16).
First use Apr. 28, 1969.

SN 338,087. Institute of Scrap Iron & Steel, Inc., Washington, D.C. Filed Sept. 17, 1969.



For Periodic Journal Relating to the Scrap Iron and Steel Industry (Int. Cl. 16).
First use Apr. 28, 1969.

SN 339,104. Pearson Publishing, Inc., Glendale, Calif. Filed Sept. 29, 1969.

RV TRADE DIGEST

Applicant disclaims the terminology "Trade Digest" apart from the mark as shown.
For Magazine (Int. Cl. 16).
First use Feb. 6, 1969.

SN 343,000. Regional Film Distributors, Inc., New York, N.Y. Filed Nov. 7, 1969.

REGIONAL

For Developed Motion Picture Films (Int. Cl. 16).
First use Sept. 23, 1969.

Class 39 — Clothing

SN 296,604. Worksafe, Inc., New York, N.Y. Filed Apr. 25, 1968.

WORKSAFE

For Special Purpose Industrial Apparel—Namely, Shirts, Pants, Coats, Suits, and Headwear (Int. Cl. 25).
First use Mar. 22, 1968.

SN 301,897. Alice Frock Company, San Francisco, Calif. Filed July 3, 1968.

Krist

For Misses' Dresses—Namely, One Piece Shirtmaker and Sheath Dresses, Two Piece Sheath Dresses, Jackets, Long Coats, and Two Piece Suits (Int. Cl. 25).
First use November 1962.

SN 302,047. Cluett, Peabody & Co., Inc., New York, N.Y. Filed July 5, 1968.

SURREY

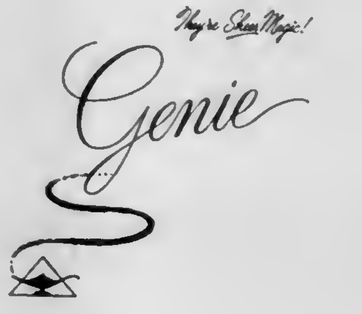
For Dress Shirts (Int. Cl. 25).
First use 1932.

SN 302,769. Simmons Gun Specialties, Inc., Olathe, Kans. Filed July 15, 1968.

MAMA KANGAROO

For Spent Shell Pocket for Shooters' Vests (Int. Cl. 25).
First use July 5, 1968.

SN 304,911. Genie Ltd., Newport Beach, Calif. Filed Aug. 12, 1968.



Applicant disclaims the phrase "They're Sheer Magic!" apart from the mark as shown.
For Hosiery Sold by Mail to Individual Donors as Promotion for Fund Raising Programs (Int. Cl. 25).
First use on or about Mar. 29, 1968.

SN 310,802. Pro-Tel Products Company, Los Angeles, Calif. Filed Oct. 29, 1968.

PERFORMA

For Panty Hose Made of Non-Run Nylon (Int. Cl. 25).
First use Oct. 4, 1968.

SN 310,808. Texdahl Corporation, Dallas, Tex. Filed Oct. 29, 1968.

TRYON

For Apparel and Clothing Made of Synthetic, Non-Woven Fabrics—Namely, Dresses, Skirts, Men's and Women's Swimsuits, and Hats (Int. Cl. 25).
First use at least as early as September 1968.

SN 318,991. Stadium Manufacturing Co., Inc., New York, N.Y. Filed Feb. 12, 1969.

ASTROJAMAS

Owner of Reg. No. 706,989.
For Pajamas and Pajama Sets (Int. Cl. 25).
First use Jan. 25, 1969.

SN 320,029. Caribbean Shoe Corporation, Miami, Fla. Filed Feb. 25, 1969.

KOOL KICKS

For Shoes (Int. Cl. 25).
First use Sept. 30, 1968.

SN 320,633. Matsil Brothers, Inc., Long Island City, N.Y. Filed Mar. 3, 1969.

SWISS GUARD

For Men's and Boys' Robes, Beach Wear, and Jump Suits (Int. Cl. 25).
First use June 1968.

SN 321,071. Palm Beach Company, Portland, Maine. Filed Mar. 7, 1969.

BATAYA BAMBOO

Owner of Reg. No. 698,225.
For Men's and Boys' Suits, Slacks, Coats, Trousers, and Sport-Coats (Int. Cl. 25).
First use July 25, 1968.

SN 321,304. Viceroy Sportswear, Inc., New York, N.Y. Filed Mar. 10, 1969.

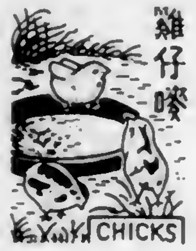
VS VICEROY SPORTSWEAR

The word "Sportswear" is disclaimed, separate and apart from the mark as shown.
For Sportswear—Namely, Men's and Women's and Young Men's Trousers, Shirts, Vests, Outerwear, and Suits (Int. Cl. 25).
First use Dec. 16, 1968.

SN 322,331. Randa Neckwear Corporation, Hackensack, N.J. Filed Mar. 20, 1969.

"Gino Pompeii" is not the name of any known or living individual and is fanciful.
For Ties, Neckwear in General, Belts, and Men's Shirts (Int. Cl. 25).
First use Jan. 20, 1969.

SN 326,074. Chun Au Knitting Factory, Limited, Kowloon, Hong Kong. Filed May 1, 1969.



The Chinese characters in the mark translate into "chicks brand." Owner of Hong Kong Reg. No. 737/1960, dated Mar. 1, 1960.
For Singlets, Vests, Socks, and Underpants (Int. Cl. 25).
First use Mar. 1, 1960; in commerce Feb. 7, 1969.

SN 327,600. Corwin Company, Kansas City, Mo. Filed May 19, 1969.

M.F.S.

For Sweaters (Int. Cl. 25).
First use Apr. 28, 1969.

SN 328,207. Superba Cravats, Inc., Rochester, N.Y. Filed May 23, 1969.

THE KINGS REPP

The term "Repp" is disclaimed apart from the mark as shown.
For Neckwear (Int. Cl. 25).
First use Mar. 28, 1969.

SN 328,337. Raybrooke Sportswear Co., Inc., New York, N.Y. Filed May 26, 1969.

RAYBROOKE

Owner of Reg. No. 219,034.
For Men's Sweaters and Men's Knit Shirts (Int. Cl. 25).
First use June 2, 1926.

SN 328,379. Wilk Shirt Corporation, New York, N.Y. Filed May 26, 1969.

Gino Fabrini

The name "Gino Fabrini" is fictitious.
For Men's Dress Shirts (Int. Cl. 25).
First use Mar. 30, 1968.

SN 329,062. Consolidated Apparel Corporation, d.b.a. Royal-O-Apparel, Greensboro, N.C. Filed June 4, 1969.

ROYAL-O

For Men's Jeans and Trousers (Int. Cl. 25).
First use January 1967.

SN 330,603. Bearnet Luben and Selwyn Luben, d.b.a. National Clothing Co., Kansas City, Mo. Filed June 20, 1969.

PRINCETON PARK

For Clothing—Namely, Suits, Topcoats, Sport Coats, and Slacks (Int. Cl. 25).
First use 1954.

SN 332,305. Associated Dry Goods Corporation, d.b.a. J. W. Robinson Co., New York, N.Y. Filed July 11, 1969.

AVANTIQUE

For Ladies' Blouses, Sweaters, Skirts, Coats, Dresses, Suits, Scarves, Gloves, Hosiery, and Hats (Int. Cl. 25).
First use during 1967.

SN 332,333. The Fibre-Metal Products Company, Chester, Pa. Filed July 11, 1969.

TURBOCAP

For Protective Safety Hats and Caps (Int. Cl. 9).
First use June 17, 1969.

SN 332,431. Alba-Waldensian, Inc., Valdese, N.C. Filed July 14, 1969.

PANTY-PRINTS

For Ladies' Panties (Int. Cl. 25).
First use June 13, 1969.

SN 332,632. SCOA Industries Inc., Columbus, Ohio. Filed July 15, 1969.

Lady Crosby

Owner of Reg. Nos. 298,450, 367,116, and 857,955.
For Women's and Misses' Shoes (Int. Cl. 25).
First use Mar. 13, 1969.

SN 332,749. John B. Stetson Company, Philadelphia, Pa. Filed July 16, 1969.

HOBNOBBER

Owner of Reg. No. 793,683.
For Headwear, Hats and Caps, Suits, Vests, Coats of All Types, Sweaters, Robes, Capes, Rainwear, Trousers, Shorts, Shirts, Underwear, Hosiery, Sleepwear, Swimwear, Neckwear, Belts, Gloves, and Handkerchiefs (Int. Cl. 25).
First use Aug. 20, 1940.

SN 333,062. Royce Hosiery Mills, Inc., New York, N.Y. Filed July 22, 1969.

SHADOW RIB

Applicant disclaims the word "Rib" apart from the mark as shown. Owner of Reg. No. 790,512.
For Men's Hosiery (Int. Cl. 25).
First use Feb. 5, 1964.

SN 333,659. Bear Brand Hosiery Co., Chicago, Ill. Filed July 28, 1969.

MINI-FLEX

For Hosiery (Int. Cl. 25).
First use June 6, 1969.

SN 333,938. Movie Star, Inc., New York, N.Y. Filed July 30, 1969.

TAFFESTAR

For Lingerie (Int. Cl. 25).
First use Jan. 31, 1969.

SN 334,228. Hanes Corporation, Winston-Salem, N.C. Filed Aug. 1, 1969.

LITTLE COLOR

For Ladies' Hosiery and Panty Hose (Int. Cl. 25).
First use July 18, 1969.

SN 336,724. Warnaco Inc., Bridgeport, Conn. Filed Aug. 29, 1969.

GARTERS GONE

For Pantie Girdles (Int. Cl. 25).
First use June 25, 1968.

SN 337,075. Miss Pat, Los Angeles, Calif. Filed Sept. 4, 1969.

JOANNA NELSON

"Joanna Nelson" is the name of a living person whose consent is of record.
For Women's, Juniors' and Misses' Wearing Apparel—Namely, Dresses, Blouses, Skirts, Pants, Swim Wear, and Jackets (Int. Cl. 25).
First use on or about Jan. 1, 1962.

SN 337,253. Barry Manufacturing Company, Inc., Lynn, Mass. Filed Sept. 8, 1969.

STEP AND STRIDE

For Baby Shoes (Int. Cl. 25).
First use May 5, 1969.

SN 337,569. McGregor-Doniger Inc., New York, N.Y. Filed Sept. 10, 1969.

TIBERIO

For Shirts (Int. Cl. 25).
First use July 16, 1969.

SN 341,618. Bayard Shirt Corp., New York, N.Y. Filed Oct. 24, 1969.

MR. PAUL

Owner of Reg. No. 765,573.
For Outer Dress and Sport Shirts for Men and Young Men (Int. Cl. 25).
First use Sept. 22, 1969.

SN 342,674. Swanee Paper Company, Inc., New York, N.Y. Filed Nov. 4, 1969.

LAMBKIN

For Paper Diapers (Int. Cl. 25).
First use Apr. 22, 1969.

SN 344,304. Union Carbide Corporation, New York, N.Y. Filed Nov. 24, 1969.

GLAD

Owner of Reg. Nos. 738,875 and 739,03.
For Disposable Baby Diapers (Int. Cl. 35).
First use on or about Nov. 14, 1969.

SN 344,507. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

THE "AH!" BRA

No claim is made to the exclusive right to the word "Bra" apart from the mark as shown.
For Brassieres (Int. Cl. 25).
First use Aug. 28, 1969.

SN 344,509. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

BECKON

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Aug. 28, 1969.

SN 344,510. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

THE GIRL-DLE

For Foundation Garments (Int. Cl. 25).
First use Aug. 28, 1969.

SN 344,512. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

MERELY ME

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Sept. 10, 1969.

SN 344,515. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

SKIN-FLINT

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Sept. 9, 1969.

SN 344,516. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

SOFTIMER

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Sept. 9, 1969.

SN 344,517. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

SUGGESTION

For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Sept. 9, 1969.

SN 344,518. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

THE UNDER-STUDY

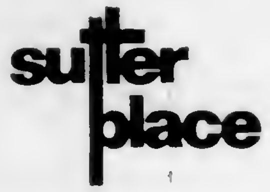
For Foundation Garments, Lingerie, Sleepwear, and Loungewear (Int. Cl. 25).
First use Aug. 28, 1969.

SN 345,547. Maidenform, Inc., New York, N.Y. Filed Dec. 8, 1969.

SLIPERINO

For Lingerie (Int. Cl. 25).
First use Nov. 17, 1969.

SN 345,757. Koracorp Industries Inc., San Francisco, Calif. Filed Dec. 10, 1969.



For Women's, Misses' and Children's Clothing—Namely, Suits, Dresses, Skirts, Shirts, Blouses, Vests, Halters, Jackets, Sweaters, Slacks, Culottes, Outer Shorts, Play-Suits, and Pedal Pushers (Int. Cl. 25).
First use Apr. 9, 1969.

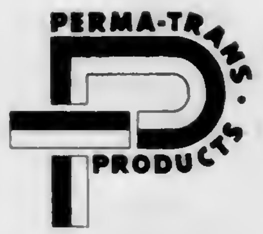
SN 345,891. Nicholas Brecher, d.b.a. Brevoni Creations, New York, N.Y. Filed Dec. 11, 1969.

LEG WATCHERS

For Panty Hose (Int. Cl. 25).
First use Nov. 11, 1969.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 326,655. Jay & Ell Enterprises, Inc., Worthington, Ohio. Filed May 7, 1969.



The word "Products" is disclaimed apart from the mark.
For Iron-On Transfers (Int. Cl. 16).
First use Jan. 2, 1969.

SN 327,408. Paris Presents, Ltd., Chicago, Ill. Filed May 15, 1969.

EYES RIGHT

Applicant disclaims the word "Eyes" apart from the mark as shown.
For False Eyelashes (Int. Cl. 3).
First use on or about Apr. 11, 1969.

SN 331,490. Beltx Corporation, St. Louis, Mo. Filed July 1, 1969.

TRU-LIFE

For Packaged Elastic (Int. Cl. 26).
First use June 23, 1969.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 322,547. Blezard Yarn Mills Co., Pawtucket, R.I. Filed Mar. 24, 1969.

For Fabrics, Including Knit and Woven Material for Making Women's Dresses, Sweaters, Coats, Skirts, and the Like (Int. Cl. 24).
First use Oct. 22, 1968.

SN 332,353. International Paper Company, New York, N.Y. Filed July 11, 1969.

For Non-Woven Fabrics for Use as a Cloth Substitute in Institutional, Commercial, Industrial, Domestic, General, and Special Applications (Int. Cl. 24).
First use Jan. 9, 1969.

SN 333,103. Dan River Mills, Incorporated, Danville, Va. Filed July 22, 1969.

TERVELLA

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof (Int. Cl. 24).
First use June 6, 1969.

SN 334,395. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 4, 1969.

CHANGE ABOUT

For Towels, Bath Rugs, Blankets, Sheets, and Pillow Cases (Int. Cls. 24 and 27).
First use July 29, 1969.

SN 334,396. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 4, 1969.

HANG ABOUT

For Towels, Bath Rugs, Blankets, Sheets, and Pillow Cases (Int. Cls. 24 and 27).
First use July 29, 1969.

SN 334,397. J. P. Stevens & Co., Inc., New York, N.Y. Filed Aug. 4, 1969.

PRIVATE ENVIRONMENT

For Towels, Bath Rugs, Blankets, Sheets, and Pillow Cases (Int. Cls. 24 and 27).
First use July 29, 1969.

SN 334,452. Beaunit Corporation, New York, N.Y. Filed Aug. 5, 1969.

SENSUA

For Knitted Two-Way Stretch Fabric for Use in Underwear for Men, Women, and Children (Int. Cl. 24).
First use on or about July 25, 1969.

SN 334,505. Wiener Laces, Inc., New York, N.Y. Filed Aug. 5, 1969.

BREATHLACE

For Lace Fabrics (Int. Cl. 24).
First use June 26, 1969.

SN 335,619. Strauss and Company Incorporated, Baltimore, Md. Filed Aug. 18, 1969.

MIRLEE

Owner of Reg. No. 512,802.
For Cotton Fabrics (Int. Cl. 24).
First use July 17, 1947.

SN 344,294. Nitto Boseki Co., Ltd., Fukushima, Japan. Filed Nov. 24, 1969.

NITTOBO

For Fabric of Natural and Synthetic Fibers Sold in the Piece; Bed Sheets, Blankets, Comforters, Pillowcases, Shrink-Treated Fabrics, Towels, Rugs and Carpets, Upholstery Fabrics, Draperies, Slip Covers, Curtains, Felts, Matted and Pressure Formed Treated Fabrics, Suitings, and Burlap (Int. Cl. 24).
First use May 1, 1949; in commerce May 1, 1949.

Class 43 — Thread and Yarn

SN 332,432. Alba-Waldensian, Inc., Valdese, N.C. Filed July 14, 1969.

ALBALON

Owner of Reg. Nos. 267,755, 808,132, and others.
For Textile Yarn (Int. Cl. 23).
First use June 13, 1969.

Class 44 — Dental, Medical, and Surgical Appliances

SN 334,479. Kimberly-Clark Corporation, Neenah, Wis. Filed Aug. 5, 1969.

EXIT

For Sanitary Napkins (Int. Cl. 5).
First use July 23, 1969.

SN 334,480. Kimberly-Clark Corporation, Neenah, Wis. Filed Aug. 5, 1969.

FORGET

For Sanitary Napkins (Int. Cl. 5).
First use July 23, 1969.

SN 334,749. Sound Ear, Inc., Mount Kisco, N.Y. Filed Aug. 7, 1969.

SOUNDFINDER

For Hearing Aids for the Hard of Hearing (Int. Cl. 10).
First use on or about Apr. 10, 1968.

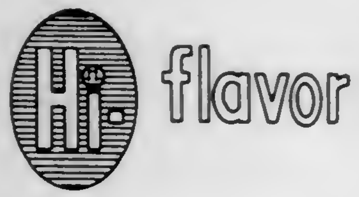
SN 336,965. Youngs Drug Products Corporation, Piscataway, N.J. Filed Sept. 3, 1969.

CONTRA-LACTIC

For Rubber Articles for Contraception and Venereal Prophylaxis (Int. Cl. 5).
First use Aug. 27, 1969.

Class 45 — Soft Drinks and Carbonated Waters

SN 256,692. Hi-Flavor Packing Corporation, Philadelphia, Pa. Filed Sept. 26, 1966.



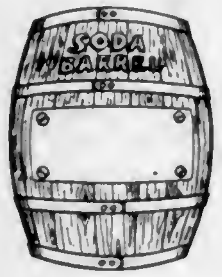
The drawing is lined for the colors yellow and blue, but no claim is made as to color.
For Fruit Juice Drinks Containing Water—Namely, Orange, Grape, Apricot, Pineapple, Grapefruit, and Prune (Int. Cl. 32).
First use at least as early as 1958.
Subj. to Intf. with SN 257,595.

SN 317,054. Heatherwood Farms Company, Lansing, Mich. Filed Jan. 21, 1969.

ORCHARD GROVE

For Fruit Flavored Drinks Containing Water (Int. Cl. 32).
First use Apr. 24, 1963.

SN 318,511. Tasty-Mates Company, Camden, N.J., assignee of S. Twitchell Company, d.b.a. The Soda Barrel Co., Camden, N.J. Filed Feb. 6, 1969.



Applicant disclaims the term "Soda" separate and apart from the mark as shown, reserving all of its common law rights therein. Owner of Reg. No. 880,543.
For Soft Drinks (Int. Cl. 32).
First use at least as early as Nov. 2, 1968.

SN 331,436. The Southland Corporation, Dallas, Tex. Filed June 30, 1969.

SIP-SATIONAL

For Soft Drinks (Int. Cl. 32).
First use at least as early as June 17, 1969.

SN 331,854. Basswood Springs Water Company, Platte City, Mo. Filed July 7, 1969.

BASSWOOD SPRINGS

For Bottled Mineral Water (Int. Cl. 32).
First use 1952.

SN 334,843. Graf's Beverages, Inc., Milwaukee, Wis. Filed Aug. 8, 1969.

HULA

Owner of Reg. No. 234,521.
For Soft Drinks (Int. Cl. 32).
First use on or about Apr. 27, 1927.

SN 344,523. PepsiCo, Inc., New York, N.Y. Filed Nov. 25, 1969.

**YOU'VE GOT A LOT
TO LIVE.
PEPSI'S GOT A LOT
TO GIVE.**

Owner of Reg. Nos. 40,619, 837,557, and others.
For Soft Drinks (Int. Cl. 32).
First use Aug. 12, 1969.

Class 46 — Foods and Ingredients of Foods

SN 287,714. All Star Foods, Inc., Albemarle, N.C. Filed Dec. 28, 1967.

SNOW WHITE

For Frozen Eggs (Int. Cl. 29).
First use Mar. 21, 1966.

SN 294,926. Federated Foods, Inc., d.b.a. National Brand Sales Division, Chicago, Ill. Filed Apr. 4, 1968.

3 RING

For Canned Vegetables, Salad Dressings, Catsup, Prepared Mustard, Animal Shortenings, and Coffee (Int. Cls. 29 and 30).
First use during about 1955 on coffee.

SN 307,210. Jiffy Jem Corporation, Cambridge, Mass. Filed Sept. 12, 1968.

JIFFY JEMS

For Sugar Pellets for Cake Decoration (Int. Cl. 30).
First use 1950.

SN 310,335. Laboratoires I.T.C., Paris, France. Filed Oct. 23, 1968.

P.O.P.

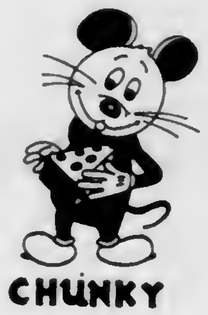
Priority claimed under Sec. 44(d) on French Reg. No. 743,900, dated Apr. 24, 1968.
For Natural Dietetic Food Consisting of Wild Portuguese Oyster Powder (Int. Cl. 5).

SN 311,482. Givaudan Corporation, Clifton, N.J. Filed Nov. 6, 1968.

GIVAUDAN

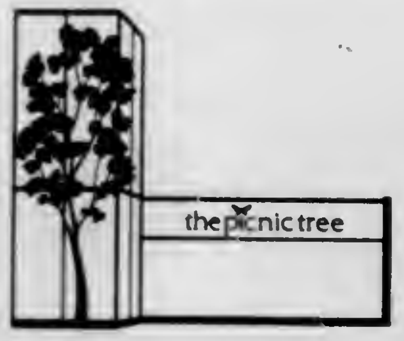
Owner of Reg. Nos. 391,676 and 504,203.
For Food Extracts, Imitation and Natural Flavors and Concentrates for Foods (Int. Cl. 30).
First use June 28, 1940.

SN 312,247. Valley Homes, Inc., Manchester, Vt. Filed Nov. 14, 1968.



The word "Chunky" and the representation of the cheese are disclaimed apart from the mark shown.
For Cheeses and Processed Cheeses (Int. Cl. 29).
First use Sept. 25, 1968.

SN 314,062. Food Facilities Management Corporation, Chicago, Ill. Filed Dec. 10, 1968.



For Prepared, Takeout, Drive-In Restaurant Food and Snacks—Namely, Hot Sandwiches of Meat and Fish, French Fried Potatoes, Ice Cream, and Various Food Drinks Such as Malts and Shakes (Int. Cls. 29 and 30).
First use Sept. 4, 1968; July 1, 1968, as to "The Picnic Tree."

SN 314,215. Godbold, Inc., Marfa, Tex. Filed Dec. 11, 1968.

KWIK LIK

Applicant disclaims the term "Lik" apart from the mark as shown.
For Salt Blocks for Cattle (Int. Cl. 31).
First use Oct. 7, 1968.

SN 315,416. International Merchants, Ltd., New York, N.Y. Filed Dec. 30, 1968.

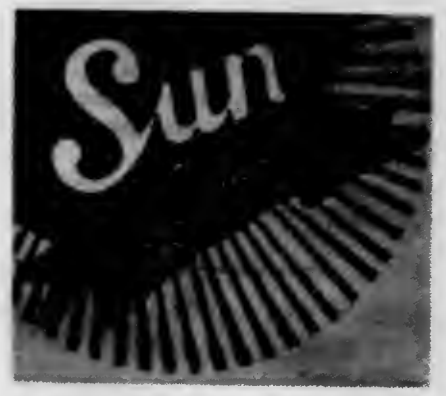
For Tomato Paste (Int. Cl. 30).
First use October 1968.

SN 315,761. Hawthorn Mellody, Inc., Chicago, Ill. Filed Jan. 3, 1969.

TWO SHAKES

For Vanilla-Flavored and Chocolate-Flavored Food Beverages (Int. Cl. 30).
First use on or before Aug. 2, 1968.

SN 315,951. David Oppenheimer Limited and Associates, d.b.a. Mandarin Orange Company, Vancouver, British Columbia, Canada. Filed Jan. 6, 1969.



The words "Delicious," "Easy To Peel," and the background of the mark but not including the representation of a sun and lines radiating therefrom are disclaimed apart from the mark as shown.
For Mandarin Oranges (Int. Cl. 31).
First use as early as November 1954; in commerce as early as 1957.

SN 316,067. Aquatrol, Inc., Long Beach, Calif. Filed Jan. 8, 1969.

BANQUET

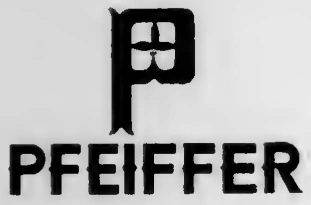
For Food for Fishes (Int. Cl. 31).
First use Jan. 29, 1968.

SN 317,234. International Salt Company, Clarks Summit, Pa. Filed Jan. 22, 1969.

PFEIFFER

Owner of Reg. No. 507,366.
For Salad Dressing (Int. Cl. 29).
First use on or about Jan. 11, 1966; September 1927, in a different form.

SN 317,236. International Salt Company, Clarks Summit, Pa. Filed Jan. 22, 1969.



For Salad Dressing (Int. Cl. 29).
First use on or about Jan. 11, 1966.

SN 317,576. Kern Foods, Inc., City of Industry, Calif. Filed Jan. 27, 1969.

OLD DOMINION

For Table Syrup (Int. Cl. 30).
First use Sept. 24, 1927.

SN 318,176. Elm Tree Baking Co., d.b.a. Elm Tree Bakery, Appleton, Wis. Filed Feb. 3, 1969.

CREATIVE BAKING

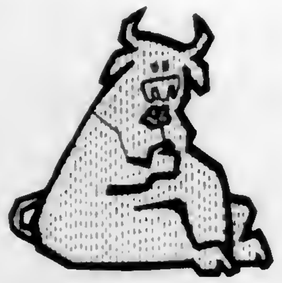
For Baked Goods—Namely, Rolls, Buns, Donuts, Crullers, Cupcakes, Cakes and Pastries; and Frozen Dough Products, Namely, Bread, Rolls, Biscuits, Buns, Donuts, Cookies, Coffee Cake, Strudel, Mix for Making Brownies, Muffins, Eclairs, Puffs, Fruit Cakes, and Pastries (Int. Cl. 30).
First use May 3, 1965.

SN 319,388. Stadler's Country Hams, Inc., Elon College, N.C. Filed Feb. 17, 1969.

DON'T BUY A PIG IN A POKE

For Fresh Country Ham in Slices (Int. Cl. 29).
First use Jan. 30, 1969.

SN 319,395. Taylor Food Products, Inc., El Segundo, Calif. Filed Feb. 17, 1969.



The drawing is lined for the colors purple and orange but no claim is made as to color.
For Beef Jerky (Int. Cl. 29).
First use Jan. 3, 1969.

SN 323,700. Cable Car Candy Co., Long Beach, Calif., assignee of Glaser Bros, Los Angeles, Calif. Filed Apr. 4, 1969.

MT. SHASTA

For Candy Bars (Int. Cl. 30).
First use June 1, 1921.

SN 324,204. The Kroger Co., Cincinnati, Ohio. Filed Apr. 10, 1969.

YUBI

For Yogurt (Int. Cl. 29).
First use at least as early as Mar. 7, 1969.

SN 324,649. W. H. Latimer, d.b.a. San Antonio Orchard Co., Ontario, Calif. Filed Apr. 16, 1969.

For Fresh Citrus Fruits (Int. Cl. 31).
First use at least as early as 1912.

SN 325,575. Brenner Candies, Inc., Atlantic City, N.J. Filed Apr. 25, 1969.

For Candy (Int. Cl. 30).
First use on or about Feb. 7, 1968.

SN 325,841. Claridge Frozen Foods, Inc., Flushing, N.Y., assignee of Claridge Food Company, Inc., Flushing, N.Y. Filed Apr. 29, 1969.

CLARIDGE

Owner of Reg. No. 868,456.
For Frozen Cooked Meat Products—Namely, Char-Broiled Beefburgers, Beef Patties, Pizza-Flavored Burgers, Cube Steak, Sandwich Patties, Salisbury Steak, Pepper Steaks, Pork Sausage, Pork Sandwich Patties, Meatballs, Beef and Barbecue Sauce, Corned Beef Briskets, Meat Loaf, Roast Beef, Pastrami, Boneless Fresh Ham, Boneless Veal and Boned Leg of Lamb (Int. Cl. 29).
First use 1956.

SN 326,063. Beatrice Foods Co., Chicago, Ill. Filed May 1, 1969.

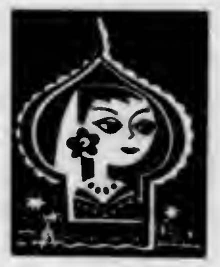
CAPTAIN KID'S

The mark shown suggests the historical pirate, "Captain Kidd" and is not the name of any particular living individual.
For Peanut Butter (Int. Cl. 29).
First use Feb. 21, 1969.

SN 326,285. Jules Berman & Associates, Inc., Los Angeles, Calif. Filed May 5, 1969.

Owner of Reg. Nos. 564,932, 752,237, and others.
For Candies (Int. Cl. 30).
First use Feb. 11, 1964.

SN 327,279. The Kroger Co., Cincinnati, Ohio. Filed May 14, 1969.



For Yogurt (Int. Cl. 29).
First use at least as early as Mar. 7, 1969.

SN 327,489. Harvey Famous Cartoons, New York, N.Y. Filed May 16, 1969.

Owner of Reg. Nos. 722,258, 756,109, and 794,827.
For Baked Cookies and Crackers (Int. Cl. 30).
First use August 1968.

SN 327,545. C. M. Holtzinger Fruit Co., Inc., d.b.a. C. M. Holtzinger Fruit Co., Yakima, Wash. Filed May 19, 1969.

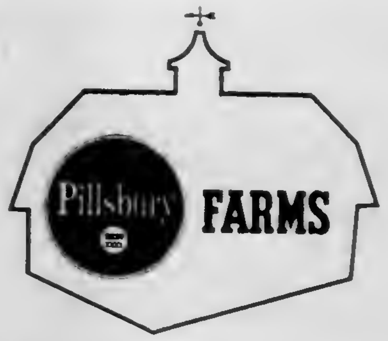
The word "Red" is disclaimed apart from the association shown, without waiver of applicant's common law rights in the composite mark. Owner of Reg. No. 851,569.
For Fresh Deciduous Fruits (Int. Cl. 31).
First use at least as early as 1930.

SN 328,036. Burrus Mills, Incorporated, Dallas, Tex. Filed May 22, 1969.

NUT-RI

For Bulgur (a Wheat Product) (Int. Cl. 31).
First use Feb. 29, 1968.

SN 330,889. The Pillsbury Company, Minneapolis, Minn. Filed June 25, 1969.



Owner of Reg. No. 662,329.
For Fresh Dressed Poultry (Int. Cl. 29).
First use June 6, 1969.

SN 330,932. Interstate Bakeries Corporation, Kansas City, Mo. Filed June 25, 1969.

GOOGLES

For Cup Cakes (Int. Cl. 30).
First use June 9, 1969.

SN 330,934. Interstate Bakeries Corporation, Kansas City, Mo. Filed June 25, 1969.

RAZZYS

For Cup Cakes (Int. Cl. 30).
First use June 9, 1969.

SN 331,663. World Wide Marketers, Ltd., Astoria, Oreg. Filed July 2, 1969.

ROYAL DUTCH

For Frozen Shrimp (Int. Cl. 29).
First use Oct. 11, 1960.

SN 331,702. Pet Incorporated, St. Louis, Mo. Filed July 3, 1969.

WILL POWDER

Applicant disclaims any rights in the word "Powder" apart from the mark as shown.
For Powdered Diet Food Which Serves as a Nutritionally Complete Meal (Int. Cl. 5).
First use on or about Feb. 1, 1969.
Subj. to Intf. with SN 329,032.

SN 332,351. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed July 11, 1969.

TABLERITE

Owner of Reg. No. 667,181.
For Margarine (Int. Cl. 29).
First use Aug. 20, 1965.

SN 332,457. CPC International Inc., Englewood Cliffs, N.J. Filed July 14, 1969.

DEXPET

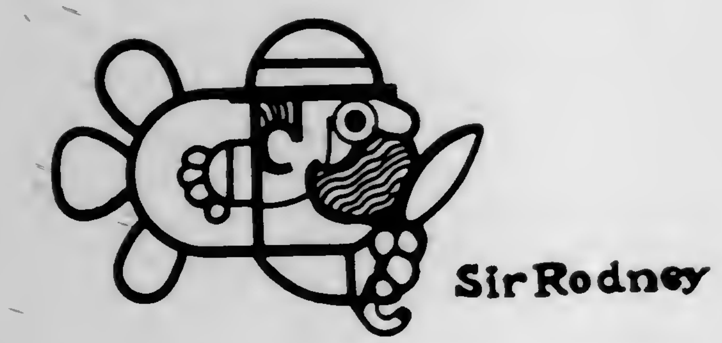
For Protein Supplement Used as an Ingredient in Animal Feeds and/or Pet Feeds (Int. Cl. 31).
First use at least as early as June 16, 1967.

SN 332,588. Morton International, Inc., Chicago, Ill. Filed July 15, 1969.

MORTON MELTABLES

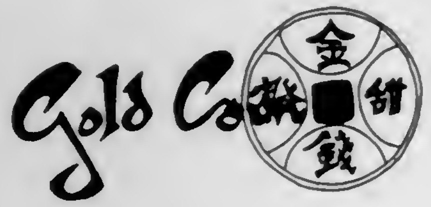
Owner of Reg. Nos. 509,883, 877,411, and others.
For Food Flavoring Concentrates and Flavoring Compounds for Use as Seasonings for Vegetables, Meats and Other Edibles (Int. Cl. 30).
First use on or about May 20, 1969.

SN 332,700. Dolphin Seafoods, Inc., Cleveland, Ohio. Filed July 16, 1969.



For Frozen Breaded Fish Portions (Int. Cl. 29).
First use on or about June 1, 1969.

SN 333,044. John Banuelos, Bakersfield, Calif. Filed July 22, 1969.



Applicant disclaims any exclusive rights in so much of the pictographic feature of the mark as means "sweet oranges." The English translation of the pictographic feature of the mark is "gold coin sweet oranges."
For Fresh Oranges (Int. Cl. 31).
First use Nov. 1, 1966.

SN 333,236. Seiko Trading Co., Ltd., d.b.a. Seiko Trading Co., Shimizu-shi, Shizuoka-ken, Japan. Filed July 23, 1969.

Seiko

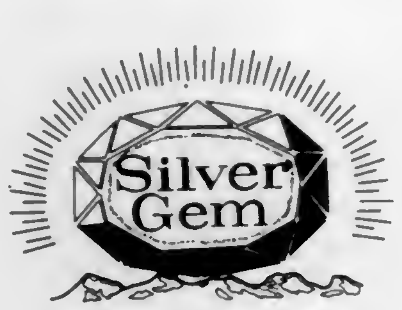
"Seiko" is a Japanese term meaning "tranquility" or "serenity." Owner of Japanese Reg. Nos. 527,320, dated Sept. 16, 1958; 529,662, dated Oct. 31, 1958; and 533,284, dated Feb. 17, 1959.
For Fresh and Canned Fruits, Vegetables, Fish and Shellfish; Tea, Cocoa, Sugar, Grains for Food Purposes, Edible Seeds, Flour and Starch for Food Purposes (Int. Cls. 29, 30, and 31).

SN 333,301. Scenic Fruit Company, Gresham, Oreg. Filed July 23, 1969.

SCENIC VIEW

For Frozen Strawberries (Int. Cl. 29).
First use July 14, 1969.

SN 333,331. Avi-Simplot, Inc., Nampa, Idaho. Filed July 24, 1969.



For Frozen Rock Cornish Game Hens (Int. Cl. 29).
First use at least as early as Aug. 21, 1968.
Subj. to Intf. with SN 322,709.

SN 333,439. Rajkovich Bros., d.b.a. Martin P. and George A. Rajkovich, Hollister, Calif. Filed July 24, 1969.

FAIRHAVEN ORCHARDS

For Fresh Fruits (Int. Cl. 31).
First use June 16, 1969.

SN 333,806. Warren G. Cairens, d.b.a. C & C Supply Company, Horseshoe, N.C. Filed July 29, 1969.

FORGE MOUNTAIN

For Pickled Okra, Pickled Beans, Pickled Corn, Honey, Molasses, Hot and Mild Chow Chow, Hot and Sweet Pepper Relish, Hot and Mild Onion Relish, Corn Relish, Sweet Cider, Artichoke Relish, Sweet Pickled Artichokes, and Pickled Green Tomatoes (Int. Cls. 29, 30, and 33).
First use Apr. 1, 1966.

SN 333,848. Prorico Industries, Inc., Mobile, Ala. Filed July 29, 1969.

PRO SIL

For Nutrient Material To Be Introduced Into Chopped Plant Material at the Time of Ensiling (Int. Cl. 1).
First use Oct. 7, 1968.

SN 334,188. Allen Products Co., Inc., Allentown, Pa. Filed Aug. 1, 1969.

ALPO MIX-MATE

Owner of Reg. Nos. 782,941, 785,326, and 832,281.
For Dog Food (Int. Cl. 31).
First use on or prior to May 23, 1969.

SN 334,862. Quinlan Pretzel Co., Denver, Pa. Filed Aug. 8, 1969.

BIDS

For Pretzels (Int. Cl. 30).
First use July 29, 1969.

SN 336,348. A. H. Robins Company, Incorporated, Richmond, Va. Filed Aug. 26, 1969.

Corn-Nip-Skins

Applicant disclaims the word "Corn" apart from the mark as shown. Owner of Reg. No. 870,191.
For Corn Chips (Int. Cl. 29).
First use Apr. 7, 1969; May 24, 1968, in a different form.

SN 336,811. Keebler Company, Elmhurst, Ill. Filed Sept. 2, 1969.

KEEBIES

Owner of Reg. No. 818,383.
For Cookies (Int. Cl. 30).
First use Aug. 10, 1969.

SN 337,444. General Foods Corporation, White Plains, N.Y. Filed Sept. 9, 1969.

95 PLUS

For Dog Food (Int. Cl. 31).
First use July 7, 1969.

SN 337,529. Ellio's Pizza House Inc., Long Island City, N.Y. Filed Sept. 10, 1969.

ELLIO'S PIZZA

The word "Pizza" is disclaimed apart from the mark as shown.
For Frozen Pizza (Int. Cl. 30).
First use August 1963.

SN 343,903. Brookshire Ice Cream Company, d.b.a. Brookshire Dairy Products Company and Brookshire's Dairy Products Company, Meridian, Miss. Filed Nov. 19, 1969.

STREAMLINE

Owner of Reg. No. 772,444.
For Low Calorie Dairy Products—Namely, Skim Milk and Ice Milk (Int. Cls. 29 and 30).
First use at least as early as May 16, 1962.

SN 344,069. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

TASTE PLUS

For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,071. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

MENU PLUS

For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,072. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

PACKER'S PLUS

For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,073. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

CHOICE PLUS

For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,075. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

PRIME PLUS

For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,076. Ralston Purina Company, St. Louis, Mo. Filed Nov. 20, 1969.

EAGER EATER PLUS

Owner of Reg. No. 722,644.
For Canned Dog Food (Int. Cl. 31).
First use Oct. 21, 1969.

SN 344,643. Ralston Purina Company, St. Louis, Mo. Filed Nov. 26, 1969.

DARI-PRO

For Dried Milk Fat Powder (Int. Cl. 29).
First use Sept. 26, 1969.

SN 346,027. The Coca-Cola Company, Atlanta, Ga. Filed Dec. 12, 1969.

REAL GOLD

Owner of Reg. Nos. 359,414, 662,322, and others.
For Fresh Lemons (Int. Cl. 31).
First use Oct. 10, 1969.

Class 47 — Wines

SN 323,544. Etablissement Actimonde, Vaduz, Liechtenstein. Filed Apr. 3, 1969.

ACTINISE

Owner of Liechtenstein Reg. No. 1,229, dated Nov. 6, 1961.
For Wines and Hard Cider (Int. Cl. 33).

Class 50 — Merchandise Not Otherwise Classified

SN 320,491. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

FAMOUS SIGHTS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,506. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPACE EXPLORERS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,536. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT INVENTORS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,568. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

AMERICAN PATRIOTS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 327,258. The Franklin Mint, Inc., Yeadon, Pa. Filed May 14, 1969.

ASTRO-COIN

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use May 1, 1969.

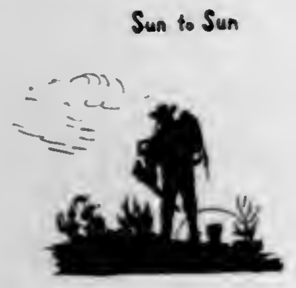
SN 327,260. The Franklin Mint, Inc., Yeadon, Pa. Filed May 14, 1969.

COIN-A-WORD

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use May 1, 1969.

Class 51 — Cosmetics and Toilet Preparations

SN 304,118. Premiere of Hollywood, Inc., d.b.a. Sun to Sun Enterprises, North Hollywood, Calif. Filed Aug. 1, 1968.



For Men's Cologne and After Shave (Int. Cl. 3).
First use May 17, 1968.

SN 318,114. Vienna Beauty Products Co., Dayton, Ohio. Filed Jan. 31, 1969.

MILK MAGIC

Applicant disclaims the word "Milk" apart from the mark as shown.
For Cosmetic Hand and Body Lotion (Int. Cl. 3).
First use Dec. 18, 1968.
Subj. to Intf. with SN 322,533.

SN 319,201. Philip M. Scaglia, d.b.a. Mary Anita, Kansas City, Mo. Filed Feb. 14, 1969.

BELLES DE FRANCE

An English translation of the mark is "girls of France." The word "France" is disclaimed apart from the mark as shown.
For Perfume and Cologne (Int. Cl. 3).
First use Oct. 16, 1961.

SN 321,034. Beauticontrol, Inc., Dallas, Tex. Filed Mar. 7, 1969.

OL' TANNER

For Skin Cleanser, Toner and Masque (Int. Cl. 3).
First use Dec. 5, 1966.

SN 322,533. Trylon Products Corporation, Chicago, Ill. Filed Mar. 24, 1969.

Applicant disclaims the exclusive use of the word "Milk" apart from the mark as shown.
For Hand and Body Lotion (Int. Cl. 3).
First use Jan. 30, 1969.
Subj. to Intf. with SN 318,114.

SN 333,522. Avon Products, Inc., New York, N.Y. Filed July 25, 1969.

KISS 'N' MAKEUP

Applicant disclaims the word "Makeup" apart from the mark as shown.
For Lipstick, Filled Powder Compact, Eyeshadow, and Facial Blusher (Int. Cl. 3).
First use May 21, 1969.

SN 338,411. M. Leopold International Inc., New York, N.Y. Filed Sept. 19, 1969.

For Bath Oil (Int. Cl. 3).
First use May 13, 1969.
Subj. to Intf. with SN 332,318.

SN 340,178. Leo E. Mueller, d.b.a. Brimar Company, Audubon, N.J. Filed Oct. 8, 1969.

BEAUT-O-TAN

For After Sunning Lotions (Int. Cl. 3).
First use July 28, 1969.

SN 340,239. John H. Breck, Inc., Wayne, N.J. Filed Oct. 9, 1969.

THE BEGINNING BY BRECK

Owner of Reg. Nos. 831,589, 874,405, and others.
For Skin Cleanser Facial Cream (Int. Cl. 3).
First use Sept. 30, 1969.

SN 340,241. John H. Breck, Inc., Wayne, N.J. Filed Oct. 9, 1969.

BRECK BEGINNING

Owner of Reg. Nos. 831,589, 874,405, and others.
For Skin Cleanser Facial Cream (Int. Cl. 3).
First use Sept. 30, 1969.

SN 340,243. John H. Breck, Inc., Wayne, N.J. Filed Oct. 9, 1969.

BRECK BASIC

Owner of Reg. No. 856,172.
For Setting Lotion, Hair Coloring Preparation Hair Spray and Creme Rinse (Int. Cl. 3).
First use Sept. 26, 1969.

SN 344,058. Lever Brothers Company, New York, N.Y. Filed Nov. 20, 1969.

POWERMINT

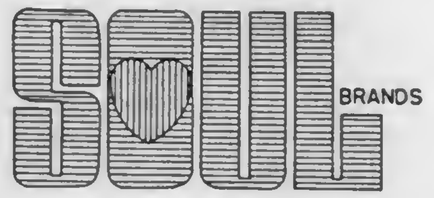
For Dentifrice (Int. Cl. 3).
First use Nov. 14, 1969.

Class 52 — Detergents and Soaps

SN 277,291. Michigan Company Incorporated, Lansing, Mich. Filed Aug. 1, 1967.

For Rug, Carpet and Upholstery Shampoo, Liquid Hand Soap, Heavy Duty Cleaner and Degreaser, All-Purpose Cleaning Preparations for Walls, Cement Surfaces, Woodwork, Venetian Blinds, Glass, Glassware, Linens, Clothing, Leather and Leather-Like Materials (Int. Cl. 3).
First use Apr. 2, 1925.

SN 300,865–A. Soul Brands, Inc., Memphis, Tenn. Filed June 20, 1968.



The drawing is lined for the colors red and blue. The word "Brands" is disclaimed apart from the mark as shown.
For Worker's Heavy Cleaning Soap (Int. Cl. 3).
First use June 7, 1968.

SN 309,869. Helene Curtis Industries, Inc., Chicago, Ill. Filed Oct. 17, 1968.

IMPERIAL 8

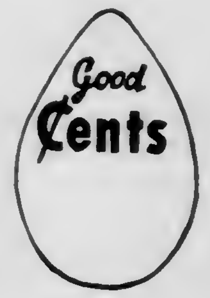
Owner of Reg. No. 662,027.
For Hair Shampoo for Use in Beauty Parlors for Use in Giving Hair Shampoos on the Premises (Int. Cl. 3).
First use on or about Aug. 1, 1961.

SN 311,822. Phillip A. Brooks, d.b.a. Alan Manufacturing Co., Chicago, Ill. Filed Nov. 12, 1968.

WIPE OUT

For Cleaning Preparations and Shampoo for Use on Walls, Ceilings, and Floors (Int. Cl. 3).
First use Mar. 18, 1968.
Subj. to Intf. with SN 298,120.

SN 325,864. Good Cents Products, Portland, Oreg. Filed Apr. 29, 1969.



For Lotion Used in Protecting Against or Removing Stains and Grime From Human Skin (Int. Cl. 3).
First use Jan. 10, 1969.

SN 328,088. Williams Gold Refining Company Incorporated, Buffalo, N.Y. Filed May 22, 1969.

PREVOX

For Pickling Solution for Use on Dental Metals (Int. Cl. 3).
First use on or about Dec. 5, 1949.

SN 328,349. Santa Monica Chemical Corporation, Santa Monica, Calif. Filed May 26, 1969.

KLEAN-KRETE

For Powdered Chemical Concrete Cleaner (Int. Cl. 3).
First use July 7, 1967.

SN 332,318. Clairol Incorporated, New York, N.Y. Filed July 11, 1969.

PZZAZZZ

For Instant Hair Shampoo (Int. Cl. 3).
First use May 21, 1969.
Subj. to Intf. with SN 338,411.

SN 335,916. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 22, 1969.

BRIGHT SIDE

For Hair Shampoo (Int. Cl. 3).
First use July 29, 1969.

SN 340,244. John H. Breck, Inc., Wayne, N.J. Filed Oct. 9, 1969.

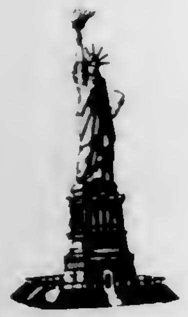
BRECK BASIC

Owner of Reg. No. 856,172.
For Hair Shampoo (Int. Cl. 3).
First use Sept. 26, 1969.

SERVICE MARKS

Class 100 — Miscellaneous

SN 287,744. Liberty Leasing Company, Inc., Chicago, Ill. Filed Dec. 28, 1967.



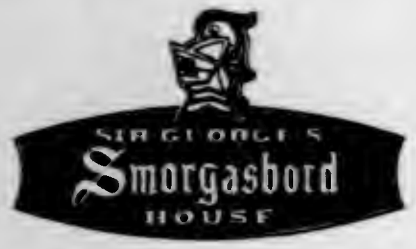
For Leasing and Lease-Purchase Arrangements of Commercial and Industrial Machinery and Equipment (Int. Cl. 42).
First use Oct. 10, 1961.

SN 291,447. The Texan Drive-Ins Limited, Vancouver, British Columbia, Canada. Filed Feb. 19, 1968.

THE TEXAN

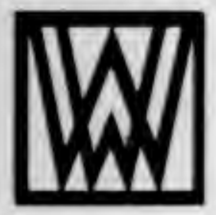
Priority claimed under Sec. 44(d) on Canadian application filed Sept. 29, 1967, Reg. No. 158,546, dated Oct. 4, 1968.
For Drive-In Restaurant Services (Int. Cl. 42).

SN 292,623. Sir George's Smorgasbord House, Inc., Orange, Calif. Filed Mar. 6, 1968.



Applicant disclaims the wording "Smorgasbord House" apart from the mark as shown.
For Restaurant Services (Int. Cl. 42).
First use Sept. 30, 1962.

SN 312,053. James May Organization, Inc., New York, N.Y. Filed Nov. 13, 1968.



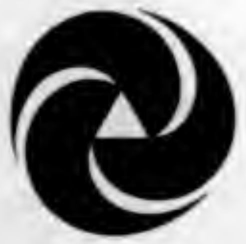
For Creating, Providing and Adapting Textile Designs for Application to Goods of Others (Int. Cl. 42).
First use Mar. 15, 1965.

SN 317,517. Alexander's Rent-A-Car, Inc., New York, N.Y. Filed Jan. 27, 1969.

ALEXANDER'S

For Motor Vehicle Rental and Leasing Services (Int. Cl. 42).
First use May 1, 1968.

SN 317,518. Alexander's Rent-A-Car, Inc., New York, N.Y. Filed Jan. 27, 1969.



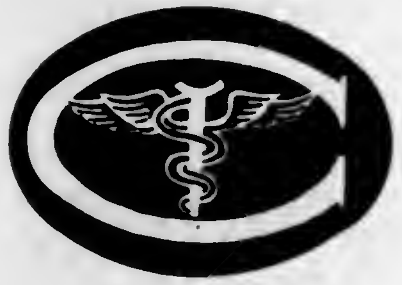
For Motor Vehicle Rental and Leasing Services (Int. Cl. 42).
First use May 1, 1968.

SN 318,401. Convalariums of America, Inc., Santa Monica, Calif. Filed Feb. 5, 1969.

CONVALARIUM

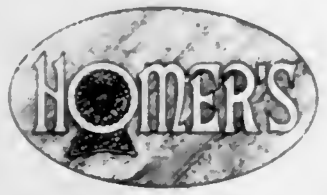
For Operation of Convalescent and Rehabilitative Care Centers (Int. Cl. 42).
First use January 1958.

SN 318,402. Convalariums of America, Inc., Santa Monica, Calif. Filed Feb. 5, 1969.



No claim is made to the caduceus apart from the mark as shown without waiving any common law rights therein.
For Operation of Convalescent and Rehabilitative Care Centers (Int. Cl. 42).
First use Jan. 23, 1964.

SN 322,096. Servco, Inc., Athens, Ga. Filed Mar. 18, 1969.



The drawing is lined for the colors brown and orange, but the mark is not restricted to a particular color or combination of colors.
For Restaurant and Carry-Out Restaurant Services (Int. Cl. 42).
First use May 21, 1968.

SN 322,642. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

REAL-A-STATE

For Leasing of Industrial Equipment, Machinery and Fixtures and Real Estate (Int. Cl. 42).
First use Jan. 14, 1969.

SN 322,643. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

OPEN ENDER

For Leasing of Industrial Equipment, Machinery and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 322,638. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

CASH TIMER

For Leasing of Industrial Equipment, Machinery and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 322,639. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

STANDARD "OLD SHOE"

For Leasing of Industrial Equipment, Machinery and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 322,641. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

VENDALEASE

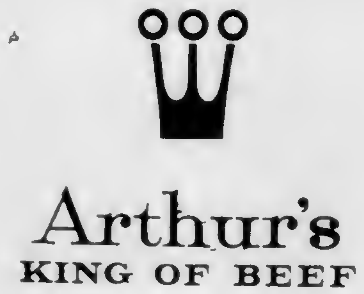
For Leasing of Industrial Equipment, Machinery, and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 322,646. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

CASH RAISER

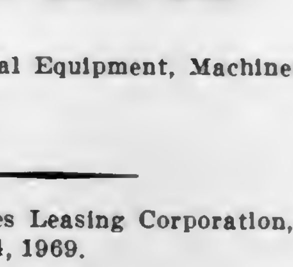
For Leasing of Industrial Equipment, Machinery, and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 327,181. Unico Corporation, Portsmouth, Va. Filed May 13, 1969.



Applicant disclaims the word "Beef" apart from the mark as shown without any relinquishment of its common law rights in the same.
For Restaurant Services (Int. Cl. 42).
First use May 2, 1969.

SN 329,211. American Rehabilitation Foundation, Inc., d.b.a. Institute for Interdisciplinary Studies, Minneapolis, Minn. Filed June 5, 1969.



For Research and Planning Services Involving the Disciplines of Medicine, Sociology, Psychology, Systems Analysis, Statistics, Economics, Public Administration and Education—Namely, Planning of Management Systems for Public Welfare Programs; Development of Methods for Quality Assessment of Health Care for the Poor and Aged; and Research on the Extent and Availability of Medical Manpower (Int. Cl. 42).
First use Feb. 10, 1969.

SN 330,329. Longchamps, Inc., New York, N.Y. Filed June 18, 1969.

CAVANAGH'S

For Restaurant Services (Int. Cl. 42).
First use 1876.

Class 101 — Advertising and Business

SN 275,676. Marden-Kane, Inc., New York, N.Y. Filed July 10, 1967.

HEADS OR TAILS?

For Promoting the Sale of Goods or Services of Others Through the Distribution of Materials and Advertising Matter Designed for a Promotional Contest (Int. Cl. 35).
First use July 6, 1967.

SN 283,352. Marden-Kane, Inc., New York, N.Y. Filed Oct. 25, 1967.

TIGERAMA

For Promoting the Sale of Goods or Services of Others Through the Distribution of Materials and Advertising Matter Designed for a Promotional Contest (Int. Cl. 35).
First use Aug. 22, 1967.

SN 290,619. The Kimbell Corporation, d.b.a. Foodway, Fort Worth, Tex. Filed Feb. 8, 1968.

FOODWAY

Applicant claims use for the area comprising the entire United States with the exception of New Mexico. Subj. to Con. Use Proc. with Barber's Super Markets Inc., Albuquerque, N. Mex.
For Supermarket Services of Selling Food Products (Int. Cl. 35).
First use about June 28, 1956.
Subj. to Intf. with SN 322,157.

SN 300,207. Lehigh Wholesale Grocery Co., Inc., Allentown, Pa. Filed June 11, 1968.

MR. FOOD

The word "Food" is disclaimed apart from the mark as shown.

For Grocery Cooperative Purchasing and Distribution Services (Int. Cl. 35).

First use Jan. 15, 1968.

SN 308,686. The Franklin Mint, Inc., Yeadon, Pa. Filed Oct. 2, 1968.

FAMOUS FACTS & FACES

For Promoting the Sales of Goods of Others Through Providing of Materials, Advertising Matter, and Premiums for Promotional Games (Int. Cl. 35).

First use Sept. 25, 1968.

SN 315,179. Concept Visuals, Inc., Madison, Wis. Filed Dec. 26, 1968.

THE LEARNING SHOP

The word "Shop" is disclaimed apart from the mark as shown.

For Retail and Mail Order School Supply Store Services, Specializing in the Sale of Books and Other Teaching Aids (Int. Cl. 35).

First use Dec. 11, 1968.

Class 102 — Insurance and Financial

SN 328,547. John Hancock Mutual Life Insurance Company, Boston, Mass. Filed May 28, 1969.

IGP

For Administration and Underwriting of Life Insurance, Accident and Health Insurance, Annuity Contracts, and Pensions (Int. Cl. 36).

First use March 1969.

SN 345,654. Metropolitan Life Insurance Company, New York, N.Y. Filed Dec. 8, 1969.

MEDIMET

For Health Insurance Underwriting Services (Int. Cl. 36).

First use July 10, 1969.

Class 105 — Transportation and Storage

SN 319,560. American Express Company, New York, N.Y. Filed Feb. 19, 1969.

SWINGER

For Arranging and Conducting Travel Tours (Int. Cl. 39).

First use Oct. 15, 1968.

SN 327,711. T & L Air Freight, Inc., Houston, Tex. Filed May 14, 1969.

SPEEDAIR

For Air Passenger and Freight Service (Int. Cl. 39).

First use Apr. 22, 1968.

SN 332,899. Western Air Lines, Inc., d.b.a. Western Airlines International, Los Angeles, Calif. Filed July 18, 1969.

WEIGHTLIFTER

For Transportation of Cargo by Air (Int. Cl. 39).

First use Jan. 29, 1969.

Class 107 — Education and Entertainment

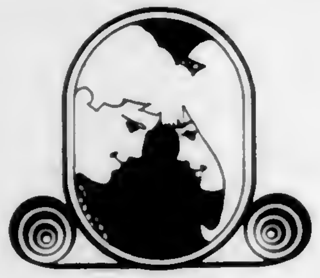
SN 265,617. Department of the Treasury of the United States, Washington, D.C. Filed Feb. 28, 1967.

"GUEST STAR"

For Entertainment Services—Namely, a Radio Program (Int. Cl. 41).

First use Mar. 30, 1947.

SN 306,888. Cuna Mutual Insurance Society, Madison, Wis. Filed Sept. 9, 1968.



For Conducting Workshops, Seminars and Other Meetings, Committees, Clubs and Programs To Acquaint Policyholders and Non-Policyholders With Company Services, Programs, and Policies (Int. Cl. 41).

First use May 6, 1968.

SN 306,890. Cuna Mutual Insurance Society, Madison, Wis. Filed Sept. 9, 1968.

youth✲quake

For Conducting Workshops, Seminars and Other Meetings, Committees, Clubs and Programs To Acquaint Policyholders and Non-Policyholders With Company Services, Programs, and Policies (Int. Cl. 41).

First use May 6, 1968.

SN 335,061. Sales Training, Inc., Seattle, Wash. Filed Aug. 11, 1969.

WHOLEMAN

For Educational Services—Namely, Conducting Courses in Sales Technique (Int. Cl. 41).

First use January 1967.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 310,352. The National Hockey League, Montreal, Quebec, Canada. Filed Oct. 23, 1968.

NATIONAL HOCKEY LEAGUE

For Indicating Membership in Applicant.

First use 1917.

Subj. to Intf. with SN 305,476 and SN 305,477.

SN 323,606. Taproot Republicans of the 14th Congressional District, Villa Park, Ill. Filed Apr. 3, 1969.

TAPROOT

For Indicating Membership in Applicant.

First use Aug. 17, 1967.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

889,542. GARDEN GEMS. The Packaged Concrete Manufacturers Association. SN 302,113. COLLECTIVE MARK. Pub. 2-3-70. Filed 7-5-68.

889,543. CARGO LINER. Polyplastex United, Inc. SN 302,960. Pub. 2-3-70. Filed 7-17-68.

889,544. BARTAN. Barbour Welting Company, Inc. SN 313,073. Pub. 2-3-70. Filed 11-26-68.

889,545. BELL FLORAL CO. AND DESIGN. James D. Bell, d.b.a. Bell Floral Co. SN 313,675. Pub. 2-3-70. Filed 12-5-68.

889,546. TRANS-SEAL AND DESIGN. Stone Container Corporation. SN 316,247. Pub. 2-3-70. Filed 1-9-69.

889,547. T AND TREE DESIGN. Boething Treeland Nursery Co. SN 319,572. Pub. 2-3-70. Filed 2-19-69.

889,548. DANDUX AND DESIGN. C. R. Daniels, Inc. SN 321,473. Pub. 2-3-70. Filed 3-12-69.

889,549. POWDER ROOM. Carnation Company. SN 321,902. Pub. 2-3-70. Filed 3-17-69.

889,550. RJ. Monsanto Company. SN 322,181. Pub. 2-3-70. Filed 3-19-69.

889,551. MISCELLANEOUS DESIGN. Lawter Chemicals, Inc. MULTIPLE CLASS (Classes 1, 11, and 16). SN 322,773. Pub. 2-3-70. Filed 3-26-69.

Class 2 — Receptacles

889,552. GATX AND DESIGN. General American Transportation Corporation. MULTIPLE CLASS (Classes 2, 13, 16, 19, 21, 23, 26, 31, and 34). SN 283,839. Pub. 2-3-70. Filed 11-1-67.

889,553. TR CO AND DESIGN. The Richardson Company. MULTIPLE CLASS (Classes 2, 21, and 23). SN 302,168. Pub. 2-3-70. Filed 6-24-68.

889,554. GALWAY. Burwood Products Company, d.b.a. Galway. MULTIPLE CLASS (Classes 2, 32, and 34). SN 312,848. Pub. 2-3-70. Filed 11-22-68.

889,555. MCC AND DESIGN. Molded Container Corporation. SN 317,462. Pub. 2-3-70. Filed 1-24-69.

889,556. CARRI PAC. Brookpark-Royalon, Inc. SN 321,464. Pub. 2-3-70. Filed 3-12-69.

889,557. SANI-KONE. Phillips Petroleum Company. SN 324,488. Pub. 2-3-70. Filed 4-14-69.

889,558. CUTLASS. Brookpark-Royalon, Inc. SN 325,576. Pub. 2-3-70. Filed 4-25-69.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

889,559. CONIKER. Coniker Enterprises, Inc. MULTIPLE CLASS (Classes 3 and 37). SN 295,116. Pub. 2-3-70. Filed 4-8-68.

889,560. ROYAL LONDON. Royal London, Ltd. MULTIPLE CLASS (Classes 3, 29, and 40). SN 305,249. Pub. 2-3-70. Filed 8-15-68.

889,561. CT DESIGN. Camp Trails. SN 318,872. Pub. 2-3-70. Filed 12-12-68.

889,562. ROMUNDA. Textron Inc. MULTIPLE CLASS (Classes 3 and 28). SN 324,963. Pub. 2-3-70. Filed 4-21-69.

889,563. DAVEY'S. Davey's, Inc. SN 335,163. Pub. 2-3-70. Filed 8-13-69.

Class 4 — Abrasives and Polishing Materials

889,564. CUTRITE. Minnesota Mining and Manufacturing Company. SN 336,898. Pub. 2-3-70. Filed 9-3-69.

Class 5 — Adhesives

889,565. CORTROL. Cee-Bee Manufacturing Company, Inc. MULTIPLE CLASS (Classes 5 and 12). SN 306,197. Pub. 2-3-70. Filed 8-29-68.

Class 6 — Chemicals and Chemical Compositions

889,566. EMPIGEN. Albright & Wilson Limited, assignee of Marchon Products Limited. SN. 195,686. Pub. 1-19-65. Filed 6-15-64.

889,567. T TOPCO AND DESIGN. Topco Associates, Inc. SN 298,063. Pub. 2-3-70. Filed 5-13-68.

889,568. HAHN'S SPIDA KILL! Hahn Exterminating Service. SN 299,231. Pub. 2-3-70. Filed 5-28-68.

889,569. AQUAPAK. Waters Associates Inc. SN 303,369. Pub. 2-3-70. Filed 7-22-68.

889,570. PORAGEL. Waters Associates Inc. SN 303,370. Pub. 2-3-70. Filed 7-22-68.

889,571. NISSOL. Nippon Soda Company, Limited. SN 303,814. Pub. 2-3-70. Filed 7-29-68.

889,572. DURACYTE. Abbott Laboratories. SN 303,956. Pub. 2-3-70. Filed 7-22-68.

889,573. D-NITE. Circle Research Laboratories, Inc. SN 304,668. Pub. 2-3-70. Filed 8-8-68.

889,574. GOLD CREST. Gold Crest Chemical Corporation, Inc. SN 305,125. Pub. 2-3-70. Filed 8-14-68.

889,575. T-5. Monogram Industries, Inc. SN 309,604. Pub. 2-3-70. Filed 10-14-68.

889,576. ANGLAMOL. The Lubrizol Corporation. SN 309,874. Pub. 2-3-70. Filed 10-17-68.

889,577. GO-FER-GAS. Zehrung Chemical Company. SN 310,010. Pub. 2-3-70. Filed 10-18-68.

889,578. BI-LITE. Mallinckrodt Chemical Works. SN 313,177. Pub. 2-3-70. Filed 11-27-68.

889,579. DEHYLOURS. Dehydag Deutsche Hydrierwerke G.m.b.H. SN 315,062. Pub. 2-3-70. Filed 12-23-68.

889,580. STATEXAN. Farbenfabriken Bayer Aktiengesellschaft. SN 315,313. Pub. 2-3-70. Filed 12-27-68.

889,581. SPORDI. American Sterilizer Company. SN 317,698. Pub. 2-3-70. Filed 1-28-69.

889,582. SICKLEDEX. Ortho Pharmaceutical Corporation. d.b.a. Ortho Diagnostics. SN 319,349. Pub. 2-3-70. Filed 2-17-69.

889,583. GEPIRON. Geigy Chemical Corporation. SN 321,211 Pub. 2-3-70. Filed 3-10-69.

889,584. SOUL BRANDS AND DESIGN. Soul Brands, Inc. SN 322,100. Pub. 2-3-70. Filed 3-18-69.

889,585. SANDORIN. Sandoz, Inc. SN 322,347. Pub. 2-3-70. Filed 3-20-69.

889,586. MICROMA. Columbian Carbon Company. SN 322,408. Pub. 2-3-70. Filed 3-21-69.

889,587. ELFIT. Dr. Ing. Max Schlotter, Fabrik fur Galvanotechnik. SN 325,290. Pub. 2-3-70. Filed 4-23-69.

889,588. MISCELLANEOUS DESIGN. International Minerals & Chemical Corporation. SN 325,661. Pub. 2-3-70. Filed 4-28-69.

889,589. STATLAB. Minnesota Mining and Manufacturing Company. SN 328,775. Pub. 2-3-70. Filed 6-2-69.

889,590. XMDL. X-L Laboratories, Inc. SN 331,297. Pub. 2-3-70. Filed 6-30-69.

889,591. SENDRAN. Chemagro Corporation. SN 334,167. Pub. 2-3-70. Filed 8-1-69.

Class 7 — Cordage

889,592. GOLDLON. Tubbs Cordage Company. SN 306,284. Pub. 2-3-70. Filed 8-29-68.

889,593. SILVERLON. Tubbs Cordage Company. SN 306,823. Pub. 2-3-70. Filed 9-6-68.

Class 8 — Smokers' Articles, Not Including Tobacco Products

889,594. RYO FILTERMATIC AND DESIGN. Sutliff Tobacco Company. SN 329,317. Pub. 2-3-70. Filed 6-6-69.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

889,595. MARSHAL. Hawes-National Corporation. SN 293,135. Pub. 2-3-70. Filed 3-13-68.

Class 10 — Fertilizers

889,596. SUVITA. Filfast Corporation, by change of name from Floral Development Corp. SN 322,221. Pub. 2-3-70. Filed 3-20-69.

889,597. SHO' BARK. Shore Litter, Inc. SN 324,242. Pub. 2-3-70. Filed 4-10-69.

889,598. LIQUA-FORM AND DESIGN. Edward A. Platz. SN 324,748. Pub. 2-3-70. Filed 4-16-69.

889,599. PFC GREEN-T AND DESIGN. Edward A. Platz. SN 324,750. Pub. 2-3-70. Filed 4-16-69.

889,600. TOMATO-RIPE. Clover Chemical Company. SN 334,693. Pub. 2-3-70. Filed 8-7-69.

889,601. RELI-GANIC. Kaiser Aluminum & Chemical Corporation. SN 334,724. Pub. 2-3-70. Filed 8-7-69.

Class 11 — Inks and Inking Materials

889,551. (See Class 1 for this trademark.)

Class 12 — Construction Materials

889,565. (See Class 5 for this trademark.)

889,602. WILKORID. Fa. Hermann Wilke. SN 291,213. Pub. 2-3-70. Filed 2-15-68.

889,603. INTERNATIONAL DESIGNS BY ALSIDE. Alside, Inc. SN 298,301. Pub. 2-3-70. Filed 5-16-68.

889,604. AJAX. The Cincinnati Sheet Metal & Roofing Co. MULTIPLE CLASS (Classes 12 and 34). SN 307,157. Pub. 8-5-69. Filed 9-12-68.

889,605. E-Z TREAD. National Steel Corporation. SN 316,904. Pub. 2-3-70. Filed 1-17-69.

889,606. FLAKELOCK AND DESIGN. International Paper Company. SN 317,231. Pub. 2-3-70. Filed 1-22-69.

889,607. FLAKELOCK ETC. AND DESIGN. International Paper Company. SN 317,232. Pub. 2-3-70. Filed 1-22-69.

889,608. DECOR-GRID. Howmet Corporation. SN 318,649. Pub. 2-3-70. Filed 2-7-69.

889,609. RIGIDUCT. PPG Industries, Inc. SN 325,820. Pub. 2-3-70. Filed 4-29-69.

889,610. UNIFLEX. A. Carol Sanford, d.b.a. Sanford Associates. SN 328,348. Pub. 1-27-70. Filed 5-26-69.

889,611. PANELECTRIC. National Gypsum Company. SN 329,261. Pub. 2-3-70. Filed 6-5-69.

889,612. PARKTEX. Kem Manufacturing Corporation. SN 329,486. Pub. 2-3-70. Filed 6-9-69.

889,613. NOR'EASTER. GAF Corporation. SN 329,614. Pub. 2-3-70. Filed 6-10-69.

889,614. TWIN 20. Johns-Manville Corporation. SN 329,621. Pub. 2-3-70. Filed 6-10-69.

889,615. IDEA AND GLOBE DESIGN. International Display Equipment Associates Inc. SN 329,727. Pub. 2-3-70. Filed 6-11-69.

889,616. NOVAGARD. Novagard Corporation. SN 329,744. Pub. 2-3-70. Filed 6-11-69.

889,617. ACOUSTIPLANK. Martin Fireproofing Corporation. SN 335,645. Pub. 2-3-70. Filed 8-19-69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

889,552. (See Class 2 for this trademark.)

889,618. MC DOWELL AND DESIGN. Alco Standard Corporation. SN 316,959. Pub. 11-11-69. Filed 1-21-69.

889,619. ALUMA-DRIVE. U.S. Expansion Bolt Company. SN 318,472. Pub. 2-3-70. Filed 2-5-69.

889,620. DRIL-THRED. Olympic Screw & Rivet Corporation. SN 318,915. Pub. 2-3-70. Filed 2-11-69.

889,621. EPOXIROD. A. B. Chance Company. SN 319,694. Pub. 2-3-70. Filed 2-20-69.

889,622. NYLOCORE. Kenco Products Corporation. SN 321,063. Pub. 2-3-70. Filed 3-7-69.

Class 14 — Metals and Metal Castings and Forgings

889,623. LAMILLOY. General Motors Corporation. SN 306,478. Pub. 2-3-70. Filed 9-3-68.

889,624. BENDRITE. Nisshin Steel Co., Ltd. SN 314,809 Pub. 2-3-70. Filed 12-18-68.

889,625. KB-45. Kaiser Aluminum & Chemical Corporation. SN 333,224. Pub. 2-3-70. Filed 6-6-69.

Class 15 — Oils and Greases

889,626. HEXSOL. Amerada Hess Corporation, by merger from Hess Oil & Chemical Corporation. SN 283,524. Pub. 12-9-69. Filed 10-27-67.

889,627. PIONEER. Pioneer Products, Inc. SN 301,356. Pub. 2-3-70. Filed 6-25-68.

889,628. CAROLINA AND DESIGN. Carolina Company, Inc., d.b.a The Carolina Soap & Candle Makers. SN 302,295. Pub. 2-3-70. Filed 7-9-68.

Class 16 — Protective and Decorative Coatings

889,551. (See Class 1 for this trademark.)

889,552. (See Class 2 for this trademark.)

889,629. WONDERFLO. Tri-Chem, Inc. SN 311,705. Pub. 2-3-70. Filed 11-8-68.

889,630. VISTA AND DESIGN. National Independent Distributor Associates, Inc. MULTIPLE CLASS (Classes 16, 19, 22, and 35). SN 320,895. Pub. 11-11-69. Filed 3-6-69.

889,631, HYDROFORM. DeSoto, Inc. SN 327,366. Pub. 2-3-70. Filed 5-15-69.

889,632. CHEVRON AND DESIGN. Standard Oil Company of California. SN 329,529. Pub. 2-3-70. Filed 6-9-69.

Class 17 — Tobacco Products

889,633. TALL N' SLIM. United States Tobacco Company. SN 295,685. Pub. 2-3-70. Filed 4-15-68.

889,634. ALTERNATES. Consolidated Cigar Corporation. SN 326,499. Pub. 2-3-70. Filed 5-6-69.

889,635. COSMO. Consolidated Cigar Corporation. SN 326,504. Pub. 2-3-70. Filed 5-6-69.

889,636. DUTCH TREATS. Consolidated Cigar Corporation. SN 326,505. Pub. 2-3-70. Filed 5-6-69.

889,637. GREAT BOOKS. Consolidated Cigar Corporation. SN 326,509. Pub. 2-3-70. Filed 5-6-69.

889,638. PLEASURETTES. Consolidated Cigar Corporation. SN 326,512. Pub. 2-3-70. Filed 5-6-69.

889,639. SNIFTER. Consolidated Cigar Corporation. SN 326,513. Pub. 2-3-70. Filed 5-6-69.

889,640. TIARA. Consolidated Cigar Corporation. SN 326,514. Pub. 2-3-70. Filed 5-6-69.

889,641. TOUCHE. Consolidated Cigar Corporation. SN 326,515. Pub. 2-3-70. Filed 5-6-69.

889,642. MOORE'S RED LEAF. Scott Tobacco Company. SN 326,600. Pub. 2-3-70. Filed 5-7-69.

Class 18 — Medicines and Pharmaceutical Preparations

889,643. KETAZON. Spofa Spojene Podniky pro Zdravotnickou Vyrobu, d.b.a. Spofa United Pharmaceutical Works. SN 296,992. Pub. 7-29-69. Filed 4-30-68.

889,644. LIQUIGEL. Allergan Pharmaceuticals. SN 301,150. Pub. 2-3-70. Filed 6-24-68.

889,645. NATUR-ZYME. Barth Vitamin Corp. SN 303,256. Pub. 2-3-70. Filed 7-22-68.

889,646. CODE CAP. Marion Laboratories, Inc. SN 309,875. Pub. 2-3-70. Filed 10-17-68.

889,647. BASAPLEX. The Bassett Veterinary Company, Inc. SN 314,512. Pub. 2-3-70. Filed 12-16-68.

889,648. SOUL BRANDS AND DESIGN. Soul Brands, Inc. SN 322,101. Pub. 2-3-70. Filed 3-18-69.

889,649. DELPHICORT. American Cyanamid Company. SN 322,541. Pub. 2-3-70. Filed 3-24-69.

889,650. MTZ. American Cyanamid Company. SN 323,664. Pub. 2-3-70. Filed 4-4-69.

889,651. DECLO. American Cyanamid Company. SN 323,665. Pub. 2-3-70. Filed 4-4-69.

Class 19 — Vehicles

889,552. (See Class 2 for this trademark.)

889,630. (See Class 16 for this trademark.)

889,652. LIFE GUARD CONSTRUCTION. Larson Industries, Inc. SN 310,238. Pub. 2-3-70. Filed 10-22-68.

889,653. DMH. DMH Corporation. SN 320,443. Pub. 2-3-70. Filed 3-3-69.

889,654. POLARIS AND DESIGN. Textron Inc. SN 329,814. Pub. 2-3-70. Filed 6-12-69.

Class 21 — Electrical Apparatus, Machines, and Supplies

889,552. (See Class 2 for this trademark.)

889,553. (See Class 2 for this trademark.)

889,655. NAUTILUS. The Tappan Company. SN 297,896. Pub. 2-3-70. Filed 5-10-68.

889,656. COMPUTER PRODUCTS AND DESIGN. Computer Products, Inc. SN 306,757. Pub. 2-3-70. Filed 9-6-68.

889,657. STA-REG. American Plasticraft Company. SN 307,075. Pub. 2-3-70. Filed 9-11-68.

889,658. COLOR-TUNED. Kay-Townes Antenna Company, Inc. SN 307,845. Pub. 2-3-70. Filed 9-20-68.

889,659. GRAPHIC SERIES 400 AND DESIGN. Graphic Communications Corporation. SN 308,891. Pub. 2-3-70. Filed 10-4-68.

889,660. COMMUNICATOR. Graphic Communications Corporation. SN 308,892. Pub. 2-3-70. Filed 10-4-68.

889,661. CS AND DESIGN. Color-Sonics Inc. SN 309,544. Pub. 2-3-70. Filed 10-14-68.

889,662. ALGER-LITE. Alger Equipment Company, Inc. SN 307,075. Pub. 2-3-70. Filed 9-11-68.

889,663. GROTE. The Grote Manufacturing Company. SN 310,890. Pub. 2-3-70. Filed 10-30-68.

889,664. PEOPLE FINDER. Motorola, Inc. SN 313,014. Pub. 2-3-70. Filed 11-25-68.

889,665. TOASTMASTER. McGraw-Edison Company. SN 313,054. Pub. 2-3-70. Filed 11-29-68.

889,666. PICOMAT. Carl Maier & Cie. SN 317,708. Pub. 2-3-70. Filed 1-28-69.

889,667. FARADYNE. Vohlsson Inc. SN 318,348. Pub. 2-3-70. Filed 2-4-69.

889,668. TOASTRON. Dominion Electric Corporation. SN 322,053. Pub. 2-3-70. Filed 3-18-69.

889,669. TOASTRON AND DESIGN. Dominion Electric Corporation. SN 322,054. Pub. 2-3-70. Filed 3-18-69.

889,670. STORICON. Thomson-CSF. SN 329,640. Pub. 2-3-70. Filed 6-10-69.

889,671. PLASTO XY. Societe des Adhesifs et Plastiques de l'Est, S.A.P.E. SN 329,767. Pub. 2-3-70. Filed 6-11-69.

Class 22 — Games, Toys, and Sporting Goods

889,630. (See Class 16 for this trademark.)

889,672. CREEPY GLO FORMS. Colorforms. SN 298,578. Pub. 2-3-70. Filed 5-20-68.

889,673. HANG-UP. The Game Company. SN 308,694. Pub. 2-3-70. Filed 10-2-68.

889,674. TARGA. Firma Dr. Ing. h.c. F. Porsche KG. SN 308,881. Pub. 2-3-70. Filed 10-4-68.

889,675. RIDE-A-ROO. Stanley Robert Tozer. SN 311,625. Pub. 2-3-70. Filed 11-7-68.

889,676. MISCELLANEOUS DESIGN. Stanley Robert Tozer. SN 311,626. Pub. 2-3-70. Filed 11-7-68.

889,677. JOHNNY SPACEMOBILE X-7. De Luxe Topper Corporation. SN 315,391. Pub. 2-3-70. Filed 12-30-68.

889,678. FLIPPY TIPP. Nicholas Caruso, Jr. SN 318,630. Pub. 2-3-70. Filed 2-7-69.

889,679. PARTY PALS. Herb Zane. SN 319,524. Pub. 2-3-70. Filed 2-18-69.

889,680. TRI-NIM. Autotelic Instructional Materials Corp. SN 321,891. Pub. 2-3-70. Filed 3-17-69.

889,681. COLOR KINS. Taurus Creations, Inc. SN 326,836. Pub. 2-3-70. Filed 5-9-69.

889,682. P.J. Mattel, Inc. SN 334,436. Pub. 1-13-70. Filed 8-5-69.

889,683. RATHER REALLY. Mattel, Inc. SN 334,437. Pub. 2-3-70. Filed 8-5-69.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

889,552. (See Class 2 for this trademark.)

889,553. (See Class 2 for this trademark.)

889,684. RITE-HITE. Loomis Machine Company. SN 281,993. Pub. 2-3-70. Filed 10-6-67.

889,685. MILES AHEAD. Jeffrey Galion Inc., by change of name from Jeffrey Galion Manufacturing Company. SN 284,203. Pub. 2-3-70. Filed 11-6-67.

889,686. MICHIGAN. Clark Equipment Company (Delaware corporation), by merger and change of name from Clark Equipment Company (Michigan corporation). SN 297,386. Pub. 2-3-70. Filed 5-6-68.

889,687. BAR M DESIGN. G. W. Murphy Industries, Inc. SN 297,484. Pub. 2-3-70. Filed 4-25-68.

889,688. LAMB. F. Jos. Lamb Co. SN 301,534. Pub. 2-3-70. Filed 6-27-68.

889,689. CAPTAIN. Captain International Industries Ltd. SN 302,221. Pub. 2-3-70. Filed 7-8-68.

889,690. FORMULABS. Formulabs Industrial Inks, Incorporated. MULTIPLE CLASS (Classes 23 and 34). SN 304,456. Pub. 2-3-70. Filed 8-6-68.

889,691. KAHR. Kahr Bearing Corporation. SN 306,153. Pub. 2-3-70. Filed 8-28-68.

889,692. TRIMCO AND DESIGN. Trimco, Incorporated. SN 306,411. Pub. 2-3-70. Filed 8-30-68.

889,693. DOVER. Oneida Ltd. SN 308,127. Pub. 2-3-70. Filed 9-24-68.

889,694. UNIVERSAL. Universal Harvester Co., Inc. SN 309,635. Pub. 2-3-70. Filed 10-14-68.

889,695. VIBROSET. Smico, Inc. SN 309,903. Pub. 2-3-70. Filed 10-17-68.

889,696. H AND DESIGN. Heliparts, Incorporated. SN 310,099. Pub. 2-3-70. Filed 10-21-68.

889,697. VALUE-LINE. Metaframe Corporation. MULTIPLE CLASS (Classes 23 and 50). SN 312,056. Pub. 2-3-70. Filed 11-13-68.

889,698. POWER HOUSE. McGraw-Edison Company. SN 312,482. Pub. 12-2-69. Filed 11-18-68.

889,699. TRANS-FLEX. FMC Corporation. SN 313,920. Pub. 2-3-70. Filed 12-9-68.

889,700. ULTRATHANE. W. R. Grace & Co. SN 314,217. Pub. 2-3-70. Filed 12-11-68.

889,701. BANCROFT. Oneida Ltd. SN 314,441. Pub. 2-3-70. Filed 12-13-68.

889,702. JESCO. Jesco Products Company, Inc. SN 317,346. Pub. 2-3-70. Filed 1-23-69.

889,703. EXECUTIVE SECRETARY. Pres-to-Line Corporation of America. SN 317,373. Pub. 2-3-70. Filed 1-23-69.

889,704. CAST. Cast S.p.A. SN 318,699. Pub. 2-3-70. Filed 2-10-69.

889,705. CINCINNATI. The Cincinnati Milling Machine Co. SN 320,708. Pub. 2-3-70. Filed 3-4-69.

889,706. TABL-EZ. S. & G. Enterprises, Inc. SN 325,080. Pub. 2-3-70. Filed 4-21-69.

889,707. CHUCK-A-MATIC. Acme-Cleveland Corporation. SN 325,445. Pub. 2-3-70. Filed 4-24-69.

889,708. SNOWMASTER. Sicard, Inc. SN 325,786. Pub. 2-3-70. Filed 4-28-69.

889,709. FLORAL SPRAY. Oneida Ltd. SN 327,164. Pub. 2-3-70. Filed 5-13-69.

889,710. EMBER GLOW. Oneida Ltd. SN 327,165. Pub. 2-3-70. Filed 5-13-69.

889,711. BCC. National Twist Drill & Tool Co. SN 327,292. Pub. 2-3-70. Filed 5-14-69.

889,712. SCRIBE-MASTER. Custom Tool & Machine Co., Inc. SN 327,866. Pub. 2-3-70. Filed 5-21-69.

Class 25 — Locks and Safes

889,713. MG DESIGN. Morgan-Granbery Corporation. SN 321,967. Pub. 2-3-70. Filed 3-17-69.

Class 26 — Measuring and Scientific Appliances

889,552. (See Class 2 for this trademark.)

889,714. A2. Aerospace America, Inc. SN 268,011. Pub. 2-3-70. Filed 3-31-67.

889,715. TEMPTEST. Automation Industries, Inc. SN 283,501. Pub. 2-3-70. Filed 10-27-67.

889,716. MIC DESIGN. Micromeritics Instrument Corporation. SN 297,875. Pub. 2-3-70. Filed 5-10-68.

889,717. COMPLOT. Bausch & Lomb Incorporated. MULTIPLE CLASS (Classes 26 and 37). SN 310,054. Pub. 2-3-70. Filed 10-21-68.

889,718. MISCELLANEOUS DESIGN. Bausch & Lomb Incorporated. MULTIPLE CLASS. (Classes 26 and 37). SN 310,055. Pub. 2-3-70. Filed 10-21-68.

889,719. MIDTRON. Magnuson Engineers, Inc. SN 310,115. Pub. 2-3-70. Filed 10-21-68.

889,720. SELECT-A-TRAN. Milton Bradley Company. SN 310,118. Pub. 2-3-70. Filed 10-21-68.

889,721. GRAND PRIX. Micro-Magnetic Industries, Inc. SN 310,344. Pub. 2-3-70. Filed 10-23-68.

889,722. MMI. Micro-Magnetic Industries, Inc. SN 310,346. Pub. 2-3-70. Filed 10-23-68.

889,723. KEE-SKIL-TYPE. Kee, Inc. SN 310,465. Pub. 2-3-70. Filed 10-24-68.

889,724. COMMUNICATOR. Elba Systems Corporation. SN 310,822. Pub. 12-16-69. Filed 10-30-68.

889,725. MI MAGNAFILE AND DESIGN. Magnafile, Inc. SN 311,896. Pub. 12-16-69. Filed 11-12-68.

889,726. JANPOL-COLOR. Polskie Towarzystwo Handlu Zagranicznego "Varimex." SN 313,440. Pub. 2-3-70. Filed 12-2-68.

889,727. MISCELLANEOUS DESIGN. Republic Corporation. SN 316,468. Pub. 2-3-70. Filed 1-13-69.

889,728. M/S AND DESIGN. Microwave/Systems, Inc. SN 316,809. Pub. 2-3-70. Filed 1-16-69.

889,729. AUTO-T. Kalimar, Inc. SN 321,236. Pub. 2-3-70. Filed 3-10-69.

889,730. NC INSPECTOR. Metra-Tech Corporation. SN 321,397. Pub. 2-3-70. Filed 3-11-69.

Class 28 — Jewelry and Precious-Metal Ware

889,562. (See Class 3 for this trademark.)

889,731. MISCELLANEOUS DESIGN. The Spencer Co., Inc. SN 305,990. Pub. 2-3-70. Filed 8-26-68.

889,732. M AND DESIGN. Industria Espanola de Perlas Imitacion, S.A. SN 315,616. Pub. 2-3-70. Filed 12-11-68.

Class 29 — Brooms, Brushes, and Dusters

889,560. (See Class 3 for this trademark.)

889,733. BETTA. Applicator Brush Company, Inc. SN 321,147. Pub. 2-3-70. Filed 3-10-69.

Class 31 — Filters and Refrigerators

889,552. (See Class 2 for this trademark.)

889,734. FILACELL. Meredith & Simpson Construction Co. SN 293,543. Pub. 12-9-69. Filed 3-18-68.

889,735. FLEX-KLEEN. Flex-Kleen Corporation. SN 301,677. Pub. 2-3-70. Filed 7-1-68.

Class 32 — Furniture and Upholstery

889,554. (See Class 2 for this trademark.)

889,736. AIRLITE. Baylis Industries, Inc. SN 310,056. Pub. 2-3-70. Filed 10-21-68.

889,737. ESMERADO. Flexsteel Industries, Incorporated. SN 319,038. Pub. 12-9-69. Filed 2-13-69.

889,738. GRAPHICUBE. Graphicana Corp. SN 335,407. Pub. 2-3-70. Filed 8-15-69.

Class 33 — Glassware

889,739. SEVRES FRANCE AND DESIGN. Les Cristalleries et Verreries Reunies. SN 315,933. Pub. 2-3-70. Filed 1-6-69.

889,740. CROWN CROSS DESIGN. Les Cristalleries et Verreries Reunies. SN 315,934. Pub. 2-3-70. Filed 1-6-69.

889,741. ADARE. Waterford Glass Limited. SN 328,481. Pub. 2-3-70. Filed 5-27-69.

889,742. CLARE. Waterford Glass Limited. SN 328,486. Pub. 2-3-70. Filed 5-27-69.

889,743. EILEEN. Waterford Glass Limited. SN 328,492. Pub. 2-3-70. Filed 5-27-69.

889,744. GALTEE. Waterford Glass Limited. SN 328,493. Pub. 2-3-70. Filed 5-27-69.

889,745. DUNMORE. Waterford Glass Limited. SN 328,495. Pub. 2-3-70. Filed 5-27-69.

Class 34 — Heating, Lighting, and Ventilating Apparatus

889,552. (See Class 2 for this trademark.)

889,554. (See Class 2 for this trademark.)

889,604. (See Class 12 for this trademark.)

889,690. (See Class 23 for this trademark.)

889,746. FLEXHERMETIC. Fedders Corporation. SN 304,081. Pub. 11-18-69. Filed 8-1-68.

889,747. CLEANWELD. Charles R. Muirhead, d.b.a. Cleanweld Products Company. SN 317,252. Pub. 2-3-70. Filed 1-22-69.

889,748. CAMPING GAZ INTERNATIONAL AND DESIGN. "Application des Gaz." SN 322,542. Pub. 2-3-70. Filed 3-24-69.

889,749. EXCLUSIV. Eutectic Corporation. SN 330,119. Pub. 2-3-70. Filed 6-16-69.

889,750. EXCLUSIV. Eutectic Corporation. SN 330,120. Pub. 2-3-70. Filed 6-16-69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

889,630. (See Class 16 for this trademark.)

889,751. STRIDING MAN DESIGN. Goetzewerke, Friedrich Goetze Aktiengesellschaft. SN 256,211. Pub. 2-3-70. Filed 10-11-66.

889,752. RAILKO. Railko Limited. SN 273,107. Pub. 2-3-70. Filed 6-5-67.

889,753. NYLEX. Nylex Corporation Limited. SN 310,686. Pub. 2-3-70. Filed 10-28-68.

Class 37 — Paper and Stationery

889,559. (See Class 3 for this trademark.)

889,717. (See Class 26 for this trademark.)

889,718. (See Class 26 for this trademark.)

889,754. CROSS MERCHANDISER. T. A. Shaw & Company. SN 279,686. Pub. 2-3-70. Filed 9-5-67.

889,755. SANFORD'S. Sanford Ink Company. SN 289,617. Pub. 2-3-70. Filed 1-25-68.

889,756. SO SOFT. Hudson Pulp & Paper Corp. SN 298,937. Pub. 2-3-70. Filed 5-23-68.

889,757. PERFORMANCE TINT. French Paper Company. SN 299,968. Pub. 2-3-70. Filed 6-7-68.

889,758. FLEX-LOK. The Reynolds and Reynolds Company. SN 314,617. Pub. 2-3-70. Filed 12-16-68.

Class 38 — Prints and Publications

889,759. COMIT. Boise Cascade Corporation. MULTIPLE CLASS (Classes 38 and 107). SN 314,381. Pub. 2-3-70. Filed 12-13-68.

889,760. MISCELLANEOUS DESIGN. The Frank Lloyd Wright Foundation. SN 317,895. Pub. 2-3-70. Filed 1-29-69.

889,761. MISCELLANEOUS DESIGN. Kimberly-Clark Corporation. SN 319,056. Pub. 2-3-70. Filed 2-13-69.

889,762. WHITE GLOVES AND PARTY MANNERS. White Gloves and Party Manners, Inc. SN 321,853. Pub. 2-3-70. Filed 3-14-69.

889,763. MC NEIL'S. McNeil Laboratories, Incorporated. SN 323,351. Pub. 2-3-70. Filed 4-1-69.

889,764. PARIKOLOR. Parikolor Mobile Microfilm Corp. SN 323,422. Pub. 2-3-70. Filed 4-2-69.

889,765. PEACE AND FOOT PRINT DESIGN. Michael T. Smith, d.b.a. M.T.S. Productions. MULTIPLE CLASS (Classes 38 and 50). SN 323,622. Pub. 2-3-70. Filed 4-4-69.

Class 39 — Clothing

889,766. CROWN COLONY. Goldring Inc. SN 297,060. Pub. 2-3-70. Filed 5-1-68.

889,767. SHIRT TONES. Wembley, Inc. SN 314,640. Pub. 2-3-70. Filed 12-16-68.

889,768. SHIRT HUES. Wembley, Inc. SN 314,641. Pub. 2-3-70. Filed 12-16-68.

889,769. TOPPS & TROWSERS. The Topps & Trowsers Corp. MULTIPLE CLASS (Classes 39 and 101). SN 326,023. Pub. 2-3-70. Filed 5-1-69.

889,770. TOPTOE. Allied Kid Company, d.b.a. Harvard Clemtex. SN 335,910. Pub. 2-3-70. Filed 8-22-69.

889,771. TRANQUILON. Munsingwear, Inc. SN 336,067. Pub. 2-3-70. Filed 8-25-69.

Class 40 — Fancy Goods, Furnishings, and Notions

889,560. (See Class 3 for this trademark.)

889,772. WIGA-MATIC AND DESIGN. Hair Fashions by Michael, Inc. SN 322,863. Pub. 2-3-70. Filed 3-26-69.

Class 41 — Canes, Parasols, and Umbrellas

889,773. RED DOT INTERNATIONAL SYMBOL OF QUALITY AND FASHION. Telesco Brophey Limited. SN 307,147. Pub. 2-3-70. Filed 9-11-68.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

889,774. NC AND DESIGN. Nailhead Creations, Inc. SN 306,678. Pub. 2-3-70. Filed 9-5-68.

889,775. NEWPORT RUGS AND DESIGN. Buford Textile, Inc. SN 310,060. Pub. 2-3-70. Filed 10-21-68.

889,776. WY-PRESS. American Home Merchandise Co., Inc. SN 324,558. Pub. 2-3-70. Filed 4-15-69.

889,777. ORGAN GRINDER. Stevcoknit Textile Co. SN 324,612. Pub. 2-3-70. Filed 4-15-69.

889,778. HUM CLOTH. Stevcoknit Textile Co. SN 324,614. Pub. 2-3-70. Filed 4-15-69.

889,779. COASTER. Stevcoknit Textile Co. SN 324,615. Pub. 2-3-70. Filed 4-15-69.

889,780. HAN-TEE. John Edelen, d.b.a. Edelen Manufacturing Co. SN 325,352. Pub. 2-3-70. Filed 4-23-69.

889,781. "BEACH-N-MOUNTAIN." Glen Raven Mills, Inc. SN 327,757. Pub. 2-3-70. Filed 5-20-69.

889,782. TOPSIDE. Burlington Industries, Inc. SN 327,766. Pub. 2-3-70. Filed 5-20-69.

Class 44 — Dental, Medical, and Surgical Appliances

889,783. ORTHOLEN. Wilhelm Julius Teufel, Kommanditgesellschaft. SN 246,414. Pub. 10-17-67. Filed 5-23-66.

889,784. LUMEX. Lumex, Inc. SN 321,368. Pub. 2-3-70. Filed 3-11-69.

889,785. SELECTOR CATHETER. Medi-Tech Incorporated. SN 326,174. Pub. 2-3-70. Filed 5-2-69.

Class 46 — Foods and Ingredients of Foods

889,786. ROYAL PURPLE. North Pacific Canners & Packers, Inc. SN 266,168. Pub. 2-3-70. Filed 3-7-67.

889,787. RB ROAST BEEF SANDWICH AND DESIGN. Arby's, Inc. SN 283,843. Pub. 2-3-70. Filed 11-1-67.

889,788. SHELLY BRAND. A. Szelagowski & Son, Inc. SN 294,870. Pub. 11-4-69. Filed 4-3-68.

889,789. THE KORN KETTLE. American Flavor Corporation. SN 306,322. Pub. 2-3-70. Filed 8-30-68.

889,790. POP'S POPULAR POPCORN. Morris Distributing Corporation. SN 306,933. Pub. 2-3-70. Filed 9-9-68.

889,791. MISCELLANEOUS DESIGN. Kellogg Company. SN 313,113. Pub. 2-3-70. Filed 11-26-68.

889,792. MISCELLANEOUS DESIGN. Kellogg Company. SN 313,114. Pub. 2-3-70. Filed 11-26-68.

889,793. MISCELLANEOUS DESIGN. Kellogg Company. SN 313,120. Pub. 2-3-70. Filed 11-26-68.

889,794. MISCELLANEOUS DESIGN. Kellogg Company. SN 313,122. Pub. 2-3-70. Filed 11-26-68.

889,795. BLUE SEAL ETC. AND DESIGN. Interstate Brands Corporation, by change of name from Interstate Bakeries Corporation. SN 318,653. Pub. 2-3-70. Filed 2-7-69.

889,796. SNOW-PUFF ETC. AND DESIGN. J. Schlessman & Sons, Inc. SN 318,830. Pub. 2-3-70. Filed 2-10-69.

889,797. CREME-PUFF ETC. AND DESIGN. J. Schlessman & Sons, Inc. SN 318,831. Pub. 2-3-70. Filed 2-10-69.

889,798. TRI-SICLE. Consolidated Foods Corporation, d.b.a. Joe Lowe Company. SN 319,138. Pub. 2-3-70. Filed 2-14-69.

889,799. AUNT MILLIE'S. Aunt Millie's Sauces, Inc. SN 319,422. Pub. 2-3-70. Filed 2-18-69.

889,800. SLOPPY FRITZ. Libby, McNeill & Libby. SN 321,670. Pub. 2-3-70. Filed 3-13-69.

889,801. CHEF SUPREME. Great American Foods, Inc. SN 321,928. Pub. 2-3-70. Filed 3-17-69.

889,802. CO-ORD. Co-Ord, Ltd. SN 324,277. Pub. 2-3-70. Filed 4-11-69.

889,803. WALGRO. W. R. Grace & Co. SN 325,865. Pub. 2-3-70. Filed 4-29-69.

889,804. GOLD DRAGON. Beatrice Foods Co. SN. 326,986. Pub. 2-3-70. Filed 5-12-69.

889,805. TINI-RONI. Golden Grain Macaroni Co. SN 327,207. Pub. 2-3-70. Filed 5-14-69.

889,806. DOLE AND DESIGN. Castle & Cooke, Inc., d.b.a. Dole Company. SN 328,004. Pub. 2-3-70. Filed 5-22-69.

889,807. GERMAN BOY BRAND. Reser's Fine Foods, Inc. SN 328,896. Pub. 2-3-70. Filed 6-2-69.

889,808. ONYUMS. General Mills, Inc. SN 330,805. Pub. 2-3-70. Filed 6-24-69.

889,809. MAPPLES. Pet Incorporated. SN 334,185. Pub. 2-3-70. Filed 8-1-69.

889,810. EL TROUBADOUR. Mel Finerman Co., Inc. SN 334,275. Pub. 2-3-70. Filed 8-4-69.

Class 47 — Wines

889,811. FLORIOVO. Societa per Azioni Vinicola Italiana Savi Florio-Ingham Whitaker-Woodhouse & C., d.b.a. Florio & C. SN 298,632. Pub. 2-3-70. Filed 5-20-68.

Class 48 — Malt Beverages and Liquors

889,812. PEARL. Pearl Brewing Company. SN 321,683. Pub. 2-3-70. Filed 3-13-69.

Class 49 — Distilled Alcoholic Liquors

889,813. PRIDE OF CARIBE. Zimmerman's Cut Rate Liquor Store, Inc. SN 297,910. Pub. 2-3-70. Filed 5-10-68.

889,814. GLENBATHIE. Continental Distilling Corporation. SN 324,643. Pub. 2-3-70. Filed 4-16-69.

889,815. ROYAL CRYSTAL. Gilmore & Co. SN 325,253. Pub. 2-3-70. Filed 4-18-69.

Class 50 — Merchandise Not Otherwise Classified

889,697. (See Class 23 for this trademark.)

889,765. (See Class 38 for this trademark.)

889,816. MITEY-TITE. East Akron Tarp. & Ratchet Mfg. Co., Inc. SN 334,065. Pub. 2-3-70. Filed 7-31-69.

Class 51 — Cosmetics and Toilet Preparations

889,817. PIN'S. Perfumeria Parera, S.A. SN 305,486. Pub. 2-3-70. Filed 8-19-68.

889,818. BEAUTIKUTE. Stephen C. Henry, d.b.a. Beautikute Products. SN 309,044. Pub. 2-3-70. Filed 10-7-68.

889,819. CERA DI CUPRA LA MEDICINA DELLA PELLE. Farmaceutici Dr. Ciccarelli. SN 309,446. Pub. 2-3-70. Filed 10-11-68.

889,820. MAKE-EX. W. P. Eggimann Cosmetic AG. SN 315,645. Pub. 2-3-70. Filed 12-23-68.

889,821. HARD AS NAILS. Del Laboratories, Inc. SN 321,635. Pub. 2-3-70. Filed 3-13-69.

889,822. CASINO. Chesebrough-Pond's Inc. SN 325,289. Pub. 2-3-70. Filed 4-23-69.

889,823. SASHA. Whink Products Company. SN 328,792. Pub. 2-3-70. Filed 6-2-69.

889,824. FAIR-HAIRED CHILD. Clairol Incorporated. SN 331,587. Pub. 2-3-70. Filed 7-2-69.

889,825. NICE & STRAIGHT. Nutrine, Ltd. SN 331,770. Pub. 2-3-70. Filed 7-3-69.

889,826. GONE! Andrea Dumon, Inc. SN 332,224. Pub. 2-3-70. Filed 7-10-69.

889,827. CYRANO. Anda/Barkoff Associates, Inc. SN 332,438. Pub. 2-3-70. Filed 7-14-69.

889,828. LOTIONIZER. Avon Products, Inc. SN 332,683. Pub. 2-3-70. Filed 7-16-69.

889,829. BOGEY. Chas. Pfizer & Co., Inc. SN 333,600. Pub. 2-3-70. Filed 7-25-69.

Class 52 — Detergents and Soaps

889,830. NIFDA AND DESIGN. National Institutional Food Distributor Associates, Inc. SN 275,779. Pub. 2-3-70. Filed 7-11-67.

889,831. STRIP TEE. Calgon Corporation. SN 303,767. Pub. 2-3-70. Filed 7-29-68.

889,832. DRENCH. MacKenzie Chemical Works, Inc. SN 305,336. Pub. 2-3-70. Filed 8-16-68.

889,833. SCOT-FREE. MacKenzie Chemical Works, Inc. SN 305,337. Pub. 2-3-70. Filed 8-16-68.

889,834. MASTER MAID. Revco D.S., Incorporated, d.b.a. R.D.S. Wholesalers. SN 313,334. Pub. 12-2-69. Filed 11-29-68.

889,835. GLO-VET. Dermavet Laboratories, Inc. SN 319,290. Pub. 2-3-70. Filed 2-17-69.

889,836. ZIG ZAG. Zsa Zsa Limited. SN 324,555. Pub. 10-7-69. Filed 4-14-69.

889,837. SOAK 'N SWIZZLE. The Drackett Company. SN 328,422. Pub. 2-3-70. Filed 5-27-69.

889,838. MEDI PRO. Owen Laboratories, Inc. SN 328,437. Pub. 2-3-70. Filed 5-27-69.

889,839. REEF. Lever Brothers Company. SN 328,626. Pub. 11-18-69. Filed 5-29-69.

Service Marks

Class 100 — Miscellaneous

889,840. SYMBOL OF A WINDMILL AND TULIPS. General Host Corporation, by change of name from General Baking Company. SN 267,882. Pub. 9-2-69. Filed 3-30-67.

889,841. SYMBOL OF A WINDMILL. General Host Corporation, by change of name from General Baking Company. SN 267,883. Pub. 9-2-69. Filed 3-30-67.

889,842. WHATABURGER ETC. AND DESIGN. Grace W. Dobson, d.b.a. Whataburger Drive Inns. SN 291,497. Pub. 2-3-70. Filed 2-20-68.

889,843. CAPTAIN. Captain International Industries Ltd. SN 302,222. Pub. 2-3-70. Filed 7-8-68.

889,844. TACO BOX OLE AND DESIGN. Taco Box International, Inc. SN 303,078. Pub. 2-3-70. Filed 7-18-68.

889,845. RAPID FOODS. Rapid Foods, Inc. SN 318,372. Pub. 2-3-70. Filed 2-5-69.

889,846. MISCELLANEOUS DESIGN. The Johnson Foundation, Inc. SN 324,596. Pub. 1-27-70. Filed 4-15-69.

889,847. PICTORIAL DESIGN OF MINNIE PEARL. Performance Systems, Inc. SN 327,321. Pub. 2-3-70. Filed 5-15-69.

889,848. INDUSTRIAL DISTRIBUTORS, ETC. AND DESIGN. National Industrial Distributors' Association and Southern Industrial Distributors' Association. SN 330,239. Pub. 2-3-70. Filed 6-17-69.

Class 101 — Advertising and Business

889,769. (See Class 39 for this trademark.)

889,849. SKYLINE AND DESIGN. Skyline Industries, Inc. SN 284,243. Pub. 2-3-70. Filed 11-6-67.

889,850. BOWL-A-BUCK. Northwest Promotional Enterprises, Inc. SN 291,764. Pub. 2-3-70. Filed 2-23-68.

889,851. GREAT AMERICANS. Glendinning Companies, Inc. SN 307,021. Pub. 2-3-70. Filed 9-10-68.

889,852. SO-O-O STOP KICKING YOURSELF . . . DO SOMETHING NOW AND MALE DESIGN. Armer E. White, Inc. SN 313,669. Pub. 2-3-70. Filed 12-5-68.

889,853. ARDENS. Lucky Stores, Inc. SN 321,958. Pub. 2-3-70. Filed 3-17-69.

889,854. PUZZLE PRIZES. Glendinning Companies, Inc. SN 327,014. Pub. 2-3-70. Filed 5-12-69.

889,855. PLEASURE ISLE. Glendinning Companies, Inc. SN 327,015. Pub. 2-3-70. Filed 5-12-69.

Class 102 — Insurance and Financial

889,856. GW DESIGN. The Great-West Life Assurance Company. SN 293,519. Pub. 2-3-70. Filed 3-18-68.

889,857. GW DESIGN. The Great-West Life Assurance Company. SN 293,520. Pub. 2-3-70. Filed 3-18-68.

889,858. GOLD CARD. First National Bank of Allentown. SN 296,679. Pub. 2-3-70. Filed 4-26-68.

889,859. T IN TRIANGLE. Thrift Finance Corporation. SN 299,799. Pub. 2-3-70. Filed 5-5-68.

889,860. FPA AND DESIGN. Financial Planning Associates. SN 333,048. Pub. 2-3-70. Filed 7-22-69.

Class 103 — Construction and Repair

889,861. AL PHILLIPS THE CLEANER. Al Phillips the Cleaner, Inc. SN 308,757. Pub. 2-3-70. Filed 10-3-68.

889,862. SOMMERIZING. Robert B. Sommer, d.b.a. Ft. Washington Industrial Maintenance. SN 318,337. Pub. 2-3-70. Filed 2-4-69.

Class 106 — Material Treatment

889,863. THE TOTAL KNIT FINISHER. Marva Knit Inc. SN 319,776. Pub. 2-3-70. Filed 2-24-69.

Class 107 — Education and Entertainment

889,759. (See Class 38 for this trademark.)

889,864. ASPEN HIGHLANDS AND DESIGN. Aspen Highland Skiing Corporation. SN 291,339. Pub. 2-3-70. Filed 2-19-68.

889,865. CAI-COMPUTER AGE INDUSTRIES, INC. Computer Age Industries, Inc. SN 311,114. Pub. 2-3-70. Filed 11-1-68.

889,866. RINGLING BROS. AND BARNUM & BAILEY ETC. AND DESIGN. Ringling Bros.-Barnum & Bailey Combined Shows, Inc. SN 319,506. Pub. 2-3-70. Filed 2-18-69.

889,867. WEIGHT WATCHERS. Weight Watchers International, Inc. SN 330,679. Pub. 2-3-70. Filed 6-23-69.

889,868. AMS AND DESIGN. The American Montessori Society, Inc. SN 333,515. Pub. 2-3-70. Filed 7-25-69.

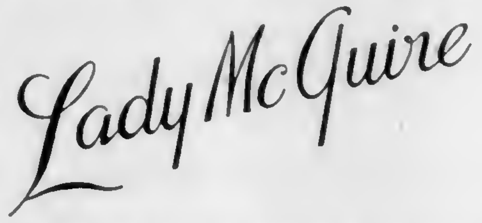
SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

889,882. The Stuart McGuire Company, Inc., Salem, Va. SN 314,467. Filed P.R. 12-13-68; Am. S.R. 12-10-69.



"Lady McGuire" is fanciful and does not refer to the name of any living individual.

Class 28—Jewelry and Precious-Metal Ware

For Women's Bracelets, Necklaces, Earrings, and Pins (Int. Cl. 14).

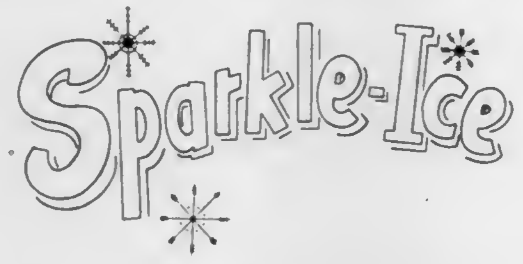
Class 39—Clothing

For Women's Dresses, Skirts, Slacks, Jackets, Blouses, Knit Shirts and Women's and Children's Shoes (Int. Cl. 25).
First use Nov. 19, 1968.

SECTION 2

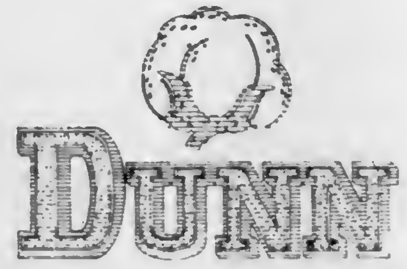
Class 1 — Raw or Partly Prepared Materials

899,869. Amarillo Ice Company, Amarillo, Tex. SN 301,500. Filed P.R. 6-27-68; Am. S.R. 1-30-70.



The term "Ice" is disclaimed apart from the mark as shown.
For Packaged Ice (Int. Cl. 30).
First use on or before June 1, 1964; on or before Apr. 8, 1951, as to "Sparkle-Ice."

889,870. Dunn Seed Farms, Inc., Lamesa, Tex. SN 308,102. Filed P.R. 9-24-68; Am. S.R. 1-28-70.



The drawing is lined for the colors blue and yellow, colors are not claimed as part of the mark.
For Planting Seed for Cotton (Int. Cl. 31).
First use Jan. 8, 1968.

Class 2 — Receptacles

889,871. GAF Corporation, New York, N.Y., by change of name from General Aniline & Film Corporation, New York, N.Y. SN 286,008. Filed P.R. 12-1-67; Am. S.R. 1-9-70.

SCREEN-PAK

For Packaging for X-Ray Film (Int. Cl. 1).
First use Jan. 27, 1967.

889,872. Max Klein, Inc., Ferndale, Mich. SN 312,680. Filed P.R. 11-20-68; Am. S.R. 1-27-70.

WONDER WOOD

For Receptacles, Particularly Planters (Int. Cl. 21).
First use May 28, 1966.

Class 5 — Adhesives

889,873. The Dexter Corporation, Windsor Locks, Conn. SN 304,318. Filed P.R. 8-5-68; Am. S.R. 1-23-70.

EPOXI-PATCH

For Bonding, Sealing, and Repairing Adhesives in the Form of a Two-Component, Solvent-Free Epoxy Resin System (Int. Cl. 1).
First use Oct. 31, 1957.

Class 10 — Fertilizers

889,874. The General Tire & Rubber Company, Akron, Ohio. SN 324,586. Filed 4-15-69.

DELUXE LAWN

For Plant Growth Regulators, Insecticide, and Lawn Fertilizer Combinations and for Weed Killer and Lawn Fertilizer Combinations (Int. Cls. 1 and 5).
First use June 30, 1966.

Class 12 — Construction Materials

889,875. American Enclosures Company, Novi, Mich. SN 311,561. Filed P.R. 11-7-68; Am. S.R. 1-19-70.

WINDO-WARES

The drawing is lined for the color blue but no claim to color is made.
For Windows and Screens (Int. Cl. 19).
First use as early as 1959.

889,876. The American Welding & Manufacturing Company, Warren, Ohio. SN 311,662. Filed P.R. 11-8-68; Am. S.R. 1-16-70.

SURE-FIT

For Steel Drywall Frames and Anchors Therefor (Int. Cl. 6).
First use Nov. 6, 1967.

Class 18 — Medicines and Pharmaceutical Preparations

889,877. Yonkers Laboratories, Inc., Yonkers, N.Y., assignee of Dobb Pharmacal Co., Inc., Yonkers, N.Y. SN 315,892. Filed P.R. 1-6-69; Am. S.R. 1-14-70.

SLEEP-ASPIRIN

For Tablets Containing Aspirin and Sleep-Inducing Ingredients (Int. Cl. 5).
First use Dec. 27, 1968.

Class 22 — Games, Toys, and Sporting Goods

889,878. Mattel, Inc. (Delaware corporation), Hawthorne, Calif., assignee of Mattel, Inc. (California corporation), Hawthorne, Calif. SN 291,329. Filed P.R. 2-19-68; Am. S.R. 8-4-69.

POPUP

For Toys, in Particular, Plastic Playhouses for Dolls and Plastic Carrying Cases for Miniature Toy Automobiles (Int. Cl. 28).
First use Dec. 27, 1967.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

889,879. J. Wiss and Sons Co., Newark, N.J. SN 284,856. Filed P.R. 11-14-67; Am. S.R. 11-5-69.

CHAR GRAIN

For Wooden Handles for Tools (Int. Cl. 20).
First use Apr. 13, 1967.

Class 26 — Measuring and Scientific Appliances

889,880. Hankison Corporation, Canonsburg, Pa. SN 313,818. Filed P.R. 12-6-68; Am. S.R. 12-22-69.

DEWMETER

For Dew Point Indicating Equipment (Int. Cl. 9).
First use on or about Sept. 18, 1968.

889,881. Perfect Parts, Inc., Carlstadt, N.J. SN 317,094. Filed P.R. 1-21-69; Am. S.R. 10-29-69.

POWER-TEST

For Hydrometers for Indicating the Specific Gravity of Battery Fluids (Int. Cl. 9).
First use Dec. 10, 1968.

Class 28 — Jewelry and Precious-Metal Ware

889,882. See Section 1 (Combined Certificate).

Class 36 — Musical Instruments and Supplies

889,883. Crumar Di Mario Crucianelli-F Marchetti & C. S.A.S. SN 314,534. Filed P.R. 12-16-68; Am. S.R. 9-12-69.

CRUCIANELLI & C.

Priority claimed under Sec. 44(d) on Italian application filed Oct. 26, 1968; Reg. No. 235,738, dated Feb. 26, 1969.
For Accordions (Int. Cl. 15).

Class 36 — Musical Instruments and Supplies

889,884. Pittway Corporation, Cleveland, Ohio. SN 308,396. Filed P.R. 9-27-68; Am. S.R. 1-30-70.

SOURCE GUIDE

For Publication Comprising a Plurality of Ads and Reply Postcards Bound Together (Int. Cl. 16).
First use on or about Sept. 13, 1968.

889,885. Kennedy Sinclaire, Inc., Wayne, N.J. SN 328,308. Filed P.R. 5-26-69; Am. S.R. 1-21-70.

PLANS FOR GIVING

For Booklets Prepared Periodically for Distribution by Others (Int. Cl. 16).
First use February 1966.

889,886. Joan Chiara, Brunswick, Ohio. SN 334,556. Filed 8-6-69.

THE WONDERFUL WORLD OF DOLLS

For Magazine Column Pertaining to the Hobby of Dolls and all Fields Related to Dolls (Int. Cl. 16).
First use November 1966.

889,887. The New Yorker Magazine, Inc., New York, N.Y. SN 344,568. Filed 11-25-69.

U.S. JOURNAL:

For Column in a Weekly Magazine (Int. Cl. 16).
First use Mar. 9, 1968.

Class 39 — Clothing

889,882. See Section 1 (Combined Certificate).

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

889,888. The Sherwin-Williams Company, Cleveland, Ohio. SN 311,941. Filed P.R. 11-12-68; Am. S.R. 1-19-70.

STYLE PERFECT

For Draperies, Drapery Fabrics and Carpeting (Int. Cl. 24).
First use October 1967.

Class 45 — Soft Drinks and Carbonated Waters

889,889. Quick Flavor, Inc., Bronx, N.Y. SN 312,066. Filed P.R. 11-13-68; Am. S.R. 8-13-69.

QUICK FLAVOR

For Non-Alcoholic Cocktail Mixer (Int. Cl. 32).
First use Jan. 27, 1966.

Class 46 — Foods and Ingredients of Foods

889,890. Diamond Fruit Growers, Inc., Hood River, Oreg. SN 235,284. Filed P.R. 12-27-65; Am. S.R. 6-30-67.

Gift O'Fruit

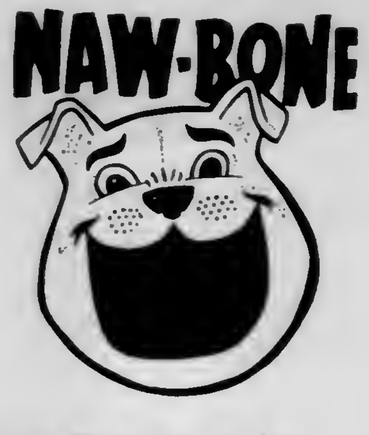
For Fresh Deciduous Fruits—Namely, Pears and Apples; and Canned Fruits, Fruit Juice, and Fruit Flavored Table Syrup Sold in Packages Suitable for Mailing (Int. Cls. 29, 30, 31, and 32).
First use 1947.

889,891. Clair Kracaw & Sons, Inc., Blackfoot, Idaho. SN 300,827. Filed P.R. 6-19-68; Am. S.R. 2-25-70.

BAKE WELL

For Fresh Potatoes (Int. Cl. 31).
First use Oct. 1, 1961.

889,892. Gro-Kote !, Inc., d.b.a. Gro-Kote, Inc., Santa Rosa, Calif. SN 301,682. Filed P.R. 7-1-68; Am. S.R. 1-5-70.



For Packaged Dog Food (Int. Cl. 31).
First use June 24, 1968.

889,893. Schleider Foods, Inc., Baltimore, Md. SN 316,472. Filed P.R. 1-13-69; Am. S.R. 1-8-70.

SCHLEIDER

For Frozen Kosher Foods—Namely, Stuffed Kishke (Sausage Casings Stuffed With Flour, Beef Fat, and Bread Crumbs), Potato Pudding, Potato Knishes (Potatoes and Onions in a Pastry Crust), Meat Kreplach (Chopped Beef and Vegetables Wrapped in a Thin Layer of Dough), Meat Knishes (Chopped Beef and Vegetables in a Pastry Crust), and Stuffed Cabbage (Meat Stuffed) (Int. Cls. 29 and 30).
First use Mar. 11, 1968.

889,894. Redi-Fresh Vegetables of California, Indio, Calif. SN 319,121. Filed P.R. 2-14-69; Am. S.R. 1-19-70.

Redi-Fresh

For Fresh Vegetables (Int. Cl. 31).
First use Dec. 4, 1968.

889,895. Schutter Candy Company, New York, N.Y. SN 319,509. Filed P.R. 2-18-69; Am. S.R. 1-14-70.

Bit o' Licorice

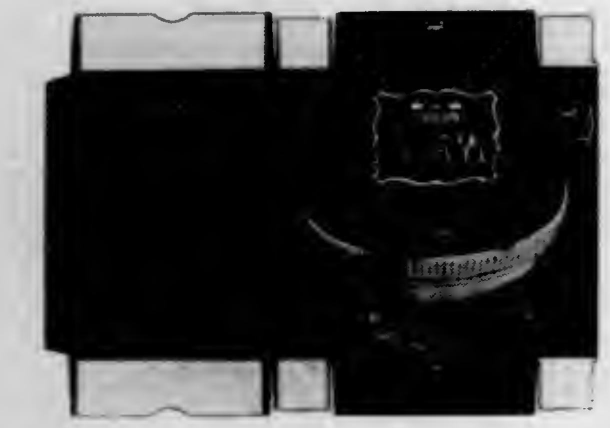
For Candy (Int. Cl. 30).
First use Oct. 3, 1968.

889,896. Potato Service, Inc., Presque Isle, Maine. SN 319,728. Filed P.R. 2-20-69; Am. S.R. 1-15-70.

REDI-BAKED

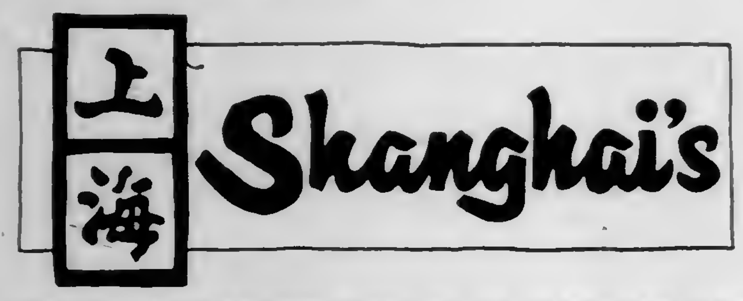
For Frozen Baked Potatoes (Int. Cl. 29).
First use Dec. 16, 1968.

889,897. Lone Star Foods Company, Inc., Dallas, Tex. SN 328,870. Filed 6-2-69.



For Cereal-Derived Ready-to-Eat Snacks (Int. Cl. 30).
First use July 19, 1966.

889,898. Shanghai Instant Foods, Inc., d.b.a. Shanghai Instant Food Inc., Hollywood, Calif. SN 331,132. Filed P.R. 6-27-69; Am. S.R. 6-5-70.



The Chinese characters shown on the drawing are translated to mean "Shanghai."

For Frozen Mandarin Style Prepared Foods—Namely, Almond Chicken, Chinese Fish Ball Soup, Chicken Chow Mein, Egg Rolls, Fried Rice With Pork, Shrimp Toast, Sweet/Sour Beef, Sweet/Sour Pork, Fried Won Ton, and Won Ton Soup (Int. Cl. 29).
First use May 13, 1968.

Class 47 — Wines

889,899. Monsieur Henri Wines, Ltd., Brooklyn, N.Y. SN 315,430. Filed P.R. 12-30-68; Am. S.R. 12-15-69.

BRIGGS

For Wines (Int. Cl. 33).
First use Nov. 29, 1968.

Class 49 — Distilled Alcoholic Liquors

889,900. Leslie Newton, Bootle, England. SN 321,344. Filed P.R. 2-4-69; Am. S.R. 1-13-70.

ZHIVAGO

Priority claimed under Sec. 44(d) on British Reg. No. 929,109, dated Aug. 6, 1968.
For Vodka (Int. Cl. 33).

Class 51 — Cosmetics and Toilet Preparations

889,901. The Gillette Company, Boston, Mass. SN 314,152. Filed P.R. 12-11-68; Am. S.R. 2-19-70.

HOT N' HUMID

For Moisturizing Cream (Int. Cl. 3).
First use Oct. 22, 1968.

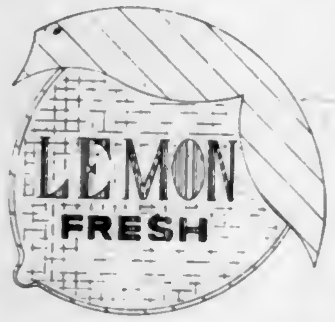
889,902. Associated Products, Inc., New York, N.Y. SN 316,366. Filed P.R. 1-13-69; Am. S.R. 1-21-70.

DOUBLE DRY

For Personal Deodorant (Int. Cl. 5).
First use Oct. 10, 1968.

Class 52 — Detergents and Soaps

889,903. The Procter & Gamble Company, Cincinnati, Ohio. SN 326,179. Filed P.R. 5-2-69; Am. S.R. 2-2-70.



The drawing is lined for the colors green, yellow, and red.
For Household Preparation for Washing Dishes and Fine Fabrics (Int. Cl. 3).
First use January 1967.

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76,131. "T" WITHIN REPRESENTATION OF STAR. Cl. 15 (Int. Cl. 4). 12-14-09.
76,889. MERRIMACK. Cl. 42 (Int. Cl. 24). 2-22-10.
76,659. PAROWAX. Cl. 15 (Int. Cl. 4). 2-8-10.
263,934. MEN'S CLUB. Cl. 39 (Int. Cl. 25). 11-12-29.
265,067. DUTCH MAID. Cl. 46 (Int. Cl. 30). 12-17-29.
265,477. STAR ROOFING ETC. AND DESIGN. Cl. 12 (Int. Cl. 19). 12-31-29.
265,799. JADE. Cl. 15 (Int. Cl. 4). 1-7-30.
265,842. RAPIER. Cl. 15 (Int. Cl. 4). 1-7-30.
265,843. ROCKET. Cl. 15 (Int. Cl. 4). 1-7-30.
266,328. TELEREGISTER. Cl. 21 (Int. Cl. 9). 1-14-30.
266,758. REPETITION. Cl. 46 (Int. Cl. 31). 2-4-30.
266,816. FILENE'S. Cl. 22 (Int. Cl. 28). 2-4-30.
266,928. A & W ROOT BEER. Cl. 45 (Int. Cl. 32). 2-11-30.
266,929. A & W ROOT BEER AND DESIGN. Cl. 45 (Int. Cl. 32). 2-11-30.
267,132. XYLOTONE. Cl. 21 (Int. Cl. 9). 2-11-30.
267,268. FILENE'S. Cl. 27 (Int. Cl. 14). 2-18-30.
267,352. FILENE'S. Cl. 18 (Int. Cl. 5). 2-18-30.
267,471. FILENE'S. Cl. 42 (Int. Cl. 24). 2-18-30.
267,866. FILENE'S. Cl. 32 (Int. Cl. 20). 3-4-30.
268,459. BERLEI. Cl. 39 (Int. Cl. 25). 3-18-30.
268,578. SATISFACTION AT HARVEST TIME. Cl. 10 (Int. Cl. 1). 3-18-30.
269,422. HAWAIIAN GOLD. Cl. 46 (Int. Cls. 29 and 32). 4-8-30.
271,042. CLOVER FARM. Cl. 46 (Int. Cl. 30). 5-20-30.
271,334. CREPESELA. Cl. 42 (Int. Cl. 24). 6-30-30.
271,433. TAFFANESE. Cl. 42 (Int. Cl. 24). 6-30-30.
272,164. CINCHLOK. Cl. 34 (Int. Cl. 6). 7-1-30.
272,437. RED STRIPE ON PIPE. Cl. 13 (Int. Cl. 6). 7-8-30.
272,863. REPRESENTATION OF ARROW AND DESIGN. Cl. 14 (Int. Cl. 9). 7-15-30.
272,864. ARCOS. Cl. 14 (Int. Cl. 9). 7-15-30.
437,984. ASSOCIATED RESEARCH, INC. Cl. 26 (Int. Cl. 9). 4-6-48.
443,679. PIN UP. Cl. 21 (Int. Cl. 9). 1-17-50.
507,680. PLAINSMAN. Cl. 1 (Int. Cl. 31). 3-15-49.
508,533. SILVER DOLLAR. Cl. 1 (Int. Cl. 31). 4-12-49.
516,431. CBM SPEC AND DESIGN. Cl. 12 (Int. Cl. 19). 10-18-49.

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519,608. TRAVEL TREE. Cl. 50 (Int. Cl. 21). 1-10-50.
519,860. PELICAN BRAND AND DESIGN. Cl. 46 (Int. Cl. 29). 1-17-50.
519,864. VITAMINERALS. Cl. 46 (Int. Cl. 5). 1-17-50.
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520,204. SALINE. Cl. 15 (Int. Cl. 4). 1-24-50.
520,458. F ETC. AND DESIGN. Cl. 37 (Int. Cl. 16). 1-31-50.
520,517. MISCELLANEOUS DESIGN. Cl. 3 (Int. Cl. 18). 1-31-50.
520,519. AMERSET AND DESIGN. Cl. 106 (Int. Cl. 40). 1-31-50.
520,591. SILENT AUTOMATIC. Cl. 34 (Int. Cl. 11). 2-7-50.
520,609. VICTOR. Cl. 35 (Int. Cl. 17). 2-7-50.
520,695. MOHAWK. Cl. 46 (Int. Cl. 31). 2-7-50.
520,712. LUCAS. Cl. 16 (Int. Cl. 2). 2-7-50.
520,863. CONICAL. Cl. 34 (Int. Cl. 11). 2-7-50.
520,890. NEPTUNE. Cl. 34 (Int. Cl. 11). 2-7-50.
520,963. SHOLDER-EEZ. Cl. 40 (Int. Cl. 26). 2-7-50.
520,964. TRUE-TO-MAG. Cl. 26 (Int. Cl. 9). 2-7-50.
520,978. BEACON. Cl. 26 (Int. Cl. 9). 2-14-50.
521,030. B. W. RAYMOND. Cl. 27 (Int. Cl. 14). 2-14-50.
521,032. UNIDYE. Cl. 42 (Int. Cl. 24). 2-14-50.
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522,409. HI-TY. Cl. 7 (Int. Cl. 22). 3-14-50.
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522,543. GRANAT. Cl. 28 (Int. Cl. 14). 3-21-50.
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523,153. HEXA-BETALIN. Cl. 18 (Int. Cl. 5). 3-28-50.
523,303. DOUBLE INTERLOCK. Cl. 23 (Int. Cl. 7). 4-4-50.
523,866. HW SOAKER ALKALI. Cl. 52 (Int. Cl. 3). 4-11-50.
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524,528. DENSICHRON. Cl. 26 (Int. Cl. 9). 4-25-50.
524,756. REFRESHER. Cl. 32 (Int. Cl. 20). 5-2-50.
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524,953. CLOVER DESIGN. Cl. 13 (Int. Cl. 6). 5-9-50.
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525,000. SEALFAS. Cl. 5 (Int. Cl. 1). 5-9-50.
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525,012. HITEST ALKALI. Cl. 52 (Int. Cl. 3). 5-9-50.
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525,990. A DONHOY AND DESIGN. Cl. 39 (Int. Cl. 25). 6-6-50.
526,015. RIG. Cl. 26 (Int. Cl. 9). 6-6-50.
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526,842. MONROE. Cl. 19 (Int. Cl. 12). 6-27-50.
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765,707. TITAN II. Cl. 5.
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765,718. MARVIN AND DESIGN. Cl. 6.
765,727. AXOTHENE. Cl. 6.
765,728. CRC FORMULA 5-56 DEMOISTURANT AND DESIGN. Cl. 6.
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765,773. PONDERAL. Cl. 18.
765,774. P WITHIN TRIANGLE. Cl. 18.
765,775. NOREAVIL. Cl. 18.
765,781. MC-1. Cl. 18.
765,785. BRONCHO-VENT. Cl. 18.
765,786. TRI-MELTS. Cl. 18.
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765,795. STOW 'N GO AND DESIGN. Cl. 19.
765,796. BREEZE. Cl. 19.
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765,802. TELE-TAPS. Cl. 21.
765,806. FOUR STAR AND DESIGN. Cl. 21.
765,808. NCR AND DESIGN. Cl. 21.
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765,815. KING TUT'S PYRAMID. Cl. 22.
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765,823. ARCHERMATIC. Cl. 22.
765,828. LOOK LIKE DOLL AND DESIGN. Cl. 22.
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765,843. SPORK. Cl. 23.
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765,869. MARVA. Cl. 26.
765,873. ECONO-VALVE. Cl. 26.
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765,878. JLC. Cl. 28.
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765,888. Hampton Hall. Cl. 32.
765,890. SLEEP N KEEP. Cl. 32.
765,892. CORTRITE. Cl. 32.
765,896. CUSTOM FOLIO ONE. Cl. 32.
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849,946. R AND LINED BACKGROUND DESIGN. Cl. 52. 5–28–68.
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Abbott Laboratories, North Chicago, Ill. 889,572, pub. 2–3–70. Cl. 6.
Acme Ball Bearing & Mfg. Co., Detroit, Mich. 765,839, canc. Cl. 23.
Acme-Cleveland Corp., Cleveland, Ohio. 889,707, pub. 2–3–70. Cl. 23.
Adams & Brooks, Inc., Los Angeles, Calif. 766,006, canc. Cl. 46.
Aerospace America, Inc., Bay City, Mich. 889,714, pub. 2–3–70. Cl. 26.
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Air Preheater Corp., The, New York, to The Air Preheater Co., Inc., Wellsville, N.Y. 526,802, ren. 4–21–70. Cl. 34.
Albright & Wilson Ltd., from Marchon Products Ltd., London, England. 889,566, pub. 1–19–65. Cl. 6.
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Allied Kid Co., d.b.a. Harvard Clemtex Co., Boston, Mass. 889,770, pub. 2–3–70. Cl. 39.
Alside, Inc., Akron, Ohio. 889,603, pub. 2–3–70. Cl. 12.
Amarillo Ice Co., Amarillo, Tex. 889,869. Cl. 1.
Amchem Products Inc. : *See*—
  Foster, Benjamin Co.
Amerada Hess Corp., Woodbridge, from Hess Oil & Chemical Corp., Perth Amboy, N.J. 889,626, pub. 12–9–69. Cl. 15.
American Bakers Cooperative, Inc. : *See*—
  Ark Bakers, Inc.
American Cyanamid Co., Wayne, N.J. 889,649–51, pub. 2–3–70. Cl. 18.
American Distilling Co., The, New York, N.Y. 527,197, ren. 4–21–70. Cl. 49.
American Enclosures Co., Novi, Mich. 889,875. Cl. 12.
American Finishing Co., Memphis, Tenn., to American Petrochemical Corp., Los Angeles, Calif. 520,519, ren. 4–21–70. Cl. 106.
American Flavor Corp., St. Louis, Mo. 889,789, pub. 2–3–70. Cl. 46.
American Home Merchandise Co., Inc., Milwaukee, Wis. 889,776, pub. 2–3–70. Cl. 42.
American Home Products Corp. : *See*—
  Wyeth Inc.
American Montessori Society, Inc., The, New York, N.Y. 889,868, pub. 2–3–70. Cl. 107.
American Petrochemical Corp. : *See*—
  American Finishing Co.
American Plastics Corp., Bainbridge, N.Y. 765,692, canc. Cl. 1.
American Plastics Corp., Bainbridge, N.Y. 765,699, canc. Cl. 2.
American Plastics Corp., Bainbridge, N.Y. 766,051, canc. Cl. 50.
American Plasticraft Co., Chicago, Ill. 889,657, pub. 2–3–70. Cl. 21.
American Plywood Association : *See*—
  Douglas Fir Plywood Association
American Screen Products Co., Chicago, Ill. 765,742, canc. Cl. 12.
American Sterilizer Co., Erie, Pa. 889,581, pub. 2–3–70. Cl. 6.
American Welding & Mfg. Co., The, Warren, Ohio. 889,876. Cl. 12.
Anda/Barkoff Associates, Inc., New York, N.Y. 889,827, pub. 2–3–70. Cl. 51.
Application Des Gaz, Paris, France. 889,748, pub. 2–3–70. Cl. 34.
Applicator Brush Co., Inc., Inwood, N.Y. 889,733, pub. 2–3–70. Cl. 29.
Aragon, Ruth Hollis, d.b.a. Songbird Music Publishers, Los Angeles, Calif. 766,102, canc. Cl. 38.
Arby's Inc., Youngstown, Ohio. 889,787, pub. 2–3–70. Cl. 46.
Arcos Corp. : *See*—
  Arcos, Inc.
Arcos, Inc., La Crosse, Wis. to Arcos Corp., Philadelphia, Pa. 272,863–4, ren. 4–21–70. Cl. 14.
Arizona Citizens Radio Association, Scottsdale, Ariz. 766,125, canc. Cl. 104.
Ark Bakers, Inc., Wichita, Kans., to American Bakers Cooperative, Inc., Teaneck, N.J. 521,285, ren. 4–21–70. Cl. 46.
Armour & Co., Chicago, Ill., to United States Steel Corp., Pittsburgh, Pa. 525,504, ren. 4–21–70. Cl. 10.
Arnav Shoe Corp., Little Ferry, N.J. 765,944, canc. Cl. 39.
Artistic Furniture Co., St. Louis, Mo. 765,888, canc. Cl. 32.
Artnell Co., Chicago, Ill. 765,937, canc. Cl. 39.
Aspen Highlands Skiing Corp., Aspen Highlands, Colo. 889,864, pub. 2–3–70. Cl. 107.
Associate Fashion Industries, Inc., New York, N.Y. 765,954, canc. Cl. 39.
Associated Products, Inc., New York, N.Y. 889,902. Cl. 51.
Associated Research Inc., to Associated Research, Inc., Chicago, Ill. 437,984, ren. 4–21–70. Cl. 26.
Atlantic Richfield Co. : *See*—
  Sinclair Refining Co.
Atlas Chemical Industries, Inc. : *See*—
  Atlas Powder Co.
Atlas Powder Co., to Atlas Chemical Industries, Inc., Wilmington, Del. 522,024, ren. 4–21–70. Cl. 6.
Aunt Millie's Sauces, Inc., New York, N.Y. 889,799, pub. 2-3-70. Cl. 46.
Autocall Co., The, Shelby, Ohio. 267,132, ren. 4–21–70. Cl. 21.
Automation Industries, Inc., El Segundo, Calif. 889,715, pub. 2–3–70. Cl. 26.
Autotelic Instructional Materials Corp., Ann Arbor, Mich. 889,680, pub. 2–3–70. Cl. 22.
Avon Products, Inc., New York, N.Y. 889,828, pub. 2–3–70. Cl. 51.
Axton-Cross Co., Shelton, Conn. 765,727, canc. Cl. 6.
Ballard, Hyde W., West Chester, Pa. 765,843, canc. Cl. 23.
Barbour Welting Co., Inc., Brockton, Mass. 889,544, pub. 2–3–70. Cl. 1.
Barth Vitamin Corp., Valley Stream, N.Y. 889,645, pub. 2–3–70. Cl. 18.
Bassett Veterinary Co., Inc., The, Plainview, N.Y. 889,647, pub. 2–3–70. Cl. 18.
Battelle Development Corp., The, Columbus, Ohio. 766,012, canc. Cl. 46.
Bausch & Lomb Inc., Rochester, N.Y. 889,717–18, pub. 2–3–70. Multiple Class (Classes 26 and 37).
Baylis Industries, Inc, Roselle, N.J. 889,736, pub. 2–3–70. Cl. 32.
Beacon Looms Inc., New York, N.Y. 836,800, canc. Cl. 42.
Beatrice Foods Co., Chicago, Ill. 889,804, pub. 2–3–70. Cl. 46.
Beco Products Corp., Chicago, Ill. 765,703, canc. Cl. 3.
Bekins Van & Storage Co., Los Angeles, Calif. 765,923, canc. Cl. 38.
Belk Stores Services, Inc., Charlotte, N.C. 765,989, canc. Cl. 42.
Bell, James D., d.b.a. Bell Floral Co., Jackson, Miss. 889,545, pub. 2–3–70. Cl. 1.
Berkshire Sportswear Co., Inc., New York, N.Y. 765,968, canc. Cl. 39.
Berlei Ltd., Sydney, Australia, to Berlei (U.K.) Ltd., London, England. 268,459, ren. 4–21–70. Cl. 39.
Berlei (U.K.) Ltd. : *See*—
  Berlei Ltd.
Bermond, Jack F., London, England. 839,264, canc. Cl. 51.
Biofarma, Societe Anonyme, Neuilly-sur-Seine, France. 765,773, canc. Cl. 18.
Boething Treeland Nursery Co., Woodland Hills, Calif. 889,547, pub. 2–3–70. Cl. 1.
Boise Cascade Corp., Boise, Idaho. 889,759, pub. 2–3–70. Multiple Class (Classes 38 and 107).
Botticelli, Inc., New York, N.Y. 765,984, canc. Cl. 39.
Bradley, Milton, Co., Springfield, Mass. 765,815, canc. Cl. 22.
Bradley, Milton, Co., East Longmeadow, Mass. 889,720, pub. 2–3–70. Cl. 26.
Brecher Bros., Inc., New York, N.Y. 765,945, canc. Cl. 39.
Brookpark-Royalon, Inc., Sebring, Ohio. 889,556, pub. 2–3–70. Cl. 2.
Brookpark-Royalon, Inc., Sebring, Ohio. 889,558, pub. 2–3–70. Cl. 2.
Buford Textile, Inc., Calhoun, Ga. 889,775, pub. 2–3–70. Cl. 42.
Bunker-Ramo Corp., The : *See*—
  Teleregister Corp., The.
Burlington Industries, Inc., Norristown, Pa. 889,782, pub. 2–3–70. Cl. 42.
Burnett's Foods Inc., Newark, N.J. 766,028, canc. Cl. 46.
Burwood Products Co., d.b.a. Galway, Chicago, Ill. 889,554, pub. 2–3–70. Multiple Class (Classes 2, 32, and 34).
Calgon Corp., Pittsburgh, Pa. 889,831, pub. 2–3–70. Cl. 52.
Camp Trails, Phoenix, Ariz. 889,561, pub. 2–3–70. Cl. 3.
Canfield, A. J., Co., Chicago, Ill. 765,700, canc. Cl. 2.
Captain International Industries Ltd., Vancouver, British Columbia, Canada. 889,689, pub. 2–3–70. Cl. 23.
Captain International Industries Ltd., Vancouver, British Columbia, Canada. 889,843, pub. 2–3–70. Cl. 100.
Carnation Co., Los Angeles, Calif. 889,549, pub. 2–3–70. Cl. 1.
Carolina Co., Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. 889,628, pub. 2–3–70. Cl. 15.
Caruso, Nicholas, Jr., Dearborn, Mich. 889,678, pub. 2–3–70. Cl. 22.
Casite Corp., The, to Hastings Mfg. Co., Hastings, Mich. 525,124, ren. 4–21–70. Cl. 15.
Cassie Wear, Inc., New York, N.Y. 765,973, canc. Cl. 39.
Cast S.p.A., Bologna, Italy. 889,704, pub. 2–3–70. Cl. 23.
Castle & Cooke, Inc., d.b.a. Dole Co., Honolulu, Hawaii. 889,806, pub. 2–3–70. Cl. 46.
Cat's Paw Rubber Co., Inc., Baltimore, Md. 524,467, ren. 4–21–70. Cl. 39.
Cee-Bee Mfg. Co., Inc., Dallas, Tex. 889,565, pub. 2–3–70. Multiple Class (Classes 5 and 12).
Celanese Coatings Co. : *See*—
  Devoe & Raynolds Co., Inc.

Celanese Corp.: *See—*
Celanese Corp. of America.

Celanese Corp. of America, to Celanese Corp., New York, N.Y. 271,433–4, ren. 4–21–70. Cl. 42.

Celares, Inc., New York, N.Y. 766,068, canc. Cl. 52.

Central Broadcast Corp., Kansas City, Mo. 766,079–80, canc. Cl. 101.

Chairs & Tables, Inc., Bellwood, Ill. 765,898, canc. Cl. 32.

Champion Sports Publishing Corp., New York, N.Y. 765,933, canc. Cl. 38.

Champon, L. A., & Co., Inc., New York, N.Y. 766,027, canc. Cl. 46.

Chance, A. B., Co., Centralia, Mo. 889,621, pub. 2–3–70. Cl. 13.

Chanel, Inc., to Chanel, Inc., New York, N.Y. 525,716, ren. 4–21–70. Cl. 51.

Chanel, Inc., to Chanel, Inc., New York, N.Y. 527,203, ren. 4–21–70. Cl. 51.

Charm Originals, Inc., Kansas City, Mo. 765,828, canc. Cl. 22.

Chemagro Corp., Kansas City, Mo. 889,591, pub. 2–3–70. Cl. 6.

Chemetron Corp.: *See—*
National Cylinder Gas Co.

Chesebrough-Pond's Inc., New York, N.Y. 889,822, pub. 2–3–70. Cl. 51.

Chiara, Joan, Brunswick, Ohio. 889,886. Cl. 38.

Chicago Printed String Co., Chicago, Ill. 765,911, canc. Cl. 37.

Ciba Ltd., Basle, Switzerland. 765,860–1, canc. Cl. 26.

Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 889,705, pub. 2–3–70. Cl. 23.

Cincinnati Sheet Metal & Roofing Co., The, Cincinnati, Ohio. 889,604, pub. 8–5–69. Multiple Class (Classes 12 and 34).

Circle Research Laboratories, Inc., Glen Ridge, N.J. 889,573, pub. 2–3–70. Cl. 6.

Clairol Inc., New York, N.Y. 889,824, pub. 2–3–70. Cl. 51.

Clark Equipment Co., from Clark Equipment Co., Buchanan, Mich. 889,686, pub. 2–3–70. Cl. 23.

Claremont Flock Corp., Claremont, N.H. 766,097, canc. Cl. 1.

Clover Chemical Co., Eighty Four, Pa. 889,600, pub. 2–3–70. Cl. 10.

Clover Farm Stores Corp.: *See—*
Grocers & Producers Co., The.

Cole, John L., New York, N.Y. 765,878, canc. Cl. 28.

Colgate, Culp & Co. Inc., New York, N.Y. 765,962, canc. Cl. 39.

Colgate-Palmolive Co., New York, N.Y. 766,062, canc. Cl. 51.

Colgate-Palmolive Co., New York, N.Y. 765,704, canc. Cl. 4.

Colgate-Palmolive Co., New York, N.Y. 766,070, canc. Cl. 52.

Colorforms, Norwood, N.J. 889,672, pub. 2–3–70. Cl. 22.

Color-Sonics Inc., Melrose, Mass. 889,661, pub. 2–3–70. Cl. 21.

Columbian Carbon Co., New York, N.Y. 889,586, pub. 2–3–70. Cl. 6.

Columbian Rope Co.: *See—*
Fitler, Edwin H., Co., The.
Plymouth Cordage Co.

Commonwealth Clothing Co., Boston, Mass. 765,947, canc. Cl. 39.

Computer Age Industries, Inc., Fairfax, Va. 889,865, pub. 2–3–70. Cl. 107.

Computer Products, Inc., Fort Lauderdale, Fla. 889,656, pub. 2–3–70. Cl. 21.

Cone Mills Corp.: *See—*
Merrimack Mfg. Co.

Coniker Enterprises, Inc., Chicago, Ill. 889,559, pub. 2–3–70. Multiple Class (Classes 3 and 37).

Corrosion Reaction Consultants, Inc., Philadelphia, Pa. 765,728, canc. Cl. 6.

Consolidated Cigar Corp., New York, N.Y. 889,634–41, pub. 2–3–70. Cl. 17.

Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 889,798, pub. 2–3–70. Cl. 46.

Continental Distilling Corp., Philadelphia, Pa. 889,814, pub. 2–3–70. Cl. 49.

Co-Ord, Ltd., Fond Du Lac, Wis. 889,802, pub. 2–3–70. Cl. 46.

Crawford, Wesley & Son, to Gro-Pak, Inc., Tacoma, Wash. 526,130, ren. 4–21–70. Cl. 46.

Crumar Di Mario Crucianelli-F. Marchetti & C. S.A.S., Castelfidardo (Ancona), Italy. 889,883. Cl. 36.

Cullinan, Joseph M., Vista, Calif. 765,793, canc. Cl. 19.

Curtis, Helene Industries, Inc., d.b.a. Helene Curtis Laboratories, Chicago, Ill. 766,056, canc. Cl. 51.

Custom Tool & Machine Co., Inc., Monroe, Conn. 889,712, pub. 2–3–70. Cl. 23.

DMH Corp., St. Louis, Mich. 889,653, pub. 2–3–70. Cl. 19.

DWG Cigar Corp., Detroit, Mich., to R. G. Dun Cigar Corp., Lima, Ohio. 526,106, ren. 4–21–70. Cl. 17.

Daffin, Irl Associates Inc, Lancaster, Pa. 766,069, canc. Cl. 52.

Dahr Bearing Corp., Burbank, Calif. 889,691, pub. 2–3–70. Cl. 23.

Dana Corp.: *See—*
Victor Mfg. & Gasket Co.

Daniels, C. R., Inc., Daniels, Md. 889,548, pub. 2–3–70. Cl. 1.

Davey's, Inc., Worcester, Mass. 889,563, pub. 2–3–70. Cl. 3.

Dehydag Deutsche Hydrierwerke G.m.b.H. Dusseldorf, Germany. 889,579, pub. 2–3–70. Cl. 6.

Del Laboratories, Inc., Farmingdale, N.Y. 889,821, pub. 2–3–70. Cl. 51.

De Luxe Reading Corp., Elizabeth, N.J. 765,822, canc. Cl. 22.

De Luxe Topper Corp., Elizabeth, N.J. 889,677, pub. 2–3–70. Cl. 22.

Dermavet Laboratories, Inc., Syosset, N.Y. 889,835, pub. 2–3–70. Cl. 52.

Desoto, Inc., Des Plaines, Ill. 889,631, pub. 2–3–70. Cl. 16.

Devoe & Raynolds Co., Inc., to Celanese Coatings Co., New York, N.Y. 526,439, ren. 4–21–70. Cl. 12.

Dexter Corp., The, Windsor Locks, Conn. 889,873. Cl. 5.

Diamond Alkali Co., to Diamond Shamrock Corp., Cleveland, Ohio. 523,866, ren. 4–21–70. Cl. 52.

Diamond Alkali Co., to Diamond Shamrock Corp., Cleveland, Ohio. 525,011–12, ren. 4–21–70. Cl. 52.

Diamond Expansion Bolt Co., Inc., Garwood, N.J., to General Cable Corp., New York, N.Y. 527,360, ren. 4–21–70. Cl. 13.

Diamond Fruit Growers, Inc., Hood River, Oreg. 889,890. Cl. 46.

Diamond Shamrock Corp.: *See—*
Diamond Alkali Co.

Dobson, Grace W., d.b.a. Wataburger Drive Inns, Corpus Christi, Tex. 889,842, pub. 2–3–70. Cl. 100.

Dr. Ing. Max Schlotter, Geislingen/Steige, Germany. 889,587, pub. 2–3–70. Cl. 6.

Dodge Mfg. Corp., to Reliance Electric Co., Mishawaka, Ind. 523,303, ren. 4–21–70. Cl. 23.

Dominion Electric Corp., Mansfield, Ohio. 889,668–9, pub. 2–3–70. Cl. 21.

Donhoy, Importer, San Luis Obispo, Calif., to Paul Bond Boot Co., Nogales, Ariz. 525,990, ren. 4–21–70. Cl. 39.

Douglas Fir Plywood Association, to American Plywood Association, Tacoma, Wash. 527,392, ren. 4–21–70. Cl. 12.

Drackett Co., The, Cincinnati, Ohio. 889,837, pub. 2–3–70. Cl. 52.

Dugan Bros. of New Jersey, Inc., Newark, N.J., to Noramco, Inc., Queens Village, N.Y. 305,246, canc. Cl. 46.

Dumon, Andrea, Inc., Chicago, Ill. 889,826, pub. 2–3–70. Cl. 51.

Dun, R. G., Cigar Corp.: *See—*
Elson, Nathan & Co., Inc.
DWG Cigar Corp.

Dunham-Bush, Inc.: *See—*
Timken-Detroit Axle Co., The.

Dunn Seed Farms, Inc., Lamesa, Tex. 889,870. Cl. 1.

Duraloy Co., The, Scottdale, Pa. 522,557, ren. 4–21–70. Cl. 14.

Dynatran Electronics Corp., Mineola, N.Y. 765,854, canc. Cl. 26.

Early, Durward B., Cheyenne, Wyo. 766,090, canc. Cl. 107.

East Akron Tarp. & Ratchet Mfg. Co., Inc., Akron, Ohio. 889,816, pub. 2–3–70. Cl. 50.

Edelen, John, d.b.a. Edelen Mfg. Co., Clarion, Pa. 889,780, pub. 2–3–70. Cl. 42.

Educators Mfg. Co., Tacoma, Wash. 765,892, canc. Cl. 32.

Eggimann, W. P., Cosmetic AG, Zurich, Switzerland. 889,820, pub. 2–3–70. Cl. 51.

El-Ar Enterprises, Inc., New York, N.Y. 765,770, canc. Cl. 18.

Elba Systems Corp., Denver, Colo. 889,724, pub. 12–16–69. Cl. 26.

Elgin National Industries, Inc.: *See—*
Elgin National Watch Co.

Elgin National Watch Co., Elgin, Ill., to Elgin National Industries, Inc., New York, N.Y. 521,030, ren. 4–21–70. Cl. 27.

Elson, Nathan & Co., Inc., Detroit, Mich. to R. G. Dun Cigar Corp., Lima, Ohio. 522,764, ren. 4–21–70. Cl. 17.

Endicott Johnson Corp., Endicott, N.Y. 263,934, ren. 4–21–70. Cl. 39.

Engel, Raymond C., La Salle, Ill., to Mills Products Corp., Union City, N.J. 520,963, ren. 4–21–70. Cl. 40.

Erie Resistor Corp., Erie, Pa. 766,089, canc. Cl. 106.

Eutectic Corp., Flushing, N.Y. 889,749–50, pub. 2–3–70. Cl. 34.

Evans, Sidney H., d.b.a. Evans Mfg. Co., Philadelphia, Pa. 765,951, canc. Cl. 39.

FMC Corp., Chicago, Ill. 889,699, pub. 2–3–70. Cl. 23.

Fa. Hermann Wilke, Velpke/Braunschweig, Germany. 889,602, pub. 2–3–70. Cl. 12.

Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Beyerwerk, Germany. 889,580, pub. 2–3–70. Cl. 6.

Farmaceutici Dr. Ciccarelli, Milano, Italy. 889,819, pub. 2–3–70. Cl. 51.

Farmers Union Central Exchange, Inc.: *See—*
Great Plains Seed Co.

Farm-Oyl Co., The, St. Paul, Minn. 527,401, ren. 4–21–70. Cl. 15.

Fedders Corp., Edison, N.J. 889,746, pub. 11–18–69. Cl. 34.

Federal Sweets & Biscuit Co, Inc.: *See—*
Taccetta, Anthony.

Federated Dept. Stores, Inc.: *See—*
Filene's, Wm., Sons Co.

Felton & Son, Inc., South Boston, Mass. 766,045, canc. Cl. 49.

Filene's, Wm., Sons Co., to Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 266,816, ren. 4–21–70. Cl. 22.

Filene's, Wm., Sons Co., to Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 267,268, ren. 4–21–70. Cl. 27.

Filene's, Wm., Sons Co., to Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 267,352, ren. 4–21–70. Cl. 18.

Filene's, Wm., Sons Co., to Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 267,471, ren. 4–21–70. Cl. 42.

Filene's, Wm., Sons Co., to Federated Department Stores, Inc., d.b.a. Wm. Filene's Sons Co., Boston, Mass. 267,866, ren. 4–21–70. Cl. 32.

Filfast Corp., from Floral Development Corp., Holliston, Mass. 889,596, pub. 2–3–70. Cl. 10.

Financial Planning Associates, Spartanburg, S.C. 889,860, pub. 2–3–70. Cl. 102.

Finerman, Mel, Co., Inc., Oxnard, Calif. 889,810, pub. 2–3–70. Cl. 46.

Firma Dr. Ing. h.c. F. Porsche KG, Stuttgart-Zuffenhausen, Germany. 889,674, pub. 2–3–70. Cl. 22.

First National Bank of Allentown, Allentown, Pa. 889,858, pub. 2–3–70. Cl. 102.

Fitchburg Paper Co., Fitchburg, Mass., to Litton Business Systems, Inc., New York, N.Y. 520,458, ren. 4–21–70. Cl. 37.

Fitler, Edwin H., Co., The, Philadelphia, Pa., to Columbian Rope Co., Auburn, N.Y. 522,409, ren. 4–21–70. Cl. 7.

Flavorex Co., Inc., Baltimore, Md. 765,999, canc. Cl. 45.

Fletcher, Robert, & Son Ltd. of Kearsley Paper Works, Stoneclough, England. 765,913, canc. Cl. 37.

Flex-Kleen Corp., Chicago, Ill. 889,735, pub. 2–3–70. Cl. 31.

Flexsteel Industries, Inc., Dubuque, Iowa. 889,737, pub. 12–9–69. Cl. 32.

Flockhart Foundry Co., Newark, N.J. 765,754, canc. Cl. 12.

Florsheim Shoe Co., The, to Interco Inc., Chicago, Ill. 526,241, ren. 4–21–70. Cl. 39.

Formulabs Industrial Ink, Inc., Escondido, Calif. 889,690, pub. 2–3–70. Multiple Class (Classes 23 and 34).

Foster, Benjamin, Co., Philadelphia, to Amchem Products Inc., Ambler, Pa. 525,000, ren. 4–21–70. Cl. 5.

Four Star Products Corp., Yonkers, N.Y. 765,806, canc. Cl. 21.

Fox-Cross Candy Co., Everett, Mass. 766,003, canc. Cl. 46.

Franzia Brothers Winery, d.b.a. Bona Wine Co., Ripon, Calif. 766,040, canc. Cl. 47.

Freeman, W. H., & Co., San Francisco, Calif. 765,921, canc. Cl. 38.

French Donut Shoppes, Inc., West Seneca, N.Y. 766,010, canc. Cl. 46.

French Paper Co., Niles, Mich. 889,757, pub. 2–3–70. Cl. 37.

Frisch Restaurants, Inc., Cincinnati, Ohio. 765,702, canc. Cl. 2.

Fruehauf Corp., Fairless Hills, Pa. 765,795, canc. Cl. 19.

Fyr-Fyter Co., The, Dayton, Ohio, to Norris Industries, Inc., Los Angeles, Calif. 522,144, ren. 4–21–70. Cl. 6.

GAF Corp., New York, N.Y. 889,613, pub. 2–3–70. Cl. 12.

GAF Corp., from General Aniline & Film Corp., New York, N.Y. 889,871. Cl. 2.

Game Co., The, New York, N.Y. 889,673, pub. 2–3–70. Cl. 22.

Geigy Chemical Corp., Ardsley, N.Y. 889,583, pub. 2–3–70. Cl. 6.

General American Transportation Corp., Chicago, Ill. 889,552, pub. 2–3–70. Multiple Class (Classes 2, 13, 16, 19, 21, 23, 26, 31, and 34).

General Baking Co.: *See—*
General Host Corp.

General Cable Corp.: *See—*
Diamond Expansion Bolt Co., Inc.

General Host Corp., from General Baking Co., New York, N.Y. 889,840–41, pub. 9–2–69. Cl. 100.

General Mills, Inc., Minneapolis, Minn. 889,808, pub. 2–3–70. Cl. 46.

General Motors Corp., Detroit, Mich. 889,623, pub. 2–3–70. Cl. 14.

General Tire & Rubber Co., The, Akron, Ohio. 889,874. Cl. 10.

Gillette Co., The, Boston, Mass. 889,901. Cl. 51.

Gilmore & Co., South San Francisco, Calif. 889,815, pub. 2–3–70. Cl. 49.

Glen Raven Mills, Inc., Glen Raven, N.C. 889,781, pub. 2–3–70. Cl. 42.

Glendinning Companies, Inc., Westport, Conn. 889,851, pub. 2–3–70. Cl. 101.

Glendinning Companies, Inc., Westport, Conn. 889,854–5, pub. 2–3–70. Cl. 101.

Goetzewerke, Friedrich Goetze Aktiegiensellschaft, Dusseldorf, Germany. 889,751, pub. 2–3–70. Cl. 35.

Gold Crest Chemical Corp., Inc., Mendenhall, Pa. 889,574, pub. 2–3–70. Cl. 6.

Goldberg, S., & Co., Inc., Hackensack, N.J. 765,943, canc. Cl. 39.

Golden Grain Macaroni Co., San Leandro, Calif. 889,805, pub. 2–3–70. Cl. 46.

Goldring Inc., New York, N.Y. 889,766, pub. 2–3–70. Cl. 39.

Gottehrer, Elmer, d.b.a. Elmer's Stocking House, Baltimore, Md. 765,949, canc. Cl. 39.

Grace, W. R., & Co., Cambridge, Mass. 889,700, pub. 2–3–70. Cl. 23.

Grace, W. R., & Co., New York, N.Y. 889,803, pub. 2–3–70. Cl. 46.

Grain Belt Breweries, Inc.: *See—*
Minneapolis Brewing Co.

Granat Bros., Inc., Dallas, Tex. 522,543, ren. 4–21–70. Cl. 28.

Graphic Communications Corp., Moonachie, N.J. 889,659–60, pub. 2–3–70. Cl. 21.

Graphicana Corp., Ossining, N.Y. 889,738, pub. 2–3–70. Cl. 32.

Great American Foods, Inc., Philadelphia, Pa. 889,801, pub. 2–3–70. Cl. 46.

Great Plains Seed Co., Sioux Falls, S.D., to Farmers Union Central Exchange, Inc., St. Paul, Minn. 507,680, ren. 4–21–70. Cl. 1.

Great Plains Seed Co., Sioux Falls, S.D., to Farmers Union Central Exchange, Inc., St. Paul, Minn. ren. 4–21–70. Cl. 1.

Great-West Life Assurance Co., The, Winnipeg, Manitoba, Canada. 889,856–7, pub. 2–3–70. Cl. 102.

Greenwold, Harry, Wallenstein-Mayer Co.: *See—*
Wallenstein Mayer Co., The.

Grocers & Producers Co., The, to Clover Farm Stores Corp., Cleveland, Ohio. 271,042, ren. 4–21–70. Cl. 46.

Gro-Kote, Inc., d.b.a. Gro-Kote, Inc., Santa Rosa, Calif. 889,892. Cl. 46.

Gros-Pak, Inc.: *See—*
Crawford, Wesley & Son.

Grote Mfg. Co., The, Madison, Ind. 889,663, pub. 2–3–70. Cl. 21.

Grotta Corp., New York, N.Y. 765,979, canc. Cl. 39.

Gudebrod Bros. Silk Co., New York, N.Y. 181,475, canc. Cl. 43.

Gulf Oil Corp., Pittsburgh, Pa. 765,908, canc. Cl. 35.

Gustav A. Ring System Maskiner A/S Norwegian Corp., Oslo, Norway. 863,849, canc. Cl. 21.

Hagerstown Rubber Co., The, Hagerstown, Md. 765,961, canc. Cl. 39.

Hahn Exterminating Service, Mansfield, Ohio. 889,568, pub. 2–3–70. Cl. 6.

Hair Fashions by Michael, Inc., Dallas, Tex. 889,772, pub. 2–3–70. Cl. 40.

Hankison Corp., Canonsburg, Pa. 889,880. Cl. 26.

Haserot Co., The: *See—*
Hawaiian Canneries Co., Ltd.

Hastings Mfg. Co.: *See—*
Casite Corp, The.

Hawaiian Canneries Co., Ltd., Kapaa, Kauai, Territory of Hawaii, to Haserot Co., The, Cleveland, Ohio. 269,422, ren. 4–21–70. Cl. 46.

Hawes-National Corp., Los Angeles, Calif. 889,595, pub. 2–3–70. Cl. 9.

Heliparts, Inc., Bridgeport, Conn. 889,696, pub. 2–3–70. Cl. 23.

Henredon Furniture Industries, Inc., Morgantown, N.C. 765,896, canc. Cl. 32.

Henry, Stephen C., d.b.a. Beautikute Products, Germantown, Ohio. 889,818, pub. 2–3–70. Cl. 51.

Holeproof Hosiery Co., Milwaukee, Wis., to Kayser-Roth Corp., New York, N.Y. 525,526, ren. 4–21–70. Cl. 39.

House of Herbs, Inc., Salisbury, Conn. 766,017, canc. Cl. 46.

Howmet Corp., New York, N.Y. 889,608, pub. 2–3–70. Cl. 12.

Hudnut, Richard, Morris Plains, N.J. 179,258, canc. Cl. 51.

Hudson American Corp., New York, N.Y., to Motorola, Inc., Franklin Park, Ill. 443,679, ren. 4–21–70. Cl. 21.

Hudson Pulp & Paper Corp., New York, N.Y. 765,707, canc. Cl. 5.

Hudson Pulp & Paper Corp., New York, N.Y. 889,756, pub. 2–3–70. Cl. 37.

Industria Espanola de Perlas Imitacion, S.A., Barcelona, Spain. 889,732, pub. 2–3–70. Cl. 28.

Interco Inc.: *See—*
Florsheim Shoe Co., The.

International Agricultural Corp., New York, N.Y., to International Minerals & Chemical Corp., Skokie, Ill. 268,578, ren. 4–21–70. Cl. 10.

International Display Equipment Associates Inc., Boston, Mass. 889,615, pub. 2–3–70. Cl. 12.

International Minerals & Chemical Corp.: *See—*
International Agricultural Corp.

International Minerals & Chemical Corp., Skokie, Ill. 889,588, pub. 2–3–70. Cl. 6.

International Paper Co., New York, N.Y. 889,606–7, pub. 2–3–70. Cl. 12.

International Pipe & Ceramics Corp., East Orange, N.J. 765,744, canc. Cl. 12.

Interstate Brands Corp., from Interstate Bakeries Corp., Kansas City, Mo. 889,795, pub. 2–3–70. Cl. 46.

Ito, K. K., Camarillo, Calif. 766,111, canc. Cl. 46.

Jantzen Inc.: *See—*
Jantzen Knitting Mills Inc.

Jantzen Knitting Mills Inc., to Jantzen Inc., Portland, Oreg. 522,178, ren. 4–21–70. Cl. 39.

Jeffrey Galion Inc., from Jeffrey Galion Mfg. Co., Columbus, Ohio. 889,685, pub. 2–3–70. Cl. 23.

Jerseymaid Milk Products Co.: *See—*
Jerseymaid Milk Products Co., Inc.

Jerseymaid Milk Products Co., Inc., to Jerseymaid Milk Products Co., Los Angeles, Calif. 521,855, ren. 4–21–70. Cl. 46.

Jesco Products Co., Inc., Warren, Mich. 889,702, pub. 2–3–70. Cl. 23.

Jobe-Rose Jewelry Co., Birmingham, Ala. 765,876, canc. Cl. 28.

Johns-Manville Corp., New York, N.Y. 889,614, pub. 2–3–70. Cl. 12.

Johnson Foundation, Inc., The, Racine, Wis. 889,846, pub. 1–27–70. Cl. 100.

Kaiser Aluminum & Chemical Corp., Oakland, Calif. 889,601, pub. 2–3–70. Cl. 10.

Kaiser Aluminum & Chemical Corp., Oakland, Calif. 889,625, pub. 2–3–70. Cl. 14.

Kalimar, Inc., St. Louis, Mo. 889,729, pub. 2–3–70. Cl. 26.

Kansas City Macaroni & Importing Co., d.b.a. The American Beauty Macaroni, Kansas City, Kans. 404,593, canc. Cl. 46.

Kayser-Roth Corp.: *See—*
Holeproof Hosiery Co.

Kay-Townes Antenna Co., Inc., Rome, Ga. 889,658, pub. 2–3–70. Cl. 21.

Kee, Inc., Baltimore, Md. 889,723, pub. 2–3–70. Cl. 26.

Kellogg Co., Battle Creek, Mich. 889,791–4, pub. 2–3–70. Cl. 46.

Kem Mfg. Corp., Tucker, Ga. 889,612, pub. 2–3–70. Cl. 12.

Kenco Products Corp., Englewood, N.J. 889,622, pub. 2–3–70. Cl. 13.

Kimberly-Clark Corp., Neenah, Wis. 889,761, pub. 2–3–70. Cl. 38.

Klein, Max, Inc., Ferndale, Mich. 889,872. Cl. 2.

Koehring Co.: *See—*
Kwik-Mix Co.

Kores Carbon Paper & Ribbons Mfg. Corp., New York, to Kores Mfg. Corp., Bronx, N.Y. 522,755, ren. 4–21–70. Cl. 11.

Kores Mfg. Corp.: *See—*
Kores Carbon Paper & Ribbons Mfg. Corp.

Kracaw, Clair, & Sons, Inc., Blackfoot, Idaho. 889,891. Cl. 46.

Kress, S. H., & Co., New York, N.Y. 765,997, canc. Cl. 44.

Kurtz Bros., Clearfield, Pa. 526,933, ren. 4–21–70. Cl. 37.

Kwik-Mix Co., Port Washington, to Koehring Co., Milwaukee, Wis. 521,749, ren. 4–21–70. Cl. 23.

La Jolla Sportswear Co., Los Angeles, Calif. 765,939, canc. Cl. 39.

Lakewood Mfg. Co., Westlake, Ohio. 765,887, canc. Cl. 32.

Lamb, F. Jos., Co., Detroit, Mich. 889,688, pub. 2–3–70. Cl. 23.

Landish Co.: *See—*
Tri-Clover Machine Co.

Larson Industries, Inc., St. Paul, Minn. 889,652, pub. 2–3–70. Cl. 19.

Lawter Chemicals, Inc., Chicago, Ill. 889,551, pub. 2–3–70. Multiple Class (Classes 11 and 16).

Learning Materials, Inc., Chicago, Ill. 766,103, canc. Cl. 38.

Lennox Industries Inc., Marshalltown, Iowa. 765,849, canc. Cl. 23.
Les Cristalleries et Verreries Reunies, Choisy de Roi, France. 889,739–40, pub. 2–3–70. Cl. 33.
Lever Bros. Co., New York, N.Y. 889,839, pub. 11–18–69. Cl. 52.
Libby, McNeill & Libby, Chicago, Ill. 889,800, pub. 2–3–70. Cl. 46.
Lilly, Eli, & Co., Indianapolis, Ind. 523,153, ren. 4–21–70. Cl. 18.
Lipschultz, Lester S., Los Angeles, Calif. 765,927, canc. Cl. 38.
Litton Business Syatems, Inc.: *See—*
    Fitchburg Paper Co.
Litton Industries, Inc., Beverly Hills, Calif. 765,864, canc. Cl. 26.
Loomis Machine Co., Clare, Mich. 889,684, pub. 2–3–70. Cl. 23.
Lone Star Foods Co., Inc., Dallas, Tex. 889,897. Cl. 46.
Lowenstein, M., & Sons, Inc., New York, N.Y. 765,992, canc. Cl. 42.
Lubrizol Corp., The, Cleveland, Ohio. 889,576, pub. 2–3–70. Cl. 6.
Lucas, John & Co., Inc., Philadelphia, Pa., to The Sherwin-Williams Co., Cleveland, Ohio. 520,712, ren. 4–21–70. Cl. 16.
Lucky Stores, Inc., San Leandro, Calif. 889,853, pub. 2–3–70. Cl. 101.
Lumex, Inc., Bay Shore, N.Y. 889,784, pub. 2–3–70. Cl. 44.
M & O Co., Inc., Wauchula, Fla. 766,023, canc. Cl. 46.
M.T. & D. Co., The, Cleveland, Ohio. 766,101, canc. Cl. 22.
Macfadden, Bernarr Foundation, Inc., The, New York, N.Y. 766,104, canc. Cl. 38.
Mackenzie Chemical Works, Inc., Central Islip, N.Y. 889,832–3, pub. 2–3–70. Cl. 52.
Maggiore, Josephina, executor of the will of Peter Maggiore, deceased, d.b.a. Lola Macaroni Co., Cicero, Ill. 766,019, canc. Cl. 46.
Magnafile, Inc., Phoenix, Ariz. 889,725, pub. 12–16–69. Cl. 26.
Magnus Organ Corp., Linden, N.J. 765,910, canc. Cl. 36.
Magnuson Engineers, Inc., San Jose, Calif. 889,719, pub. 2–3–70. Cl. 26.
Mahon, Thomas J., Inc., Englewood Cliffs, N.J. 765,785, canc. Cl. 18.
Maier, Carl & Cie, Schaffhausen, Switzerland. 889,666, pub. 2–3–70. Cl. 21.
Mallinckrodt Chemical Works, St. Louis, Mo. 889,578, pub. 2–3–70. Cl. 6.
Marchon Products Ltd.: *See—*
    Albright & Wilson Ltd.
Marion Laboratories, Inc., Kansas City, Mo. 889,646, pub. 2–3–70. Cl. 18.
Marley Co., The, Kansas City, Mo. 765,873, canc. Cl. 26.
Marlus, Sherman Oaks, Calif. 765,890, canc. Cl. 32.
Marsh Wall Products, Inc., Dover, Ohio, to Masonite Corp., Chicago, Ill. 522,613., ren. 4–21–70. Cl. 12.
Marshall, Mal Inc., Miami, Florida. 524,182, ren. 4–21–70. Cl. 21.
Martin Fireproofing Corp., Buffalo, N.Y. 889,617, pub. 2–3–70. Cl. 12.
Marva Ignition Test-O-Meter, Inc., Stamford, Conn. 765,869, canc. Cl. 26.
Marva Knit Inc., Elizabeth, N.J. 889,863, pub. 2–3–70. Cl. 106.
Marvin Societa per l'Industria Farmaceutica E. Cosmetica Instituto Farmaco Biologico Societa' In Nome Collecttivo, Milan, Italy. canc. Cl. 6.
Masonite Corp.: *See—*
    Marsh Wall Products, Inc.
Mattel, Inc., Hawthorne, Calif. 889,682–3, pub. 1–13–70. Cl. 22.
Mattel, Inc., from Mattel, Inc., Hawthorne, Calif. 889,878. Cl. 22.
McDermont Fruit Co.: *See—*
    Santiago Orange Growers Association.
McGraw-Edison Co., Elgin, Ill. 889,665, pub. 2–3–70. Cl. 21.
McGraw-Edison Co., Elgin, Ill. 889,698, pub. 12–2–69. Cl. 23.
McGuire, Stuard, Co., Inc., The, Salem, Va. 889,882. Multiple Class (Classes 28 and 39).
McNeil Laboratories, Inc., Fort Wash., Pa. 889,763, pub. 2–3–70. Cl. 38.
McPhillips Packing Corp., Bayou La Batre, Ala., to Southern Shell Fish Co., Inc., Harvey, La. 519,860, ren. 4–21–70. Cl. 46.
Medi-Tech Inc., Belmont, Mass. 889,785, pub. 2–3–70. Cl. 44.
Menlo Park Laboratories, Inc., Edison, N.J. 765,769, canc. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 765,775, canc. Cl. 18.
Mercury Record Productions, Inc., Chicago, Ill. 765,909, canc. Cl. 36.
Meredith & Simpson Construction Co., Indio, Calif. 889,734, pub. 12–9–69. Cl. 31.
Merrell, Wm. S. Co., The, Cincinnati, Ohio, to Richardson-Merrell Inc., New York, N.Y. 522,614, ren. 4–21–70. Cl. 18.
Merrimack Mfg. Co., Lowell, Mass., to Cone Mills Corp., Greensboro, N.C. 76,889, ren. 4–21–70. Cl. 42.
Metaframe Corp., Maywood, N.J. 889,697, pub. 2–3–70. Multiple Class (Classes 23 and 50).
Metra-Tech Corp., Easton, Md. 889,730, pub. 2–3–70. Cl. 26.
Mickelberry's Food Products Co., Chicago, Ill. 521,094, ren. 4–21–70. Cl. 46.
Mickelberry's Food Products Co., Chicago, Ill. 522,115, ren. 4–21–70. Cl. 46.
Micro-Magnetic Industries, Inc., Palo Alto, Calif. 889,721–2, pub. 2–3–70. Cl. 26.
Micromeritics Instrument Corp., Norcross, Ga. 889,716, pub. 2–3–70. Cl. 26.
Micro-Sine Enterprises, Detroit, Mich. 765,858, canc. Cl. 26.
Microwave/Systems, Inc., East Syracuse, N.Y. 889,728, pub. 2–3–70. Cl. 26.
Midwest Industries, Inc., Ida Grove, Iowa. 766,052, canc. Cl. 50.
Mills Products Corp.: *See—*
    Engel, Raymond C.
Minneapolis Brewing Co., to Grain Belt Breweries, Inc., Minneapolis, Minn. 520,100, ren. 4–21–70. Cl. 48.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 889,564, pub. 2–3–70. Cl. 4.
Minnesota Mining & Mfg. Co., St. Paul, Minn. 889,589, pub. 2–3–70. Cl. 6.
Miracle Lubricating Corp., Detroit, Mich., to Miracle Power Products Corp., Cleveland, Ohio. 524,963, ren. 4–21–70. Cl. 15.
Miracle Power Products Corp.: *See—*
    Miracle Lubricating Corp.
Mr. McIver, Inc., New Bedford, Mass. 765,946, canc. Cl. 39.
Modern Distributors Trading Inc., New York, N.Y. 765,735, canc. Cl. 8.
Molded Container Corp., Portland, Oreg. 889,555, pub. 2–3–70. Cl. 2.
Monogram Industries, Inc., Los Angeles, Calif. 889,575, pub. 2–3–70. Cl. 6.
Monroe Auto Equipment Co., Monroe, Mich. 526,841–2, ren. 4–21–70. Cl. 19.
Monsanto Co., St. Louis, Mo. 889,550, pub. 2–3–70. Cl. 1.
Monsieur Henri Wines, Ltd., Brooklyn, N.Y. 889,899. Cl. 47.
Morgan-Granbery Corp., New York, N.Y. 889,713, pub. 2–3–70. Cl. 25.
Morris Distributing Corp., Oklahoma City, Okla. 889,790, pub. 2–3–70. Cl. 46.
Motorola, Inc.: *See—*
    Hudson American Corp.
Motorola, Inc., Franklin Park, Ill. 889,664, pub. 2–3–70. Cl. 21.
Muirhead, Charles R., d.b.a. Cleanweld Products Co., South Gate, Calif. 889,747, pub. 2–3–70. Cl. 34.
Munsingwear, Inc., Minneapolis, Minn. 889,771, pub. 2–3–70. Cl. 39.
Murphy, G. W., Industries, Inc., Houston, Tex. 889,687, pub. 2–3–70. Cl. 23.
Myaida, Grace B., and Shogo J. Myaida, d.b.a. Birdhouses by Myaida, Albertson, N.Y. 766,055, canc. Cl. 50.
Nailhead Creations, Inc., New York, N.Y. 889,774, pub. 2–3–70. Cl. 42.
National Cash Register Co., The, Dayton, Ohio. 765,808, canc. Cl. 21.
National Cylinder Gas Co., to Chemetron Corp., Chicago, Ill. 521,159, ren. 4–21–70. Cl. 23.
National Gypsum Co., Buffalo, N.Y. 889,611, pub. 2–3–70. Cl. 12.
National Independent Distributor Associates, Inc., Minneapolis, Minn. 889,630, pub. 11–11–69. Multiple Class (Classes 16, 19, 22, and 35).
National Industrial Distributors' Association & Southern Industrial Distributors' Association, Philadelphia, Pa. 889,848, pub. 2–3–70. Cl. 100.
National Institutional Food Distributor Associates, Inc., Smyrna, Ga. 889,830, pub. 2–3–70. Cl. 52.
National Steel Corp., Pittsburgh, Pa. 889,605, pub. 2–3–70. Cl. 12.
National Twist Drill & Tool Co., Rochester, Mich. 889,711, pub. 2–3–70. Cl. 23.
Nebraska Consolidated Mills Co.: *See—*
    Nixon & Co. (Nebraska).
Neiman-Marcus Co., Dallas, Tex. 766,059, canc. Cl. 51.
Nelly Don, Inc., Kansas City, Mo. 765,956, canc. Cl. 39.
New Yorker Magazine, Inc., The, New York, N.Y. 889,887. Cl. 38.
Newspaper Enterprise Association, Inc., Cleveland, Ohio. 765,932, canc. Cl. 38.
Newton, Leslie, Bootle, England. 889,900. Cl. 49.
Nippon Soda Co., Ltd., Tokyo, Japan. 889,571, pub. 2–3–70. Cl. 6.
Nisshin Steel Co., Ltd., Tokyo, Japan. 889,624, pub. 2–3–70. Cl. 14.
Nixon & Co. (Nebraska), to Nebraska Consolidated Mills Co., Omaha, Nebr. 525,951, ren. 4–21–70. Cl. 46.
Noesting Pin Ticket Co., Inc., New York, N.Y. 180,007, canc. Cl. 37.
Norris Industries, Inc.: *See—*
    Fyr-Fyter Co., The.
North Pacific Canners & Packers, Inc., Portland, Oreg. 889,786, pub. 2–3–70. Cl. 46.
Northeastern Distributors, Inc., Cambridge, Mass. 765,796, canc. Cl. 19.
Northwest Promotional Enterprises, Inc., Seattle, Wash. 889,850, pub. 2–3–70. Cl. 101.
Novagard Corp., Trenton, N.J. 889,616, pub. 2–3–70. Cl. 12.
Nutrine, Ltd., Brooklyn, N.Y. 889,825, pub. 2–3–70. Cl. 51.
Nylex Corp. Ltd., Richmond, Victoria, Australia. 889,753, pub. 2–3–70. Cl. 35.
Olympic Screw & Rivet Corp., Downey, Calif. 889,620, pub. 2–3–70. Cl. 13.
Oneida Ltd., Oneida, N.Y. 889,693, pub. 2–3–70. Cl. 23.
Oneida Ltd., Oneida, N.Y. 889,701, pub. 2–3–70. Cl. 23.
Oneida Ltd., Oneida, N.Y. 889,709–10, pub. 2–3–70. Cl. 23.
Ortho Pharmaceutical Corp., Raritan, N.J. 889,582, pub. 2–3–70. Cl. 6.
Outdoor American Corp., Spokane, Wash. 765,925, canc. Cl. 38.
Owen Laboratories, Inc., Dallas, Tex. 889,838, pub. 2–3–70. Cl. 52.
Owens-Illinois Glass Co., Toledo, Ohio. 765,899, canc. Cl. 33.
Ph. Barthels-Feldhoff, Wuppertal-Barmen, Germany. 765,986, canc. Cl. 40.
PPG Industries, Inc., Pittsburgh, Pa. 889,609, pub. 2–3–70. Cl. 12.
Packaged Concrete Manufacturers Association, The, Columbus, Ohio. 889,542, pub. 2–3–70. Cl. 1.
Palmedico, Inc., Columbia, S.C. 765,774, canc. Cl. 18.

Pamper Pad Inc., St. Marys, Ohio. 765,798, canc. Cl. 21.
Parikolor Mobile Microfilm Corp., San Francisco, Calif. 889,764, pub. 2–3–70. Cl. 38.
Parks, Frank H., Portland, Oreg. 520,964, ren. 4–21–70. Cl. 26.
Parmelee, A. F., d.b.a. United States Safety Service Co., to United States Safety Service Co., Kansas City, Mo. 524,350, ren. 4–21–70. Cl. 26.
Paul Bond Boot Co.: *See—*
    Donhoy, Importer.
Pearl Brewing Co., San Antonio, Tex. 889,812, pub. 2–3–70. Cl. 48.
Perfect Parts, Inc., Carlstadt, N.J. 889,881. Cl. 26.
Performance Systems, Inc., Nashville, Tenn. 889,847, pub. 2–3–70. Cl. 100.
Perfumeria Parera, S.A., Badalona, Barcelona, Spain. 889,817, pub. 2–3–70. Cl. 51.
Pet Inc., St. Louis, Mo. 889,809, pub. 2–3–70. Cl. 46.
Pfizer, Chas., & Co., Inc., New York, N.Y. 889,829, pub. 2–3–70. Cl. 51.
Phillips, Al, The Cleaner, Inc., Las Vegas, Nev. 889,861, pub. 2–3–70. Cl. 103.
Phillips Petroleum Co.: *See—*
    Smith, H. P., Paper Co.
Phillips Petroleum Co., Bartlesville, Okla. 525,123, ren. 4–21–70. Cl. 35.
Phillips Petroleum Co., Bartlesville, Okla. 889,557, pub. 2–3–70. Cl. 2.
Piedmont Shirt Co., Greenville, S.C. 765,965, canc. Cl. 39.
Pioneer Products, Inc., Ocala, Fla. 889,627, pub. 2–3–70. Cl. 15.
Pittsburgh Chemical Co., Pittsburgh, Pa. 765,750, canc. Cl. 12.
Pittway Corp., Cleveland, Ohio. 889,884. Cl. 38.
Plastic Coating Corp., The, Holyoke, Mass. 766,050, canc. Cl. 50.
Platz, Edward A., Cranbury, N.J. 889,598–9, pub. 2–3–70. Cl. 10.
Plymouth Cordage Co., North Plymouth, Mass., to Columbian Rope Co., Auburn, N.Y. 522,401, ren. 4–21–70. Cl. 7.
Pneuma-Flo Systems Inc., New York, N.Y. 765,850–1, canc. Cl. 23.
Polskie Towarzystwo Handlu Zagranicznego "Varimex", Warsaw, Poland. 889,726, pub. 2–3–70. Cl. 26.
Polyplastek United, Inc., Union, N.J. 889,543, pub. 2–3–70. Cl. 1.
Potato Service, Inc., Presque Isle, Maine. 889,896. Cl. 46.
Powers & Pittenger, to Powers & Pittenger, Inc., Indianapolis, Ind. 524,756, ren. 4–21–70. Cl. 32.
Powers & Pittenger, Inc.: *See—*
    Powers & Pittenger.
Pres-To-Line Corp. of America, New York, N.Y. 889,703, pub. 2–3–70. Cl. 23.
Procter & Gamble Co., The, Cincinnati, Ohio. 889,903. Cl. 52.
Puffies Co., Philadelphia, Pa. 765,985, canc. Cl. 40.
Quick Flavor, Inc., Bronx, N.Y. 889,889. Cl. 45.
Railko Ltd., High Wycombe, England. 889,752, pub. 2–3–70. Cl. 35.
Randolph-Rand Corp.: *See—*
    Randolph-Rand Sales Co., Inc.
Randolph-Rand Sales Co., Inc., to Randolph-Rand Corp., New York, N.Y. 520,517, ren. 4–21–70. Cl. 3.
Rapid Foods, Inc., Miami, Fla.. 889,845, pub. 2–3–70. Cl. 100.
Redi-Fresh Vegetables of Calif. Indio, Calif. 889,894. Cl. 46.
Reid, Frank K., d.b.a. Frank K. Reid Co., McAllen, Tex. 765,862, canc. Cl. 26.
Reliance Electric Co.: *See—*
    Dodge Mfg. Corp.
Republic Corp., Beverly Hills, Calif. 889,727, pub. 2–3–70. Cl. 26.
Reser's Fine Foods, Inc., Beaverton, Oreg. 889,807, pub. 2–3–70. Cl. 46.
Revco D.S., Inc., d.b.a. R.D.S. Wholesalers, Cleveland, Ohio. 889,834, pub. 12–2–69. Cl. 52.
Reynolds and Reynolds Co. The, Dayton, Ohio. 889,758, pub. 2–3–70. Cl. 37.
Richardson Co. The, Melrose Park, Ill. 765,724–5, canc. Cl. 6.
Richardson Co., The, Melrose Park Ill. 849,645, canc. Cl. 1.
Richardson Co., The, Melrose Park Ill. 849,946–7, canc. Cl. 52.
Richardson Co., The, Melrose Park, Ill. 850,036, canc. Cl. 1.
Richardson Co., The, Melrose Park, Ill. 889,553, pub. 2–3–70. Multiple Class (Classes 2, 21, and 23).
Richardson-Merrell Inc.: *See—*
    Merrell, Wm. S., Co., The.
Ringling Bros.-Barnum & Bailey Combined Shows, Inc., Washington, D.C. 889,866, pub. 2–3–70. Cl. 107.
Rochester Shoe Tree Co., Inc., Rochester, N.Y. 519,608, ren. 4–21–70. Cl. 50.
Rosenau Brothers, Inc., Philadelphia, Pa. 526,508, ren. 4–21–70. Cl. 39.
Royal London, Ltd., New York, N.Y. 889,560, pub. 2–3–70. Multiple Class (Classes 3, 29, and 40.)
Rullfson, Leona Emma, executrix of the estate of Ralph E. Rullfson, d.b.a. Wholesaler Warehouse d.b.a. Wholesaler, Manchester, Iowa. 766,110, canc. Cl. 46.
S. & G. Enterprises, Inc., Milwaukee, Wis. 889,706, pub. 2–3–70. Cl. 23.
Sandoz, Inc., Hanover, N.J. 889,585, pub. 2–3–70. Cl. 6.
Sanford, A. Carol, d.b.a. Sanford Associates, Pompano Beach, Fla. 889,610, pub. 1–27–70. Cl. 12.
Sanford Ink Co., Bellwood, Ill. 889,755, pub. 2–3–70. Cl. 37.
Santiago Orange Growers Association, Orange, to McDermont Fruit Co., Lindsay, Calif. 520,695, ren. 4–21–70. Cl. 46.
Sargent-Welch Scientific Co.: *See—*
    Welch, W. M., Mfg. Co.
Schenley Distillers Corp., d.b.a. Roma Wine Co., to Schenley Industries, Inc., New York, N.Y. 524,766, ren. 4–21–70. Cl. 47.
Schenley Industries, Inc.: *See—*
    Schenley Distillers Corp.
Schleider Foods, Inc., Baltimore, Md. 889,893. Cl. 46.
Schlessman, J., & Sons, Inc., Milan, Ohio. 889,796–7, pub. 2–3–70. Cl. 46.
Schmidt, Sam, Wilmette, Ill. 769,600, canc. Cl. 39.
Schuemann Laboratories, Inc., Cleveland, Ohio. 765,786, canc. Cl. 18.
Schutter Candy Co., New York, N.Y. 889,895. Cl. 46.
Scoot-A-Rent Corp., Salt Lake City, Utah. 766,126, canc. Cl. 105.
Scott Tobacco Co., Bowling Green, Ky. 889,642, pub. 2–3–70. Cl. 17.
Shanghai Instant Foods, Inc., Hollywood, Calif. 889,898. Cl. 46.
Shaw, T. A., & Co., Skokie, Ill. 889,754, pub. 2–3–70. Cl. 37.
Sherwin-Williams Co.: *See—*
    Lucas, John, & Co., Inc.
Sherwin-Williams Co., The, Cleveland, Ohio. 889,888. Cl. 42.
Shoe Club No. 1, Inc., New York, N.Y. 765,958, canc. Cl. 39.
Shore Litter, Inc., Salisbury, Md. 889,597, pub. 2–3–70. Cl. 10.
Sicard, Inc., Ste. Therese, Quebec, Canada. 889,708, pub. 2–3–70. Cl. 23.
Simonds Saw & Steel Co., Fitchburg, Mass., to Wallace-Murray Corp., d.b.a. Simonds Saw & Steel Division. 527,293, ren. 4–21–70. Cl. 23.
Sinclair Refining Co., New York, N.Y., to Atlantic Richfield Co., Philadelphia, Pa. 265,799, ren. 4–21–70. Cl. 15.
Sinclair Refining Co., New York, N.Y., to Atlantic Richfield Co., Philadelphia, Pa. 265,842–3, ren. 4–21–70. Cl. 15.
Sinclair Refining Co., New York, N.Y., to Atlantic Richfield Co., Philadelphia, Pa. 520,204, ren. 4–21–70. Cl. 15.
Sinclaire, Kennedy, Inc., Wayne, N.J. 889,885. Cl. 38.
Skyline Industries, Inc., Fort Worth, Tex. 889,849, pub. 2–3–70. Cl. 101.
Slick-Shine Co., Inc., Newark, N.J. 766,099, canc. Cl. 6.
Smico, Inc., Oklahoma City, Okla. 889,695, pub. 2–3–70. Cl. 23.
Smith, G. E., Inc., Pittsburgh, Pa. 765,706, canc. Cl. 5.
Smith, H. P., Paper Co., Chicago Ill. to Phillips Petroleum Co. Bartlesville, Okla. 524,760, ren. 4–21–70. Cl. 37.
Smith, Michael T., d.b.a. M.T.S. Productions, Cincinnati, Ohio. 889,765, pub. 2–3–70. Multiple Class (Classes 38 and 50).
Smithwick, Lillian M., d.b.a. Lylyan, Washington, D.C. 766,061, canc. Cl. 51.
Societe des Adhesifs et Plastiques de l'Est, S.A.P.E., Dijon, France. 889,671, pub. 2–3–70. Cl. 21.
Societa per Azioni Vinicola Italiana Savi Florio-Ingham Whitaker-Woodhouse & C., d.b.a. Florio & C., Turin, Italy. 889,811, pub. 2–3–70. Cl. 47.
Sommer, Robert B., d.b.a. Fort Washington Industrial Maintenance, New York, N.Y. 889,862, pub. 2–3–70. Cl. 103.
Soul Brands, Inc., Memphis, Tenn. 889,584, pub. 2–3–70. Cl. 6.
Soul Brands, Inc., Memphis, Tenn. 889,648, pub. 2–3–70. Cl. 18.
Southall, James, & Co. Ltd., Norwich, Norfolk, England. 765,966, canc. Cl. 39.
Southern Shell Fish Co., Inc.: *See—*
    McPhillips Packing Corp.
Spencer Co., Inc., The, Cranston, R.I. 889,731, pub. 2–3–70. Cl. 28.
Sperry, John H., Co., Boston, Mass. 765,739, canc. Cl. 11.
Spofa Spojene Podniky Pro Zdravotnickou Vyrobu, d.b.a. Spofa United Pharmaceutical Works, Pregue, Czechoslovakia. 889,643, pub. 7–29–69. Cl. 18.
Standard Clay Products Co., Inc., Philadelphia, Pa. 516,431, ren. 4–21–70. Cl. 12.
Standard Oil Co., Jersey City, N.J., to Standard Oil Co., New York, N.Y. 76,659, ren. 4–21–70. Cl. 15.
Standard Oil Co. of California, San Francisco, Calif. 889,632, pub. 2–3–70. Cl. 16.
Star Roof Co. Inc., d.b.a. Star Roof Co. and Pacific Star Roof Co., Los Angeles, Calif., to United States Gypsum Co., Chicago, Ill. 265,477, ren. 4–21–70. Cl. 12.
Statmaster Corp., Hialeah, Fla. 765,867, canc. Cl. 26.
Stevcoknit Textile Co., New York, N.Y. 889,777–9, pub. 2–3–70. Cl. 42.
Stock, Arthur J., d.b.a. Stock Engineering Co., to Stock Equipment Co., Cleveland, Ohio. 520,863, ren. 4–21–70. Cl. 34.
Stock Equipment Co.: *See—*
    Stock, Arthur J.
Stone Container Corp., Chicago, Ill. 889,546, pub. 2–3–70. Cl. 1.
Stuart, D. A., Oil, Chicago, Ill. 525,184, ren. 4–21–70. Cl. 15.
Sutliff Tobacco Co., Richmond, Va. 889,594, pub. 2–3–70. Cl. 8.
Swank, Inc., Attleboro, Mass. 526,898, ren. 4–21–70. Cl. 28.
Swank, Inc., Attleboro, Mass. 527,619, ren. 4–21–70. Cl. 28.
Szelagowski, A., & Son, Inc., Buffalo, N.Y. 889,788, pub. 11–4–69. Cl. 46.
Taccetta, Anthony, d.b.a. Quality Wafer & Specialty Co., New York, N.Y., to Federal Sweets & Biscuit Co., Inc., Clifton, N.J. 265,067, ren. 4–21–70. Cl. 46.
Taco Box International, Inc., El Paso, Tex. 889,844, pub. 2–3–70. Cl. 100.
Tahiti Tile Co., Inc., Jonesboro, Ga. 765,751, canc. Cl. 12.
Tappan Co., The, Mansfield, Ohio. 889,655, pub. 2–3–70. Cl. 21.
Taurus Creations, Inc., Natick, Mass. 889,681, pub. 2–3–70. Cl. 22.
Teleregister Corp., The, New York, N.Y., to The Bunker-Ramo Corp., Oak Brook, Ill. 266,328, ren. 4–21–70. Cl. 21.
Telesco Brophey Ltd., Montreal, Quebec, Canada. 889,773, pub. 2–3–70. Cl. 41.
Telesystem Services Corp., Glenside, Pa. 765,802, canc. Cl. 21.

Teufel, Wilhelm J., Stuttgart, Germany. 889,783, pub. 10-17-67. Cl. 44.
Texaco Inc.: *See*—
  Texas Co., The.
Texas Co., The, Beaumont, Tex., to Texaco Inc., New York, N.Y. 76,131, ren. 4-21-70. Cl. 15.
Textron Inc., Providence, R.I. 889,562, pub. 2-3-70. Multiple Class (Classes 3 and 28).
Textron Inc., Providence, R.I. 889,654, pub. 2-3-70. Cl. 19.
Thermidaire Corp. of America, Syracuse, N.Y. 765,713, canc. Cl. 6.
Thermo King Corp.: *See*—
  U.S. Thermo Control Co.
Thomson-CSF, Paris, France. 889,670, pub. 2-3-70. Cl, 21.
Thrift Finance Corp., Wheeling, W. Va. 889,859, pub. 2-3-70. Cl. 102.
Timken-Detroit Axle Co., The, Detroit, Mich. to Dunham-Bush, Inc., Harrisonburg, Va. 520,591, ren. 4-21-70. Cl. 34.
Topco Associates, Inc., Skokie, Ill. 889,567, pub. 2-3-70. Cl. 6.
Topps & Trowsers Corp., The, Daly City, Calif. 889,769, pub. 2-3-70. Multiple Class (Classes 39 and 101).
Tozer, Stanley Robert, Worcester, England. 889,675-6, pub. 2-3-70. Cl. 22.
Tri-Chem, Inc., Belleville, N.J. 889,629, pub. 2-3-70. Cl. 16.
Tri-Clover Machine Co., Kenosha, to Ladish Co., Cudahy, Wis. 524,952-3, ren. 4-21-70. Cl. 13.
Tri-Clover Machine Co., Kenosha, to Ladish Co., Cudahy, Wis. 525,920, ren. 4-21-70. Cl. 23.
Trimco, Inc., Tulsa, Okla. 889,692, pub. 2-3-70. Cl. 23.
Troy Sportswear Co., San Francisco, Calif. 765,983, canc. Cl. 39.
Tubbs Cordage Co., San Franciso, Calif. 889,592-3, pub. 2-3-70. Cl. 7.
Tweedie Footwear Corp., Jefferson City, Mo. 765,936, canc. Cl. 39.
United Piece Dye Works, The, Lodi, N.J. 521,032, ren. 4-21-70. Cl. 42.
U.S. Bowl, Inc., The, Washington, D.C. 766,092, canc. Cl. 107.
U.S. Expansion Bolt Co., York, Pa. 524,184, ren. 4-21-70. Cl. 13.
U.S. Expansion Bolt Co., York, Pa. 889,619, pub. 2-3-70. Cl. 13.
United States Gypsum Co.: *See*—
  Star Roof Co. Inc.
United States Safety Service Co.: *See*—
  Parmelee, A.F.
United States Steel Corp.: *See*—
  Armour & Co.
U.S. Thermo Control Co., to Thermo King Corp., Minneapolis, Minn. 522,496, ren. 4-21-70. Cl. 31.
United States Tobacco Co., New York, N.Y. 889,633, pub. 2-3-70. Cl. 17.
Universal Harvester Co., Inc., Stockton, Calif. 889,694, pub. 2-3-70. Cl. 23.
Victor Mfg. & Gasket Co., Chicago, Ill., to Dana Corp., Toledo, Ohio. 520,609, ren. 4-21-70. Cl. 35.
Vitabath, Inc., New York, N.Y. 769,294, canc. Cl. 52.
Vitaminerals, Inc., Glendale, Calif. 519,864, ren. 4-21-70. Cl. 46.
Vohlsson Inc., Marion, Conn. 889,667, pub. 2-3-70. Cl. 21.
Wachsmith, Richard, Yakima, Wash. 266,758, ren. 4-21-70. Cl. 46.
Wallace-Murray Corp.: *See*—
  Simonds Saw & Steel Co.
Wallenstein Mayer Co., The, to Harry Greenwold, Wallerstin-Mayer Co., Cincinnati, Ohio. 518,746, ren. 4-21-70. Cl. 28.
Wander Co., The, Chicago, Ill. 765,781, canc. Cl. 18.
Wash. Stove Works, Everett, Wash. 520,890, ren. 4-21-70. Cl. 34.
Waterford Glass Ltd., Johnstown, Waterford, Ireland. 889,741-5, pub. 2-3-70. Cl. 33.
Waters Associates Inc., Framingham, Mass. 889,569-70, pub. 2-3-70. Cl. 6.
Weight Watchers International, Inc., Great Neck, N.Y. 889,867, pub. 2-3-70. Cl. 107.
Welch, W. M., Mfg., Co., Chicago, to Sargent-Welch Scientific Co., Skokie, Ill. 524,528, ren. 4-21-70. Cl. 26.
Wembley, Inc., New Orleans, La. 889,767-8, pub. 2-3-70. Cl. 39.
West Coast Engineering, Inc., Seattle, Wash. 765,823, canc. Cl. 22.
West Virginia Pulp & Paper Co., New York, N.Y. 765,934, canc. Cl. 38.
Western Publishing Co., Inc.: *See*—
  Whitman Publishing Co.
Wheeling Corrugating Co., to Wheeling-Pittsburgh Steel Corp., Wheeling, W. Va. 272,164, ren. 4-21-70. Cl. 34.
Wheeling Steel Corp., to Wheeling-Pittsburgh Steel Corp., Wheeling, W. Va. 272,437, ren. 4-21-70. Cl. 13.
Wheeling-Pittsburgh Steel Corp.: *See*—
  Wheeling Corrugating Co.
  Wheeling Steel Corp.
Whink Products Co., Eldora, Iowa. 889,823, pub. 2-3-70. Cl. 51.
White, Armer E., Inc., Miami, Fla. 889,852, pub. 2-3-70. Cl. 101.
White Gloves & Party Manners, Inc., Kewanee, Ill. 889,762, pub. 2-3-70. Cl. 38.
White, Robert C., Co., Philadelphia, Pa. 328,229, canc. Cl. 6.
Whitehouse Products, Inc., Brooklyn, N.Y. 520,978, ren. 4-21-70. Cl. 26.
Whitman Publishing Co., to Western Publishing Co., Inc., Racine, Wis. 525,753, ren. 4-21-70. Cl. 22.
Wian, Robert C., Enterprises, Inc., d.b.a. Leonard A. Dunagan Co., Glendale, Calif. 766,013, canc. Cl. 46.
Wiles, Russell Jr., d.b.a. Rig Products Co., Oreg., Ill. 526,015, ren. 4-21-70. Cl. 26.
Wilson Sporting Goods Co., River Grove, Ill. 765,829, canc. Cl. 22.
Wiss, J., & Sons Co., Newark, N.J. 889,879. Cl. 23.
Woods Mfg. Co., Fort Smith, Ark. 765,978, canc. Cl. 39.
Wright, Frank Lloyd, Foundation, The, Scottsdale, Ariz. 889,760, pub. 2-3-70. Cl. 38.
Wurm Brothers Co., Chicago, Ill. 522,456, ren. 4-21-70. Cl. 46.
Wyandotte Chemicals Corp., Wyandotte, Mich. 765,730, canc. Cl. 6.
Wyandotte Chemicals Corp., Wyandotte, Mich. 766,073, canc. Cl. 52.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp. New York, N.Y. 524,191, ren. 4-21-70. Cl. 18.
X-L Laboratories, Inc., Bakersfield, Calif. 889,590, pub. 2-3-70. Cl. 6.
Yonkers Laboratories, Inc., from Dobb Pharmacal Co., Inc., Yonkers, N.Y. 889,877. Cl. 18.
Zane, Herb, Paterson, N.J. 889,679, pub. 2-3-70. Cl. 22.
Zehrung Chemical Co., Portland, Oreg. 889,577, pub. 2-3-70. Cl. 6.
Zimmerman's Cut Rate Liquor Store, Inc., Chicago, Ill. 889,813, pub. 2-3-70. Cl. 49.
Zsa Zsa Ltd., New York, N.Y. 889,836, pub. 10-7-69. Cl. 52.

U.S. GOVERNMENT PRINTING OFFICE: O——1970

A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
April 28, 1970 Volume 873 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of March 1970

Examiner affirmed	142
Examiner affirmed in part	17
Examiner reversed	36
Total	195

Hosting Diplomatic Conference

On May 25, 1970, a Diplomatic Conference of great significance in advancing the international economic interests of the United States business community will be convened in our Nation's Capital. This conference, which is expected to be attended by representatives from more than 100 countries, will negotiate a Patent Cooperation Treaty, the purpose of which is to facilitate and improve the procedures for obtaining patent protection abroad. Not since the Washington Conference of 1911 has the United States had the opportunity to host an international industrial property conference of such significance.

The hosting of this Conference by the United States was authorized by a joint resolution (91st Congress, S.J. Res. 90) of both Houses of Congress which was signed into law (Public Law 91-160; 83 Stat. 443) by the President of the United States on December 24, 1969. The Secretary of State and the Secretary of Commerce are authorized to act as hosts of the conference which will be held from May 25 to June 19, 1970.

To meet the costs of extending to our distinguished foreign guests the hospitality of the nation, both the Secretary of Commerce and the Secretary of State, or either of them, are authorized to receive and use contributions, including services, which, for Federal tax purposes, will be deemed to be gifts for the use of the United States. The pertinent provision of the legislation follows:

> Sec. 3. The Secretary of State and the Secretary of Commerce, or either of them, are authorized to accept and use contributions of funds, property, services, and facilities for the purpose of organizing and holding such an international conference. For the purpose of Federal income, estate, and gift taxes, any gift, devise, or bequest accepted by the Secretary of State or the Secretary of Commerce under authority of the Act shall be deemed to be a gift, devise, or bequest to or for the use of the United States.

Contributions under this authorizing legislation may be made by check drawn to the order of the Secretary of Commerce "for PCT Fund" and sent to the Commissioner of Patents, Box 1970, U.S. Patent Office, Washington, D.C., 20231. Contributors responding before printing deadlines will be listed in the official program if they so desire.

Additional information or details are available either by writing to the above address or by telephoning the Office of International Patent and Trademark Affairs, U.S. Patent Office: Area Code (703) 557-3957.

WILLIAM E. SCHUYLER, Jr.,
Mar. 24, 1970. *Commissioner of Patents.*

Erratum

All references to Patent No. 3,507,223 to Lawrence K. Edwards, et al,, High-Speed Ground Transportation System, appearing in the OFFICIAL GAZETTE of April 21, 1970 should be deleted as the application was withdrawn from issue and the patent was not issued.

Disclaimers

3,472,787.—*John F. Kucirka,* Northampton, Pa. PREPARATION OF DRIED GEL. Patent dated Oct. 14, 1969. Disclaimer filed June 12, 1969, by the assignee, *Air Products and Chemicals, Inc.*

Hereby disclaims the terminal portion of the term of the patent subsequent to Feb. 7, 1985.

3,147,234.—*George W. Polly, Jr.,* Corpus Christi, Tex. MODIFIED OXYMETHYLENE POLYMERS. Patent dated Sept. 1, 1964. Disclaimer filed Mar. 13, 1970, by the assignee, *Celanese Corporation.*

Hereby enters this disclaimer to claims 1 to 15, inclusive, of said patent.

New Applications Received During January 1970

Patents	7396
Designs	438
Plant Patents	11
Reissues	11
Total	7856

Issue—April 28, 1970

Patents	1300	No. 3,508,279 to No. 3,509,578, incl.
Designs	97	No. 217,321 to No. 217,417, incl.
Reissues	8	No. 26,866 to No. 26,873, incl.
Def. Pub.	3	No. T873,014 to No. T873,016, incl.
Total	1408	

Certificates of Correction for the Week of Apr. 28, 1970

Re. 26,643
Re. 26,650
3,025,200
3,273,882
3,305,844
3,351,742
3,352,832
3,396,773
3,398,132
3,408,401
3,409,351
3,409,755
3,414,240
3,419,074
3,420,095
3,420,884
3,422,708
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3,482,486
3,482,634
3,482,887
3,484,520
3,484,670
3,484,830
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3,489,731

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 22[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-proprietary Names for Pharmaceutical Substances,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Cronicle.*

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acedapsonum acedapsone	4′,4‴-sulfonylbis[acetanilide] $C_{16}H_{16}N_2O_4S$
acequinolinum acequinoline	7-methoxy-2,4-dimethyl-3-quinolyl methyl ketone $C_{14}H_{15}NO_2$
acidum bensuldazicum bensuldazic acid	5-benzyldihydro-6-thioxo-2*H*-1,3,5-thiadiazine-3(4*H*)-acetic acid $C_{12}H_{14}N_2O_2S_2$
acidum etidronicum etidronic acid	(1-hydroxyethylidene)diphosphonic acid $C_2H_8O_7P_2$
acidum fenafticum fenaftic acid	1-(diethylcarbamoyl)-1,2,3,4,5,6,7,8-octahydro-6,6-dimethyl-8-oxo-3-phenyl-2-naphthoic acid $C_{24}H_{31}NO_4$
acidum fenclozicum fenclozic acid	2-(*p*-chlorophenyl)-4-thiazoleacetic acid $C_{11}H_8ClNO_2S$
acidum flavodicum flavodic acid	[(4-oxo-2-phenyl-4*H*-1-benzopyran-5,7-diyl)dioxy]diacetic acid $C_{19}H_{14}O_8$
acidum hopantenicum hopantenic acid	D-(+)-4-(2,4-dihydroxy-3,3-dimethylbutyramido)butyric acid $C_{10}H_{19}NO_5$
acidum iocarmicum iocarmic acid	5,5′-(adipolydiimino)bis[2,4,6-triiodo-*N*-methylisophthalamic acid] $C_{24}H_{20}I_6N_4O_8$
acidum iotrizoicum iotrizoic acid	2,4,6-triiodo-3-[2-[2-[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]ethoxy]acetamido] benzoic acid $C_{18}H_{24}I_3NO_8$
acidum ioxitalamicum ioxitalamic acid	5-acetamido-*N*-(2-hydroxyethyl)-2,4,6-triiodoisophthalamic acid $C_{12}H_{11}I_3N_2O_5$
acidum oxiniacicum oxiniacic acid	nicotinic acid 1-oxide $C_6H_5NO_3$
acroninum acronine	3,12-dihydro-6-methoxy-3,3,12-trimethyl-7*H*-pyrano[2,3-*c*]acridin-7-one $C_{20}H_{19}NO_3$
alufibratum alufibrate	bis[2-(*p*-chlorophenoxy)-2-methylpropionato]hydroxyaluminum $C_{20}H_{21}AlCl_2O_7$
aminoquinolum aminoquinol	7-chloro-2-(*o*-chlorostyryl)-4-[[4-(diethylamino)-1-methylbutyl]amino]quinoline $C_{26}H_{31}Cl_2N_3$
amoproxanum amoproxan	α-(isopentyloxymethyl)-4-morpholineethanol 3,4,5-trimethoxybenzoate (ester) $C_{22}H_{35}NO_7$
bendazacum bendazac	[(1-benzyl-1*H*-indazol-3-yl)oxy]acetic acid $C_{16}H_{14}N_2O_3$
benoxafosum benoxafos	*S*-[(5,7-dichlorobenzoxazol-2-yl)methyl]*O,O*-diethyl phosphorodithioate $C_{12}H_{14}Cl_2NO_2PS_2$
brinasum brinase	fibrinolytic enzyme derived from *Aspergillus oryzae*
bromazepamum bromazepam	7-bromo-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one $C_{14}H_{10}BrN_3O$
bucrilatum bucrilate	isobutyl 2-cyanoacrylate $C_8H_{11}NO_2$
bunololum bunolol	(+)-5-[3-(*tert*-butylamino)-2-hydroxypropoxy]-3,4-dihydro-1(2*H*)-naphthalenone $C_{17}H_{25}NO_3$
butamiratum butamirate	2-[2-(diethylamino)ethoxy]ethyl 2-phenylbutyrate $C_{18}H_{29}NO_3$
chromocarbum chromocarb	4-oxo-4*H*-1-benzopyran-2-carboxylic acid $C_{10}H_6O_4$
ciclacillinum ciclacillin	6-(1-aminocyclohexanecarboxamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0] heptane-2-carboxylic acid $C_{15}H_{23}N_3O_4S$
cinoxatum cinoxate	2-ethoxyethyl *p*-methoxycinnamate $C_{14}H_{18}O_4$
ciproquinatum ciproquinate	ethyl 6,7-bis(cyclopropylmethoxy)-4-hydroxy-3-quinolinecarboxylate $C_{20}H_{23}NO_5$
clonazepamum clonazepam	5-(o-chlorophenyl)-1,3-dihydro-7-nitro-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{10}ClN_3O_3$
clonixerilum clonixeril	2,3-dihydroxypropyl 2-(3-chloro-o-toluidino)nicotinate $C_{16}H_{17}ClN_2O_4$

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[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478; 1968, *22*, 112, 407; 1969, *23*, 183.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538; 1968, *22*, 463.

[2] *Off. Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7); 173, 10 (resolution EB43.R9).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clonixinum clonixin	2-(3-chloro-*o*-toluidino)nicotinic acid $C_{13}H_{11}ClN_2O_2$
clorterminum clortermine	*o*-chloro-α,α-dimethylphenethylamine $C_{10}H_{14}ClN$
closiraminum closiramine	8-chloro-11-[2-dimethylamino)ethyl]-6,11-dihydro-5*H*-benzo[5,6]cyclohepta[1,2-*b*]pyridine $C_{18}H_{21}ClN_2$
clostebolum clostebol	4-chloro-17β-hydroxyandrost-4-en-3-one $C_{19}H_{27}ClO_2$
clozapinum clozapine	8-chloro-11-(4-methyl-1-piperazinyl)-5*H*-dibenzo[*b,e*][1,4]diazepine $C_{18}H_{19}ClN_4$
cofisatinum cofisatin	3,3-bis(*p*-hydroxyphenyl)-2-indolinone 3,7,12-trioxo-5β-cholan-24-oic acid diester $C_{68}H_{79}NO_{11}$
colestipolum colestipol	tetraethylenepentamine polymer with 1-chloro-2,3-epoxypropane
demoxytocinum demoxytocin	1-(3-mercaptopropionic acid)-oxytocin $C_{43}H_{65}N_{11}O_{12}S_2$
dexbenzetimidum dexbenzetimide	(+)-2-(1-benzyl-4-piperidyl)-2-phenylglutarimide $C_{23}H_{26}N_2O_2$
diamocainum diamocaine	1-(2-anilinoethyl)-4-[2-(diethylamino)ethoxy]-4-phenylpiperidine $C_{25}H_{37}N_3O$
dietifenum dietifen	4-[2-(diethylamino)ethoxy]phenyl phenethyl ketone $C_{21}H_{27}NO_2$
dilazepum dilazep	tetrahydro-1*H*-1,4-diazepine-1,4(5*H*)-dipropanol 3,4,5-trimethoxybenzoate (diester) $C_{31}H_{44}N_2O_{10}$
diproqualonum diproqualone	3-(2,3-dihydroxypropyl)-2-methyl-4(3*H*)-quinazolinone $C_{12}H_{14}N_2O_3$
ecinaminum ecinamine	2-(diphenylmethylene)butylamine $C_{17}H_{19}N$
edogestronum edogestrone	17-hydroxy-6-methyl-pregn-5-ene-3,20-dione cyclic 3-(ethylene acetal) acetate $C_{26}H_{38}O_5$
enestebolum enestebol	4,17β-dihydroxy-17-methylandrosta-1,4-dien-3-one $C_{20}H_{28}O_3$
epimestrolum epimestrol	3-methoxyestra-1,3,5(10)-triene-16α,17α-diol $C_{19}H_{26}O_3$
eprozinolum eprozinol	4-(β-methoxyphenethyl)-α-phenyl-1-piperazinepropanol $C_{22}H_{30}N_2O_2$
esculaminum esculamine	8[[bis(2-hydroxyethyl)amino]methyl]-6,7-dihydroxy-4-methylcoumarin $C_{15}H_{19}NO_6$
etipirii iodidum etipirium iodide	1-(2-hydroxyethyl)-1-methylpyrrolidinium iodide benzilate (ester) $C_{21}H_{26}INO_3$
etoprindolum etoprindole	1-[2-dimethylamino)ethyl]indol-3-yl ethyl ketone oxime $C_{15}H_{21}N_3O$
euprocinum euprocin	*O*⁶′-isopentylhydrocupreine $C_{24}H_{34}N_2O_2$
flucloroloni acetonidum fluclorolone acetonide	9,11β-dichloro-6α-fluoro-16α,17,21-trihydroxypregna-1,4-diene-3,20-dione cyclic 16,17-acetal with acetone $C_{24}H_{29}Cl_2FO_5$
flucytosinum flucytosine	5-fluorocytosine $C_4H_4FN_3O$
flufenisalum flufenisal	4′-fluoro-4-hydroxy-3-biphenylcarboxylic acid acetate $C_{15}H_{11}FO_4$
flunarizinum flunarizine	1-cinnamyl-4-[bis(*p*-fluorophenyl)methyl]piperazine $C_{26}H_{26}F_2N_2$
flutiazinum flutiazin	8-(trifluoromethyl)phenothiazine-1-carboxylic acid $C_{14}H_8F_3NO_2S$
ftormetazinum ftormetazine	10-[3-(4-methyl-1-piperazinyl)propionyl]-2-(trifluoromethyl) phenothiazine $C_{21}H_{22}F_3N_3OS$
ftorpropazinum ftorpropazine	10-[3-[4-(2-hydroxyethyl)-1-piperazinyl]propionyl]-2-(trifluoromethyl)phenothiazine $C_{22}H_{24}F_3N_3O_2S$
gestadienolum gestadienol	17-hydroxy-19-norpregna-4,6-diene-3,20-dione $C_{20}H_{26}O_3$
glibornuridum glibornuride	1-(2-*endo*-hydroxy-3-*endo*-bornyl)-3-(*p*-tolylsulfonyl)urea $C_{18}H_{26}N_2O_4S$
guamecyclinum guamecycline	*N*-[[4-(amidinoamidino)-1-piperazinyl]methyl]-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{29}H_{38}N_8O_8$
hepronicatum hepronicate	2-hexyl-2-(hydroxymethyl)-1,3-propanediol trinicotinate $C_{28}H_{31}N_3O_6$
kallidinogenasum kallidinogenase	an enzyme isolated from the pancreas or urine of mammals
ketoxalum ketoxal	3-ethoxy-1,1-dihydroxy-2-butanone $C_6H_{12}O_4$
laramycinum laramycin	an antibiotic obtained from cultures of *Streptomyces bikiniensis* var. *laranensis*, or the same substance obtained by any other means
loxapinum loxapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenz[*b,f*][1,4]-oxazepine $C_{18}H_{18}ClN_3O$
mecrilatum mecrilate	methyl 2-cyanoacrylate $C_5H_5NO_2$
meglucyclinum meglucycline	2-deoxy-2-[[[4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacene carboxamido]methyl]amino]-β-D-glucopyranose $C_{29}H_{37}N_3O_{13}$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
memotinum memotine	3,4-dihydro-1-[(*p*-methoxyphenoxy)methyl]isoquinoline $C_{17}H_{17}NO_2$
menitrazepamum menitrazepam	5-(1-cyclohexen-1-yl)-1,3-dihydro-1-methyl-7-nitro-2*H*-1,4-benzodiazepin-2-one $C_{16}H_{17}N_3O_3$
mepiroxolum mepiroxol	3-pyridinemethanol 1-oxide $C_6H_7NO_2$
metacetamolum metacetamol	3′-hydroxyacetanilide $C_8H_9NO_2$
metiapinum metiapine	2-methyl-11-(4-methyl-1-piperazinyl)dibenzo[*b,f*][1,4]-thiazepine $C_{19}H_{21}N_3S$
mezepinum mezepine	5,6-dihydro-5-[3-(methylamino)propyl]-11*H*-dibenz[*b,e*]azepine $C_{18}H_{22}N_2$
miconazolum miconazole	1-[2,4-dichloro-β-[(2,4-dichlorobenzyl)oxy]phenethyl]-imidazole $C_{18}H_{14}Cl_4N_2O$
morantelum morantel	*trans*-1,4,5,6-tetrahydro-1-methyl-2-[2-(3-methyl-2-thienyl)-vinyl]pyrimidine $C_{12}H_{16}N_2S$
nequinatum nequinate	methyl 7-(benzyloxy)-6-butyl-1,4-dihydro-4-oxo-3-quinolinecarboxylate $C_{22}H_{23}NO_4$
nifenalolum nifenalol	α[(isopropylamino)methyl]-*p*-nitrobenzyl alcohol $C_{11}H_{16}N_2O_3$
nifurizonum nifurizone	1-(methylcarbamoyl)-3-[[3-(5-nitro-2-furyl)allylidene]-amino]-2-imidazolidinone $C_{12}H_{13}N_5O_5$
nifurmazolum nifurmazole	3-(hydroxymethyl)-1-[[3-(5-nitro-2-furyl)allylidene]amino]-hydantoin $C_{11}H_{10}N_4O_6$
nifurpirinolum nifurpirinol	6-[2-(5-nitro-2-furyl)vinyl]-2-pyridinemethanol $C_{12}H_{10}N_2O_4$
nimorazolum nimorazole	4-[2-(5-nitroimidazol-1-yl)ethyl]morpholine $C_9H_{14}N_4O_3$
norclostebolum norclostebol	4-chloro-17β-hydroxyestr-4-en-3-one $C_{18}H_{25}ClO_2$
ocrilatum ocrilate	octyl 2-cyanoacrylate $C_{12}H_{19}NO_2$
oxibetainum oxibetaine	(carboxymethyl)dimethyl(2-hydroxyethyl)ammonium hydroxide inner salt $C_6H_{13}NO_3$
penimocyclinum penimocycline	6-[2-[[[4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamido]methyl]amino]-2-phenylacetamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{39}H_{43}N_5O_{12}S$
pexantelum pexantel	1-(cyclohexylcarbonyl)-4-methylpiperazine $C_{12}H_{22}N_2O$
piclopastinum piclopastine	2-[2-[4-(*p*-chloro-α-2-pyridylbenzyl)-1-piperazinyl]ethoxy]ethanol $C_{20}H_{26}ClN_3O_2$
piracetamum piracetam	2-oxo-1-pyrrolidineacetamide $C_6H_{10}N_2O_2$
pizotifenum pizotifen	4-(9,10-dihydro-4*H*-benzo[4,5]cyclohepta[1,2-*b*]thien-4-ylidene)-1-methylpiperidine $C_{19}H_{21}NS$
podilfenum podilfen	1-[α-methyl-3,4-(methylenedioxy)phenethyl]-4-(4-methyl-2-thiazolyl)piperazine $C_{18}H_{23}N_3O_2S$
poligeenanum poligeenan	3,6-anhydro-4-*O*-β-D-galactopyranosyl-α-D-galactopyranose-2,4′-bis(potassium/sodium sulfate)(1→3′)-polysaccharide $(C_{12}H_{16}M_2O_{16}S_2)_n$
politefum politef	poly(tetrafluoroethylene) $(C_2F_4)_n$
prazosinum prazosin	1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furoyl)-piperazine $C_{19}H_{21}N_5O_4$
prednazolinum prednazoline	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-(di-H phosphate) compound with 2-[(2-isopropylphenoxy)methyl]-2-imidazoline or prednisolone phosphate compound with fenoxazoline $C_{34}H_{47}N_2O_9P$
prindololum prindolol	1-(indol-4-yloxy)-3-(isopropylamino)-2-propanol $C_{14}H_{20}N_2O_2$
prospidii chloridum prospidium chloride	3,12-bis(3-chloro-2-hydroxypropyl)-3,12-diaza-6,9-diazoniadispiro[5.2.5.2]hexadecane dichloride $C_{18}H_{36}Cl_4N_4O_2$
ritodrinum ritodrine	*p*-hydroxy-α-[1-[(*p*-hydroxyphenethyl)amino]ethyl]benzyl alcohol $C_{17}H_{21}NO_3$
rizolipasum rizolipase	lipase of *Rhizopus arrhizus* var. Delemar
salazodinum salazodine	5-[[*p*-[(6-methoxy-3-pyridazinyl)sulfamoyl]phenyl]azo]-salicylic acid $C_{18}H_{15}N_5O_6S$
simfibratum simfibrate	2-(*p*-chlorophenoxy)-2-methylpropionic acid trimethylene ester $C_{23}H_{26}Cl_2O_6$
sucralfatum sucralfate	sucrose hydrogen sulfate basic aluminum salt
temazepamum temazepam	7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{16}H_{13}ClN_2O_2$
terbutalinum terbutaline	α-[(*tert*-butylamino)methyl]-3,5-dihydroxybenzyl alcohol $C_{12}H_{19}NO_3$
tibolonum tibolone	17-hydroxy-7α-methyl-19-nor-17α-pregn-5(10)-en-20-yn-3-one $C_{21}H_{28}O_2$
tiforminum tiformin	4-guanidinobutyramide $C_5H_{12}N_4O$
tipindolum tipindole	2-(dimethylamino)ethyl 1,3,4,5-tetrahydrothiopyrano[4,3-*b*]-indole-8-carboxylate $C_{16}H_{20}N_2O_2S$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
tramadolum tramadol	(±)-*trans*-2-[(dimethylamino)methyl]-1-(*m*-methoxyphenyl)-cyclohexanol $C_{16}H_{25}NO_2$
trengestonum trengestone	6-chloro-9β,10α-pregna-1,4,6-triene-3,20-dione $C_{21}H_{25}ClO_2$
trimebutinum trimebutine	β-(dimethylamino)-β-ethylphenethyl alcohol 3,4,5-trimethoxy-benzoate (ester) $C_{22}H_{29}NO_5$
truxicurii iodidum truxicurium iodide	diethyl(3-hydroxypropyl)methylammonium iodide α-2,4-diphenyl-1,3-cyclobutanedicarboxylate $C_{34}H_{52}I_2N_2O_4$
truxipicurii iodidum truxipicurium iodide	1-ethyl-1-(3-hydroxypropyl)piperidinium iodide α-2,4-diphenyl-1,3-cyclobutanedicarboxylate $C_{38}H_{56}I_2N_2O_4$
vincaminum vincamine	vincamine, an alkaloid obtained from *Vinca minor* $C_{21}H_{26}N_2O_3$
xibornolum xibornol	6-isobornyl-3,4-xylenol $C_{18}H_{26}O$
xipamidum xipamide	4-chloro-5-sulfamoyl-2′,6′-salicylo-xylidide $C_{15}H_{15}ClN_2O_4S$
xipranololum xipranolol	1-(di-2,6-xylylmethoxy)-3-(isopropylamino)-2-propanol $C_{23}H_{33}NO_2$

NAMES FOR RADICALS AND GROUPS

Some preparations for which a proposed international non-proprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of complex composition and it is then inconvenient to refer to them in systematic chemical nomenclature. The following shorter non-proprietary names for some such radicals and groups have been devised or selected, and they are suggested for use with proposed international non-proprietary names.

N-acetylglycinate	aceturate
benzenesulfonate	besilate
6,7-dihydroxycoumarin-4-methanesulfonate	cromesilate
[(6-hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-7-yl)oxy]acetate	cromacate
diethanolamine	diolamine
ethanolamine	olamine
2-oxoglutarate	oxoglurate
tertiary butyl acetate	tebutate
triethanolamine	triolamine

NOTE

WHO Chronicle, Vol. 21, No. 11

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (Prop. I.N.N.) : LIST 18

p. 480 :	*delete* benazolinum benazoline	*insert* metizolinum metizoline

WHO Chronicle, Vol. 22, No. 9

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (Prop. I.N.N.) : LIST 20

p. 421 :	*delete* orpressinum orpressin	*insert* ornipressinum ornipressin

INTERNATIONAL NON-PROPRIETARY NAMES FOR PHARMACEUTICAL PREPARATIONS CUMULATIVE LIST No. 2, 1967

p. 10 :	*delete* alfasonum alfasone	*insert* algestonum algestone
p. 41 :	*delete* etomidatum etomidate	(±)-ethyl 1-(α-methylbenzyl)imidazole-5-carboxylate $C_{14}H_{16}N_2O_2$
	insert etomidatum etomidate	(+)-ethyl 1-(α-methylbenzyl)imidazole-5-carboxylate $C_{14}H_{16}N_2O_2$
p. 41 :	*delete* etymidum etymide	*insert* carbifenum carbifene
p. 45 :	*delete* gentamycinum gentamycin	*insert* gentamicinum gentamicin
p. 53 :	*delete* leucovorinum leucovorin	*insert* calcii folinas calcium folinate
p. 56 :	*delete* meclastinum meclastine	*insert* clemastinum clemastine
p. 68 :	*delete* nortestosteroni cypionas nortestosterone cypionate	17β-hydroxyestr-4-en-3-one cyclopentanepropionate $C_{26}H_{38}O_3$
	insert nandrolonum nandrolone	17β-hydroxyestr-4-en-3-one $C_{18}H_{26}O$
p. 80 :	*delete* propoxyphenum propoxyphene	4-dimethylamino-3-methyl-1,2-diphenyl-2-butanol propionate ester $C_{22}H_{29}NO_2$

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner
F. H. BRONAUGH, Deputy Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF APRIL 7, 1970

PATENT EXAMINING GROUPS *Denotes oldest new application.	Actual Filing Date of Oldest New Case Awaiting Action
CHEMICAL EXAMINING GROUPS	
GENERAL CHEMISTRY AND PETROLEUM CHEMISTRY, GROUP 110—M. STERMAN, Director Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries; Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices.	3-20-68
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Director Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids; Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	*1-02-68
HIGH POLYMER CHEMISTRY, PLASTICS AND MOLDING; GROUP 140—L. J. BERCOVITZ, Director Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming; Compositions (Part) e.g.: Coating; Molding; Ink; Adhesive and Abrading Compositions; Molding, Shaping, and Treating Processes.	6-11-68
COATING AND LAMINATING, BLEACHING, DYEING AND PHOTOGRAPHY, GROUP 160—A. P. KENT, Director Coating; Processes and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Adhesive Bonding; Special Chemical Manufactures; Special Utility Compositions; Bleaching; Dyeing and Photography.	2-12-68
SPECIALIZED CHEMICAL INDUSTRIES AND CHEMICAL ENGINEERING, GROUP 170—W. B. KNIGHT, Director Fertilizers; Foods; Fermentation; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Gas; Heating and Illuminating; Cleaning Processes; Liquid Purification; Distillation; Preserving; Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	2-15-68
ELECTRICAL EXAMINING GROUPS	
INDUSTRIAL ELECTRONICS AND RELATED ELEMENTS, GROUP 210—N. ANSHER, Director Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art Conductors; Switches; Miscellaneous.	10-24-68
SECURITY, GROUP 220—S. BOYD, Director Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedoes, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	5-10-68
INFORMATION TRANSMISSION, STORAGE AND RETRIEVAL, GROUP 230—J. F. COUCH, Director Communications; Multiplexing Techniques; Facsimile; Data Processing, Computation and Conversion; Storage Devices and Related Arts.	*4-01-68
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—W. L. CARLSON, Director Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks; Optics; Radiant Energy; Measuring.	7-09-68
PHYSICS, GROUP 280—R. L. EVANS, Director Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	5-07-68
DESIGNS, GROUP 290—S. BOYD, Director Industrial Arts; Household, Personal and Fine Arts.	7-10-69
MECHANICAL EXAMINING GROUPS	
HANDLING AND TRANSPORTING MEDIA, GROUP 310—A. BERLIN, Director Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Dispensing; Fluid Sprinkling; Fire Extinguishers; Coin Handling; Check Controlled Apparatus; Classifying and Assorting Solids; Boats; Ships; Aeronautics; Motor and Land Vehicles and Appurtenances; Railways and Railway Equipment; Brakes; Rigid Flexible and Special Receptacles and Packages.	11-20-68
MATERIAL SHAPING, ARTICLE MANUFACTURING, TOOLS, GROUP 320—D. J. STOCKING, Director Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders Woodworking; Tools; Cutlery; Jacks.	*7-01-68
AMUSEMENT, HUSBANDRY, PERSONAL TREATMENT, INFORMATION, GROUP 330—A. RUEGG, Director Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery; Toiletry; Printing; Typewriters; Stationery; Information Dissemination.	9-10-68
HEAT, POWER AND FLUID ENGINEERING, GROUP 340—C. F. GAREAU, Director Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission; Fluid Handling; Lubrication; Joint Packing.	2-14-69
CONSTRUCTIONS, SUPPORTS, TEXTILES, CLEANING, GROUP 350—T. J. HICKEY, Director Joints; Fasteners; Rod, Pipe and Electrical Connectors; Miscellaneous Hardware; Locks; Building Structures; Closure Operators; Bridges; Closures; Earth Engineering; Drilling; Mining; Furniture; Receptacles; Supports; Cabinet Structures; Centrifugal Separations; Cleaning; Coating; Pressing; Agitating; Foods; Textiles; Apparel and Shoes; Sewing Machines; Winding and Reeling.	11-26-68

Total number of pending applications (excluding Designs)	182,512
Total number of Design applications pending	3,281

Expiration of patents: The patents within the range of numbers indicated below expire during April 1970, except those which may have expired earlier due to shortened terms under the provisions of Public Law 690, 79th Congress, approved August 8, 1946 (60 Stat. 940) and Public Law 619, 83rd Congress, approved August 23, 1954 (68 Stat. 764), or which may have had their terms curtailed by disclaimer under the provisions of 35 U.S.C. 253. Other patents, issued after the dates of the range of numbers indicated below, may have expired before the full term of 17 years for the same reasons, or have lapsed under the provisions of 35 U.S.C. 151.

Patents	Numbers 2,633,571 to 2,637,028, inclusive
Plant Patents	Numbers 1,178 to 1,181, inclusive

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

B. T. Babbitt, Inc. *v.* Phillips-Van Heusen Corporation

No. 8221. Decided December 31, 1969

[57 CCPA —; 419 F.2d 462; 164 USPQ 132]

1. Trademark—Confusing Similarity—"Vano" for Laundry Aids and "Vanopress" or "Vanapress" for Clothing—15 U.S.C. 1052(d).

"In a concise opinion, the Board reached the conclusion that confusion, mistake, or deception (15 U.S.C. 1052(d)) was 'not at all likely' in view of the cumulative differences in the marks as a whole ['VANO' and 'VANOPRESS' or 'VANAPRESS'] and the goods to which they respectively applied [laundry aids and clothing]. We affirm."

2. Same—Arbitrary Mark—Suggestiveness—"Vano" for Laundry Aids and "Vanopress" for Clothing.

"Appellant-opposer contends its mark ['VANO' for laundry aids] is arbitrary and hence entitled to broad protection and that the law requires all doubts to be resolved against the newcomer. We agree with these propositions but consider them inapplicable to the facts of this case. The Board apparently had no doubts, nor do we. VANOPRESS is not altogether arbitrary when it is considered that it is a Van Heusen mark and applied to clothing which requires no pressing. It is highly suggestive and obviously related to its owner's name. The fact that VANO may be entirely arbitrary does not alter these facts."

3. Appeal to U.S. Court of Customs and Patent Appeals—Trademarks—Matter Before Court.

"The Board opinion * * * has called attention to the need to reexamine the VANAPRESS application since the evidence shows this mark to have been used only on slacks, even that use having been discontinued in 1965. Also, it appears that VANOPRESS was not used on slacks and perhaps not for cuffs and collars, wherefore it likewise requires reexamination. These matters are beyond our jurisdiction and are mentioned only to assure that they are not overlooked."

Appeal from Patent Office. Opposition Nos. 45,513 and 45,514.

AFFIRMED.

Seidel & Gonda, *Edward C. Gonda*, for appellant.

Eric Y. Munson for appellee.

Before Rich, *Acting Chief Judge*, Almond, Baldwin, Lane, *Associate Judges*, and Rao, *Chief Judge*, sitting by designation

Rich, *Acting Chief Judge*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Trademark Trial and Appeal Board, 153 USPQ 863, dismissing two oppositions consolidated for trial, Nos. 45,513 and 45,514. The first was against the Phillips-Van Heusen Corporation's application Serial No. 215,259, filed March 29, 1965, to register VANAPRESS for men's shirts, cuffs, collars, pajamas, sports shirts, underwear, knit shirts, and slacks, first use claimed on July 3, 1962. The second was against appellee's application Serial No. 215,260, filed March 29, 1965, to register VANOPRESS for the identical goods, claiming first use on March 2, 1965.

Appellee concedes to appellant priority in the use and registration [1] of VANO as a trademark for household cleaner, liquid and powder form laundry starch, clothing and household bleach, fabric fluffer, laundry starch in spray form, fabric finishes, and ironing aids.

[1] In a concise opinion, the Board reached the conclusion that confusion, mistake, or deception (15 U.S.C. 1052(d)) was "not at all likely" in view of the cumulative differences in the marks as a whole and the goods to which they are respectively applied. We affirm.

[2] Appellant-opposer contends its mark is arbitrary and hence entitled to broad protection and that the law requires all doubts to be resolved against the newcomer. We agree with these propositions but consider them inapplicable to the facts of this case. The Board apparently had no doubts, nor do we. VANOPRESS is not altogether arbitrary when it is considered that it is a Van Heusen mark and applied to clothing which requires no pressing. It is highly suggestive and obviously related to its owner's name. The fact that VANO may be entirely arbitrary does not alter these facts.[2]

Appellant makes a number of arguments directed to showing that the goods, though clothing on the one hand and chemical products on the other, are really quite closely related. One is that both parties used a Chinese laundryman theme in TV commercials to emphasize no ironing on the one hand and ironing aids on the other. We are not persuaded by this that the public would assume common origin for shirts and starch, etc. The evidence appears to demonstrate that applicant-appellee's shirts have a permanent press by reason of the composition of the textile fabric and a special pressing technique on special equipment and not by reason of any chemical finishing agent applied to the fabric.

Though it is possible for appellant to argue in the abstract that appellee's mark VANOPRESS is nothing but its mark VANO with "press" added thereto, there is nothing to show that the mark was actually created in that fashion or that any ulterior motive is involved.

The VANAPRESS mark is clearly even less likely to cause confusion.[3]

Finding, as we do, that the oppositions were properly dismissed, the decision of the Board is affirmed.

AFFIRMED.

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[1] No. 392,176, Dec. 16, 1941, "Vano."
No. 634,513, Sept. 18, 1956, "VANO."
No. 643,786, Apr. 9, 1957, "Vano" and ribbon design.
No. 705,788, Oct. 18, 1960, "VANO."
No. 726,631, Jan. 23, 1962, "VANO."
No. 759,875, Nov. 12, 1963, "Vano" and little girl design.

[2] Appellee makes the counter suggestion that VANO was probably selected "because of its meaning in Italian, which is: I vanish." This according to our Italian dictionaries, appears to be untrue. The verb for vanish is "svanire."

[3] [3] The Board opinion, in footnote 2, has called attention to the need to reexamine the VANAPRESS application since the evidence shows this mark to have been used only on slacks, even that use having been discontinued in 1965. Also, it appear that VANOPRESS was not used on slacks and perhaps not for cuffs and collars, wherefore it likewise requires reexamination. These matters are beyond our jurisdiction and are mentioned only to assure that they are not overlooked.

U.S. Court of Customs and Patent Appeals

In re Carl F. Benson and John H. Cowles

No. 8185. Decided December 11, 1969

[57 CCPA —; 418 F.2d 1251; 164 USPQ 22]

1. Claim—Construction of Claims—Material Defined by Intended Use.

"* * * both Ferris and Rice teach the use of a stiffened or hard material which could not satisfy the limitation in appellants' claims that the external surface [of 'thin sheet metal shell'] be 'for frictional centering engagement within a machine element bore.' We consider this recitation a proper limitation on the material in an article claim although we do not view it as the sole point of novelty in the claim. Appellants appear to have discovered that frictional engagement would result if the sheet metal is sufficiently thin. The claims here define a thin outer member, and the prior art does not teach that thinness is at all a factor. The difficulty with the word thin is that it is generally indefinite. Here the words 'for frictional centering engagement' are not only a limitation on the external surface, but plainly a limitation on the word thin. We do not construe the claims as requiring that the outer member actually be used for frictional centering engagement in a bore, but only that it be sufficiently thin to permit such use and that it not possess any characteristic which would prevent such use. Sometimes, as here a material is as well defined by its intended use as by its dimensions or other physical characteristics, and in this case we know of no reason why the limitation in terms of use should not be placed in the claims and given meaning in their interpretation. The hard or stiffened shells disclosed by Rice and Ferris both lack the expansion characteristic necessary to accomplish the frictional engagement recited in the two claims on appeal here."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"OVERRUNNING CLUTCH OUTER MEMBER."

The refusal of certain claims in an application entitled "Overrunning Clutch Outer Member," as unpatentable over the prior art, is reversed.

APPEAL from Patent Office. Serial No. 442,970.

REVERSED.

Mason, Porter, Diller & Brown (*Vincent L. Ramik*, of counsel) for appellants.

Joseph Schimmel (*Fred W. Sherling*, of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, GANEY, *Judge*, sitting by designation, ALMOND, BALDWIN and LANE, *Associate Judges*

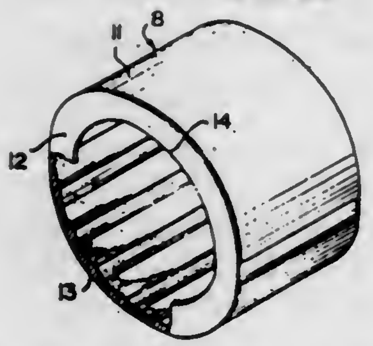
LANE, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals which affirmed the rejection of claims 3 and 12 of appellants' patent application, Serial No. 442,970, filed March 26, 1965, entitled "Overrunning Clutch Outer Member." Seven claims have been allowed.

THE DISCLOSURE

Appellants' application discloses a sheet metal outer member, or shell, for an overrunning clutch. The clutch is positioned in a machine element to be rotated, such as small gear or pulley. A shaft, which is the source of rotational power, extends into the clutch. The clutch transmits rotational movement from the shaft to the outer member of the clutch through a plurality of rollers which roll against cam surfaces when the shaft is rotated in one direction, thereby rotating the outer member of the clutch in the direction and at the speed of the shaft. The outer member securely engages the interior of the machine element to be rotated, the holding being accomplished in appellants' disclosure by frictional engagement. The outer member disclosed by appellants may be more readily understood by reference to FIG. 3 in their application, which is here reproduced.

Fig. 3



The sheet metal outer member 8 has a cylindrical exterior 11, making it suitable for insertion into a circular bore in the machine element to be rotated. The interior of the shell 8 has a plurality of adjacent surfaces 13 against which rollers may bear. Applicants state that if the member 8 is made of thin sheet metal, the bearing of the rollers on the circumferentially spaced axially extending cam surfaces will expand the member into tighter engagement with the bore wall, thereby holding the member and the machine element in fixed relationship. When the driving shaft slows or stops, the rollers roll out of jamming relationship with the cam surfaces so that the machine element and the shell 8 may continue to rotate until their energy is used up.

THE CLAIMS

The appealed claims read:

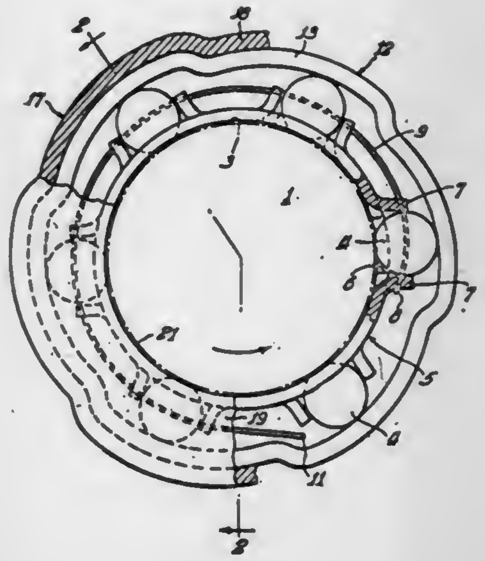
3. An outer clutch member for an overrunning clutch comprising a thin sheet metal shell having a cylindrical external surface of circular configuration for frictional centering engagement within a machine element bore and an embossed internal surface defining a plurality of circumferentially spaced axially extending cam surfaces, said shell varying in thickness circumferentially.

12. An outer clutch member for an overrunning clutch comprising a thin wall metal shell formed of sheet metal drawn to have an outer surface in the shape of a cylinder for frictional centering engagement within a cylindrical machine element bore and an embossed internal surface defining a plurality of circumferentially spaced axially extending cam surfaces of uniformly changing radial dimension, said shell wall varying in thickness circumferentially.

THE REFERENCES

The references with which we are concerned are Ferris [1] and Rice.[2] We view the other cited references as merely cumulative, since none of them shows a pertinent feature not present in either Ferris or Rice.

The Ferris patent teaches the use of sheet metal in forming the outer members of an overrunning clutch, as seen from FIG. 1 of that patent.



The outer member 12 of Ferris includes a sheet metal cup section 13 generally cylindrical but bent to form circumferentially spaced cam surfaces. The covering cup 17 is shrunk-fit over the member 12 in order to add "substantial stiffness to the outer race 12." It thus appears clear that expansion of the outer member into frictional engagement with a cylindrical bore wall would be impossible, due to the outer member's stiffness.

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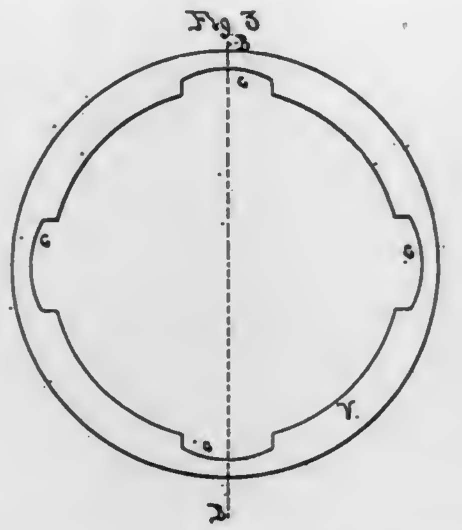
[1] U.S. Patent 3,011,606, issued December 5, 1961.
[2] U.S. Patent 348,691, issued September 7, 1886.

The Rice patent shows an overrunning clutch, the outer member being illustrated in FIG. 3 thereof.



Rice teaches that the outer ring member V should be made of hardened steel and attached to a machine element by clamping, the clamping members being bolted in place. The outer member V of Rice has a cylindrical exterior surface, which was not true in Ferris. Since the attachment of the Rice outer member V to a machine element is by clamping, and since the outer member is of hardened steel, it is clear that no frictional engagement between the outer member V and the machine element is necessary or possible.

THE BOARD

The Board of Appeals affirmed the Examiner's rejection of claim 3 as lacking novelty (35 U.S.C. 102) over each of three references, Rice, supra, Mattson [3] and Hall.[4] We need not discuss the details of the disclosures of the latter two references. Suffice it to say that none of these three references shows sheet metal as the material for the outer member nor do they disclose appellants' frictional engagement feature.

The Board then affirmed the rejection of claims 3 and 12, supra, under 35 U.S.C. 103 based upon Ferris in view of Rice. The Board said: "While the outer surface of the shell [of Ferris] is not cylindrical, in our opinion it would be obvious to make it so if used in the environment of Rice, since Rice discloses a similarly cylindrical outer surface."

OPINION

As to the rejection for lack of novelty, we have noted above that the use of sheet metal material plus frictional engagement appears in none of the three cited references. Since these limitations are recited in each claim here, the rejection under § 102 is erroneous.

Regarding the obviousness rejection of each claim under § 103, we conclude that the Board erred in affirming the Examiner. Our conclusion is based upon two reasons. **[1]** First, both Ferris and Rice teach the use of a stiffened or hard material which could not satisfy the limitation in appellants' claims that the external surface be "for frictional centering engagement within a machine element bore." We consider this recitation a proper limitation on the material in an article claim although we do not view it as the sole point of novelty in the claim. Appellants appear to have discovered that frictional engagement would result if the sheet metal is sufficiently thin. The claims here define a thin outer member, and the prior art does not teach that thinness is at all a factor. The difficulty with the word thin is that it is generally indefinite. Here the words "for frictional centering engagement" are not only a limitation on the external surface, but plainly a limitation on the word thin. We do not construe the claims as requiring that the outer member actually be used for frictional centering engagement in a bore, but only that it be sufficiently thin to permit such use and that it not possess any characteristic which would prevent such use. Sometimes, as here, a material is as well defined by its intended use as by its dimensions or other physical characteristics, and in this case we know of no reason why the limitation in terms of use should not be placed in the claims and given meaning in their interpretation. The hard or stiffened shells disclosed by Rice and Ferris both lack the expansion characteristic necessary to accomplish the frictional engagement recited in the two claims on appeal here. Second, the clamping required by Rice indicates that the adaptation of Ferris to the environment of Rice would not produce the invention defined by the claims here. The cylindrical outer surface would be present, but frictional centering engagement would be absent.

We conclude that, taking the references together, a recited element in each of the claims in issue is not shown or suggested. **[2]** Accordingly, we reverse the decision of the Board on each of these claims.

REVERSED.

BALDWIN, *J.*, dissenting, with whom ALMOND, *J.*, joins.

Although I concur in the reversal of the rejection of the claims under 35 U.S.C. 103, I must respectfully dissent from the remainder of the majority's disposition of this case.

Appellants' invention, *as disclosed*, comprises an outer member for an overrunning clutch having a cylindrical exterior surface (for insertion into a circular bore) and a cammed interior surface against which the rollers of the clutch will roll. The outer member is formed from sheet metal of a gauge sufficiently thin so that when the clutch rollers are made to bear against the interior cam surfaces, the pressure they create will cause the metal to deform slightly in an outward direction, thus effecting an expansion of the outer member which creates a frictional engagement with the bore into which it is inserted.

To my mind the claims on appeal do not define the invention disclosed. In making the rejection under 35 U.S.C. 102, the Patent Office evidently felt the same way, since the devices shown in the prior art references are clearly not anticipatory of the *disclosed* invention. The Examiner and the Board were simply interpreting the claim language as broadly as possible.

The majority evidently feels that the Patent Office went too far in interpreting the claim language. The majority rationalizes its decision by interpreting the claim language "for frictional centering engagement within a machine element bore" as a critical limitation not met by the references, contending:

> Sometimes, as here, a material is as well defined by its intended use as by its dimensions or other physical characteristics * * *

Apparently, the quoted claim language is being interpreted as a physical limitation on the *material*, i.e., the sheet metal, making up the shell of the article claimed. The obvious intent is that this language, when coupled with the other limitation on the shell material, i.e., the word "thin," will adequately define the critical distinguishing feature of the disclosed invention, which is that the shell be made of sheet metal *sufficiently* thin so that the relatively slight internal pressure produced by the bearing of the rollers on the interior cam surface will cause the shell *to expand into* frictional engagement with the bore into which it is inserted.

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[3] U.S. Patent 3,174,598, issued March 23, 1965.

[4] U.S. Patent 2,864,629, issued December 16,1958.

Assuming that my understanding of the majority's intent is correct, then I feel that the majority has itself gone too far, not only in manipulating claim language to achieve a desired end (at the expense of logical syntax), but also in reading limitations disclosed in the specification into the claims.

I do not quarrel with the broad proposition that a statement of intended use may, in some instances, be such a "functional" statement as to be given consideration in interpreting claim language. *In re Land*, 54 CCPA 806, 368 F.2d 866, 151 USPQ 621 (1966). However, if my understanding of the majority's opinion is correct, then even when the claims are read as the majority suggests, in order to arrive at the intended interpretation, a limitation, i.e., that the shell must *expand* into frictional engagement, must still be added which has no express basis in the claim—exactly what was admonished against as recently as this court's decision in *In re Prater*, 56 CCPA 1381, 415 F.2d 1393, 162 USPQ 541 (1969). A look at the language of that decision will explain why this is wrong:

> There are quite sound reasons why, in an infringement suit on an issued patent, courts may sometimes "interpret patent claims in the light of the specification" so as to protect only that phase of the claimed invention that constitutes patentable subject matter and thus do jusice and equity between the parties.[30] However, this court has consistently taken the tack that claims yet unpatented are to be given the broadest reasonable interpretation consistent with the specification *during the examination of a patent application* since the applicant may then *amend* his claims, the thought being to reduce the possibility that, after the patent is granted, the claims may be interpreted as giving broader coverage than is justified.[31] [Emphasis as quoted.]

The *Prater* court pointed out in the indicated footnotes that the reason for the different rules is that in an infringement suit, there is no opportunity to amend the claims and a court will have only two alternatives, i.e., to either read a limitation into the claims or hold them invalid, whereas during ex parte proceedings the applicant is not foreclosed from obtaining the proper coverage by amending his claim language.

It should also be pointed out that the appellants have not even argued for the interpretation which the majority now gives, but rather argued vigorously that the claimed articles be read entirely independently of any intended end use. I particularly disapprove of any court coming up with its own interpretation of claim language without giving either party before it the chance to argue the propriety of such interpretation.

I would therefore affirm the rejection under 35 U.S.C. 102, since I believe that the limitation intended to be read into the claims should not be read as such.

The position I have now taken requires me, however, to consider the rejection under section 103 as having been made in the alternative, rather than as supplementary to the rejection under section 102. In making the "102" rejection, the Patent Office obviously considered

that the claim limitations "thin" and "sheet metal" were too indefinite to accord any significant meaning thereto and that the language "for frictional centering engagement * * *" had no structural significance. Their reasons for doing so were logical and rational and I respect their judgment. However, it appears that the Patent Office, in making the "103" rejection, was giving the claims a different interpretation, conceding implicitly that the *type* of thin sheet metal disclosed by Ferris and contemplated by appellants is adequately defined by the claims. I do not find, in the combination of references cited, the suggestion that if the outer surface of the Ferris device were made cylindrical, and used in a cylindrical bore, it would expand into frictional engagement within the bore. Accordingly, I would reverse the rejection under 35 U.S.C. 103.

I might add at this point that many of the problems involved in this and similar cases would be obviated if the Patent Office, either Examiner or Board, when making a rejection premised on either the breadth or indefiniteness of certain claim language, would include with the rejection an explanation of *why* the claims are considered as reading on the cited prior art and/or a *suggestion* of language which would adequately define distinguishing limitations.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,544,246, G. H. Butterfield, CORNEAL CONTACT LENS, **filed** Feb. 20, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c415, *George H. Butterfield, Sr.* v. *B & M Optical Company*. **Same, filed** Feb. 20, 1970, D.C., N.D. Ill. (Chicago), Doc. 70c416, *George H. Butterfield, Sr.* v. *The House of Vision, Inc*. **Same, filed** Feb. 27, 1970, D.C., Colo. (Denver), Doc. C–2110, *George H. Butterfield, Sr.* v. *Bell Optical Laboratory, Inc*. **Same, filed** Mar. 3, 1970, D.C., E.D. Wis. (Milwaukee), Doc. 70–C–119, *George H. Butterfield, Sr.* v. *Ray-Con, Inc.*

2,626,841, L. R. Potter, SELF-ALIGNING BEARING; **2,724,172**, same, METHOD OF FORMING A SELF-ALIGNING BEARING, **filed** Dec. 4, 1967, D.C., Conn. (New Haven), Doc. 12283, *Southwest Products Company* v. *The Heim Universal Corporation*. Judgment, defendant's motion for summary judgment is granted; patents are invalid; complaint dismissed on the merits, Dec. 15, 1969.

2,675,628, C. S. O'Neil, LAUNDRY DRIER, **filed** Nov. 10, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1898, *Hamilton Manufacturing Company* v. *Westinghouse Electric Corporation*. Patent valid but not infringed, Dec. 31, 1969.

2,724,172. (See 2,626,841.)

2,841,056, L. D. Hincher, PAPER EDGE FLARING MACHINE, **filed** Nov. 14, 1969, D.C., Mass. Doc. 69–1207–C, *Custom Paper Products Co. and Howard F. Hincher* v. *Atlantic Paper Box Co.*

2,948,524, Sweeney and Kaji, PUMP FOR MOLTEN METAL, **filed** Jan. 13, 1970, D.C., N.D. Ohio (Cleveland), Doc. C70–31, *The Carborundum Company* v. *Metal Transfer Inc.*

2,950,016, A. J. Thomas, CRANE GUARD ATTACHMENT, **filed** July 9, 1970, D.C., E.D. Ark. (Little Rock), Doc. 68–C–133, *United States of America* v. *Saf-T-Boom Corporation and Arthur J. Thomas*. Memorandum opinion and decree cancelling setting aside, and holding for naught, said patent, finding that patent was issued as result of actual or constructive fraud on the part of Thomas in his application and affidavit, Jan. 16, 1970.

2,962,837, J. H. Lemelson, TOY GUN CONTAINING RICOCHET NOISE MECHANISM; **3,098,474**, Hirsch and Merl, TOY REPEAT FIRING CAP GUN WITH PERCUSSIVE FIRING NOISE AND SIMULATED USED SHELL EJECTION, **filed** Aug. 9, 1966, D.C., S.D.N.Y., Doc. 66–C–2468, *Jerome H. Lemelson* v. *Louis Marx & Co.* Stipulation and order of dismissal, Dec. 22, 1969.

3,098,474. (See 2,962,837.)

3,121,006, Middleton and Reynolds, PHOTO-ACTIVE MEMBER FOR XEROGRAPHY, **filed** Feb. 13, 1969, D.C., S.D.N.Y., Doc. 69–C–546, *Xerox Corporation* v. *Nashua Corporation et al*. Stipulation of dismissal, Sept. 11, 1969.

3,231,784, R. O. Major, STAGE LIGHTING SYSTEM; **Reg. No. 820,238** (PRESTO-PATCH), Major Equipment Company, Inc., Cross connection cabinet for stage lighting, **filed** Dec. 4, 1968, D.C., N.D. Ill. (Chicago), Doc. 68c2344, *The Major Corporation* v. *Hub Electric Co., Inc*. Final Judgment on consent, case dismissed without prejudice, Jan. 6, 1970.

3,368,147, O. W. Graham, BASIC SEDIMENT AND WATER MONITOR UTILIZING ONE PLATE OF A CONDENSER FOR MOUNTING A HOUSING FOR COMPONENTS OF A CAPACITANCE MEASURING CIRCUIT; **3,385,108**, J. B. Rosso, NET OIL COMPUTER, **filed** Oct. 23, 1968, D.C., S.D. Tex. (Houston), Doc. 68–H–883, *Combustion Engineering, Inc.* v. *Odex Controls, Inc., now known as Planet Corp*. Final consent judgment, plaintiff owner of said Pat. No. 3,385,108 and valid. Defendant has infringed. Plaintiff's action for infringement of Pat. No. 3,368,147 dismissed without prejudice, Feb. 9, 1970.

3,385,108. (See 3,368,147.)

3,428,194, F. C. Weiss, SHIP BARGE HANDLING CRANES AND BEAMS, **filed** Jan. 13, 1970, D.C., Del. (Wilmington), Doc. 3837, *Alliance Machine Company* v. *Central Gulf Steamship Corporation.*

3,454,273, E. M. Vogt, EXERCISE DEVICE OF THE TWIST BOARD TYPE, **filed** Dec. 23, 1969, D.C., N.D. Ill. (Chicago), Doc. 69c2641, *General International Industries, Inc.* v. *Montgomery Ward & Co., Inc.*

3,458,396. (See 3,471,888.)

3,471,888, Grant and Bickerstaff, SOAKING PIT CHIPPER; **3,458,396**, L. A. Grant, DEMOLITION MACHINE, **filed** Jan. 27, 1970, D.C., N.D. Ind. (Hammond), Doc. 70H19, *Louis A. Grant, Inc.* v. *Keibler Industries, Inc.*

3,487,999, Nash, Labranche, Newman and Smith, ROADWAY TOY, **filed** Jan. 9, 1970, D.C., S.D.N.Y., Doc. 70–62, *Mattel Inc.* v. *Topper Corporation*. **Same, filed** Jan. 9, 1970, D.C., S.D.N.Y., Doc. 70–63, *Mattel Inc.* v. *Fred Bronner Corporation.*

3,488,770, W. T. Atkinson, MEAT-LIKE PROTEIN FOOD PRODUCT, **filed** Jan. 7, 1970, D.C., S.D. Ill. (Peoria), Doc. P–3102, *Archer Daniels Midland Company* v. *Ralston Purina Company.* **Same, filed** Jan. 7, 1970, D.C., S.D. Ill. (Peoria), Doc. P–3103, *Archer Daniels Midland Company* v. *Swift and Company.* **Same, filed** Feb. 26, 1970, D.C., S.D. Iowa (Davenport), Doc. 3–896–D, *Ralston Purina Company,* v. *Archer Daniels Midland Company.*

Re. 24,518, B. W. Nickerson, Jr., SIDE WALL FOR TIRES, **filed** Jan. 19, 1970, D.C., M.D. Pa. (Scranton), Doc. C–70–13, *Bryan W. Nickerson, Jr.* v. *G.A.C. Merchandising Corporation.*

D. 172,494, P. Dom, TYPE FONT; **D. 179,774**, E. J. Klumpp, same, **filed** June 17, 1968, D.C. S.D.N.Y., Doc. 68–C–2460, *American Type Founders Co., Inc.* v. *Prestype Inc.* Stipulation and order action is dismissed, Dec. 29, 1969.

D. 179,774. (See D. 172,494.)

Reg. No. 820,238. (See 3,231,784.)

DEFENSIVE PUBLICATIONS

PUBLISHED APRIL 28, 1970

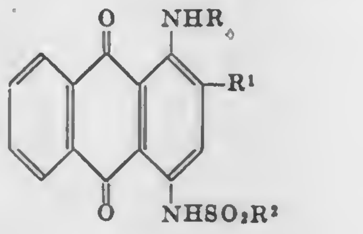
Published at the request of the applicant or owner in accordance with the Notice of Dec. 16, 1969, 869 O.G. 687. The abstracts of Defensive Publication applications are identified by distinctly numbered series and are arranged chronologically. The heading of each abstract indicates the number of pages of specification, including claims and sheets of drawings contained in the application as originally filed. The files of these applications are available to the public for inspection and reproduction may be purchased for 30 cents a sheet.

Defensive Publication applications have not been examined as to the merits of alleged invention. The Patent Office makes no assertion as to the novelty of the disclosed subject matter.

T873,014
1-ARYLAMINO-4-ARYLSULFONAMIDO-ANTHRAQUINONE COMPOUNDS

Max A. Weaver and Clarence A. Coates, Jr., both of P.O. Box 511, Kingsport, Tenn. 37662
Filed Jan. 23, 1969, Ser. No. 793,606
Int. Cl. C09b *1/34, 1/54*
U.S. Cl. 260—373
No Drawing. 8 Pages Specification

A water-insoluble compound having the formula



wherein:

R and R² are the same or different and each is phenyl or phenyl substituted with lower alkyl, lower alkoxy, lower hydroxyalkoxy, or halogen;

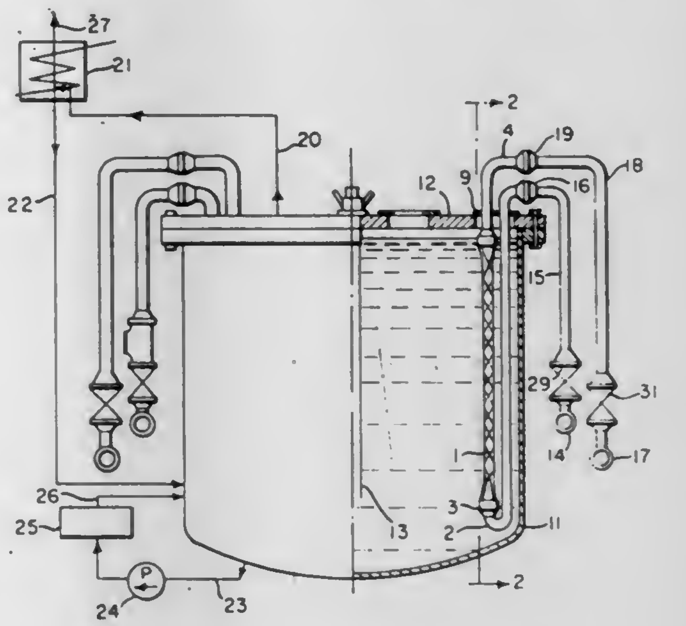
R¹ is hydrogen, lower alkyl, lower alkoxy, lower hydroxyalkoxy, lower alkoxy-lower-alkoxy, lower hydroxyalkoxy-lower-alkoxy; halogen; cyano; phenoxy, or phenoxy substituted with lower alkyl, lower alkoxy, lower hydroxyalkoxy, or halogen. The compounds are useful as dyes for hydrophobic textile materials such as cellulose acetate, polyamide, modacrylic and polyester fibers, yarns and fabrics.

T873,015
PHOTOCHEMICAL REACTOR

Robert G. Finnerty, Jr., Woodstown, N.J., and Wayne R. Hager, Newark, and Stanley B. Levy, New Castle, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 29, 1969, Ser. No. 828,875
Int. Cl. H01j *37/00;* **G01r** *31/00*
U.S. Cl. 250—43
2 Sheets Drawing. 16 Pages Specification

A photochemical reactor wherein a source of light energy is positioned along the longitudinal axis of a closed vessel. About the light source are situated a plurality of hollow tube reaction units each comprised of one or more tube bundles positioned so that each bundle is equidistant from and parallel to the light source. The unoccupied interior portion of the closed vessel will contain a heat transfer fluid.

Each tube bundle consists of a plurality of concentric sleeves, each sleeve being made up of interwoven hollow tubes which are spiralled about the longitudinal axis of such sleeve. The lateral portions of the tube ends of each unit are surrounded by integral tube sheets with the ends of each tube protruding at least to the outer face of said sheets and being in open communication with reducing couplers defining a headspace adjacent to said outer face. An inlet conduit and an outlet conduit extend through the wall of the vessel, the inlet conduit communicating with the reducing coupler at one end of the unit and the outlet conduit communicating with the coupler at the other end, said conduits having joining means at their other ends exterior to the vessel.



T873,016
EXTRACTION OF DELETERIOUS RESIDUES FROM POLYCARBONATE OF 2,2,4,4-TETRAMETHYL-1,3-CYCLOBUTANEDIOL

Russell Gilkey, 1704 Springfield Ave. 37660, and John R. Caldwell, 404 Colonial Heights Road 37663, both of Kingsport, Tenn.
Filed Nov. 28, 1969, Ser. No. 880,974
Int. Cl. C08g *22/00*
U.S. Cl. 260—77.5
No Drawing. 14 Pages Specification

Substantially all of the alkali metal catalyst residues contained in the polycarbonates of 2,2,4,4-tetramethyl-1,3-cyclobutanediol can be removed therefrom without materially affecting the chemical composition of the polycarbonate by treating the polycarbonate with an acidic organic compound having an ionization constant of about 2×10^{-1} to 2.5×10^{-6} and sufficient solvent power to diffuse through the polycarbonate to contact and provide the residues of said alkali metal catalyst in a form removable from the polycarbonate. Removal of these catalyst residues provides a final polycarbonate product having greatly improved thermal and hydrolytic stability and improved resistance to weathering. Color impurities are also removed by the process thereby providing, in addition, a product of improved color. The polycarbonate contacted with the organic acidic compound may be either in solid form or in solution, and the alkali metal catalyst residues dispersed or dissolved in the polymer may be extracted therefrom by the acidic organic compounds which are selective solvents for the alkali metal residues. Alternatively, the acidic organic compounds may be added to a solution of the polymer in water-immiscible solvents to convert the alkali metal catalyst residues to a water-soluble form which can be easily removed by a liquid-liquid extraction with water. Thus, the organic compound contacting step provides the alkali metal catalyst residues in a form that can be removed from the polycarbonate, which form is either an acidic organic compound-alkali metal catalyst residue extraction mixture or a water-soluble reaction product of the alkali metal catalyst and the acidic organic compound. The residues of alkali metal catalysts employed may be dissolved or dispersed in the polymer in their original catalyst form, or as a derivative of the original catalyst, or as reactant or reaction products. Illustrative of suitable acidic organic compounds for use in the process are carboxylic acids containing at least one carboxyl group, acid phosphates and phosphites, sulfonic acids, disulfonylimides and the like.

REISSUES

APRIL 28, 1970

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,866

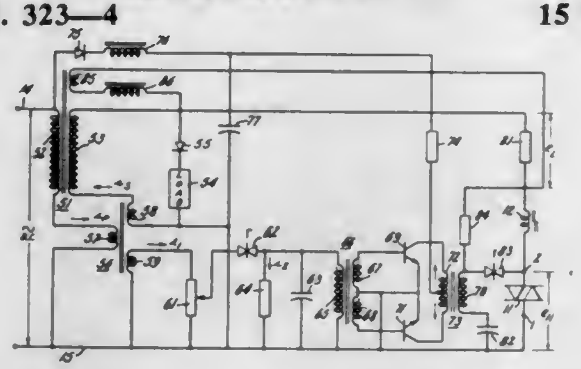
PHASE CONTROLLED ALTERNATING CURRENT POWER CIRCUITS USING BIDIRECTIONAL CONDUCTING DEVICES

Herbert F. Storm, Delmar, N.Y., assignor to General Electric Company, a corporation of New York

Original No. 3,348,128, dated Oct. 17, 1967, Ser. No. 378,378, June 26, 1964. Application for reissue May 6, 1968, Ser. No. 728,089

Int. Cl. G05f *1/44, 1/56*

U.S. Cl. 323—4 **15 Claims**



To compensate for the tendency of an unsymmetrical load to saturate an A-C supply transformer, a current transformer is coupled to the supply transformer for sensing the undesired D-C component and deriving an output control signal pulse which is supplied to the firing circuit of a diac or triac bidirectional conducting device. A compensating D-C component is produced by turning on the device at different phases of the half cycles of the A-C supply potential and is applied to the supply transformer secondary windings by means of an auxiliary secondary winding or by connecting the load in series with the diac or triac and the secondary winding to correct the load current.

26,867

REVOLVER CIRCUIT WITH START-STOP MEANS

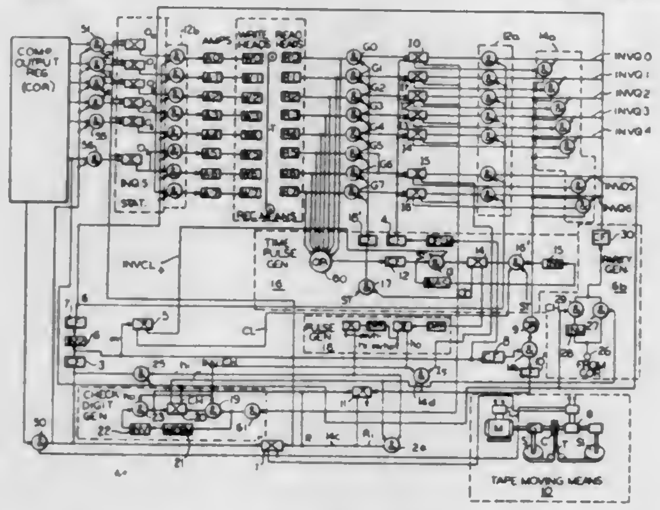
David B. G. Edwards, Gatley, and Tom Kilburn, Urmston, England, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Original No. 3,325,797, dated June 13, 1967, Ser. No. 326,600, Nov. 27, 1963, which is a continuation-in-part of application Ser. No. 785,409, Jan. 7, 1959. Application for reissue June 10, 1969, Ser. No. 848,367

Claims priority, application Great Britain, Jan. 14, 1958, 1,307/58

Int. Cl. G11b *5/46, 15/12*

U.S. Cl. 340—174.1 **10 Claims**



Apparatus for recording information on a magnetic medium undergoing relative displacement with respect both to a sensing transducer and a recording transducer which are spaced a fixed distance apart. Information is gated to the recording transducer with previously recorded information is adjacent to the sensing transducer thereby insuring uniform information spacing. Relative motion is halted whenever there is no information to be recorded and resumed when the information is available without disturbing the uniform information spacing. A unique checking system is also employed to determine the accuracy of the recorded information.

26,868

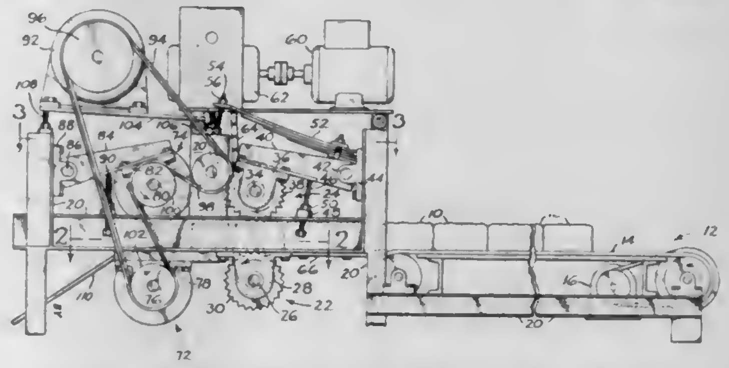
USED BRICK CLEANING APPARATUS

Harold G. La Velle and Edgar T. De Shazo, Seattle, Wash., by Data-Link Corp. of San Mateo, Calif., a corporation of Delaware, assignee

Original No. 3,087,483, dated Apr. 30, 1963, Ser. No. 140,479, Sept. 25, 1961. Application for reissue Dec. 12, 1968, Ser. No. 822,331

Int. Cl. B28d *1/00*

U.S. Cl. 125—26 **8 Claims**



A machine for cleaning the mortar from used brick wherein the bricks are guided under a group of saw blades which cut and break the mortar on the surfaces of the bricks and impel the bricks toward an oppositely rotating grinding drum which grinds the mortar from said surface.

26,869

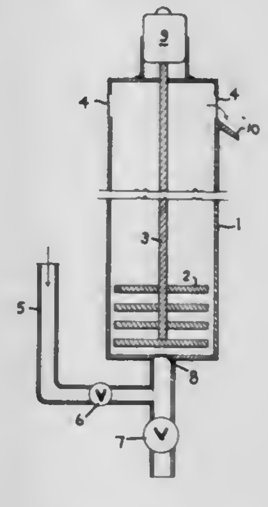
DISPERSION PROCESS

Edward F. Wahl, Lakewood, Ohio, assignor to PPG Industries, Inc., a corporation of Pennsylvania

Original No. 3,337,140, dated Aug. 22, 1967, Ser. No. 372,267, June 3, 1964. Application for reissue Aug. 14, 1968, Ser. No. 786,505

Int. Cl. B02c *17/16*

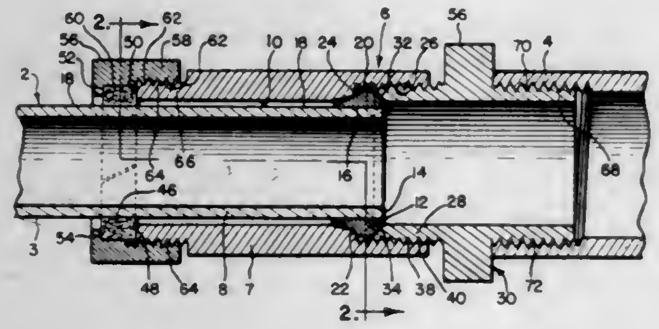
U.S. Cl. 241—21 **6 Claims**



Solid particles in a liquid media are reduced by feeding them vertically through a dispersion mill containing grind-

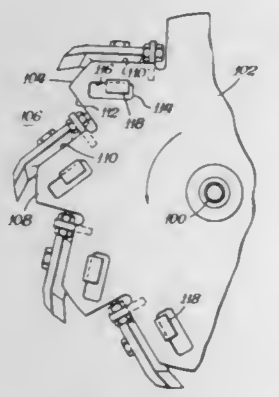
ing pellets made up of partially or fully stabilized zirconium oxide particles bound together by an organic or inorganic binder. Movement of the pellets caused by rotation of a central impeller in the mill acts to grind the solid particles.

26,870
HYDRAULIC TUBING CONNECTOR WITH VIBRATION DAMPING MEANS
Herbert D. Sullivan, Chicago, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Original No. 3,400,953, dated Sept. 10, 1968, Ser. No. 560,766, June 27, 1966. Application for reissue May 14, 1969, Ser. No. 830,902
Int. Cl. F16l *11/12, 13/04*
U.S. Cl. 285—50 **2 Claims**



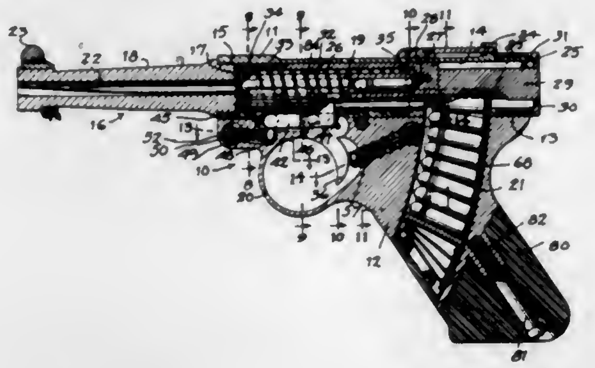
A hydraulic tubing connection having a fluid carrying tube enclosed within a support tube, a connecting tube, a metal to metal sphero-conical seal connecting the fluid carrying tube to the connecting tube, and a resilient packing between the fluid carrying tube and the support tube spaced from the connection a distance equal to at least one and a half outside diameters of the fluid carrying tube.

26,871
MATERIAL CHOPPING AND COMMINUTING DEVICE
James Morkoski, Clarendon Hills, and Wilbur H. Clendenin, Ava, Ill., and James Corwith, Jr., Bettendorf, Iowa, assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Original No. 3,331,561, dated July 18, 1967, Ser. No. 441,673, Mar. 22, 1965. Application for reissue June 11, 1969, Ser. No. 835,888
Int. Cl. A01d *55/00;* **B02c** *18/18*
U.S. Cl. 146—117 **14 Claims**



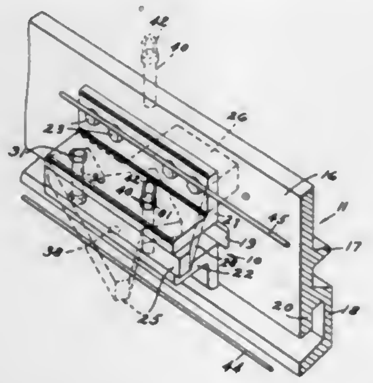
A chopper rotor comprising a center shaft, pairs of plates connected to the shaft and spaced axially thereon, each pair of plates having chordally positioned seating surfaces, a blade extending axially of the rotor seated upon axially correlated seating surfaces, bolt assemblies extending between the pairs of plates through openings in the blades, and a spanner between each pair of plates connected to the respective bolt and engaging abutment or bearing surfaces on the plates, the abutment surfaces elongated generally parallel with the seating surfaces and accommodating adjustment of the spanner with the blade.

26,872
SEMI-AUTOMATIC PISTOL
Ralf E. Dieckmann, Stratford, Conn., assignor to Bridgeport Firearms Company, Monroe, Conn., a corporation of Connecticut
Original No. 3,276,323, dated Oct. 4, 1966, Ser. No. 505,849, Nov. 1, 1965, which is a continuation-in-part of application Ser. No. 385,895, July 29, 1964. Application for reissue July 26, 1968, Ser. No. 754,509
Int. Cl. F41c *5/00, 13/00*
U.S. Cl. 89—195 **13 Claims**



A hand held pistol-type firearm having a barrel of greatly increased length over similar known firearms to increase the accuracy thereof. A curved magazine extends through the handgrip from the front face thereof to the upper portion thereof proximate the rear end of the receiver, and the barrel extends into the receiver to a point adjacent the forward end of the upper end of the magazine so that the barrel extends over a major portion of the length of the receiver.

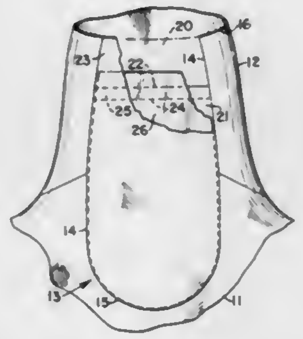
26,873
PALLET LOCKING MECHANISM
Leslie Mollon, Southfield, Mich., assignor to Brooks & Perkins, Inc., Detroit, Mich., a corporation of Delaware
Original No. 3,182,608, dated May 11, 1965, Ser. No. 174,021, Feb. 19, 1962. Application for reissue May 7, 1968, Ser. No. 741,830
Int. Cl. B65j *1/22;* **B60p** *7/08*
U.S. Cl. 105—366 **14 Claims**



An aircraft cargo lock comprises a dog pivotally mounted on a side restraining rail to swing through an opening in the latter into restraining engagement with a load pallet. A detent is pivotally mounted upon the dog to swing, under actuation by a spring-type over-center device, into and out of restraining engagement with a fixed pin to releasably hold the dog in its pallet locking position.

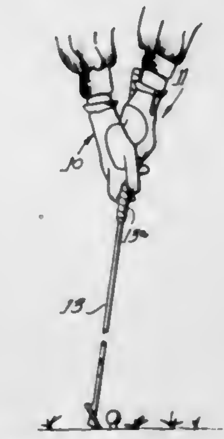
PATENTS
GRANTED APRIL 28, 1970
GENERAL AND MECHANICAL

3,508,279
GARMENT AND SLEEVE CONSTRUCTION
Joseph A. Ayoub, 594 Howard St.,
San Francisco, Calif. 94103
Filed Aug. 12, 1968, Ser. No. 752,047
Int. Cl. A41d *27/12;* **A41b** *9/06*
U.S. Cl. 2—113 **2 Claims**



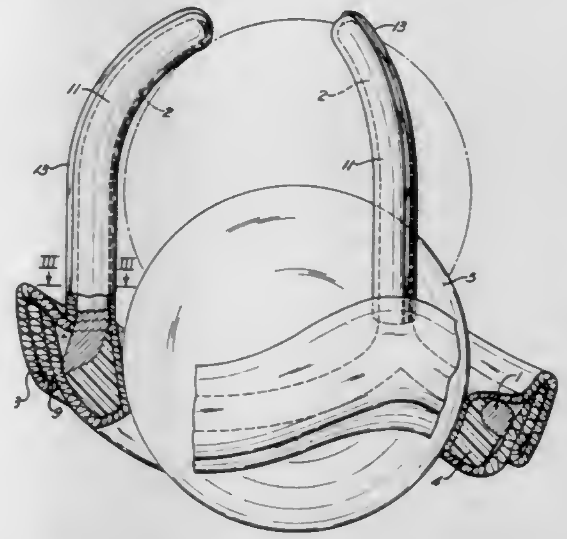
A garment construction for a ladies' garment having a close fitting bodice and sleeve. An elongated gusset extends continuously along the underarm of each sleeve and part way down the side of the bodice and is connected at seams along cut-outs in the sleeve and the bodice complementary in shape to the gusset. The gusset is formed to provide a flat pouch or envelope open near the sleeve end for receiving a removable and replaceable protective absorbent shield.

3,508,280
INTERLOCKING GOLF GLOVES
Charles W. Osborn, Cissna Park, Ill. 60924
Filed May 9, 1968, Ser. No. 727,809
Int. Cl. A41d *19/00*
U.S. Cl. 2—159 **3 Claims**



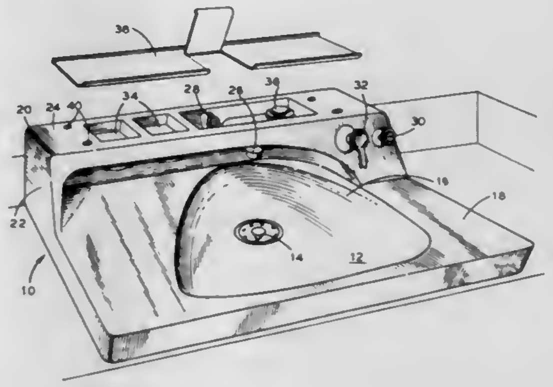
One glove of a pair of interlocking golf gloves has one component of a tape fastener secured to it in a first area along the outer side of the thumb and in a second area at the back of the hand and near the base of the index and middle fingers. The complementary glove has the other element of the tape fastener secured to the crook area of the palm and the inside of the tip of the little finger. When a golf club is held in a conventional golf grip, the gloves interlock to firmly secure the hands during the swing. An alternative embodiment is adapted to have the glove interlock directly with the grip of the club shaft.

3,508,281
FABRIC COVERED HEART VALVE HAVING AN IMPROVED FABRIC SEAT
Harry W. Cromie, Mount Lebanon, Pa.
(529 Greenhurst Drive, Pittsburgh, Pa. 15216)
Filed Feb. 8, 1968, Ser. No. 704,006
Int. Cl. A61f *1/22*
U.S. Cl. 3—1 **11 Claims**



A metal ring, having struts extending away from one end of it to form a cage, forms a blood passage. The ring is enclosed in a fabric cover that forms a valve seat, between which and the inner surface of the metal ring there is a layer of plastic material that bonds the cover to the ring. A movable ball is loosely disposed in the cage for engaging the valve seat to close the valve.

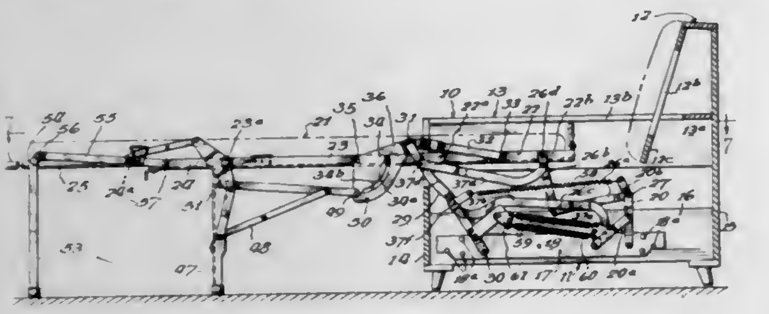
3,508,282
LAVATORY UNIT
Gerard D. Phillips, Jr., Prospect, Ky., assignor to American Standard Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1966, Ser. No. 604,368
Int. Cl. A47k *1/04*
U.S. Cl. 4—166 **10 Claims**



The present disclosure relates to an improved compact lavatory which provides a shelf having a plurality of accessory components above and clear of the lavatory deck and which hangs over the lavatory deck. The shelf can provide for an interchangeable pod to allow the user a choice of different accessory layouts.

3,508,283
SOFA BED

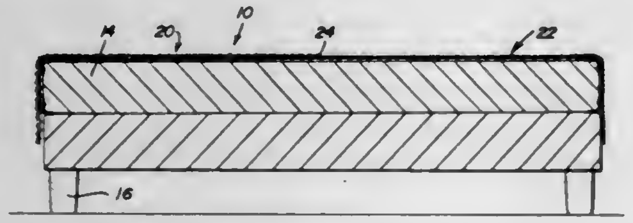
Robert M. Dukellis, Whittier, and Arthur R. Fiori, Downey, Calif., assignors to Interlake Steel Corporation, Chicago, Ill., a corporation of New York
Filed Apr. 25, 1968, Ser. No. 724,188
Int. Cl. A47c *17/22*
U.S. Cl. 5—13 **11 Claims**



A sofa bed of a type having folding bed mechanism concealed behind a fixed front rail on the base of the sofa bed when the folded bed mechanism is in its folded position. The folding bed mechanism includes improved linkage arranged to minimize the vertical range of movement of the mechanism for lower seat and bed heights and to accommodate thicker mattresses and pillows and still permit convenient folding and unfolding over the first front rail. A double spring means is also provided for facilitating initiation of both folding and unfolding of the sofa bed.

3,508,284
ONE-PIECE BLANKET WITH HALVES OF DIFFERENT WARMTH CHARACTERISTICS

Edmond R. T. Marquette, P.O. Box 709,
Houma, La. 70360
Continuation-in-part of application Ser. No. 680,916, Nov. 6, 1967. This application Jan. 10, 1968, Ser. No. 696,739
Int. Cl. A47g *9/00*
U.S. Cl. 5—334 **2 Claims**

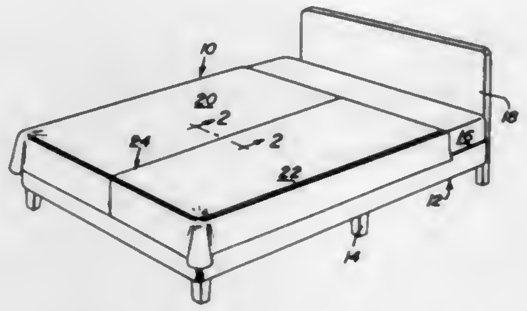


A blanket for a bed constructed of halves having different warmth characteristics in which the halves are unitary with each other thus forming a one-piece blanket capable of being formed with a single weaving operation by varying the characteristics of the weave in one half of the blanket as compared with the other half thus forming different warmth characteristics.

3,508,285
BLANKETS WITH MULTIPLE PANELS OF VARYING WARMTH CHARACTERISTICS

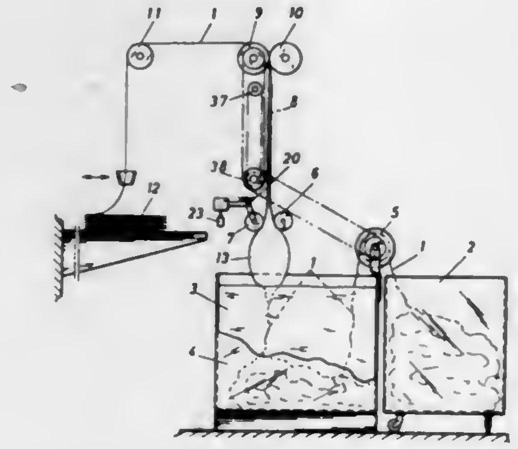
Edmond R. T. Marquette, P.O. Box 709,
Houma, La. 70360
Continuation-in-part of application Ser. No. 680,916, Nov. 6, 1967. This application Jan. 10, 1968. Ser. No. 696,740
Int. Cl. A47g *9/00*
U.S. Cl. 5—334 **5 Claims**

A blanket for a bed provided with multiple panels of different warmth characteristics oriented in edge to edge relation at the center of the bed to enable the panels forming the blanket to have different warmth characteristics to satisfy the warmth requirements of the occupants of the bed which are covered by the panels. One half of the blanket may be constructed of a plurality of panels of different warmth characteristics with the multiple panels being secured together by a stitching assembly or secured together by a detachable fastening assembly to enable the panels to be separated from each other and assembled in a selected arrangement so that the half panels may have the desired warmth characteristics to satisfy the requirements of the individual occupants of the bed.



3,508,286
METHOD AND A DEVICE FOR WITHDRAWING FROM A LIQUID BATH, NORMALIZING AND ARRANGING IN MESH ALIGNMENT A KNITTED HOSE OR THE LIKE

Karl Isac Joel Rosén, Ulricehamn, Sweden, assignor to Curt L. Nyman, Lerum, Sweden
Filed Apr. 25, 1968, Ser. No. 724,204
Claims priority, application Sweden, May 10, 1967, 6,570/67
Int. Cl. D06c *3/00*
U.S. Cl. 8—151 **16 Claims**

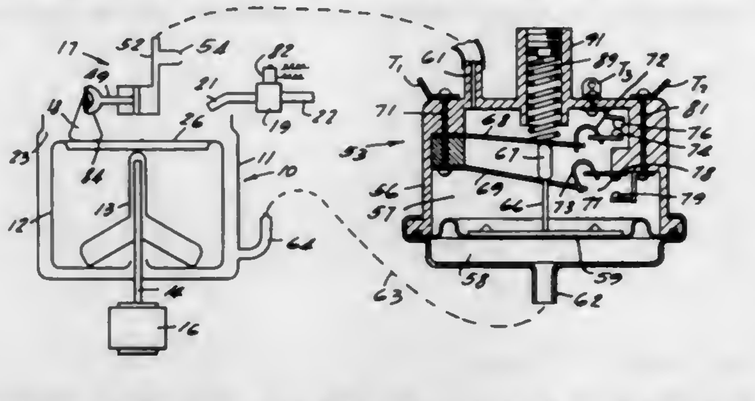


A method and a device for withdrawing from a treatment liquid bath, normalizing and mesh aligning a knitted hose or other fabric hose. This is achieved by arranging an air cushion in the hose fabric between the surface of the liquid bath and two rollers between which the hose passes at some distance above said surface.

3,508,287
TORQUE RESPONSIVE WATER LEVEL CONTROL

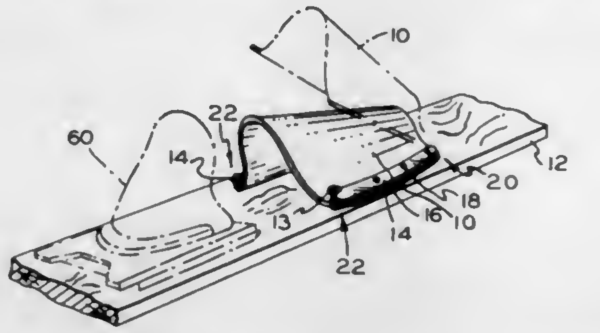
Anthony Mason, St. Joseph, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Original application Feb. 14, 1968, Ser. No. 706,228. Divided and this application July 18, 1969, Ser. No. 842,987
Int. Cl. D06f *39/08*
U.S. Cl. 8—158 **3 Claims**

A control system for use in an automatic washer to automatically control the quantity of water added to the machine's tub during the wash and rinse operations, so as to maintain water at the proper height, and which utilizes a torque signal generated in the machine by action of the agitator. A sensor is mounted between the tub and basket of the washer to sense motion of the basket relative to the tub, which is proportional to the torque between the agitator and the basket.



3,508,288
RELEASABLE WATER SKI BOOT STRUCTURE

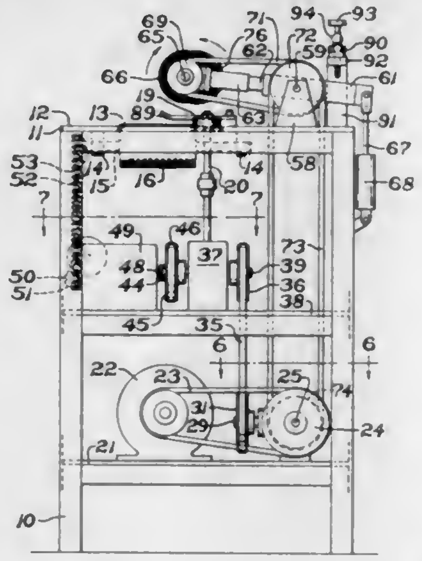
Arlie F. Lockwood, 1908 NE. 118th Ave.,
Portland, Oreg. 97220
Filed Apr. 29, 1968, Ser. No. 724,851
Int. Cl. A63c *15/06*
U.S. Cl. 9—310 **19 Claims**



A flexible boot **10** is secured to a ski **12** by edge strips **14** and **16** hinged to the ski at their front ends by releasable ball and socket joints **20** and releasably latched to the ski by latches **22**. When a button **13** is pressed downwardly, a guiding post **58** and a cam **53** of a hook **52** cams a catch portion **50** to a latched position.

3,508,289
APPARATUS FOR MAKING FOOTWEAR

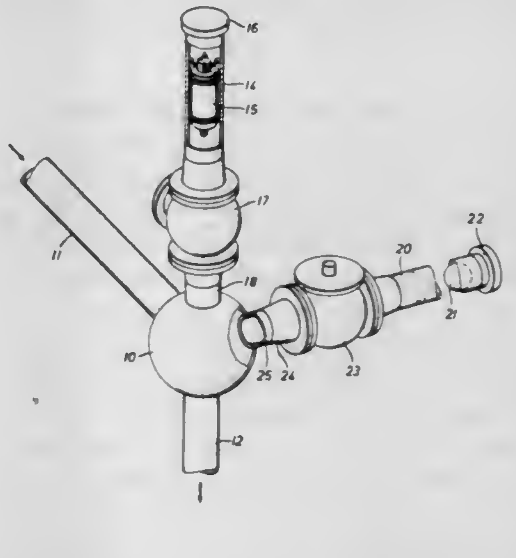
Arthur W. Joyce, Framingham, Mass., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed June 2, 1969, Ser. No. 829,601
Int. Cl. A43d *25/00*
U.S. Cl. 12—17 **10 Claims**



A footwear buffing apparatus for buffing upper and peripheral surfaces of molded outsoles wherein such apparatus has circular upper brushing means for scuffing the upper surface of the outsole and a circular buffing stone for scuffing the peripheral surfaces of the outsole, which components further cooperate with a lower drive roll which moves the entire outsole through a continuous buffing operation.

3,508,290
LAUNCHING INTERSECTION FOR TRANSMISSION LINES

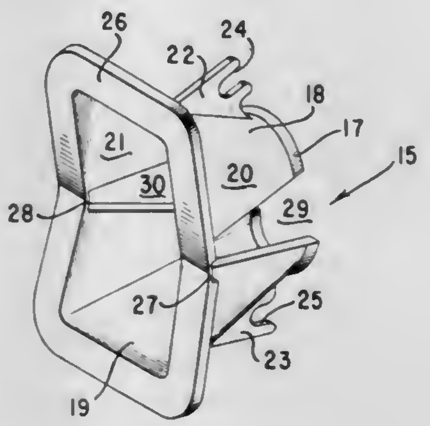
George O. Ellis, Houston, Tex., assignor to Production Systems International, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 25, 1968, Ser. No. 762,559
Int. Cl. B08b *9/04*
U.S. Cl. 15—104.06 **12 Claims**



A compact intersection point for a gas transmission line or the like, for injecting inspection devices or spheres. A chamber having a diameter greater than that of the line provides the intersection, and the chamber is spherical or at least the lower side of the chamber surrounding the exit is hemispherical. Launching tubes for devices of various shapes and sizes are located generally in the upper part of the chamber, preferably vertical or slanted so that gravity aids in injecting the device.

3,508,291
CORD EXIT DEVICE

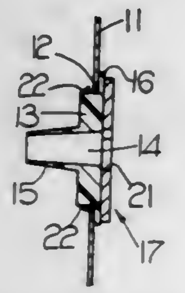
Elmer C. Klebe, Jr., Anderson, S.C., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 25, 1968, Ser. No. 715,903
Int. Cl. A47l *9/26*
U.S. Cl. 15—323 **5 Claims**



A device adapted to be mounted in a recessed housing for guiding a cord from a cord retractor and for preventing complete retraction of the cord therethrough when it is rewound on the cord retractor.

3,508,292
GROMMETS

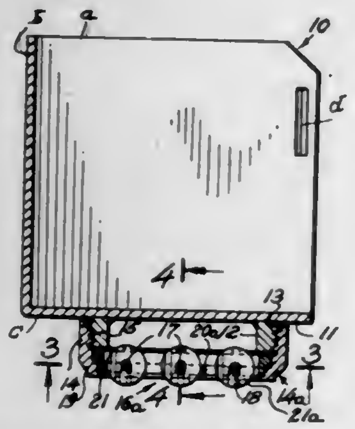
Frederick Henry Bond, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Feb. 2, 1968, Ser. No. 702,606
Claims priority, application Great Britain, Feb. 20, 1967, 7,935/67
Int. Cl. B65d *55/00*
U.S. Cl. 16—2 **2 Claims**



A grommet for producing a low pressure gas tight seal between a wiring harness and a bulkhead of a road vehicle through which the harness extends includes a resilient member which is adapted to receive the wiring harness and to form a low pressure gas tight seal therewith. The resilient member is shaped to close the hole in the bulkhead through which the wiring harness passes and a pressure plate is engageable with the bulkhead to secure the grommet to the bulkhead and to urge the resilient member into sealing engagement with the bulkhead. The pressure plate includes a plurality of resilient barbed latch members which in use extend through the resilient member and the bulkhead and are snapped into engagement with the bulkhead.

3,508,293
ROLLAWAY CASTER UNIT

Joseph Bosco, 31 Summer St., Everett, Mass. 02149
Filed May 27, 1966, Ser. No. 554,639
Int. Cl. B60b *33/00*
U.S. Cl. 16—21 **11 Claims**

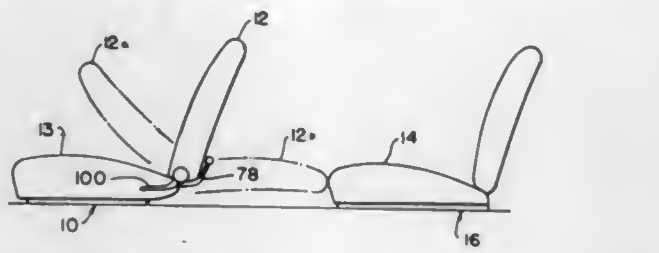


The invention relates to a roller caster and to an adaptable roller accessory device to help move about heavy loads with ease. The roller accessory is fitted with a thrust bearing to bear heavy loads and to permit easy swiveling and turning around when the load is moved from one location to another.

3,508,294
RECLINING SEAT MECHANISM ASSEMBLY

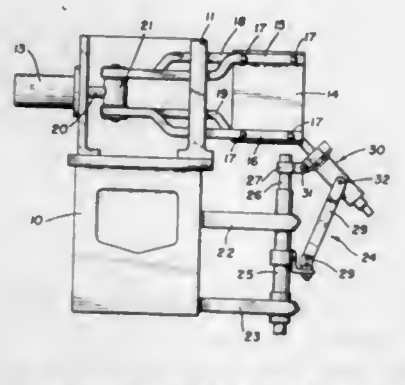
Joseph Pickles, Bloomfield Hills, and Chester S. Fudala, Detroit, Mich., assignors to Ferro Manufacturing Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 6, 1967, Ser. No. 688,380
Int. Cl. E05d *11/08, 11/10*
U.S. Cl. 16—140 **10 Claims**

Reclining seat mechanism including gearing and a combined friction and locking spring mechanism providing for free movement of the seat forwardly from an upright position, and controlled movement of the seat back rearwardly to a full reclining position, the spring and gear serving to lock the seat back against rearward movement from any intermediate position while permitting forward movement thereof to upright position by releasing the lock or by pushing the seat back forwardly without release of the lock.



3,508,295
APPARATUS FOR BLOW MOLDING A CONTAINER HAVING AN OFFSET SPOUT

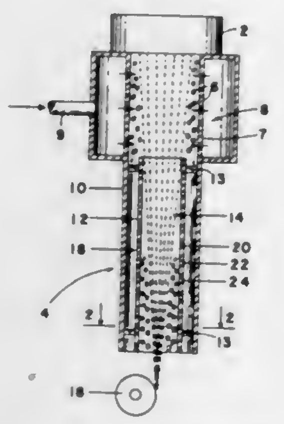
William D. Hough, Arvada, Colo., assignor to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
Original application Sept. 1, 1966, Ser. No. 576,605. Divided and this application Dec. 24, 1968, Ser. No. 786,705
Int. Cl. B29c *17/07;* **B29d** *23/03*
U.S. Cl. 18—5 **4 Claims**



Apparatus for blow molding hollow articles having offset pouring spouts, the apparatus having an articulated blow stick which may be placed in a first position to engage a parison and then moved to a second position as the mold halves close around the parison.

3,508,296
MELT SPINNING APPARATUS

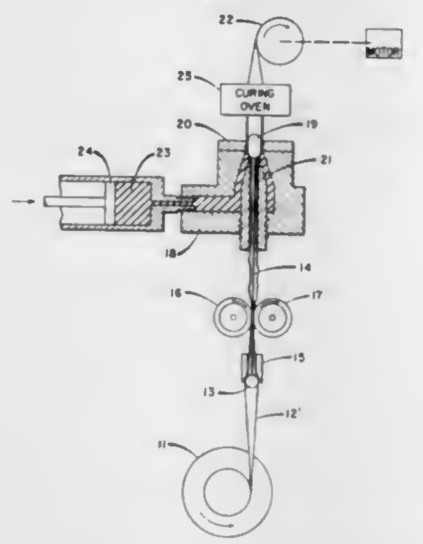
Toshiro Ono, Mihara-shi, Hiroshima-ken, Japan, assignor to Teijin Limited, Osaka, Japan, a corporation of Japan
Continuation-in-part of application Ser. No. 655,360, July 24, 1967. This application Jan. 2, 1968, Ser. No. 695,231
Int. Cl. D01d *5/08*
U.S. Cl. 18—8 **13 Claims**



An apparatus for the melt-spinning of synthetic fibers in which a buffer wall separates the filament bundle from part or all of the inner wall of the quench stack beginning at a point below the cooling air inlet ports. The buffer wall may be constructed of any porous or gauze-like material which is permeable to air currents. By virtue of the spacing between the buffer wall and the inner wall of the quench stack and also the porosity of the buffer wall, fluid turbulences arising in the region of the filament bundle are mollified.

3,508,297
APPARATUS FOR CONTINUOUS PRODUCTION OF REINFORCED CONDUIT

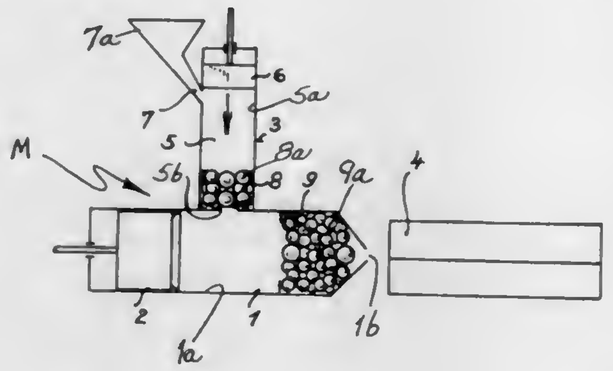
Gavino Portelli, Feyzin, France, assignor to Societe Industrielle des Silicones, Paris, France
Filed Jan. 10, 1968, Ser. No. 696,844
Int. Cl. B29d *23/05*
U.S. Cl. 18—13 **5 Claims**



Extrusion apparatus for forming reinforced tubing of curable plastic or elastomeric materials, the apparatus comprising a cylindrical extruder head through which a tubular reinforcement fabric is passed, and a generally cylindrical mandrel positioned within the extruder head. The mandrel is held in place within the head by a wire which is also affixed to a ball placed inside the tubular fabric and held there by use of a fixed ring placed rearwardly of the head and through which the tubular fabric passes. The ring has an entrance portion of gradually decreasing diameter in the direction of fabric movement, the minimum diameter being less than that of the ball.

3,508,298
INJECTION MOLDING APPARATUS PROVIDED WITH A COOPERATING PLASTICIZING MATERIAL FEED DEVICE

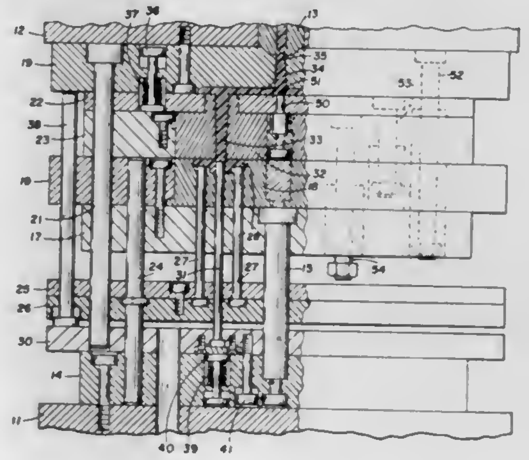
Ludwig Seidl, Munich, Germany, assignor to Firma Georg Seidl, Munich, Germany
Filed Oct. 9, 1967, Ser. No. 673,612
Claims priority, application Germany, Oct. 7, 1966, S 106,398
Int. Cl. B29f *1/08*
U.S. Cl. 18—30 **12 Claims**



An injection molding apparatus of the type in which a piston moves a mass of material along a main injection cylinder provided wtih an internal plasticizing torpedo or capsule adjacent the nozzle, said capsule being constructed with constricted passageways so that the plastic material must be forced therethrough, thereby thoroughly mixing the material and raising its temperature by friction to assist in plasticizing the same prior to discharge thereof. There is a material supply or feed device connected for discharging such material into said injection cylinder upstream of said capsule, said device having a cylinder and piston movable therein and an internal plasticizing capsule adjacent said point of discharge operable to supply material to said injection cylinder as an amorphous or plastic mass for passage additionally through the capsule in the injection cylinder prior to discharge thereof from said nozzle. Thus the action of the capsules augment one another. The manner of assembly of said material feed device to and its operating position relative to the main injection cylinder provide for modified embodiments of the invention.

3,508,299
AUTOMATIC DEGATING OF INJECTION MOLDED ARTICLES

Douglas K. Ahern, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 24, 1967, Ser. No. 640,932
Int. Cl. B29f *1/05*
U.S. Cl. 18—30 **5 Claims**

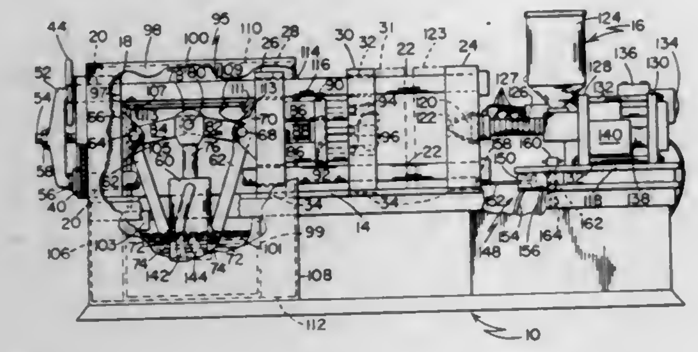


An injection mold assembly is provided with an axially movable degating pin which extends part way through a mold cavity and is aligned with a mating sprue channel. Molding material injected into the sprue channel enters the mold cavity through a gate formed between the pin and sprue channel. After the cavity has been filed, the assembly end plates separate causing relative movement of the mold cavity and the degating pin thereby moving the pin through the mold cavity to a position in which it extends partially into the sprue opening. This movement causes separation of the sprue from the molded article by shearing of the material in the gate area.

3,508,300
ENCLOSED ADJUSTABLE CLAMPING MECHANISM WITH LUBRICATING SYSTEM

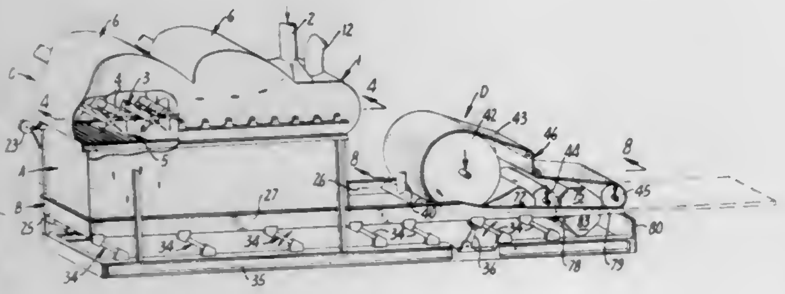
Harrie Martin Allard and Henry Randall Parker, Nashua, N.H., assignors to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed June 12, 1967, Ser. No. 645,347
Int. Cl. B29f *1/00, 1/06*
U.S. Cl. 18—30 **11 Claims**

An injection molding machine including a clamping means or mechanism which comprises a toggle linkage and cylinder means for actuating the toggle linkage, such cylinder means being supported below the toggle linkage by supporting arms. The clamping means is immersed in lubricant to locate the connections of the supporting arms to the cylinder means in the lubricant; and lubricant is supplied onto the connections of the toggle linkage and onto the connections between the supporting arms and the platens. Also, the tie rods are longitudinally movable for providing adjustment of the space between the mold carrying platens; and a mold carrying platen is selectively driven relative to the injection unit by a cylinder-and-piston drive mechanism.



3,508,301
METHOD AND APPARATUS FOR FORMING FELTS AND MATS

Judd A. Brown, 101 Hilldale Drive,
San Anselmo, Calif. 94960
Filed May 15, 1967, Ser. No. 638,220
Int. Cl. D04h *1/44*
U.S. Cl. 19—155 **3 Claims**

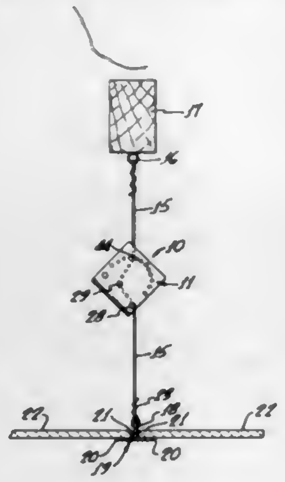


Method and apparatus for forming felts and mats from fibers which are laid down by gravity on a horizontal supporting surface. The supporting surface is vibrated vertically and horizontally to compact the fibers and to advance the layer of fibers in one direction. A holddown member is provided for restricting the amplitude of vibration of the layer of fibers to enhance the compaction of the fibers and to improve the intermeshing of fibers in the horizontal direction.

3,508,302
CLIP DEVICE FOR ADJUSTMENT OF SUSPENDED CEILINGS, AND CEILING INCORPORATING THE SAME

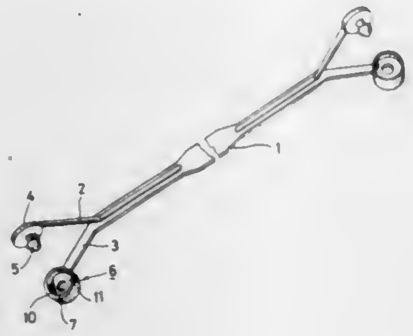
Theodore R. Settanni, 1422 S. Hesperian,
Santa Ana, Calif. 92704
Filed July 3, 1968, Ser. No. 742,208
Int. Cl. A44b *21/00;* **E04g** *17/18;* **E04b** *7/14*
U.S. Cl. 24—71.2 **11 Claims**

A clip comprising spaced and paralley face portions integrally connected to each other at one set of corresponding edges. Socket means are provided on the clip to permit insertion of the end of a screwdriver for turning of the clip (about a horizontal axis) and consequent bending and shortening of a ceiling-suspended wire disposed between the face portions. A substantial number of corresponding apertures are provided in the face portions for reception of nails or the like, the arrangement being such that different degrees of shortening may be achieved. The invention further comprises the combination of the clip with a ceiling construction.



3,508,303
SUSPENDERS

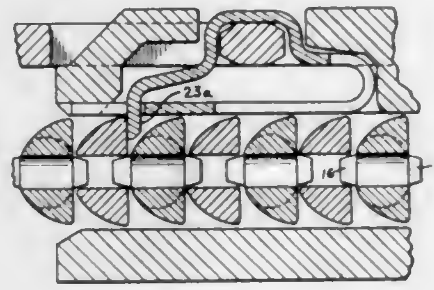
Tetzuo Miyasaka, 960 3-chome, Nishi Sugamo,
Toshima-ku, Tokyo, Japan
Filed Mar. 27, 1968, Ser. No. 716,388
Int. Cl. A44b *21/00, 9/102, 17/00*
U.S. Cl. 24—73 **5 Claims**



A suspender possessing one or more hooking means which comprises a male lid having a sagittal projection and a female receiver provided with a central hole for receiving the said sagittal projection and with a rim in an inner surface of the said female receiver.

3,508,304
LOCKING TYPE SLIDE FASTENER

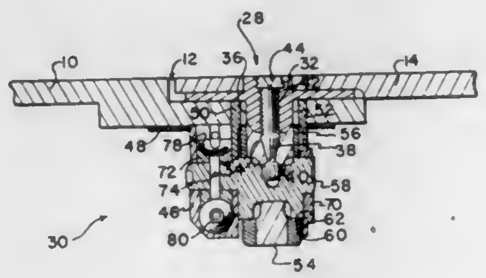
John Emerson Burbank, Middlebury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed May 14, 1968, Ser. No. 729,119
Int. Cl. A44b *19/06, 19/30*
U.S. Cl. 24—205.13 **1 Claim**



An improvement in a slide fastener with a locking slider results from a novel shape of a portion of each fastener element to provide a perpendicular surface that will engage with the locking device to the best advantage while the area of the front face slopes away from such perpendicular surface to provide maximum ease of entrance of the locking prong between the fastener elements.

3,508,305
REMOTELY ACTUATED STRESSED STRUCTURAL FASTENER

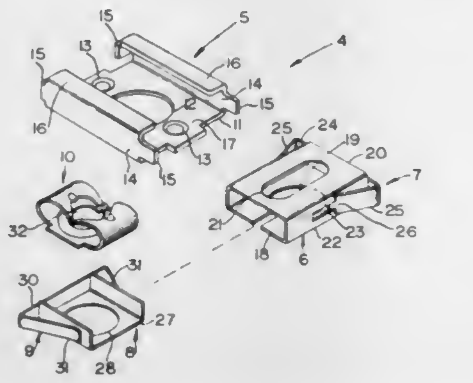
George W. Koonce and Daniel C. Hamilton, Fort Worth, Tex., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 12, 1968, Ser. No. 712,464
Int. Cl. A44b *11/25, 11/00*
U.S. Cl. 24—205.18 **8 Claims**



A closure fastener system operable by a flexible cable for plural fastener units each incorporating both elements for locking a structural closure against both shear and bearing loads, locking being accomplished by at least partial insertion of a pin member into a housing recess, the pin being gripped and pulled to the fully closed or locked position by the camming motion of a camshaft, and the pin recess "closed" for shear loads by a sleeve member, both responsive to a drive wheel.

3,508,306
SHIFTABLE ROTARY OPERATIVE PANEL FASTENER

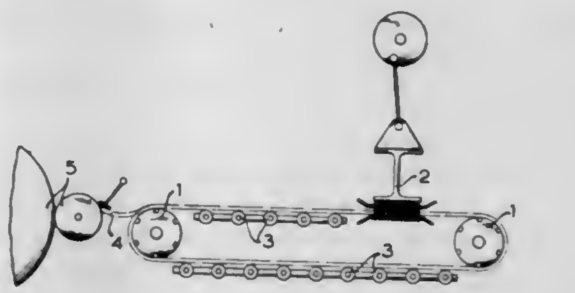
Thomas B. Wright, Diamond Bar, Calif., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed July 24, 1968, Ser. No. 747,247
Int. Cl. A44b *17/00*
U.S. Cl. 24—221 **8 Claims**



A socket assembly of a rotary operative stud and socket panel fastener combination includes an apertured base plate which is fastened to an apertured support to which the panel is to be secured and a stud locking receptacle having a stud receiving opening. Springs mounted on the socket assembly normally bias the receptacle toward a position where the opening therein is in axial registration with the apertures in the base plaet and the support. The receptacle is shiftable to a considerable extent both longitudinally and transversely of the base plate against the bias of the springs.

3,508,307
APPARATUS FOR MAKING TUBULAR NON-WOVEN FABRICS

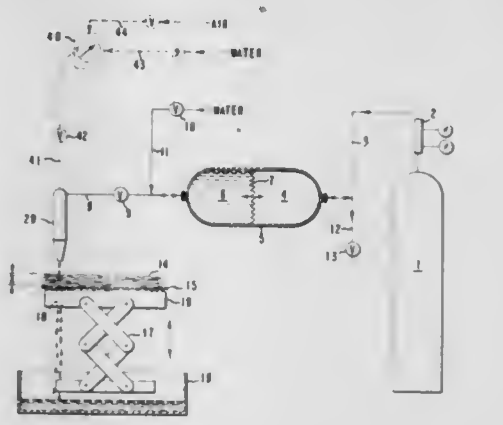
Richard Dilo, Eberbach (Neckar), Germany
Filed Aug. 27, 1968, Ser. No. 755,612
Claims priority, application Germany, Sept. 15, 1967, D 54,128
Int. Cl. D04h *18/00*
U.S. Cl. 28—4 **9 Claims**



Felt tubes are made by winding a continuous carded fiber web in a closed loop and in multiple layers over two conveying rolls, at least one being driven, needling the several layers to each other and gradually shifting the tubular fabric so produced axially of the rolls by means of continuous driven chains moving in axial grooves in the surfaces of the rolls and carrying projecting pins which entrain the fabric.

3,508,308
JET-TREATMENT PROCESS FOR PRODUCING NONPATTERNED AND LINE-ENTANGLED NONWOVEN FABRICS

William Wallar Bunting, Jr., Franklin James Evans, and David Ellis Hook, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Application Mar. 11, 1968, Ser. No. 712,070, which is a continuation-in-part of application 584,627, Sept. 22, 1966. Divided and this application June 19, 1969, Ser. No. 834,788
Int. Cl. D04h *1/46*
U.S. Cl. 28—72.2 **9 Claims**



Processes are disclosed for treating fibrous sheet materials with streams of water or other suitable liquid. The liquid is forced under high pressure through nozzles, or orifices arranged along a manifold, to form fine streams. Fibrous sheet material on a supporting member is traversed with the streams to entangle the fibers in a manner which imparts strength and stability without the need for binder. The examples illustrate application of the process to a variety of fibrous sheet materials, including treatment of batts of loose staple fibers or continuous filaments, to form coherent, highly stable, strong nonwoven fabrics which are randomly entangled and substantially nonpatterned or which have a repeating pattern of closely spaced lines of fiber entanglement.

3,508,309

METHOD OF COATING GLASS FIBERS AND THE LIKE

Adrien E. Beaudoin, Northboro, Mass., and Albert E. Jannarelli and Alfred Marzocchi, Cumberland, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation-in-part of application Ser. No. 553,246, May 26, 1966, which is a continuation-in-part of application Ser. No. 153,630, Nov. 20, 1961, which in turn is a continuation-in-part of application Ser. No. 819,993, June 12, 1959. This application Feb. 26, 1968, Ser. No. 708,350

Int. Cl. C03c *25/02;* **C08f** *45/28;* **D02g** *3/36*

U.S. Cl. 28—73 **3 Claims**

A method of producing thick protective coatings on glass fibers and the like wherein resin particles coated with at least 2 percent of a nonionic surfactant are mixed with a hydrocarbon solvent and a plasticizer for the resin, to cause the nonionic coating to be swollen by the hydrocarbon in which it is only partially solvated. The materials are mixed at a temperature below approximately 100° F. in order that the swollen coatings are not broken down, and in order that the coatings will prevent the mixing of the plasticizer and the resin. The material is then applied to glass fibers and the coated fibers are pulled through forming dies. The swollen coatings on the resin particles prevent buildup of viscosity, during passage through the forming dies. The coated fibers are heated to evaporate the solvent and break down the swollen coatings to allow mixing of the plasticizer and resin. The coated strands are then woven and the coated fibers fused together to set the weave. Fly screening is produced in this manner.

3,508,310

METHOD OF MANUFACTURING AN IMPLOSION-FREE TELEVISION DISPLAY TUBE

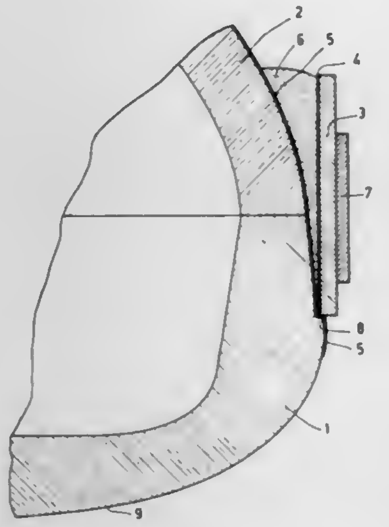
Reinhart Charles Willem Eisses, Emmasingel, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed June 20, 1968, Ser. No. 738,553

Claims priority, application Netherlands, July 8, 1967, 6709525

Int. Cl. H01j *9/18*

U.S. Cl. 29—25.13 **2 Claims**



A method of making an implosion-resistant cathode-ray tube in which an annular band, the inner surface of which is coated with polyvinylacetate is heated to between 275° C. and 320° C., after which it is slipped over the envelope of the cathode-ray tube, allowed to cool so that it shrinks and applies compressive stress to the tube. After the annular band is shrunk about the tube, any remaining space between the band and the tube is filled with a hardenable filler material.

3,508,311

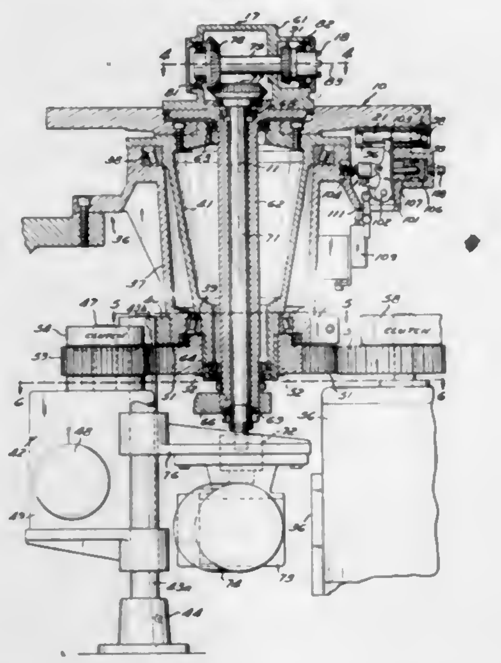
INDEXING TABLE

Frank J. Fink, Chardon, Ohio, assignor to Imperial Manufacturing & Engineering Co., Middlefield, Ohio, a corporation of Michigan

Filed Nov. 29, 1967, Ser. No. 686,641

Int. Cl. B23p *23/00*

U.S. Cl. 29—38 **12 Claims**



An indexing table is disclosed which includes a table provided with a tubular support journaled on the base. A central drive provides power adjacent to the center of the table and is mounted on and driven by members which extend through the tubular support. Two separate indexing drives are provided, one for indexing rotation and one for continuous rotation. Three locking devices are symmetrically located around the table to precisely position and support the table.

3,508,312

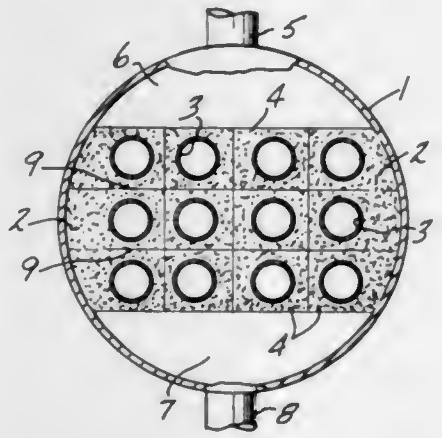
METHOD OF ASSEMBLING A HEAT EXCHANGER

Frederick A. Burne, 185 Heathride, Hamden, Conn. 06514, and Emery I. Valyi, 5200 Sycamore Ave., Riverdale, N.Y. 10471

Filed Jan. 15, 1968, Ser. No. 698,057

Int. Cl. B23p *15/26*

U.S. Cl. 29—157.3 **15 Claims**



A method of assembling a heat exchanger from a plurality of modular units, the unit comprising at least one tube conductively bonded to a layer of pervious material. The contour of these units is such that they can be fitted together and assembled to form heat exchangers of any desired size and length which avoid substantial by-pass.

3,508,313

HANDLING OF TUBULAR MEMBERS MADE, FOR EXAMPLE, OF GLASS

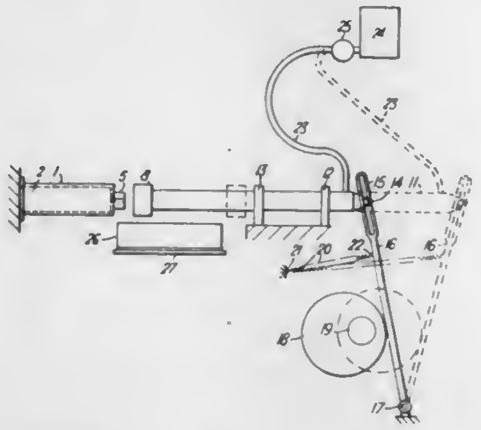
Frederick John O'Hanlon, Widnes, England, assignor to Pilkington Brothers Limited, Liverpool, Lancashire, England, a corporation of Great Britain

Filed Apr. 10, 1967, Ser. No. 629,493

Claims priority, application Great Britain, May 11, 1966, 20,959/66

Int. Cl. B23p *19/04, 19/02;* **B23n** *17/00*

U.S. Cl. 29—200 **4 Claims**



A tubular member having one centrally apertured end wall, for example a cylindrical glass syringe blank, is supported on a bolster of corresponding cross section, with its end wall in juxtaposition to the end wall of the bolster, and gas under pressure is directed through the aperture in the end wall thereby causing continuous displacement of the tubular member from the bolster which displacement is permitted by retraction of the gas source as to the tubular member is displaced.

3,508,314

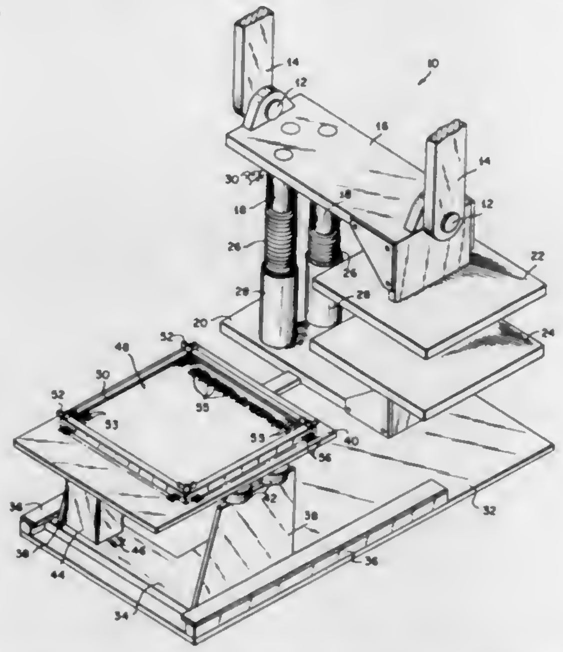
ROD INSERTION APPARATUS

Floyd G. Powell, Jr., Torrance, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Mar. 16, 1967, Ser. No. 623,757

Int. Cl. H01r *43/04*

U.S. Cl. 29—203 **6 Claims**



A process and apparatus for inserting small magnetic rods in the open ends of a large number of solenoid coils positioned in a magnetic field with the coils substantially in a plane. An excessive number of the magnetic rods are placed onto the solenoid plane and the solenoid plane is positioned in a magnetic field with the coils substantially aligned with the magnetic lines of force. The magnetic field polarizes the rods to align them with the magnetic lines of force and accordingly, in parallel alignment with the coils. The rods are moved across the plane and are inserted into the solenoid coils as they become positioned over the open ends of the coils.

3,508,315

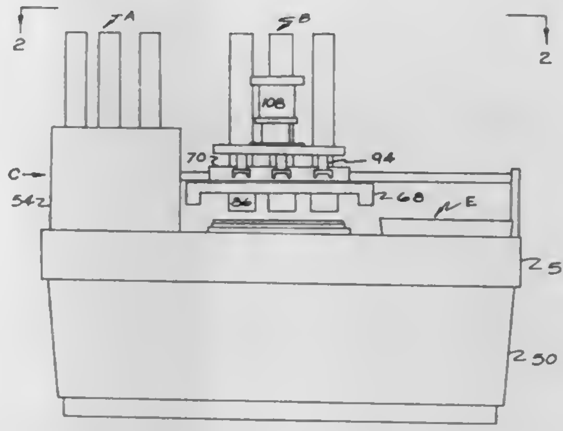
APPARATUS FOR INSERTING AND FOR SECURING PREFORMED ELECTRONIC COMPONENTS TO PRINTED CIRCUIT BOARDS

Fred H. Hoffken, Springfield, Pa.
(% Essington Metal Works Inc., Essington, Pa. 10929)

Filed July 26, 1967, Ser. No. 656,113

Int. Cl. H05k *3/30*

U.S. Cl. 29—203 **7 Claims**



Apparatus for withdrawing circuit completing components from dispensing magazines and for inserting them through, and for securing them to a printed circuit board selectively to connect circuit components to complete the desired circuits.

3,508,316

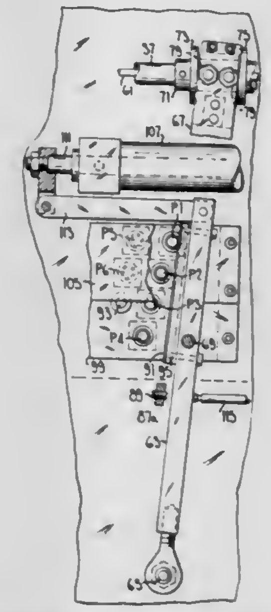
APPARATUS FOR MANUFACTURING WOUND STATORS

Donald E. Hill, 5105 Woodhurst Drive, Fort Wayne, Ind. 46807

Filed May 19, 1966, Ser. No. 551,328

Int. Cl. H02k *15/00;* **H01j** *7/06*

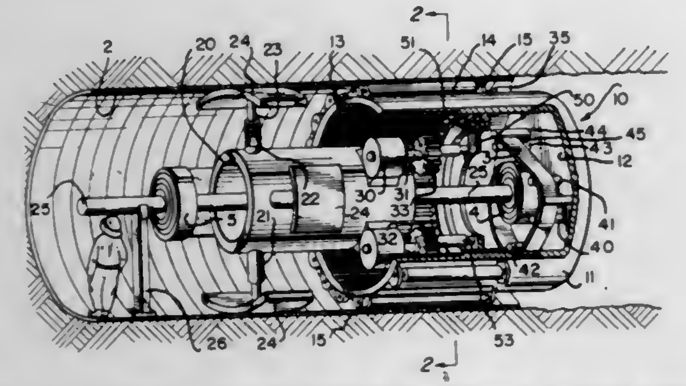
U.S. Cl. 29—205 **5 Claims**



Apparatus for winding coils to be placed in the slots of a stator of an electric motor or the like, comprising a rotary indexing turret having four coil forms spaced at intervals therearound adapted for rotation to bring each coil form to a winding station and thence to an unloading station, and means adjacent the unloading station for placing the coils in the slots of a stator. Each coil form has steps for winding a group of coils of different sizes thereon, winding being effected by a flyer which is shifted for winding coils on the different steps, and which may be traversed for level winding the wire. The wire is wound without severing it between successive coils of each group, and without severing it between successive groups, and a group of coils unloaded from the coil form at the unloading station is placed in the slots of a stator while another group is being wound at the winding station.

3,508,317
APPARATUS FOR LINING A TUNNEL

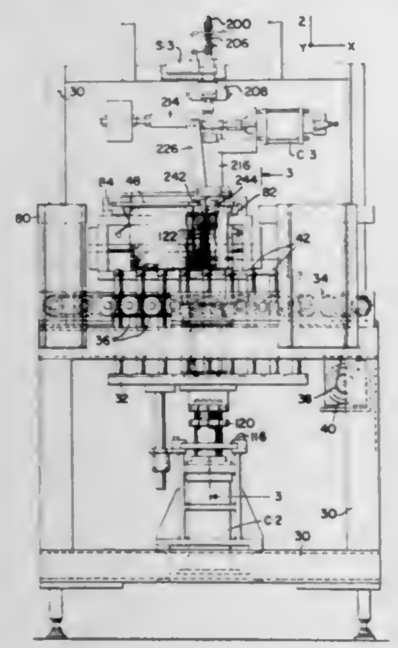
George A. Hill and John T. Bowen, Princeton, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 4, 1967, Ser. No. 636,103
Int. Cl. B23p *19/04;* **B23k** *31/06*
U.S. Cl. 29—208 **8 Claims**



A tunnel lining machine which includes a barrel section which is adapted to rotate in a tunnel already bored. Within the barrel section there is a coil of a suitable structural material. As the barrel section is rotated, the structural material is pulled off the coil, through forming dies which change the radius of curvature of the material so that it is greater than the radius of curvature of the tunnel. The windings are placed along the tunnel in a helical path so that as each winding abuts against the previous winding, a force is developed by the reaction between the edge of the strip and the rotation of the barrel section to advance the barrel section.

3,508,318
MACHINE FOR CRIMPING BATTERY INTERCELL CONNECTORS

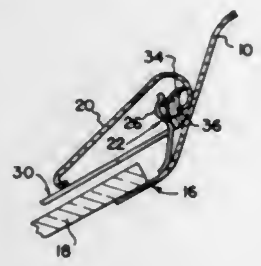
William R. Clingenpeel, Middleburg Heights, Philip C. Hungerford, Jr., Cleveland Heights, Robert R. Hayes, Euclid, and Thomas W. Jennens, Eastlake, Ohio, assignors, by mesne assignments, to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed June 5, 1967, Ser. No. 643,632
Int. Cl. H01m *35/18;* **H01r** *43/04;* **B23p** *19/04*
U.S. Cl. 29—204 **6 Claims**



A machine for crimping intercell connectors through the partition of battery containers. The crimping provides a liquid-tight seal between the connector and the partition to prevent intercell leakage of electrolyte. The machine's crimping jaws are caused to engage the intercell connectors by means which move the battery container horizonally to a point beneath the jaws and by means for elevating the container so that the intercell connector is positioned between the jaws.

3,508,319
WINDSHIELD MOLDING REMOVAL TOOL

Ambroise O. Boyer, 1535 Holden,
Detroit, Mich. 48208
Filed Mar. 6, 1968, Ser. No. 711,142
Int. Cl. B25b *27/14*
U.S. Cl. 29—235 **1 Claim**



A prying type tool is used for removing snap-on automotive windshield trim moldings. While the tool lip holds the molding in place, a prying rod on the tool engages the yieldable clip and lifts it out of engagement with the molding. This assures that neither the molding nor the clip will be damaged during such removal.

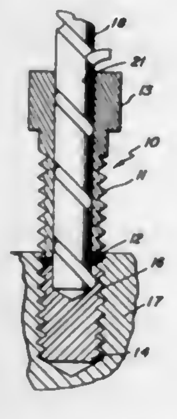
3,508,320
ELECTRICAL CONTACT MATERIALS AND METHOD OF MAKING SAME

Philip L. Blue, Greenfield, Ind., assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware
Original application Apr. 3, 1967, Ser. No. 627,962. Divided and this application Apr. 17, 1968, Ser. No. 735,952
Int. Cl. B22f *3/24*
U.S. Cl. 29—420.5 **8 Claims**

An electrical contact material consisting of a thin cold rolled material constructed of silver and a refractory material wherein the refractory particles are in intimate contact with a continuous silver matrix.

3,508,321
METHOD FOR EXTRACTING BROKEN STUDS

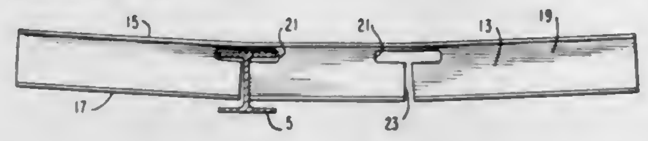
William M. Wood, Delray Beach, Fla., assignor to A & W Enterprises, Incorporated, Delray Beach, Fla., a corporation of Florida
Filed Dec. 15, 1967, Ser. No. 690,859
Int. Cl. B23p *19/02*
U.S. Cl. 29—427 **3 Claims**



A broken stud extracting method for the removal of broken studs, bolts, screws, or the like, having an elongated body with external threads terminating in a cutting edge on one end of the body. A gripping head, such as a hexagonal head, may be rotated with a wrench, or the like, and a bore extending the length of the body is used to guide a drill bit in removing the center portion of the broken stud, or the like utilizing an extractor. The extractor is adapted to remove the threaded sleeve remaining after drilling the stud center by rotating the extractor external threads in the internal threads engaging the broken stud threads causing the cutting edge to gouge out the stud threads.

3,508,322
METHODS OF ASSEMBLING SHEAR HEADS

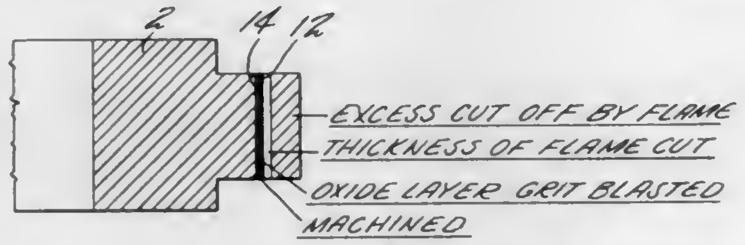
Donald A. Shaw, Lynchburg, Va., assignor to Montague-Betts Company, Inc., Lynchburg, Va.
Original application Jan. 7, 1966, Ser. No. 519,331, now Patent No. 3,382,634, dated May 14, 1968. Divided and this application Feb. 21, 1968, Ser. No. 707,105
Int. Cl. B23k *31/02*
U.S. Cl. 29—478 **4 Claims**



First and second intersecting I-beams are assembled in a shear head by cutting, through the web and one flange of the second beam, a slot that terminates inwardly in a hole. The slot is the same width as the web of the first I-beam and the hole receives one flange of the first I-beam. The second beam is then bent to open the slot somewhat and the first beam is slid endwise through the opened slot and hole. The second beam is then closed back until the margins of the slot press against the web of the first beam, whereupon those margins are welded to the web of the first beam.

3,508,323
PROCESS FOR FLAME CUTTING

Kenneth J. Richards, North Sommers, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 11, 1968, Ser. No. 712,219
Int. Cl. B23p *13/04*
U.S. Cl. 29—558 **6 Claims**



In flame cutting workpieces or blocks of titanium and similar metals, and alloys of these metals, the cut is made at such a rate and under such other cutting conditions as to produce a thin brittle layer of alpha-oxide that may be readily removed prior to machining the workpiece to finished dimension.

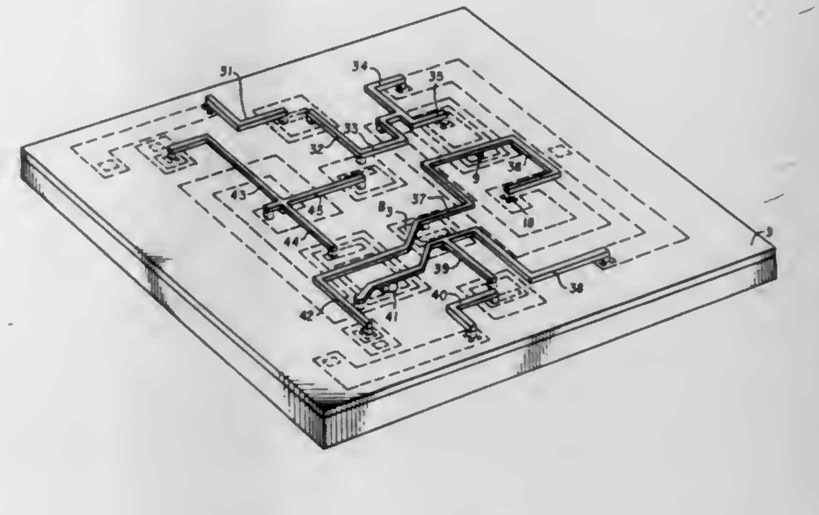
3,508,324
METHOD OF MAKING CONTACTS TO SEMICONDUCTOR DEVICES

Stephen A. Idzik, Jr., Philadelphia, and Robert L. Luce, North Wales, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Feb. 13, 1967, Ser. No. 615,404
Int. Cl. H01l *7/02*
U.S. Cl. 29—589 **2 Claims**

A method of producing ohmic contacts to a semiconductor crystal in which a film of the aluminum is sintered at a temperature below 550° centigrade to the semiconductor crystal prior to delineation of the film.

3,508,325
METHOD OF MAKING INSULATION STRUCTURES FOR CROSSOVER LEADS IN INTEGRATED CIRCUITRY

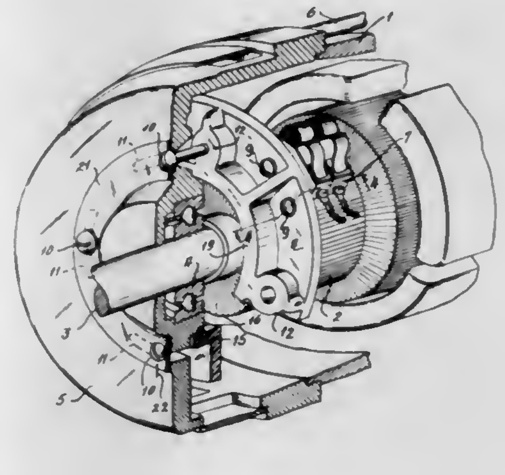
Thomas R. Perry, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Original application Jan. 25, 1965, Ser. No. 427,831, now Patent No. 3,436,611. Divided and this application June 26, 1968, Ser. No. 778,872
Int. Cl. H01j *1/16*
U.S. Cl. 29—577 **3 Claims**



Disclosed are methods of fabricating lead arrangements for integrated circuits having multiple levels of conductive leads separated by insulated layers at the surface of a semiconductor substrate wherein an insulating layer spaced from a substrate surface preferably comprises a photo definable material.

3,508,326
METHOD OF MANUFACTURING ELECTRODYNAMIC MACHINES

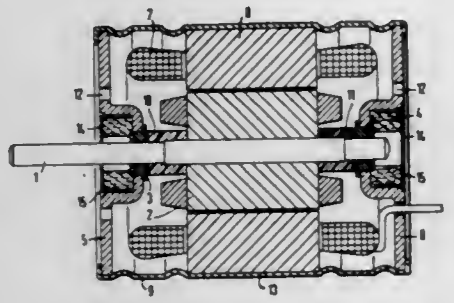
Emil S. Tamm, Fort Smith, Ark., assignor to Baldor Electric Company, Fort Smith, Ark., a corporation of Missouri
Filed Aug. 10, 1967, Ser. No. 659,726
Int. Cl. H02k *15/00*
U.S. Cl. 29—596 **5 Claims**



For adjusting the angular position of commutator brushes of dynamo-electric machines, a brush-holder ring is made of plastic material and shaved by an end plate into nesting relation therewith. The brush holder ring has on its surface a series of radially extending protuberances which are shaved off by a cylindrical surface on the end plate when the two are pressed into nesting relationship. The shaved-off protuberances become slide bearings to maintain a tight fit between the ring and the plate, but nonetheless permit easy circumferential adjustment of the ring relative to the plate.

3,508,327
ELECTRIC MOTOR ASSEMBLED BY METAL FORMING

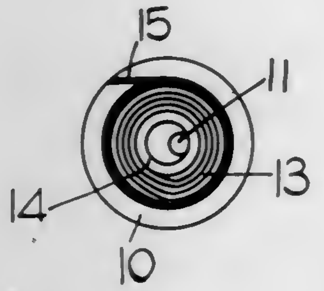
Artur Diederichs, Wolfgang Pieper, and Hermann Welz, Wurzburg, Germany, assignors to Siemens Aktiengesellschaft, a corporation of Germany
Continuation of application Ser. No. 567,174, July 22, 1966. This application Apr. 30, 1969, Ser. No. 820,685
Claims priority, application Germany, July 24, 1965, S 98,407
Int. Cl. H02k *15/00*
U.S. Cl. 29—596 **11 Claims**



Method of producing an electric motor in which two bearing shields are located on axially opposite sides of a ring-shaped stator and having respective bearings in which there are journalled a shaft carrying a rotor coaxially surrounded by the stator includes the steps of assembling the bearing shields, having their peripheral surface in rough condition, with the shaft and rotor and with the stator within a tubular housing which surrounds the stator and bearing shields with clearance, placing the two bearing shields in axially spaced relation from the stator along the entire periphery, subjecting the entire assembly to high-speed metal forming and thereby compressively deforming said tubular housing peripherally toward and around the stator and also peripherally toward and around each of the two bearing shields so as to rigidly attach the housing to the bearing shields and the stator.

3,508,328
STARTING AIDS

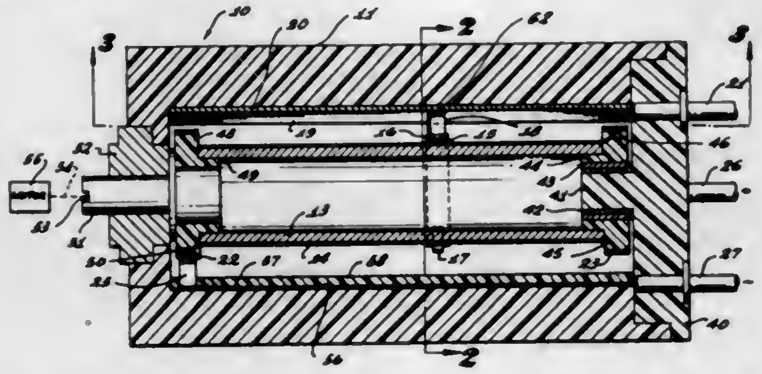
Thomas Curzon, London, England, assignor to C.A.V. Limited, London, England
Filed June 14, 1968, Ser. No. 737,103
Claims priority, application Great Britain, July 3, 1967, 30,521/67
Int. Cl. H01f *7/06;* **H05b** *3/00*
U.S. Cl. 29—611 **2 Claims**



A method of assembling an electric heating element within the bore of a tubular body part comprising fixing one end of the heating element to a tubular member, inserting the tubular member within the end of the body part with the heating element extending through a slit, rotating the tubular member thereby to coil the heating element and finally fixing the tubular member to a conductor and fixing the other end of the heating element to the body part.

3,508,329
POTENTIOMETER OR THE LIKE

William I. Elliott, 5172 Dumont Place, Woodland Hills, Calif. 91364, and Jack L. Randall, 27 Malibu Colony, Malibu, Calif. 90265
Original application Jan. 24, 1966, Ser. No. 522,736, now Patent No. 3,399,368, dated Aug. 27, 1968. Divided and this application Dec. 14, 1967, Ser. No. 703,814
Int. Cl. H01c *1/14*
U.S. Cl. 29—619 **5 Claims**

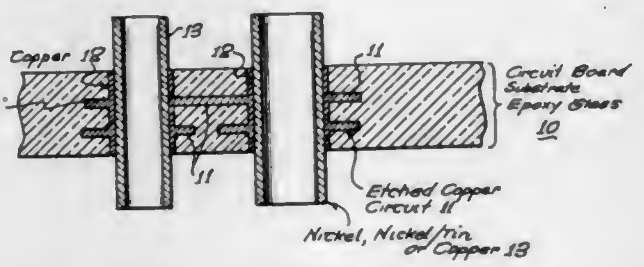


A method of making a potentiometer, including the steps of:

(1) Winding an insulation-coated resistance wire onto a cylindrical support with adjacent turns in abutment;
(2) securing the confronting portions of the insulation and the support together;
(3) removing the insulation along the outer portion of each turn between the portions of insulation separating adjacent turns;
(4) forming a split plastic ring having a smooth inner surface of an axial length sufficient to span a plurality of turns of the wire;
(5) placing the plastic ring around the wire;
(6) deforming the inner surface of the plastic ring to form alternate grooves and ribs, wherein the grooves conform to the contour of the exposed wire of the turns and the ribs nest between adjacent turns, the turns and ribs being in mesh so as to coact, upon rotating the support while holding the plastic ring against rotation, to effect longitudinal movement of the plastic element;
(7) and attaching an electrical contact element to the plastic ring, with a portion of such element in wiping engagement with the exposed wire on at least one turn.

3,508,330
METHOD OF FABRICATING MULTITUBE ELECTRONIC CIRCUIT BOARDS

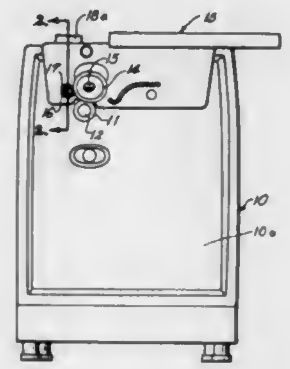
James R. Kubik, Upland, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Apr. 6, 1967, Ser. No. 629,001
Int. Cl. H01r *43/00;* **H05k**
U.S. Cl. 29—628 **4 Claims**


Copper 12
13
12
11
11
11
Circuit Board Substrate Epoxy Glass 10
Etched Copper Circuit 11
Nickel, Nickel/Tin or Copper 13

The disclosure relates to a method of making integral conductor paths and through-hole tubes in multilayer positioner boards on which components are to be mounted, the through-hole tubes extending outwardly in opposite directions from the plane of the positioner board. According to this method, temporary backing material is applied to each side of various layers of material which make up the multilayer positioner board in a desired sequence such that when the thus assembled layers of material are bonded together, the bonded assembly is prepared for the drilling, plating and finishing procedures which produce the end item.

3,508,331
CAN OPENER WITH REMOVABLE HAND LEVER AND LEVER ADJUSTING MEANS

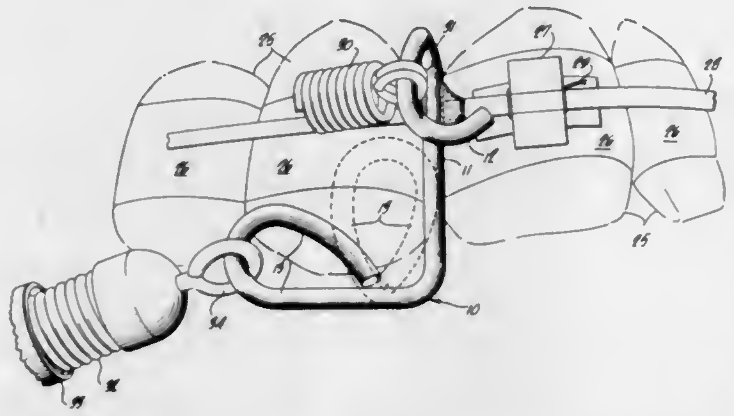
Robert J. Scott, Blue Springs, Mo., assignor to Rival Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Oct. 14, 1968, Ser. No. 767,132
Int. Cl. B67b *7/38*
U.S. Cl. 30—4 **4 Claims**



An electrically powered can opener has a cutter wheel carrying hand lever pivotally attached to its forward upright frame by an elongate pin assembly. The push button operated latch releasably locks the pin assembly (and hand lever) to the can opener frame for pivotal movement therewithin. When in the locked or retained position, a movable latch bearing sleeve may be threadably moved to contact the latch mechanism so as to cause the pin assembly (and hand lever) to seat firmly in its attached position. Depressing the push button, which is located exteriorly of the can opener casing and/or frame, causes the latch to release the pin assembly so that the hand lever may be removed from the can opener frame. The movable bearing sleeve may be selectably moved as necessary to insure the proper contacting relationship between the latch and pin assembly.

3,508,332
FORMABLE ORTHODONTIC HOOK

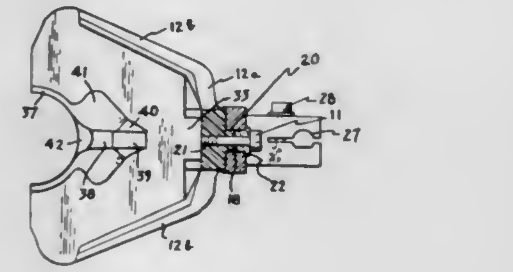
Maclay M. Armstrong, 1306 N. 175th, Suite 106, Seattle, Wash. 98133
Filed Apr. 17, 1967, Ser. No. 631,429
Int. Cl. A61c *7/00*
U.S. Cl. 32—14 **2 Claims**



An orthodontic hook formed of stainless-steel wire and having a rigid center portion for attachment to an arch wire, and a pair of of soft, formable end portions extending from opposite ends of the center portion. The end portions are readily bent into various loop configurations for engagement with orthodontic springs. Elongation of the springs is adjustable by varying the configuration of the loops formed by the end portions.

3,508,333
DENTAL CLUTCH FABRICATION

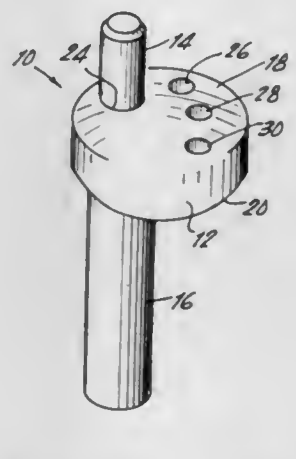
Niles F. Guichet, 320 Olympia Place, Anaheim, Calif. 92806
Continuation-in-part of application Ser. No. 389,240, Aug. 10, 1964. This application Mar. 22, 1967, Ser. No. 625,213
Int. Cl. A61c *17/04*
U.S. Cl. 32—32 **8 Claims**



A jig for the simultaneous casting of maxillary and mandibular clutches that maintains the clutches at fixed and predetermined positions to each other with a minimum of vertical separation. Adaptions are provided for direct casting on a patient's teeth or the casting on the models of the teeth supported in a dental articulator.

3,508,334
DENTAL PARALLELING GUIDE

Bernard Weissman, 304 Ashland Place, Brooklyn, N.Y. 11217
Filed Mar. 20, 1968, Ser. No. 714,627
Int. Cl. A61c *3/00*
U.S. Cl. 32—67 **7 Claims**

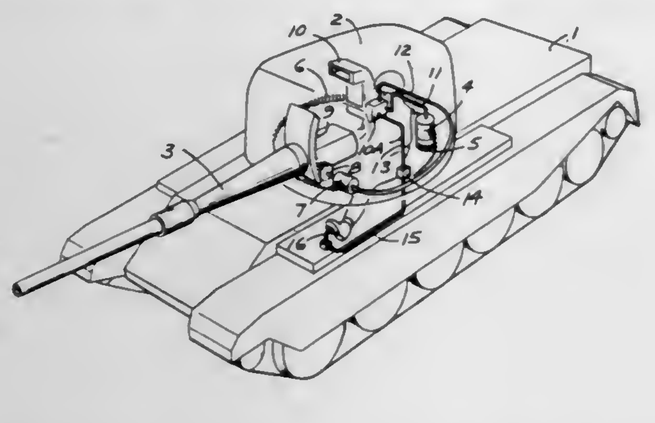


The invention is directed to a novel dental paralleling guide adapted to be pivotally and vertically held in a desired part of a tooth, and being simultaneously adapted to provide for the drilling of parallel holes in said tooth, or a model of said tooth.

3,508,335
METHOD OF AND DEVICE FOR ESTABLISHING THE CORRECT LEAD REQUIRED FOR FIRING A PROJECTILE AT A MOVING TARGET

Erik Wilhelm Sundstrom, Karlskoga, Sweden, assignor to Aktiebolaget Bofors, Bofors, Sweden
Filed Aug. 30, 1966, Ser. No. 576,102
Claims priority, application Sweden, Sept. 6, 1965, 11,560/65
Int. Cl. F41g *3/08*
U.S. Cl. 33—49 **5 Claims**

Initially a sight line and gun barrel are moved both at the same angular velocity relative to a moving target



until the sight line and the barrel are aimed at the target. An additional velocity component angularly opposite to the concurrent movement of the barrel is then applied to the sight line for a selected interval of time while the barrel and the sight line are being moved to aim the sight line at the target during this interval of time. The additional oppositely directed velocity component is selected so that the angular velocity of the line of sight is

$$\frac{\alpha}{1+\alpha}$$

of the angular velocity of the barrel during the selected interval of time, α being a constant. At the end of the time interval the relative movement of the sight line and the gun barrel is stopped but aiming the sight line at the target is continued at an angular velocity equal to that of the barrel.

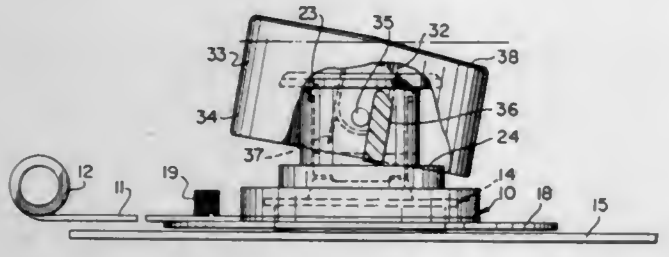
3,508,336
DRAFTING MACHINE HEAD

Thomas L. Lamb, Toronto, Ontario, Canada, assignor to The Hughes-Owens Company, Limited, Montreal, Quebec, Canada

Filed Dec. 5, 1968, Ser. No. 781,479

Int. Cl. B43l *13/02*

U.S. Cl. 33—79 **18 Claims**



Head for drafting machine having a base for connection to a drafting machine linkage. The head includes a rotatable carrier for rules which can be releasably locked with respect to the base by means of the engagement of complementary tapered surfaces on each. An upper cap portion, when tilted by the draftsman, effects through internal cams releasable engagement of such surfaces so as to permit convenient "one hand" adjustment of the angular portion of the rules.

3,508,337
GEAR COMPARATOR

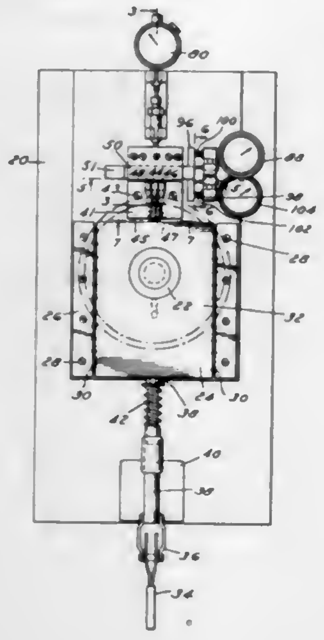
Jan Reef, 41520 8 Mile Road, Northville, Mich. 48167

Filed Mar. 22, 1968, Ser. No. 715,292

Int. Cl. G01b *5/20*

U.S. Cl. 33—179.5 **5 Claims**

This disclosure is a gear comparator. It is designed to be usable by a gear-making workman in comparing certain characteristics such as lead and pitch radius with the same characteristics of a master gear which the gear being made is to duplicate. It comprises a gear-supporting trunnion mounted for shiftable movement from a neutral position to a working position. At the working position a gear mounted on the trunnion may be readily checked as to each desired characteristic with readings shown on indicator gauges preset from a master gear. Adjacent to the working position of the trunnion, upon which the gear to be checked is mounted, the comparator is provided with a positioning pin and two contact pins. Each pin is supported to be moved into seating engagement with determined surfaces of the gear on the trunnion. Each pin is responsive to its gear seating engagement to show on its indicator gauge the response of the pin to such engagement.



3,508,338
METHOD FOR ACCELERATING THE DRYING PROCESS IN THE TREATMENT OF HAIR, AND DRYING HOOD FOR THE APPLICATION OF SAID METHOD

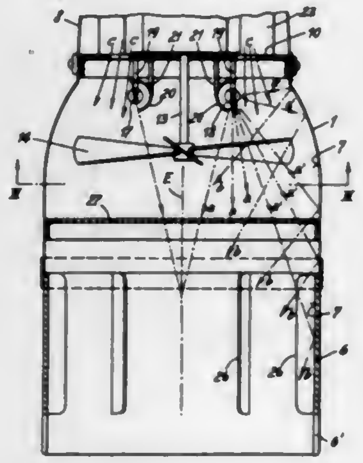
August Guhl, 7 Wilfriedstrasse,
8032 Zurich, Switzerland

Filed May 20, 1968, Ser. No. 730,527

Claims priority, application Switzerland, May 26, 1967, 7,560/67

Int. Cl. A45d *20/04*

U.S. Cl. 34—3 **9 Claims**



A method and apparatus for accelerating the drying process in the treatment of hair, wherein an ozonized air current in the head receiving hood portion of a hair dryer is caused to pass through transversely directed and reflected infra-red rays having intersecting paths, a diffused dispersion field being produced in the hood portion, acting directly on the hair from all directions, causing a more rapid heating and mixing of the air current, and acceleration of the oxidation process and drying time. The apparatus comprises a casing having a head receiving hood portion, a source of ozonized air for the hood portion, a source for infrared rays positioned in said head portion, and reflecting means for creating the diffused dispersion field.

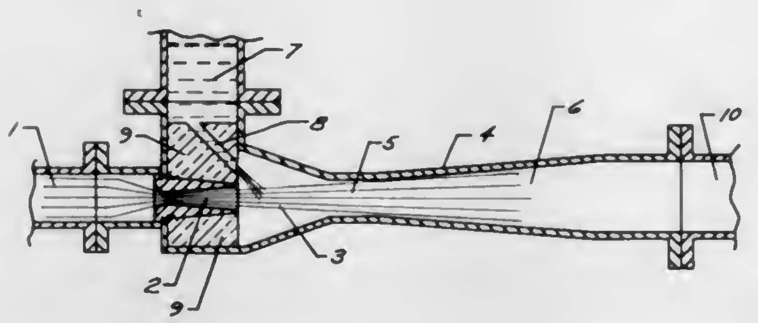
3,508,339
DRYING APPARATUS AND PROCESS

James W. Neblett, Donald E. Debacher, and Billy A. Nussel, Mount Vernon, Ind., assignors to General Electric Company, a corporation of New York

Filed Nov. 30, 1965, Ser. No. 510,554

Int. Cl. F26b *3/10*

U.S. Cl. 34—10 **3 Claims**



A drying apparatus capable of providing a feed material in the form of dense, discreet particles wherein the apparatus has at least one drying stage which has in combination a jet mixer and an elongated drying pipe in communication therewith. The jet mixer has a hot gas entry duct, a jet nozzle having a Reynolds number of at least 10,000, a mixing chamber at the discharge end of the jet nozzle which has means for the introduction of a feed material to the discharge end of the jet nozzle at an angle converging with the discharge end thereof. At the discharge end of the mixing chamber is a diffusion zone, which diffusion zone diverging at an angle that allows limited expansion of a gas stream passing therethrough while maintaining contact between the gas stream and the walls of the diffusion zone. The gas entry duct, jet nozzle, mixing chamber and diffusion zone are in axial alignment. Further the invention is directed to a process for drying a material in the form of dense, discreet particles, which process comprises continuously passing a stream of hot gas through a jet nozzle at acoustical velocity, angularly projecting a feed material into the stream of hot gas as it discharges from the jet nozzle to form a suspension thereof in the hot gas, passing the suspension into a confined diffusion zone in order to allow limited expansion thereof while maintaining contact with the walls of the diffusion zone, advancing the suspension through an elongated pipe and then separating volatiles from the formed particulate material.

3,508,340
LAUNDRY APPARATUS WITH DRYER HEAT CONTROL

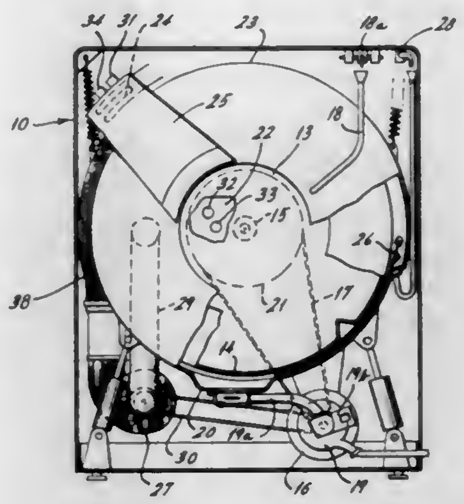
Ralph J. Kombol, Connersville, Ind., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Apr. 12, 1968, Ser. No. 720,787

Int. Cl. F26b *19/00*

U.S. Cl. 34—48 **7 Claims**

An automatic clothes dryer providing a drying cycle for permanent press clothing. The dryer includes control circuitry providing an initial high heat input rate for a period of time terminated in response to attainment by a clothes temperature sensor of a temperature indicative of a dry-clothes condition. If the sensed temperature indicates that drying is not complete, the sensor is operable again to energize the heater, but at a lower heat input rate to preclude adverse effects of high temperatures on the clothing as it approaches a dry condition. Either program of heating is followed by a cool-down period, during which there is no input of heat.



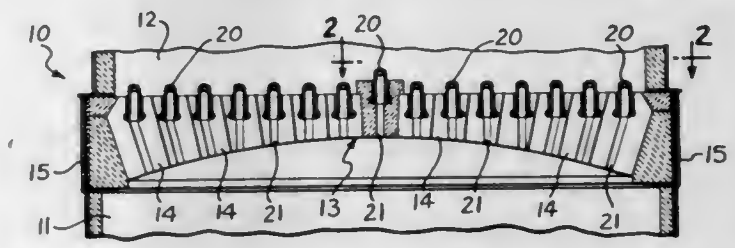
3,508,341
FLUIDIZED BED HEARTH CONSTRUCTION

Franklin Carr Price, 33 W. 16th St.,
Chicago Heights, Ill. 60411

Filed May 29, 1968, Ser. No. 733,145

Int. Cl. F26b *17/00;* F27b *3/22*

U.S. Cl. 34—57 **6 Claims**



Tuyeres for fluidized bed reactor hearths are disclosed formed of refractory material in one piece with a flange about the lower end. The tuyeres are fitted in arch block defined passages having clearance for inserting a tuyere and an annular groove surrounding the tuyere flange. Refractory cement between the tuyere and the passage, and in the groove around the flange, fixes the tuyeres into place. The passages are angled so that the tuyeres are uniformly spaced over the hearth and a relatively uniform block size is maintained.

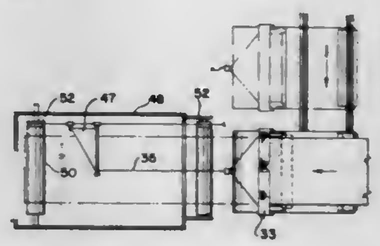
3,508,342
THREADING APPARATUS FOR WEB DRYERS

George Levtchouk, Montreal West, Quebec, and John Charles Britten, Pincourt, Quebec, Canada, assignors to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 4, 1968, Ser. No. 718,714

Int. Cl. F26b *13/06*

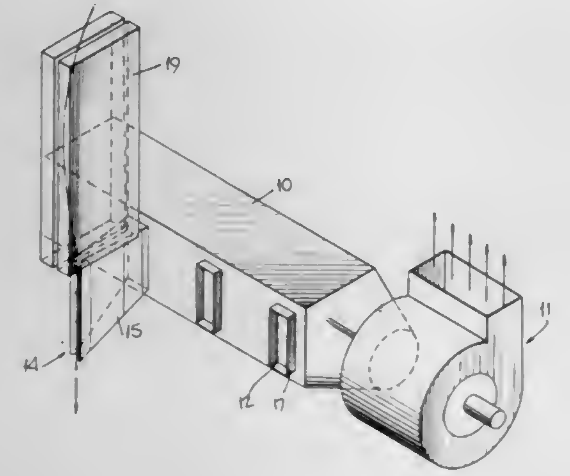
U.S. Cl. 34—120 **9 Claims**



The web tail holding clamp is a wedge type formed of, basically, two parts, a wedge over which the paper tail or pulp leader strip is placed and an immediately receiving complementary envelope, pocket or sleeve in which it is positioned. This combination is then threaded by conventional means through a conventional dryer having single or multi-passes.

3,508,343
YARN TEMPERATURE AND HUMIDITY CONTROL

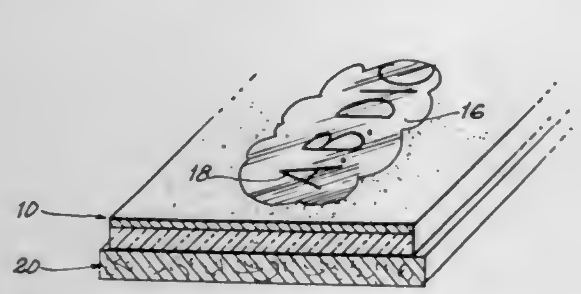
Oskar Lippuner, Wetzikon, Switzerland, assignor to Herberlein & Co. AG., Wattwill, Switzerland, a corporation of Switzerland
Filed Apr. 4, 1968, Ser. No. 718,735
Claims priority, application Switzerland, Apr. 21, 1967, 5,720/67
Int. Cl. F26b *13/00*
U.S. Cl. 34—156 **8 Claims**



Effecting high heat and/or moisture transfer in rapidly longitudinally moving yarn by introducing oscillations therein by passing same through turbulent region of rapidly moving gas at desired climatic conditions.

3,508,344
REVERSIBLE CONCEALED IMAGE DEVICE AND METHOD OF USE

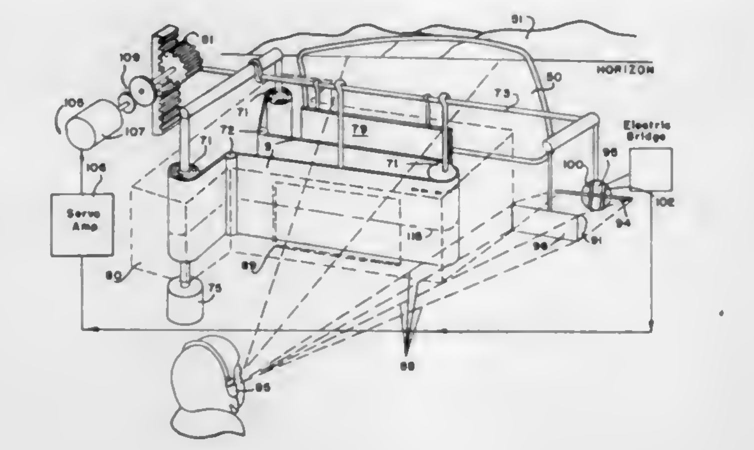
Richard E. Thomas, Chicago, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed July 17, 1967, Ser. No. 653,776
Int. Cl. G09b *3/00*
U.S. Cl. 35—9 **8 Claims**



A reversible concealed image device which makes use of a covering sheet formed of a transparent base material having an opaque blush coating which is rendered transpicuous in portions wetted with a volatilizable fluid and which reverses to the opaque blush coating upon removal of the fluid or liquid by volatilization whereby the covering sheet can be used in reversible concealed imaging devices for readability of the image concealed by the covering sheet.

3,508,345
FOG SIMULATOR FOR PILOT TRAINING

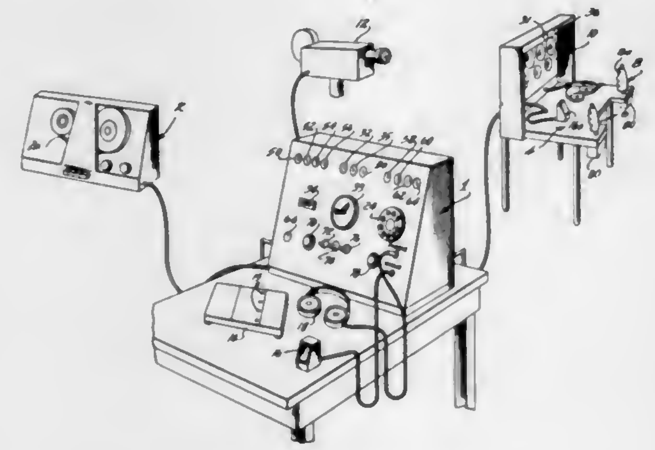
Arnold K. Dietrich, Binghamton, and Kurt W. Jenkner, Vestal, N.Y., assignors to the United States of America as represented by the Secretary of the Army and/or the Administrator of the Federal Aviation Administration
Filed Aug. 22, 1967, Ser. No. 662,549
Int. Cl. G09b *9/08*
U.S. Cl. 35—12 **5 Claims**



This invention relates to training aids in operational aircraft to provide the pilot with varying visibility conditions. More particularly, the present invention provides means for simulating different fog conditions on a film and means for advancing this film in the sight path of a pilot to correspond to different fog conditions present at different altitudes.

3,508,346
AUDIO VISUAL INSTRUCTIONAL APPARATUS

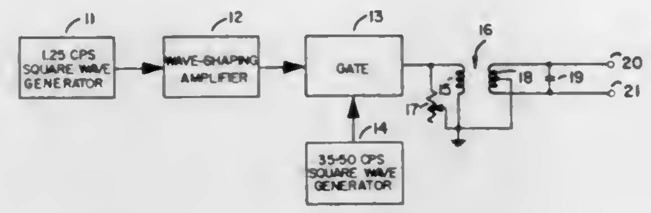
Don A. Norman, Lowell W. Wilkerson, and William G. Matheny, Fort Worth, Tex., assignors, by mesne assignments, to the United States of America
Filed Nov. 24, 1967, Ser. No. 685,666
Int. Cl. G09b *9/08*
U.S. Cl. 35—12 **4 Claims**



A tape controlled training device provides a programmed sequence of visual and/or audio information in separate units or "frames" to earphones and a rear projection screen at a student's console. Each frame may comprise a visual and/or audible problem requiring analysis and manual or oral response by a student. A unique and exclusive "correct response" circuit between a student's controls at the student's console and indicators at an operator's console is established prior to the presentation of each frame of information. Depending on programing, the device may automatically furnish corrective or supplementary instruction to the student when an incorrect responce is made. Counting, timing, indicating, and scoring means are provided at the operator's console for evaluating a student's response. An overriding control enables an operator to alter the programmed information at will during a sequence.

3,508,347
PHONOCARDIOGRAM SIMULATOR

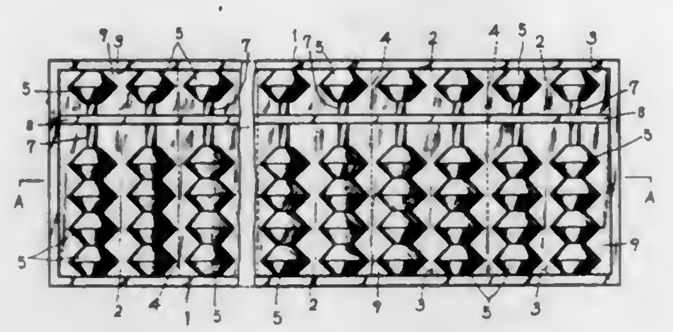
John M. Keefer, Titusville, Fla., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 19, 1967, Ser. No. 691,909
Int. Cl. G09b *23/28*
U.S. Cl. 35—17 **2 Claims**


1.25 CPS SQUARE WAVE GENERATOR
WAVE-SHAPING AMPLIFIER
GATE
35-50 CPS SQUARE WAVE GENERATOR
11
12
13
14
15
16
17
18
19
20
21

A device for producing electrical voltage waves that simulate the sounds of a human heart. This device is used to calibrate phonocardiograms.

3,508,348
MAGNETIC SOROBAN (ABACUS)

Kogane Harada, 9 Ageba-cho, Shinjuku-ku, Tokyo, Japan
Filed Nov. 28, 1967, Ser. No. 686,016
Int. Cl. G06c *1/00*
U.S. Cl. 35—33 **8 Claims**

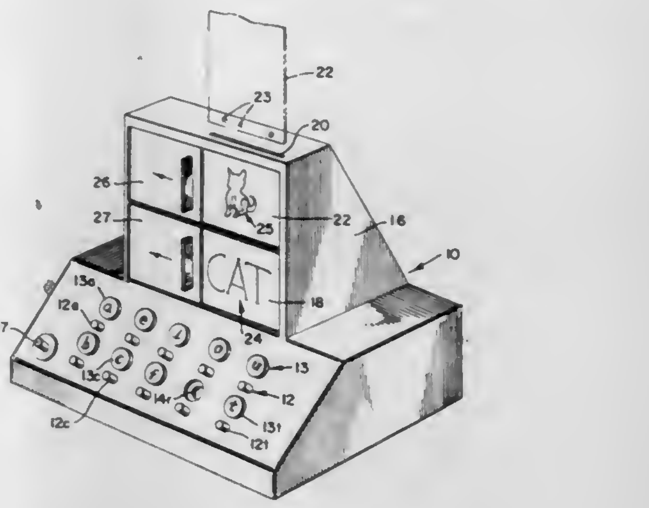


Magnetic soroban comprising a rectangular tray, a proper number of rectangular magnetic sheets placed therein the shorter sides of which are approximately twice as wide as beads are and the longer sides of which are kept in touch with each other and at which polarities are established, a film having magnetic permeability placed therein, a beam placed sideways and a proper number of bead-travelling rods lengthways over said film and beads sensitive to magnetism set in said bead-travelling rods.

3,508,349
EDUCATIONAL DEVICE

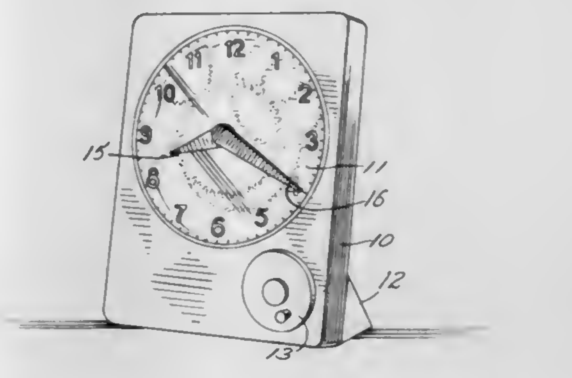
Lloyd Gilden, 53 Clock Tower, Old Westbury, N.Y. 11568, and Chester Freeman, Jr., 14 Beekman Ave., Mount Vernon, N.Y. 11153
Filed Dec. 1, 1967, Ser. No. 687,224
Int. Cl. G09b *5/02*
U.S. Cl. 35—35 **8 Claims**

A device for teaching children how to spell and identify letters comprises a housing having a keyboard, the keys of which control a display circuit within the housing. A program card containing a word to be spelled can be inserted into the housing to program the display circuit such that an indication will be provided when the child pushes, in the proper sequence, the keys corresponding to the word displayed on the program card.



3,508,350
TIME TONE CLOCK

Robert Genin, Scarsdale, N.Y., assignor to Child Guidance Toys Inc., Bronx, N.Y., a corporation of New York
Filed Apr. 4, 1967, Ser. No. 628,339
Int. Cl. G09b *17/00*
U.S. Cl. 35—39 **3 Claims**

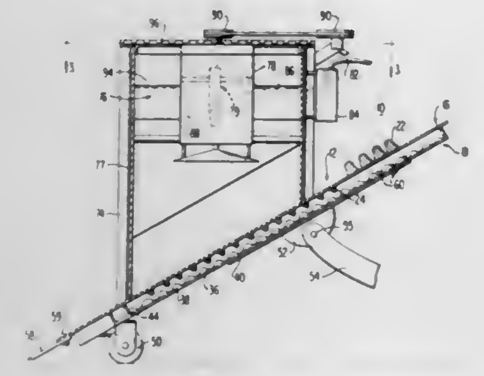


A toy clock to teach how to tell time, the clock including a gear works formed of transparent elements and operated by a crank to drive the hands of the clock which turn on a window through which the works are visible, the gear works also serving to actuate sound-producing elements which mark the passage of time.

3,508,351
SNOW REMOVAL DEVICE HAVING MEANS FOR MELTING SNOW AND FOR DISPOSING OF THE RESULTING WATER

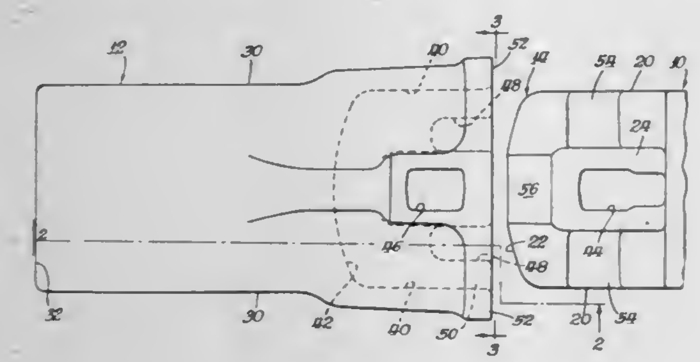
Lloyd H. Stonehill, 403 S. Main, Frankfort, Ind. 46001
Continuation-in-part of application Ser. No. 567,894, July 26, 1966. This application Nov. 19, 1968, Ser. No. 776,903
Int. Cl. E01h *5/10*
U.S. Cl. 37—12 **9 Claims**

There is disclosed herein snow removal apparatus in the form of a vehicle carrying a burner, a blower cooperating with the burner to produce a blast of ultra-hot air and a multipurpose target formed of an upper heat conducting surface preferably formed of a rough non-reflective aluminum casting or forging with a heat insulating plate mounted between the heat conductive plate and the pavement surface being cleared to protect the road surface, and to provide collection and disposal means for the melted snow and ice. Projections from both surfaces of the heat conductive plate may be provided for added heat transfer. The heat conductive plate is located directly in the path of the highly heated air blast and is constructed to permit this without melting or other damage.



3,508,352
DIPPER TEETH ASSEMBLIES WITH MEANS TO PREVENT RANDOM REACTION POINTS

Robert P. Radwill, Oak Lawn, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed June 14, 1967, Ser. No. 645,966
Int. Cl. E02f *9/28*
U.S. Cl. 37—142 **4 Claims**

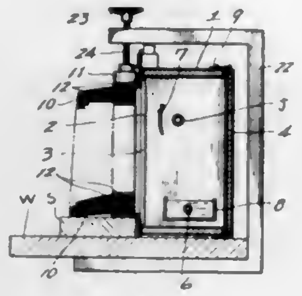


In a dipper tooth assembly having a tooth point capped over a support, predetermined areas of contact between the tooth and the support are provided by means of recesses in selective areas of the tooth point and support that would normally be in contact, thereby preventing random reaction points between the tooth and the support. The recessed areas are so located as to cause stress reduction in the corners of the support and near the sides of the tooth.

3,508,353
LAUNDRY PRESS

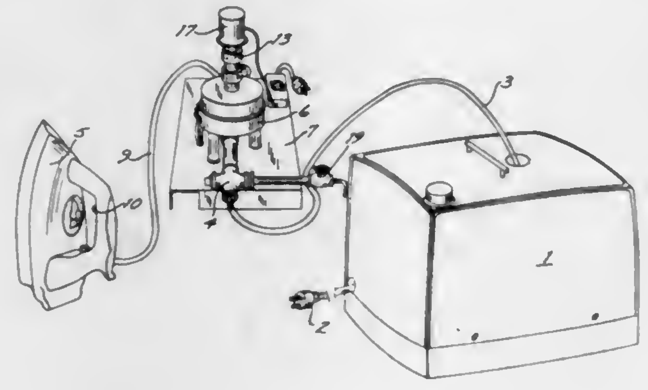
Heigo Kitayama, Higashi-Katsushika-gun, Japan, assignor to Sanwa Precisa Co., Ltd., Tokyo, Japan
Filed Feb. 9, 1968, Ser. No. 704,306
Claims priority, application Japan, Feb. 9, 1967, 42/10,405
Int. Cl. D06f *71/34*
U.S. Cl. 38—14 **4 Claims**

A laundry press adapted to emit steam from a chamber and steam-set the creases along one edge of trousers and the like stacked one upon another with crease-setting sheets interposed between adjacent upper and lower trousers in which such a stack is held down adjacent to and outside of said chamber in such an orientation that said creased edges of the stacked trousers may be exposed to a flow of steam generated in and discharged from said chamber whereas the remaining portions of said stack are shielded from the flow of steam whereby the creases of said plurality of trousers may be simultaneously steam-set in a single setting operation.



3,508,354
WATER VAPORIZER FOR A STEAM IRON

Burton J. Stansbury, 2530 University Drive, Newport Beach, Calif., and Collin P. McCracken, 3500–378 W. Manchester Blvd., Inglewood, Calif. 90305
Filed July 22, 1969, Ser. No. 843,471
Int. Cl. D06f *75/06*
U.S. Cl. 38—77.6 **7 Claims**

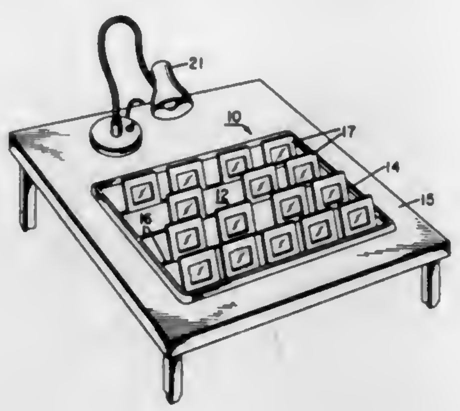


In a steam generator for a steam iron where the steam is generated a considerable distance from the flatiron itself, the steam will condense into a liquid, which is detrimental to the iron and also to the material which is being worked upon. To prevent water accumulation in the steam conduits to the iron, an automatic reheating device entraps the liquid and regenerates it into steam. Thus a continuous and relatively dry steam supply is provided for the flatiron.

3,508,355
SLIDE HOLDER

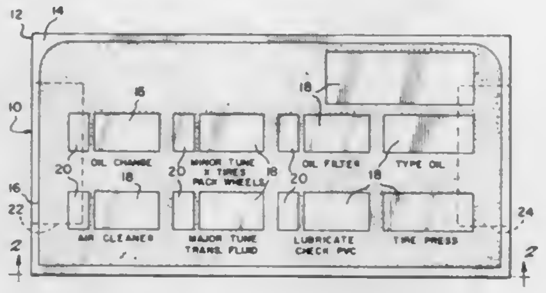
Stephen D. Hooper, Fairport, N.Y., assignor to Indemar, Inc., Rochester, N.Y., a corporation of New York
Filed Oct. 6, 1967, Ser. No. 673,509
Int. Cl. G09f *13/10*
U.S. Cl. 40—106.1 **9 Claims**

A slide holder has a flat base and transverse grooves arranged for holding slides upright at an angle away from a person viewing the slides. The upper surface of the base is bright white and diffusely reflects light to back light the slides for viewing and sorting. Also, the grooves can be formed in separate, pivotal members mounted on the base so that the slides can be laid flat for storage and raised upward to the appropriate angle for viewing. With such an arrangement, several base sheets of slides are preferably held in a ring notebook.



3,508,356
INFORMATION CARD

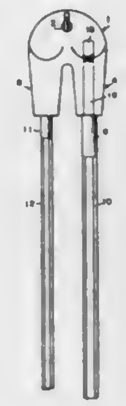
Daniel D. Ross, 305 Arterburn Road, Louisville, Ky. 40222
Filed Jan. 2, 1968, Ser. No. 694,623
Int. Cl. G09f *7/18*
U.S. Cl. 40—129 **3 Claims**



A plastic information card having windows on a face thereof for recording related items of information, and magnetic tape on the other face thereof for magnetically retaining the card on a metal surface of an object bearing a relation to the information on the card.

3,508,357
COMBINATION FISHING ROD CARRIER, HOLDER, AND DISPLAY HANGER

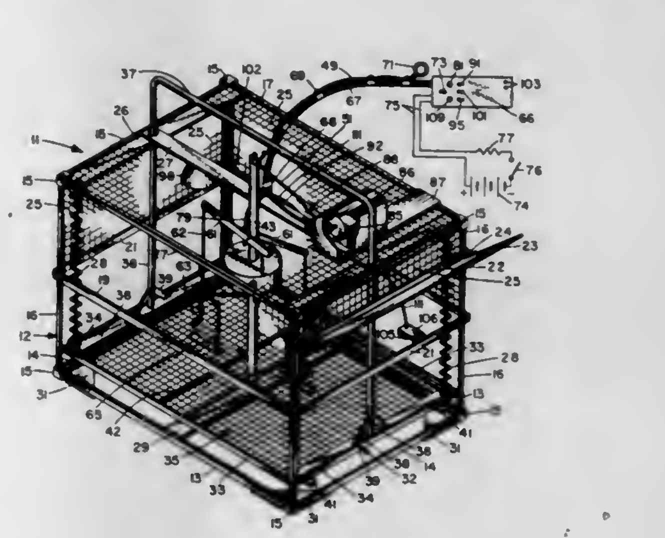
Arthur C. Collin and Viola R. Collin, both of 372 W. Oak St., Lebanon, Oreg. 97355
Filed Feb. 15, 1968, Ser. No. 705,807
Int. Cl. A01k *97/10*
U.S. Cl. 43—26 **1 Claim**



A fishing rod holder comprising a head member having uniform, hollow, parallel leg members extending therefrom for automatically gripping and holding fishing rod sections in parallel relationship to each other for transporting or display purposes. One leg member is provided with internally-positioned spring-biased means to grip one rod section therein and the other leg member has a spring latch pivotably mounted thereon and movable through a slot to engage and hold a second rod section within the said other leg member.

3,508,358
FISHTRAP

Christopher C. Lee, 1056 Kane St., Norfolk, Va. 23513
Continuation-in-part of application Ser. No. 734,909, June 6, 1968. This application July 24, 1969, Ser. No. 844,588
Int. Cl. A01m *23/16, 23/02;* **A01k** *69/10*
U.S. Cl. 43—60 **10 Claims**

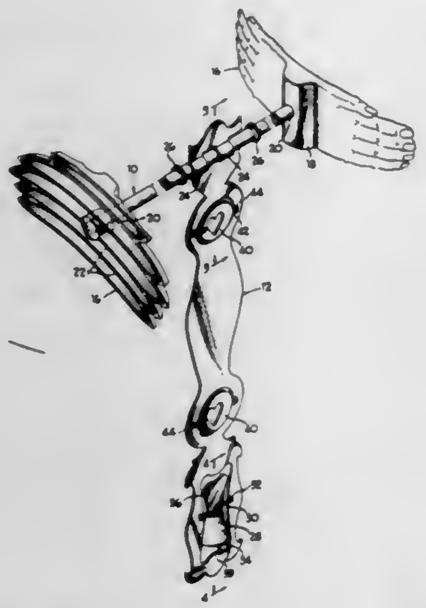


A fishtrap including a trap body assembly having a wire mesh closed upper surface and sides having wire mesh closed upper portions, as well as a trap door carriage assembly having a wire mesh covered frame vertically moveable between a trap closing upper position and a lower position. Springs normally maintain the trap door carriage assembly frame in its upper position, and the trap is also provided with a trigger mechanism including a releaseable latch device for overriding the action of the springs and maintaining the trap door carriage assembly frame in its lower position as well as means for closing an electrical circuit to a signal device when bait placed in the trap is disturbed for warning the trap user to remotely manually release the latch device, or to energize an electric motor to perform this operation. The trap further includes an electrical signal device for indicating the closing thereof, as well as electrical means for producing a light and sounds therein. Alternate sources of electrical energy for operating the trap systems are also provided.

3,508,359
GYRATORY AMUSEMENT DEVICE WITH SOUNDING MEANS

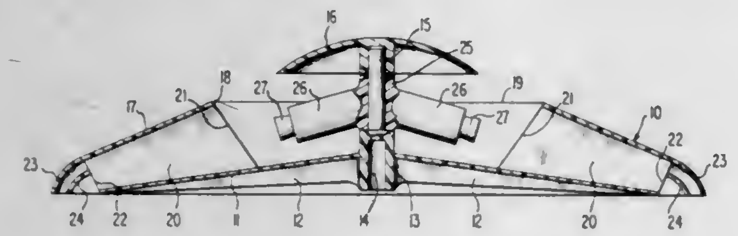
Hans E. Jernstrom, Northbrook, Marvin I. Glass, Chicago, and Robert S. McKay, Morton Grove, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Dec. 18, 1967, Ser. No. 691,385
Int. Cl. A63h *5/00*
U.S. Cl. 46—52 **1 Claim**

Game apparatus which provides for cooperation of two players in effecting rotational movement of a pendulum-like portion of the apparatus. An elongated member is supported at its ends in a generally horizontal position by the application of pressure by each of two players positioned with their bodies pressed against the ends of the member. The elongated member pivotally supports a depending pendulum-like part, which is weighted adjacent its free end, and such part can be rotated about the axis of the elongated member by cooperative body motion of the players. A bell is pivotally mounted in an aperture in the pendulum-like part. The bell includes a clapper which extends beyond the bottom edge of the bell and engages an edge portion of the aperture in which the bell is mounted.



3,508,360
AERIAL TOY WITH JET OPERATED TURBINE

Edward J. Williams, 703 Dupre Drive,
Spartanburg, S.C. 29302
Filed June 19, 1967, Ser. No. 647,033
Int. Cl. A63h *27/12*
U.S. Cl. 46—75 **8 Claims**

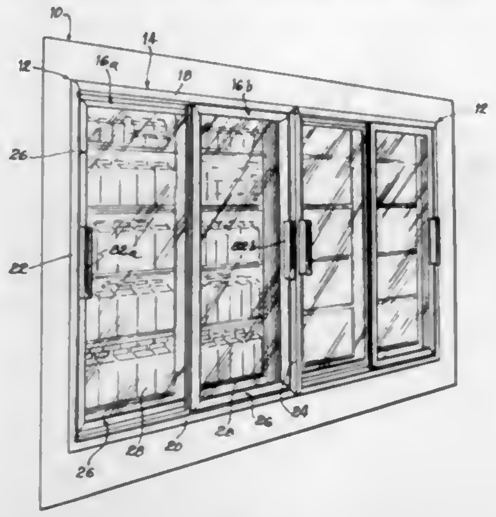


A rocket or jet propelled saucer-like flying toy which may be ignited and launched in the air from a hand-held member.

3,508,361
SLIDING DOOR ASSEMBLY

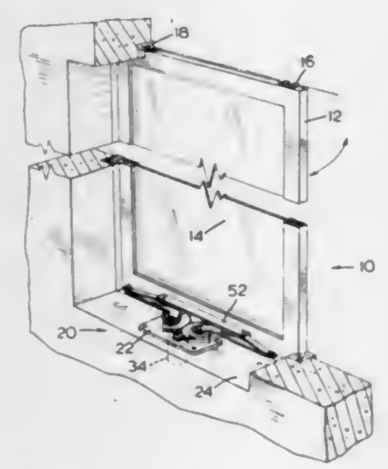
James Paul Ryder, Hacienda Heights, Calif., assignor to Ardco, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 29, 1968, Ser. No. 779,772
Int. Cl. E06b *7/12*
U.S. Cl. 49—70 **6 Claims**

A pair of sliding doors are mounted in a rectangular door frame having top, bottom and side members. Each door is supported by a pair of grooved rollers which ride along a flange or track projecting upwardly from the bottom member of the frame. Each roller has a shaft with an eccentric mounting stud which can be turned to adjust the elevation of the roller, so that the doors can be aligned with the frame. Each door has a closure spring which is mounted vertically along one of the side members and is connected to the door by a cable which is wrapped around a pulley. The spring and the vertical portion of the cable are enclosed by a removable channel shaped strip which is mounted in the side member of the frame. Each door contains a heater which is supplied with electrical current by a cord connected between the door and the frame. The cord is formed into a U-shape with upper and lower horizontal legs. Horizontal channel members are provided on the frame and the door to retain and conceal the upper and lower legs of the cord so that the cord will be kept out of the way and out of view.



3,508,362
MECHANISM FOR OPENING AND CLOSING WINDOWS

Howard L. Wright, Toronto, Ontario, Canada, assignor to Electro-Glide (68) Limited, Thornhill, Ontario, Canada
Filed Jan. 24, 1969, Ser. No. 793,658
Int. Cl. E05f *5/12, 11/22*
U.S. Cl. 49—340 **11 Claims**

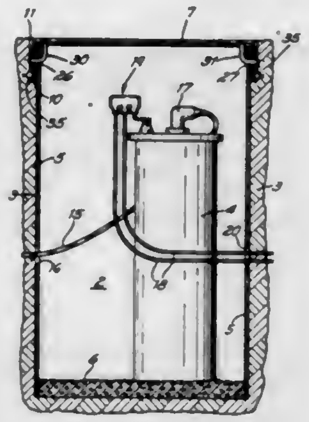


A motor-driven window opening and closing mechanism comprises a reversible electric motor, a shaft driven by the motor, a driven member drivably connected to the shaft, first and second stop members in spaced-apart relation on the driven member, a lever arm having a pivot point and means remote from the pivot point pivotally connecting the lever arm and the window. The lever arm extends between the first and second stop members and is adapted to be engaged by one of the stop members when the window is being opened and by the other when the window is being closed. The mechanism is arranged so that there is lost motion between the shaft and the lever arm and the motor operates initially under a low load when the window is intended to be opened and closed.

3,508,363
TAMPER-PROOF LOCKING ASSEMBLY FOR UNDERGROUND ELECTRICAL VAULTS

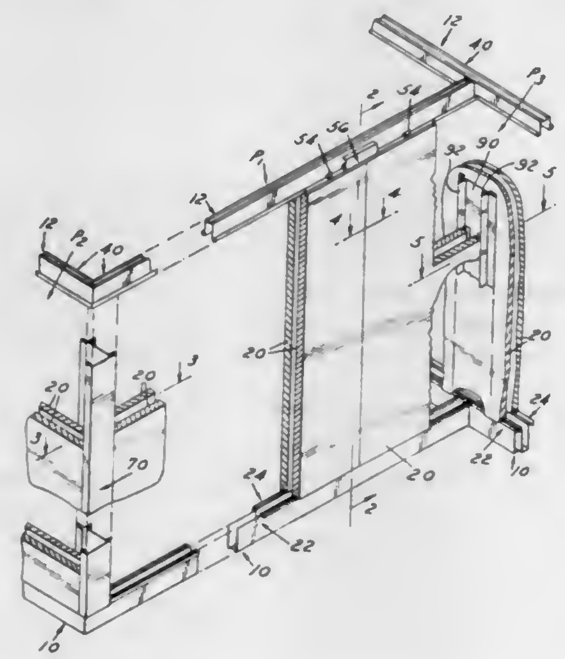
Mike P. Crivello, West Bend, and Howard A. Schmidt, Oak Creek, Wis., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed June 19, 1968, Ser. No. 738,284
Int. Cl. H02g *9/10;* **E04f** *19/08*
U.S. Cl. 52—20 **9 Claims**

A tamper-proof assembly for fastening a cover to an underground electrical vault which has a top open to the surface. The assembly includes a cylindrical vault with a pair of apertures extending through opposite sides of the vault near the top edge thereof and a cover for the vault having a pair of openings near opposite edges thereof which may be positioned near the corresponding apertures in the sides of the vault. An L-shaped pin is provided for each of the sets of openings and apertures. Each pin has a headed upper end which engages the cover through the opening in the cover and a lower end which engages one of the apertures in the vault.



3,508,364
PARTITION SYSTEM

Walter W. Thompson, P.O. Box 627,
Hazlehurst, Ga. 31539
Filed June 17, 1968, Ser. No. 737,477
Int. Cl. E04b *2/82*
U.S. Cl. 52—122 **9 Claims**

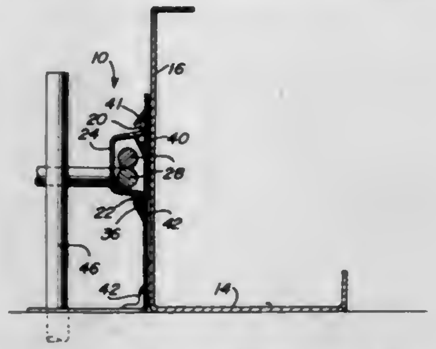


The wall partition system comprises a panel assembly including a floor track unit, a top track unit and a wall panel guided for movement by the top and bottom track units. Preferably there are a pair of such panels. A second panel assembly may be provided at right angles to the first panel assembly forming either a T or a corner.

3,508,365
CONCRETE SLAB JOINT CONSTRUCTION

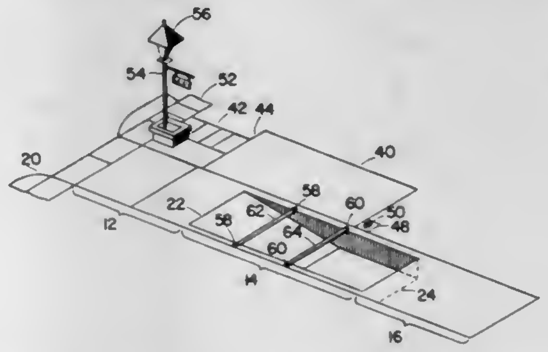
James G. Ellis, P.O. Box 20868,
Dallas, Tex. 75220
Filed Oct. 11, 1967, Ser. No. 674,596
Int. Cl. E02d *27/02;* **E01c** *11/14*
U.S. Cl. 52—169 **10 Claims**

A concrete slab key joint forming means adapted to be utilized in combination with a conventional concrete slab edge mold member which key joint forming means comprises an elongated sheet metal key joint forming strip adapted to be supported above sub-grade and below grade by a plurality of novel key joint strip positioning legs resting on the sub-grade and wherein the key joint forming strip is provided with a plurality of apertures for the through passage of reinforcing bars to be embedded within the concrete slab and wherein the reinforcing bars are nestingly received within the key joint forming strip so as to be readily accessible subsequent to casting of the female portion of the key joint and prior to the casting of the male portion of the key joint contiguous therewith.



3,508,366
FOUNDATION STRUCTURE FOR MOBILE HOME

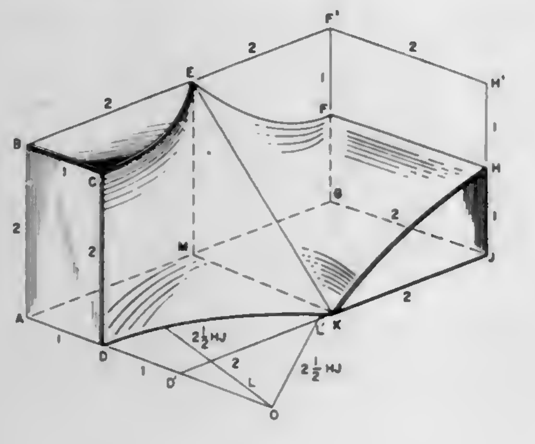
Jerry V. Youngkin, Youngkin's Mobile Park, R.R. 6,
Columbia City, Ind. 46725
Continuation of application Ser. No. 415,399, Dec. 2, 1964. This application June 18, 1968, Ser. No. 748,146
Int. Cl. E02d *27/32;* **E04h** *14/00*
U.S. Cl. 52—169 **4 Claims**



A support structure for a mobile home having a path with an upwardly facing surface for engaging the frame of a mobile home and for supporting the same and a subterranean cavity portion in which the wheels of the mobile home are positioned. The path portion of the structure is preferably elongated so as to extend from a road inwardly of a lot upon which a mobile home is desirably positioned. The subterranean portion includes a ramp section down which the wheels of the mobile home can be moved to position the mobile home upon the path portion of the structure. Within the subterranean portion there may be provided a drain, suitable water lines and sewage lines having couplings such that the mobile home can be connected to the same. An access can be provided by means of a manhole. In a preferred embodiment, there is provided a patio, a walk-way, and a lantern. The frame of the mobile home is supported completely by portions of the upwardly facing path portion of the structure located adjacent opposite ends of the subterranean portion and by at least one support member which extends laterally over the ramp section of the subterranean portion. In a specific embodiment, the subterranean portion may have a depth such that either the tires of the mobile home are suspended within the subterranean portion when the mobile home is suitably positioned upon the structure or the subterranean portion may have a depth such that the mobile home will be lowered onto the structure as desired by deflating the tires of the mobile home once the mobile home is positioned thereon as desired.

3,508,367
BUILDING BLOCK

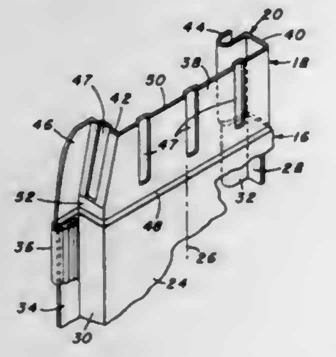
Leonard M. Niebylski, Birmingham, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
Filed June 20, 1968, Ser. No. 738,507
Int. Cl. E04c *1/04;* **B44f** *9/04*
U.S. Cl. 52—316 **13 Claims**



A building block which is one-half of a rectangular solid. The block is characterized by having curved dimensions defining a surface which substantially corresponds to that surface produced by rotating one end of a plane by 90°. Fractional portions of the block are described.

3,508,368
BUILDING PANEL HAVING TAPERED COUNTERSUNK END PORTION AND METHOD OF ERECTING THE SAME

Walter Tischuk, Richmond, Ind., and Cecil D. Keys, Coraopolis, Pa., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 4, 1968, Ser. No. 781,078
Int. Cl. E04b *1/54*
U.S. Cl. 52—394 **8 Claims**

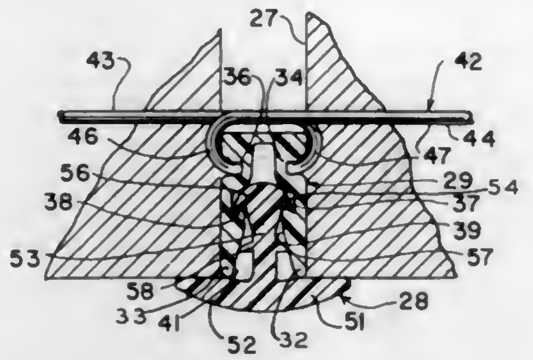


A building panel having a leading end and a trailing end and provided with male and female lips on opposite longitudinal sides thereof permitting adjacent building panels to be erected in side-by-side interengaged relation. An improved countersunk end portion is formed at the leading end of the building panel. The countersunk end portion is tapered so as to present a diminishing width. The tapered countersunk end portion facilitates erection of two courses of the building panels in end-to-end overlapped relation.

3,508,369
CLOSURE FOR AN EXPANSION JOINT

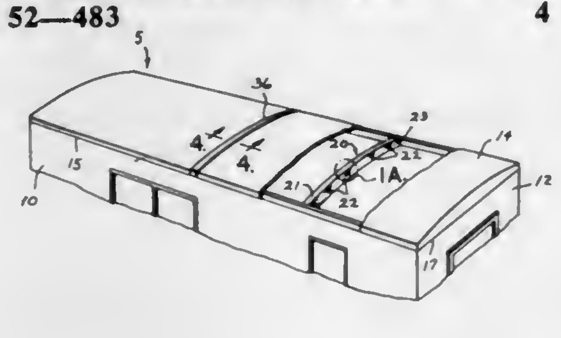
Arthur R. Tennison, 4041 Edwards Road, Batavia Township, Clermont County, Ohio 45209
Filed Apr. 11, 1968, Ser. No. 720,611
Int. Cl. E01c *11/10*
U.S. Cl. 52—396 **3 Claims**

An assembly for bridging an expansion joint which comprises an elongated insert strip of channel shape for mounting in the expansion joint and an elongated bridging strip having a leg portion receivable in the interior of the insert strip, and outwardly extending wall engaging flanges for bridging the expansion joint.



3,508,370
SHEET METAL ROOF STRUCTURE WITH MAGNETIC ANCHOR MEANS BETWEEN THE FIXEDLY SECURED MARGINS THEREOF

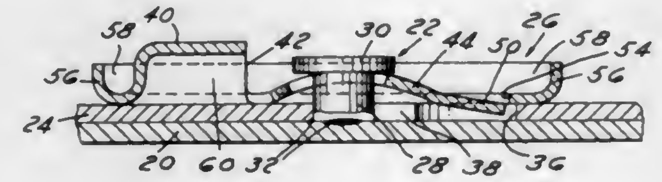
John R. Riblet, Elkhart, Ind., assignor to Riblet Products, Inc., Elkhart, Ind., a corporation of Indiana
Filed Aug. 19, 1968, Ser. No. 753,588
Int. Cl. E04d *1/34;* **B62d** *25/06*
U.S. Cl. 52—483 **4 Claims**



A home or building structure having sheet metal roof panels fixedly secured to inner support members and including magnetic means carried by the support members spaced from points of fixed securement between the panels and the support members so as to magnetically anchor the paneling to the support members.

3,508,371
STRUCTURAL ASSEMBLY AND CLIP

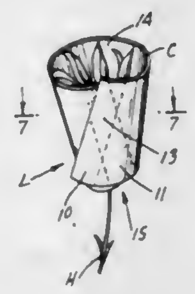
Engelbert A. Meyer, Union Lake, Mich., assignor to Warren Fastener Corporation, Mount Clemens, Mich., a corporation of Michigan
Filed Nov. 8, 1967, Ser. No. 681,520
Int. Cl. F16b *21/06, 21/09*
U.S. Cl. 52—717 **15 Claims**



This disclosure relates to a structural assembly including a support having a stud secured thereto, a structural member overlying the support having a keyhole slot receiving the stud adjacent the end of the slot, and a sheet metal clip overlying the structural member, tensioning the structural member against the support. The clip receives the stud in a slot which overlies the slot of the structural member, in opposed relation thereto, and a detent of the clip extends within the opening of the structural member to restrict withdrawal of the clip. One embodiment of the clip means disclosed herein includes a cover portion having an end reversely folded therebeneath to define an inclined ramp portion which receives the stud. The other embodiment has a cup-shaped portion which receives the button therebeneath, and an opposed inclined ramp portion which receives the stud. Each of the embodiments disclosed includes an upturned peripheral edge.

3,508,372
FLOWER PROTECTIVE SYSTEM

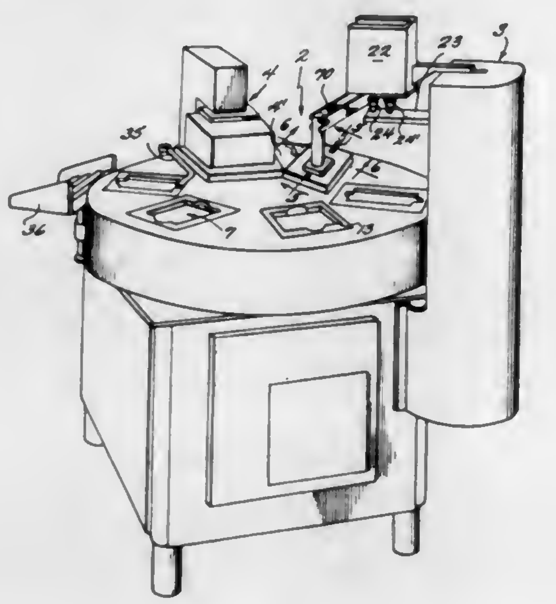
Lawrence B. Wallerstein, 87 Daisy Farms Drive, New Rochelle, N.Y. 10804, and William Bachman, 1000 Madison Ave., New York, N.Y. 10021
Application Apr. 24, 1962, Ser. No. 189,888, now Patent No. 3,271,922, dated Sept. 13, 1966, which is a continuation-in-part of application Ser. No. 856,251, Nov. 30, 1959. Divided and this application Sept. 13, 1966, Ser. No. 579,066
The portion of the term of the patent subsequent to Sept. 13, 1984, has been disclaimed
Int. Cl. B65b *25/02;* **B31b** *49/00;* **B31c** *13/00*
U.S. Cl. 53—3 **3 Claims**



The present invention relates to a rectangular wrapper in a package for readily damageable poinsettia petals and the like, in which, by use of cohesive rather than adhesive material at the opposite ends of a wrapper an enclosure may be formed which will not adhere to the petals and will not damage the same.

3,508,373
METHOD AND APPARATUS FOR EVACUATING AND GAS-FLUSHING PACKAGES

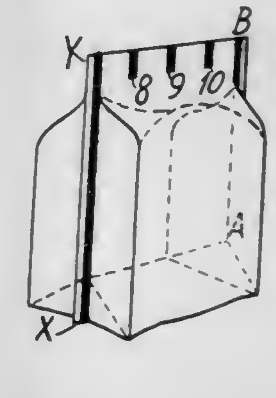
Glen P. Robinson, Jr., Atlanta, Ga., assignor to Scientific-Atlanta, Inc., Atlanta, Ga., a corporation of Georgia
Filed Sept. 20, 1967, Ser. No. 669,210
Int. Cl. B65b *31/04*
U.S. Cl. 53—12 **9 Claims**



A method of evacuating air from a package and replacing it with another gas in such way that the residual oxygen content is less than achieved during evacuation. A package is evacuated and simultaneously air is removed from a reservoir which communicates with an opening at one side of the package. After evacuation ceases, said other gas is introduced into the package at a point remote from the opening so that the reservoir applies suction through said opening and the other gas sweeps through the package, through the opening and into the reservoir, carrying residual air with it.

3,508,374
METHOD FOR MANUFACTURING BAGS OF THERMOPLASTIC MATERIAL AND BAG OBTAINED THEREBY

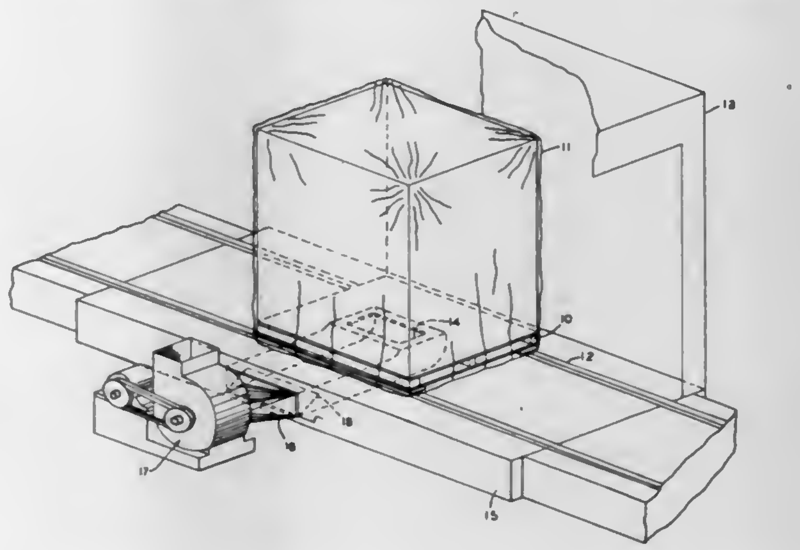
Guido Bertoglio, Lugano-Viganello, Switzerland, assignor to Centra Anstalt, Vaduz, Liechtenstein
Filed Nov. 20, 1967, Ser. No. 684,121
Claims priority, application Switzerland, Nov. 26, 1966, 16,961/66
Int. Cl. B65b *43/08*
U.S. Cl. 53—29 **5 Claims**



Bags of thermoplastic material are provided, which will stand upright. A bag blank comprising a tubular member having an inwardly recessing fold is welded along a plurality of transverse lines perpendicular to the fold and then cut off adjacent the welds to form open bags also having welded points at the ends of the open side. The bag is filled and then welded closed, and then rotated 90° so that the recessing fold is lowermost and ensures a stable support for the filled bag.

3,508,375
METHOD AND APPARATUS FOR COVERING A LOAD ON A PALLET

Harold Robert Myers, Waterville, Ohio, assignor to Larry L. Kaufman Company, Toledo, Ohio, a corporation of Ohio
Filed July 25, 1968, Ser. No. 747,565
Int. Cl. B65b *43/29*
U.S. Cl. 53—30 **6 Claims**

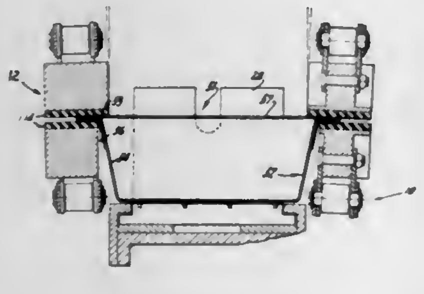


A method and apparatus for covering a load on a pallet by placing over the load an inverted bag made of heat-shrinkable film, heating the exterior of the bag, simultaneously withdrawing air from the lower end of the bag, as such a rate as to counteract expansion of air trapped in the bag as well as convection currents that tend to expand the bag during the heating, and continuing such withdrawal of air during subsequent cooling until the bag has shrunk to a taut condition around the load.

3,508,376
HEAT SEALING OF PLASTIC TRAYS

Robert P. Bemiss, Hillsborough, Calif., assignor, by mesne assignments, to Robert P. Bemiss and Alexander Donald

Filed May 12, 1964, Ser. No. 366,877
Int. Cl. B65b *7/00;* **B29h** *7/04*
U.S. Cl. 53—39 6 Claims

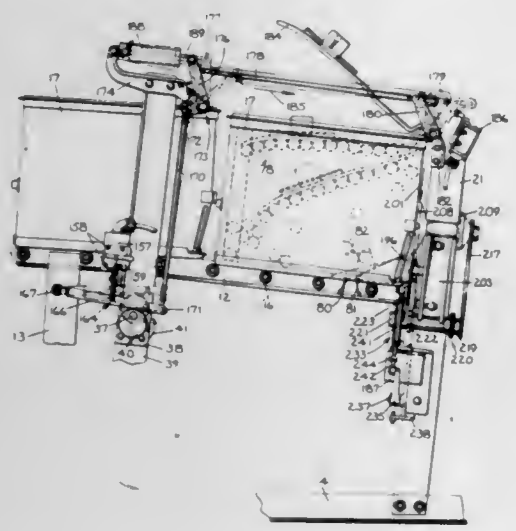


A method of high production closing of plastic trays by means of thermo-plastic coated lids, wherein, during continuous travel of the trays and lids as an assembly along a path, a pair of opposite side edges or lips of the trays and lids are subjected to a heating operation and subsequently to a sealing operation. The tray with the lid attached on two side edges thereof is then rotated 90 degrees while traveling, and, while traveling is continued, the other pair of opposite edges of the tray is subjected to linear heating and linear heat sealing operation overlapping the previous heat seals at the corners. During the travel, additional heat is applied from above so as to penetrate through the lid and be available at the heat sealing surfaces of the lid.

3,508,377
BOBBIN LOADER

Waldo H. Banks, Hopedale, Mass., assignor, by mesne assignments, to The Carolina Patent Development Trust

Filed May 5, 1967, Ser. No. 636,439
Int. Cl. B65b *19/34, 39/12;* **B31c** *1/08*
U.S. Cl. 53—160 5 Claims

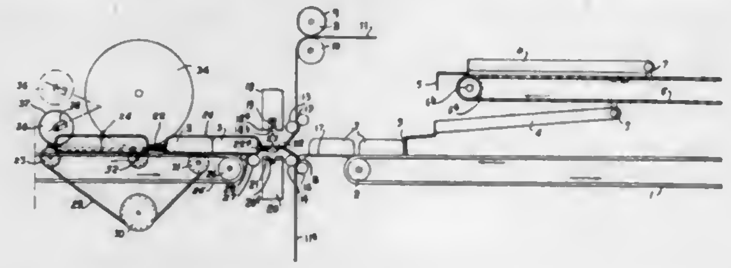


A bobbin loading apparatus having means for receiving stripped or empty bobbins and a further means for guiding said bobbins individually into a container of the type adapted for use with a bobbin donning machine.

3,508,378
PACKAGING MACHINE AND PACKAGE FORMED THEREBY

Isaac N. Fehr, Sidney E. Cannon, Dan Sutherland, William D. Goodman, Robert M. Ashcraft, and Frank S. Shelby, Dallas, Tex., assignors to Campbell Taggart Associated Bakeries, Inc., Dallas, Tex., a corporation of Delaware

Filed Feb. 7, 1967, Ser. No. 614,426
Int. Cl. B65b *9/02*
U.S. Cl. 53—180 10 Claims

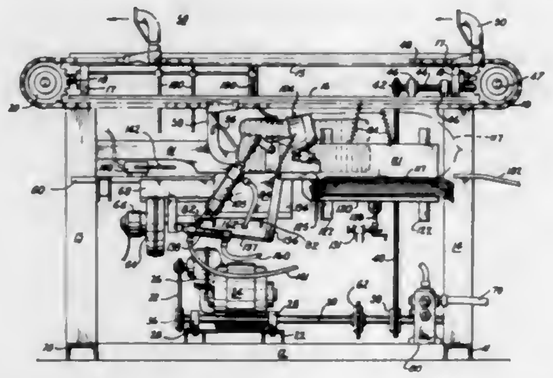


Packaging apparatus comprising a conveyor, push arms movable above the conveyor to push successive groups of articles to be packaged against plastic film to draw the film tightly around the articles. Cutting and sealing means is operably associated with the plastic film and the push arms to seal the film, forming a package snugly drawn around the articles. Means is provided for scoring and sealing the film to form packages divided into separate sealed package units.

3,508,379
BAGGING MACHINE

Billy P. Noyes and Howard L. Willard, Seattle, Wash., assignors to Alvin C. Formo

Continuation of application Ser. No. 299,948, Aug. 5, 1963. This application Aug. 5, 1968, Ser. No. 757,513
Int. Cl. B65b *1/02*
U.S. Cl. 53—189 10 Claims



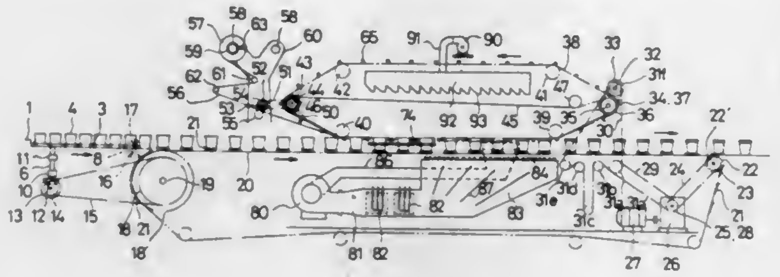
When an air jet has partially opened the mouth of a horizontal bag, a carriage carrying bag-opening jaws is moved toward the bag to shift such jaws in contracted condition into the partially-opened bag mouth. The jaws are then spread to distend the bag mouth. Pushers carried by an endless chain are moved orbitally to engage an article to be bagged and push it between the spread jaws into the bag and thereafter to move the bag and bagged article generally horizontally away from the bag pack and bag-opening jaws.

3,508,380
AUTOMATIC WRAPPING MACHINE

Hiroshi Nakamura, Kokubunji-shi, Tokyo, Japan, assignor to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed Feb. 26, 1968, Ser. No. 708,349
Claims priority, application Japan, Feb. 25, 1967, 42/11,731
Int. Cl. B65b *7/00, 7/28*
U.S. Cl. 53—329 4 Claims

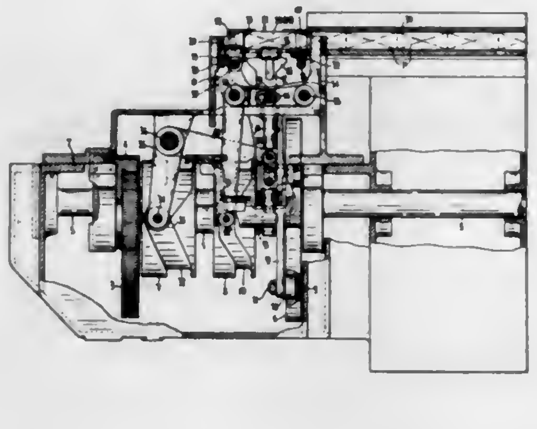
An apparatus for the continuous sealing of cup-shaped containers with a heat-shrinkable plastic film. A soft endless belt runs above and parallel to an endless cup-carrying conveyor and serves to pull the plastic film from a roll supply and to press the film against the rims of the containers while heat is applied to the exposed marginal portions. An endless chain runs on each side of the soft belt and carries film severing means transversely across the belt between each of the cups.



3,508,381
AUTOMATIC APPARATUS FOR THE DRYING OF THE GLUE AND THE TRANSFER OF PACKETS OF CIGARETTES AND THE LIKE FROM THE EXIT OF A PACKAGING MACHINE

Ariosto Seragnoli, Via Delle Rose 50, Bologna, Italy

Filed May 2, 1968, Ser. No. 726,140
Claims priority, application Italy, May 15, 1967, 1,652/67
Int. Cl. B65b *51/10*
U.S. Cl. 53—387 1 Claim



This disclosure relates to an automatic apparatus for drying the glued portions of—and for transferring—the packets of cigarettes egressing from a packing machine, comprising at least one column for receiving, in piles, the packets at the base of said column, the packets introduced in the column rising therein step by step and reaching the top of the column after the necessary drying time.

3,508,382
ADSORPTION PROCESS FOR ACIDIC GASES

Richard Joseph Schoofs, Moraga, Calif., and Robert John Kulperger, Weston, Ontario, Canada, assignors to Union Carbide Corporation, a corporation of New York

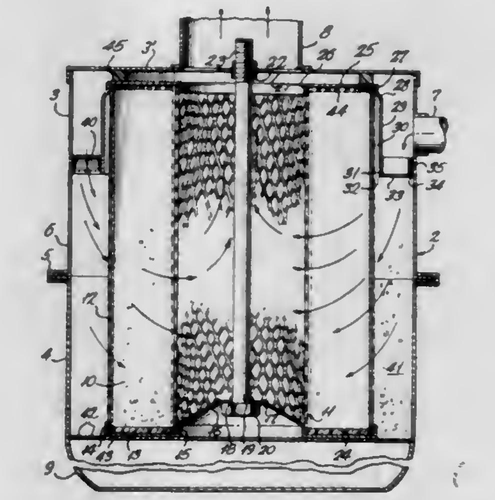
No Drawing. Filed Mar. 13, 1968, Ser. No. 712,610
Int. Cl. B01d *53/02*
U.S. Cl. 55—73 2 Claims

The adsorptive capacity of zeolitic molecular sieves for sorbable acidic compounds such as carbon dioxide is greatly enhanced by adsorbing relatively small amounts of ammonia on the zeolite in an activated state prior to contacting same with the acidic compound or a gas stream containing such acidic compound.

3,508,383
AIR FILTER

Kingsley E. Humbert, Jr., Gastonia, and Ernesto Buonpastore, Charlotte, N.C., assignors to Wix Corporation, Gastonia, N.C., a corporation of North Carolina

Filed Feb. 15, 1968, Ser. No. 705,844
Int. Cl. B01d *50/00*
U.S. Cl. 55—337 6 Claims

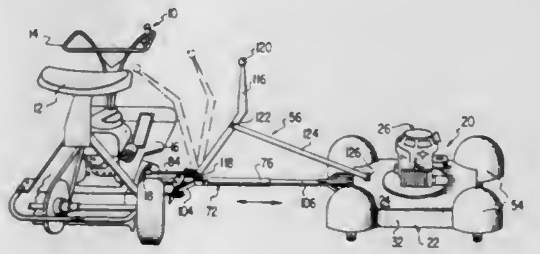


An air filter including a deflector as an end cap of the filter unit including a skirt, a first flange extending outwardly thereof provided with blades and a second flange extending in the same direction as the blades being in engagement with the housing which will cause the air to swirl within the housing and to thus separate the heavy dust particles from the air by swirling action before the air passes through the filter media wherein the remainder of the dust particles are separated from the air, and the deflector being spaced from the filter media so that the same is exposed in its entirety to the flow of air.

3,508,384
AUXILIARY MOWING APPARATUS AND CONTROL MOUNT THEREFOR

James A. Madre, Rte. 4, Box 452, Elizabeth City, N.C. 27909

Filed June 19, 1967, Ser. No. 646,972
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 5 Claims



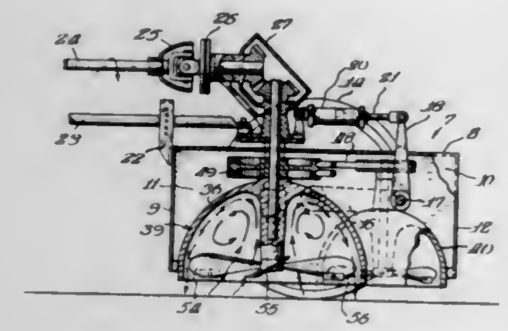
A control mounting assembly for the attachment of an auxiliary mowing apparatus on a powered main mower, the assembly being articulated for positioning at inclined operating angles, and an auxiliary mower having rotatable caster wheels.

3,508,385
MULTI-BLADE ROTARY MOWER

Ernest C. Carlson, Hinsdale, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 678,879
Int. Cl. A01d *35/26*
U.S. Cl. 56—25.4 1 Claim

A rotary mower is provided with fan blades and cutting elements mounted for rotation about a vertical drive shaft within a protective housing, the fan blades being adapted for developing a strong updraft generally parallel to the axis of blade rotation without concurrently developing significant lateral air movement so that all materials to be cut are urged upwardly for cutting at a uniform and even height. The protective housing for the mower is preferably of a generally hemispherical or dome-like interior contour, and is arranged with respect to the fan blades so that the upwardly directed air and the cut materials carried thereby are deflected outwardly and down the curved interior surface of the housing to discharge downwardly about the annular periphery of the housing. Other features are disclosed.



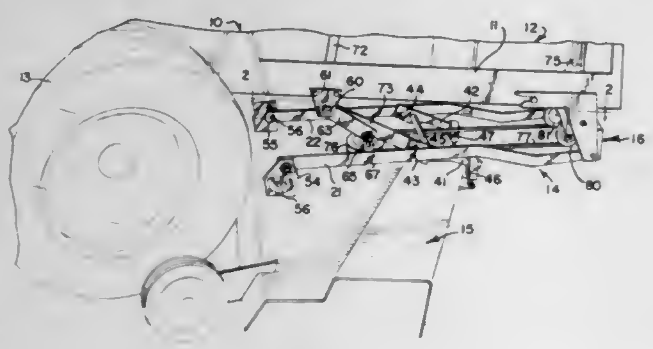
3,508,386
IMPLEMENT COUPLING AND SUPPORTING APPARATUS

Gerald N. Borchardt and George J. Hamouz, Clarendon Hills, and Frank M. Martin, Glen Ellyn, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed Jan. 8, 1968, Ser. No. 696,379

Int. Cl. A01d *35/26*

U.S. Cl. 56—25.4 **10 Claims**



An apparatus for quickly coupling a mower beneath the midsection of a tractor for vertical lifting and lowering movement. A draft linkage assembly is coupled through quick coupling means to the forward and rearward portions of the mower. The draft linkage assembly is pivotable from a mounting or anchor frame mountable on a self-locking hitch secured on the forward portion of the tractor. A lifting structure connects the draft linkage assembly to the tractor for raising and lowering the mower.

3,508,387
HARVESTING ATTACHMENT FOR COMBINE

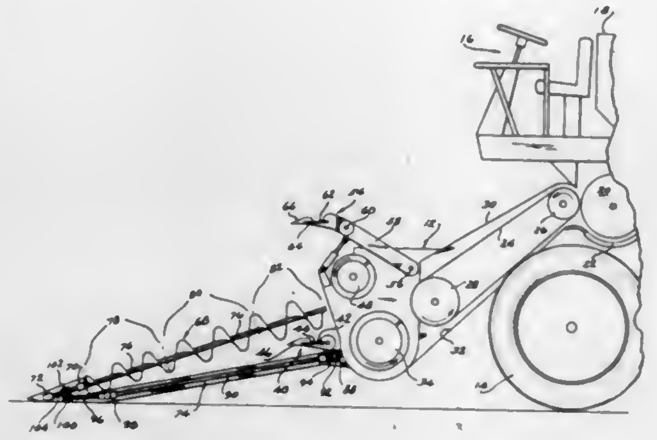
Bruce C. Wright, Davenport, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Nov. 15, 1967, Ser. No. 683,215

Int. Cl. A01d *45/02*

U.S. Cl. 56—95 **4 Claims**

A plurality of augers carried on the front of a combine and driven to gather and to convey the crop material rearwardly for delivery to the harvesting mechanism. The augers are spaced such that gathering and conveying of the material is accomplished regardless of the crop direction or row spacing of the plants.



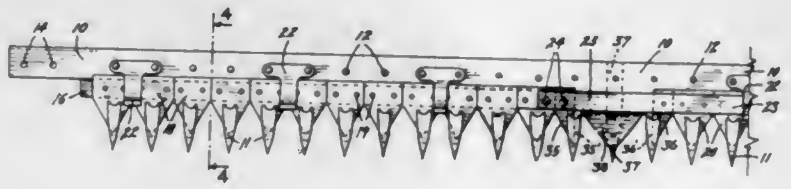
3,508,388
OPPOSITELY ACTING SICKLE BAR FOR MOWERS

John G. Buchholz, Roggen, Colo.
(Rte. 3, Sterling, Colo. 80751)

Filed Nov. 15, 1967, Ser. No. 683,304

Int. Cl. A01d *55/02*

U.S. Cl. 56—297 **2 Claims**



A mower cutter bar having conventional, spaced-apart guards projecting forwardly therefrom and two longitudinally aligned knife bars provided with conventional knife sections, in shearing engagement with said guards, positioned in slidable engagement with the forward edge of said cutter bar, each of said knife bars being substantially one-half the length of said cutter bar and having means for longitudinally and simultaneously reciprocating the two knife bars in opposite directions.

3,508,389
PROCESS AND APPARATUS FOR PRODUCING NOVELTY YARNS

Remy Chatin, Chavanoz, France, assignor to Societe Moulinage et Retorderie de Chavanoz, Chavanoz, France, a corporation of France

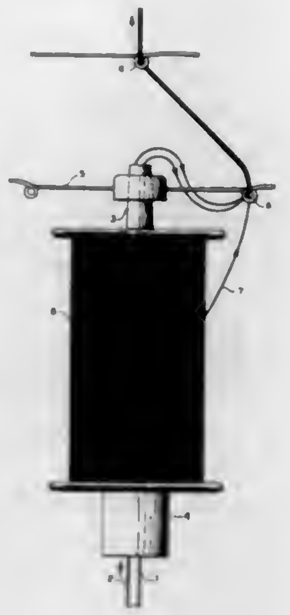
Filed Sept. 3, 1968, Ser. No. 756,850

Claims priority, application France, July 20, 1967, 48,941; Nov. 22, 1967, 49,361; Mar. 14, 1968, 49,767; Mar. 29, 1968, 49,838

Int. Cl. D02g *3/36*

U.S. Cl. 57—16 **15 Claims**

An improved process and apparatus for producing novelty yarns, i.e. of the "bouclé," undulated or knop type wherein a false twist is applied to an assembly of a core yarn and an effect yarn overfed relatively to the core yarn with subsequent binding with a binder yarn before disappearance of the false twist, the improvement comprising binding said assembly of core yarn and effect yarn with the binder yarn at the moment of locking of the false twist.



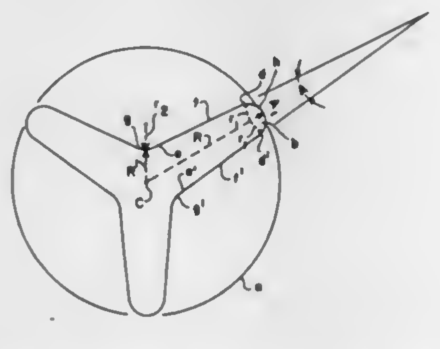
3,508,390
MODIFIED FILAMENT AND FABRICS PRODUCED THEREFROM

Harry R. Bagnall, Norwalk, Conn., and Maurice S. Moore, Jr., Hopewell, Thomas E. Adamson, Richmond, and Forrest S. Wiggins, Chester, Va., assignors to Allied Chemical Company, New York, N.Y., a corporation of New York

Filed Sept. 30, 1968, Ser. No. 763,859

Int. Cl. D02g *3/00*

U.S. Cl. 57—140 **26 Claims**



A fine denier filament of a synthetic polymer having an essentially uniform cross-section along its length. The cross-section of the filament consists of three integrally joined, substantially symmetrical legs which form a substantially uniform Y-shaped cross-section. The cross-section has a tip radius ratio and a straight side ratio within the range represented by the area TUVW on FIGURE 2 of the drawing, and a modification ratio within the range from about 2.7 to about 5.0.

3,508,391
ELECTRONIC CONTROLLED TIME PIECE

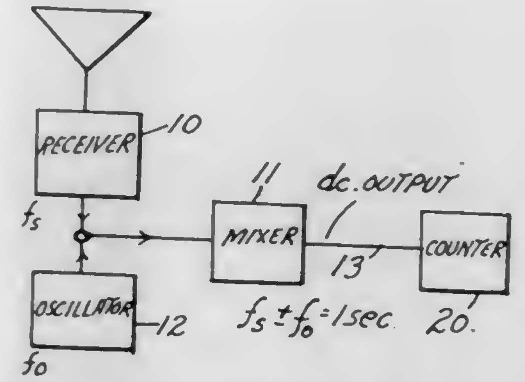
Ray H. Lee, 2 Sturgis Road, Kendall Park, N.J. 08824

Filed Aug. 26, 1966, Ser. No. 575,940

Int. Cl. G04c *9/00*

U.S. Cl. 58—23 **6 Claims**

An electronically controlled time piece controlled by a standards signal from the Bureau of Standards time signal broadcasts consisting of a receiver for receiving the standards signals and developing therefrom a one second pulse of standards accuracy, a clock movement controlled by this pulse through a plural units ring shift register, seconds, minutes and hours, indicative of dual states of excitation and a visual time piece for displaying time movements responsive to said shift register as developed by the standards signals to display the actual time.



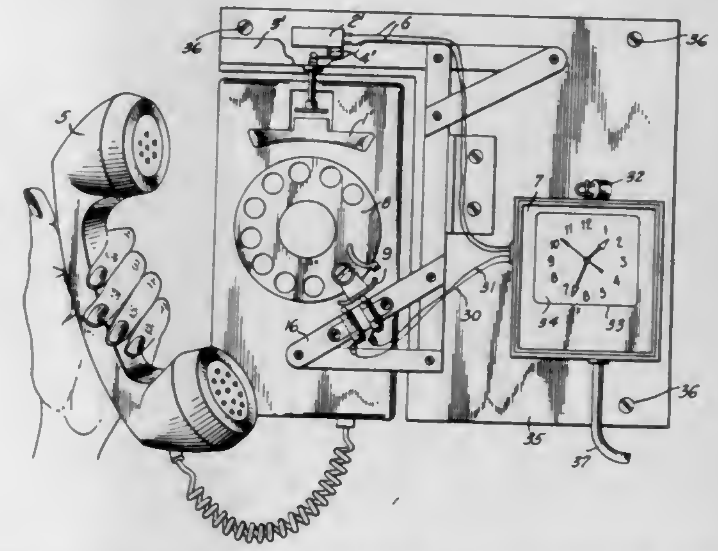
3,508,392
TELEPHONE CLOCK

Alfred Temps, Jr., 114 Beach Road, Massapequa, N.Y. 11758

Filed Feb. 20, 1967, Ser. No. 621,392

Int. Cl. G04b *15/20*

U.S. Cl. 58—145 **1 Claim**



This invention relates to means for recording the duration of outgoing telephone calls from a dial type telephone receiver. This telephone clock mechanism is completely external to the telephone receiver electrical circuits. It is activated and appropriately deactivated solely by the mechanical operations performed by a user in the placing of a telephone call and subsequently in the termination of a telephone call. In particular, the motions normally associated with the external telephone dial and the receiver hook in the placing and terminating of a call are used to trip switches which activate and deactivate the telephone clock mechanism.

3,508,393
LOW FRICTION STIRLING ENGINES AND CHEMICAL HEATING MEANS

Donald A. Kelly, New York, N.Y.
(50—6 69th Place, Maspeth, N.Y. 11378)

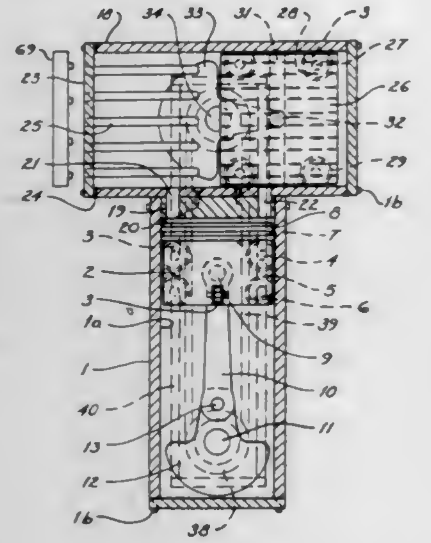
Filed Sept. 17, 1968, Ser. No. 760,256

Int. Cl. F03g *7/06*

U.S. Cl. 60—24 **9 Claims**

The low-friction Stirling engine is comprised of power and displacer elements which are suspended in their respective rectangular housings by large ball or roller bearings. A unique feature of the "pistons" is that they are square or rectangular so that the ball or roller bearings may be readily matched to the flat faces.

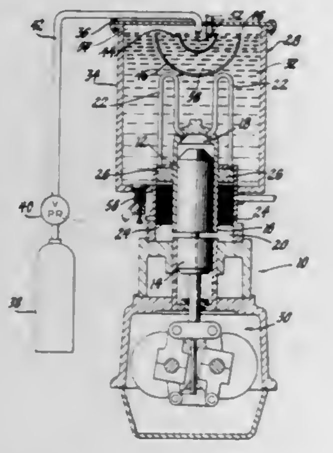
The engines are advocated in two versions: the first is a T, twin reciprocating block type and the second a half-rotary, high-speed type.



A chemical heating means is described which provides an economical, low air pollution, convenient heating source.

3,508,394
INITIATION OF ALKALI METAL-HALOGEN REACTION IN COMBUSTION SYSTEMS

Stephen F. De Nagel, Roseville, and Michael T. Tsou, Farmington, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 25, 1968, Ser. No. 770,524
Int. Cl. F01k *25/08;* **F03g** *7/06*
U.S. Cl. 60—24 8 Claims

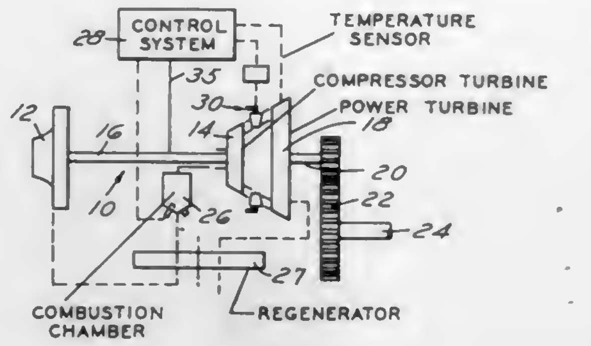


A technique of igniting and sustaining an alkali metal fuel-fluorine containing oxidizer combustion system has been devised for use when the fuel is initially in the unreactive solid state. Preferably a minor portion of the fuel charge is thermally insulated from the rest of the fuel. This minor fuel portion is melted by the use of electrical energy from an external source and ignited with the gaseous oxidizer, the resulting heat of combustion being used to melt and heat the balance of the fuel charge to a combustion sustaining temperature.

3,508,395
CONTROL SYSTEM FOR MOTOR VEHICLE TYPE GAS TURBINE ENGINE

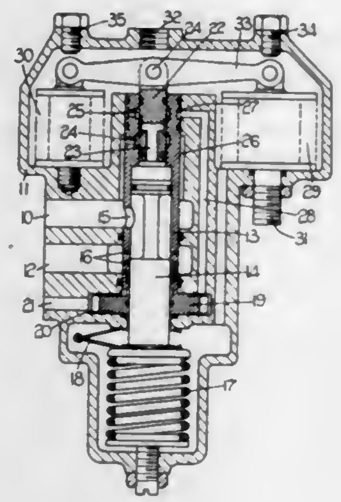
Thomas M. Sebestyen, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Apr. 1, 1968, Ser. No. 717,536
Int. Cl. F02c *3/10, 9/08, 9/10*
U.S. Cl. 60—39.25 10 Claims

A control system for an engine having power turbine inlet nozzles that are adjustable, the system including a speed versus throttle setting regulator controlling fuel flow during steady state operation to maintain the speed constant, and an acceleration fuel flow regulator controlled directly by engine operating temperature changes to provide desired acceleration without overtemperaturing the engine or causing the compressor to surge.



3,508,396
FUEL CONTROL APPARATUS FOR GAS TURBINE ENGINES

Richard Joseph Ifield, Sydney, New South Wales, Australia, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed July 25, 1968, Ser. No. 747,638
Int. Cl. F02c *9/08*
U.S. Cl. 60—39.28 5 Claims

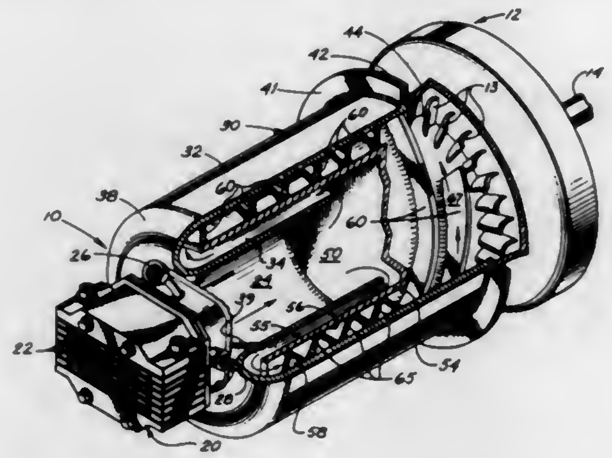


Fuel control apparatus for gas turbine engines comprising a throttle which controls the flow of fuel to the engine, a valve for controlling the escape of fuel past the throttle to provide a fuel pressure which is used to position the throttle, a pair of capsules the lengths of which are dependent upon fluid pressures obtained from the compressor stage of the engine, a lever mechanism connecting the capsules and the valve, the length of one capsule being dependent upon the ratio of two fluid pressures obtained from the compressor, and the length of the other being dependent upon the higher of the two pressures, such that when the ratio is below a predetermined limit the valve is positioned in response to both pressures, but when the ratio is above the predetermined limit the valve is positioned in response to the higher of the two pressures, and stops for limiting the travel of the lever mechanism.

3,508,397
RESONANT COMBUSTOR WITH REVERSE BEND EXHAUST PASSAGEWAYS

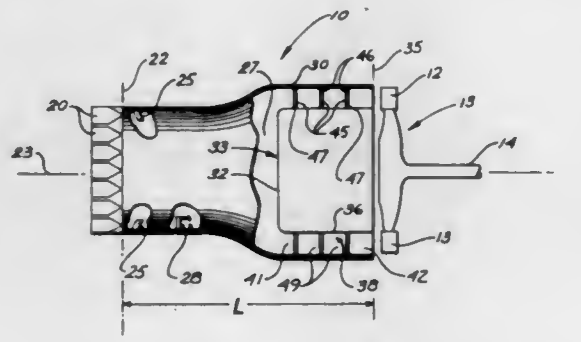
Robert S. Siegler, Hidden Hills, and Robert L. Binsley, Sepulveda, Calif., assignors to North American Rockwell Corporation
Filed Mar. 14, 1968, Ser. No. 713,180
Int. Cl. F02c *5/10*
U.S. Cl. 60—39.77 13 Claims

A resonant or pulse jet-type combustor having an annular exhaust passageway of reverse bend configuration. The exhaust passageway has radial inner and outer passageway portions in which laterally spaced, spirally oriented vanes are disposed to form spirally oriented passageways. The spiral passageways may be hollow for conducting coolant fluid. By this arrangement the required acoustical length is of tortuous configuration so that the overall end-to-end combustor length is substantially decreased.



3,508,398
RESONANT COMBUSTOR WITH SPIRAL EXHAUST PASSAGEWAYS

Robert S. Siegler, Hidden Hills, Robert L. Binsley, Sepulveda, and Eugene B. Zwick, Northridge, Calif., assignors to North American Rockwell Corporation
Filed Mar. 25, 1968, Ser. No. 715,820
Int. Cl. F02c *5/10*
U.S. Cl. 60—39.77 11 Claims

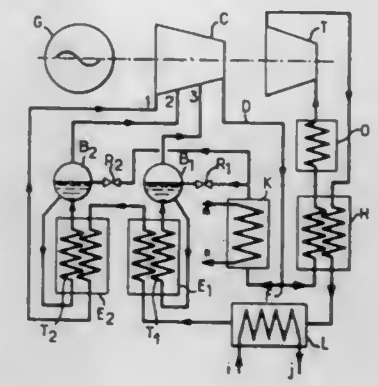


A pulse jet-type or resonating combustor having an annular space incorporating a plurality of laterally spaced, spirally oriented vanes. Adjacent vanes and the walls defining the annular space form spiral exhaust passageways. The axial length of the combustion chamber combined with the longitudinal spiral length of an exhaust passageway equals the acoustical length for achieving resonant combustion. The configuration of the exhaust passageways allows the end to end length of the combustor to be shorter than the overall acoustical length.

3,508,399
GENERATION OF ENERGY IN A CLOSED GAS CYCLE

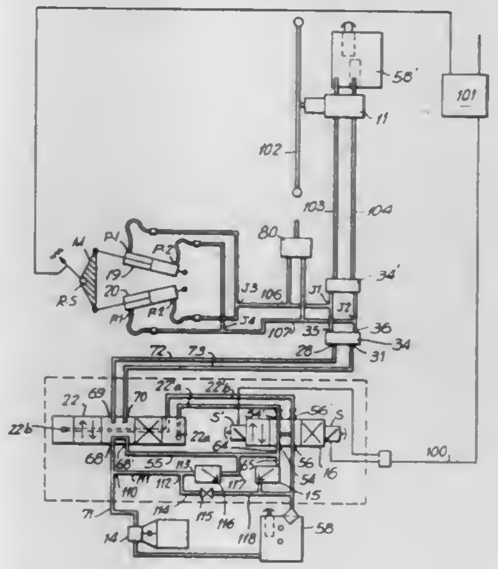
Pierre Henri Pacault, Ville d'Avray, and Francis J. Mary, Paris, France, assignors to Babcock-Atlantique Société Anonyme, Paris, France, a corporation of France
Filed Jan. 3, 1969, Ser. No. 788,894
Claims priority, application France, Jan. 18, 1968, 136,465
Int. Cl. F01k *25/00, 25/06;* **F25b** *25/00*
U.S. Cl. 60—49 8 Claims

Apparatus for generation of energy in a closed gas cycle includes a compressor for a working fluid and a refrigerating machine operating in a gas cycle employing mechanical compression of a cold-producing fluid, which step is performed in the compressor for the working fluid. The two fluids may or may not be identical.



3,508,400
POSITION CONTROL SYSTEM

Jean Mercier, 501 Bloomfield Ave., Caldwell, N.J. 07006
Continuation-in-part of application Ser. No. 713,580, Mar. 18, 1968. This application July 2, 1969, Ser. No. 838,471
Claims priority, application France, July 11, 1968, 158,756
Int. Cl. F15b *15/18, 15/26;* **B63h** *25/22*
U.S. Cl. 60—52 7 Claims

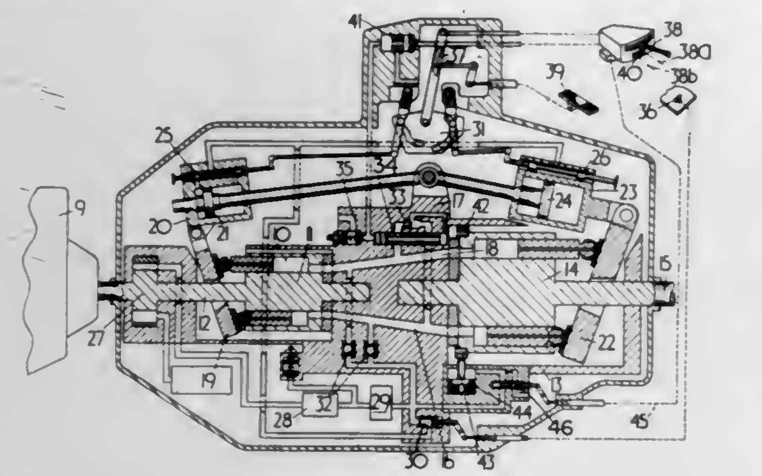


A hydraulic system for controlling the position of a movable member such as a rudder shaft by an electrically controlled pilot valve which in turn controls a hydro-valve to connect a high pressure source of fluid under pressure to a hydraulic actuator for said rudder shaft, hydraulic circuit means being provided to insure that the hydro-valve will be supplied by said pilot valve with a low pressure source of fluid under pressure for actuation thereof when said hydro-valve is in either of its extreme operating positions.

3,508,401
HYDRAULIC TRANSMISSION MECHANISM

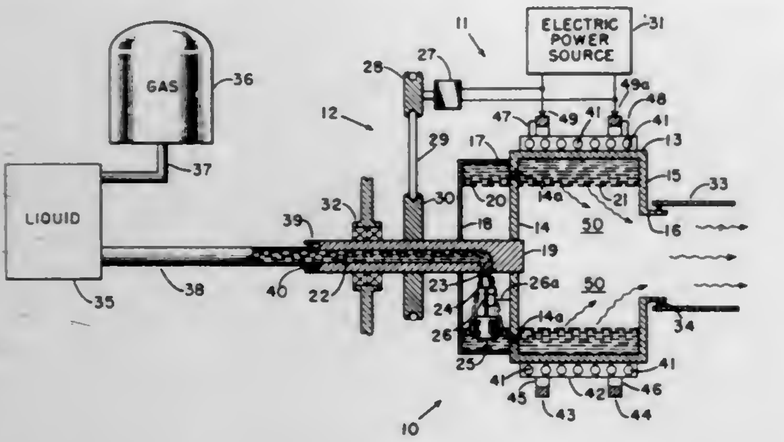
Neville Frederick Aplin, Ainsdale, Southport, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England,
Filed Sept. 10, 1968, Ser. No. 758,860
Int. Cl. F15b *15/18;* **F04b** *49/00*
U.S. Cl. 60—53 5 Claims

A hydraulic transmission mechanism comprising a fluid operable motor, a variable stroke pump for supplying motive fluid to the motor through a closed circuit, and a control lever movable by an operator to change the stroke of the pump between zero stroke (corresponding to a neutral position of the transmission) and maximum stroke to vary the speed ratio between the rotary parts of the pump and motor, characterised by valve means arranged to by-pass the pump output when the control lever is moved to an alternative neutral position.



3,508,402
BOILER FOR GENERATING HIGH QUALITY VAPOR

Vernon H. Gray, Bay Village, Ohio, and Allan W. Joslyn, Houston, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 6, 1967, Ser. No. 666,554
Int. Cl. F01d *1/00;* **F22b** *5/00*
U.S. Cl. 60—108 **15 Claims**

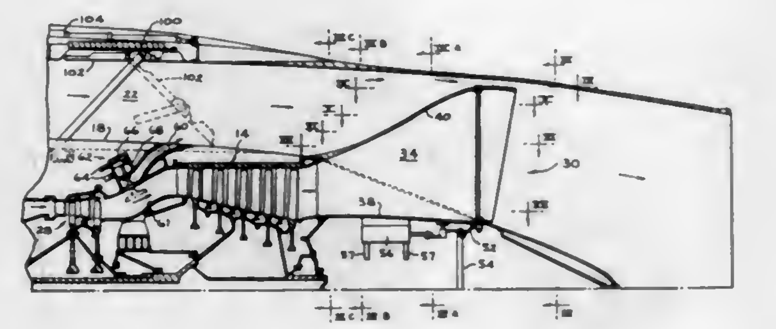


A boiler for supplying high quality vapor from a liquid by imparting a high angular velocity to the liquid to form a liquid annulus in a heated, rotating drum whereby a sharp interface is produced between the liquid phase and the vapor phase in the drum.

3,508,403
TURBOFAN ENGINES

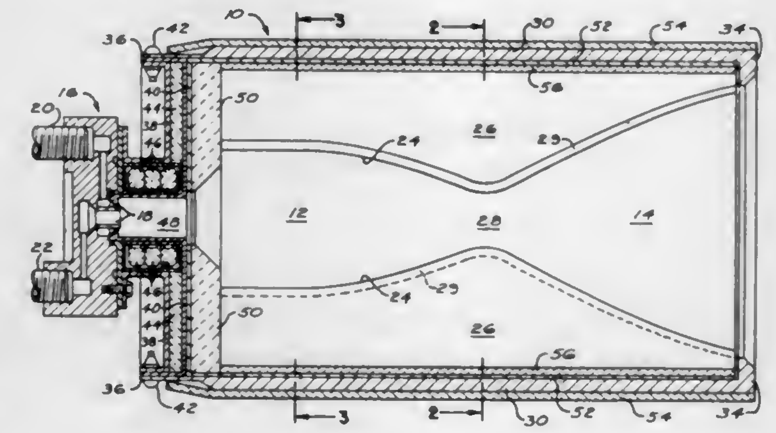
Robert E. Neitzel, Marblehead, Mass., assignor to General Electric Company, a corporation of New York
Filed Mar. 28, 1968, Ser. No. 716,943
Int. Cl. F02k *3/02*
U.S. Cl. 60—226 **30 Claims**

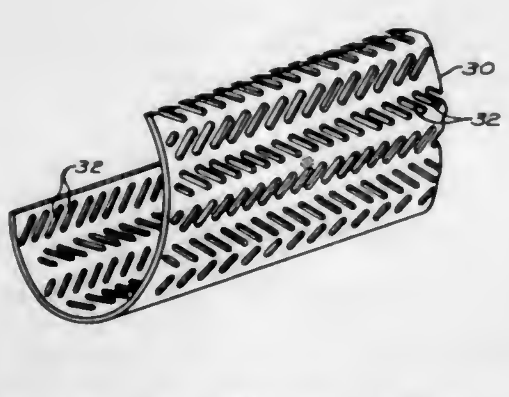
The disclosure shows a turbofan engine in which the hot gas stream of its core engine is mixed by a lobed mixer with the pressurized fan stream. The fan stream duct maintains the fan stream at a relatively high velocity, then decelerates it at the mixer entrance, and then accelerates it through the mixer, all to minimize energy losses. The mixed streams are discharged from a common propulsive nozzle. Means are provided for reducing the discharge area of the hot gas stream from the mixer. This reduces fan speed and the noise generated by the fan, under conditions of reduced thrust output where noise is a critical factor. Aerodynamic overloading of the core engine compressor is prevented and a further reduction in fan speed is attained by diverting a portion of the hot gas stream, from a point intermediate the core engine turbine and the fan turbine, into the fan stream. Control means are provided for increasing fuel flow to maintain a desired thrust output when fan speed is reduced to obtain noise reduction. A thrust reverser cascade is provided in the outer cowl of the engine. Blocker doors divert fan flow through the cascade to obtain a reversal of thrust. When this is done, the thrust of the hot gas stream is "spoiled," thereby providing a desired reverse thrust capability in an extremely simple fashion.



3,508,404
SUPPORT MEMBER FOR RESTARTABLE ROCKET ENGINES

Michael T. Gavrun, Bayonne, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Continuation-in-part of application Ser. No. 437,072, Mar. 4, 1965. This application June 24, 1968, Ser. No. 739,315
Int. Cl. F02k *9/00;* **B64d** *33/04*
U.S. Cl. 60—271 **17 Claims**

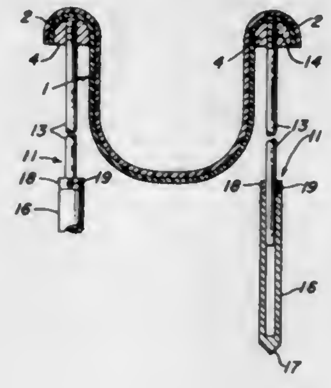




A rocket engine or nozzle formed of wedge-shaped segments, subject to circumferential expansion, and surrounded, supported, and maintained in gas-tight relationship by an annular, metallic, elastically contractile-expansible member.

3,508,405
SECTIONAL FLUME AND MEANS TO SUPPORT THE SAME

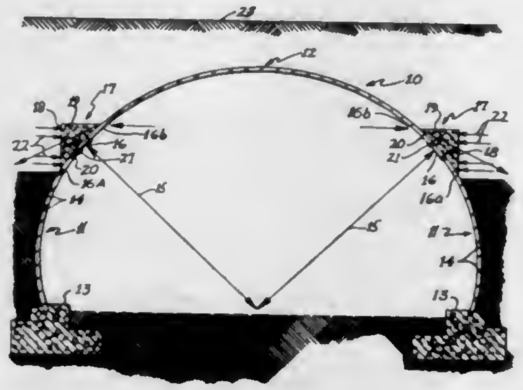
William L. Koch, San Francisco, Calif., assignor to H. Koch & Sons, Inc. Corte Madera, Marin County, Calif., a division of Global Systems, a Gulf Western company
Filed Oct. 31, 1968, Ser. No. 772,243
Int. Cl. E02b *9/04*
U.S. Cl. 61—14 **6 Claims**



The sections of the flume are made of firm plastic material, such as fiberglass reinforced plastic, and have trough-like cross-section having outwardly curved flanges along the free longitudinal edges; the curved flanges at one end of each section are reduced so that the wider ends of the flanges at the meeting end of the next section can be fitted over reduced ends; a solid fastening block is inserted under each curved flange and is secured to the overlapping flange; the fastening blocks are threaded for selective engagement either by adjustable standards or by a hook or eye for suspension wires; the overlapping portions have a narrow rib around the outside of the trough resting in a recessed sealing pad in the overlapping end of the adjacent section.

3,508,406
COMPOSITE ARCH STRUCTURE

Christopher L. Fisher, Winnipeg, Manitoba, Canada, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 677,278, Oct. 23, 1967. This application June 10, 1969, Ser. No. 834,219
Claims priority, application Canada, Oct. 15, 1968, 32,435
Int. Cl. F16l *9/22;* **E01g** *5/06;* **E21d** *9/00*
U.S. Cl. 61—16 **23 Claims**



A composite arch structure and method of making it. The composite arch structure comprises a pair of flexible retaining wall portions and a top portion extending therebetween. Longitudinally extending load spreading means are provided on either side of the vertical axis of the structure at positions where a radial force acting on the structure forms an angle of about 45° or more to the horizontal.

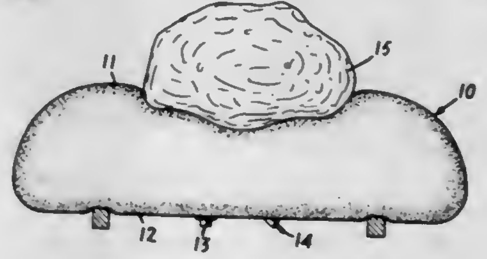
3,508,407
MINE BACKFILL PROCESS

Robert Ben Booth, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Mar. 4, 1968, Ser. No. 709,906
Int. Cl. F01k; F02b *13/10, 43/00, 47/00*
U.S. Cl. 61—35 **10 Claims**

A process for filling subterranean cavities by first charging into a cavity a high density water suspension of particulate mineral matter such as ore flotation tailings, sand, slag, which contains a water-reactive setting agent and a high molecular weight water-soluble polymer as a fines retaining agent. The water drains from the mixture after placement without simultaneous exudation of finely divided solids such as the setting agent. The remaining solid material sets to form a cohesive, stabilized load supporting structure.

3,508,408
SUPPORTING CUSHIONS

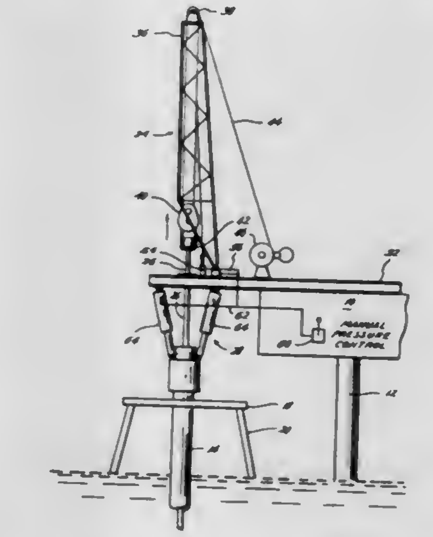
Daniel Lejeune, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison Sociale Michelin & Cie, Clermont-Ferrand (Puy-de-Dome), France
Filed July 18, 1968, Ser. No. 745,916
Claims priority, application France, July 20, 1967, 115,076
Int. Cl. E21d *15/44, 19/00*
U.S. Cl. 61—45 **9 Claims**



A pneumatic cushion for shoring up the roof of a coal mine or the like has two plies of oblique reinforcing textile cords extending helically therearound, the cords being wound in opposite senses. The cords form an angle with the longitudinal axis of the cushion greater than 54° and preferably about 70°. An additional ply of longitudinal metallic cords is provided at the lower surface of the cushion.

3,508,409
METHOD AND APPARATUS FOR HANDLING TUBULAR MEMBERS AT OFFSHORE LOCATIONS

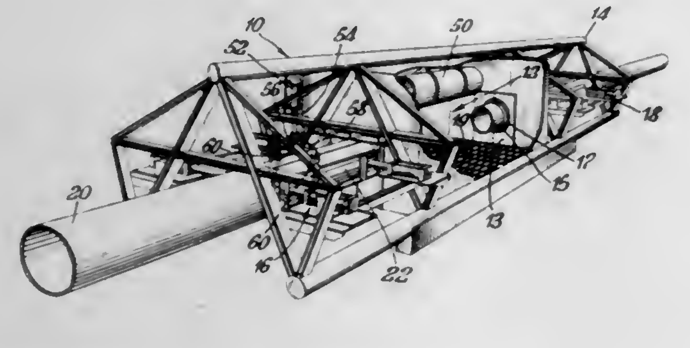
Neil H. Cargile, Jr., Cargile Road,
Nashville, Tenn. 37205
Filed Dec. 26, 1967, Ser. No. 693,597
Int. Cl. E02d *21/00;* **B63b** *35/44;* **E21b** *15/02*
U.S. Cl. 61—46.5 **6 Claims**



Method and apparatus for use with a workover or drilling rig, preferably water-borne, by a floatable structure with the rig normally cantilevered over the edge of the vessel above a well head or cased opening, said apparatus incorporating a means between the rig and the well for directing a generally upward force against the rig wherein the magnitude of the force is related to the hook load acting on the rig, to cancel the dynamic loading on the rig.

3,508,410
SUBMERGED PIPELINE REPAIR SYSTEM

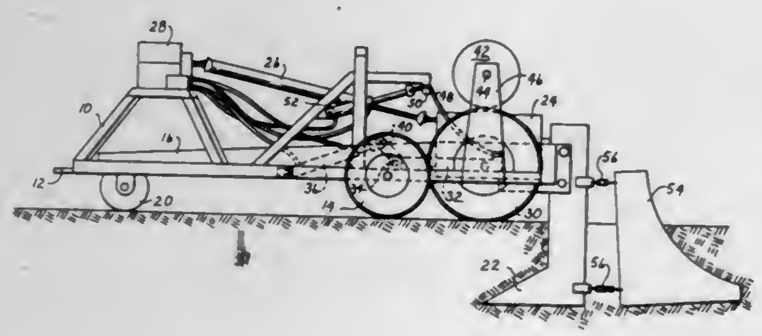
Robert P. Lynch, Alexandria, Va., assignor to Ocean Systems Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 30, 1968, Ser. No. 771,908
Int. Cl. B63c *11/00*
U.S. Cl. 61—69 **6 Claims**



In an underwater repair chamber adapted to straddle a submerged pipeline and having supply lines for introducing a pressurized gas to displace any water therein and maintain the same in a dry condition, the improvement comprising separate clamping mechanisms, such as pressure actuated cylinders and pistons, located externally of the chamber and mounted at each end of a rigid support structure for engaging the pipeline on opposite sides of the chamber to prevent any movement of the pipeline. The system is particularly effective in applications where it is necessary to sever a pipeline by cutting away a damaged section and replacing it with a new section. Preferably, the clamping mechanisms are self-adjusting to minor horizontal and vertical bends in the pipeline.

3,508,411
DOUBLE VIBRATING PLOW

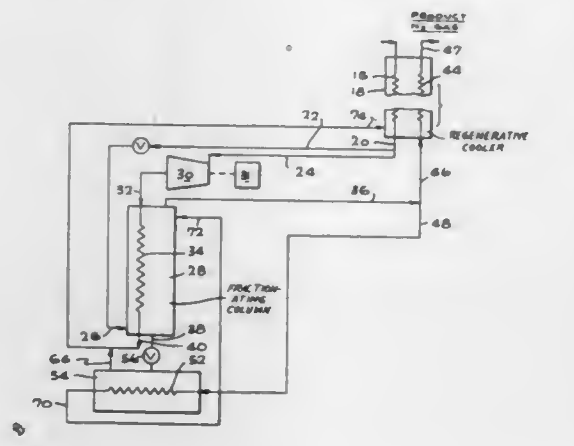
Thelmer A. Rogers, P.O. Box 1589, Lubbock, Tex. 79408
Filed Jan. 24, 1967, Ser. No. 611,401
Int. Cl. A01b *35/00*
U.S. Cl. 61—72.6 **5 Claims**



A plow on an inside frame with induced vibration is held in the ground by an outside frame. The pneumatic tires of the inside frame act as a double spring system, over the ground and under the outside frame, as shown in the drawing. Raising the plow out of the ground is achieved by moving the pneumatic tires down and by a cable system operated by hydraulic cylinders, as shown in the drawing.

3,508,412
PRODUCTION OF NITROGEN BY AIR SEPARATION

James D. Yearout, Rolling Hills, Calif., assignor, by mesne assignments, to McDonnell Douglas Corporation, Santa Monica, Calif., a corporation of Maryland
Filed Aug. 12, 1966, Ser. No. 572,135
Int. Cl. F25j *3/04*
U.S. Cl. 62—13 **16 Claims**

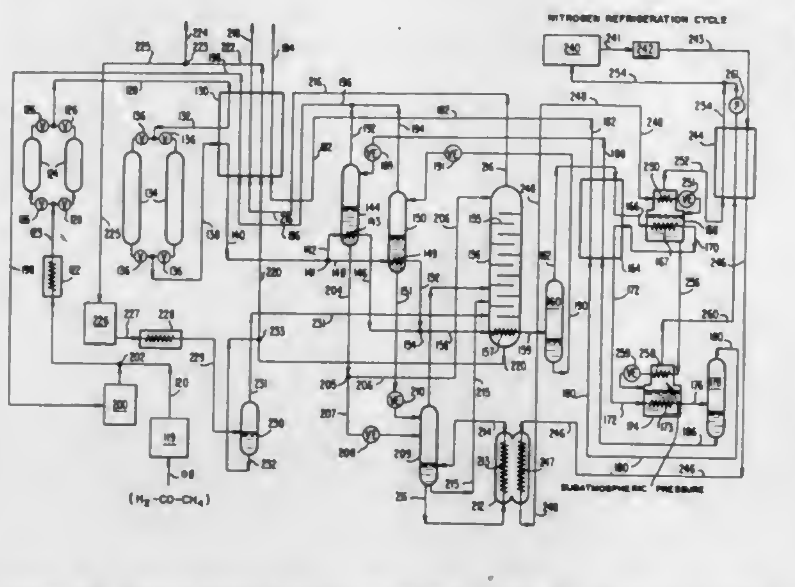


Process and system for the separation of nitrogen from air by rectification, employing a single fractionating column, and comprising a minimum number of components, involving regeneratively cooling compressed air feed, introducing a first portion, e.g., about 10% to about 75%, of the cool compressed air as feed into the lower portion of a fractionating column, work expanding the remaining portion of the cool compressed air, and passing the resulting further cooled and expanded air downwardly through the column in countercurrent heat exchange relation with the cold compressed air feed, to withdraw heat from the column throughout the entire height thereof, and effecting a differential distillation in the column, passing the heated, work-expanded air exiting the column into regenerative heat exchange relation with the compressed feed air for cooling same, withdrawing substantially pure cold, compressed nitrogen gas as overhead from the column, passing at least a portion of such nitrogen into heat exchange relation with the compressed air feed for cooling same, and recovering nitrogen product as gas and/or liquid, and condensing an oxygen-rich liquid in the lower portion of the column, which if desired can be expanded and employed for condensing a portion of the overhead nitrogen from the column.

3,508,413
LOW TEMPERATURE SEPARATION PROCESS OF NORMALLY GASEOUS MATERIALS BY PLURAL STAGE PHASE SEPARATIONS

John A. Pryor, Emmaus, Pa., assignor to Air Products and Chemicals, Inc., Allentown, Pa., a corporation of Delaware
Application Nov. 22, 1965, Ser. No. 513,648, now Patent No. 3,319,429, dated May 16, 1967, which is a continuation-in-part of application Ser. No. 274,489, Apr. 22, 1963. Divided and this application Mar. 9, 1967, Ser. No. 646,771
Int. Cl. F25j *3/02*
U.S. Cl. 62—24 **8 Claims**

Low temperature process for separation of a gaseous mixture into components. A gaseous mixture containing components of different boiling points is compressed, cooled and passed through a sequence of liquefaction and separation steps in cycles characterized by high thermal efficiency and low power requirements, to effect separation of the mixture into streams rich in the respective components.



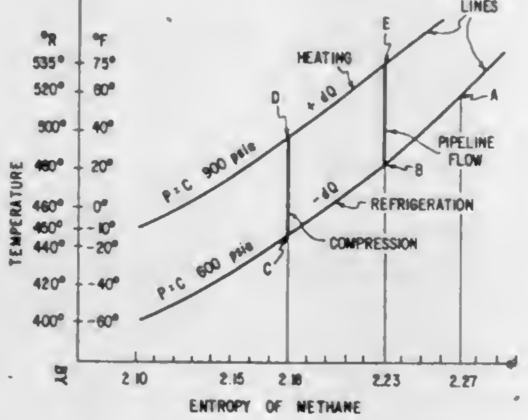
3,508,414
METHOD OF STORING HYDROGEN

Richard H. Wiswall, Jr., Brookhaven, and James J. Reilly, Jr., Bellport, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Mar. 5, 1968, Ser. No. 710,663
Int. Cl. F17c *11/00*
U.S. Cl. 62—48 **3 Claims**

A method for storing hydrogen whereby gaseous hydrogen is adsorbed by titanium-iron alloys at temperatures above 10° C. and pressures above 14 pounds per square inch.

3,508,415
NATURAL GAS TRANSMISSION POWER CYCLE

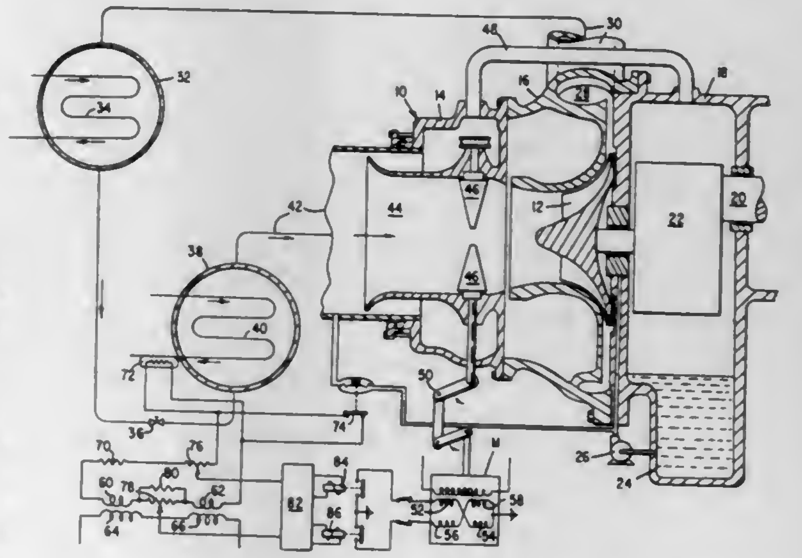
Eduardo Ospina-Racines, Apartado Aereo 49–45, Bogota, Colombia
Filed Apr. 23, 1968, Ser. No. 723,545
Int. Cl. F17c *7/02*
U.S. Cl. 62—52 **8 Claims**



The conventional gas transmission system and processes which comprise periodic compression of the gas stream followed by expansion of the gas in the pipeline is modified to include cooling the gas stream prior to compression and heating the gas stream after compression. By this modification a reversible power cycle is established at the compressor station which comprises four thermodynamic processes, namely heat rejection at constant pressure, compression of the gas, heat addition at constant pressure, gas expansion in the pipeline. By this modification the enthalpy of the gas is increased notably at the point of delivery into the pipeline, with the same compression ratio for the compression process. As a result of the increased energy imparted to the gas thereby, a greater volume of gas can be flowed in the same diameter pipeline or a smaller diameter pipe may be installed for a given volume flow, likewise the distance between compressor stations may be increased or combinations thereof with great technical and economic advantage over the conventional gas compressor system.

3,508,416
METHOD OF AND APPARATUS FOR CONTROLLING A REFRIGERATION MACHINE

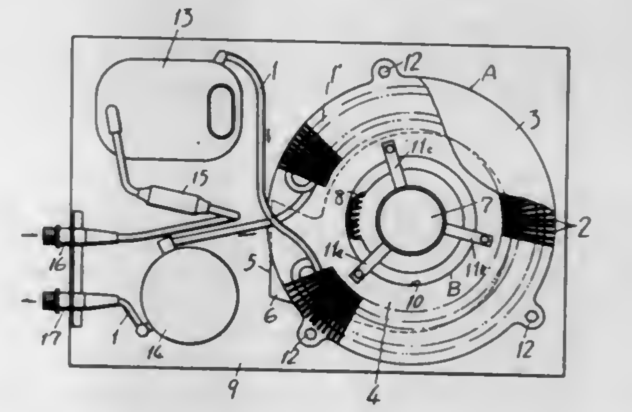
Charlie D. Miller, 141 Mosley Drive, Syracuse, N.Y. 13206
Filed Jan. 17, 1968, Ser. No. 698,552
Int. Cl. F25b *43/02*
U.S. Cl. 62—84 **6 Claims**



A control for regulating the operation of a capacity control device employed with centrifugal refrigeration machines. The control includes means responsive to the pressure developed by the lubricant pump for regulating the operation of the capacity control system of the machine to either reduce or eliminate "foaming" of refrigerant in the lubricant sump.

3,508,417
CONDENSING UNIT

Keiichi Kimura, Osaka-fu, Yao-shi Osakabe 304–2, Yao, Japan
Filed Feb. 6, 1968, Ser. No. 703,347
Claims priority, application Japan, Aug. 6, 1967, 42/67,658
Int. Cl. F25b *39/04;* **F28b** *1/06*
U.S. Cl. 62—428 **1 Claim**



A refrigeration condenser, compressor and receiver are mounted on a platform with a blower. The blower draws air in radially through the circular condenser and discharges the air over the compressor and the receiver to cool the components.

3,508,418

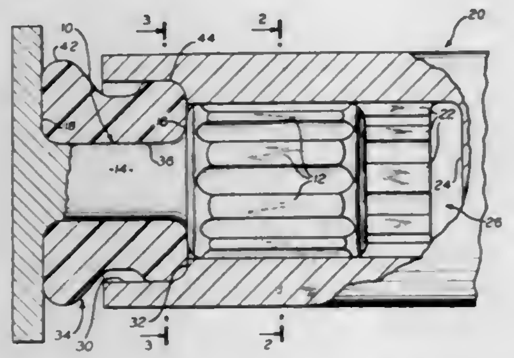
SPLINE CLOSURE SEAL

David W. Jones, East Northport, N.Y., assignor to C. E. Conover & Co., Inc., Fairfield, N.J., a corporation of New Jersey

Filed July 30, 1968, Ser. No. 748,775

Int. Cl. F16d *3/06*

U.S. Cl. 64—23 **7 Claims**



The combination of a seal on which a splined shaft, at the end of the sleeve into which the splines of the shaft fit, forms a closed cavity in the sleeve in which lubrication can be entrapped, excludes air, ambient moisture and abrasive particles so that the spline connection operates for a much longer time without deterioration. The elastomeric device used to make the seal is so shaped and of such elastic properties that it can be combined with conventional spline connections with little or no reworking of the metal parts.

3,508,419

GUIDE BAR SWINGING MOTION FOR A RASCHEL KNITTING MACHINE

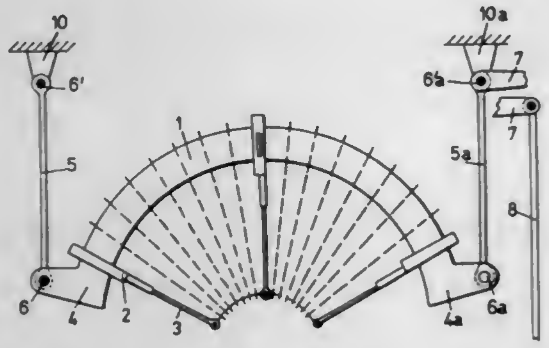
Karl Kohl, Offenbacher Landstrasse, Hainstadt (Main), Germany

Filed June 25, 1968, Ser. No. 739,842

Claims priority, application Germany, July 5, 1967, 1,635,859

Int. Cl. D04b *23/00*

U.S. Cl. 66—86 **4 Claims**



The guide bar hanger of a raschel machine is suspended from the machine frame by a pair of pivots on the hanger and a pair of pivots on the frame, and links connecting the pivots in a four-bar linkage or parallelogram suspension. The arrangement permits more guide bars to be used effectively than the conventional, pivotally mounted hanger.

3,508,420

CIRCULAR KNITTING MACHINE FOR THE MANUFACTURE OF RUNPROOF STOCKINGS

Richard Parthum, Copenhagen, Denmark, and Riccardo Tenconi, Varese, Italy, assignors to Texpatent GmbH, Fribourg, Switzerland, a corporation

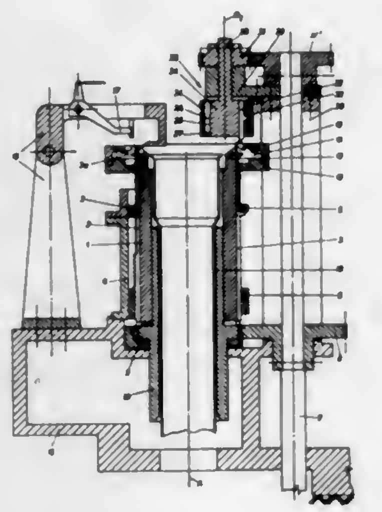
Filed Aug. 21, 1967, Ser. No. 662,062

Claims priority, application Germany, Aug. 26, 1966, T 31,920

Int. Cl. D04b *15/02*

U.S. Cl. 66—95 **16 Claims**

A circular knitting machine having transfer means thereon for the lateral transfer of stitches to produce runproof stockings. The transfer means comprises a movable carrier element eccentrically positioned with respect to the needle cylinder, which carrier element has a plurality of substantially axially extending slots containing longitudinally movable transfer elements therein. The circular path of movement of the transfer elements is positioned adjacent to or intersects the circular path of movement of the knitting needles whereby the transfer elements engage the inside of the stitch or loop from above and transfer same radially outwardly into an adjacent row. Further, slight differences in the circumferential speed of the transfer elements and the knitting needles permit the transferred stitch to be moved laterally into an adjacent wale of stitches.



3,508,421

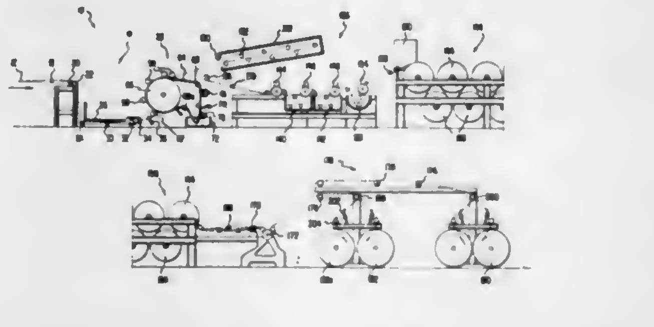
APPARATUS FOR DYEING TEXTILE STRANDS

William Dimond, Wayne, and Irving Brawer, Fair Lawn, N.J., assignors to Empire Pierce Dyeing & Finishing Co., Inc., Haledon, N.J., a corporation of New Jersey

Filed Jan. 26, 1965, Ser. No. 428,133

Int. Cl. D06f *37/00*

U.S. Cl. 68—5 **5 Claims**



A multiplicity of individual textile strands are dyed with a plurality of colors by inducing relative lateral movement between the strands and a plurality of color sources while simultaneously moving the strands longitudinally and applying color thereto. Strand filament separation is precluded during dyeing by rolling the strands during the lateral movement thereof. After dyeing, the strands are subjected to fixing, drying and finishing operations, and then are counter twisted and wound upon a receiving means.

3,508,422

RECIRCULATING DRY CLEANING SYSTEM

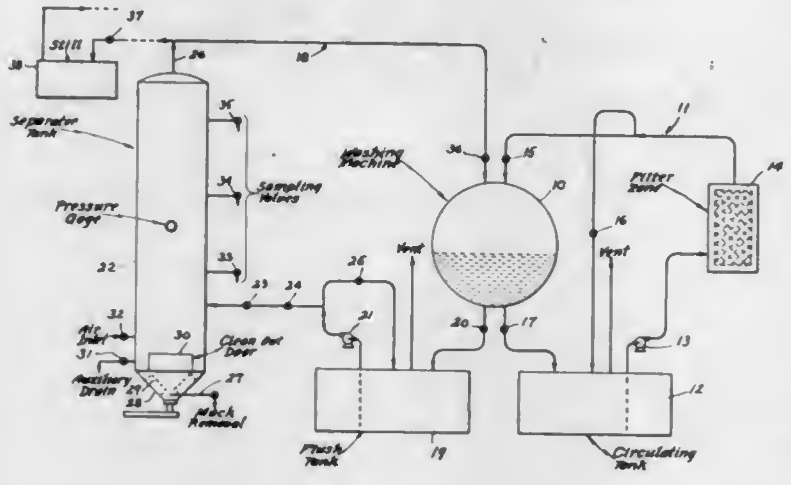
Steven Landon, Bayside, N.Y., assignor to Washex Machinery Corporation, Plainview, N.Y., a corporation of New York

Continuation of application Ser. No. 689,400, Dec. 11, 1967. This application June 9, 1969, Ser. No. 835,881

Int. Cl. D06f *29/00;* **B08b** *3/04*

U.S. Cl. 68—18 **6 Claims**

An industrial cleaning system using solvents including a washing machine having two solvent recirculating loops, one passing through a filter and a circulating tank, and the other passing through a flush tank and a vertically arranged separating tank maintained under pressure, with the input pressure at the bottom and output flow at the top arranged to establish a relatively low upward velocity such that a counterflow of soil solids occurs so that the effluent at the top is relatively free of dispersed soil particles. The effluent can be selectively passed either back to the washing machine or to the further purifying stage.



3,508,423

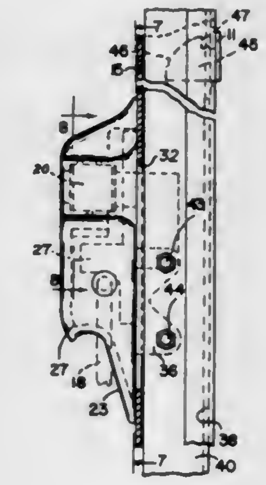
LOCKER HANDLE ACCESS CONTROL LOCK

Stanley F. Jackes, Creve Coeur, Bob G. Harrell, St. Louis County, and Joseph N. Miller, Overland, Mo., assignors to Jackes-Evans Manufacturing Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 555,586, June 6, 1966. This application July 5, 1968, Ser. No. 742,737

Int. Cl. E05c *19/10, 1/04;* **E05b** *65/02*

U.S. Cl. 70—78 **12 Claims**



An access locking means for a locker door or the like which permits bypassing the primary lock to gain entrance to the locker. An obstructing means acts through the primary locking means to prevent movement of the handle and opening of the door. In one embodiment of the invention, when the access locking means is moved to the unlocked position, the handle, obstructing means and primary locking means may be moved as a unit relative to the door to cause unlatching thereof and access gained to the locker. In another embodiment, the access locking means actuates a latching means independently of the primary locking means to gain access even though the latter is locked.

3,508,424

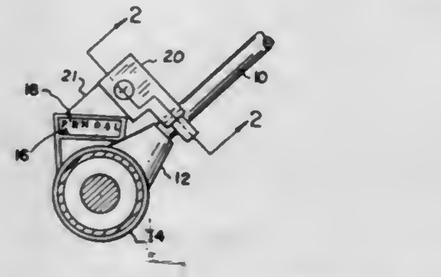
LOCK FOR VEHICLE TRANSMISSION CONTROL LEVER

Arnold Eisenman, 18636 Cherrylawn Ave., Detroit, Mich. 48221

Original application Feb. 16, 1967, Ser. No. 616,522, now Patent No. 3,431,755, dated Mar. 11, 1969. Divided and this application Mar. 7, 1968, Ser. No. 711,424

Int. Cl. E05b *65/12;* **B60r** *25/06*

U.S. Cl. 70—202 **2 Claims**



A locking mechanism for clamping the transmission control lever of a vehicle in position when it is in a selected angular position such as the "park" position. The control lever is released by unlocking a key-actuated lock element. The mechanism is spring loaded so that the lock element can be manipulated into a locked condition when the control lever is out of the "park" position but is tripped when the control lever is moved into the park position.

3,508,425

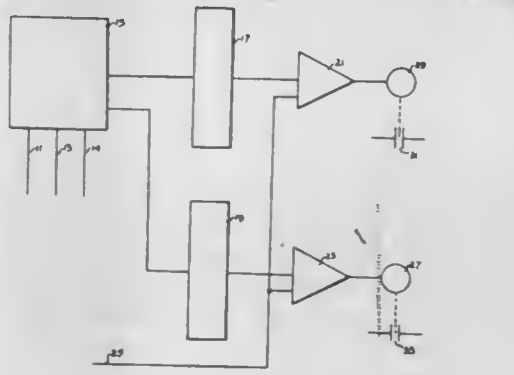
TENSION LIMIT MODIFICATION CONTROL

Howard N. Cox, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 7, 1968, Ser. No. 711,290

Int. Cl. B21b *37/12*

U.S. Cl. 72—9 **4 Claims**



Apparatus for adjusting the roll force of a metals rolling strip mill including a digital computer having an output signal representative of predetermined values of strip tension derived from computer inputs of strip speed, strip width and strip thickness (disregarding the nature of the strip material), the output signal being fed to a pair of digital/analog converters calibrated respectively according to preselected high and low limits of strip tension, each of the analog outputs being compared in an amplifier with actual (measured) strip tension and each of the amplifiers being arranged via servomechanisms to change the roll force oppositely according to the deviation of actual strip tension above and below the respective high and low limits.

3,508,426

ROLLING MILL APPARATUS

Jack Maltby and Charles Goulding, Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England

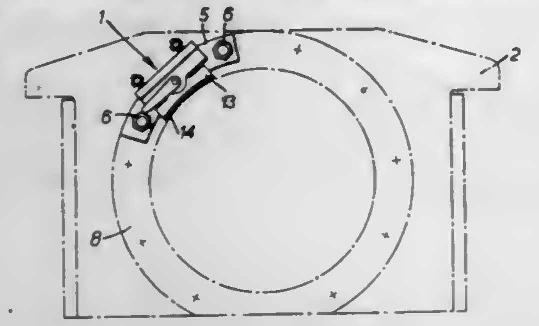
Filed May 22, 1967, Ser. No. 640,020

Claims priority, application Great Britain, May 20, 1966, 22,543/66

Int. Cl. B21b *31/10*

U.S. Cl. 72—238 **7 Claims**

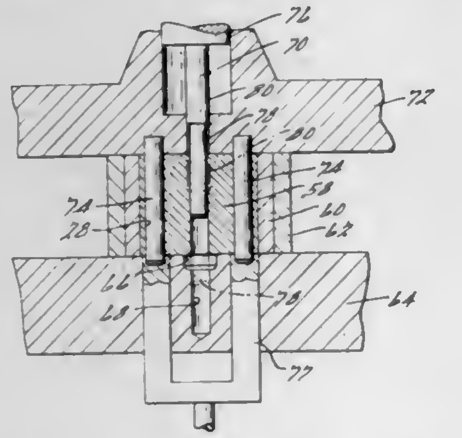
This disclosure relates to a device for locking a rolling mill chock against movement relative to its associated roll when the roll and the chocks, in position on the roll, are out of the mill. The device which is attached to the



chock includes a brake shoe and a cam for locking the brake shoe to prevent the chock from turning about the roll.

3,508,427
FAN SPACER AND METHOD FOR MAKING SAME

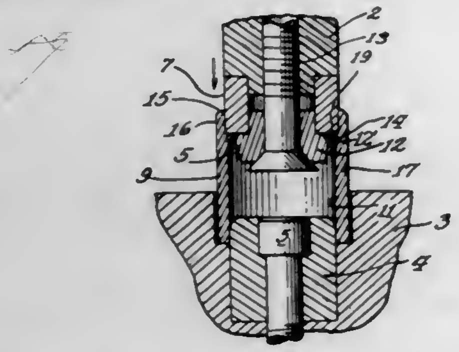
Robert D. Broderick, Birmingham, Mich., assignor to Detroit Gasket & Manufacturing Company, a corporation of Delaware
Filed Jan. 24, 1968, Ser. No. 700,262
Int. Cl. B21c *23/00*
U.S. Cl. 72—254 6 Claims



An integrally formed fan spacer for mounting a fan in spaced axial relationship on a driving member and a method for forming the fan spacer by extrusion in a manner to provide a centrally extending pilot bore and a cylindrical pilot projection at opposite end faces thereof and a plurality of longitudinally-extending, circumferentially-spaced through-bolt holes.

3,508,428
CONNECTOR ELEMENT FOR RIGID ELECTRICAL CONDUITS AND METHOD OF MAKING THE SAME

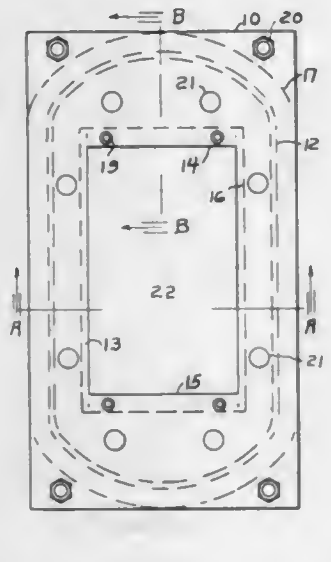
James Edward Matson, Galva, Ill., assignor to All-Steel Equipment Inc., a corporation of Illinois
Continuation-in-part of application Ser. No. 652,189, July 10, 1967. This application Dec. 5, 1968, Ser. No. 786,540
Int. Cl. B21d *11/04*
U.S. Cl. 72—327 4 Claims



Hollow connector elements for rigid electrical conduits are formed with internal shoulders by displacing metal inwardly from one end of the element by means of a special swaging or forging tool without the use of an outer supporting die and without substantially changing the outer size or shape of the element.

3,508,429
FRAME FOR LARGE PRESS

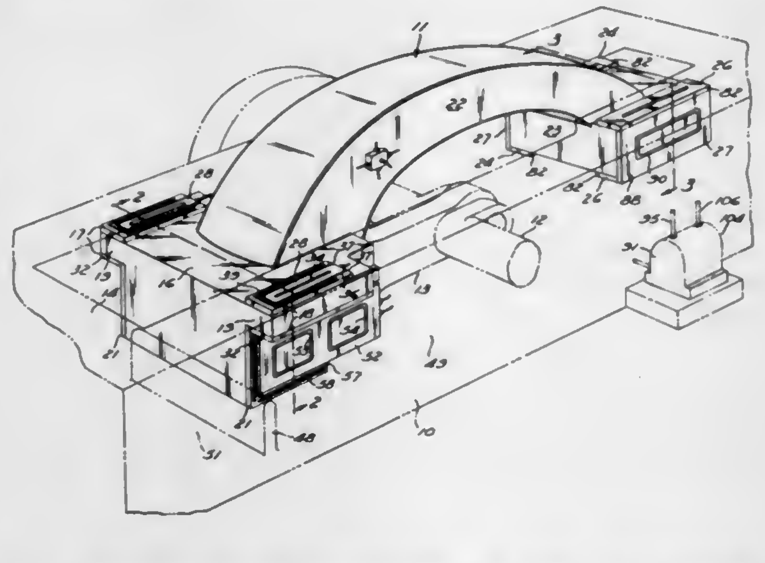
Charles F. Staples, 4456 Samoset Ave., Royal Oak, Mich. 48072
Filed May 13, 1968, Ser. No. 736,904
Int. Cl. B21j *13/04*
U.S. Cl. 72—455 2 Claims



A frame for a huge forging press in the range of 200,000 tons capacity, for forming large aluminum, titanium, steel, etc., forgings from billet form or ingot form into usable shape and size for aircraft and aerospace parts requirements. The frame structure has an inner and outer wall separated by poured concrete. Wrapped tendons under stress are secured to the outer wall to conteract the pressure exerted on the structure during a pressing operation. Base and cover plates are provided for retaining the concrete between the inner and outer walls.

3,508,430
FORGING MACHINE WITH HYDROSTATIC BEARINGS

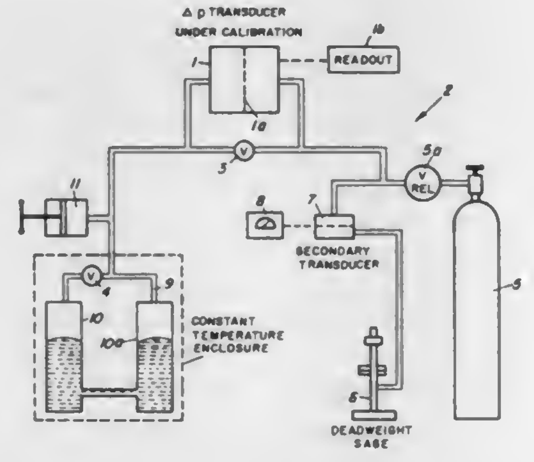
Richard Edmondson, Tiffin, Ohio, assignor to The National Machinery Company, Tiffin, Ohio, a corporation of Ohio
Filed Feb. 13, 1968, Ser. No. 705,110
Int. Cl. B21j *13/04*
U.S. Cl. 72—456 19 Claims



A forging machine including a slide reciprocably mounted in a frame with hydrostatic bearings at each end of the slide. The hydrostatic bearings at the head end of the slide are provided with return grooves arranged to deliver the bearing lubricant to the rearward end of the machine which is the sump for the bearing lubricant. Vacuum grooves are located in the bearings around the return grooves to collect any liquid which passes the return grooves so that such liquid does not escape into the forward end of the machine and mix with the tool lubricant. A hydraulic compensator is provided to automatically compensate for thermal expansion of the machine elements or changes in dimensions which occur due to stressing. The hydrostatic bearings are arranged in opposed pairs so that the bearings work against each other and provide a system in which the bearings are effectively preloaded to improve accurracy of slide positioning.

3,508,431
SYSTEM FOR CALIBRATION OF A DIFFERENTIAL PRESSURE TRANSDUCER

Horace P. Richardson and John L. Gordon, Amarillo, Tex., assignors to the United States of America as represented by the Secretary of the Interior
Filed Sept. 5, 1968, Ser. No. 757,626
Int. Cl. G01l *27/00*
U.S. Cl. 73—4 11 Claims

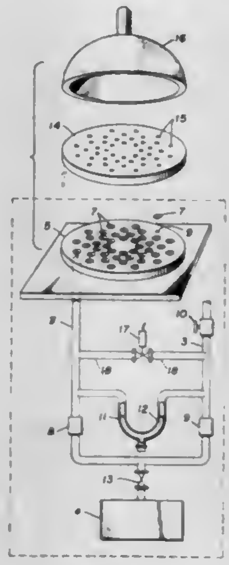


A first conduit, having a gas supplier and deadweight gage, is attached adjacent one side of a Δp transducer sensor. A volumetrically-controlled second conduit, having a pressure monitor and valved connection with the first conduit, is attached adjacent the other side of the sensor. The conduits are maintained in fluid connection with one another and the gas supplier produces a first pressure throughout both conduits which is precisely measured with the deadweight gage. The conduits are then disconnected and the gas supplier is employed to increase the pressure only in the first conduit to establish a differential across the sensor. Any pressure deviation in the second conduit from the first pressure is corrected, and the new pressure in the first conduit is then measured with the deadweight gage. The difference between the first and new pressures is calculated and compared to the value shown on the transducer readout.

3,508,432
SPINNERET CAPILLARY INSPECTION APPARATUS

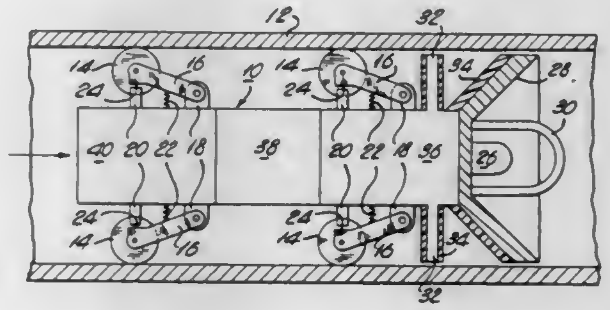
John L. Marshall, Jr., and John R. Bray, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Mar. 25, 1968, Ser. No. 715,880
Int. Cl. G01b *13/10*
U.S. Cl. 73—37.8 10 Claims

A plurality of circuits, each having a first and second tubular conduit, are connected by the second tubular conduit to a plate. Each of the conduits has one end open to the atmosphere and the other end connected to a pressurized gas source. A fixed orifice is connected within each of the conduits near the pressurized gas source and an adjustable orifice is connected within the first conduit near the end opposite the pressurized gas source. A differential pressure gauge joins the conduits at a point intermediate the orifices of the first conduit and at a point intermediate the orifice and the plate of the second conduit. A spinneret is placed onto the plate and the capillaries of the spinneret are sealed to the second tubular conduit. A gas is admitted from the pressurized gas source and a reading is taken from the differential pressure gauge to determine if the spinneret will provide filaments of uniform linear dimensions.



3,508,433
PIPELINE LEAK DETECTOR

William M. Bustin, Summit, N.J., assignor to Esso Research Engineering Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 513,695, Dec. 14, 1965. This application May 23, 1968, Ser. No. 740,801
Int. Cl. G01m *3/24*
U.S. Cl. 73—40.5 16 Claims

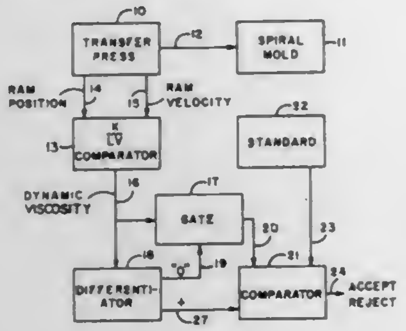


A pipeline leak detector using the ultrasonic characteristics of typical leaks eliminates background noise by filtering out the audio frequency noise. The ultrasonic spectrum of the leak is electrically demodulated to provide a DC signal proportional to the noise level rather than the noise itself. Means are provided for detecting predetermined ranges of the ultrasonic frequency spectrum and beating a variable frequency oscillator frequency thereagainst to produce a difference frequency in the audio range for subsequent demodulation. The leak detector is mounted on a plurality of roller supports and includes sound insulation means isolating the microphone from the remainder of the detector.

3,508,434

MINIMUM VISCOSITY AS A TEST CRITERION FOR MOLDING COMPOUNDS

Preston Joseph Heinle, Phoenix, and Michael Aaron Rodgers, Tempe, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 12, 1967, Ser. No. 652,913
Int. Cl. G01n *11/04*
U.S. Cl. 73—56 **9 Claims**

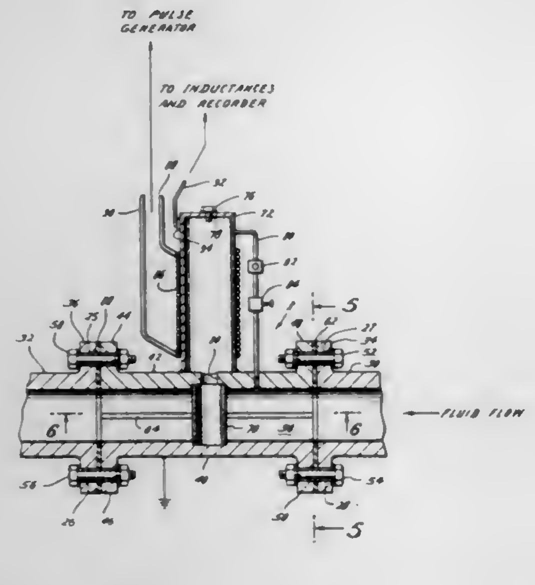


A method of selecting thermosetting plastic molding compounds suitable for use in a particular mold wherein the thermosetting plastic compound is subjected to a molding test which senses and indicates the ram velocity and ram position with respect to elapsed time of a transfer press which is associated with a test mold. The ram velocity and ram position signals are then converted into dynamic viscosity. The dynamic viscosity value of the test sample is then compared with an acceptable dynamic viscosity value for an acceptable thermosetting plastic molding compound to determine the suitability of the test sample for molding in the particular mold.

3,508,435

MOISTURE MEASURING SYSTEM

Leon Harlan Ivy, 2422 Tangley, Houston, Tex. 77005
Filed Aug. 25, 1966, Ser. No. 575,140
Int. Cl. G01n *9/36*
U.S. Cl. 73—61.1 **9 Claims**

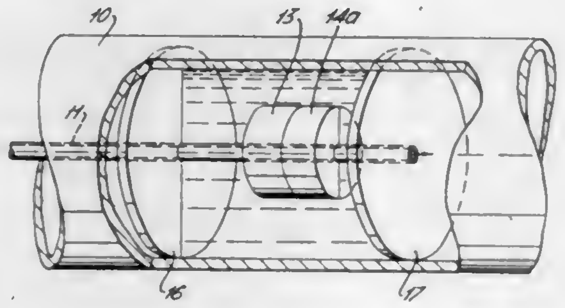


This invention relates to improved apparatus for measuring the proportion of moisture in a flowing stream of fluid. A cylindrical body of desiccant material is immersed in the fluid, and is interconnected between two electrodes subjected to a fixed charge to form the dielectric proportion of a capacitor. The capacitance may be measured as a function of the moisture in the fluid, since the dielectric character of the cylinder varies only according to the amount of moisture absorbed or adsorbed from the fluid stream. Purging means is therefore included to compress the contents of the cylinder during intermittent discrete time intervals, whereby excess buildups of moisture are continually expelled from the cylinder, and whereby the moisture proportion in or on the cylinder does not significantly exceed the proportion of moisture in the fluid stream.

3,508,436

APPARATUS FOR ULTRASONIC TESTING WITH ROTATING PROBE MEANS LOCATED INSIDE A TUBULAR TEST OBJECT

Herbert Krautkramer, 449 Luxemburger Str., Cologne-Klettenberg, Germany
Filed Dec. 1, 1966, Ser. No. 598,273
Int. Cl. G01m *29/00*
U.S. Cl. 73—67.5 **4 Claims**

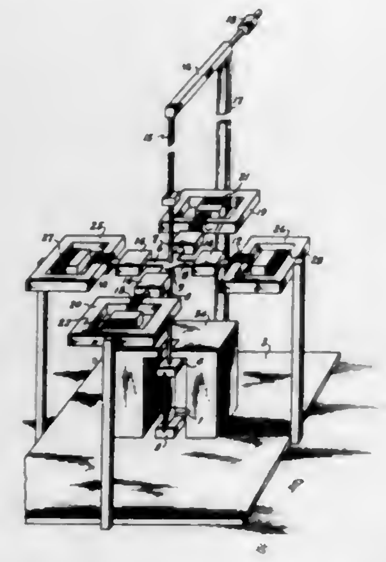


An ultrasonic testing apparatus is disclosed which includes a rotating ultrasonic probe structure located inside a tubular test object. The test apparatus includes a pair of axially spaced transverse sealing walls disposed internally of the tubular test object for defining a chamber containing a sonic coupling fluid in which the rotatable probe is disposed. The sealing walls, coupling fluid, and probe structure are longitudinally translatable through the interior of the tubular test object. Rotation of the probe within the tubular test object causes the coupling fluid to swirl therein and to form, by centrifugal effect, a sonic coupling layer between the probe and the interior wall of the tubular test object.

3,508,437

DEVICE FOR DETERMINING THE INTERNAL FRICTION OF MATERIALS

Waldemar Victor Conrad van Beek, Bussum, Netherlands, assignor to Koninklijke Zwavelzuurfabrieken Voorheen Ketjen N.V., Amsterdam, Netherlands, a limited-liability company of the Netherlands
Filed Mar. 15, 1967, Ser. No. 623,360
Claims priority, application Netherlands, Mar. 16, 1966, 6603438
Int. Cl. G01n
U.S. Cl. 73—67.2 **9 Claims**

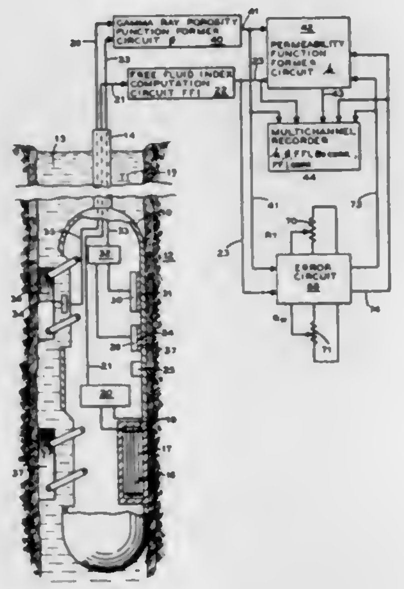


In a device for determining the internal friction of materials by a torsional oscillator periodically twisting a test piece of the material in question which supplies at least a part of the force for restoring the oscillator to its neutral position, electrical signals proportional to the instantaneous velocity of the oscillator are employed to drive the latter after amplification of such signals, and the degree of amplification is regulated, for example, in response to deviation of electrical signals dependent on the actual amplitude of oscillation relative to a reference signal corresponding to a pre-set amplitude, so as to maintain the pre-set amplitude of oscillation, whereby the degree of amplification is at all times a function of the internal friction or damping effect of the test material.

3,508,438

WELL LOGGING APPARATUS AND METHOD

Robert P. Alger and Maurice P. Tixier, Houston, Tex., assignors to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed June 27, 1967, Ser. No. 649,212
Int. Cl. E21b *49/00*
U.S. Cl. 73—152 **13 Claims**


GAMMA RAY POROSITY FUNCTION FORMER CIRCUIT φ 40
FREE FLUID INDEX COMPUTATION CIRCUIT FFI 22
42
PERMEABILITY FUNCTION FORMER CIRCUIT k
MULTICHANNEL RECORDER
ERROR CIRCUIT

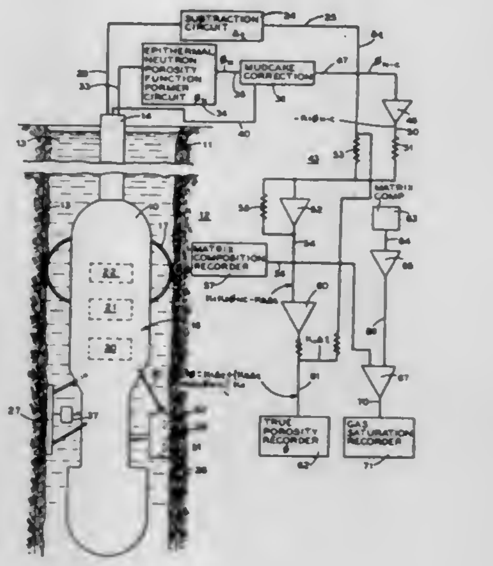
One embodiment of the invention provides a technique for approximating the irreducible water saturation, S_{wirr}, in sand or sandstone type of formations surrounding a borehole, by comparing the true formation porosity, ϕ, with the free fluid index, FFI, of the formation. This information enables the formation permeability, k, to be computed. Additional parameters such as the resistivity of the uncontaminated portion of the formation, R_t, and the formation water resistivity, R_w, can be combined with S_{wirr} to identify oil- and gas-bearing formations. Specific logging tools are described that incorporate equipment for measuring FFI through nuclear magnetism logging and ϕ through gamma ray, neutron or sonic techniques.

3,508,439

COMBINATION SIDEWALL NEUTRON POROSITY AND SONIC TOOL

Robert P. Alger, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas
Filed Dec. 9, 1966, Ser. No. 600,504
Int. Cl. E21b *49/00*
U.S. Cl. 73—152 **16 Claims**

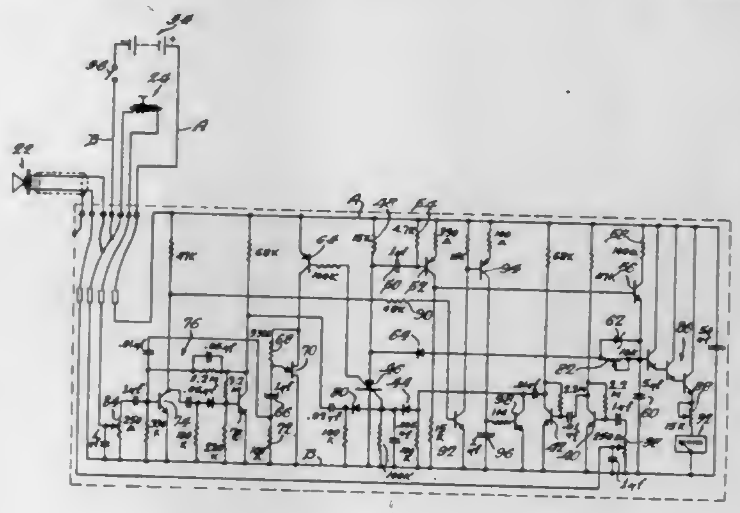
A specific embodiment of the invention provides a technique for measuring the porosity, matrix composition or gas saturation of an earth formation surrounding a borehole. The porosity may be determined by combining porosity-dependent signals derived from epithermal neutron radiation with the sonic transmission characteristics of the formation. The combined signals produce more accurate indication of formation porosity and also provide an indication of matrix lithology or gas saturation.



3,508,440

GOLF GAME

Patrick J. Murphy, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed July 24, 1967, Ser. No. 655,450
Int. Cl. G01l *5/02*
U.S. Cl. 73—379 **15 Claims**



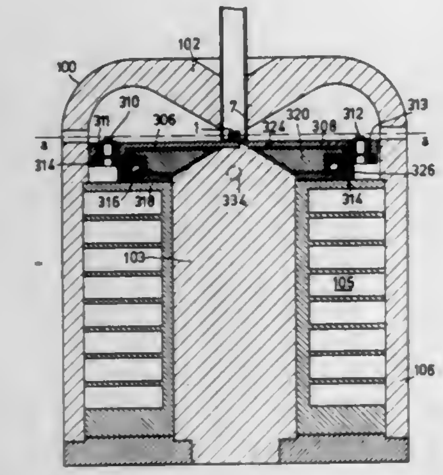
A golf game including a tee, means for detecting when a ball has been hit from the tee, means for determining when a ball hit from the tee has passed a predetermined point spaced from the tee, means responsive to the detecting and determining means for computing the distance the shot would have traveled, and means responsive to the detecting means for resetting the computing means so that the same may compute the distance that the ball hit from the tee would have traveled.

3,508,441

PRESSURE MEASURING DEVICE

Robert Evrard, Champigny-sur-Marne, France, assignor by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 10, 1968, Ser. No. 720,011
Claims priority, application France, Apr. 10, 1967, 102,070
Int. Cl. G01l *21/26*
U.S. Cl. 73—388 **7 Claims**

A device for measuring very low pressure employing an element within a chamber in which the ambient pressure is to be measured, the element being rotatable about an axis of symmetry and subjected to a mechanical moment produced by molecules striking part of the surface of the rotatable element and accelerated by their contact with a hot surface. The rotatable element is suspended in a magnetic field of revolution about a vertical axis which field diverges in an upward direction. A body having magnetic properties is arranged in the proximity of the rotatable element which causes that element to rotate about its axis by guiding the magnetic flux to the vicinity of the vertical element after which the body is removed.



3,508,442

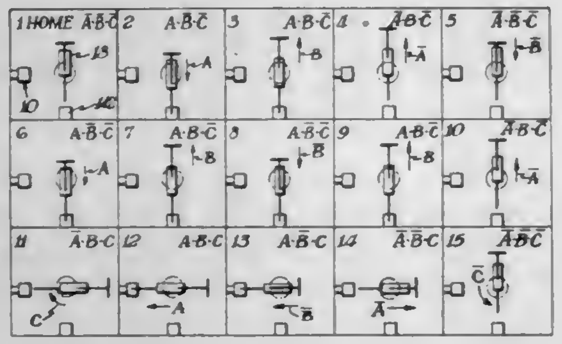
AUTOMATIC LIQUID SAMPLER FOR CHROMATOGRAPHY

Gene E. Lightner, Kennett Square, Pa., Frederick J. Debbrecht, Wilmington, Del., and Lawrence J. La Barre, Mountain View, Calif., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Sept. 18, 1968, Ser. No. 760,538

Int. Cl. G01n *1/14*

U.S. Cl. 73—423 **10 Claims**



The apparatus described automates a precision microliter liquid syringe. The barrel for the syringe is mounted in a bracket adapted to be displaced along the axis of the barrel by a first prime mover. The plunger of the syringe is operated by a second prime mover mounted on the bracket. A third prime mover is positioned to shift the first prime mover. These three prime movers permit the syringe needle alternatively to be inserted into a sample bottle filled with the sample, removed, and then shifted to be in alignment with the injection port of a gas chromatograph. The syringe needle is then inserted into the injection port of the chromatograph, the sample injected, the next sample indexed to the sample pickup location. The complete sample pickup and injection cycle is controlled by the three prime movers which may be digitally controlled in any desired sequence.

3,508,443

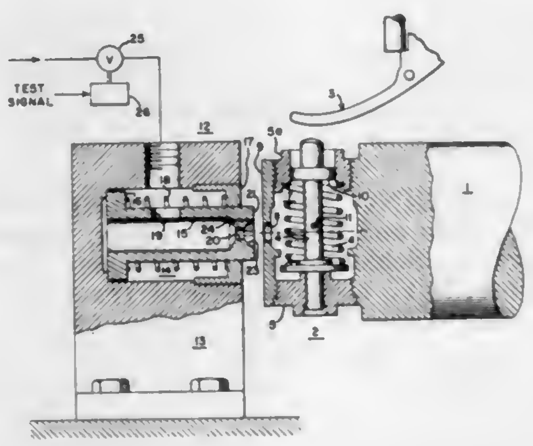
EMERGENCY GOVERNOR EXERCISER

Norman E. Nutter, Portland, Maine, assignor to General Electric Company, a corporation of New York

Filed June 20, 1968, Ser. No. 738,558

Int. Cl. F01d *21/02, 21/18*

U.S. Cl. 73—509 **4 Claims**



A device for exercising or testing an emergency governor by injecting pressurized fluid inside the rotating governor cavity from a plunger arranged to move against the end of the governor shaft. Pressure builds up within the governor causing the governor to be exercised.

3,508,444

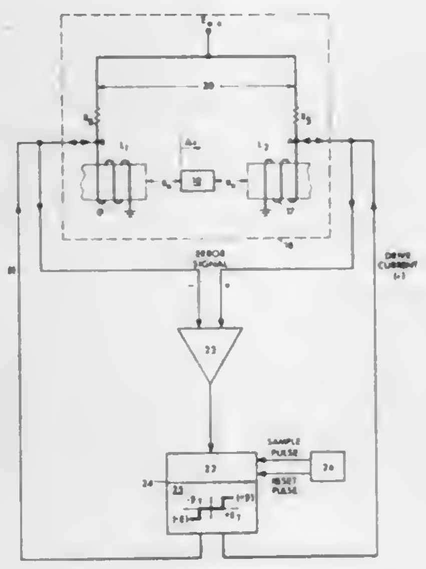
TIME SHARING PULSED REBALANCING SYSTEM

James L. Sitomer, Middleton, and Michael D. Leis, Cambridge, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 27, 1967, Ser. No. 626,199

Int. Cl. G01p *15/08*

U.S. Cl. 73—517 **7 Claims**



Apparatus for maintaining the linear or angular deviation of a suspended mass from a null position within predetermined limits. A transducer time shares as a position monitor producing an error signal according to the mass deviation and as a force generator to restore the mass. A sampler periodically samples the amplitude and phase of the error. When the error exceeds a predetermined level, the sampler signals an electronic relay to emit an electrical pulse of fixed duration and of the proper polarity causing the transducer to impart a pulse of restoring force that drives the mass toward null.

3,508,445

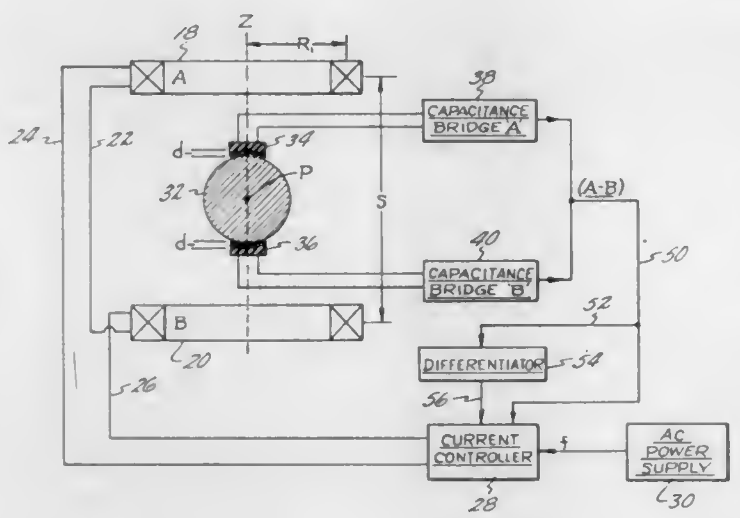
MAGNETIC SUSPENSION ACCELEROMETER

Albert W. Penney, Jr., Glastonbury, and Ernest P. Gagnon, East Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 7, 1967, Ser. No. 661,163

Int. Cl. G01p *15/08*

U.S. Cl. 73—517 **16 Claims**



An AC magnetic suspension accelerometer consisting of AC excited coils to establish a time-varying magnetic field which confines an inertial mass to an equilibrium position, and a variable capacitance position sensing system to measure displacements of the inertial mass from its equilibrium position. Damping and heat transfer are accomplished by immersing the inertial mass in a fluid. By offsetting the mass from its equilibrium position, a differential accelerometer responsive to the earth's gravity is produced.

3,508,446

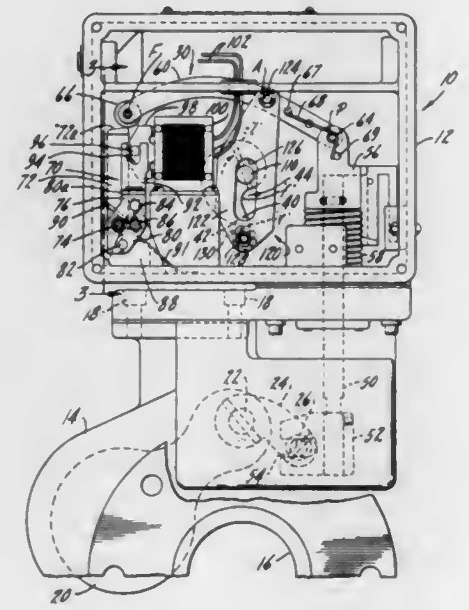
VALVE ACTUATING MECHANISM

Robert H. Yeo and Harold W. Crowe, Muncie, Ind., assignors to Maxon Premix Burner Company, Inc., Muncie, Ind., a corporation of Indiana

Continuation of application Ser. No. 564,085, July 11, 1966. This application Nov. 6, 1968, Ser. No. 808,712

Int. Cl. F16h *5/40*

U.S. Cl. 74—2 **11 Claims**



A safety valve actuating mechanism including valve operating means movable between a first position and a second position and biased toward said second position, lever means pivotally connected to the operating means and defining fulcrum point means spaced from the operating means which is movable between a latched position and released position and biased toward said latched position, latching means releasably retaining the fulcrum point means in the latched position, and cam and cam follower means connected to said lever means and adapted to control the movement of the valve operating means with the fulcrum point means of the lever means supported by the latching means and to permit the biasing means to swing the fulcrum point means into engagement with the latching means to recock the mechanism.

3,508,447

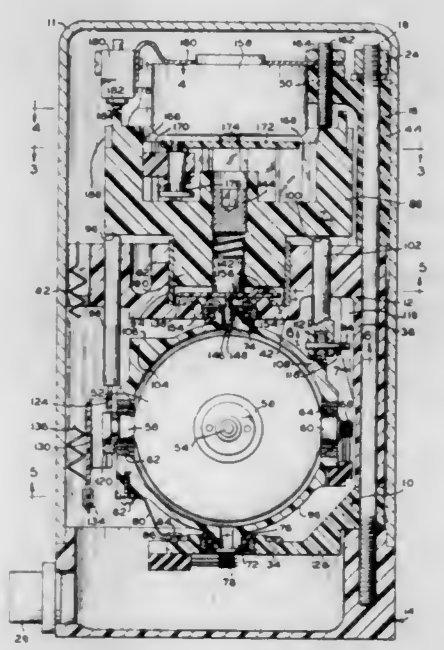
GYROSCOPE APPARATUS

Orie W. Shirley, Portland, Oreg., assignor to Electronic Specialty Company, Portland, Oreg., a corporation of California

Filed Sept. 6, 1967, Ser. No. 665,756

Int. Cl. G01c *19/26*

U.S. Cl. 74—5.1 **15 Claims**



A gyroscope is enclosed in a frame comprising a plurality of longitudinally arranged modular plastic frame members, wherein a first pair of frame members supports the gyroscope's gimbal system. One frame member of the first pair also journals a rotatable caging cam having cam surfaces oriented toward the gyroscope's gimbal system for operating plural cam follower plungers adapted to slide longitudinally through such frame member. These cam follower plungers engage additional cam surfaces on the gimbals for bringing about caging of the same, while another plunger operated by the caging cam is employed for braking the inner gimbal prior to such caging. A further frame member secures the caging cam to the frame and also supports a solenoid adapted for rotating the caging cam. The various frame members are attached to one another by common connecting means extending therethrough.

3,508,448

DUAL SPEED TRANSMISSION

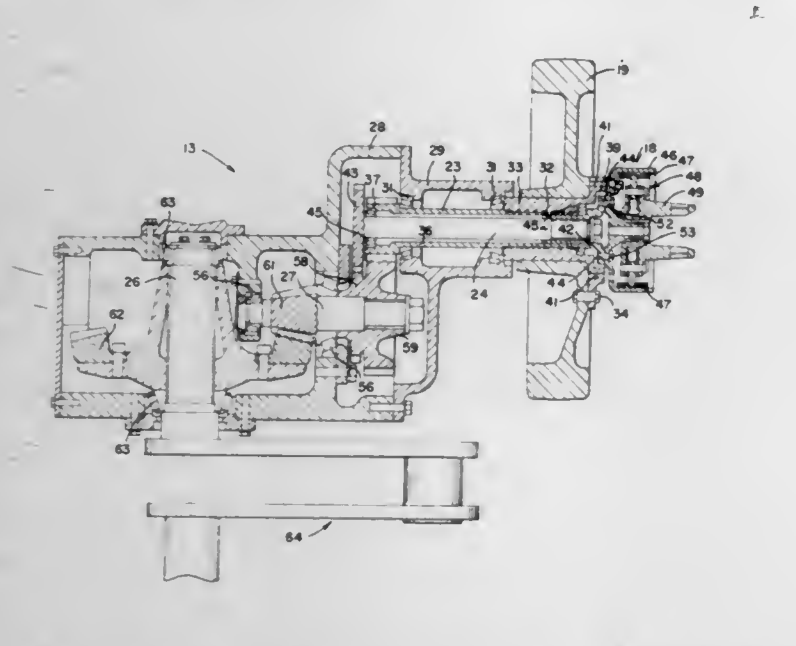
D. Eugene Smith, Rolla, Mo., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware

Filed July 30, 1968, Ser. No. 748,675

Int. Cl. F16h *37/04, 3/08*

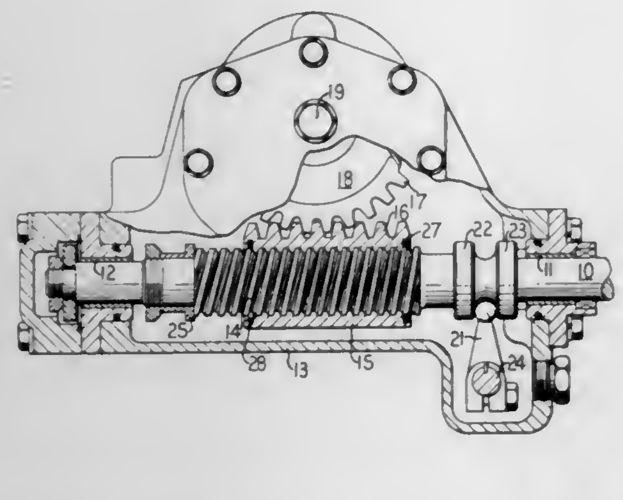
U.S. Cl. 74—15.4 **10 Claims**

A baler transmission for use with either a low speed power take-off drive or a high speed power take-off drive of an associated tractor. The transmission includes a pair of power trains which are selectively and drivingly connected to said power output drives. A flywheel mounted on the high speed power train rotates at the high speed for either drive.



3,508,449
STOP MEANS FOR THREADED TRAVELING MEMBER

Jack H. Kraina, Aurora, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed June 7, 1968, Ser. No. 735,374
Int. Cl. F16h *25/20*
U.S. Cl. 74—89.15 **5 Claims**

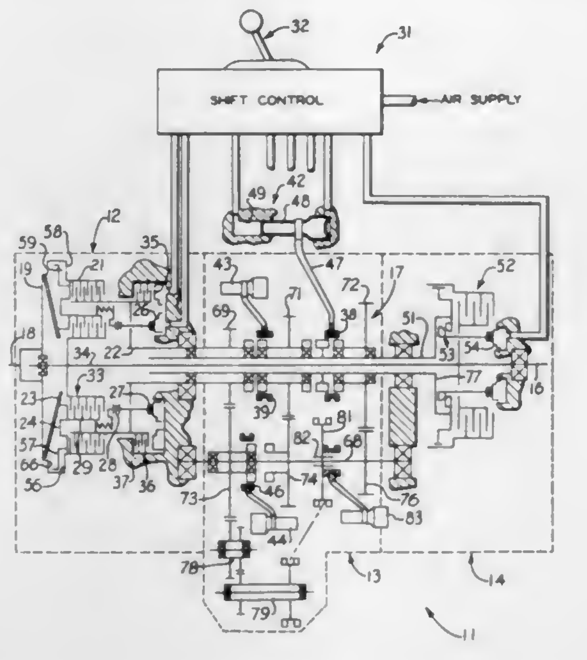


Stop means for an object such as a nut on a threaded shaft where rotary motion of the shaft causes rectlinear movement of the nut toward a fixed stop, including a member which is elastically deformable and has a low coefficient of friction between the nut and the stop to prevent binding of the parts when the nut engages the stop.

3,508,450
MECHANICAL DRIVE TRANSMISSION

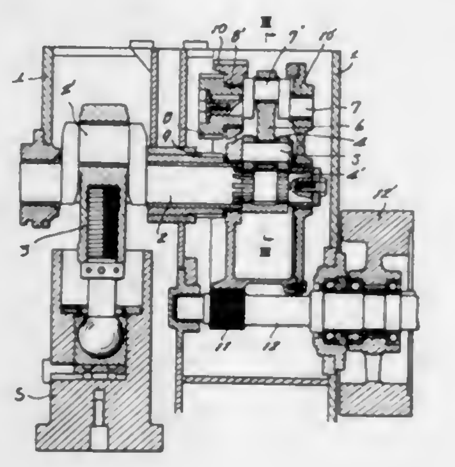
Elmer A. Richards, Kalamazoo, Mich., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Jan. 25, 1968, Ser. No. 700,602
Int. Cl. F16h *3/12, 5/36;* **F16d** *67/00*
U.S. Cl. 74—340 **16 Claims**

A transmission has clutches which disconnect the gears from both the transmission input and output during a shift. Powered mechanisms operate the clutches, stop the gears, change the drive ratio while the gears are stationary, and then accelerate the gears and restore the original clutch positions. An additional clutch may couple the input to the output to provide continuous through drive during the shift transient. No synchronizers are needed, and all possible power paths through the gears may readily be used to provide a large number of speed ranges in a very compact unit.



3,508,451
DRIVING MECHANISM FOR SLIDE IN A PRESS

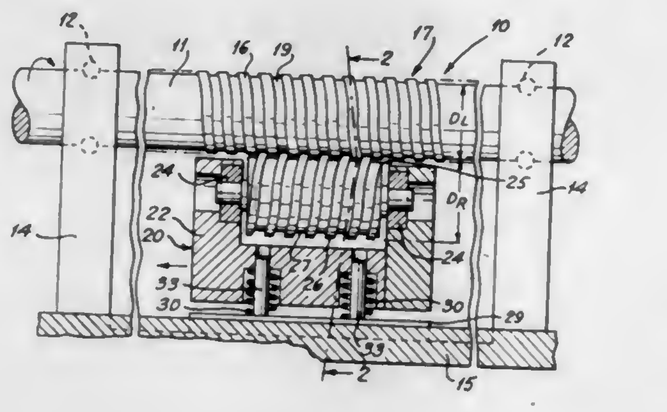
Sukenao Yoshida, Tokyo, and Kohji Nakano, Sagamihara-shi, Japan, assignors to Kabushiki Kaisha Aida Tekkosho, Sagamihara-shi, Kanagawa-ken, Japan
Filed Aug. 9, 1968, Ser. No. 751,504
Claims priority, application Japan, Aug. 11, 1967, 42/51,248
Int. Cl. F16h *35/02, 3/44*
U.S. Cl. 74—394 **5 Claims**



A driving mechanism for the slide in a press comprising a slide driving main gear freely mounted on a main crank shaft journalled in the frame of said press, a drive gear fixedly mounted on a main drive shaft and in engagement with said main gear, an auxiliary crank shaft journalled in said main gear, a planetary gear fixedly mounted on said auxiliary crank shaft and a sun gear fixedly supported in said frame in a concentric relation to said main crank shaft and in engagement with said planetary gear, said auxiliary crank shaft having a crank pin which is connected through a link to the fixed arm of said main crank shaft.

3,508,452
GEARING MECHANISM

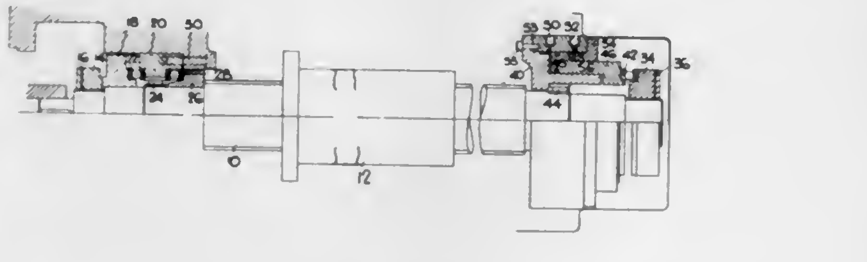
William J. Roantree, Port Washington, N.Y., assignor to Roantree Electro-Mech Corporation, Port Washington, N.Y.
Continuation-in-part of application Ser. No. 614,339, Feb. 6, 1967. This application Apr. 11, 1968, Ser. No. 729,860
Int. Cl. F16h *1/08, 29/20*
U.S. Cl. 74—424.7 **13 Claims**



A gearing mechanism for converting rotary to linear motion. The mechanism includes a lead screw having a thread of a constant pitch, the thread being in driving relationship with one or more differential rollers having a thread of generally the same pitch, the roller or rollers being mounted upon a carriage mounted for linear travel along the lead screw.

3,508,453
PRE-STRESSING OF LOAD-BEARING MEMBERS

Richard Samuel Jonathan Good, Manchester, and Arthur Henry Hitchcock, Kirby Muxloe, England, assignors to Marwin Machine Tools Limited, Anstey, England
Filed May 10, 1968, Ser. No. 728,193
Claims priority, application Great Britain, May 13, 1967, 22,297/67
Int. Cl. F16h *1/18, 55/18*
U.S. Cl. 74—441 **5 Claims**

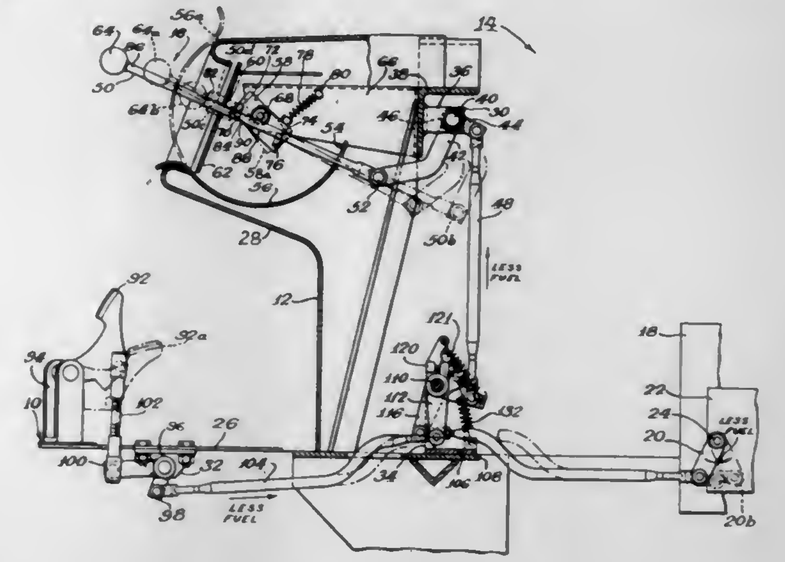


The present method and apparatus stresses or tensions a load-bearing member by the application of pressure from a column of fluid of a stiffness of at least the same order of magnitude as that of the member while maintaining said pressure constant.

3,508,454
OPERATOR'S PUSH-PULL LINKAGE TO SET ENGINE SPEED

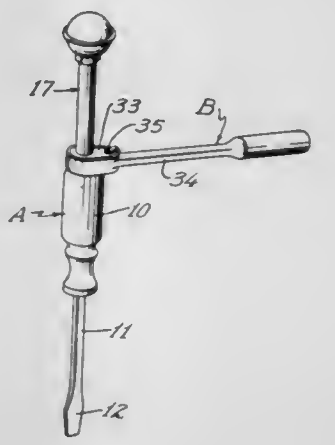
Ronald J. Fanslow, Palatine, and Haydn H. Kerner, Jr., Glendale Heights, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 25, 1968, Ser. No. 773,361
Int. Cl. G05g *11/00*
U.S. Cl. 74—482 **22 Claims**

An operator's push-pull linkage for controlling the speed setting of an engine fuel control, having a knob-operated control rod or rack, a series of notches and a smooth portion formed on the upper side of the rack, a notch and a smooth portion formed on the lower side of the rack, and a dual pawl plate slidably receiving the rack for axial motion and shiftable to accommodate limited transverse displacement of the rack in opposite directions. The upper notches receive one pawl of the plate in power settings of the rack, the lower notch receives another pawl in an idle setting of the rack, and transverse displacement of the rack in one of the two opposite directions unlatches the other pawl from the idle notch enabling the rack to slide to an engine off position.



3,508,455
COMBINATION TOOL

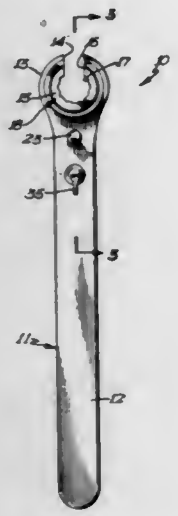
John F. Miller, 2543 Nokomis Ave., St. Paul, Minn. 55119
Filed Feb. 16, 1968, Ser. No. 705,995
Int. Cl. B25b *13/00*
U.S. Cl. 81—58.1 **5 Claims**



The invention discloses a combination tool including an elongated tool body such as a screwdriver or the like which rotates about its axis. An axial multi-sided socket is provided in the end of the tool body. A handle attachment includes a multi-sided axial projection engageable in the socket and is provided with a rotatable knob supported on its other end. A ratchet wrench encircles the multi-sided shank between the tool body and the handle attachment. If desired, an extension member may be attached between the handle attachment and the tool body.

3,508,456
ADJUSTABLE WRENCH

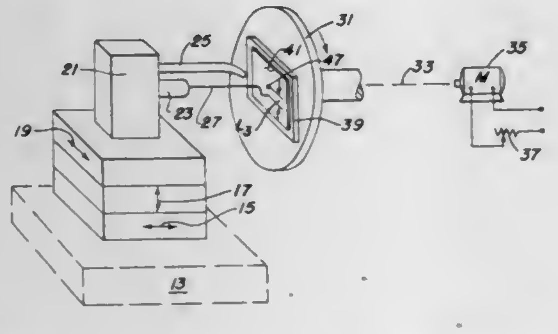
Charles E. Schultz, Fairmont, Minn. 56031
Filed Oct. 29, 1968, Ser. No. 771,510
Int. Cl. B25b *13/46*
U.S. Cl. 81—62 **2 Claims**



A ratchet wrench including a handle having a slotted head and a slotted ratchet jaw revolvably and and concentrically mounted within said head for movement relative thereto. A pair of lock elements engaging the ratchet jaw to lock the same in any position but being selectively releasable therefrom to permit the ratchet jaw to be ratcheted in either direction and permitting the wrench to serve as either an open or box wrench.

3,508,457
PROCESS FOR CONSTRUCTING THIN FILM INDUCTORS

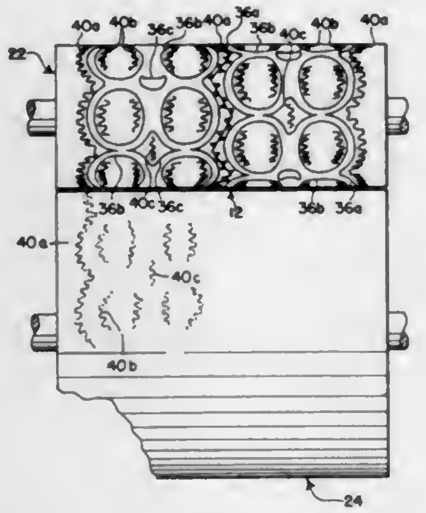
Bruce N. Ogston, Ventura, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 27, 1967, Ser. No. 671,156
Int. Cl. B23b *3/00*
U.S. Cl. 82—1 **2 Claims**



A method of manufacturing a thin film inductor from a thin electrical conducting film deposited on the front plane surface of a glass substrate. The back plane surface of the substrate is mounted on a face plate that is rotated along a rotational axis that is perpendicular to and passes through the center of the plane surface of the thin film. A spiral strip is removed from the thin film by simultaneously applying a spring tool against the front plane of the glass substrate and moving the spring tool radially outward at a predetermined rate on the front plane of the substrate and along a radius perpendicular to the axis of rotation. The spring tool accommodates any misalignment in mounting the plane of the substrate perpendicular to the axis of rotation. In another embodiment a rigid tool is used and a pliable material is inserted between the glass substrate and the face plate to accommodate any misalignments.

3,508,458
ROTARY CUTTER WITH HOLD DOWN MEANS

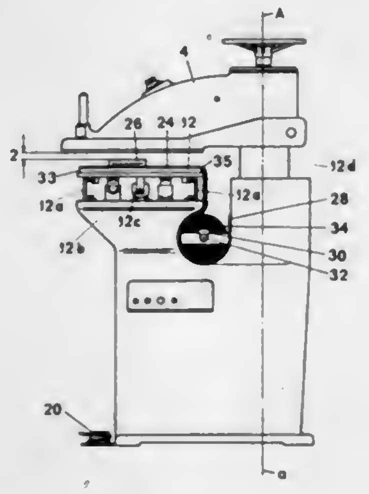
Ernest R. Cunningham, Libertyville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Dec. 8, 1967, Ser. No. 689,137
Int. Cl. B26d *3/08, 7/02;* **B26f** *1/42*
U.S. Cl. 83—9 **8 Claims**



A rotary cutter for sheet material having a low coefficient of friction including a cutting roll and a back-up roll wherein one of said cutting roll and back-up roll is provided with means which restricts transverse and longitudinal movement of the sheet material as it is acted upon by the cutting roll.

3,508,459
METHOD OF FORMING BLANKS IN A SWING ARM CUTTING PRESS

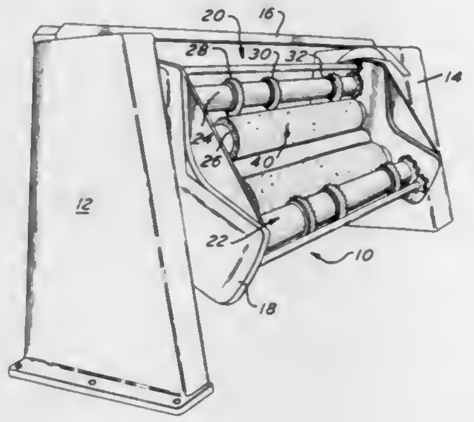
Georg Lischer, Langen, and Jakob Gaus, Frankfurt am Main, Germany, assignors to Maschinenfabrik Moenus A.G., Frankfurt am Main, Germany
Filed Sept. 6, 1967, Ser. No. 665,806
Claims priority, application France, Nov. 3, 1966, 82,327
Int. Cl. B65h *17/00*
U.S. Cl. 83—23 **8 Claims**



A conventional cutting press which is employed in the production of blanks made of artificial or natural leather, textile, plastic or other sheet material can be converted to facilitate cutting of blanks from sheets whose width exceeds the width of the fixed table in the conventional press. To this end, the table is movable sideways and has a width which at least equals the width of the widest sheet so that the table can move successive or selected portions of a sheet section into the range of blank-forming devices. Such blank forming devices may include one or more dies which can be placed on top of material on the table and a vertically movable swing arm which can force the die or dies into and through the material on the table.

3,508,460
PAPERBOARD SLITTING DEVICE

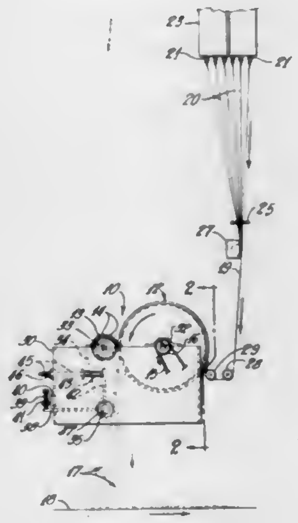
Walter J. Goettsch, Kenilworth, Ill., assignor to The Langston Company, Camden, N.J., a corporation of New Jersey
Filed Feb. 16, 1968, Ser. No. 706,179
Int. Cl. B23d *19/00, 45/00*
U.S. Cl. 83—56 **5 Claims**



Corrugated paperboard is slit by a rotating blade having a serrated edge while the paperboard is supported by a full face rotating brush roll. Both the blade and the brush roll rotate with surface speeds exceeding board speed.

3,508,461
CHOPPER FOR GLASS STRANDS

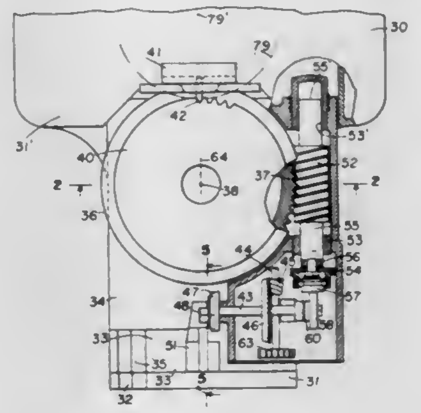
Ralph M. Stream, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 4, 1967, Ser. No. 672,908
Int. Cl. B23d *25/12*
U.S. Cl. 83—344 **10 Claims**



A chopper for cutting continuous glass strands into short lengths having a cutter roll and a cot roll of greater diameter between which the strands are directed, the straight blades of the cutter roll projecting generally radially therefrom but angled slightly to the long axis of the cutter roll as they extend lengthwise thereon and arranged to form matching notches in the surface of the cot roll which are repeatedly entered and engaged by the blades to cut the strands and provide a driving relation between the cutter roll and the cot roll, there being a spring forcing the rolls toward each other and an adjustable stop limiting the penetration of the notches by the blades.

3,508,462
METHOD AND MEANS FOR PRODUCING TEETH AND LOBES

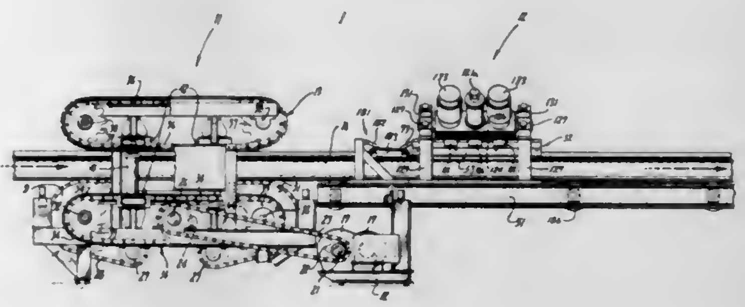
Ernest Wildhaber, Brighton, N.Y.
(124 Summit Drive, Rochester, N.Y. 14620)
Continuation-in-part of application Ser. No. 332,561, Dec. 23, 1963. This application Sept. 3, 1968, Ser. No. 767,539
Int. Cl. B23f *9/04, 5/12, 5/20*
U.S. Cl. 90—8 **14 Claims**



A method for cutting teeth on gears and other rotary members is disclosed in which a tool of curved profile is moved longitudinally across the face of the workpiece while being fed depthwise first into and then out of engagement with the workpiece, and while the workpiece is being rotated on its axis. In one embodiment of the invention a tooth profile is cut on the in-feed and the adjacent tooth profile is cut on the out-feed, each tooth space of the workpiece being finished before the tool starts operating on the next tooth space. In another embodiment of the invention, helical teeth are produced by imparting an additional continuous rotary motion to the workpiece timed to the longitudinal movement of the tool. In this case the tool operates in different tooth spaces of the workpiece on successive strokes; and all of the teeth are finished in a single depthwise feed cycle of the tool.

3,508,463
RAIL TRIMMING APPARATUS

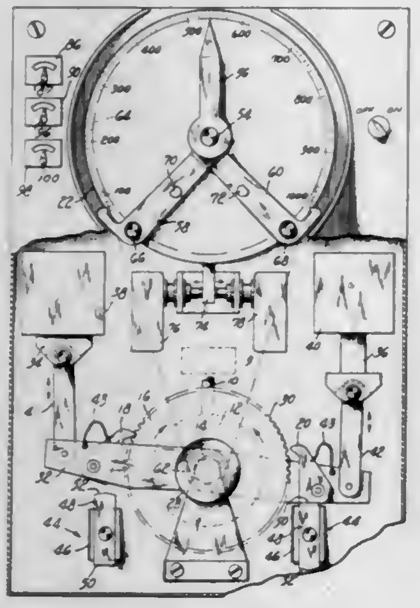
George L. Hammon, Oakland, Calif., assignor, by mesne assignments, to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 30, 1966, Ser. No. 576,073
Int. Cl. B23d *41/06, 1/06*
U.S. Cl. 90—86 **16 Claims**



A rail trimming apparatus for trimming the head portion of a rail including a framework, a pair of elongated trimming heads on opposite sides of the head portion of the rail extending longitudinally thereof, and means mounting the trimming heads on the framework. Guide means is carried by the heads adapted to engage the rail and cutting means are mounted on each trimming head for trimming the rail. The cutting means includes a plurality of cutting tools spaced apart on the trimming head longitudinally of the rail for sequential trimming of the rail upon relative longitudinal movement thereof past each tool. Means are provided for causing relative movement between the trimming heads and the rails to cause the cutting tools carried by the trimming heads to make sequential trimming cuts upon the rail.

3,508,464
PRESSURE CONTROL APPARATUS

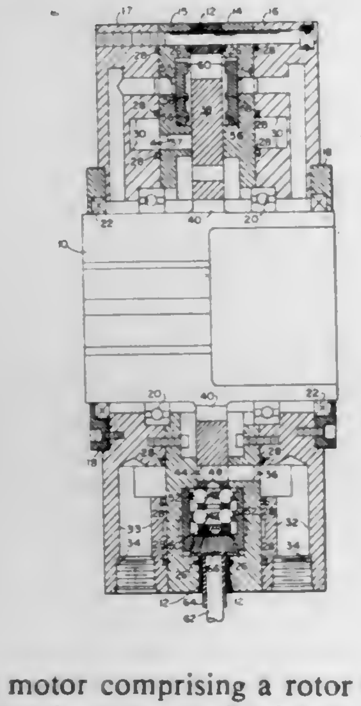
Vincent Kruchowy, Westfield, and Frank Wahl, North Bergen, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 4, 1966, Ser. No. 611,186
Int. Cl. F01b *31/12;* **F15b** *21/02;* **G05b** *19/00*
U.S. Cl. 91—1 **6 Claims**



Pressure applied during a molding cycle is controlled to rise gradually to a maximum value, hold at that value and then be reduced gradually to a minimum value. A pressure control valve driven by a solenoid and pawl mechanism has adjustable pressure limit actuators and adjustable timers for pre-setting the maximum and minimum pressures and the rates of change of pressure.

3,508,465
FLUID MOTOR

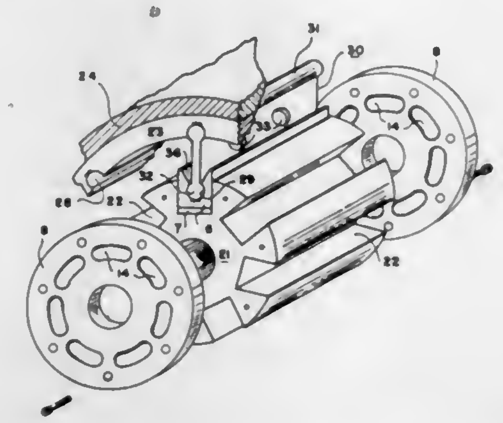
James M. Denker, Scituate, Mass., assignor to Nutron Corporation, Hingham, Mass., a corporation of Massachusetts
Filed Mar. 11, 1969, Ser. No. 806,059
Int. Cl. F01b *3/04, 15/00*
U.S. Cl. 91—480 **16 Claims**



A fluid motor comprising a rotor having a plurality of cylinders, at least one ball piston within each cylinder, and a cam having a surface engaging a piston of each cylinder. In one aspect, the cam surface is a trapezoidal acceleration cam surface. In another aspect, the cylinders extend axially of the rotor, the rotor includes a fluid passage extending from each cylinder to a porting surface that is perpendicular to the rotor's axis, and the motor includes a port plate that engages the porting surface of the rotor.

3,508,466
HYDRAULIC MACHINE

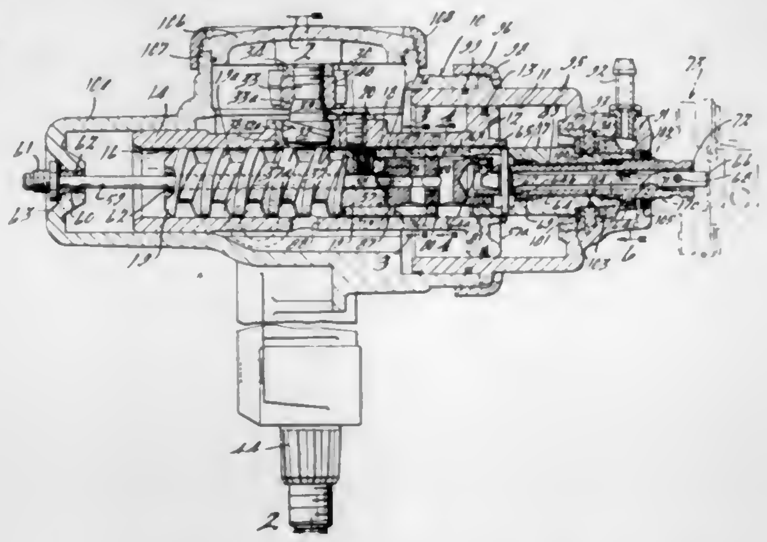
Ransom Tyler, Hales Corners, Wis., assignor to The Oilgear Company, Milwaukee, Wis.
Filed June 25, 1968, Ser. No. 739,777
Int. Cl. F01b *13/06;* **F02b** *57/08*
U.S. Cl. 91—472 **1 Claim**



A radial piston hydrostatic machine in which the pistons are tied to a reaction ring eccentric to the rotor fluid distributing flat valves are arranged coaxially of the rotor and the rotor is a slotted cylindrical member with end closure plates to close the slots and define piston chambers for rectangular pistons.

3,508,467
POWER STEERING GEAR

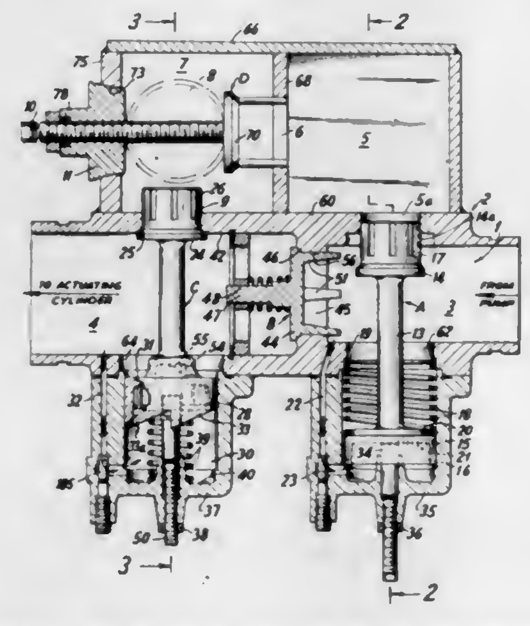
Walter E. Folkerts, Hazel Park, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Original application Dec. 19, 1967, Ser. No. 691,859. Divided and this application Feb. 12, 1968, Ser. No. 704,861
Int. Cl. F15b *9/10*
U.S. Cl. 91—375 **6 Claims**



A swinging arm of an automobile steering linkage is interconnected with a reciprocable piston, which in turn is operatively connected with a worm coaxial with the piston and keyed to a tubular driven shaft. The latter is sleeved over and cooperable with a rotary valve operable in a pressurized fluid circuit to control power operation of the piston and interconnected steering linkage. A manually rotatable driving shaft having a rotary lost motion driving connection with the driven shaft is connected by a wedge type spline with the valve to rotate the same for power steering, or to rotate the driven shaft and worm manually at the limit of the lost motion in the event of power failure. Fluid pressure applied to the valve maintains the aforesaid wedge type spline and positively avoids lost motion in the valve operation. A torsion rod coaxial with the valve and driving shaft is keyed at one end adjacent the valve to the driven shaft and at its opposite end remote from the valve to the driving shaft to transmit a steering reaction or "feel" to the driver during power steering.

3,508,468
HYDRAULIC ELEVATOR CONTROL VALVE

George Walter, Roslyn Heights, N.Y., assignor to Armor Elevator Co. Inc., Woodside, N.Y., a corporation of New York
Filed Apr. 24, 1968, Ser. No. 723,837
Int. Cl. F15b *11/08, 13/04, 15/18*
U.S. Cl. 91—454 **18 Claims**



An integrated valve to control the movements of a hydraulic elevator cab. All control elements of the valve are are affixed to a common valve body, and all connecting lines are integral with the valve body. The valve itself includes a linear portion of the main hydraulic line from the pump to the actuating plunger.

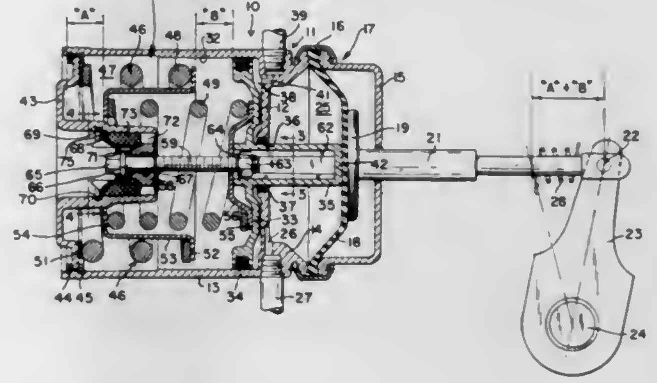
The control valve is effectively divided into "up" and "down" control sections by a check valve which closes whenever the pressure within the actuating cylinder exceeds pump supply pressure.

Piston operated "up" and "down" control valves lay across the main hydraulic line. These valves open and close ports in the valve body to monitor pump pressure during the "up" cycle, and outflow from the activating cylinder during the "down" cycle. The operating pistons for the up-valve and down-valve ride in respective control chambers opposite the aforementioned parts and are connected to their respective disks by connecting rods which lay within the main hydraulic line.

3,508,469
MULTIPLE BALANCED SPRING BRAKE ACTUATOR

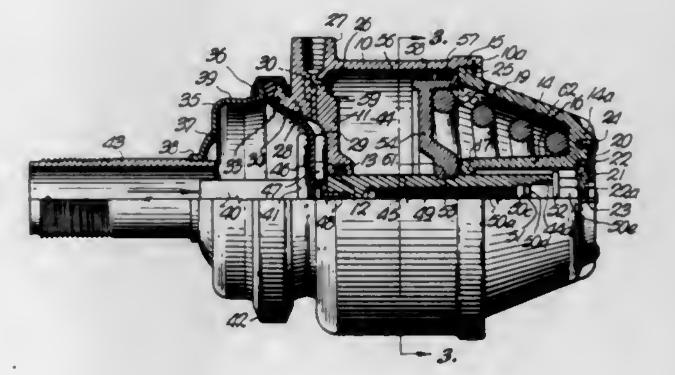
William J. Williams, Ashtabula, Ohio, assignor, by mesne assignments, to Rockwell-Standard Company, Pittsburgh, Pa., a corporation of Delaware
Continuation of application Ser. No. 566,966, July 21, 1966. This application Oct. 29, 1968, Ser. No. 771,671
Int. Cl. F01b *7/00, 19/02, 31/00*
U.S. Cl. 92—63 **12 Claims**

A vehicle brake actuator comprises fluid pressure service and auxiliary motors connected in tandem, the auxiliary motor comprising a piston movably mounted in a housing and having at opposite sides a fluid pressure chamber and a spring chamber containing a spring assembly. The pressure chamber is connected to a source of pressure to displace the piston in one direction to compress and maintain energized the spring assembly. The spring assembly comprises two coaxial coil springs of different diameter having one pair of axially opposite ends reacting against the housing and piston respectively, and the other pair of axially opposite ends disposed in axially coextensive relation with a motion transmitting sleeve mounted on and between them connecting the springs in series.



3,508,470
BRAKE ACTUATOR

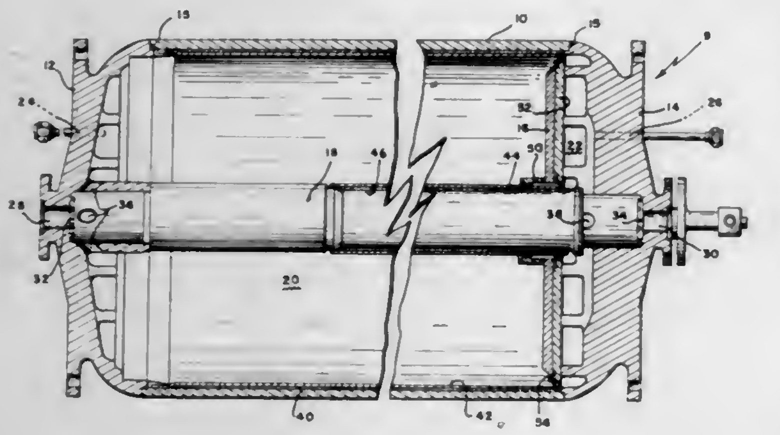
Kenneth D. Swander, Jr., and Charles G. Wearden, Prairie Village, Kans., assignors to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland
Continuation-in-part of application Ser. No. 520,693, Jan. 14, 1966. This application Mar. 10, 1969, Ser. No. 812,538
Int. Cl. F01b *7/00, 29/00, 31/00*
U.S. Cl. 92—63 **12 Claims**



A vehicle spring emergency and parking brake of the "add-on" or "piggy back" type with the spring chamber outboard (with respect to the wheel, axle or brake, per se) of the service (diaphragm) chamber, said add-on brake having a mechanical release (manual spring back-off) utilizing a bolt stored within the spring chamber itself, one modification having means preventing or warning of attempts to recompress the emergency spring before the bolt is restored to its storage position within the spring chamber, one modification having an anti-explosion device coupled with the storage of the bolt within the spring chamber, and one modification having a portion of the spring chamber retractable within the spring chamber housing itself when the emergency of power spring has been expanded.

3,508,471
ROLLING METAL DIAPHRAGM

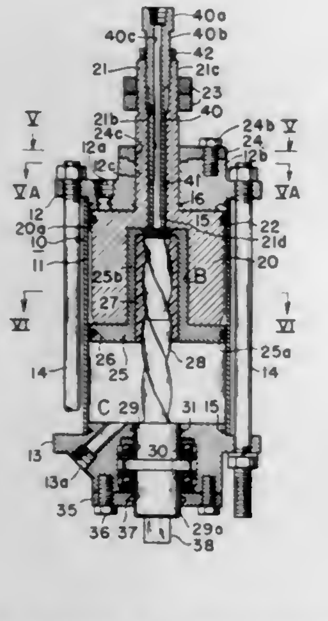
Alan L. Schuler and Robert C. White, San Diego, Calif., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 11, 1968, Ser. No. 759,155
Int. Cl. F04b *17/00*
U.S. Cl. 92—98 **2 Claims**



A rolling diaphragm in a positive expulsion device which provides metal between the extrusion medium and the pressurant. One fluid is positively expelled when pressurized by another fluid while the two fluids are kept entirely separate. A special guide collar is provided for insuring smooth travel of the rolling diaphragms. A special bond is provided for the flexible sleeve to prevent it from buckling and provide smooth operation.

3,508,472
VALVE ACTUATOR

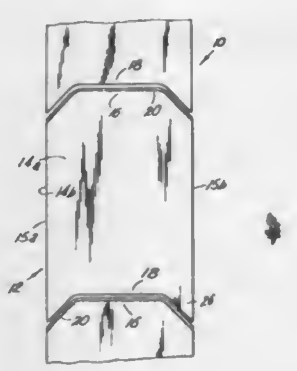
Harry T. Hartwick, Jr., McKeesport, Pa., assignor to Pittsburgh Brass Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 26, 1968, Ser. No. 716,146
Int. Cl. F01b *3/00, 9/02*
U.S. Cl. 92—13 **7 Claims**



A three-stage device or transducer for actuating or operating valves is provided having cooperating primary and secondary pistons capable of providing a pair of forward stroke stages. The first forward stage may be set for a valve shaft amount of rotation representing the opening of one port or a desired percentage of valve opening, up to a 90° plus or minus of rotation. The second forward stage may be set for an additional 90° plus or minus of rotation, which position may represent the opening of a second port or a full opening of the valve. The forward movement of both the primary and secondary pistons is positively limited by mechanical means. The secondary piston has an inner cooperating relation with the primary piston and through the agency of mating helix portions, translates forward and backward fluid-actuated piston movement into rotary (clockwise and counterclockwise) valve shaft movement. In a first stage forward stroke, both pistons advance together, and in a second stage or final forward stroke, only the secondary piston advances. In a third or return stage backward stroke, the operation is reversed; the secondary piston moves first and then both pistons move together to complete the return stroke.

3,508,473
FLEXIBLE BAG FOR PACKAGING FOOD ITEMS

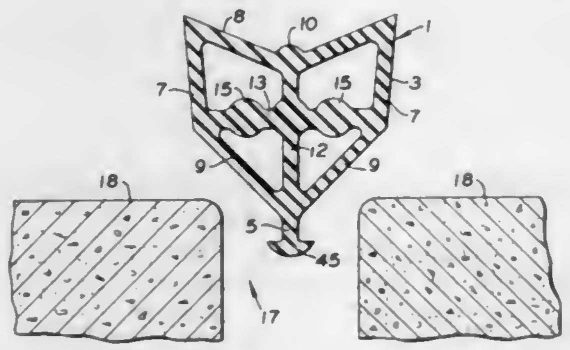
Alvin E. Ericson, Chicago, Ill., assignor to Union Carbide Corporation, a corporation of New York
Original application Dec. 6, 1966, Ser. No. 599,557. Divided and this application Nov. 2, 1967, Ser. No. 708,451
Int. Cl. B31b *49/04*
U.S. Cl. 93—35 **3 Claims**



A method of making a flexible bag for packaging irregularly shaped items in which a straight line cut made transversely of tubular film has two adjacent angular cuts on either side joined by arcuate cuts into a continuous cut from one edge of the film to the other. The bottom of the bag is formed by sealing along the line of the cuts.

3,508,474
EXPANSION JOINT SEAL, ETC.

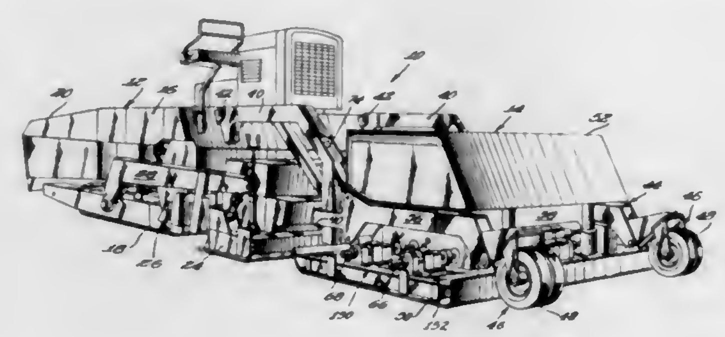
Theodore S. Rowe, Kent, Ohio, assignor to Hamilton Kent Manufacturing Co., Kent, Ohio, a corporation of Ohio
Continuation-in-part of application Ser. No. 628,608, Apr. 5, 1967. This application Sept. 12, 1968, Ser. No. 777,536
Int. Cl. E01c *21/00*
U.S. Cl. 94—22 **8 Claims**



An expansion joint seal is provided which has a resilient body to be squeezed into a crack, and a lip of much less width than the body, which extends from one face. The seal is of substantial length. The body is preferably skeletal with an internal structure such that when the seal is compressed into a crack, the seal maintains outward sealing pressure. Apparatus for inserting the seal into a crack includes at least one wheel, and preferably two in tandem, in which the central portion of the tread is of greater diameter than the edges of the tread, so that the one or more wheels are guided along the crack by the central portion projecting into the crack. The wheels support an inserter below them which fits into the crack. An enlargement on the outer end of the lip is threaded through the inserter as the apparatus is wheeled along the crack. In this manner the seal is progressively drawn into sealing position within the crack.

3,508,475
PLATE TOWED COMPACTOR

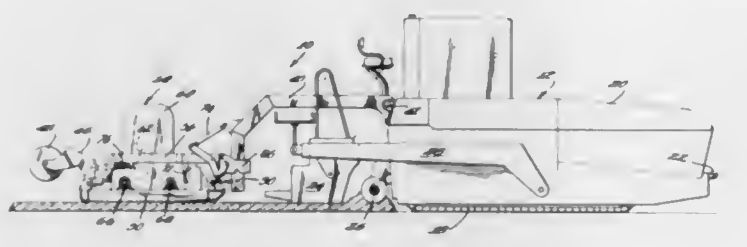
Fred T. Smith, Aurora, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
Filed Aug. 30, 1967, Ser. No. 664,368
Int. Cl. E01c *19/30*
U.S. Cl. 94—48 **26 Claims**



A plate towed compactor having a frame, a motor suspended in the frame, a pair of eccentric shafts transverse to the direction of towing, a vibrating plate driven by the shafts, and a towing and suspension system for attaching the unit to a finisher.

3,508,476
METHOD AND APPARATUS FOR TOWING AND SUSPENDING A COMPACTOR FROM A PAVER

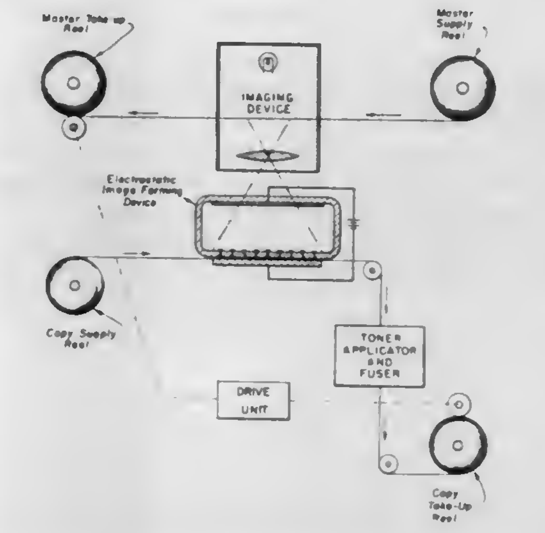
Fred T. Smith, Aurora, Ill., assignor to Barber-Greene Company, Aurora, Ill., a corporation of Illinois
Filed Aug. 30, 1967, Ser. No. 664,386
Int. Cl. B31b *1/16*
U.S. Cl. 94—48 **28 Claims**



A towing and suspension apparatus for a towed compactor including a pair of towing arms, a frame connected to the towing arms, a vibrating screed, a motor mounted on the frame for vibrating the screed, a lateral drift control ram to position the compactor, a pair of caster wheel assemblies attached to the opposite end of the frame from the towing arms for use in traveling, and hydraulic rams for maintaining the traveling position.

3,508,477
APPARATUS FOR PRODUCING ELECTROSTATIC IMAGES

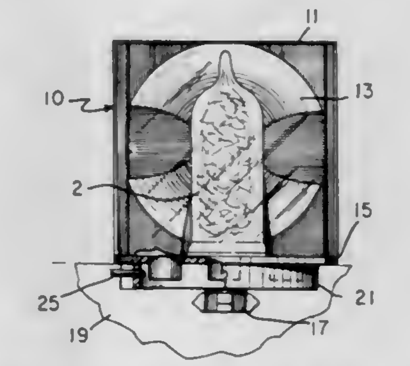
Hayes Richard Groo III, Stamford, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Dec. 6, 1967, Ser. No. 688,524
Int. Cl. G01 *15/06*
U.S. Cl. 95—1 **10 Claims**



Apparatus for producing electrostatic images comprises an evacuated glass envelope having a window for admitting photo information and a multi-cathode including an array of spaced, parallel fine wire conductors hermetically sealed in the envelope wall generally opposite the window. The conductors transect the envelope wall and have their inner and outer ends, respectively, exposed. The inner ends of the conductors have a deposit of photoemissive material. A transparent conductive coating on the inner surface of the window serves as an anode. A substrate on which an image is to be produced is brought into contact with the outer, exposed ends of the conductors of the multicathode, and, upon imaging photo information on the multi-cathode photoemitters, electrons are emitted to the anode, the electrons being supplied to the photoemitter either from a charge impressed on the substrate by a conductive backing plate that form a circuit with the anode and a source of electric potential, or from an electrostatic surface charge previously impressed on the substrate. An electrostatic image thus left on the substrate is subsequently toned to produce a visible copy.

3,508,478
PHOTOGRAPHIC FLASHLAMP UNIT

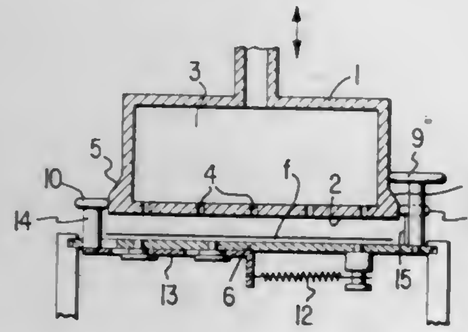
David N. Brooks, West Peabody, Mass., assignor to Sylvania Electric Products, Inc., a corporation of Delaware
Filed June 26, 1967, Ser. No. 648,592
Int. Cl. G03b *17/48, 15/03*
U.S. Cl. 95—11 **4 Claims**



A photographic flashlamp unit having a base member with a plurality of apertures therein, a mounting element depending from the base member for connecting the unit to a camera socket, a plurality of flashlamps supported on the base member, and a retaining device for releasably holding the base member in the mounted position on the camera. The flashlamps are of the percussive primer type which have their percussive primers extending into the apertures on the base member. The retaining device is formed by an annular ring which depends from the base member and has apertures therein for cooperating with a pin mechanism on the camera to releasably retain the flashlamp unit in a predetermined position in the camera socket.

3,508,479
APPARATUS FOR ADJUSTING THE POSITION OF A SHEET OF FILM ON A SUPPORT MEMBER

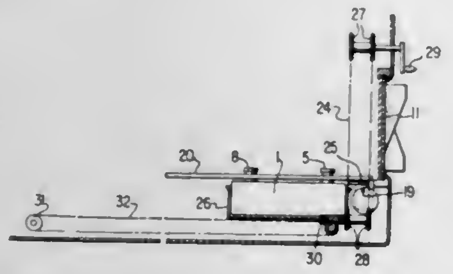
Yoshio Hakamata and Kiyoji Nakamura, Tokyo, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan
Filed Oct. 9, 1967, Ser. No. 673,747
Claims priority, application Japan, Oct. 14, 1966, 41/95,100
Int. Cl. G06b *17/26*
U.S. Cl. 95—11 **3 Claims**



An apparatus for properly positioning a sheet of photographic film on a support member consisting of a base plate for momentarily receiving a sheet of film, movable guide elements for moving the sheet in a transverse direction on the base plate, a longitudinal reference device, and resilient members carried by the base plate for moving the sheet longitudinally into abutting position with the reference device. The support member is a suction box that is moved toward and away from the base plate during a positioning operation and has a cam surface for controlling the movement of the movable guide elements in the transverse direction as the suction box moves relative to the base plate. The movable guide elements include cam followers which cooperate with the cam surface of the suction box and lever elements which are biased in a transverse direction with respect to the base plate.

3,508,480
FILM LOADING DEVICE OF A MICROFICHE CAMERA

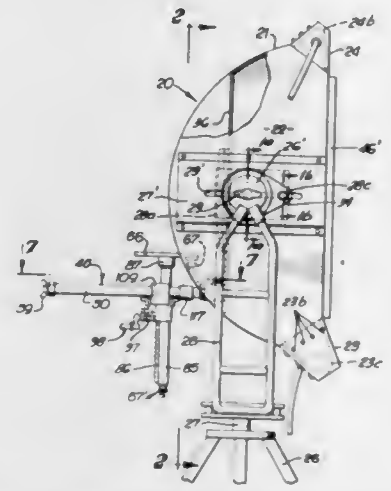
Yoshio Hakamata and Kiyoji Nakamura, Tokyo, Japan, assignors to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan
Filed Oct. 9, 1967, Ser. No. 673,746
Claims priority, application Japan, Oct. 14, 1966, 41/95,101
Int. Cl. G03b *19/10*
U.S. Cl. 95—19 **5 Claims**



A film loading device in a microfiche camera utilizing a film magazine which is adapted to be loaded into the camera. The magazine has a shutter interlocked to a sliding door of the loading port of the camera so that the shutter may be opened after the magazine is positioned within the camera but remains closed and locked during magazine positioning in and removal from the camera.

3,508,481
STUDIO LAMP WITH BUILT-IN CAMERA

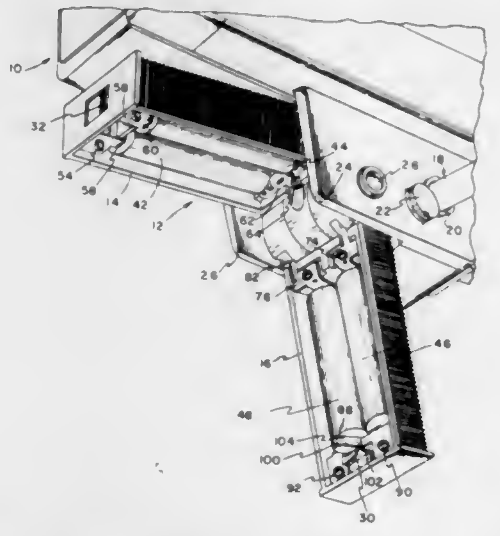
Maxey A. Hankins, Encino, Calif., assignor to Mole-Richardson Co., Hollywood, Calif., a corporation of California
Filed Sept. 1, 1967, Ser. No. 665,003
Int. Cl. G03b *15/06*
U.S. Cl. 95—82 **5 Claims**



A photographic apparatus combining a reflector type studio lamp and a camera mount. The lamp has an arcute vertically symmetrical reflector with separate elongated light sources along the upper and lower edges. These light sources are arranged to reflect beams of light off the reflector generally along its axis of symmetry. The reflector has a central aperture. The camera mount is at the rear of the reflector and arranged to mount a camera with its lens directed through the aperture along the axis of symmetry of the reflector.

3,508,482
HANDLE AND BATTERY COMPARTMENT FOR PHOTOGRAPHIC APPARATUS

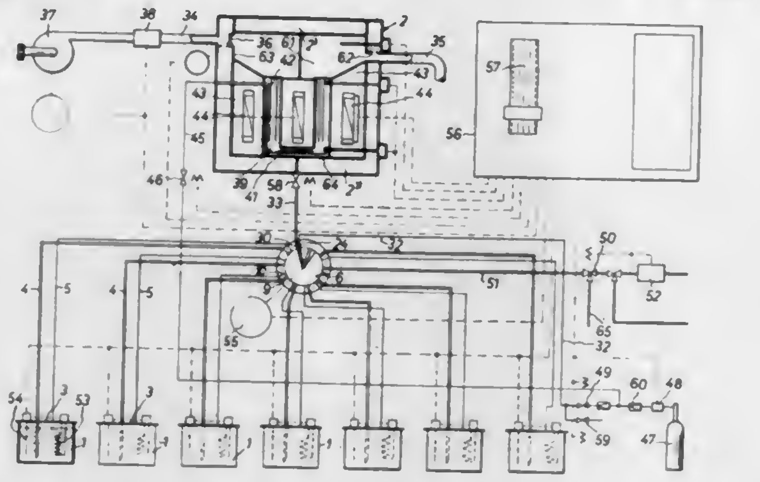
Walter E. Taylor, Greece, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 30, 1967, Ser. No. 678,982
Int. Cl. G03b *17/00*
U.S. Cl. 95—86 **6 Claims**



A handle and battery compartment for photographic apparatus is disclosed in which the electrical energy source is provided by a plurality of electric cells conveniently located within the interior. The compartment is rotatably supported on the apparatus body, and serve conveniently as a handgrip to enable the photographic apparatus to be aimed in a desired direction.

3,508,483
APPARATUS FOR DEVELOPING PHOTOGRAPHIC MATERIAL

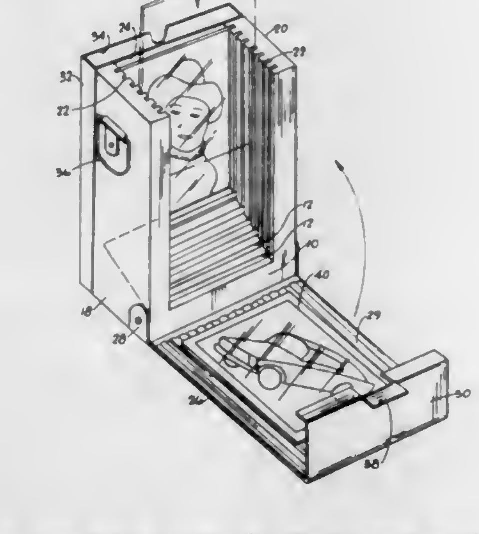
Achille B. Weider, 21 Leonhardhalde, and Rolf Hanger, Untere Zaune 17, both of Zurich, Switzerland
Filed July 26, 1967, Ser. No. 656,190
Int. Cl. G03d *3/06*
U.S. Cl. 95—96 **5 Claims**



In apparatus for developing photographic material, particularly for colour photography, a number of storage receptacles for different treatment liquids are provided and are connected by the intermediary of a valve arrangement to a closed developing compartment. The valve arrangement controls a closed conduit system including individual supply conduits from each storage receptacle to the valve arrangement, and a single supply conduit from the valve arrangement to said developing compartment for selectively establishing communication between any one of said storage receptacles and said developing compartment. The supply of treatment liquid from said storage receptacles to said developing compartment is effected by means of an inert propellant gas, selective feeding of the inert gas to said receptacles being also controlled by said valve arrangement. Provision is made for scavening said developing compartment and said closed conduit system for treatment liquids by an inert gas, whereby the treatment liquids never make contact with atmospheric oxygen.

3,508,484
BOX FOR PHOTOGRAPHIC USE

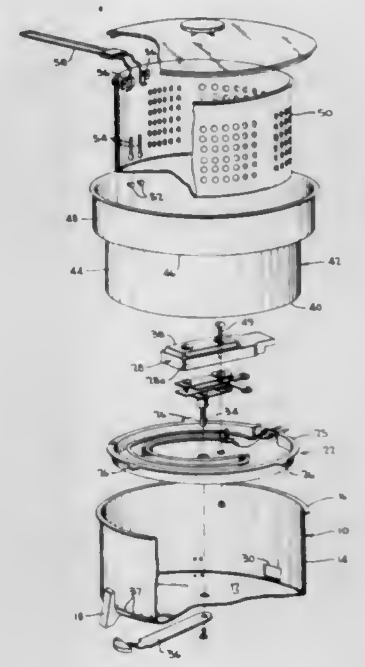
Lee R. Hickey, 302 W. Williams St., Corunna, Mich. 48817
Filed Oct. 23, 1967, Ser. No. 677,134
Int. Cl. G03d *3/00*
U.S. Cl. 95—100 **6 Claims**



A box for use with Polaroid black and white or color prints which permits the user after exposing the print either to coat it (if a black and white print) or to apply a backing to it (if a color print); in either case the print is wet and can be thereafter temporarily held in position in the box to dry.

3,508,485
THERMOSTATICALLY CONTROLLED COOKING APPARATUS

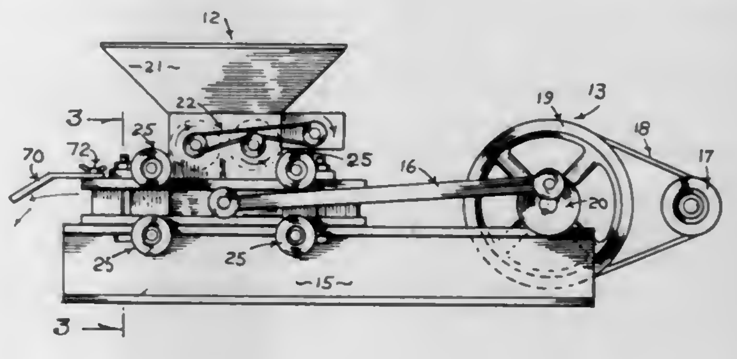
George B. Munsey, Little Rock, Ark., assignor to Munsey Products, Inc., Little Rock, Ark., a corporation of Arkansas
Filed July 2, 1968, Ser. No. 742,049
Int. Cl. A47j *37/12*
U.S. Cl. 99—331 **8 Claims**



Cooking apparatus including a receptacle having a cylindrical wall and a horizontal bottom and within which is disposed an electrical heating element controlled by a manually adjustable thermostatic switch. The switch is shielded from the heating element by a housing of heat conductive material, and has a contact surface in engagement over a substantial area with the heat conductive bottom of a container supported in the receptacle. A horizontal flange on the container supports it on the receptacle wall and substantially isolates the receptacle interior from the atmosphere. The rotary regulating shaft for the thermostatic switch extends concentrically downwardly through the bottom of the receptacle and has affixed thereto a radial arm projecting to the outer periphery of the bottom for cooperation with temperature calibrations on the cylindrical wall of the receptacle adjacent to the bottom.

3,508,486
COMPRESSING MACHINE

Joe Polich, 30959 Soapmine Road, Barstow, Calif. 92311
Filed June 30, 1967, Ser. No. 650,384
Int. Cl. B30b *9/00*
U.S. Cl. 100—98 **5 Claims**

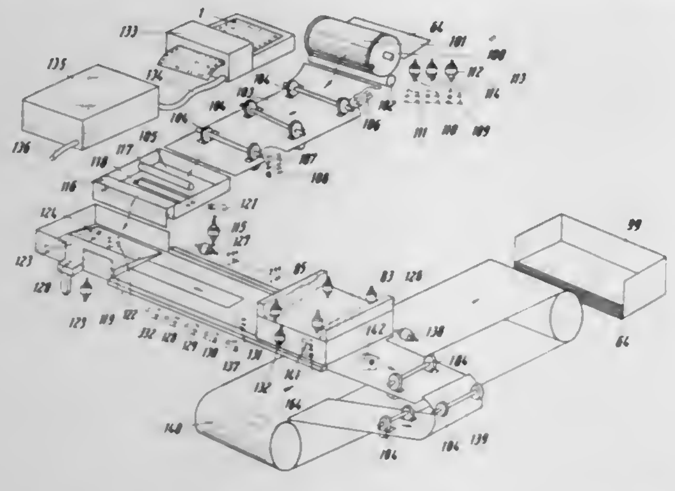


This invention discloses a cubing machine which compresses grain into cubes. The extrusion die is easily separable from the machine and is comprised of an upper and lower plate and separating wall sections.

3,508,487

ARRANGEMENT FOR IMPRINTING AND PUNCHING CARDS

Gerhard Ritzerfeld, Franzensbader Str. 21, Berlin-Grunewald, Germany
Filed Dec. 13, 1967, Ser. No. 690,151
Claims priority, application Germany, Dec. 16, 1966, R 44,828
Int. Cl. B44b *5/00;* **B45j** *3/44*
U.S. Cl. 101—19 **15 Claims**

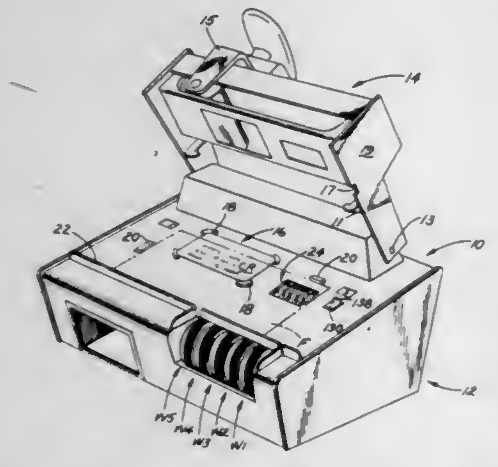


Cards are imprinted by a printing machine, and punched by a punching device under the control of a record carrier. The printing and punching operations are not synchronized, and imprinted cards are transported to a storage device in which they remain until the punching device is ready to receive cards whereupon cards are transported from the storage means to the punching device.

3,508,488

PIVOTAL HEAD CARRYING A PLATEN ROLLER IN DATA RECORDERS

John A. Maul, Lyndhurst, James T. Zofchak, Mentor, and David D. Anderson, Richmond Heights, Ohio, assignors to Addressograph Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 18, 1968, Ser. No. 698,871
Int. Cl. B45j *25/00;* **B41f** *3/04*
U.S. Cl. 101—45 **7 Claims**

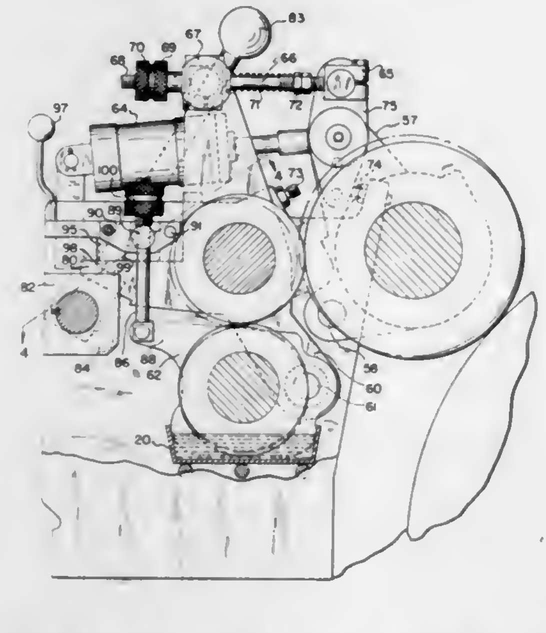


A data recorder which has a printing head pivotally mounted on a base and movable between an open inactive position and a closed printing position includes a roller platen supported on the printing head and adapted to be moved across the base to imprint a form from an embossed plate when the head is in closed position. Variable amount print wheels are rotatably mounted on the base and are selectively settable under control of thumb operated wheels for imprinting variable data on the form simultaneously with the imprinting of the fixed data from the embossed plate. A lock-out device associated with the variable print wheels prevents closing of the printing head in those instances wherein at least one of the print wheels is not reset.

3,508,489

FLUID APPLYING MECHANISM

Robert K. Norton, Twinsburg, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Continuation of application Ser. No. 497,824, Oct. 19, 1965. This application May 15, 1969, Ser. No. 840,082
Int. Cl. B41l *25/02*
U.S. Cl. 101—148 **7 Claims**



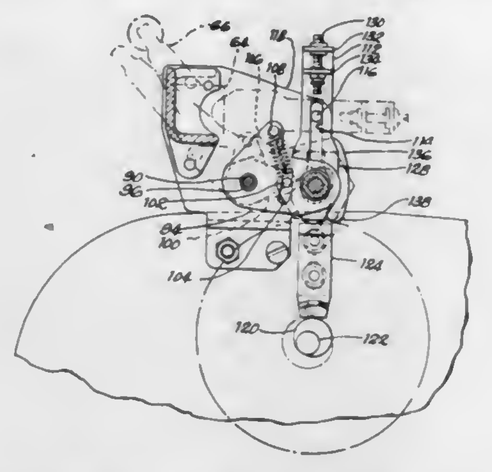
A lithographic printing press in which an ink coated first roll, e.g., a resilient form roll running in engagement with the printing plate mounted on a plate cylinder, has dampening fluid supplied thereto from a second roll which runs in engagement with the first roll with the first and second rolls being resilient surface rolls. The rolls are ink receptive and the second roll is driven at a speed different from the first roll to control the amount of dampening fluid transferred to the first roll, the first roll being driven at the surface speed of the plate. The second roll is driven by drive means which includes an overrunning device, so that the first roll can drive the second roll at a speed faster than the drive to the second roll but if this occurs, a brake mechanism responsive to the overdriving effects a braking of the second roll to the speed of the drive means. If the overdrive is sufficient, a switch is tripped to perform a control function in addition to the braking. A hydrophylic surface roll runs in engagement with the second roll and operates at the same surface speed of the second roll and dips into a reservoir of dampening fluid contained in a pan to supply dampening fluid to the second roll. The first roll has a non-operative position away from the plate and the second roll can be moved to and from the engagement with the first roll when the latter is in its non-operative position and is moved to engagement with the first roll to move the latter to an operating position against the plate. The third roll can be moved to and from engagement with the second roll regardless of the position of the latter.

3,508,490

ETCH APPLICATOR FOR OFFSET DUPLICATING MACHINE

Kenneth J. Tonkin, Glenview, and Richard R. Jeschke, Niles, Ill., assignors to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Original application July 24, 1964, Ser. No. 384,859, now Patent No. 3,431,841, dated Mar. 11, 1969. Divided and this application July 27, 1967, Ser. No. 656,485
Int. Cl. B41l *25/10, 25/16*
U.S. Cl. 101—147 **2 Claims**

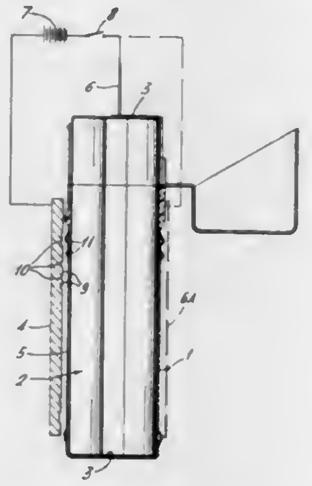
An etch applicator for an offset duplicating machine, comprising an etch applicator pad mounted on a movable carriage which is engageable with a follower member to limit the movement of the applicator pad against the master cylinder, the follower member being in engagement with the eccentric shaft of the master cylinder whereby the carriage is caused to follow the shifting movement of the shaft, so that the corresponding shifting movement of the cylinder will not cause pressure variations between the cylinder and the pad.



3,508,491

PRINTING APPARATUS FOR FILLED CONTAINERS

David T. N. Williamson and Michael Aren Pym, London, England, assignors to The Molins Organisation Limited, London, England, a corporation of Great Britain
Continuation of application Ser. No. 642,406, May 31, 1967. This application Feb. 7, 1969, Ser. No. 800,817
Claims priority, application Great Britain, June 6, 1966, 25,120/66
Int. Cl. B41m *1/10*
U.S. Cl. 101—150 **7 Claims**



Apparatus for printing on containers which, although themselves electrically non-conductive, contain an inner wrapper of conductive foil, uses the foil as an electrode of an electrostatic printer. Ink is supplied between another electrode and the container, and different potentials applied to the foil and the other electrode to produce an electric field propelling the ink onto the container. Various methods of forming the ink into desired images are mentioned.

3,508,492

DYE FOIL FOR THE PRODUCTION OF PRINTS BY MEANS OF HEAT

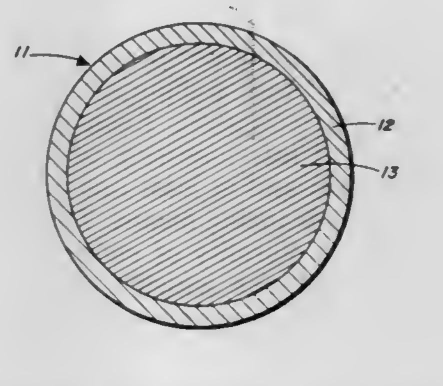
Heinrich Seibert and Werner Krafft, Leverkusen, Germany, assignors to Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 13, 1967, Ser. No. 622,449
Claims priority, application Germany, Apr. 9, 1966, A 52,120
Int. Cl. B41m *5/18*
U.S. Cl. 101—470 **10 Claims**

Sublimable dyes such as C.I. Nos. 64500, 62035, 11110, 11345 and 2882, di-isobutylamino-anthraquinone and 1,5-di-hydroxy-4,8-stearylamino-anthraquinone are incorporated into a copolymer of 20–40% acrylonitrile and 60–80% styrene, which copolymer can be blended with a butadiene-acrylonitrile copolymer or a copolymer of styrene and acrylonitrile grafted onto polybutadiene or onto copolymers of butadiene with styrene and/or acrylonitrile. The sublimable dyes in the resin binder are formed into a relief layer and the dye transferred from said relief layer by heating and sublimation to a sheet to be printed.

3,508,493

DYNAMIC WARHEAD FRAGMENT

Peter J. Olenick, Jr., Dahlgren, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 24, 1968, Ser. No. 773,360
Int. Cl. F42b *13/48*
U.S. Cl. 102—67 **1 Claim**

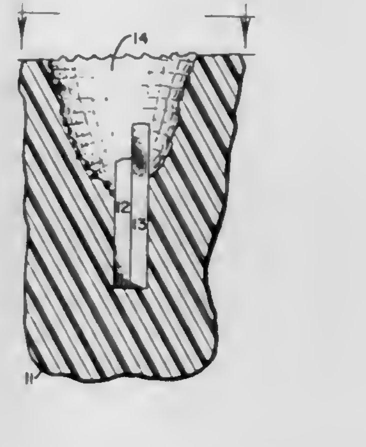


There is disclosed a fragmentary type ordnance device wherein each fragment is capable of sub-fragmenting upon impact with the target in order to greatly enhance kill probability. Each fragment has a core of filler material which acts as a solid during acceleration but becomes molten or soft from heat during flight. At impact the filler breaks up into small size fragments which transfer their energy to the target.

3,508,494

SOLID PROPELLANTS OF ENHANCED BURNING RATES USING BIMETALLIC FIBERS

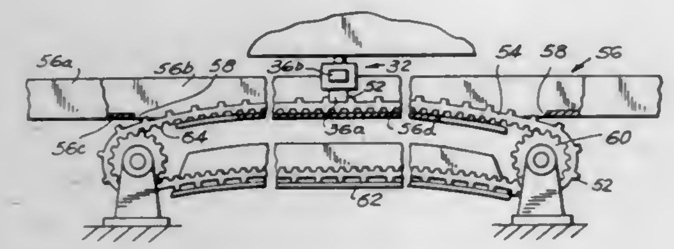
Leonard H. Caveny, Huntsville, Ala., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed May 5, 1965, Ser. No. 453,313
Int. Cl. C06d *5/00;* **F42b** *1/00*
U.S. Cl. 102—102 **6 Claims**



A method for increasing the effective burning rates of a solid propellant by dispersing in the solid propellant a plurality of bi-metallic fibers, so that the longitudinal axis of each fiber is perpendicular to the plane of the burning surface of the solid propellant.

3,508,495
AUTOMATIC VEHICLE-TRANSPORTING SYSTEMS

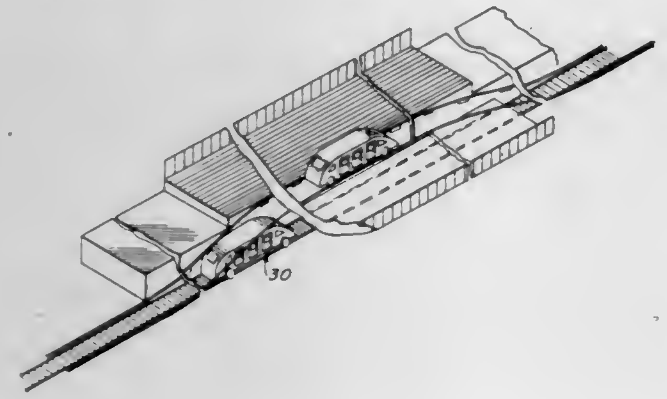
Arthur G. Mirel, Scarsdale, N.Y., assignor to Telecarrier Corporation, White Plains, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 421,359, Dec. 28, 1964, now Patent No. 3,338,177. This application Aug. 28, 1967, Ser. No. 663,791
Int. Cl. B61b *13/00;* **B61j** *3/00;* **B01k** *1/00*
U.S. Cl. 104—88 24 Claims



An automatic vehicle-transporting system wherein a carrier for the load is provided with glide-pawls which are adapted to slide along a rail means, the configuration of which determines the configuration of a circuit along which the load carrier moves. Each glide-pawl is in the form of a block, at least one side of which slidably engages the rail means and at least one other side of which is advanced by an advancing means. The advancing means takes the form of a plurality of endless belts which have outer projections between which a part of a glide-pawl is received for transmitting movement to the glide-pawl and the carrier to which it is connected. These projections of the belt are situated at the exterior thereof, while the interior side of each belt is driven by a rotary drive means in the form, for example, of a sprocket.

3,508,496
TRANSPORTATION SYSTEM

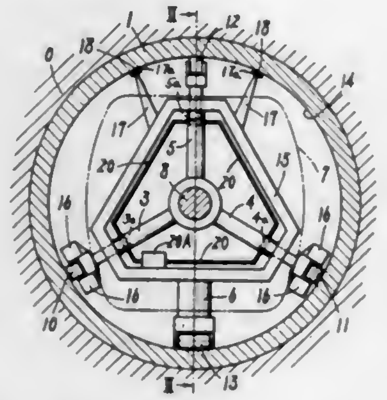
Vincent H. Larson, Evanston, Ill., assignor to Northwestern University, Evanston, Ill., a corporation of Illinois
Filed Feb. 6, 1967, Ser. No. 614,214
Int. Cl. E01b *25/06*
U.S. Cl. 104—130 9 Claims



A transportation system including wheeled vehicles traveling at constant and uniform speed on fixed rails or tracks extending along predetermined routes, the system being further characterized in that switching of vehicles to and from station tracks and to and from track sections leading to cross-route tracks is effected through utilization of a "lift-off" principle whereby the moving vehicles are physically transferred between the route tracks at a first level and other tracks at a second level by means of a set of vehicle-carried wheels extensible laterally with respect to a route track set of vehicle wheels. In another embodiment of the invention vehicle transfer is effected by lowering a second set of wheels to engage a second set of tracks, thereby lifting the vehicle from the first set of tracks.

3,508,497
UNDERGROUND HIGH-SPEED TRANSPORTATION SYSTEM

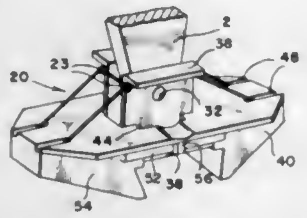
Kosuke Matsukata, 390 Tsurumi-cho, Tsurumi-ku, Yokohama, Japan
Filed Mar. 25, 1968, Ser. No. 715,916
Claims priority, application Japan, July 12, 1967, 42/44,641; Sept. 29, 1967, 42/62,251; Jan. 5, 1968, 43/380
Int. Cl. B61b *13/10*
U.S. Cl. 104—138 6 Claims



A high-speed underground transportation system. An underground tube has a train of cars running through it, each car having thereon at least two sets of legs. Each set of legs have three legs positioned symetrically around and radiating from an axis coaxial with the axis of the tube. A frame unit connects the legs, and driving wheels are provided on the extreme ends of two of the legs. A freely rotatable wheel is provided on the extreme end of the third leg. The two driving wheels engage the wall of the tube, and driving motors coupled to the wheels for driving the car along the wall. The wheel on the third leg holds the car in position within the tube.

3,508,498
OVERRIDING DOG APPARATUS

Richard E. Nearman, Mount Airy, Md., assignor to Automated Handling Systems Inc., Washington, D.C., a corporation of the District of Columbia
Filed May 13, 1968, Ser. No. 728,511
Int. Cl. B65g *19/22;* **B61b** *13/00*
U.S. Cl. 104—172 8 Claims

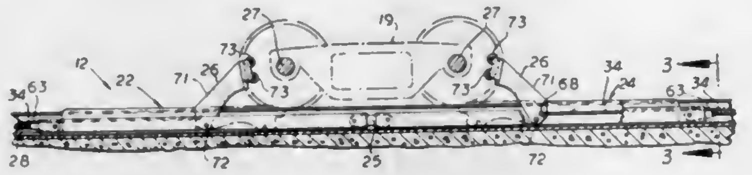


Improved spring-mounted overriding pusher dogs for engaging and driving trolleys, for disengaging the trolleys and riding over adjacent trolleys without jamming trolleys together, and for engaging and moving leading trolleys from accumulations of trolleys are described herein for use with conveyors having independent load-carrying trolleys moving along tracks and having drive chains in parallel runs.

3,508,499
APPARATUS FOR PROPELLING RAILROAD CARS AND THE LIKE

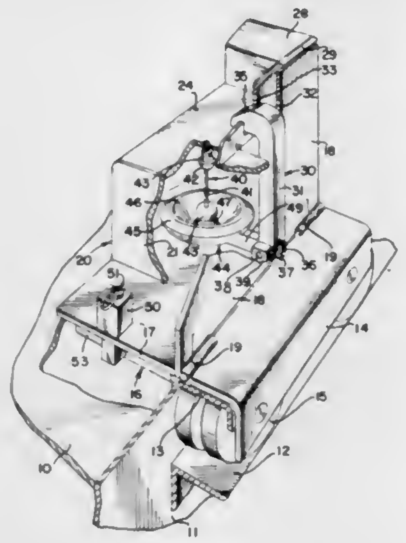
Willys Howard Collins, Houston, Tex., assignor to FMC Corporation, a corporation of Delaware
Filed Dec. 30, 1966, Ser. No. 606,388
Int. Cl. B61j *3/06*
U.S. Cl. 104—176 11 Claims

An apparatus for propelling railroad cars and the like and for positioning the same at various locations along a loading dock or in a repair shop. The apparatus includes a carriage having pivoted car pusher arms which are actuated into and out of their engaging position by a rope that is independent of the cable used for propelling the carriage in opposite directions.



3,508,500
BRACKET ARRANGEMENT FOR SECURING CARGO CONTAINERS ON VEHICLES

Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed May 24, 1968, Ser. No. 731,964
Int. Cl. B61d *45/00*
U.S. Cl. 105—366 15 Claims

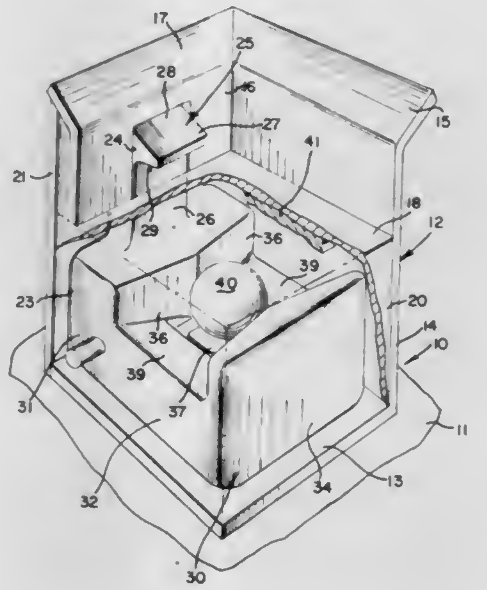


A bracket arrangement for securing a cargo container on a vehicle having a platform on which the container is supported, the vehicle being subject to acceleration and deceleration forces and tilting of the platform during normal operation wherein latch means is provided to restrain the container against upward movement, the said latch means permitting normal unloading movement of the container when the vehicle is at rest, said latch means including means responsive to the acceleration and deceleration forces on the vehicle, and inclination of the platform, to lock said latch mechanism in engaged position with the container to prevent vertical displacement thereof.

3,508,501
BRACKET ARRANGEMENT FOR SECURING CARGO CONTAINERS ON VEHICLES

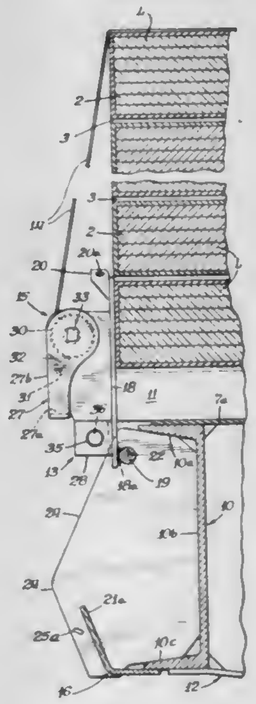
Ernest J. Nagy, Munster, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed May 24, 1968, Ser. No. 731,991
Int. Cl. B61d *45/00*
U.S. Cl. 105—366 12 Claims

A bracket arrangement for securing a cargo container on a vehicle having a platform on which the container is supported, the vehicle being subject to acceleration and deceleration forces and tilting of the platform during normal operation wherein latch means is provided to restrain the container against upward movement, the said latch means permitting normal unloading movement of the container when the vehicle is at rest, said latch means including movable means responsive to the acceleration and deceleration forces on the vehicle and inclination of the platform to lock said latch mechanism in engaged position with the container to prevent any vertical displacement. The movable means includes a rolling member which is movable from an inert position to a position whereupon it blocks movement of the latch mechanism to maintain the same in the locked position.



3,508,502
RAILROAD CAR AND LADING TIE DOWN MEANS THEREFOR

Roger D. Sims, Highland, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 690,871
Int. Cl. B61d *45/00;* **B60p** *7/08*
U.S. Cl. 105—369 7 Claims

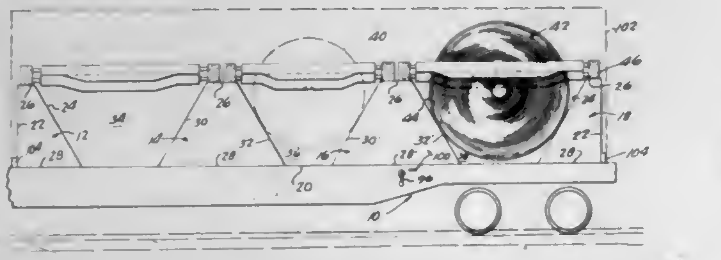


A flat deck railroad car for carrying lumber or the like and being provided with lumber tie-down means in the form of pivotally mounted ratchet and pawl operated lading strap take-up means carrying strap for tying the lading to the flat deck, the pivotal take-up structure comprising a cover for the lading strap storage and closure wherein the take-up mechanism is mounted on the inside of the cover so as to be out of the way and the cover is closed against the strap receiving trough which may be locked or sealed, there being a plurality of such lading strap take-up devices and straps storage and closure means spaced longitudinally along each side of the flat deck car and each such device being coupled one on the other side to provide for a series of longitudinally spaced tie-down strap arrangements for securing the packaged lumber to the car and wherein there may be further provided the additional lading strap anchor attachments mounted on the covers of the enclosure to provide for tying of additional straps about the lumber.

3,508,503

SELF-BLOCKING RAILWAY CAR FOR HEAVY COIL LOADS

Hugh A. Daly, 12009 Indiana, Detroit, Mich. 48204
Filed Feb. 23, 1968, Ser. No. 707,675
Int. Cl. B61d *3/16*
U.S. Cl. 105—367 6 Claims

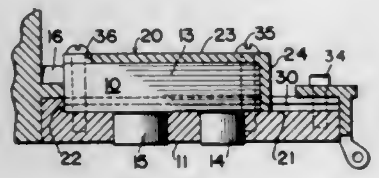


The invention provides a self-blocking railway car of the flat, or gondola type, for transporting heavy steel coils, and the like, comprising a plurality of wedge-shaped members mounted longitudinally on the bed of the car, each pair of adjacent members defining a coil-receiving trough extending transversely of the car, a pair of blocking arms extending longitudinally between said adjacent wedge-shaped members at the sides thereof, means biasing said pair of blocking arms apart for receiving a load coil, and fluid pressure means adapted to move said blocking arms toward one another to clamp a coil in said trough.

3,508,504

PROTECTIVE STEEL HOUSING FOR LOCKS

Max S. Kotler, 17001 NE. 13th Ave.,
North Miami Beach, Fla. 33162
Continuation-in-part of application Ser. No. 657,853, Aug. 2, 1967. This application July 25, 1968, Ser. No. 747,575
Int. Cl. E05g *1/04*
U.S. Cl. 109—59 4 Claims

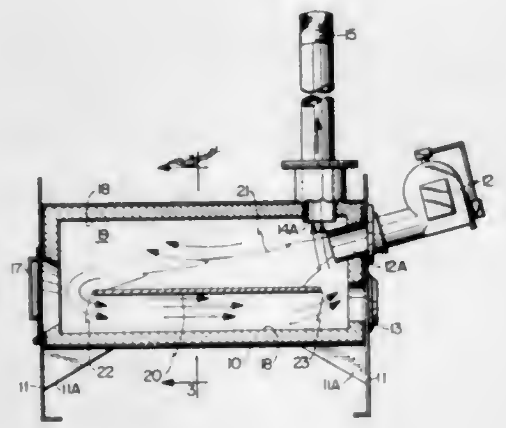


A protective steel locking housing, which is securely held in an overlying relation with the back side of the door of a safe deposit box to encase the conventional cast or malleable metal lock box to discourage burglaries of safe deposit boxes.

3,508,505

INCINERATOR

Morris S. Gatewood, Troup, Tex.
(P.O. Box 365, Whitehouse, Tex. 75791)
Filed Nov. 18, 1968, Ser. No. 776,425
Int. Cl. F23g *5/08*
U.S. Cl. 110—8 3 Claims

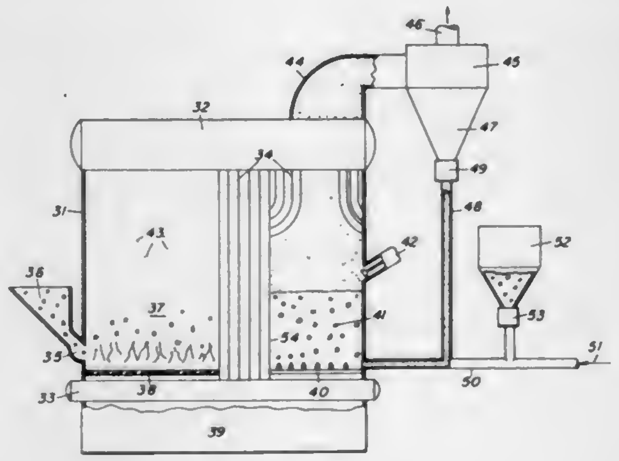


An incinerator is disclosed, which causes a flame to impinge upon a charge and thereby consume the charge by a primary combustion. The flue products of the primary combustion are caused to circulate and pass in contact with the flame, effecting a secondary combustion and thereby reducing the smoke, fumes and odors in the effluent of the incinerator.

3,508,506

PROCESS AND APPARATUS FOR REDUCTION OF UNBURNED COMBUSTIBLE IN FLY ASH

John W. Bishop, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Interior
Filed June 13, 1968, Ser. No. 736,626
Int. Cl. F23b *5/04*
U.S. Cl. 110—165 12 Claims

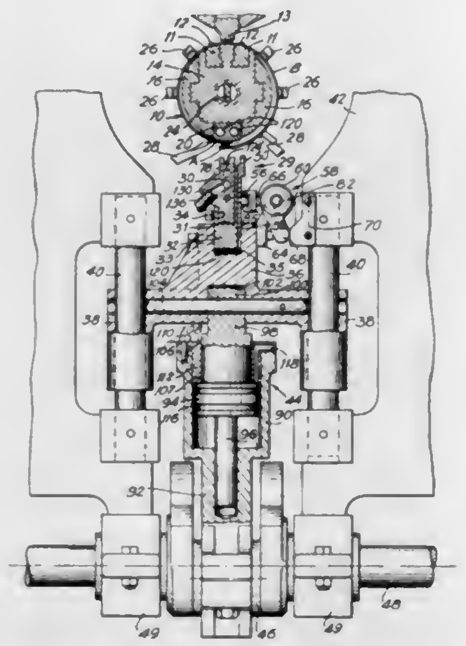


Combustible content of fly ash is reduced by collecting the fly ash and introducing it into a fluidized bed burnup cell maintained at temperatures above the ignition point of combustible material in the fly ash and below its fusion point.

3,508,507

CONTAINER BODYMAKER

August Theodore Lester Austing, Geneva, N.Y., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 8, 1967, Ser. No. 666,408
Int. Cl. B21d *51/26*
U.S. Cl. 113—12 8 Claims

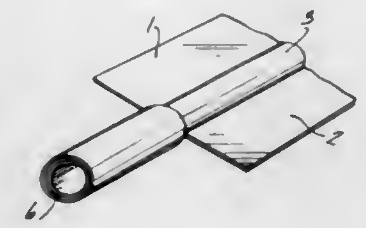


In a can bodymaking machine, a bumping hammer is held in sustained contact with a can body side seam during the formation of the latter to effect heat transfer from the side seam to the bumping hammer and thereby facilitate setting of the sealant used in the side seam.

3,508,508

METHOD OF ADAPTING FINNED TUBING FOR JOINING

Dwight L. Hill and Richard A. Shive, Madison, Ill., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Feb. 26, 1968, Ser. No. 708,325
Int. Cl. B21d *53/02;* **F28f** *1/14*
U.S. Cl. 113—118 9 Claims



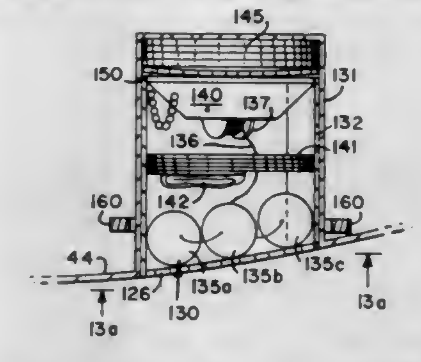
Providing finned tubing having fins integral therewith, severing at least one fin substantially inward towards the tube portion, and then deflecting the fins sufficiently inward towards said tube portion to provide an overlay in contacting arrangement and contiguous with the external surface of the tube portion.

3,508,509

UNDERWATER VEHICLE

Robert D. Le Bleu, 512 Columbia St.,
Santa Cruz, Calif. 95060
Original application Aug. 7, 1967, Ser. No. 658,777. Divided and this application Apr. 10, 1969, Ser. No. 815,093
Int. Cl. B63g *8/24;* **B63b** *21/52*
U.S. Cl. 114—16 9 Claims

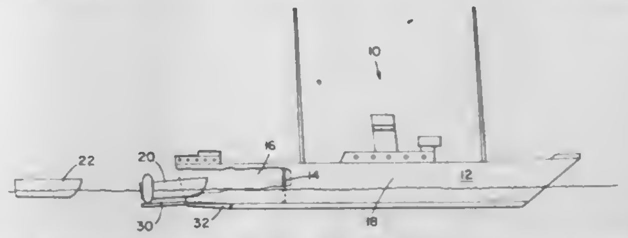
An underwater vehicle having a hull with an open ended flexible marker buoy compartment therein. A releasable clamping means holds the flexible compartment in contact with a cover. A spring forces the marker out when the clamping means is released. The marker has a buoyant means and an anchor.



3,508,510

LIGHTER HYDROLIFT DEVICE

Ernst G. Frankel, Boston, Mass., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Aug. 21, 1968, Ser. No. 754,351
Int. Cl. B63b *35/44*
U.S. Cl. 114—43.5 11 Claims

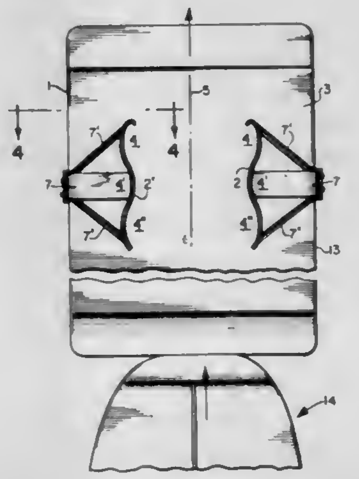


A marine vessel having a cargo-well construction which is adapted to load and unload buoyant cargo by using a hull section which is pivotally connected to a bottom section which is pivotally connected to the vessel for opening the well whereby the sections act as gates and ramps and, in addition, the bottom section in combination with integral ballast compartments and power means acts as a hydrolift device. The loading and unloading method involves opening the well by turning and submerging the hull section and activating the hydrolift device for raising cargo into, or lowering cargo out of, the well.

3,508,511

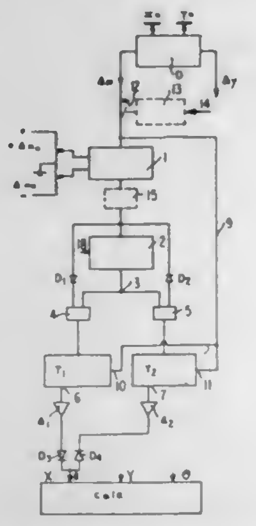
VESSEL AUXILIARY STABILIZERS

Angelo John Bosnich, 514 Dumaine St.,
New Orleans, La. 70116
Filed Sept. 20, 1968, Ser. No. 782,498
Int. Cl. B63b *39/06*
U.S. Cl. 114—126 8 Claims



A paired set of similar but opposed auxiliary rudders or stabilizing vanes for preventing uncontrolled lateral movement of a barge, when unloaded; exemplary designs of the vanes shown in horizontal cross-section in FIGURES 3 (barge to be pushed) and 5 (barge to be towed); to prevent damage, leading edges of the vanes curved inward to ward off foreign objects; to assist in withstanding lateral forces, each vane supported by horizontal and vertical members which "ride" against the bottom and side of the hull.

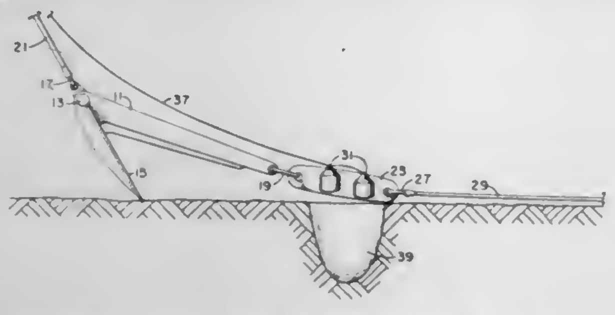
3,508,512
AUTOMATIC SYSTEM FOR DYNAMICALLY ANCHORING A FLOATING INSTALLATION
Andre Desrayaud, Louveciennes, and Pierre Aubel, Rueil-Malmaison, France, assignors to Institut Francais du Petrole des Carburants et Lubrifiants, Rueil-Malmaison, France
Filed Mar. 21, 1968, Ser. No. 714,923
Claims priority, application France, Mar. 29, 1967, 100,740
Int. Cl. B63h *25/00;* **G05b** *11/14*
U.S. Cl. 114—144 6 Claims



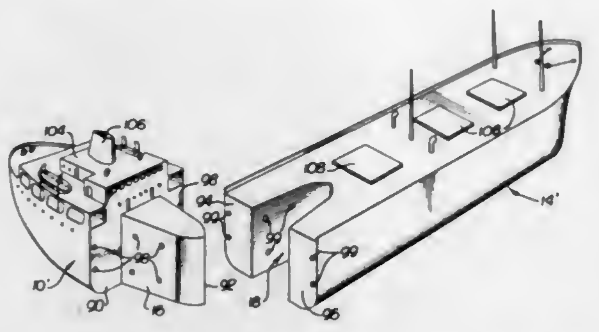
An automatic device for dynamically anchoring an aquatic mobile installation wherein there are means provided for generating control signals of thrusts exerted by the propulsive means which are actuated when the absolute value of a signal of position variation exceeds a predetermined limit value by furnishing a control signal of a variation of the component of the thrusts along the direction of the deviation. This control signal has a value independent of the variation signal. The component of the thrusts is thereafter stabilized to a value corresponding to a reduction of the variation in position until the chosen limit value is reached, which may be very small, from the variation in position.

3,508,513
METHOD AND APPARATUS FOR INCREASING THE HOLDING POWER OF ANCHORS
William T. Ilfrey and Robert W. Beck, Houston, Tex., assignors to Esso Production Research Company, a corporation of Delaware
Filed May 21, 1968, Ser. No. 730,698
Int. Cl. B63b *2/26*
U.S. Cl. 114—206 6 Claims

An anchor assembly for engaging hard submerged bottoms includes an elongated shank, an anchor attached to one end of the shank, a substantially flat fluke connected to the opposite end of the shank, and forming an acute angle with the shank, and means connected to the shank on the shackle end for excavating a hole in a submerged bottom large enough to receive the fluke.

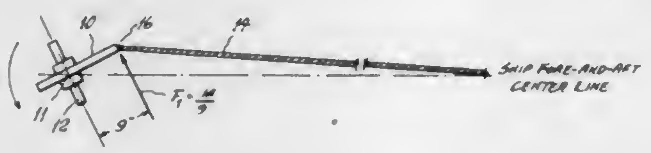


3,508,514
CARGO SHIPS
Arthur William Vienna, 16519 Oldham St., Encino, Calif. 91316
Original application Apr. 4, 1966, Ser. No. 539,868, now Patent No. 3,417,721, dated Dec. 24, 1968. Divided and this application Aug. 5, 1968, Ser. No. 763,041
Int. Cl. B63b *3/08, 21/00*
U.S. Cl. 114—235 3 Claims



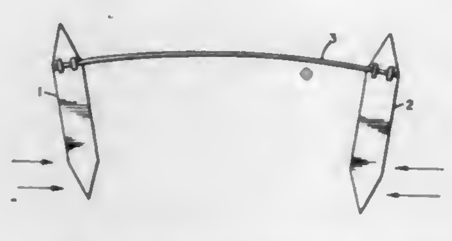
A cargo carrying ship comprised of at least two integrated sections forming a conventional vessel. The first section is a vessel containing the propulsion generating part of the ship. The second section is the cargo carrying section of the ship, and is floatably disengageable from the first section for independent movement therefrom. Thus, cargo may be loaded and unloaded from the ship by interchanging cargo carrying sections without the necessity of docking the ship for extended periods of time.

3,508,515
NOSEPIECE STIFFENER FOR FAIRED TOWLINES
Hugo V. Cordiano, Brooklyn, and John G. Macco, Massapequa Park, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 27, 1968, Ser. No. 779,327
Int. Cl. B63b *21/00*
U.S. Cl. 114—235 5 Claims



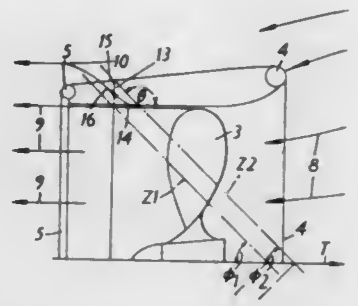
Bending of a sectionally faired towline at the towing-vessel towstaff is reduced by a nosepiece stiffener consisting of a rigid plate which replaces the nosepieces of a plurality of sections of fairing at the end of the towline which connects with the towstaff on the towed body. In addition to the stiffener plate, additional stiffening is provided by replacing the plastic aligner rods by stainless steel aligner rods and the chain links between bolts by plate links.

3,508,516
WAVE PROPELLED BOAT
Lloyd B. Root, 370 Thompson St., North Tonawanda, N.Y. 14120
Filed May 13, 1968, Ser. No. 728,860
Int. Cl. B63h *19/02*
U.S. Cl. 115—4 2 Claims



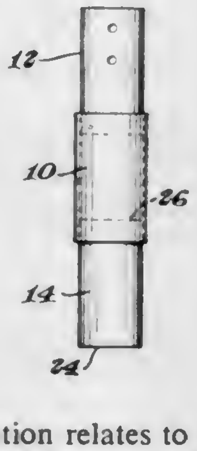
A device which, when attached to boats, utilizes the power of the waves to propel the boat.

3,508,517
NOZZLES OR SHROUDS FOR SHIPS' PROPELLERS
Terence Edwin Hannan, Kent, England, assignor to Kort Propulsion Company Limited, London, England
Filed Feb. 6, 1968, Ser. No. 703,473
Claims priority, application Great Britain, Feb. 20, 1967, 8,001/67
Int. Cl. F04d *3/00;* **B63h** *1/14, 11/00*
U.S. Cl. 115—42 4 Claims



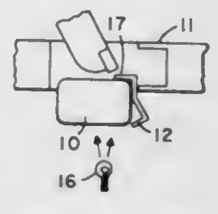
A nozzle of the Kort type for propelling a ship, the nozzle having inclined ducts to eliminate or reduce any zone of stagnant water that forms aft of the propeller, and the ducts form supplemental inlets into the nozzle on the reverse motion.

3,508,518
COMBINATION NIGHT-DAY SIGNALING DEVICE
James P. Flynn, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 27, 1968, Ser. No. 732,271
Int. Cl. C06d *3/00*
U.S. Cl. 116—114 6 Claims



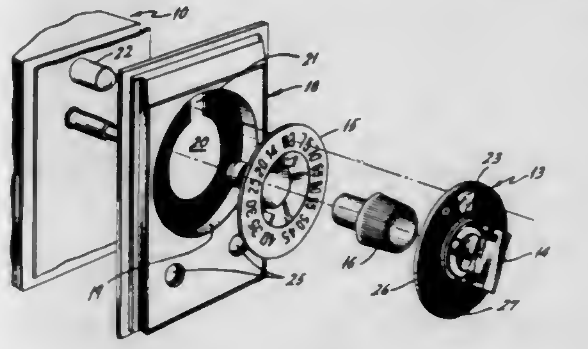
The present invention relates to a bicompartmentalized signaling device containing in one compartment a combination of smoke dye monopropellant, and containing in the other compartment a pyrotechnic composition consisting of a polymeric binder fuel system, fuel, oxidizer, and light-producing agent.

3,508,519
PUSHBUTTON FLAG
Melvin L. Campbell, Marion, Iowa, assignor to Collins Radio Company, Dallas, Tex., a corporation of Iowa
Filed Nov. 4, 1968, Ser. No. 772,986
Int. Cl. G09f *9/00*
U.S. Cl. 116—124 8 Claims



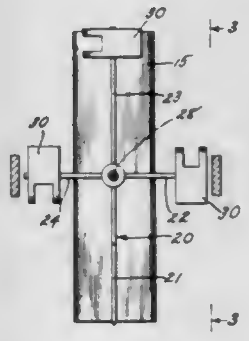
A device for mechanically indicating the state of a two-position pushbutton, comprising a spring-like element having an M shaped cross section with the open side thereof being forced in the side of the pushbutton by means of an edge of the equipment chassis; said edge fitting into the V center portion of the M and thereby forming a fulcrum. As the pushbutton is moved in and out of its two positions, the M shaped spring pivots about the chassis edge and one of the legs of the M shaped element alternately moves in front of, and to the side of, the front surface of the pushbutton.

3,508,520
TUNING INDICATOR
Earl L. Fink, Wyndmoor, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 13, 1967, Ser. No. 667,527
Int. Cl. H03j *1/04*
U.S. Cl. 116—124.4 3 Claims



An indicator for tuners or the like including a pair of back lighted, rotative, substantially transparent dials, and provision for selective display of tuning indications present upon the dials.

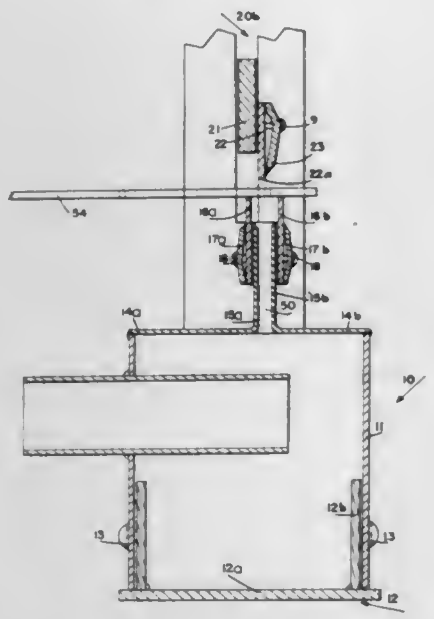
3,508,521
BALANCE WEIGHT FOR INSTRUMENT POINTER ARM
Wladimir N. Filatov, 166 Woodland St., Windsor, Conn. 06095
Filed June 18, 1965, Ser. No. 464,988
Int. Cl. G01d *11/08*
U.S. Cl. 116—136.5 5 Claims



A slideably-adjustable balance weight, for static and dynamic balancing of the movable pointer of a meter instrument, in the form of a rectangular metal strip folded in half and crimped at the fold to provide a spring hinge, with an interior channel adapted to receive an arm element of the pointer.

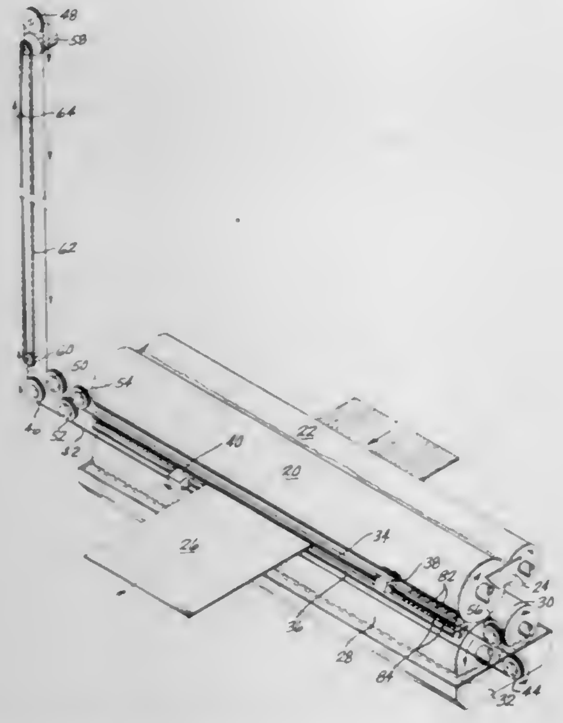
3,508,522
COMBINED DOCTORING MEANS
Paul Duquette, Nashua, Maurice O. St. Onge, Manchester, and Peter McKenzie, Nashua, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Aug. 8, 1966, Ser. No. 570,835
Int. Cl. B05c *9/12*
U.S. Cl. 118—50 2 Claims

An apparatus for removing excess molten solder from a printed circuit board and simultaneously clearing holes in the board of solder in which the board is drawn over two upstanding spaced apart wipers having a region of low pressure therebetween and under a third wiper positioned intermediate the first two.



3,508,523
APPARATUS FOR APPLYING ADHESIVE TO WOOD STOCK

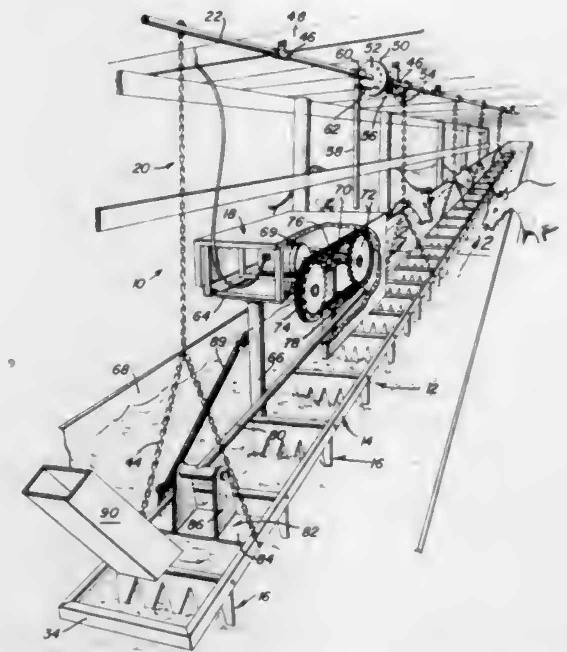
Albert H. De Meerleer, Tacoma, Wash., assignor to Plywood Research Foundation, Tacoma, Wash., a corporation of Washington
Filed May 15, 1967, Ser. No. 638,461
Int. Cl. B44d *1/48*
U.S. Cl. 118—63 **4 Claims**



This invention relates to a process and apparatus for applying an adhesive layer of substantially uniform thickness to a wood stock surface, as plywood veneer, regardless of thickness variations of the wood stock and surface deviations from a planar surface. In general, the invention contemplates the applying of an adhesive to the surface of the wood to provide a substantially uniform composite thickness of wood stock and adhesive and then the removing of excess applied adhesive over a predetermined substantially uniform adhesive thickness and this regardless of the wood stock thickness and the deviations of a wood stock surface from a planar surface. The excess applied adhesive is removed by means of an air knife comprising a tubular member with a plurality of spaced openings. The tubular member is kept clean by means of a reciprocating scraper mounted thereon.

3,508,524
FEED MOVING APPARATUS

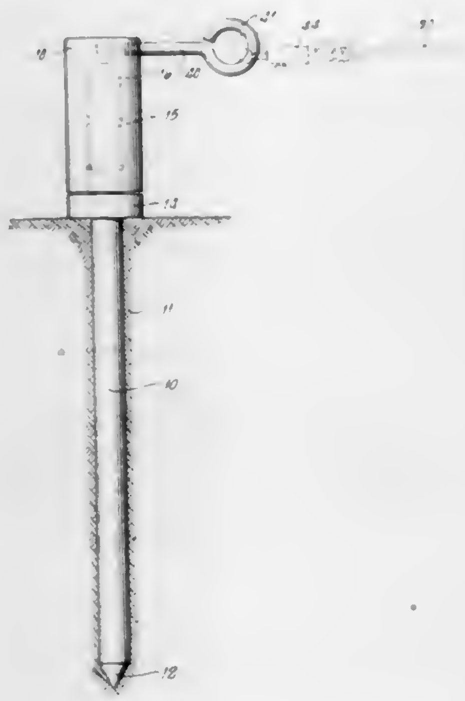
Marshall M. Harms, Walnut Hill, Fla.
(Star Rte. B, Box 468, Atmore, Ala. 36502)
Filed Jan. 25, 1968, Ser. No. 700,642
Int. Cl. A01k *5/02*
U.S. Cl. 119—52 **12 Claims**



An elongated rectangular animal feed moving frame suspended by a plurality of flexible chains or cables which can be selectively extended or retracted so as to vary the height of the frame in an animal feed trough. The frame suspends a plurality of fork-like paddles which, upon a longitudinal swinging of the frame, engage the feed in the trough and effect a forward movement of the feed.

3,508,525
TETHERING DEVICE

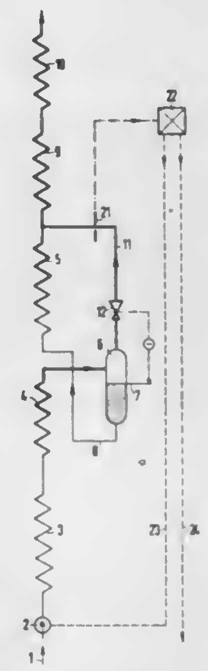
Frank L. Sawyer, P.O. Box 365, Wells, Maine 04090
Filed Dec. 7, 1967, Ser. No. 688,953
Int. Cl. A01k *3/00*
U.S. Cl. 119—117 **6 Claims**



An animal tethering device which has a stake for insertion in the ground, a collar of enlarged diameter attached to such stake which, among other things, serves to limit the degree of penetration into the ground, an extension above the collar which is loosely engaged by a cylindrical head having a sleeve portion surrounding such extension, the upper end of the extension being rounded to provide virtually a point contact with the upper flat interior surface of such head, the head being in substantially frictionless contact with said extension, the lower surface of the head spaced slightly from the upper face of the collar with the space therebetween smaller than the diameter of the tether line or chain, but large enough to avoid friction and the head having near its top a laterally projecting eye-bolt for attachment of the tether.

3,508,526
FLOW-THROUGH STEAM GENERATOR

Rupprecht Michel, Erlangen, Germany, assignor to Siemens Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Jan. 24, 1968, Ser. No. 700,163
Claims priority, application Germany, Jan. 25, 1967, S 107,982
Int. Cl. F22d *7/12*
U.S. Cl. 122—406 **9 Claims**

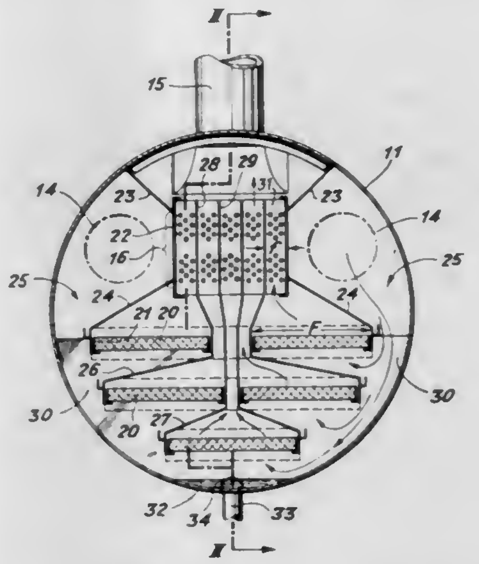


Flow-through steam generator includes a steam-separating vessel adapted to maintain water at a variable level therein, means for supplying a steam-water mixture to the separating vessel, the vessel having an upper space for separated steam and a lower space for separated water located at said variable level therein, evaporator means having an upstream and a downstream end, a bypass duct connecting the upper steam space of the separating vessel to a location at the downstream end of the evaporator means for passing separated steam from the separating vessel to the location, valve means connected in the by-pass duct for regulating the flow of separated steam through the by-pass duct in accordance with the level of water in the separating vessel, and means connecting the lower space of the separating vessel to the upstream end of the evaporator means for supplying water at boiling temperature to the evaporator means.

3,508,527
APPARATUS FOR SEPARATING WATER FROM WET STEAM

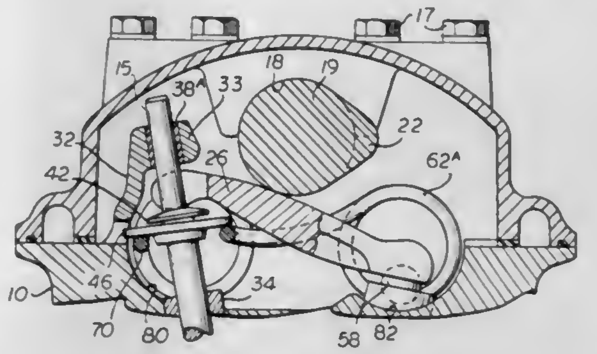
Hermann Durrer, Winterthur, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland
Filed Sept. 23, 1968, Ser. No. 761,540
Claims priority, application Switzerland, Sept. 21, 1967, 13,231/67
Int. Cl. F22g *5/16;* **F22b** *37/26*
U.S. Cl. 122—483 **9 Claims**

The water separator elements are arranged in discrete passageways to separate the water from the wet steam while the superheater tubes are similarly subdivided into the passageways. Further, the cross-sectional areas of the flow passageways taken across the water separator elements and superheater tubes remain in a constant ratio to obtain a uniform distribution of the flow.



3,508,528
INTERNAL COMBUSTION ENGINE VALVE OPERATING MEANS

Mark Sherbinsky III, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed June 24, 1968, Ser. No. 739,368
Int. Cl. F01l *1/06, 1/18*
U.S. Cl. 123—90 **12 Claims**



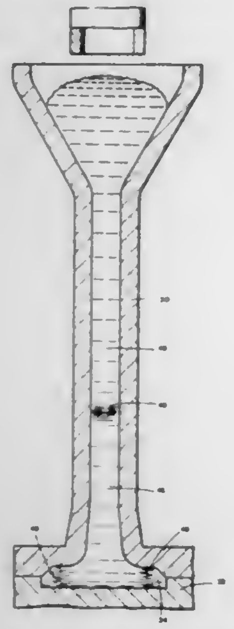
A valve operating assembly in an internal combustion engine including rocker arm means and valve spring means both of which engage the valve stems intermediate the end of the length thereof for actuation of the valve. Actuation of the valves by operative connection to the valve stem intermediate the extremities thereof and between spaced value guides therefor conserves space and reduces the overall size of the engine. The pivotal axis of the rocker arm means is vertically spaced below a plane which is perpendicularly to the longitudinal axis of the valve stem and which extends through the uppermost end of the lower of the spaced valve guides; and the rocker arm means extends from its pivotal axis below the cam shaft to its point of engagement with the valve stem.

3,508,529
COMPOSITE VALVE STRUCTURE

Earl A. Thompson, Bloomfield Hills, Mich., assignor to Earl Thompson Manufacturing Co., a corporation of Michigan
Filed Feb. 24, 1966, Ser. No. 529,830
Int. Cl. F01l *3/02*
U.S. Cl. 123—188 **6 Claims**

Valves for internal combustion engines have different portions of the valve made of different combinations of high carbon, high chromium alloy containing from about

1.3% to about 3.1% carbon, from about 15% to about 35% chromium with the remainder iron, with or without up to about 3.5% silicon, manganese and other residuals. After each alloy is cast, it is cooled so quickly that a relatively small number of relatively large primary chromium carbide particles are formed and widely dispersed in a matrix of austenite containing a solid solution of chromium and carbon. Then large numbers of relatively small particles of chromium carbides are precipitated from the matrix and distributed throughout the spaces between the large primary carbon particles leaving the remainder of the matrix containing carbon and susceptible to subsequent hardening. Then the casting is hardened by heating and subsequent quenching by such temperature and at such time that the matrix is substantially converted to martensite without significantly changing the carbide particles. The joints between the different parts of the valve are made by forming a solid skin over previously poured metal, then remelting the skin by pouring another metal on the skin to form a single mass of molten metal having different portions of different compositions.



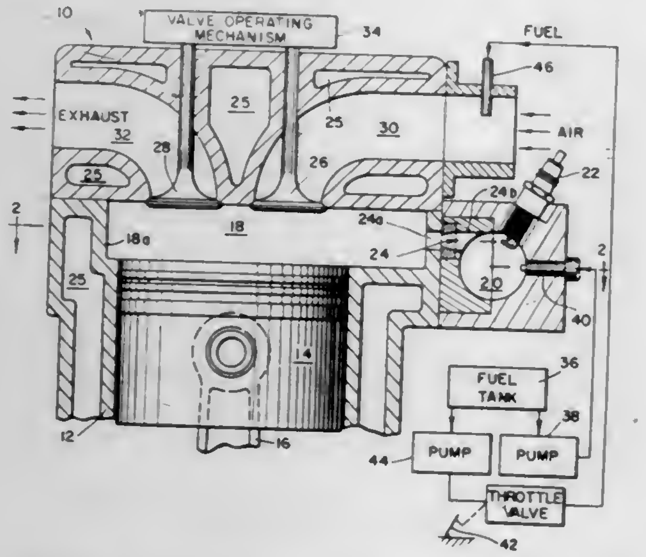
3,508,530
INTERNAL COMBUSTION ENGINE

Lawrence G. Clawson, Dover, Mass., assignor to Dynatech Corporation, Cambridge, Mass.

Continuation-in-part of applications Ser. No. 557,665, June 15, 1966, Ser. No. 607,337, Dec. 2, 1966, and Ser. No. 645,203, June 12, 1967. This application May 23, 1968, Ser. No. 776,285

Int. Cl. F02b *23/10, 53/02, 1/08*

U.S. Cl. 123—191 **21 Claims**



An internal combustion engine in which a fuel-air charge in a main combustion chamber is ignited, without detonation, by exposure to a hot gas jet from a spark-ignited prechamber can operate efficiently with a variety of hydrocarbon fuels. The gas jet traverses the main chamber before the main chamber charge can detonate and is sufficiently hot to ignite a main chamber charge too lean for normal spark ignition and for flame propagation. Preferably, the engine has an improved fuel injection system having separate fuel lines for injecting fuel directly into each prechamber. A valve in each line opens in response to a reduced pressure in a associated prechamber only during a selected portion of the engine operating cycle so that a predetermined volume of fuel is injected into the prechamber to form the jet.

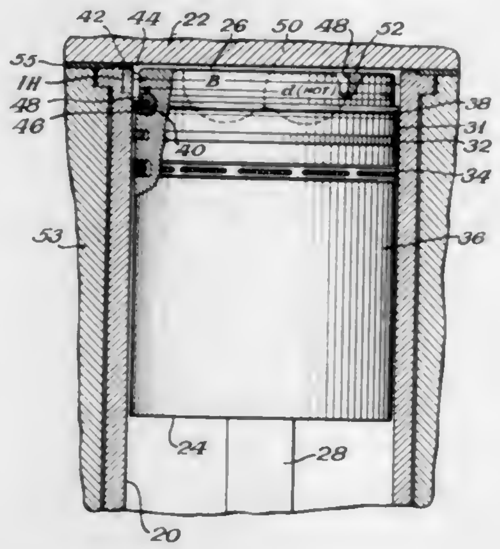
3,508,531
ARRANGEMENT OF CYLINDER AND PISTON IN ENGINE

Leonard O. Squinto, Berwyn, Norman M. Packard, Des Plaines, and William Lenzi, Western Springs, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of Delaware

Continuation-in-part of application Ser. No. 625,352, Mar. 23, 1967. This application May 31, 1968, Ser. No. 735,498

Int. Cl. F02f *5/00;* **F16j** *9/12*

U.S. Cl. 123—193 **15 Claims**



Internal combustion engine piston formed with a large radial setback of the top land to provide exaggerated piston clearance about the head of the piston, and formed with a longitudinally very short top land to provide minimal total clearance volume. Such setback creates an oversize but longitudinally short annular orifice, leading to the top seal ring on the piston and insuring maintenance of a wide orifice path through which high carbon burning temperatures and turbulence can be communicated and high combustion pressures can be communicated from the zone where the fuel is being ignited. The pressures are conducive to high gas loading pressure on the top ring, the temperatures and turbulence are conducive to minimal deposits of adherent load bearing carbon on the piston, and the shallowness of the orifice is conducive to keeping the end clearance volume largely confined to the combustion dish in the piston.

3,508,532
ATTACHMENT CONVERSION DEVICE FOR A PIGEON TRAP

John D. Lander, 7408 Rockwood Road, Wichita, Kans. 67208

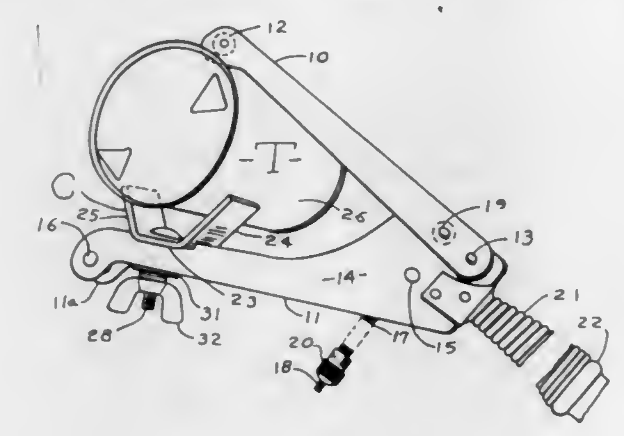
Filed Aug. 2, 1965, Ser. No. 476,757

Int. Cl. F41b *3/04*

U.S. Cl. 124—41 **2 Claims**

A hollow or channel like piece of material having attachment portions that are fittably receivable on a pigeon

trap jaw and having means for rigidly attaching the channel to the jaw and the hollow piece is so shaped that it will receive and hold a multiplicity of various shaped and sized objects for throwing purposes.



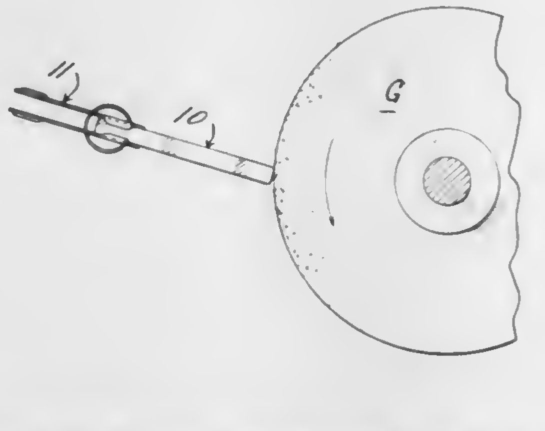
3,508,533
GRINDING WHEEL DRESSER AND METHOD

Louis Abrams, 1930 Wellesley, Toledo, Ohio 43606

Filed Aug. 28, 1967, Ser. No. 663,880

Int. Cl. B24b *53/00*

U.S. Cl. 125—11 **3 Claims**



A method for dressing the formed faces of grinding wheels to improve the accuracy and finish of the final grinding operation made upon a work piece or a series of work pieces. Apparatus for performing the method includes a holder for a block of a ceramic semi-crystalline material which, because of its ability to withstand high temperatures and abrasion, is effective to impart a fine finish to the formed grinding faces of the wheel without further treatment. A preferred composition for this purpose comprises a multiplicity of inorganic crystals interlocked in a glassy matrix of uncrystallized glass with the crystalline portion constituting about 50% of the material.

3,508,534
MACHINES FOR SAWING SAMPLES OF BRITTLE MATERIALS

Jean Roger Henri Bonnefoy, Montrouge, and Bertrand Alain Dreyfus, Sevres, France, assignors to Photocircuits Corporation, Glen Cove, N.Y., a corporation of New York

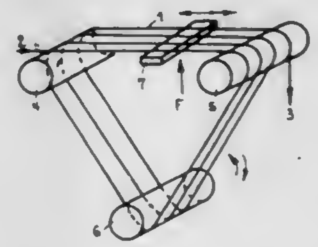
Filed Dec. 27, 1966, Ser. No. 604,810

Claims priority, application France, Oct. 5, 1966, 78,797

Int. Cl. B28d *1/08*

U.S. Cl. 125—21 **1 Claim**

Multi-groove wire-guides for use in a machine for sawing samples of brittle materials by abrading such samples with an array of metal wires pressed against said samples while driven in an alternating motion and in an abrasive medium, are made with grooves the radially outer portions of the walls of which are substantially perpendicular to the axes of the wire-guides. Such grooves are machined with a comb-like tool, the teeth of which have the negative profile of the grooves and are, at least partly, machined on the sawing machine itself.



3,508,535
GRATE

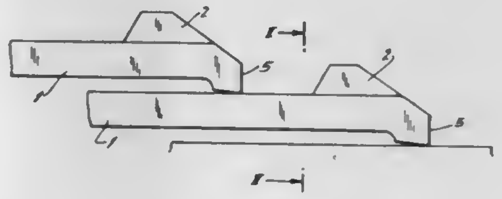
Johannes Josef Martin and Walter Josef Martin, both of Leopoldstrasse 248, Munich 23, Germany

Filed May 28, 1968, Ser. No. 732,700

Claims priority, application Germany, June 2, 1967, 1,551,872

Int. Cl. F23h *23/02*

U.S. Cl. 126—163 **6 Claims**



A gate for supporting combustible materials in furnaces includes a plurality of grate bars each of which has a straight main bar portion formed with cooling channels for cooling fluid, and protuberant portions projecting from the main bar portion. The protuberant portions are provided with internal compartments communicating with at least some of the cooling channels in the associated main bar portion so as to provide for cooling off the protuberant portions to protect the same against adverse effects of elevated temperatures.

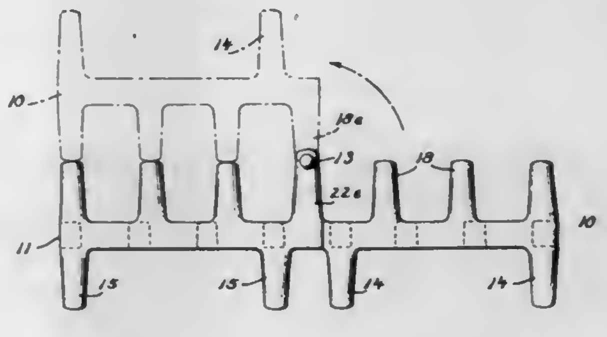
3,508,536
COLLAPSIBLE FIREPLACE GRATE

James McEwan, 138 Stockton Ave., San Jose, Calif. 95126

Filed Dec. 16, 1968, Ser. No. 784,065

Int. Cl. F23h *13/02*

U.S. Cl. 126—165 **3 Claims**

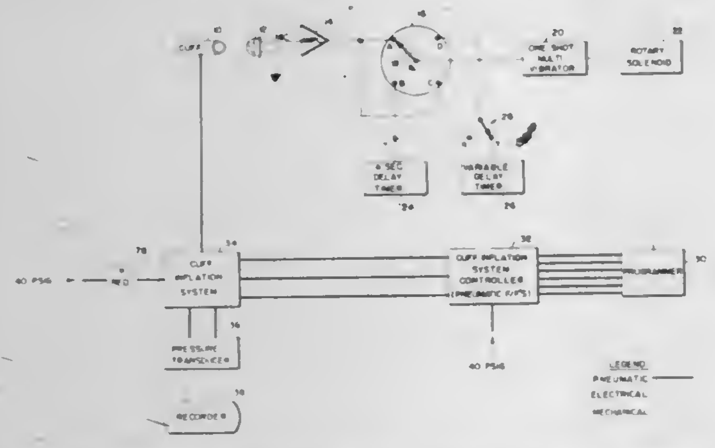


A collapsible fireplace grate which is made in two sections hinged together. Either of the sections is adapted to be turned over upon the top of the other section so that the fireplace may be cleaned.

3,508,537

METHOD AND APPARATUS FOR AUTOMATIC BLOOD PRESSURE MONITORING

Alan Kahn, Fullerton, and Warren L. Childs, Ontario, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Apr. 20, 1965, Ser. No. 449,484
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 **21 Claims**

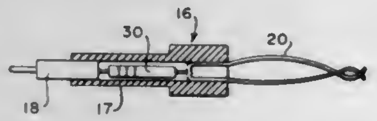


A method and apparatus for automatically providing discrete measurements of systolic and diastolic blood pressures by rapidly inflating a cuff from a reference pressure to a pressure above the last-measured systolic pressure, slowly reducing the cuff pressure until systolic pressure is reached (as evidenced by Korotkov sounds), rapidly reducing the cuff pressure to reference pressure, delaying a given time period, rapidly inflating the cuff from the reference pressure to a pressure below the last measured diastolic pressure, slowly inflating the cuff until diastolic pressure is reached, rapidly reducing the cuff pressure to reference pressure, delaying a given time period, and repeating the above sequence.

3,508,538

METHOD AND APPARATUS FOR POSITIONING THE VENTRICULAR LEAD OF A CARDIAC PACER

John Walter Keller, Jr., Miami, Fla., assignor to Cordis Corporation, Miami, Fla., a corporation of Florida
Filed Nov. 22, 1967, Ser. No. 685,062
Int. Cl. A61b *5/02*
U.S. Cl. 128—2.05 **5 Claims**



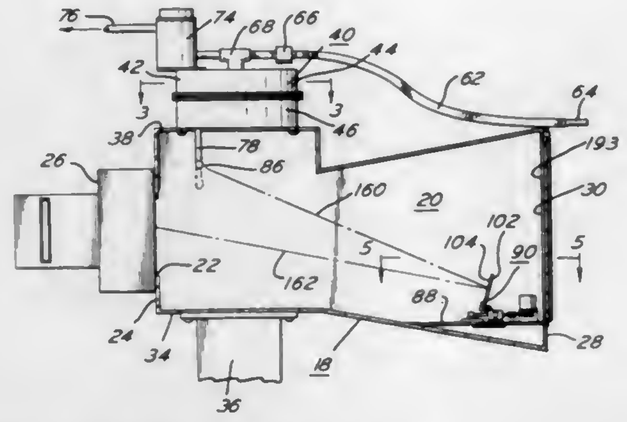
Correct positioning in the heart of the ventricular electrode of a cardiac pacer is determined by inserting a signal-attenuator between the pacer and the electrode. The pulse level of the pacer is reduced by the attenuator by a factor at least as great as the normal post-operative rise in the threshold of ventricular response. The electrode is then repositioned until the attenuated stimulus proves adequate. The attenuator is removed and the pacer is connected directly to the electrode for implantation.

3,508,539

COMBINED X-RAY AND SPIROMETER RECORDING MEANS

Jeremiah F. Mahoney, 324 Ingeborg Road, Philadelphia, Pa. 19151; Robert B. Hanes, 1902 Greenhill Road, Lansdowne, Pa. 19050; and William R. Latady, 345 E. Gowen Ave., Philadelphia, Pa. 19119
Filed Dec. 22, 1966, Ser. No. 603,911
Int. Cl. A61b *5/08*
U.S. Cl. 128—2.08 **10 Claims**

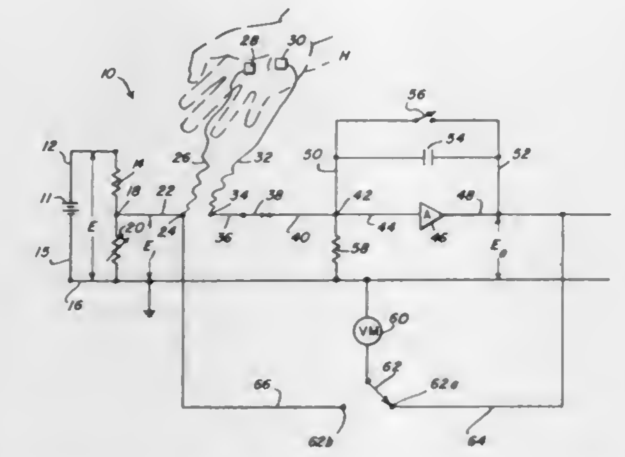
A diagnostic recording means comprising a body having an enclosed chamber, photographic means for making a record responsive to light within said chamber, spirometer means responsive to the pulmonary function of a subject under diagnostic testing, a source of light positioned within said chamber and actuated by said spirometer means for movement along a path, and projecting means for directing light from said source for recordation by said photographic means. Said body may also include a fluoroscopic screen for providing an X-ray image in said chamber of the subject being tested for recording by said photographic means upon said same record recording the light projected by said light source.



3,508,540

APPARATUS FOR DIRECT MEASUREMENT OF SKIN CONDUCTANCE

John D. Cavallari, Jr., New Hyde Park, and John E. Suwara, Bronx, N.Y., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 14, 1967, Ser. No. 616,445
Int. Cl. A61b *5/05*
U.S. Cl. 128—2.1 **7 Claims**



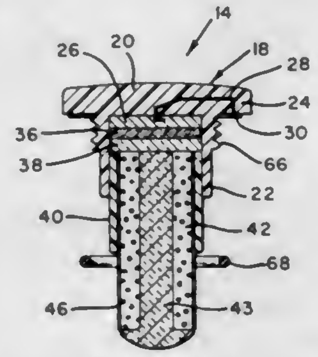
An apparatus for direct measurement of averaged skin conductance comprising an operational amplifier circuit including a capacitor as the feedback impedance, the amplifier circuit being connected to electrode means so as to integrate a voltage input to the amplifier circuit through the skin of a subject when contacted by the electrode means, and indicator means connected to the amplifier circuit output.

3,508,541

ELECTRODE CONSTRUCTION

Richard M. Westbrook, Mountain View, and Joseph J. Zuccaro, San Jose, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 16, 1967, Ser. No. 676,012
Int. Cl. A61b *5/04*
U.S. Cl. 128—2.1 **13 Claims**

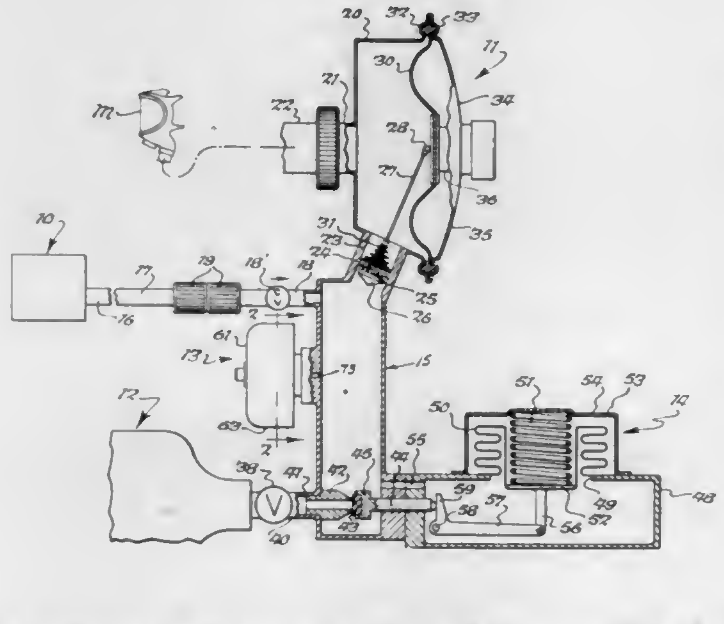
An electrode construction for use in detecting low level signals from the skin of living creatures comprising a cap of insulating material attached to a helmet, or the like, to be worn by a subject. An electrode member is carried inside the cap, and a conductor extends through the cap from the electrode member to a contact member at the exterior of the cap. A layer of permeable material, such as compressed powder of AgCl or the like, is located adjacent one surface of the electrode member, and is maintained in position thereat by a rigid permeable member such as a disc of fritted glass. An elongated resilient permeable member, such as a sponge, is carried by the cap and extends from the rigid permeable member, which sponge member is adapted to contact the subject's scalp when the helmet is worn by the subject. An electrolyte permeates the layer of permeable material, the rigid permeable member, and the resilient permeable member to provide an electrical path between the electrode member and the subject's scalp. The rigid permeable member together with the layer of permeable material substantially prevent motion of the electrolyte at the electrode member-electrolyte interface to substantially eliminate motion artifacts. Also, the elongated resilient permeable member is of a tubular shape with the hollow center filled with an electrode paste or gel such as "Redux" which is compatible with the electrolyte employed and the subject's skin.



3,508,542

DUAL SOURCE BREATHING FLUID SUPPLY SYSTEM WITH ALARM

Dennis Browner, Lancaster, N.Y., assignor, by mesne assignments, to "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, a corporation of Ohio
Filed May 3, 1967, Ser. No. 635,821
Int. Cl. A62b *7/04*
U.S. Cl. 128—142.2 **8 Claims**

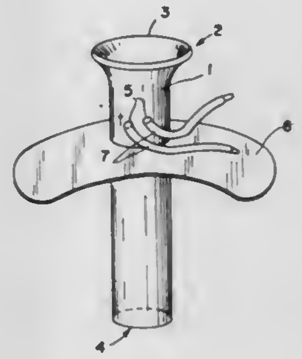


A breathing fluid supply system wherein breathing fluid normally is supplied from a primary source. When the primary source is interrupted or impaired, the fluid supply pressure decreases to a predetermined level at which communication is established with an auxiliary source. An alarm is actuated at such predetermined level to signal the utilization of the auxiliary source.

3,508,543

MOUTH-TO-MOUTH AND NOSE RESUSCITATION DEVICE

Orlando T. Aulicono, 6584 Navarro St., Pittsburgh, Pa. 15206
Filed Apr. 27, 1967, Ser. No. 634,248
Int. Cl. A62b *7/00*
U.S. Cl. 128—145.5 **5 Claims**

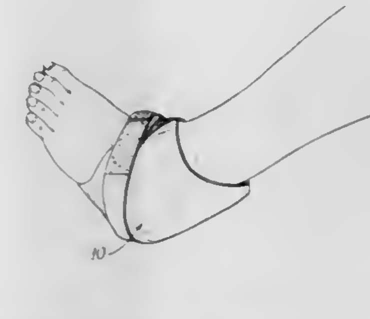


A resuscitation device having tubes which are placed in the mouth and nostrils of the victim so that a rescuer can quickly and easily blow air into the victim's mouth and nose.

3,508,544

HEEL GUARD FOR BEDFAST PERSONS

Francis C. Moore and Leon R. Perkinson, Indianapolis, Ind., assignors to Moore-Perk Corporation, Indianapolis, Ind., a corporation of Indiana
Filed May 1, 1968, Ser. No. 725,824
Int. Cl. A61b *19/00*
U.S. Cl. 128—149 **9 Claims**



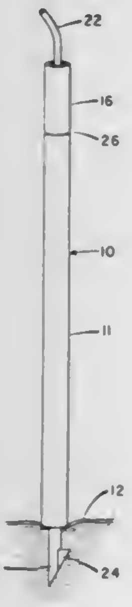
A disposable guard for preventing the formation of decubitus ulcers on the heel of a bedridden person includes a layer of stretchable, porous plastic foam having an oval central body portion with two corresponding sets of straps, each set projecting from one of the longer sides of the body. A backing of thermoplastic-coated paper is bonded to one side of the central body to provide an exterior smooth, frictionless surface for sliding along bedclothes. Corresponding straps of each set are fastened together in front of the ankle to gather the body portion in wrapping engagement about the heel.

3,508,545

CATHETER PLACEMENT UNIT FOR PARACERVICAL ANESTHESIA

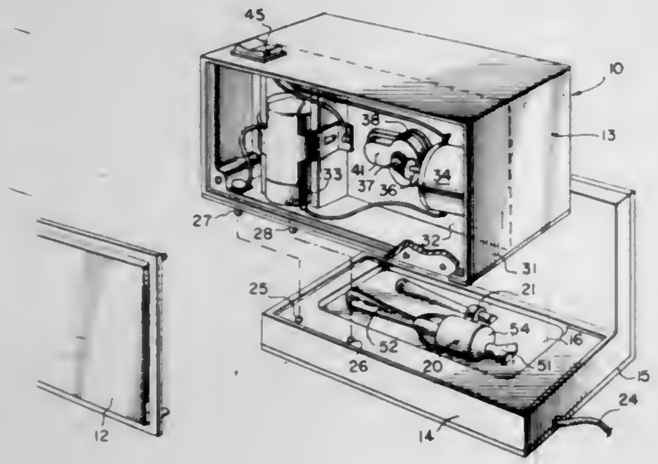
James R. Reif, Midland, and Perry E. Prather, Saginaw Township, Saginaw County, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Nov. 16, 1967, Ser. No. 683,679
Int. Cl. A61m *5/00*
U.S. Cl. 128—215 **5 Claims**

An improved catheter and means of placement thereof is disclosed. The catheter consists of a flexible tube having a resilient barb-shaped protuberance adjacent to one end which is adapted to releasably secure the catheter in place when in use. The catheter placement unit consists of the catheter, a tubular guide, and an introducer needle having a slotted trocar at one end. The use of the catheter placement unit in a continuous paracervical anesthesia administration system is also disclosed.



3,508,546
DOUCHE AND ENEMA APPARATUS

Adelle M. Rogers, 253 Greens Farms Road, Greens Farms, Conn. 06436, and Thomas E. Christie, Town House Road, Fairfield, Conn. 06430
Filed June 4, 1968, Ser. No. 734,323
Int. Cl. A61m *1/00*
U.S. Cl. 128—230 **7 Claims**

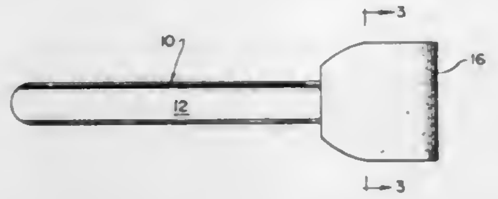


Apparatus for use as a douche or enema utilizing a container which has a portion used as a reservoir presenting a closed appearance when stored on its side, further utilizing a vaned pump rotor, battery operated and recharged during storage, with a nozzle used for douche purposes having a passage for the fluid into the vagina and a controlled opening passage provided for the return of this fluid through an outlet tube.

3,508,547
APPLICATOR SWAB

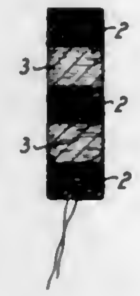
Fritz Deuschle, St. Augustine, Fla., assignor to Brunswick Corporation, a corporation of Delaware
Filed Sept. 26, 1967, Ser. No. 670,563
Int. Cl. A61m *35/00*
U.S. Cl. 128—269 **5 Claims**

An applicator swab particularly suited for medicinal use comprising a handle portion with a member of absorbent material connected to one end of the handle, characterized in that the one end of the handle portion has an irregular shaped opening and the absorbent member is connected to the handle by being folded over on both sides of the opening with suitable adhering means disposed only in the irregular shaped opening.



3,508,548
TAMPON

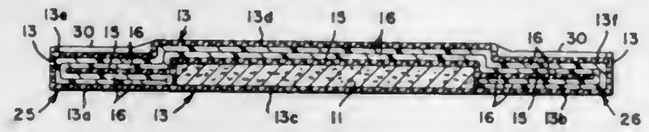
Josef Hochstrasser, Dusseldorf, and Bernd Messing, Wuppertal-Barmen, Germany, assignors to Dr. Carl Hahn KG, Dusseldorf, Germany
Continuation of application Ser. No. 510,218, Nov. 29, 1965. This application Oct. 21, 1968, Ser. No. 769,440
Claims priority, application Netherlands, Dec. 2, 1964, 6414000
Int. Cl. A61f *13/20*
U.S. Cl. 128—285 **31 Claims**



A tampon comprising a substantially cylindrical body of randomly disposed fibers, which tampon has a maximum specific absorption capacity at a specific volume of at least about 12 cubic centimeters per gram, and which tampon has a specific wet length of 0.5 to 1.7 centimeters per gram of dry tampon material when such tampon is permitted to expand in a liquid medium in a shallow dish, which tampon contains zones of greater and lesser material concentration distributed over at least the width thereof.

3,508,549
SANITARY NAPKIN

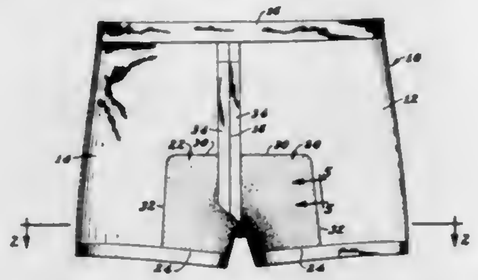
Laurel A. Hendricks, P.O. Box 943, Palo Alto, Calif. 92602
Continuation-in-part of application Ser. No. 548,818, May 2, 1966. This application Dec. 26, 1968, Ser. No. 787,057
Int. Cl. A61f *13/16*
U.S. Cl. 128—290 **4 Claims**



A sanitary napkin having adhesive tab ends for securing the napkin to an undergarment of a wearer so that the napkin is comfortable for the wearer and does not damage the undergarment, and the napkin is thereby secured in position. A liquid repellant layer in the napkin is disposed between a pad and a body contact layer to prevent liquid from reaching the undergarment. The laminations of the napkin constitute an integral unit with the tabs for readily adhesively securing the napkin to an undergarment in a desired body position for the comfort of the wearer. The layers that extend out to form the tab ends are also folded back to form an overlapping terminal end.

3,508,550
GARMENT CONSTRUCTION

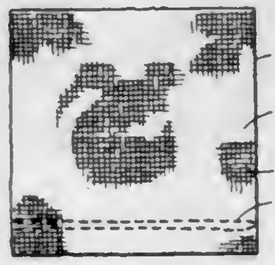
Victor J. Vollrath, 7980 N. Pennsylvania St., Indianapolis, Ind. 46240
Filed Apr. 7, 1969, Ser. No. 814,064
Int. Cl. A61f *5/44*
U.S. Cl. 128—295 **6 Claims**



An underclothing construction which provides multiple-layers of material in the region of the wearer's crotch, the inner layer being absorbent and the overlying layer or layers being moisture repellant.

3,508,551
DRESSINGS AND PRODUCTION THEREOF

Paul E. Walters, St. Clair Shores, and Ralph E. Mottin, Grosse Pointe Park, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Continuation-in-part of application Ser. No. 472,467, July 16, 1965. This application June 20, 1968, Ser. No. 738,665
Int. Cl. A61f *13/00*
U.S. Cl. 128—296 **6 Claims**

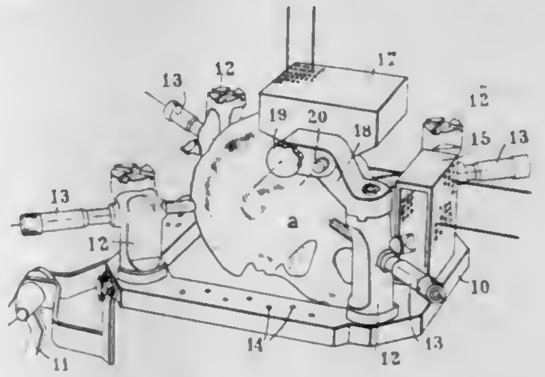


X-ray detectable surgical dressings are provided having an improved X-ray opaque filament locked in place by thermoplastic adhesion induced by ironing with heat and pressure. This filament has a radio transparent core which is relatively non-compressible at ironing heat and pressure but which is surrounded by a thermoplastic radiopaque layer which during ironing softens and is preferentially compressed and imbedded across the face of the dressing. The filament affords a saving in the amount of X-ray opaque material required and can be designed to provide, as desired, either a single-line image or parallel double-line image for detection purposes.

3,508,552
APPARATUS FOR STEREOTAXIC NEUROSURGERY

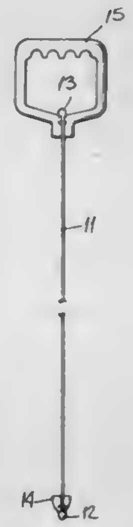
Marcel Hainault, Paris, France, assignor to Alexandre & Cie, Romainville, Seine, France, a société anonyme
Continuation-in-part of application Ser. No. 222,897, Sept. 11, 1962. This application Oct. 23, 1965, Ser. No. 503,678
Claims priority, application France, Oct. 27, 1961, 877,233
Int. Cl. A61m *19/00*
U.S. Cl. 128—303 **3 Claims**

This apparatus comprises a rectangular frame provided with means for fastening same to the patient's skull and three double grids each formed with parallel rectilinear passages therethrough, said passages forming a regular square pattern. Two of these double grids acting as double locating grids are secured to two adjacent sides of said frame whereby an X-ray handling performed after having positioned the apparatus on the patient's skull makes it possible to determine, in each locating grid, the specific rectilinear passage leading to the point to be operated. The third grid acting as a guide grid for the operating spindle is mounted adjustable about an axis parallel to one of the frame sides. By using simple means and of the space reserved for the patient's skull it is possible to determine which is the rectilinear passage of the guide double grid which is to receive the operating drift, as well as the depth of penetration of this drift which is necessary for bringing its end at the intersection of two rectilinear passages located in the two location double grids.



3,508,553
SURGICAL VEIN STRIPPING INSTRUMENT FOR PHLEBECTOMIES

Maurice S. Kanbar, 4 E. 77th St. 10021, and Joseph R. Wilder, 1199 Madison Ave. 10028, both of New York, N.Y.
Filed Mar. 6, 1968, Ser. No. 710,976
Int. Cl. A61b *17/00*
U.S. Cl. 128—303 **9 Claims**

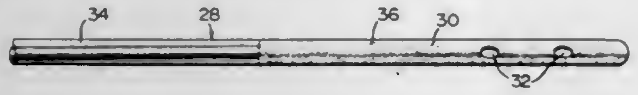


A surgical vein stripping instrument for performing phlebectomies, the stripping being constituted by a molded rod formed of a thermoplastic orientable material, such as nylon, which, except for the end portions, is stretch-oriented to define an elongated mono-filament cable of high strength having unoriented guider tips integral therewith, auxiliary bullet-shaped tips of larger dimension and a handle being connectable to the unoriented guider tips.

3,508,554
MEDICO-SURGICAL TUBES HAVING FROSTED SURFACE

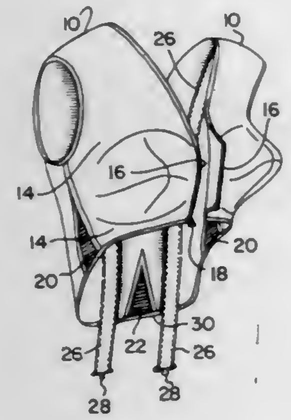
David S. Sheridan, North Argyle, N.Y. 12809
Filed Nov. 4, 1968, Ser. No. 772,890
Int. Cl. A61m *25/00*
U.S. Cl. 128—348 **8 Claims**

Medico-surgical tubes of the disposable type made of non-fibrous, waterproof, plastic material are provided with a frosted surface on at least part of the interior wall, the exterior wall or both of the tubes. Such surface frosting reduces dry surface sticking and wet surface slippage of the tubes, namely, (a) permits tubes of smaller size, e.g., a suction catheter, to pass through a larger tube without applying lubricant, e.g., endotrachael tube, without sticking, (b) keeps tubes when in contact with one another from sticking together, (c) reduces tendency of the tubes to slip through an operator's fingers when wet, and (d) permits anchor stitches to maintain a firmer grip on the tube when sutured in position in a patient.



3,508,555
LADIES' UNDERGARMENT

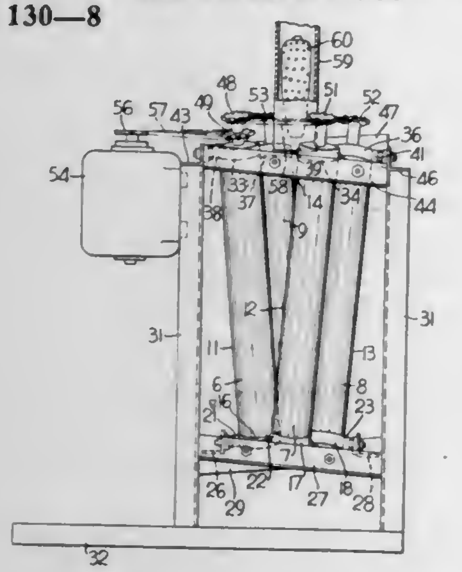
Della Dorothy Bogdon, Wildman Arms Apartments,
Lansdowne, Pa. 19050
Filed June 19, 1967, Ser. No. 647,067
Int. Cl. A41c *3/00*
U.S. Cl. 128—427 **4 Claims**



An undergarment which serves as brassiere, and/or stocking support, and which also serves as a bracer or support for the back of the wearer.

3,508,556
CORN SHELLER

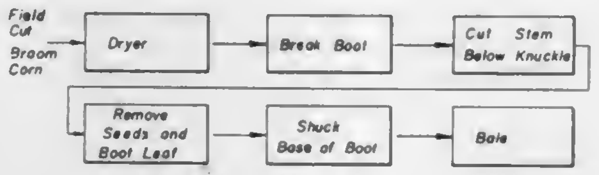
Tony L. Kaminski, Milwaukee, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 2, 1968, Ser. No. 694,913
Int. Cl. A01f *11/06*
U.S. Cl. 130—8 **3 Claims**



A method of and mechanism for shelling corn in which a combination of compression and rotation of the ear is used.

3,508,557
PROCESS AND APPARATUS FOR HARVESTING BROOM CORN

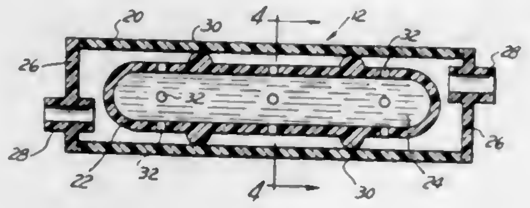
Le Roy Sunday, P.O. Box 31, Springfield, Colo. 81073
Filed Mar. 12, 1968, Ser. No. 712,476
Int. Cl. A01d
U.S. Cl. 130—30 **15 Claims**



The disclosure herein concerns improvements in methods and apparatus for harvesting and baling broom corn. The seed panicles of these plants form the broom straws, and the improved harvesting operations include drying these panicles to the point where the boot leaves, which ordinarily embrace the panicles, are sufficiently brittle as to permit them to be broken and easily removed from the panicles. After the plants are dried, but before the seed is removed from the panicle straws, a special thrashing or flexing operation is introduced, as with offset sprockets, to break the boot leaves in a manner which permits them to be easily stripped from the panicle.

3,508,558
CIGARETTE FILTER

Bernard M. Seyburn, Oak Park, Mich.
(2216 Broderick Tower, Detroit, Mich. 48226)
Filed Mar. 19, 1969, Ser. No. 808,466
Int. Cl. A24 *25/02;* **A24d** *1/04*
U.S. Cl. 131—261 **3 Claims**

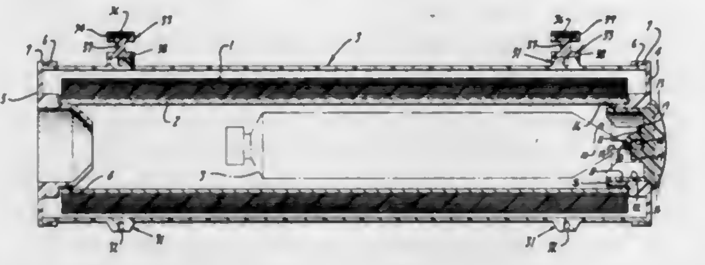


A smoke filtering element for cigarettes comprises a water filled resilient inner capsule substantially but not completely filling the interior of a resilient outer capsule. The outer capsule has a smoke inlet port at one end and a smoke outlet port at the other end, these ports being eccentrically located on diametrically opposite sides of the outer capsule axis, to create a swirling flow pattern to the smoke as it passes through the annular space between the two capsules. The water may be released at the time the cigarette is lit by squeezing together the sides of the two capsules, thus forcing water out of tiny orifices in the inner capsule to coat the interior surface of the outer capsule and the exterior surface of the inner capsule. Upon squeezing, the capsules are temporarily deformed and return to their original shape thereafter for repeated squeezing and release of additional water as desired.

3,508,559
TOWEL ROLL DISPENSER CONTAINER WITH TUBE HOLDER

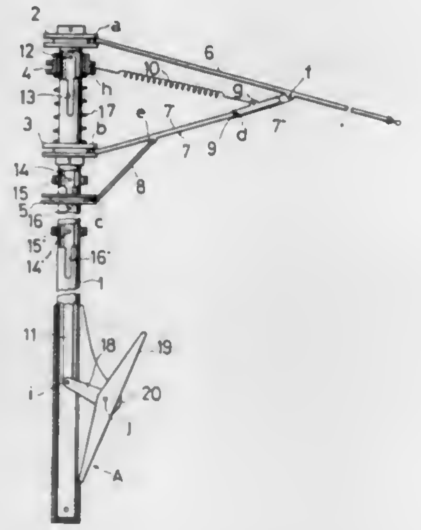
Chesley L. Wolfe, 412 Cherrycreek Road,
Cloverdale, Calif. 95425
Filed May 1, 1967, Ser. No. 639,924
Int. Cl. A45d *40/00*
U.S. Cl. 132—79 **1 Claim**

On a pair of magnetic bases is a cylindrical container with a roll of paper towel in it. Removable caps on the ends of the container journal the hollow core of the roll and at least one of the caps is adapted to hold a collapsible tube inside the core. Means being provided along the dispenser slit for tearing off a piece of unrolled towel and also there are means for frictionally holding the towel in position at the dispensing slit.



3,508,560
AUTOMATIC UMBRELLA

Satuki Kitani, Kyoto-shi, Japan, assignor to Satuki Kitani, Kyoto-shi, Japan, and Okuda Kabushiki Kaisha, Osaki-shi, Japan, a corporation of Japan
Filed Feb. 5, 1969, Ser. No. 796,767
Int. Cl. A45b *23/00, 25/02*
U.S. Cl. 135—20 **3 Claims**

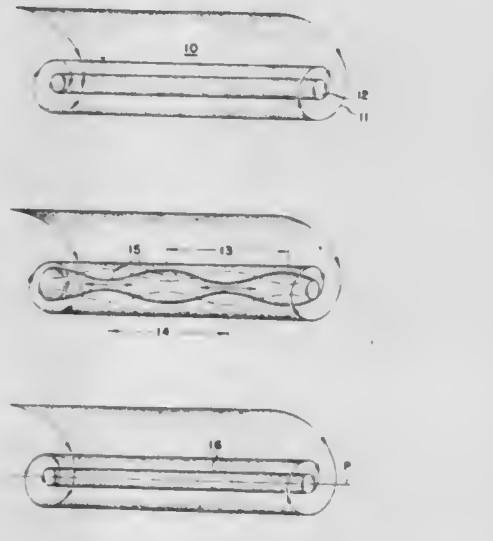


In an automatic umbrella comprising a top hub member pivotally supporting ribs and a second hub member secured to the umbrella stick for pivotally supporting foldable stays, an intermediate slidable hub member operably connected to a manipulating member at the lower end of the stick is mounted on the stick between top and second hub members and tension springs are provided between the intermediate hub member and the foldable stays. A compression spring is provided between the intermediate hub member and the second hub member to assist tension springs. An auxiliary hub member also operable by the manipulating member is provided beneath the second hub member and auxiliary stays pivotally interconnect the auxiliary hub member and foldable stays.

3,508,561
METHOD OF AND MEANS FOR CONTROLLING FLUID FLOWS

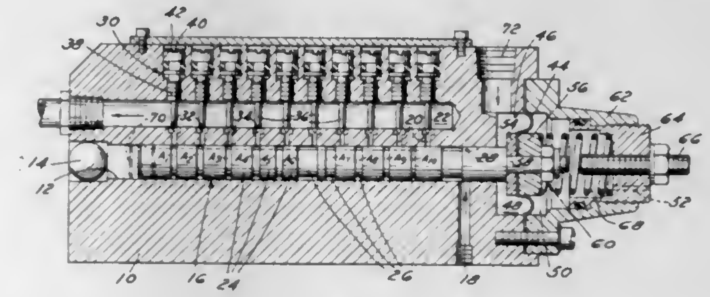
Joseph J. Cornish III, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Mar. 20, 1967, Ser. No. 624,422
Int. Cl. F15c *1/08*
U.S. Cl. 137—13 **18 Claims**

A method for influencing the growth and behavior of vortices is founded on the fact that a low energy core exists at the middle of the vortex which has a tendency for movement in an axial direction. This is coupled with a recognition that movement in the core is in different directions at different points along the core which, if not disturbed by other influences, causes an axial velocity fluctuation to exist in the core of the vortex. This periodic meeting or pumping is directly related to vortex shedding and alternations of the circumstances of the vortex core by removing the flow from the vortex by suction at the cores strongly influences the shedding behavior. This suction can be applied in such a manner as to prevent the vortex shedding and instead "lock" it to the surface where it may be used as an effective flow control mechanism, for example on flat surfaces, at the aft end of bluff bodies and either inside or outside of cylindrical exhaust as a jet engine. Alternately, the vortex shedding rate can be increased and even stimulated by injecting air into the vortex core.



3,508,562
SPEED RESPONSIVE FLUID PRESSURE CONTROLLER

Thomas M. Sebestyen, Ann Arbor, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 1, 1968, Ser. No. 725,686
Int. Cl. G05d *13/30*
U.S. Cl. 137—47 **10 Claims**

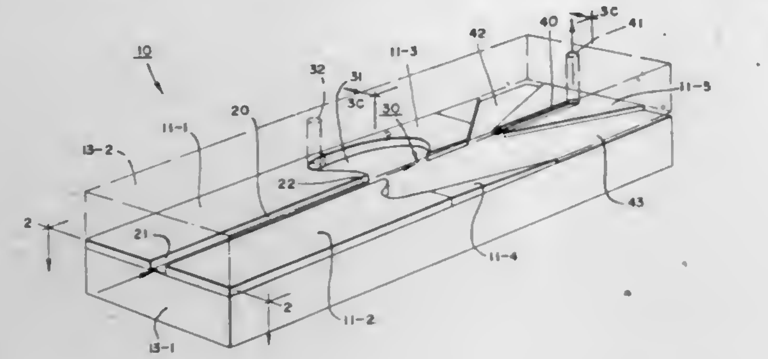


A speed responsive valve moves to restrictively control flow of fluid between a constant pressure inlet source and an outlet fluid manifold, the valve having a plurality of lands and interconnecting neck portions of varying width cooperating with adjustable needle valves in a manner to provide a desired output flow curve.

3,508,563
PRECISION CONTROL OF FLUID FLOW

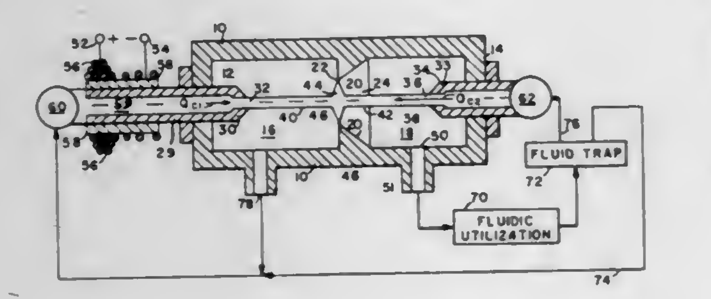
Richard E. Ripley, Attleboro, Mass., assignor to Textron Inc., Providence R.I., a corporation of Rhode Island
Filed Sept. 27, 1966, Ser. No. 582,427
Int. Cl. F15c *1/14*
U.S. Cl. 137—81.5 **9 Claims**

A fluid control device having a supply channel for providing a laminar main stream of fluid flow and an interaction chamber for providing a fluid control signal over a considerable portion of the main stream so as to apply a static pressure thereto in order to deflect the main stream,



and said device also constructed with a tapered portion to counteract the laminar main stream from changing its velocity profile.

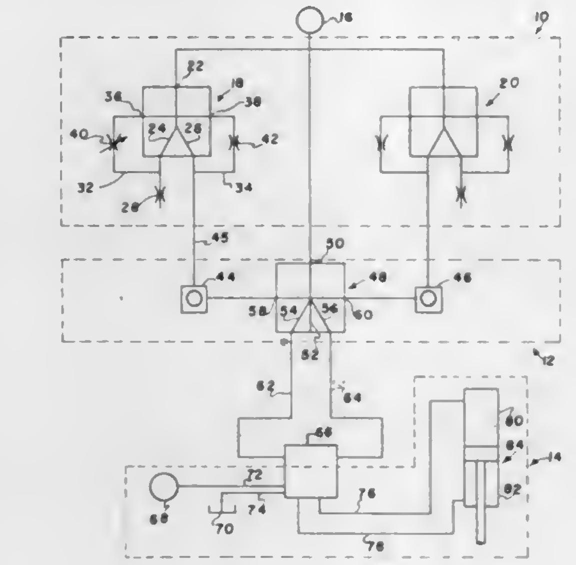
3,508,564
ELECTRO-FLUIDIC ACTIVE DEVICES
Desmond J. Nelson, Gardena, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 629,494
Int. Cl. F15c *1/04*
U.S. Cl. 137—81.5 **1 Claim**



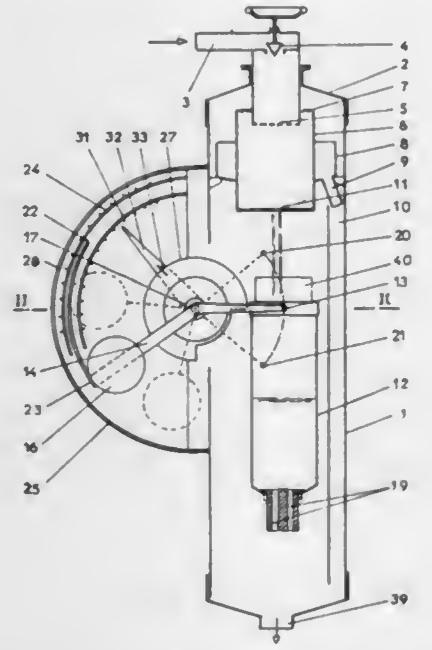
There is disclosed a family of fluidic devices such as impact modulators, vortex amplifiers, turbulence amplifiers and the like, each having a direct electronic-to-fluidic interface such that input electrical signals can modulate the flow of a ferro-hydrodynamic fluid which is used as the supply or control fluid to the device and which in turn modualtes the flow of the power or output fluid of the device. The direct interface is achieved by using a ferro-hydrodynamic fluid comprising a colloidal suspension of minute ferrous particles as the control fluid and passing it through a supply line about which electromagnetic means such as a nonlinearly wound coil are positioned. The electrical signal establishes a magnetic field gradient in the supply line which in turn is translated into a change in the velocity; hence, the momentum of the ferro-hydrodynamic fluid. This change in fluid flow characteristics in turn is used to control the operation of the fluidic device in a known manner.

3,508,565
FLUID DEVICE
Lawrence D. Strantz, Washington, Ill., assignor to Westinghouse Air Brake Company, Peoria, Ill., a corporation of Pennsylvania
Filed Aug. 8, 1967, Ser. No. 659,112
Int. Cl. F15c *1/12*
U.S. Cl. 137—81.5 **10 Claims**

A method and apparatus for transmitting a low pressure, pure fluid or fluidic signal through a conduit of a length greater than ten feet, the apparatus comprising a pair of digital, bistable oscillators, the first oscillator having a fixed capacitance and the second oscillator having a variable capacitance controlled in accordance with changes of a parameter being monitored. A standing wave fluid pulse output of the first and second oscillators is directed through lines to first and second capacitors, which are connected to control signal input ports of an analog, or proportional amplifier. The output of the proportional amplifier, the magnitude and direction of which is dependent of the relative fluid pulse frequencies generated by the oscillators, may be directed to an interface valve for controlling a high-pressure hydraulic system, or the like, in accordance with variations in the parameter being monitored.

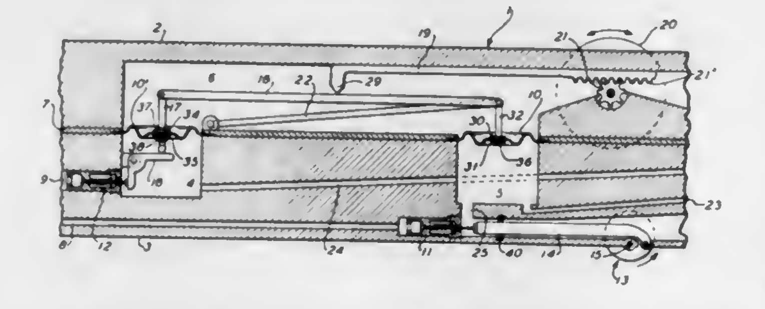


3,508,566
APPARATUS FOR THE CONTINUOUS INDICATION AND AUTOMATIC REGULATION OF THE VISCOSITY OF A LIQUID
Eric Stumm, 2 Rue Andrieux, Strasbourg, Bas-Rhin, France
Filed Sept. 6, 1966, Ser. No. 577,409
Claims priority, application France, Sept. 13, 1965, 8,410, Patent 1,446,894
Int. Cl. G05b *13/00, 21/00;* **G01r** *11/00*
U.S. Cl. 137—92 **1 Claim**



An apparatus for the continuous indication and automatic regulation of the viscosity of a liquid, which comprises a supply device for liquid to be regulated and a manually operated valve for regulating the delivery of the liquid. An upper fixed vessel is disposed below and receiving the supply device, as well as having an overflow at its upper part. An overflow collector surrounds the upper fixed vessel and has an outlet and a flow conduit receives the discharge of the overflow collector. The upper fixed vessel has a bottom with an orifice and a movable lower vessel receives the discharge of the upper vessel. A spindle suspends the movable lever device on a weighing device. The weighing device comprises an angled lever having a fork at one end which supports the spindle with the movable lower vessel, while a counterweight is secured to the other end of the lever. A rotation spindle supports the lever intermediate its ends and an arc-shaped pointer is secured to the counter-weight carrying end of the lever. Finally, two circular dials having graduations are in operative connection with the pointer and means are also provided for regulating the flow of a diluent in response to the rotation of the spindle.

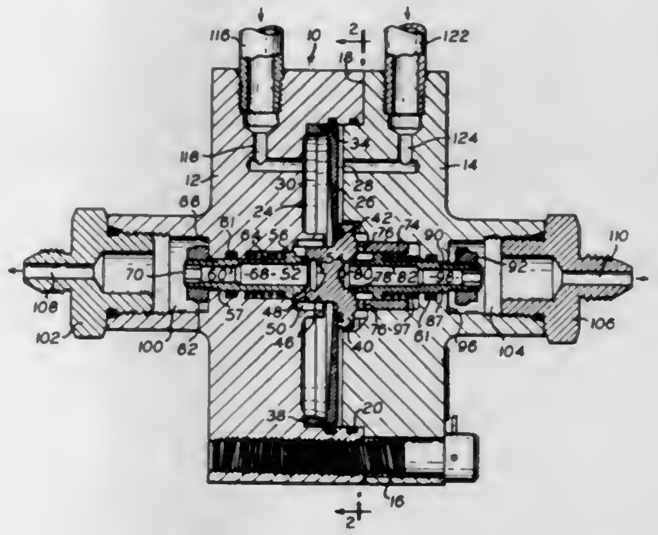
3.508.567
GAS PROPORTIONER
James A. Kirk, Troy, N.Y., and Jerry P. Helck, Summit, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 6, 1966, Ser. No. 540,739
Int. Cl. B23k *5/00;* **G05d** *11/02*
U.S. Cl. 137—98 **2 Claims**



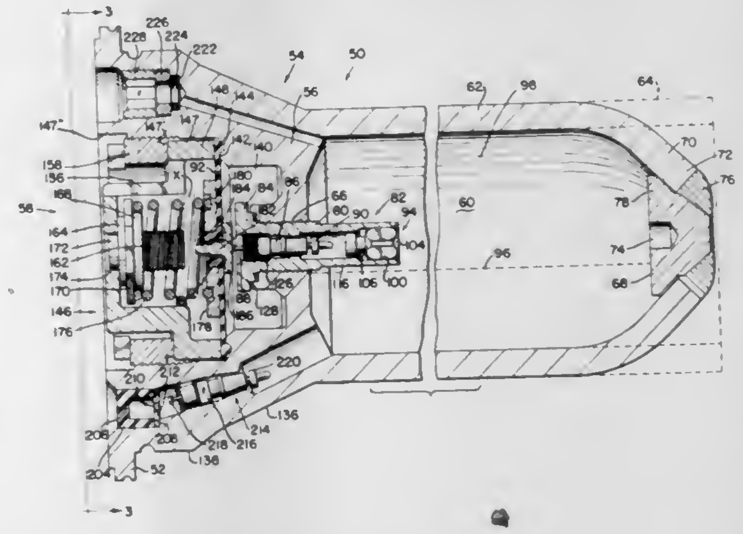
1. A hand torch comprising an elongated body portion, combustion supporting gas inlet means in said body portion and fuel gas inlet means in said body portion in the rear end thereof, a first and second gas chamber in said body portion, valve means controlling flow from said inlet means to said gas chambers, motor means comprising a flexible diaphragm in each of said chambers, an elongated rocking lever pivotally connected to each of said diaphragms, fulcrum means for said rocking lever, means for adjusting the position of the fulcrum means of the rocking lever, said adjusting means having at least a portion thereof projecting through said body portion and adapted to be contacted with the thumb, means interconnecting one of said diaphragms with said valve means for controlling flow into one of said chambers, actuating means for controlling the position of said valve means for controlling flow into the other of said chambers, said actuating means having at least a portion thereof projecting through said elongated body and adapted to be contacted with the thumb, said last mentioned portion being in close proximity to said aforementioned portion of said adjusting means so that initiation of flow and control of mixture may be effected by only slight movement of the thumb and conduit means connecting said gas chambers to outlet means in the forward end of the body portion.

3,508,568
PRESSURE RESPONSIVE VALVES
Slawomir Kowalski, Rockaway, Donald A. Worden, Pompton Plains, and Alfred Tillman, Mount Tabor, N.J., assignors to Marotta Valve Corporation, Boonton, N.J., a corporation of New Jersey
Continuation of application Ser. No. 409,203, Nov. 5, 1964. This application Nov. 29, 1967, Ser. No. 686,644
Int. Cl. G05d *11/02*
U.S. Cl. 137—116.3 **10 Claims**

This specification discloses a pressure regulator that employs a Belleville washer in place of the usual flexible diaphragm or sliding piston which responds to pressure changes. The washer serves the function of both a diaphragm and a spring. By tapering the washer to less thickness toward its center opening, a softer spring rate is obtained; and a center valve element is held against the washer without connection thereto so as not to interfere with free dishing movement of the washer. The sealing around the periphery of the washer includes a resilient ring just beyond the circumferential limit of the washer for freedom of dishing movement. A support of the washer flexes radially to eliminate friction and to leave the regulator extremely sensitive to pressure changes. The invention includes differential pressure regulators as well as the more usual fixed-delivery pressure type.



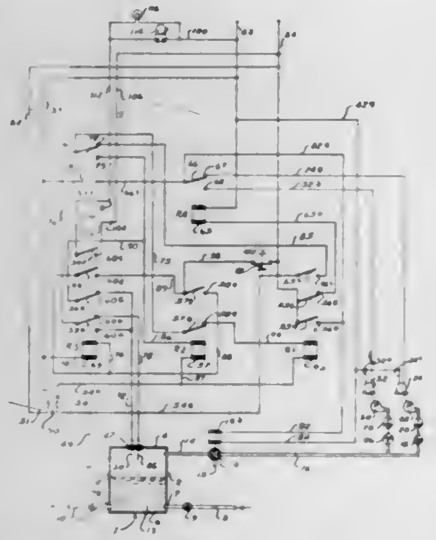
3,508,569
BEVERAGE DISPENSER REGULATION
Louis M. Puster, % Robertshaw Controls Company, P.O. Box 400, Knoxville, Tenn. 37601
Filed Aug. 23, 1965, Ser. No. 481,656
Int. Cl. B65d *1/14;* **F16k** *31/145*
U.S. Cl. 137—116.5 **21 Claims**



A beverage dispenser has a high pressure gas container supported at one end. The gas container has a massive end wall with a homogeneous extruded high pressure liquefied cylindrical gas chamber which has its free end curled inwardly to form a reduced size free end which receives a sealing plug. The massive end wall has a gas expansion valve with a gas inlet extending toward the high pressure gas chamber and an expanded discharge outlet discharging into a reduced pressure chamber in said massive end wall. An expanded gas check valve is provided in the side of the massive end wall. The gas container is made from an aluminum slug and is formed by cold extrusion and by machining operations into a massive body having an intermediate wall with an expanded gas side in one direction and with a high pressure liquefied side in the opposite direction.

3,508,570
CONTROL SYSTEM FOR PNEUMATIC EJECTOR

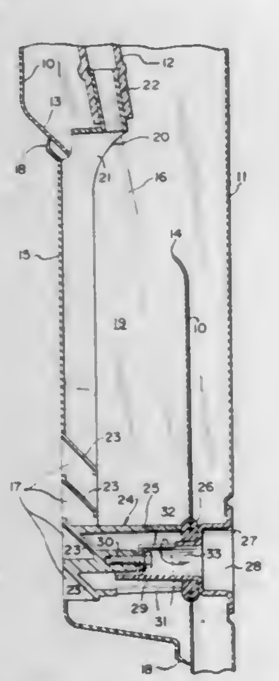
Grover L. Wallace and Clay L. Stalling, Mineral Wells, Tex., assignors to Harsco Corporation, Harrisburg, Pa., a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,571
Int. Cl. B67d *5/54;* **F04f** *1/00*
U.S. Cl. 137—209 11 Claims



A control system for pneumatic ejectors wherein each receiver has a long electrode which normally generates a signal to connect the receiver to a source of compressed air to eject the contents thereof and a short electrode mounted therein to guard against compressor breakdown, a shorted electrode or insulated electrode.

3,508,571
FLUID FLOW SYSTEM

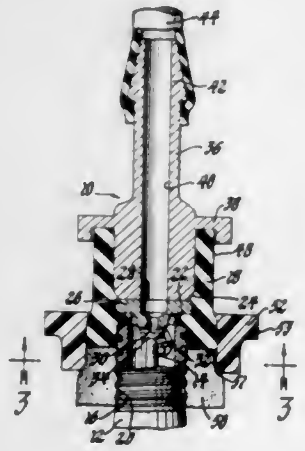
Ival G. Dutcher, Stevensville, and William T. Lampman, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,179
Int. Cl. D06f *39/08*
U.S. Cl. 137—216 10 Claims



A fluid flow system for a receptacle such as a system for supplying liquid to and venting gaseous fluid from a dishwasher in which the system comprises a liquid receptacle such as a dishwasher tub having vent means, a liquid receiver in the receptacle communicating with the vent means, a fluid passage between the receiver and the receptacle at an area below the vent means and a device for projecting liquid in an open stream through the vent means into the receiver for flow through the passage into the receptacle with simultaneous flow of gaseous fluid such as air and moisture vapor from the receptacle by way of this passage, receiver and vent means.

3,508,572
CONSTRICTIVE CONNECTOR FOR HOSE

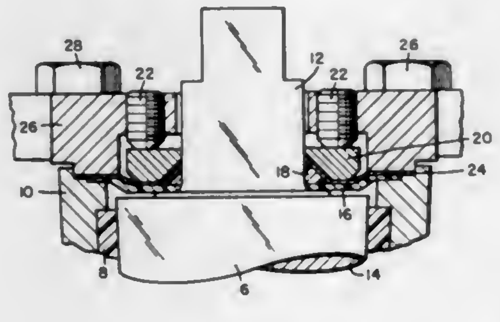
Edgar Paffrath, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Jan. 16, 1968, Ser. No. 698,247
Int. Cl. F16k *15/20*
U.S. Cl. 137—231 1 Claim



A hose and tire valve stem connector with resilient material adapted to be releasably constricted about a tire valve stem for frictionally holding the connector in its functional position and its parts being relatively movable for quick attachment and release with corresponding opening and closing of a valve in the stem.

3,508,573
MEANS FOR PROTECTING VALVE PARTS

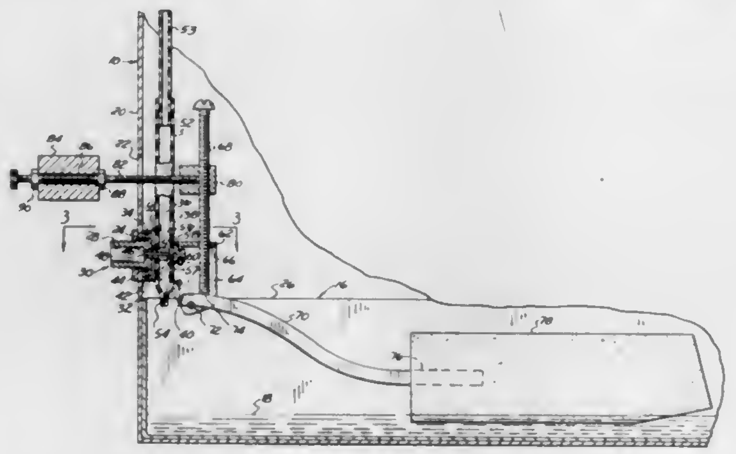
Russell G. Smith, Cincinnati, Ohio, assignor to Xomox Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed May 3, 1968, Ser. No. 726,309
Int. Cl. F16k *5/02, 5/06, 3/18*
U.S. Cl. 137—375 4 Claims



The movable valving member of any type of valve is coated with Teflon–S, a sprayable nonstick, self-lubricating, self-renewing finish based on a special fluorocarbon resin and suitable modifiers, dispersed in organic solvents. The coating is highly resistive to abrasion, and to attack by corrosives and solvents. When applied to valves, the coating discourages the formation of foreign particles within the valve which might score the seats thereof as the movable valving member is manipulated. In the event of scoring, however, the coated surface is self-renewing, or self-healing. The surfaces of valve parts coated with Teflon–S and working in contact with packings, seats, sealing elements and the like formed of Teflon, afford such advantages as nearly frictionless relative movement, the ability to self-renew in the event of scoring, and highly efficient sealing against fluid leakage past the coated surfaces. The coating endows the coated surface with a fluorocarbon-rich surface stratum which is responsible for the advantages aforesaid.

3,508,574
EXTERNALLY-ADJUSTABLE HUMIDIFIER FLOAT VALVE

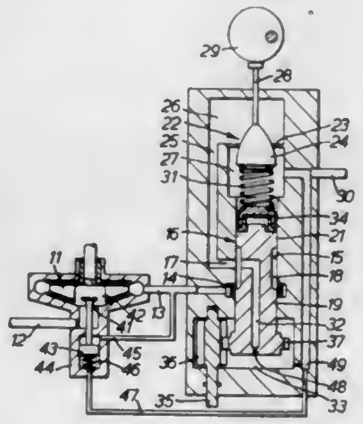
Roy P. Skerritt, 18411 Inkster Road, Livonia, Mich. 48152
Filed May 2, 1968, Ser. No. 726,087
Int. Cl. F16k *31/18;* **F24f** *3/14*
U.S. Cl. 137—451 7 Claims



The range of motion of the arm of the float which controls the shutting off of the water supply to the humidifier pan is controlled and limited by an elongated vertical screw, the threaded shank of which carries a transversely-threaded nut into which an elongated transverse screw is threaded. This screw serves as a lock screw and also as a threaded lever arm for a counterweight which is slidable back and forth thereon and locked in its adjusted position by lock nuts threaded upon the transverse screw. External adjustment is easily obtained by moving the counterweight along the transverse screw, thereby giving greater sensitivity and enabling a shallower immersion for a smaller float than has been hitherto possible.

3,508,575
LIQUID SUPPLY APPARATUS

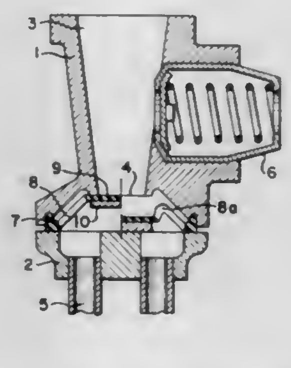
Keith Robinson, Churchdown, England, assignor to Dowty Fuel Systems Limited, Cheltenham, England, a British company
Filed Nov. 5, 1968, Ser. No. 773,618
Claims priority, application Great Britain, Nov. 6, 1967, 50,804/67
Int. Cl. F04d *27/00;* **F04b** *49/00*
U.S. Cl. 137—500 8 Claims



Liquid supply apparatus comprises a pump supplying liquid through a throttling or metering valve which has a movable member controlled to vary the throttle valve opening, while a flow-regulating valve, which regulates the flow of liquid from the pump through the throttle valve, has a movable member responsive both to pressure difference across the throttle valve, and to the load of a spring which is interposed between the movable member of the throttle valve and the movable member of the flow-regulating valve.

3,508,576
PNEUMATIC CHECK VALVES

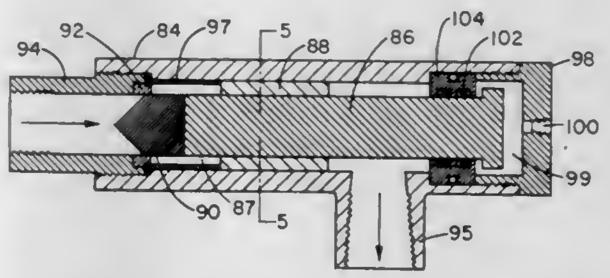
Friedrich Gross, Harenberg, Germany, assignor to Westinghouse Bremsen- und Apparatebau GmbH, Hannover, Germany, a company of Germany
Filed June 1, 1967, Ser. No. 642,963
Claims priority, application Germany, Dec. 15, 1966, W 42,978
Int. Cl. F16k *15/14*
U.S. Cl. 137—525 2 Claims



A pneumatic check valve comprising a circular base constituting a seal ring, a valve member having a diameter smaller than that of said base and positioned above the latter and said base and valve member being connected by a plurality of spaced-apart strips functioning as springs to normally maintain said valve member closed upon a valve seat, said base, valve member and strips being integrally formed of rubber or other suitable elastic material.

3,508,577
BLOWOUT CONTROL VALVE FOR DRILLING WELL

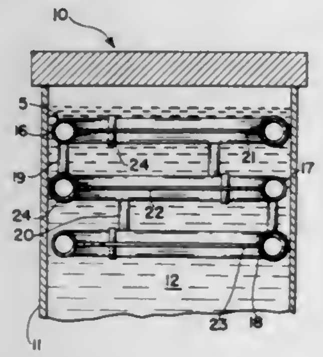
Renic P. Vincent and Billy V. Randall, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,747
Int. Cl. F16k *29/02*
U.S. Cl. 137—528 2 Claims



A backpressure control valve is disclosed. A conventional automatic blowout control system for a drilling well includes a conventional blowout preventer connected into the well casing system and a conduit connected to the casing below the conventional blowout preventer. The automatic backpressure control valve of this disclosure is connected into this conduit. The backpressure control valve includes a housing having a longitudinal bore or passage therein and an outlet bore which is at 90° to the main bore. A piston valve means having a wedge-shaped tungsten carbide face, preferably at 45° angles, is mounted in the valve body and axially aligned within the main bore. Hydraulic fluid under controlled pressure forces the piston valve to a closed position. When the pressure in the intake to the valve body exceeds this controlled pressure, the piston valve is forced open. The slanting face of the valve provides for rapid passage of any accumulated cuttings when the valve is open and eliminates sticking problems due to such cuttings. In one embodiment, a special carbide deflecting ring is provided about the piston valve. Other embodiments include piston centralizing means and means to rotate the piston valve during operations to distribute wear.

3,508,578
FLEXIBLE RING SLOSH DAMPING BAFFLE

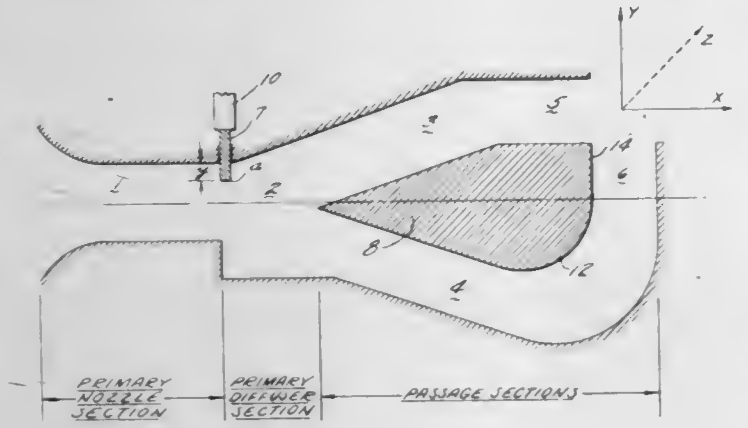
David G. Stephens, Box 246, Yorktown, Va. 23490, and George W. Brooks, 9 Sylvia Drive, Tabb, Va. 23602
Continuation of application Ser. No. 532,526, Feb. 25, 1966. This application June 3, 1968, Ser. No. 739,927
Int. Cl. E03b *11/00*
U.S. Cl. 137—582 15 Claims



A device for reducing sloshing of liquid in spacecraft fuel tanks. Carrying and positioning structure is located in the fuel tank and designed to be effective at all levels of liquid in the tank. A baffle or similar structure is associated with the carrying and positioning structure. The baffle can move relative to the carrying and positioning structure under the influence of moving liquid. This increases mixing action of the fluid resulting in decreased sloshing.

3,508,579
AERODYNAMIC MONOSTABLE VALVE

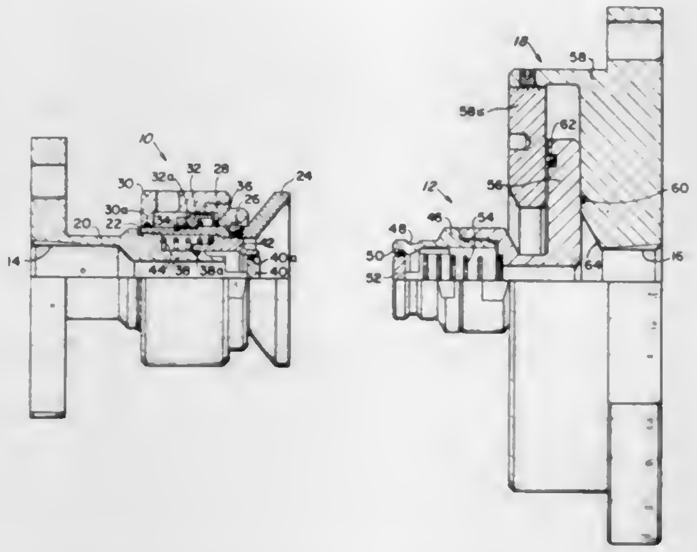
Burton A. Jones, North Palm Beach, Fla., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 29, 1965, Ser. No. 517,490
Int. Cl. F15c *3/00*
U.S. Cl. 137—610 21 Claims



An aerodynamic gas valve having a first conduit means with an outlet conduit means connected thereto having two outlet passages. A means being provided to direct flow from the first conduit means for distribution between the two passages of said outlet conduit means. Said directing means including a tab movable into and out of the flow from said first conduit means. A setback portion is located at a point opposite from said tab. The leading edge of the divider formed between the two outlet passages is located between the center line of the first conduit means and the edge of said conduit means adjacent said setback portion. The first conduit means is formed having a divergent section with the throat having a circular cross section and the exit of the first conduit means being formed as an oval having parallel sides.

3,508,580
FLUID-TIGHT COUPLING FOR LATERALLY MISALIGNED CONDUITS

Clifford H. Snyder, Jr., Coraopolis, Pa., assignor to SRM Company, a corporation of Pennsylvania
Filed Sept. 12, 1967, Ser. No. 667,284
Int. Cl. F16l *37/22, 37/28*
U.S. Cl. 137—614.04 8 Claims



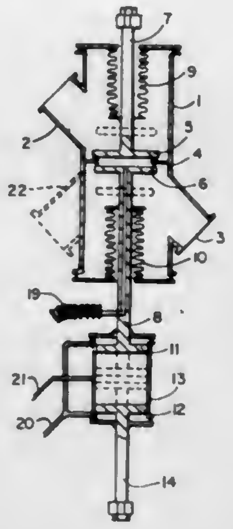
A fluid-tight coupling of the type utilizing radially movable locking balls to retain a nipple within a housing is provided with an automatic nipple-release piston-cylinder arrangement and with a floating connection between the nipple and the conduit connected to the nipple so that the nipple can be moved relative to the conduit to engage the coupling even though the conduits are laterally offset. The housing of the coupling is provided with a funnel shaped inlet to receive and guide the nipple into the housing even though the nipple and housing may initially be laterally offset from each other. The funnel-like inlet of the housing causes the nipple to move relative to the conduit to which it is attached so that the nipple can be engaged into the housing. The nipple is connected to its conduit by a radially oversize flange that moves in all directions normal to the axis of the nipple within an oversize flange-receiving body formed on the conduit. The automatic piston-cylinder release means on the housing permits fluid under pressure to retract the locking sleeve and thereby permit the nipple to be withdrawn from the housing itself.

3,508,581
HIGH VACUUM VALVE

Hermann Woessner, Balzers, Liechtenstein, assignor to The Bendix Corporation, Rochester, N.Y., a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,251
Claims priority, application Switzerland, Feb. 5, 1966, 1,650/66
Int. Cl. F16k *11/02*
U.S. Cl. 137—614.21 2 Claims

A high vacuum valve, particularly for ultra-high vacuum, with a valve housing and gas entrance and gas exit connections. A valve seat arranged between the entrance and exit connections and a movable closure member or

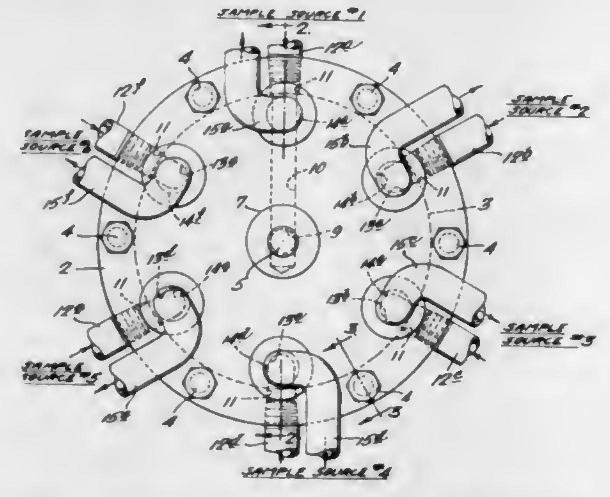
valve body compressible onto the seat with a predetermined closing force. The invention is characterized in that, in addition to the sealing valve member in the valve housing, an opposing movable valve member is provided which is compressible against the back side of the valve



seat with an equal but opposing force. It is practical therefore, in addition to the valve member referred to, to also construct the opposing valve as a vacuum tight second valve body and to make the space between the two valve bodies evacuable.

3,508,582
SELECTIVE COUPLING APPARATUS

Gerard D. Aulisa, Claymont, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Mar. 11, 1968, Ser. No. 712,274
Int. Cl. F16k *11/00*
U.S. Cl. 137—625.11 2 Claims

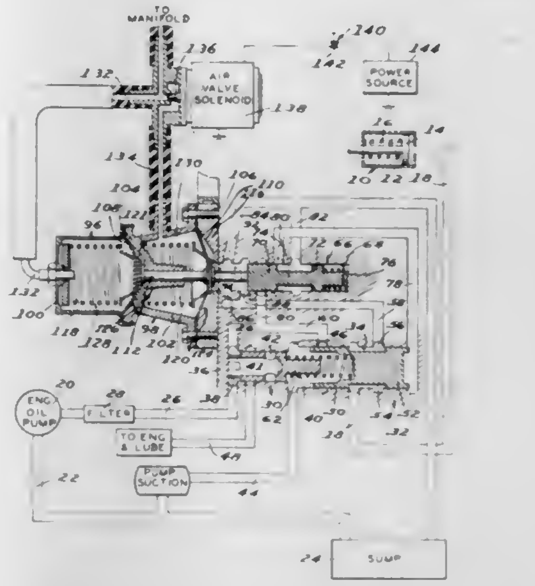


A rotor mounted inside a casing successively couples individual ones of a plurality of inlet openings to a single outlet opening. In each position of the rotor, all of the inlet openings, except the one then coupled to the outlet opening, are coupled to individual bypass openings provided in the casing.

3,508,583
SERVO CONTROL VALVE

Robert E. Kaptur, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Original application Aug. 30, 1965, Ser. No. 483,753, now Patent No. 3,395,617, dated Aug. 6, 1968. Divided and this application Feb. 23, 1968, Ser. No. 731,348
Int. Cl. F16k *11/07, 31/12*
U.S. Cl. 137—625.64 4 Claims

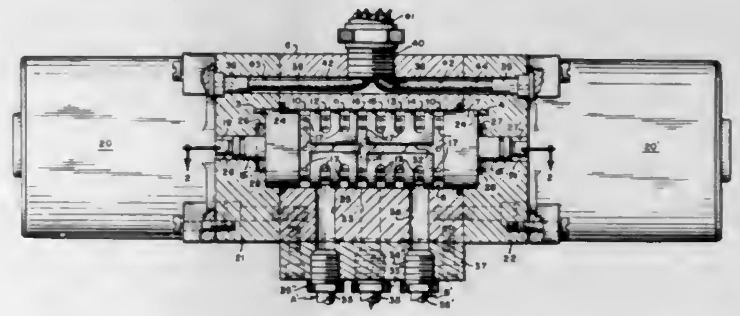
A valve is movable to one of three positions to supply actuating fluid between two lines; or, to a second position to disconnect the two supply lines and rapidly vent one; or to a third position wherein the two supply lines



are disconnected and one slowly vented; and vacuum controlled servo means controls the movement of the valve.

3,508,584
SPOOL VALVE

Louis F. Kutik, 8720 SW. 23rd Place, Fort Lauderdale, Fla. 33314
Continuation-in-part of application Ser. No. 577,649, Sept. 7, 1966. This application July 31, 1968, Ser. No. 756,079
Int. Cl. F16k *11/07*
U.S. Cl. 137—625.64 8 Claims

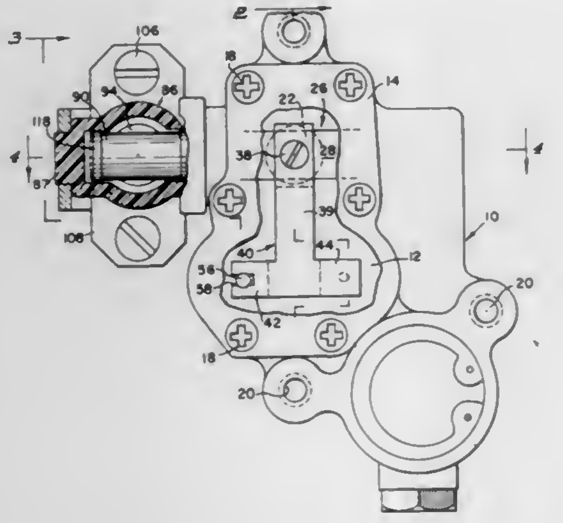


A valve including a housing having a tubular sleeve received in a bore therein and a spool inside the sleeve shiftable axially to control flow of fluid between passages in the housing. The sleeve has two spaced longitudinal grooves recessed from the exterior surface thereof, and a plurality of circumferential grooves, at least some of which extend at least half way around the exterior of the sleeve and communicate with the interior of the sleeve through radial openings therein which provide balanced pressure on the spool. At least one circumferential groove communicates selectively with one of the longitudinal grooves and at least one other circumferential groove communicates selectively with the other longitudinal groove. Other circumferential grooves are provided for different control functions.

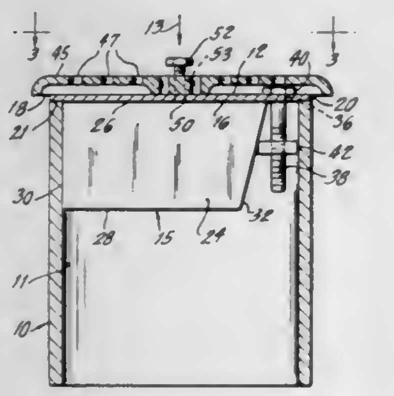
3,508,585
DAMPED LEVELING VALVE

Sham L. Kurichh, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Dec. 4, 1967, Ser. No. 687,660
Int. Cl. F17d *3/00*
U.S. Cl. 137—627.5 1 Claim

A leveling valve for vehicle air springs including an improved damper comprising a pair of opposed pistons operating in hydraulic cylinders and receiving between them the end of a lever arm carried by an oscillatable valve operating shaft, the arrangement including a fixed stop between the pistons which is normally engaged by both pistons whereby when one of the pistons is moved by the lever arm away from the abutment, the other piston has no effect and particularly does not impede the return of the first piston to its normal position engaging the stop.

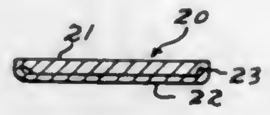


3,508,586
PIPE CLAMP
Warren A. Gimler, 19 Benedict Road, Staten Island, N.Y. 10304
Filed Sept. 16, 1968, Ser. No. 762,209
Int. Cl. F16l *55/10*
U.S. Cl. 138—89 **11 Claims**



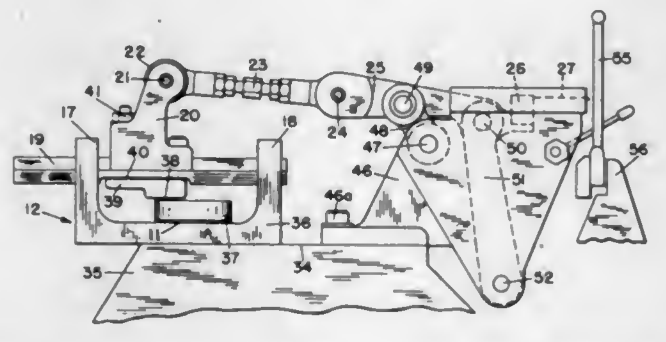
A pipe clamp, to be secured at an open end of a pipe, for securing a structure, such as a fresh air plate, over the open end of the pipe; the clamp includes a thin support element resting on the open pipe end and a thin clamping element secured perpendicular to the support element and extending into the pipe; the clamping element has one straight edge pressed against the interior of the pipe along the entire length of the edge; the opposite clamping element edge is tapered from narrower to wider moving toward the support element; the clamping element extends substantially uniformly the same distance into the pipe over its entire length between the aforementioned edges; a bolt and nut combination, with the bolt being tightened so that the nut is wedged between the tapered edge of the clamping element and the interior of the pipe, thereby to secure the clamp in the pipe; and a plate positioned over the end of the pipe and secured to the clamp.

3,508,587
TUBULAR STRUCTURAL MEMBER
Hans A. Mauch, 421 Judith Drive, Dayton, Ohio 45429
Continuation of application Ser. No. 394,915, Sept. 8, 1964. This application Sept. 29, 1966, Ser. No. 584,325
Int. Cl. F16l *11/06, 11/08, 11/12*
U.S. Cl. 138—119 **17 Claims**



A storable and extendable structural support medium comprising an elongated tubular member which is structurally rigid in an axial sense in its elongated tubular form and consists of a circumferentially continuous wall structure which is subject to flattening anywhere along its length in response to a predetermined compressive force being applied transverse to its longitudinal axis, portions of said wall structure adapting to provide diametrically opposite hinges to accommodate repeated flattening and repeated return to its elongated tubular form in a manner to avoid structural deterioration and to enable that the flattened portions of the member may be readily bent or twisted as needs require.

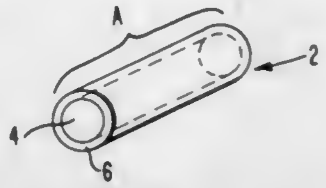
3,508,588
CONTROL MECHANISM FOR LOOM SELVAGE NEEDLE
Clarence R. Kronoff and Edwin F. Dolbeare, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts
Continuation-in-part of application Ser. No. 694,924, Jan. 2, 1968. This application July 9, 1969, Ser. No. 842,823
Int. Cl. D03d *47/42*
U.S. Cl. 139—124 **5 Claims**



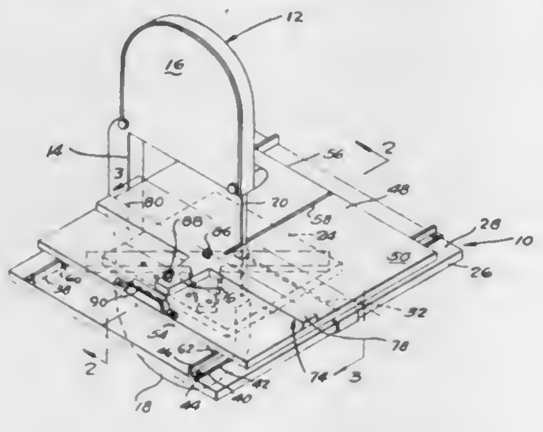
The drive mechanism for reciprocating a selvage knitting needle in a narrow ware loom which selectively permits the location of a greater dwell or retardation of the needle at either the front or back end of its reciprocation. When the reed of the loom is beating the weft up a short distance, the selvage needle has a greater dwell at the front end of its reciprocation; whereas, where the reed is beating up the weft a greater distance, the selvage needle has a greater dwell or retardation at the back end of its reciprocation.

3,508,589
LUMINOUS TEXTILE PRODUCTS
Burton N. Derick and Saylor C. Snyder, Jr., Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,725
Int. Cl. D03d *15/00*
U.S. Cl. 139—420 **12 Claims**

Upon integrating optical filamentary material into a textile product and frustrating the total reflection mechanism or "light piping" effect of the light transmitting portion of the optical filamentary material, either before or after the integration, illumination of its ends illuminates the textile product in the area(s) where the frustration is effected. By having optical filamentary material terminate within the textile product, illumination of the textile product at the ends within the product occurs.

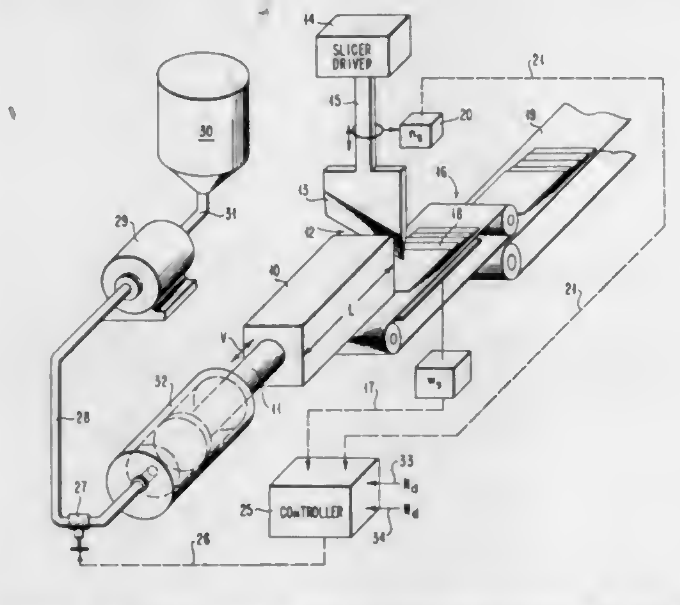


3,508,590
CUTTING GUIDE FOR SAWS
Harry C. Sprague, Sr., 3036 Duke St., Baton Rouge, La. 70805
Filed Dec. 15, 1967, Ser. No. 690,874
Int. Cl. B27b *13/00;* **B23d** *55/04*
U.S. Cl. 143—25 **3 Claims**



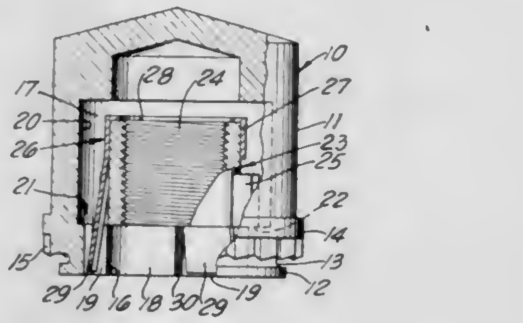
A guide for making linear cuts in materials of irregular form, the guide being used in conjunction with a saw, and having a fixed support and a movable support with an angularly adjustable work contact guide on the movable support.

3,508,591
CONTROL SYSTEM FOR SOLIDS SLICING
Robert L. Johnson, Greenwich, Conn., and Edward L. Ralston, Flossmoor, Ill., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 4, 1968, Ser. No. 695,746
Int. Cl. B26d *4/56*
U.S. Cl. 146—222 **9 Claims**



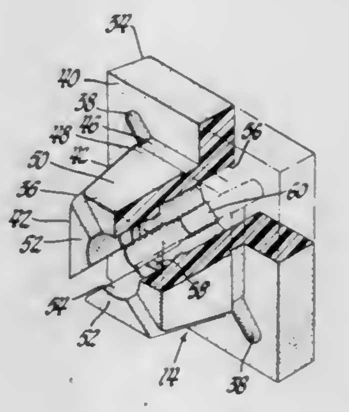
A system for obtaining a preselected number of slices from a solid to provide a batch having a desired weight. The partial batch weight is measured after each slice is added and based on the number of slices and partial batch weight a predicted terminal error signal is calculated. The predicted terminal error signal is employed in one of a number of control algorithms and control effected to vary the feed rate of the solid into the slicing mechanism such that the thickness of each slice is regulated to minimize deviation from the desired batch weight.

3,508,592
SEALED PRESS NUT HAVING A SPRING RETAINED FLOATING NUT ELEMENT
José Rosán, Sr., Rancho San Juan, San Juan Capistrano, Calif. 92675; Robert D. Weber, 1955 Irvine Ave., Costa Mesa, Calif. 92627; and Marvin P. Reece, 33262 Bremerton Ave., Dana Point, Calif. 92629
Filed Sept. 3, 1968, Ser. No. 757,004
Int. Cl. F16b *39/00, 39/28*
U.S. Cl. 151—41.7 **8 Claims**



A sealed, leak-proof press nut comprised of an enclosed shell element and a floating threaded nut element contained therein which is prohibited from rotational movement relative to the shell element by an expanded spring means simultaneously interengaging the nut and shell elements and prohibited from axial displacement by the engagement of radial lugs carried by the nut element with internal abutment shoulders provided by the shell element.

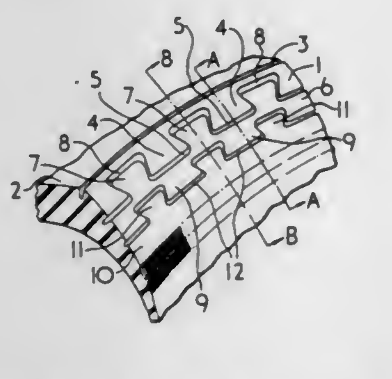
3,508,593
HEADLAMP ADJUSTING SCREW AND NUT ASSEMBLY
Donald H. Gill, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,648
Int. Cl. F16b *39/28*
U.S. Cl. 151—41.75 **2 Claims**



A fastening device which in its preferred form is used for adjustably positioning a headlamp relative to a headlamp housing and includes a one-piece plastic nut fixedly mounted on the headlamp housing and an adjusting screw threaded through the nut and having a head portion connected to the headlamp. The nut includes deflectable shank elements extending through a mounting hole formed in the housing. A plurality of inwardly extending lands and ribs are formed along a centrally located bore section of the nut. A threaded portion of the adjusting screw is initially inserted into the bore section at the shank end and successively taps threads in the lands and ribs. As the screw is threaded across the lands, the shank elements are spread outwardly such that a portion thereof and the head of the nut compressively engage the spaced surfaces of the housing to fixedly secure the adjusting nut and screw thereto. As the screw is threaded across the ribs, the shank elements additionally deflect to accommodate realignment of the screw with the axis of the adjusting nut.

3,508,594
TIRES

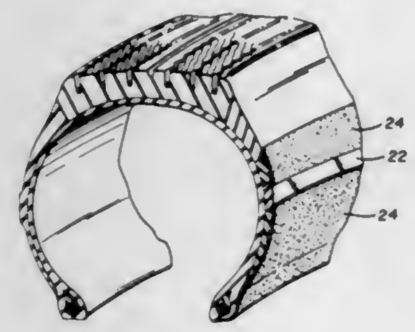
Tom French, Sutton Coldfield, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed Aug. 24, 1967, Ser. No. 663,123
Claims priority, application Great Britain, Aug. 26, 1966, 38,312/66
Int. Cl. B60c *13/00, 11/00*
U.S. Cl. 152—209 10 Claims



A pneumatic tire shoulder provided with interengaging blocks, ribs or the like shaped and disposed so that on application of a local distorting force e.g. on cornering the blocks etc. interlock with each other to resist the force. Similar blocks etc. may also be provided on the tread and/or sidewalls, and the blocks etc. of the shoulder region may or may not interengage with these.

3,508,595
COVER LAYER FOR TIRE SIDEWALL

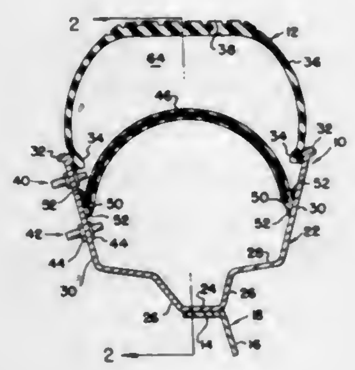
Richard B. Wilson, Akron, Ohio, assignor to The General Tire & Rubber Company, a corporation of Ohio
Filed Oct. 23, 1967, Ser. No. 677,097
Int. Cl. B60c *1/00, 13/00;* **B08c** *9/08*
U.S. Cl. 152—330 6 Claims



An improved cover gum compound for use over another compound, such as a white sidewall, is composed of an elastomeric composition containing a blend of natural rubber, chlorobutyl rubber and ethylene propylene terpolymer. This compound, in addition to possessing good processing characteristics, is non-staining and is highly weather resistant.

3,508,596
SAFETY INFLATABLE TIRE MOUNT FOR VEHICLE WHEELS

Johnny E. Blair, P.O. Box 3,
Van, W. Va. 25206
Filed Feb. 5, 1968, Ser. No. 703,008
Int. Cl. B60c *17/00*
U.S. Cl. 152—340 2 Claims



A channel-shaped vehicle wheel rim has a composite inflatable liner of steel and rubber-like material either permanently bonded to the rim side walls or detachably secured thereto and provided with an inflation valve for admitting compressed air or other gas to the space between the liner and the rim. A second inflation valve is provided outwardly of the liner for inflating the conventional tubeless tire casing which is removably secured to the rim by the usual interlocking bead construction. The central portion of the inflated liner projects outwardly beyond the edges of the rim in such a manner as to sustain the load of the vehicle in the event of a puncture or blowout releasing the air from the tire, so that the vehicle operator may continue to drive, without danger or damage, a sufficient distance to reach tire repair or replacement facilities.

3,508,597
REINFORCED ELASTOMERIC PRODUCTS CONTAINING CALCIUM OXIDE AND ALUMINUM OXIDE

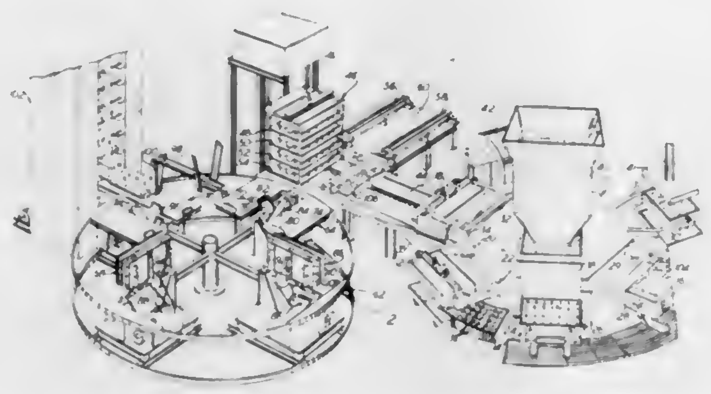
Yathiraja Iyengar, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 237,758, Nov. 14, 1962. This application Sept. 16, 1965, Ser. No. 487,888
Int. Cl. B60c *1/00;* **B29h** *9/60;* **C08c** *11/08*
U.S. Cl. 152—357 17 Claims

9. A pneumatic tire having a carcass portion having one or more layers of nylon cords coated with a rubber composition having dispersed therein, based on 100 parts by weight of rubber, about 3 to 12 parts by weight of finely divided CaO, and about 10 to 25 parts by weight of finely divided Al_2O_3, the amount of Al_2O_3 being in excess of the amount of CaO.

3,508,598
PROCESS FOR MAKING AND ASSEMBLING SHELL MOLDS

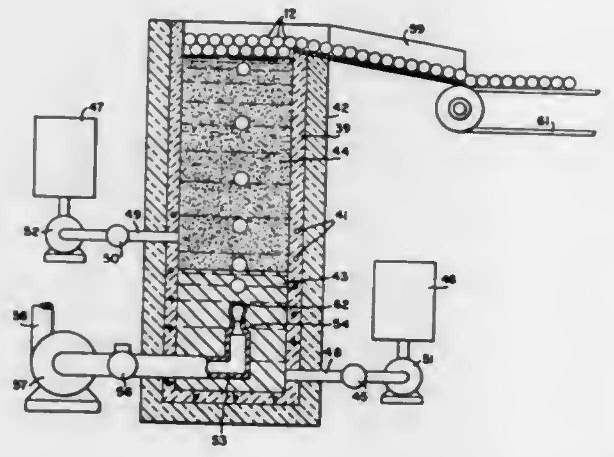
Roy W. York, Grosse Pointe Park, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 27, 1968, Ser. No. 708,646
Int. Cl. B22c *13/08, 25/00*
U.S. Cl. 164—1 12 Claims

The first shell half from a rotary pattern is stored in a vertical stacking unit and then pushed onto one horizontal platen of a booking fixture as its sister shell half is pushed onto the other platen from a conveyor station. The booking fixture is mounted on a rotary table and as the table indexes the platens swing upward to an angle other than vertical to move the faces of the shell halves into contact with each other. When the shell halves come together, the weight of one half is transferred from its initial platen to the other platen. The platens then swing back to a horizontal position and the completed shell mold is removed from the booking fixture.



3,508,599
LIGHTWEIGHT STRUCTURAL ARTICLES

Milton B. Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey
Original application June 5, 1961, Ser. No. 114,903. Divided and this application Sept. 23, 1964, Ser. No. 408,712
Int. Cl. B22d *23/00*
U.S. Cl. 164—81 3 Claims

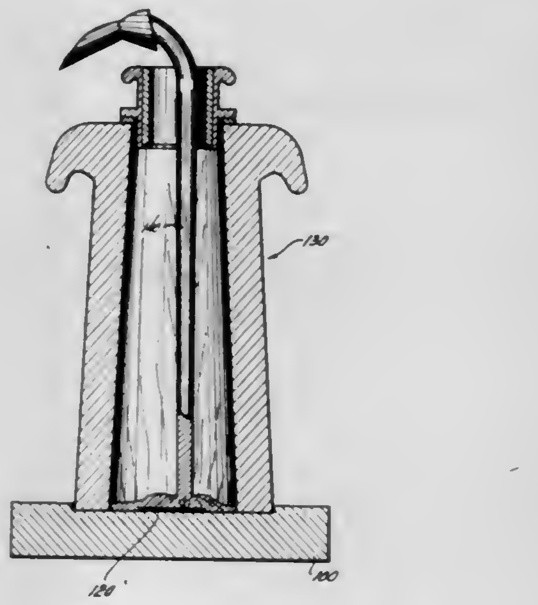


This invention pertains to lightweight, high strength elements for constructional applications and, more particularly, to composite structural articles comprising spaced-apart face sheets or panels and an improved lightweight, high strength filler material in the form of preformed hollow spherical bodies or bubbles. The invention is especially directed to methods for the manufacture of such hollow spherical bodies. The method comprises the steps of forming a spherical bubble in a bath of molten material from which the sphere is to be made and passing the formed bubble into a cooling medium overlying the bath to solidify the bubble.

3,508,600
PROCESS OF CASTING WITH MOLD STOOL PROTECTION PLATE

William T. Rawles, P.O. Box 3267,
Greeneville, Tenn. 37743
Filed Oct. 16, 1967, Ser. No. 675,397
Int. Cl. B22d *7/12*
U.S. Cl. 164—121 8 Claims

The disclosure may be described as process and product for the preservation of "stools" which are used in connection with the casting of high melting point materials, for example, in the casting of steel in a mold supported by a stool. More specifically, the disclosure resides in the placement of a tablet or disc, having a higher melting point than the materials which are to be cast, so that as the molten material is poured into the mold upon the stool, the stool shall thereby resist erosion and/or sequential cracking. The objective is thus to preserve the life of the stool indefinitely, the disc having great resistance to thermal shock.

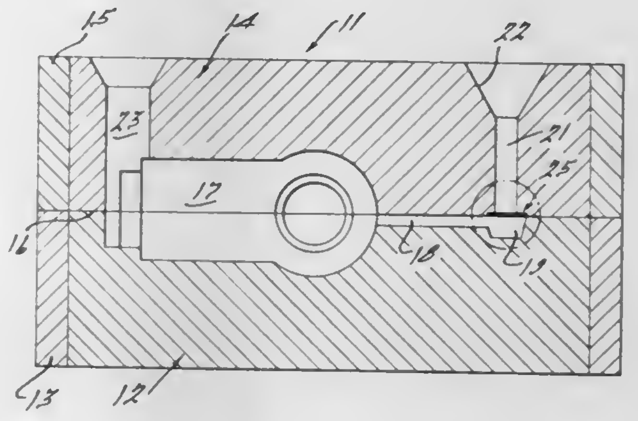


ERRATUM

For Class 164—133 see:
Patent No. 3,508,615

3,508,601
MOLYBDENUM SCREEN FOR MOLTEN NON-FERROUS METAL

Gordon D. McArdle, Detroit, Mich., assignor to American Metal Climax, Inc., a corporation of New York
Filed Apr. 17, 1967, Ser. No. 631,260
Int. Cl. B22c *9/08*
U.S. Cl. 164—358 3 Claims



This application discloses a sand mold comprised of a cope and drag ram packed with sand and defining a cavity having the shape of the object to be cast, a runner for delivering a molten non-ferrous metal to the cavity and a sprue into which metal is poured for delivery to one end of the runner. In order to separate slag and dross from the molten metal as it is poured without any significant decrease in the pouring rates, an expanded metal, molybdenum screen is positioned in the mold and extends across the sprue.

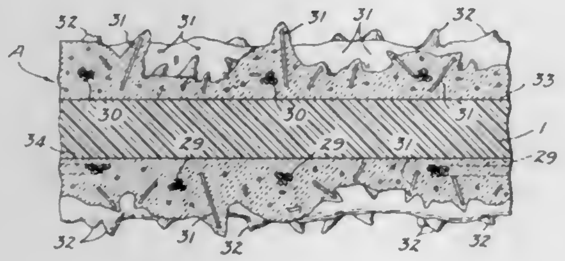
3,508,602
PERMEABLE SHELL MOLDS

Edward J. Mellen, Jr., 2123 Lee Blvd., East Cleveland, Ohio 44112, and Edmond M. Baker, Alliance, and John M. Webb, Chagrin Falls, Ohio; said Baker and said Webb assignors to said Mellen

Original application Dec. 2, 1965, Ser. No. 511,129, now Patent No. 3,452,804, dated July 1, 1969. Divided and this application Dec. 4, 1968, Ser. No. 781,069

Int. Cl. B22c *9/04*

U.S. Cl. 164—361 16 Claims



A shell mold, ladle, crucible or the like made by dipping a destructible form or pattern in a ceramic slurry, randomly applying short threads or filaments to the resulting refractory layer so that they project outwardly from said layer in all directions, wrapping a destructible rope or cord around the ceramic-coated form or pattern to provide a closely spaced network, forming a series of ceramic coats which cover the network and the threads to form a ceramic article of substantial thickness by repeatedly dipping the pattern in the ceramic slurry, and firing the resulting ceramic article to burn out the rope.

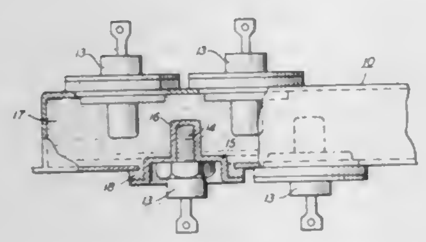
3,508,603
FLUID TURBULENCE IN VAPOR-PHASE COOLING SYSTEM ENHANCED BY FORMING OF LARGE VAPOR BUBBLES

Thomas J. Plevyak, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, Berkeley Heights, N.J., a corporation of New York

Filed June 10, 1968, Ser. No. 735,662

Int. Cl. F28d *5/00*

U.S. Cl. 165—1 2 Claims



Unusually large vapor bubbles are formed in narrow horizontally-oriented slots in a vapor-phase heat exchange evaporator, the vapor bubbles communicating with a heat source and the fluid body. The large bubbles so generated substantially enhance the level of fluid turbulence and thus usefully increase the rate of heat transfer.

3,508,604
BIMETALLIC DAMPER ACTUATOR

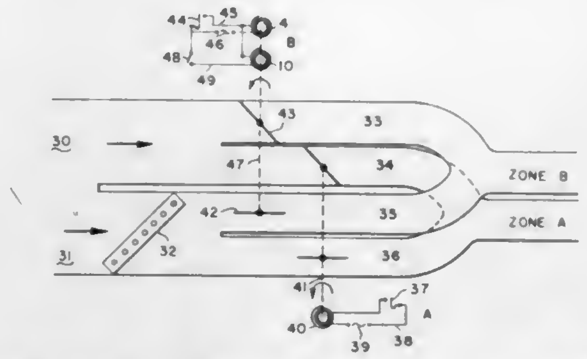
Harry D. Foust, Dakota, Minn., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed Nov. 4, 1968, Ser. No. 773,219

Int. Cl. F24f *3/00*

U.S. Cl. 165—22 8 Claims

A bimetallic damper operating mechanism controls and operates two dampers in face and bypass ducts which direct forced air to one of a plurality of zones to be air conditioned. The damper operator has two bimetallic elements which coact to open and close the face and bypass dampers.



3,508,605
TEMPERATURE CONTROL SYSTEM FOR ELECTRIC REFRIGERATOR

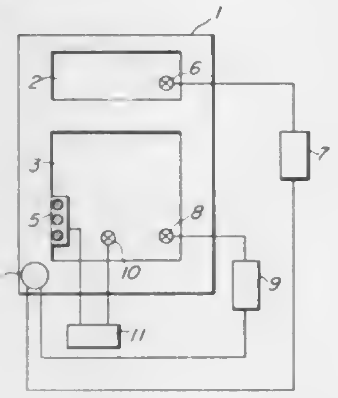
Zenji Kusuda, Ibaragi-shi, and Takeji Kobayashi, Kyoto, Japan, assignors to Matsushita Electronics Corporation, Osaka, Japan, a corporation of Japan

Filed Aug. 27, 1968, Ser. No. 755,692

Claims priority, application Japan, Aug. 31, 1967, 42/56,275

Int. Cl. F25b *29/00*

U.S. Cl. 165—30 3 Claims



Temperature control system for electric refrigerators; in which the compressor motor is controlled according to signals from two temperature detecting circuits which detect the temperature in the freezing compartment and the provisional compartment respectively, and an electric heater placed in the provisional compartment for compensating an excessively low temperature is controlled by a signal from another temperature detecting circuit which detects the temperature in the provisional compartment.

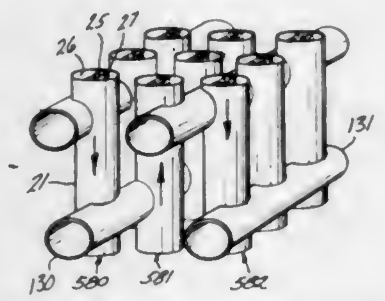
3,508,606
HEAT EXCHANGER

John H. Blanchard, Wallingford, and George A. Anderson, Northford, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Sept. 4, 1968, Ser. No. 757,312

Int. Cl. F28f *1/40, 9/00*

U.S. Cl. 165—145 3 Claims



This invention relates generally to a heat exchanger having at least two rows of elements manifolded together wherein each element contains at least one body of pervious material positioned therein, a channel for distribution for a heat exchange medium, and a channel for collection of heat exchange medium.

3,508,607
HEAT EXCHANGER

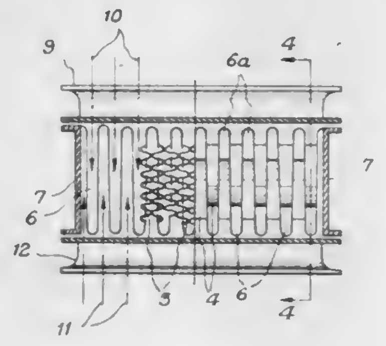
Bruno Herrmann, Bridgeport, Conn., assignor to Motoren- und Turbinen-Union, Munich, Germany

Filed Apr. 16, 1968, Ser. No. 721,850

Claims priority, application Germany, Apr. 19, 1967, M 73,646

Int. Cl. F28d *9/00*

U.S. Cl. 165—157 4 Claims



The core of a heat exchanger is formed from an accordion folded single metal strip with ducts being formed between the walls extending between the fold lines. Corrugations on the walls form spacers, fluid flow guides, and reinforcing.

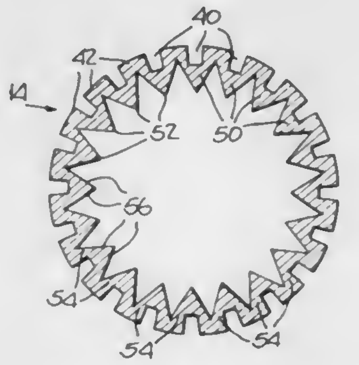
3,508,608
CONDENSER TUBES

Ralph C. Roe, Tenafly, N.J., assignor to Saline Water Conversion Corporation, Oradell, N.J., a corporation of New York

Filed Apr. 17, 1968, Ser. No. 722,011

Int. Cl. F28b *1/42*

U.S. Cl. 165—179 6 Claims



Condenser tubes having longitudinal external grooves for attracting and channeling condensate and internal longitudinal fins tapered in cross section to optimize heat transfer paths through the tubes.

3,508,609
WASHOUT JOINT

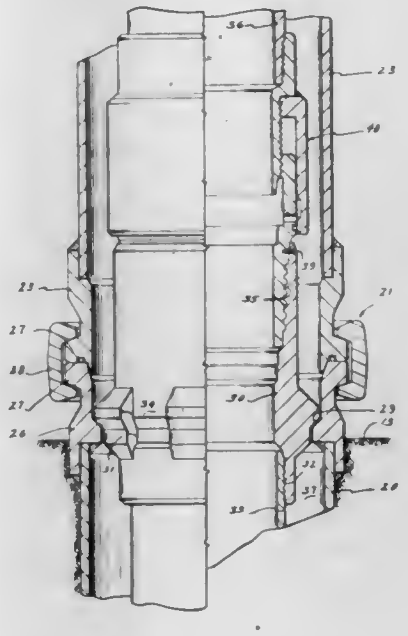
John H. Fowler and David P. Herd, Houston, Tex., assignors to Rockwell Manufacturing Company, Houston, Tex., a corporation of Pennsylvania

Filed Sept. 19, 1967, Ser. No. 668,790

Int. Cl. E21b *7/12, 33/00*

U.S. Cl. 166—.5 20 Claims

A washout joint and method of using same for cementing pipe strings in an underwater well. A first cylindrical coupling is provided at one end with means for connecting to a hanger-head in an underwater wellhead. Radial ports are drilled through the walls of the coupling approximately midway between its ends. An O-ring seal is placed in a circumferential groove on the exterior of said coupling below the radial ports. The other end of said first coupling is provided with threads for connection to a second cylindrical coupling. The second coupling is provided at one end with means for connecting to a running pipe string. Affixed to said second coupling is a cylindrical sleeve which surrounds a portion of said first coupling in a sliding fit. In its furthest extended position the sleeve cooperates with said first coupling O-ring to prevent fluid flow through the ports. In an intermediate position an internal recess in the sleeve and a relieved external portion of said first coupling form an annular passage communicating with the ports through which fluid may be circulated. In its innermost position another portion of the sleeve cooperates with the first coupling O-ring and a portion of said second coupling engages a portion of said first coupling to again seal the ports against fluid pasage therethrough.



In cementing operations a hanger-head is connected to a casing string. The washout joint is connected to the hanger-head. A running string is connected to the joint and the whole assembly is lowered into an underwater wellhead until the hanger-head is seated therein. Cement is then passed through the casing string and up through an annulus between the string and an outer string which surrounds it. The running string and washout joint are then rotated until the ports are opened. Water is circulated through the joint washing cement away from the hanger-head and joint. Further rotation then seals the ports and allows continued drilling or completion. The washout joint may subsequently be removed.

3,508,610
RETRIEVABLE WELL PACKER APPARATUS

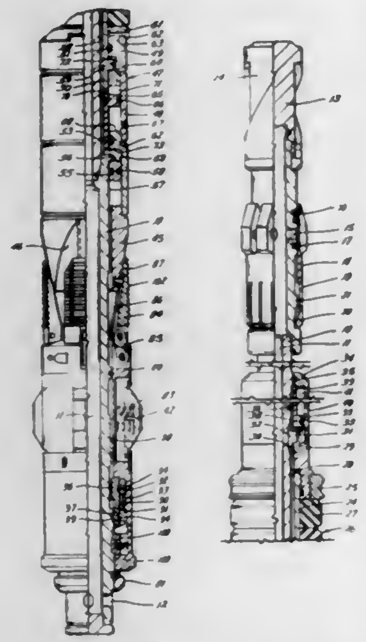
James W. Kisling III, Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

Filed Sept. 27, 1968, Ser. No. 763,150

Int. Cl. E21b *23/00*

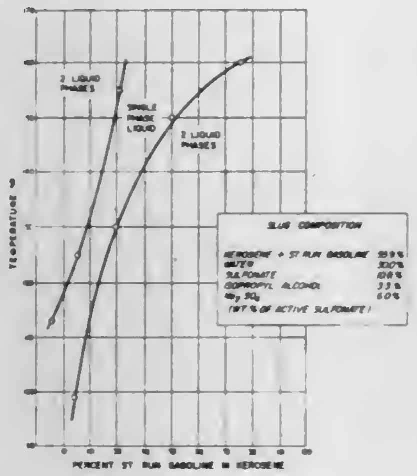
U.S. Cl. 166—120 10 Claims

The particular embodiment disclosed herein as illustrative of one form of the present invention in well packers comprises a body member and packing means for packing off a well bore, normally retracted slip means, expander means movable downwardly relative to said slip means for expanding said slip means into anchoring positions against a well conduit wall, and hydraulic means including a plurality of piston members coupled in series relationship to said expander means, each of said piston members have upper and lower pressure surfaces subject to fluid pressure in the well bore respectively below and above said packings means, so that greater fluid pressure in the well bore below said packing means than above said packing means can act on said piston members conjointly to force said expander means downwardly to retain said slip means in anchoring positions against the well conduit wall.



3,508,611
MOLECULAR WEIGHT OF HYDROCARBON INFLUENCING THE THERMOSTABILITY OF A MICELLAR DISPERSION

John A. Davis, Jr., and William J. Kunzman, Littleton, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed July 22, 1968, Ser. No. 746,390
Int. Cl. E21b *43/16, 47/00*
U.S. Cl. 166—252 20 Claims



The thermostability of a micellar dispersion composed of hydrocarbon, aqueous medium, and surfactant can be shifted to higher temperature ranges by using a low molecular weight hydrocarbon as the hydrocarbon component of the dispersion. Such micellar dispersions are useful in a process for recovering oil from an oil-bearing subterranean formation having at least one production well and at least one injection well in fluid communication therewith, the process effected by determining the temperature of the formation, injecting into the formation a stabilizable mixture of micellar dispersion constituents comprised of hydrocarbon, surfactant, and aqueous medium, characterized in that the hydrocarbon has a sufficiently low molecular weight to stabilize the mixture as a micellar dispersion at the formation temperature, displacing the dispersion through the formation and recovering crude oil through the production well.

3,508,612
WATERFLOOD OIL RECOVERY USING CALCIUM-COMPATIBLE MIXTURE OF ANIONIC SURFACTANTS

Joseph Reisberg, Houston, Tex., Jimmie B. Lawson, Pinole, Calif., and George Smith, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 15, 1968, Ser. No. 752,882
Int. Cl. E21b *43/22*
U.S. Cl. 166—274 12 Claims

An improved method for recovering oil from underground formations by pretreating said formation prior to or during the injection of an aqueous drive fluid, with a saline solution containing a synergistic mixture of an organic sulfonate surfactant and a sulfated oxyalkylated organic material surfactant.

3,508,613
CHEMICAL DISAGGREGATION OF ROCK CONTAINING CLAY MINERALS

Ray V. Huff and Larman J. Heath, Bartlesville, Okla., assignors to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed Nov. 7, 1968, Ser. No. 774,174
Int. Cl. B02c *19/00;* **E21b** *43/26*
U.S. Cl. 166—307 15 Claims

Rock containing clay minerals which do not swell in water is chemically fractured and disaggregated by treatment with a compound, such as hydrazine, urea, and the alkali metal salts of lower carboxylic acids, which forms an intercalation product with the clay minerals. The rock may be treated in situ.

3,508,614
METHOD OF SERVICING WELLS USING A CURVED CONDUIT

Willy F. Bohlmann, Jr., New Plymouth, North Island, New Zealand, Jerome D. Goodrich, Jr., Kenner, La., and Charles B. Corley, Jr., Houston, Tex., assignors to Esso Production Research Company
Filed Oct. 18, 1967, Ser. No. 676,323
Int. Cl. E21b *43/00, 43/01*
U.S. Cl. 166—315 5 Claims

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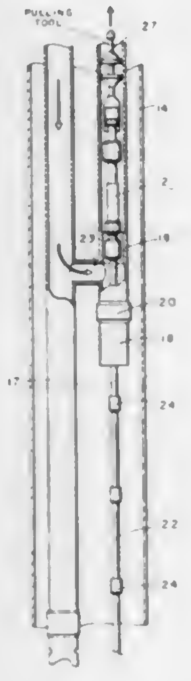
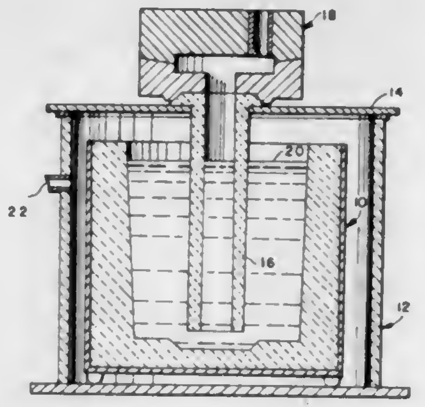


Workover operations are performed in wells having a curved conduit such as a submarine well having a radius bend at the wellhead by introducing into the conduit a segmented tubular member such as a tool and running the tubular member through said conduit solely by fluid pressure exerted thereagainst, a substantial portion of the length of the tubular member being maintained free of contact with the inner wall of the conduit to extend the life of the tubular member and reduce the pressure required to run it in.

3,508,615
COMPOSITE POURING TUBE

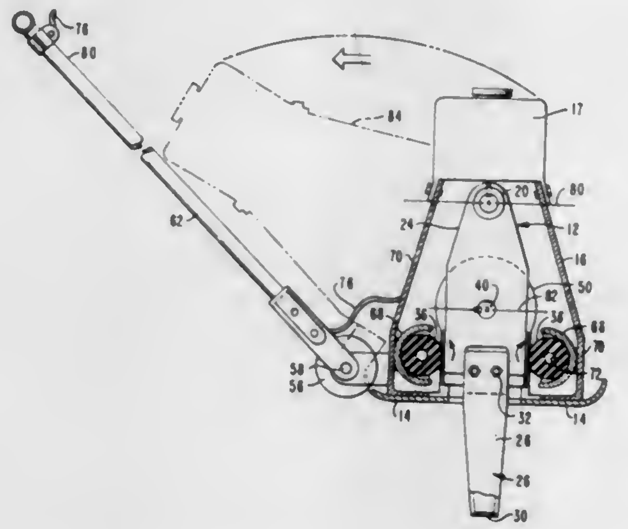
Walter C. Troy, Evanston, Ill., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed Nov. 9, 1967, Ser. No. 681,804
Int. Cl. B22d *37/00, 41/00*
U.S. Cl. 164—133 7 Claims



In order to prevent air and other gasses from penetrating a refractory pouring tube utilized in a bottom pressure casting operation, a metal sleeve is provided around an intermediate portion of the pouring tube, the sleeve being of sufficient length so as to extend slightly into the molten metal when the refractory pouring tube is immersed in the molten metal.

3,508,616
TRENCHING APPARATUS

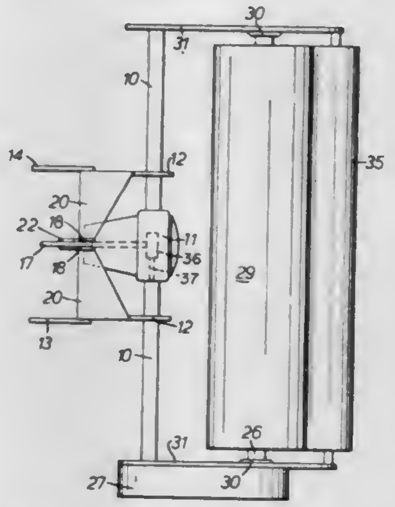
Melvin L. Hubbard, 34781 Camino Capistrano, Capistrano Beach, Calif. 92624
Filed July 11, 1966, Ser. No. 564,418
Int. Cl. A01b *35/00*
U.S. Cl. 172—40 5 Claims



A trenching apparatus having a pivoted cutting assemblage actuated by an off-weight with the cutting assemblage vibrating between two spaced rubber snubbers which are in continual engagement therewith.

3,508,617
AGRICULTURAL SOIL TREATING IMPLEMENTS

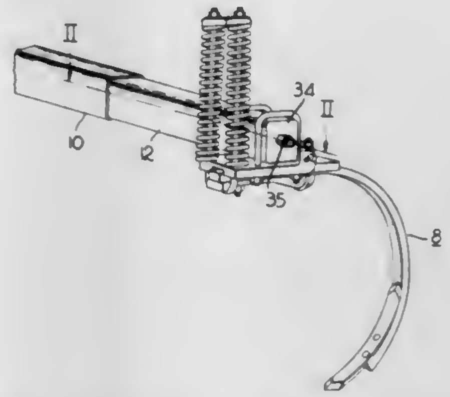
William D. W. Paynter, Hook-with-Warsash, Southampton, England
Filed July 10, 1967, Ser. No. 652,209
Int. Cl. A01b *29/02, 29/06, 27/00*
U.S. Cl. 172—68 3 Claims



A soil treating implement is disclosed the purpose of which is to break down ploughed soil with the minimum of operations. To this end a rotary member, e.g. a smooth cylinder is positively driven over the soil to produce a skidding action either by being driven rearwardly or at a peripheral speed forwardly which is different from that of the speed of bodily forward travel.

3,508,618
TOOL BAR EXTENSION

Maynard E. Walberg, Waukesha, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Apr. 27, 1967, Ser. No. 634,284
Int. Cl. A01b *63/00*
U.S. Cl. 172—253 1 Claim

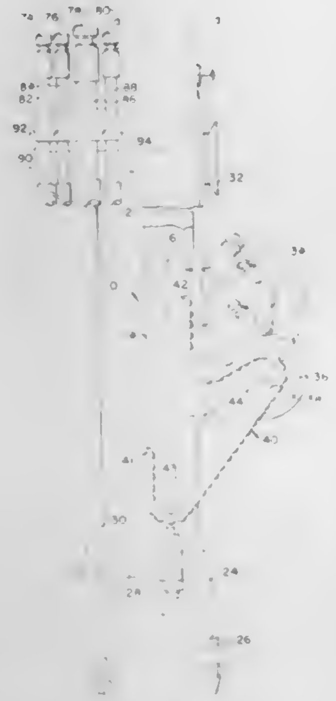


Mechanism for attaching a tool bar extension to a tool bar in longitudinal alignment thereto including providing an extension of slightly greater area than the inside area of the tool bar, reforming a portion of the extension so that it will be telescopically received in the tool bar, and providing an expanding mechanism inside the extension and operable from outside the extension for expanding the area of the extension received within the tool bar for providing a tight fit between extension and tool bar.

3,508,619
HOSE GUIDE FOR ROCK DRILLS

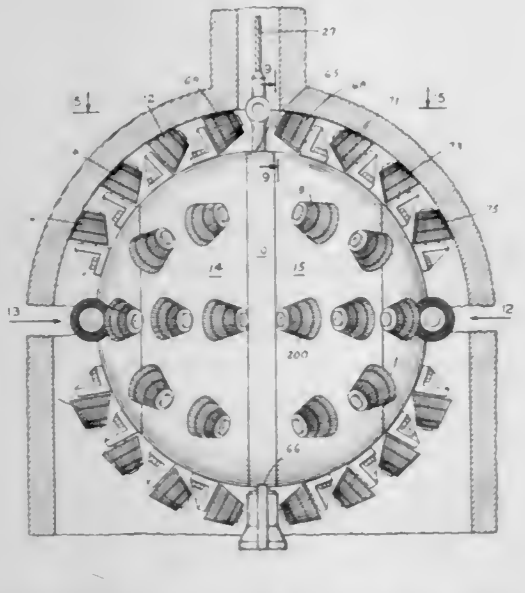
Mervin C. Huffman, Denver, Colo., assignor to Gardner-Denver Company, Quincy, Ill., a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 752,364
Int. Cl. B23q *5/00*
U.S. Cl. 173—147 14 Claims

A guide and positioning mechanism for the motive fluid hoses of a mast mounted rock drill comprising a hose reel and frame assembly slidably mounted on the drill mast and driven along the mast at a predetermined speed relative to the drill by a transmission unit. The transmission unit includes two shaft and sprocket assemblies rotatably mounted on the frame with each of the shafts having a sprocket engaged with one of the oppositely moving strands of an endless drill feed chain. The respective transmission shafts also mount two speed reduction sprockets of different diameters which are connected by a second endless chain. A predeterminable diameter ratio between the speed reduction sprockets provides for driving the reel and frame along the mast at any selected speed relative to the drill.



3,508,620
EXCAVATION APPARATUS

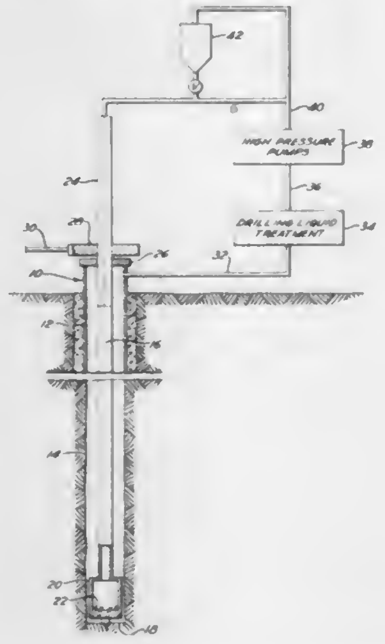
James Ronald Pennington, Basking Ridge, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 490,240, Sept. 27, 1965. This application Jan. 2, 1968, Ser. No. 700,319
Int. Cl. E21c *23/00*
U.S. Cl. 175—53 **10 Claims**



This invention is directed to apparatus for driving raises through rock structures. The apparatus broadly comprises a preferably spherical drill head rotatably suspended from a flexible cable. Other flexible cables drawn behind the drill head supply power and coolant for the drill head. The spherical drill head comprises two hemispheres rotatably driven in opposite directions by one or more motors carried within the drill head. On each hemisphere are mounted roller cutters so positioned that, on rotation of the hemispheres and contact of the drill head with a surface to be drilled, rotation of the entire drill head occurs substantially about an axis extending through its center and the point of suspension of the head. Other drill head shapes besides spherical can also be used; for example, ellipsoidal and cylindrical drill heads can also be used. If the drill head is mounted on conventional driving and cuttings-removal equipment, it can also be used without the pilot hole and flexible cable to drive horizontal passages.

3,508,621
ABRASIVE JET DRILLING FLUID

Eber W. Gaylord, Pittsburgh, and William K. Meyer, Indiana Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of abandoned application Ser. No. 615,205, Feb. 10, 1967. This application Sept. 9, 1968, Ser. No. 758,357
Int. Cl. E21b *7/18*
U.S. Cl. 175—67 **14 Claims**



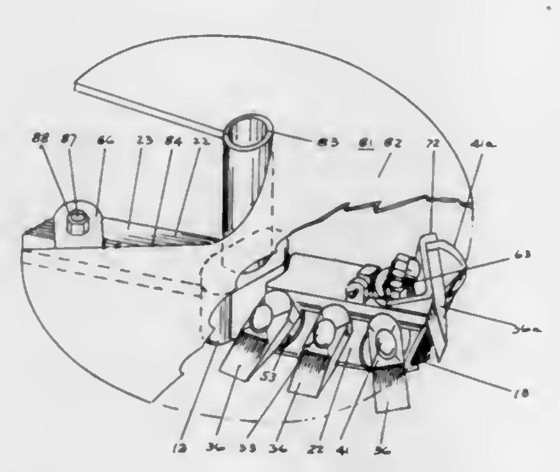
A method of hydraulically jet drilling a well by injecting into drill pipe a novel drilling liquid comprising clay, water, ferrous abrasive particles and fibers derived from wood and plants, discharging the drilling liquid through bit nozzles and against the formation at a high velocity, and circulating the drilling liquid, and pieces of formation removed by the drilling liquid, up the annulus to the surface.

3,508,622
ADJUSTABLE BORING HEAD FOR EARTH AUGERS

John G. Benetti, Cupertino, and Walter L. Sturgeon, Campbell, Calif., assignors to Pengo Corporation, Sunnyvale, Calif.
Filed May 13, 1968, Ser. No. 736,905
Int. Cl. E21b *9/30, 9/32*
U.S. Cl. 175—292 **14 Claims**

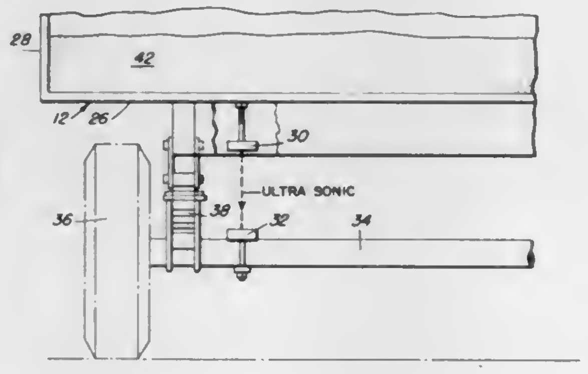
An adjustable boring head for earth augers, particularly adapted for horizontal boring, has a hub with radial arms. An extension fits on each arm is telescopic fashion so that it can be held in various positions, thus determining the diameter. The arms and extensions have holes to receive bolts which also pass through individual clamps which cooperate to retain teeth in position. Bevelled washers or bevelled bosses as cast integrally on the

extension govern the angle of the direction of the tooth relative to the bolt axis. An expansion holder is pivotally mounted on the top of at least one extension and is shaped so that when the auger is rotated in digging direction the expansion holder pivots outward so that the tooth held thereby digs the outside of the hole and when the auger is reversed pivots inwardly to reduce the overall diameter of the head. The same clamp and tooth are used on the expansion holder as on the extension. A hub attachment fits into the hub and holds an elongated pilot gimlet which assists in holding the direction of the hole true. The hub attachment also holds a pair of teeth.



3,508,623
ULTRASONIC TYPE NET WEIGHT LOAD INDICATOR FOR VEHICLES

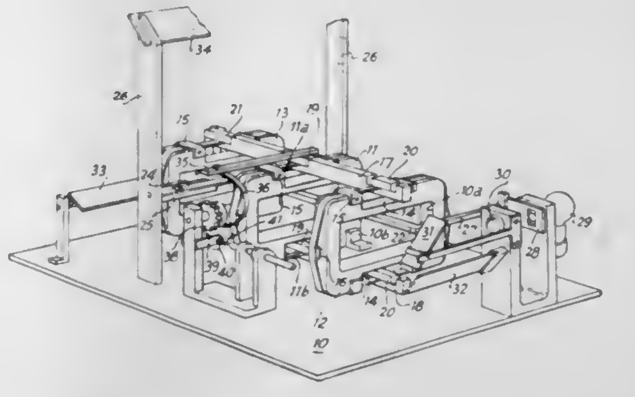
Edward Greenstein, Brooklyn, N.Y., assignor to Earl C. Nolan, Biloxi, Miss.
Filed Apr. 23, 1969, Ser. No. 818,745
Int. Cl. G01g *19/08, 19/12;* **B60p** *5/00*
U.S. Cl. 177—137 **6 Claims**



This invention is a weight load indicator for vehicles and measures the net weight of the load of a vehicle or the weight on each axle, on a meter weight indicator located in the cab of the vehicle. It includes an ultrasonic pulse generator which is operated, when desired, to send a burst of sound through a sonic path between a pair of transducers. One of the pair of transducers is located on the underside of the vehicle and the other of the pair of transducers is mounted on the vehicle axle, there being springs on the axle supporting the vehicle body. A transmitter is in circuit between the generator and one transducer, and a receiver is in circuit between the other transducer and a meter, calibrated in weight, and the meter is thus actuated to reflect the time it takes for the sound to travel between the transducers, which varies in proportion to the compression of the vehicle springs under the weight of the load thereon. One or more trailer vehicles, on the highway, or in a freight train, may have their loads indicated in the tractor vehicle cab by having a second pair of transducers mounted on the trailer vehicle underside and axle through a selective switch to the same ultrasonic pulse generator, and to the same meter.

3,508,624
TORSION BALANCE

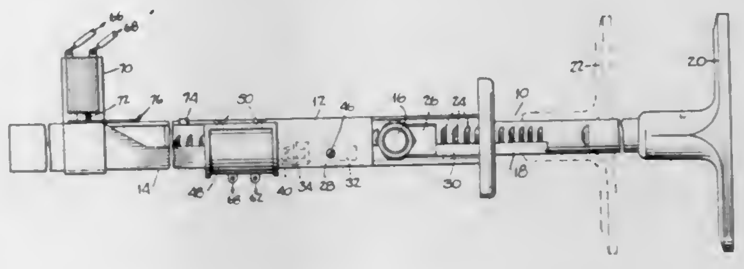
Karl Horan, 5 Bridge Grove, Timperley, Cheshire, England
Filed Apr. 1, 1968, Ser. No. 717,736
Int. Cl. G01g *23/32, 1/24*
U.S. Cl. 177—178 **15 Claims**



Torsion balance includes a fixed middle truss carrying upper and lower bands, and a pair of parallel beams supported on the bands. An end truss carrying upper and lower bands is mounted by means of the bands between the beams at each end of the latter. Both beams and the end trusses they carry can pivot about the bands of the middle truss by twisting the latter. Balance carries an indicator including a vane arranged to partially obstruct a beam of light, image of vane being projected on a fixed graduated screen. Means provide to adjust effective length of one arm of each beam.

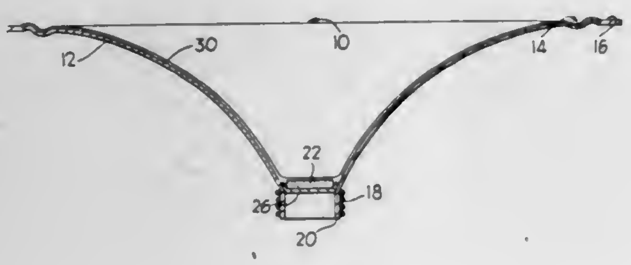
3,508,625
VEHICULAR SECURITY BRAKE DEVICE

Paul Maddison Hawkins, Stillwater, Minn., assignor to General Alarm Corporation, New York, N.Y., a corporation of Delaware
Filed May 23, 1968, Ser. No. 731,476
Int. Cl. B60r *25/00*
U.S. Cl. 180—114 **20 Claims**



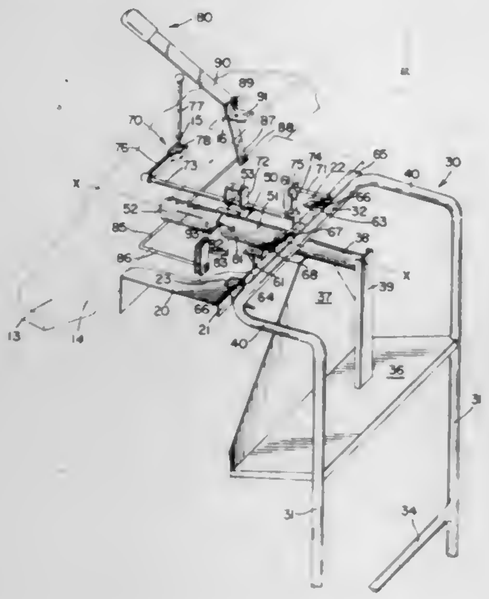
Vehicular security device which is automatically activated and deactivated by the operation of the starting or ignition switch of the vehicle without further action on the part of the operator. To this end a vehicular hand brake actuator is provided for movement between brake actuating and brake deactuating positions and vehicular security locking means are provided for locking the actuator in the brake actuating position. In addition circuit means are provided for automatically operating the vehicular security lock means in response to the condition of the starting or ignition switch of the vehicle.

3,508,626
ACOUSTIC DIAPHRAGM
Franklin Robbins, 285 Central Park W.,
New York, N.Y. 10024
Continuation-in-part of applications Ser. No. 356,640 and Ser. No. 356,662, both Apr. 1, 1964. This application Dec. 22, 1967, Ser. No. 692,834
Int. Cl. G01k *13/00;* **H04r** *7/00*
U.S. Cl. 181—32 17 Claims



Acoustic diaphragms, such as loudspeaker diaphragms, are heavily coated with mineral or metal particles in an adhesive binder, whereby acoustic performance quality is greatly improved.

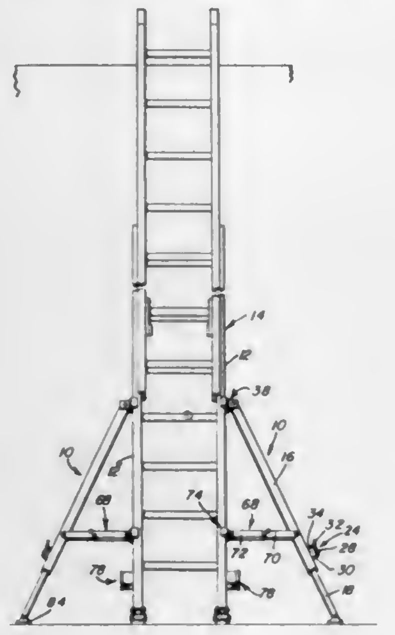
3,508,627
COMBINE LADDER
William A. Lypko, 43 Bermuda Court, Hamilton, Ontario, Canada, and Donald A. McCallum, 327 Wilson Ave., Burlington, Ontario, Canada
Filed Feb. 26, 1969, Ser. No. 802,503
Int. Cl. E06c *5/04*
U.S. Cl. 182—97 10 Claims



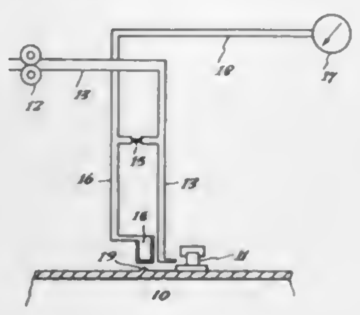
A ladder carried by the operator's platform of a combine that can be located in either an operative or a transport position. The apparatus includes means for locking the ladder in a selected position and release and control means convenient to the operator for changing the ladder's position.

3,508,628
LADDER WITH STABILIZER MEANS
Charles J. Conrad, 1190 Bunker Hill Woods Road, Oxford, Ohio 45056
Filed Oct. 17, 1968, Ser. No. 768,360
Int. Cl. E06c *1/20*
U.S. Cl. 182—172 11 Claims

A laterally extending telescopic stabilizing brace for a ladder including upper and lower ratchet controlled sections, the upper section being pivotally engaged with a side rail of a ladder for a swinging of the brace between a collapsed clamp held position against the side rail and an extended outwardly moved bracing position. An adjustable hinge-type connector is used to mount the upper end of the brace to the ladder side rail regardless of variations in the width of the side rail, a similar hinge-type connector being utilized in securing a folding brace bar.



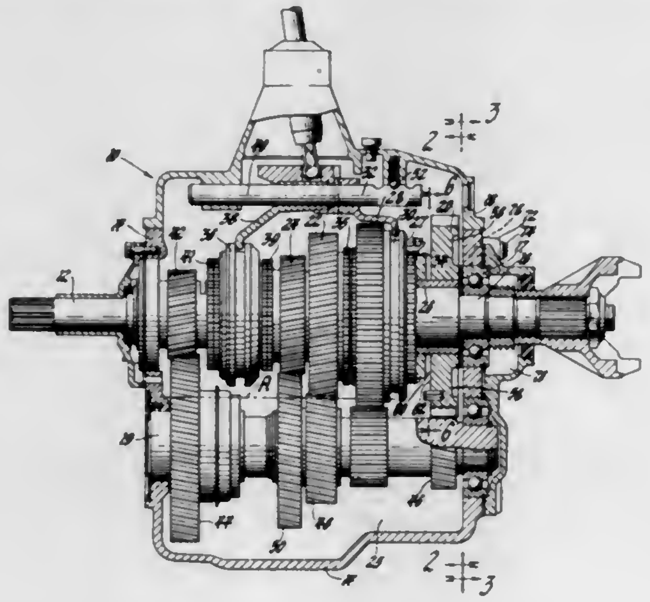
3,508,629
WARNING SYSTEM FOR LUBRICATED BEARING
Lionel Haworth, London, England, assignor, by mesne assignments, to Rolls-Royce Limited, Derby, England, a British company
Filed Mar. 20, 1967, Ser. No. 624,423
Claims priority, application Great Britain, Apr. 23, 1966, 17,855/66
Int. Cl. G08b *21/00;* **F01m** *1/20*
U.S. Cl. 184—6 4 Claims



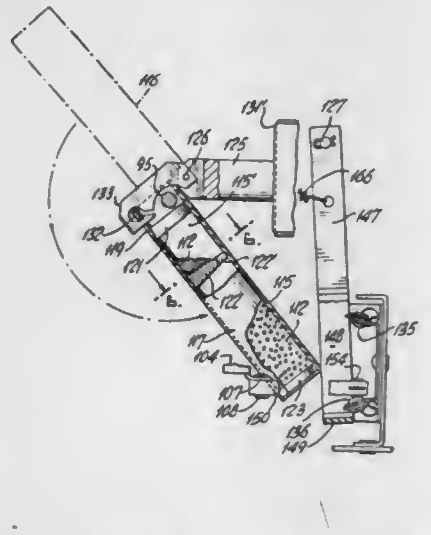
A warning system for a lubricated bearing which may be the shaft bearing of a gas turbine engine. Bearing failure results in displacement of a striker element fracturing a frangible portion of the lubrication system and allows lubricant to escape. The consequential lowering of the lubricant pressure is used to indicate failure of the bearing.

3,508,630
LUBRICATING MEANS FOR A TRANSMISSION
Robert C. Keller, Troy, and Walter K. Fuelberth, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 24, 1968, Ser. No. 770,287
Int. Cl. F01m *9/06;* **F16n** *7/26*
U.S. Cl. 184—11 3 Claims

A lubricating means for bearings such as are found in a sliding mesh transmission gear assembly having an oil reservoir therein, wherein a pump is formed partially on the face of one of the gears and partially on a closely adjacent wall of the transmission casing, in the vicinity of a bearing mounted in a cavity formed in the wall. The pump includes an annular recess formed on the closely adjacent face of the gear and having radial fins incorporated in the recess to form a plurality of annularly aligned pockets on the face. Inlet and outlet troughs or grooves are formed on the adjacent wall, spaced apart from one another adjacent the annularly aligned pockets, the pockets serving to transport oil from the inlet trough to the outlet trough. A passageway then communicates from the outlet trough past the outer periphery of the bearing to the bearing cavity. It is by this means that oil which has been splashed onto the top wall of the casing and which flows down the side walls thereof is directed to the remotely located bearing. Additionally, one or more pins are mounted on the outer face of the gear a predetermined radial distance away from slots which communicate oil through the gear hub to the gear's central bearing, the pins serving to throw oil radially inward during each revolution to enter the slots and bearing.

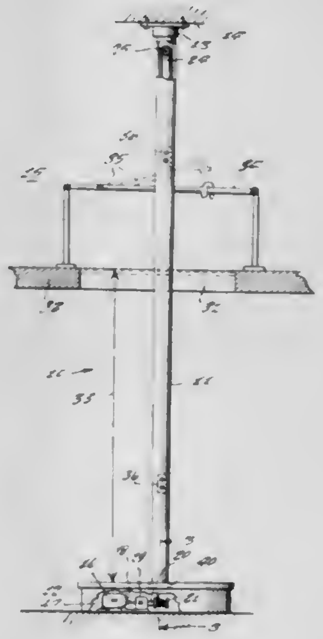


3,508,631
PIVOTALLY MOUNTED GRAVITY ACTUATOR
Frederick A. Purdy, 521 Park Ave.,
New York, N.Y. 10021
Application Oct. 2, 1964, Ser. No. 401,264, now Patent No. 3,444,344, dated May 13, 1969, which is a continuation-in-part of abandoned application Ser. No. 226,411, Sept. 26, 1962. This application Dec. 31, 1968, Ser. No. 805,070
Int. Cl. F03g *3/00*
U.S. Cl. 185—27 8 Claims



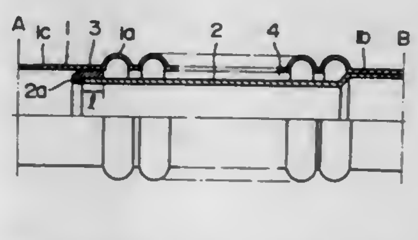
An actuator for closing a circuit to an electric motor comprising a pivotally mounted tube having a first and second chamber connected by a passageway with a metered opening in such passageway between said chambers and a flowable material in said chambers which, when said actuator is pivoted about such pivot in a first direction flows from one of said chambers to the other of said chambers and, when said tube is released with the granular material in the uppermost chamber, applies a force to a switch in a circuit to the electric motor, to close such switch.

3,508,632
POLE ELEVATOR
Harry S. Elmore, 3006 Pitt St., Anderson, Ind. 46014
Filed Nov. 6, 1968, Ser. No. 773,877
Int. Cl. B66b *11/06*
U.S. Cl. 187—27 3 Claims



An elevator for use in a two story home for the movement of passengers and small freight, the elevator comprising a platform movable vertically along a pipe extending through the central portion of the platform, the lower end of the pipe being supported upon a base stationed upon the floor of the lower story, the pipe extending through a large opening in the floor of the second story for receiving the platform, and the upper end of the pipe being connected to the ceiling of the second story.

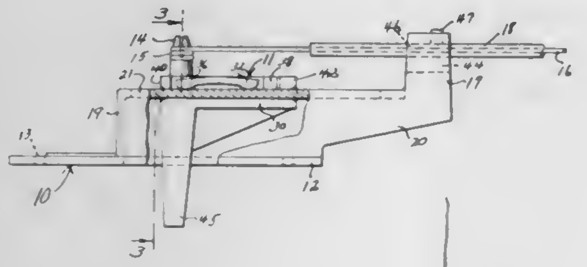
3,508,633
PLASTICALLY DEFORMABLE IMPACT ABSORBING MEANS FOR VEHICLES
Yoshihiro Nishimura and Akihiko Fujiki, Yokohama, Japan, assignors to Nissan Jidosha Kabushiki Kaisha, Yokohama, Japan
Filed Feb. 16, 1968, Ser. No. 705,969
Claims priority, application Japan, May 17, 1967, 42/41,010, 42/42,011; May 25, 1967, 42/43,461
Int. Cl. B62d *1/18;* **F16d** *63/00*
U.S. Cl. 188—1 12 Claims



Plastically deformable impact absorbing means for vehicle comprising axially deformable corrugated tubular member and inserted guide member to prevent flexing of the corrugated tubular member so that desired axial plastic deformation can be performed. And further, by providing easily deformable projections, static friction stage of the impact absorbing stroke is compensated to attain substantially flat compressive resistance.

3,508,634
ACTUATION DEVICES FOR ADJUSTING AND HOLDING THE POSITION OF A MECHANISM

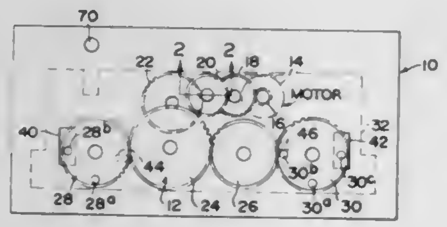
Theodore E. Fiddler, 1268 Suffield Drive, Birmingham, Mich. 48009
Filed Aug. 2, 1968, Ser. No. 749,785
Int. Cl. F16d *63/00*
U.S. Cl. 188—1 **7 Claims**



An actuator device for locating and holding a mechanism in adjusted position having two injected molded parts; i.e., a slide body and a slider member; wherein the body is equipped with rails and a bridge and the slider member is equipped with alignment blocks, spring arms, skid flanges, a split attachment pin, and an operating handle wherein relative movement of the slider member moves a Bowden wire attached thereto relative to the Bowden sheath mounted on the body bridge to adjust and secure the position of a mechanism connected to the Bowden cable.

3,508,635
VENDING PAYOUT APPARATUS

Jack E. Bayha, Chesterland, Ohio, assignor to ARDAC/USA Incorporated, a corporation of Ohio
Filed Mar. 20, 1968, Ser. No. 714,679
Int. Cl. G07f *11/00*
U.S. Cl. 194—2 **5 Claims**

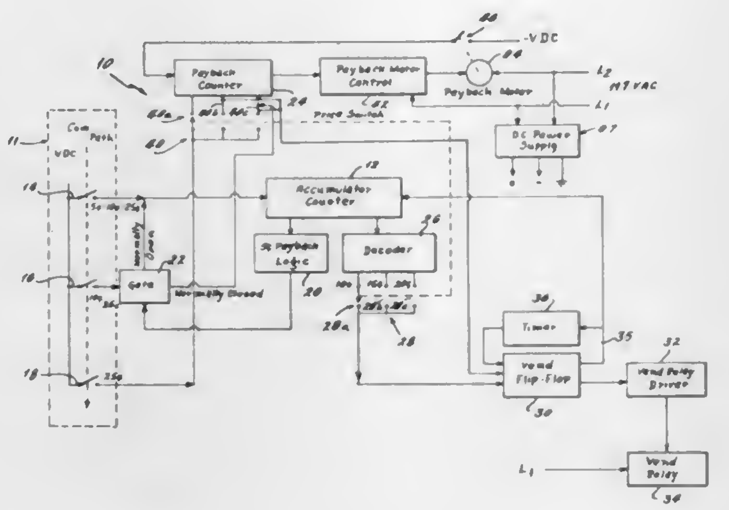


A compact, highly reliable payout apparatus utilizing a unique electrical circuit to eliminate jackpotting and a gear drive which includes an overrunning clutch to prevent damage to the drive upon any jamming, which apparatus is extremely inexpensive and simple to manufacture, yet highly effective and reliable in operation.

3,508,636
CONTROL MEANS FOR VENDING MACHINES AND THE LIKE

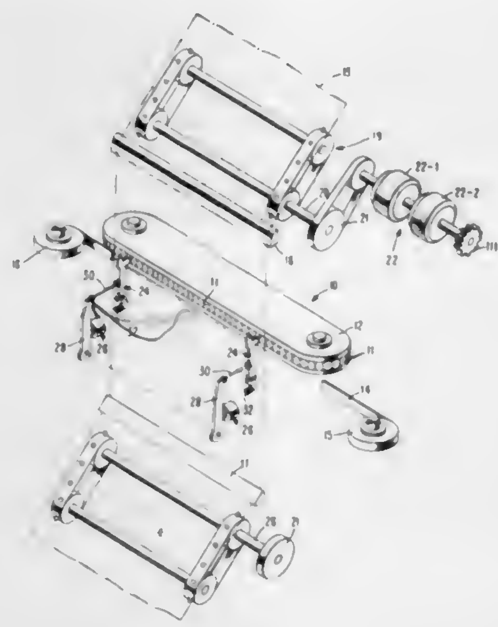
John R. Shirley, Crestwood, Mo., assignor to H. R. Electronics Company, High Ridge, Mo., a corporation of Missouri
Filed Feb. 26, 1968, Ser. No. 708,140
Int. Cl. G07f *11/00*
U.S. Cl. 194—10 **21 Claims**

Electronic control means for vending machines and other coin controlled devices which accept different denomination coins, make vends at selectable prices, and perform other functions including making change, said control means including counting, memory, and logic circuit means, and means under control thereof for producing the vending, change making and other functions. The subject means are preferably designed and constructed using solid state components and are constructed to be packaged in a container which can be easily and quickly installed and removed.



3,508,637
DUAL SPEED STEPPER CARRIAGE

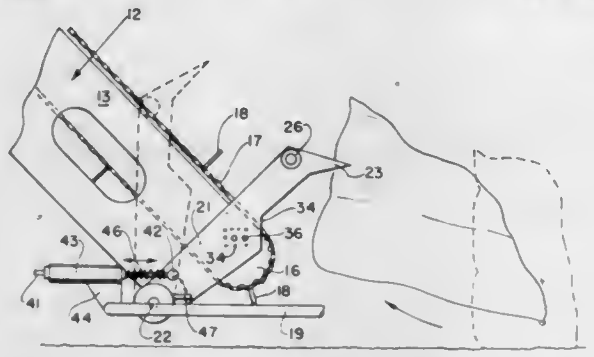
Roger C. Hull, Endicott, and Eugene T. Kozol, Binghamton, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Aug. 21, 1967, Ser. No. 661,930
Int. Cl. B41j *15/00*
U.S. Cl. 197—133 **5 Claims**



A stepping motor is started by an initial advance pulse from a carriage control and thereafter advanced by feedback pulses from an emitter driven by the motor. Low and high speed emitter pickup heads are gated by low and high speed latches under the control of a line counter and a carriage counter in the controls to start in low speed, shift to high speed if more than a predetermined number of lines are to be skipped, and then revert to low speed operation before being stopped by a predetermined series of stop pulses.

3,508,638
BALE LIFTING MECHANISM FOR ELEVATOR CHUTE

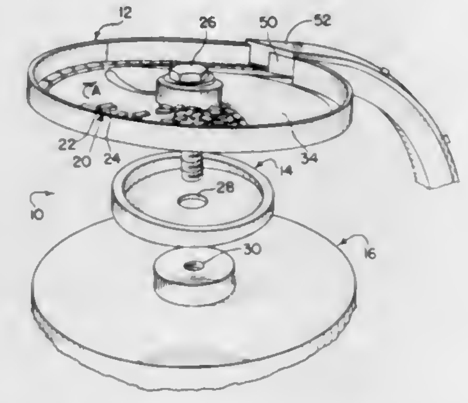
George Jay and Everett V. Rankins, both of 602 Merle Lane, Manteca, Calif. 95336
Filed May 23, 1968, Ser. No. 731,553
Int. Cl. B65g *65/06*
U.S. Cl. 198—7 **10 Claims**



Mobile lifting machines used in lifting hay bales and the like from ground level employ conveyor chains provided with lugs. The linear speed of the chain is frequently less than the speed of advance of the machine; hence the bale is pushed along the ground and possibly damaged. A pair of pivoted, pointed fingers is mounted on the bottom of the conveyor in such manner that they impale the bale, lifting the end nearest the conveyor upward until the bale is deposited upon the conveyor.

3,508,639
ARTICLE ORIENTING FEEDER BOWL

Denver Braden, San Diego, Calif., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 16, 1968, Ser. No. 706,010
Int. Cl. B65g *47/24*
U.S. Cl. 198—33 **13 Claims**

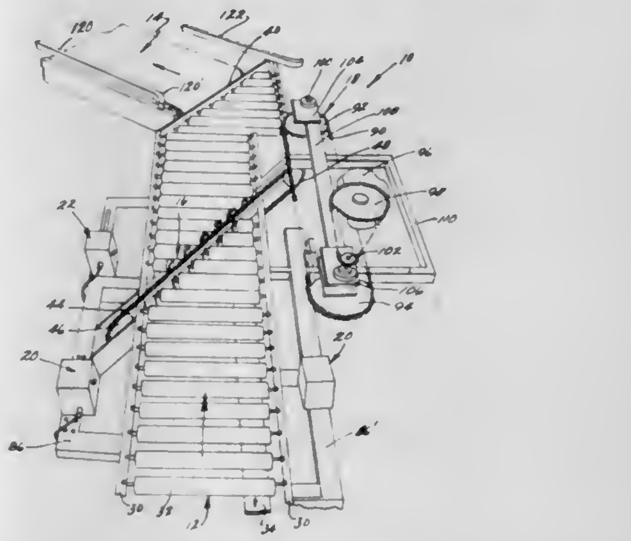


Feeder bowl for use with vibratory drive unit has one or more curved, non-spiral, orienting grooves or tracks formed in it flat bottom surface for feeding articles in either a clockwise or counter clockwise direction depending upon the manner in which the bottom surface is tiltingly mounted to a vbratiory drve unit. Articles are discharged from the curved feed track through a discharge channel which may be placed in alignment with the feed track through an opening in the sidewall of the feeder bowl.

3,508,640
ARTICLE ORIENTING CONVEYOR

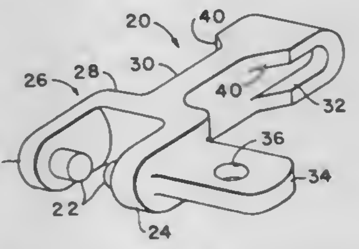
Maynard J. De Good and Clyde L. Bowman, Grand Rapids, Mich., assignors to Rapistan Incorporated, Grand Rapids, Mich., a corporation of Michigan
Filed Nov. 3, 1967, Ser. No. 680,391
Int. Cl. B65g *47/24*
U.S. Cl. 198—33 **21 Claims**

Carton orienting means and method capable of turning selected cartons aligned with a first conveyor, through successive complementary acute angles for carton realignment on a second conveyor, as for entry into a palletizer, employing activatable powered diagonal turning and alignment means oriented at a first acute, assisted by edge restraining means to rapidly and controllably turn advancing cartons through a first acute angle, coupled with the second conveyor being at a complementeary acute angle to accept the cartons in re-aligned fashion, the diagonal turning and alignment means being controllably shifted between activated and non-activated conditions by carton detecting means for selection of cartons and controlled amounts of turning, and the second conveyor having higher friction than the first for controlled turning of non-selected cartons through the complementary acute angle in an angular direction opposite the turning direction of selected cartons by the diagonal turning means.



3,508,641
UNITARY CHAIN LINKS

Lawrence J. Vagedes, Celina, Ohio, assignor to Avco Corporation, Coldwater, Ohio, a corporation of Delaware
Filed Aug. 21, 1968, Ser. No. 754,324
Int. Cl. B65g *19/14*
U.S. Cl. 198—175 **6 Claims**

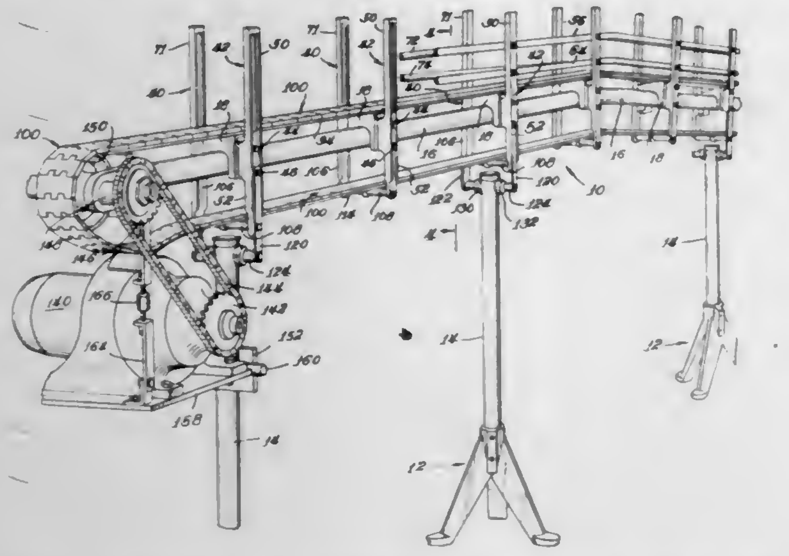


A chain link is provided with a clevis having trunnions projecting inwardly from its arms. A shank projects from the bridge of the clevis and has semi-raceways formed on its sides. The semi-raceways have open ends facing the clevis bridge. The trunnions of a similarly formed link are interdigitated with the shank and then shifted to the closed ends of the semi-raceway for articulation of the two links in forming a chain.

3,508,642
ARTICLE CONVEYOR MECHANISM

Wendell E. Standley, Lake Forest, and James A. Gortva, Chicago, Ill., assignors to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed Feb. 14, 1968, Ser. No. 705,430
Int. Cl. B65g *15/62;* **F16h** *7/14*
U.S. Cl. 198—204 **13 Claims**

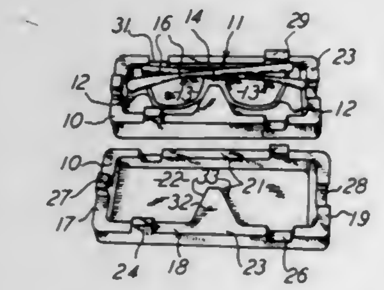
An improved modular type of article conveyor having a basic spine member of relatively small cross-section and having a plurality of saddle members or the like which are affixed to the spine member at spaced locations therealong, the saddle members serving to support wear plates which act as runners for a conveyor chain and also guide rails or the like, and at least certain ones of the saddles being supported from the floor so as to support the conveyor mechanism a predetermined distance above the floor.



3,508,643

MAILABLE CONTAINER FOR SPECTACLES

Richard L. Horn, Bethel Park, Pa., assignor to Medical Contact Lens Service, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 7, 1969, Ser. No. 797,397
Int. Cl. A45c *11/04;* **B65d** *7/00*
U.S. Cl. 206—5 7 Claims

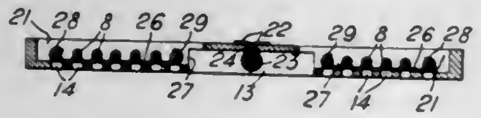


A mailable container for spectacles wherein two identical halves form the container in a box shape and present a hollow interior for the reception of a person's optical spectacles which include the frames and corrective lenses. These identical halves contain tongues and grooves alternately arranged along the sides of the halves to be mated together when the halves are brought into a closed position surrounding the enclosed spectacles. A nose piece is provided in the halves for restraining movement of the spectacles and for reinforcing the halves through the center portion thereof and resisting crushing of the container. Also, an insert piece may be used between the halves to provide two compartments for separating and containing two pairs of spectacles and thereby provide a multiple mailer.

3,508,644

APPARATUS FOR STOWING CABLES

James Martin, Southlands Manor, Southlands Road, Denham, near Uxbridge, England
Filed Apr. 10, 1968, Ser. No. 720,256
Claims priority, application Great Britain, June 21, 1967, 28,553/67
Int. Cl. B64d *25/10;* **B65d** *85/04*
U.S. Cl. 206—52 4 Claims

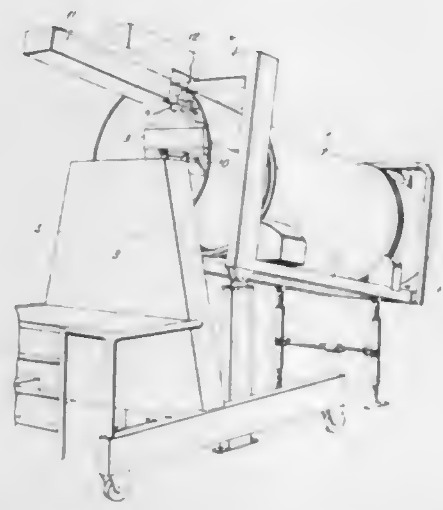


Apparatus for stowing a cable, such apparatus comprising; a former and retaining means, such means being adapted to retain a portion of a coiled cable in a coiled condition on the former until a separating force in excess of a pre-determined value exists between said retaining means and said cable.

3,508,645

SCRAPER MOUNT FOR ADHESIVE FRICTION SEPARATOR

Lucas J. Conrad, Winston-Salem, N.C., assignor to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed Aug. 21, 1968, Ser. No. 754,233
Int. Cl. B07b *13/00*
U.S. Cl. 209—2 4 Claims

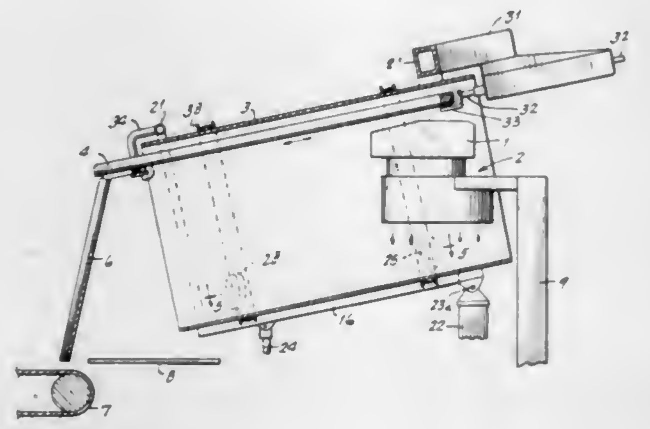


A means for mounting a scraper blade used to remove material adhering to the surface of an adhesive friction separator for transfer to a friction conveyor wherein the scraper blade is attached to an extension on one edge of the reciprocating friction conveyor for movement therewith thus preventing material build-up on the scraper blade and forming an integral composite unit which facilitates cleaning and maintenance.

3,508,646

APPARATUS FOR SEPARATING MEAT AND BONES FROM MIXTURES THEREOF

Lucas J. Conrad and John R. Everhart, Winston-Salem, N.C., assignors to R. J. Reynolds Tobacco Company, Winston-Salem, N.C., a corporation of New Jersey
Filed Sept. 20, 1968, Ser. No. 761,179
Int. Cl. B07b *13/00*
U.S. Cl. 209—2 3 Claims

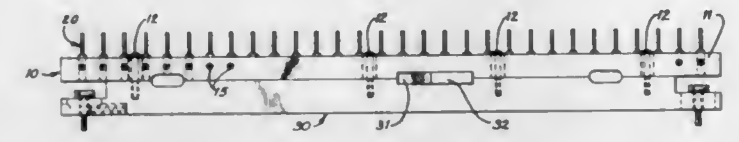


A food processing apparatus for separating comparatively soft edible material from harder inedible portions in composite foodstuffs comprising a rotating separating drum and a friction conveyor cooperatively mounted on a unitized support frame to permit ready adjustment and held thereon by gravity to facilitate dismantling.

3,508,647

CAPSULE REJECTION MEANS

Milton A. Meier, Detroit, and Raymond Shafer, Lincoln Park, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed May 27, 1968, Ser. No. 732,219
Int. Cl. B07c *5/06*
U.S. Cl. 209—73 12 Claims

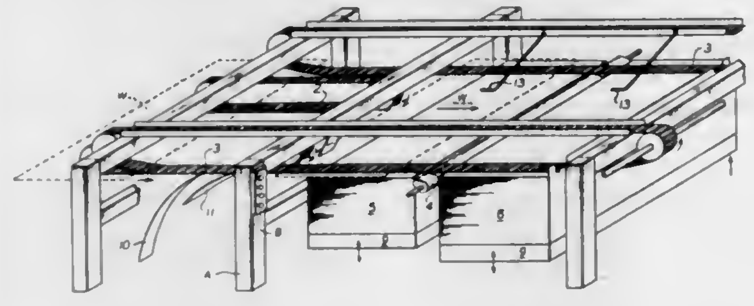


Apparatus and means applicable to capsule making machinery of the Colton type are provided for discriminating between standard-length and over-length capsule parts being produced and for rejecting any such over-length parts. Rejection is accomplished prior to final assembly by means of cycle-phase mechanical fingers engaging and destroying over-length capsule parts.

3,508,648

SORTER AND STACKER

George H. Stickney, Vancouver, British Columbia, Canada, assignor to Weldwood of Canada Limited, Vancouver, British Columbia, Canada, a corporation of Canada
Filed July 20, 1967, Ser. No. 654,910
Int. Cl. B65h *29/18*
U.S. Cl. 209—74 22 Claims



An apparatus and method to sort and stack sheets or plies or various types of material, such as, wood veneers, lumber, etc., whereby to increase plant productivity by decreasing manpower and minimizing damage to material due to manual handling.

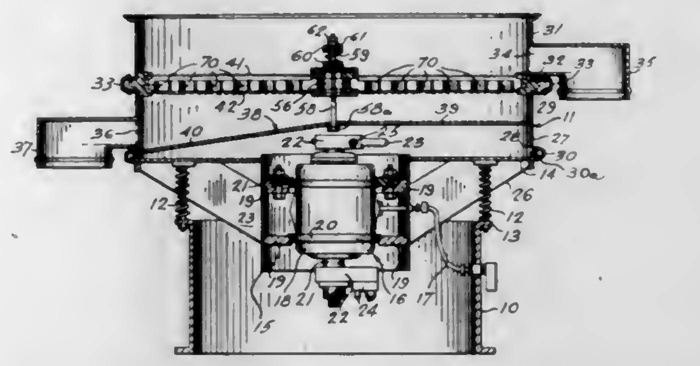
An object of this invention is to produce an apparatus and a method for sorting and stacking sheets or plies of material, preferably relatively flat material, such as, wood veneer, lumber, or other substantially rectangular shaped items, and thereby increase plant productivity by decreasing necessary manpower, and minimizing damage caused by manual handling.

3,508,649

ANTI-BLINDING DEVICE FOR VIBRATORY SEPARATOR

Bernard Kahane, Baie d'Urfe, Quebec, and Ronald Hugh Stewart, Montreal, Quebec, Canada, assignors to Separator Engineering Ltd., Montreal, Quebec, Canada
Filed Aug. 4, 1967, Ser. No. 658,469
Int. Cl. B07b *1/48, 1/52*
U.S. Cl. 209—323 3 Claims

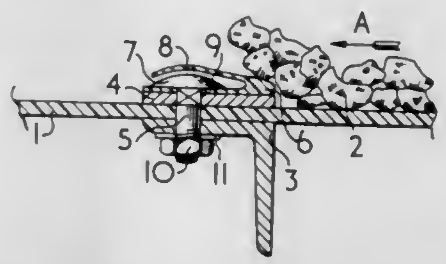
A vibratory screen separator including a horizontal separator screen, a horizontal support screen having apertures at least as large as those of the separator screen, and means for mounting the screens in vertically spaced parallel relationship with the separator screen above the support screen. A plurality of anti-blinding rings having substantially flat parallel upper and lower end surfaces are disposed between the screens and extend at least over the major part of the distance between the springs. Means are provided for imparting a relatively large horizontal component in addition to a vertical component to the rings to scrape and dislodge the material from the underside of the screen's wires.



3,508,650

COVER MEMBERS FOR FASTENERS IN SCREEN PLATE ASSEMBLIES

Vivian C. Carr, Oadby, Leicester, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed Sept. 12, 1968, Ser. No. 759,425
Claims priority, application Great Britain, Sept. 23, 1967, 43,382/67
Int. Cl. B07b *1/00, 1/46;* **F16b** *35/00*
U.S. Cl. 209—399 1 Claim



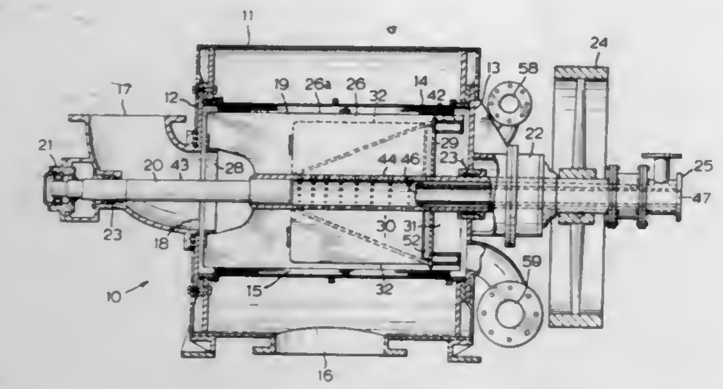
A screen plate assembly for use in a screening plant for screening particulate material including a perforated screen plate formed of a high abrasion-resistant plasic material, a support means therefor, and at least one metal fastener for clamping the screen plate to the support means, wherein the head portion of the fastener is provided with a protective flap formed of a similar plastic material and having a U-shaped cross-sectional configuration. One limb of the flap is secured beneath the head of the fastener and the other limb covers the head.

3,508,651

METHOD AND APPARATUS FOR SCREENING PULP

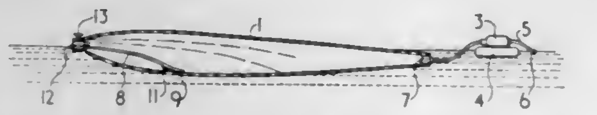
Sydney W. H. Hooper, Sherbrooke, Quebec, Canada, assignor to S. W. Hooper & Co., Ltd., Sherbrooke, Quebec, Canada
Filed Apr. 19, 1968, Ser. No. 730,672
Int. Cl. B01d *29/42, 35/16, 35/22*
U.S. Cl. 210—65 18 Claims

A pulp screen of the horizontal pressure type having a cylindrical screen and an impeller mounted for rotation within the screen, a conical core on the impeller shaft defines a primary compartment adjacent the pulp stock inlet and a secondary compartment remote from the stock inlet, a series of blades radiate from the impeller shaft and define a series of radial passages extending the length of the conical core, a section of the impeller shaft remote from the stock inlet of the machine conducts dilution water to a series of apertures in the shaft and to the radial passages and into an annular passage formed at the base of the conical core, and a series of nozzles on the side of the base of the conical core within the secondary compartment are connected with the annular passage to receive dilution water therefrom and project the dilution water radially towards the adjacent portion of the cylindrical screen.



3,508,652
METHOD OF AND APPARATUS FOR SEPARATING OIL FROM WATER

John E. Woolley, Southport, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed Jan. 11, 1968, Ser. No. 700,670
Claims priority, application Great Britain, Jan. 11, 1967, 1,636/67
Int. Cl. B01d *17/02*
U.S. Cl. 210—76 **5 Claims**



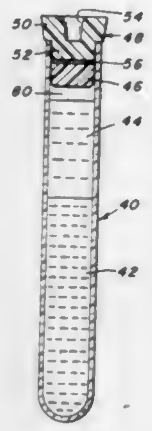
A method and apparatus for separating oil from water, particularly oil floating on the surface in a dock or at sea, in which an oil/water mixture is pumped continuously into one en dof an elongated container in which the mixture separates into an upper oil layer and a lower water layer, and water is drained continuously from the lower water layer.

3,508,653
METHOD AND APPARATUS FOR FLUID HANDLING AND SEPARATION

Charles M. Coleman, 958 Washington Road, Pittsburgh, Pa. 15228
Filed Nov. 17, 1967, Ser. No. 683,916
Int. Cl. B01d *21/00*
U.S. Cl. 210—83 **16 Claims**

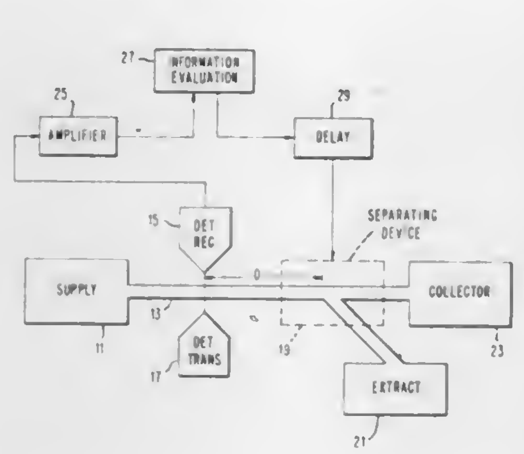
A container assembly for effecting sealed separation of a fluid, such as blood, into a light phase and a heavy phase. A rigid tubular container adapted to receive the two-phase fluid has a resilient piston positioneid within the container in sealing contact therewith. The piston is adapted to be moved downwardly through the light phase of the fluid responsive to an applied force. The downwardly moving piston is adapted to permit upward flow of the light phase therearound. When the piston reaches the sealing region, the applied force is withdrawn and the piston is adapted to establish a seal with the tubular container. In the preferred form of the invention, the piston is detachably secured to the underside of a resilient stopper which has an enlarged head portion disposed outside of the tubular container and a lower portion disposed partially within the container. The piston is adapted to be severed from the stopper by an applied centrifugal force which moves the piston downwardly through the light phase of the fluid.

Also a method of establishing sealed separation of blood into light and heavy phases by providing a tubular container having the separated two phases and a resilient piston seated within the container above the fluid. The piston is moved downwardly through the light phase responsive to an applied force and simultaneously, the light phase fluid moves around the piston and upwardly. The downward movement of the piston is stopped at a position generally between the two phases, responsive to termination of the applied force, and a seal is thereby established. The moving force is preferably centrifugal force.



3,508,654
PARTICLE SEPARATION APPARATUS

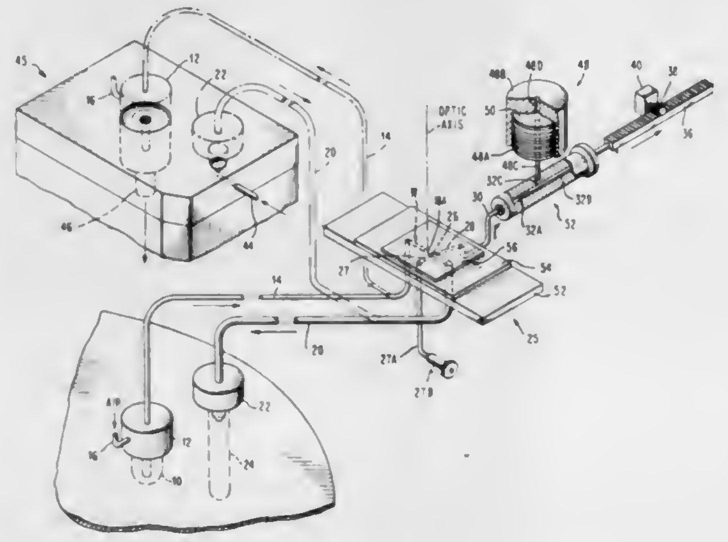
Hans H. Glaettli, Kusnacht, Zurich, Switzerland, assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 1, 1967, Ser. No. 613,214
Claims priority, application Switzerland, Aug. 31, 1966, 12,624/66
Int. Cl. B01d *43/00*
U.S. Cl. 210—85 **12 Claims**



A particle separating apparatus for separating suspended biological bodies having specified identification criteria which has a main channel upstream of a junction from which three branches emanate. A closed channel containing an air bubble at its closed end extends substantially perpendicularly from the main channel, while a diffuser channel of gradually widening size extends from the junction along the same axis as the main channel. An extraction channel extends from the junction preferably at an included angle of 135° from the axis of the main channel and contains a piston within the channel which, when actuated at a desired time, removes a biological body appearing at the junction from the junction and causes it to enter the extractor channel. The separated particles are subsequently removed from the extraction channel for examination.

3,508,655
CELL EXTRACTION AND COLLECTION APPARATUS

Louis A. Kamentsky, Briarcliff Manor, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 3, 1967, Ser. No. 613,786
Int. Cl. B01d *43/00*
U.S. Cl. 210—85 **12 Claims**

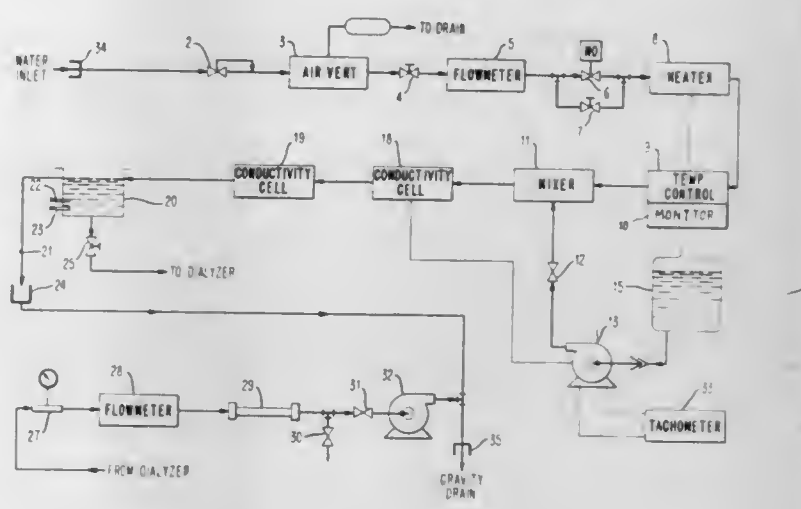


The apparatus for collecting cells or other particles, which have been separated by a cell separator, is connected to an extraction channel which extends from a main channel along which the cells, suspended in fluid, are passed. Prior to reaching a separating station at which the extraction channel is connected, the cells are analyzed for predetermined characteristics and cells identified as having these characteristics are diverted from the main channel into the extraction channel. This is accomplished by a piston in the extraction channel which is withdrawn in step-by-step fashion under control of the cell analyzer to divert the identified cells into the extraction channel. The extraction channel is provided with an opening to which a cell collecting device is connected. This opening is located in a portion of the extraction channel which is removed from that portion of the channel into which the cells are diverted during the separating operation. The piston covers this opening during this operation and, upon completion of the operation, the piston is withdrawn to uncover the opening to the collecting device and fluid is forced through the main channel and the extraction channel to both purge the system and cause the separated cells to be collected on a millipore filter in the collection device.

3,508,656
PORTABLE DIALYSATE SUPPLY SYSTEM

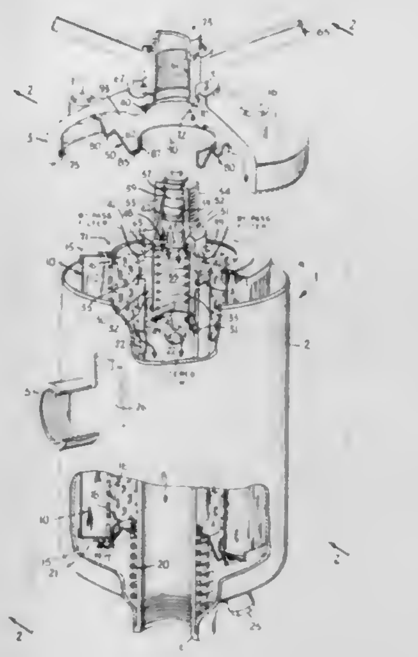
Earl J. Serfass, St. Petersburg, and Vernon H. Troutner, Clearwater, Fla., assignors to Milton Roy Company, St. Petersburg, Fla., a corporation of Pennsylvania
Filed Apr. 10, 1968, Ser. No. 720,104
Int. Cl. B01d *35/14, 35/00*
U.S. Cl. 210—90 **4 Claims**

A portable blood dialysis system in which dialysate fluid is mixed and supplied with a constant concentration is described. Water and dialysate fluid concentrate are mixed to form dialysate fluid which is supplied to the dialyzer. The concentration of the dialysate fluid is continuously monitored by a conductivity cell. The output of the conductivity cell is applied to control a pump which supplies the concentrate. This pump also has a secondary speed control loop. A tachometer in the secondary loop corrects speed variations caused by changes other than the conductivity cell output signal.



3,508,657
HIGH PRESSURE FILTER ASSEMBLY HAVING AN EASILY DETACHABLE BOWL COVER

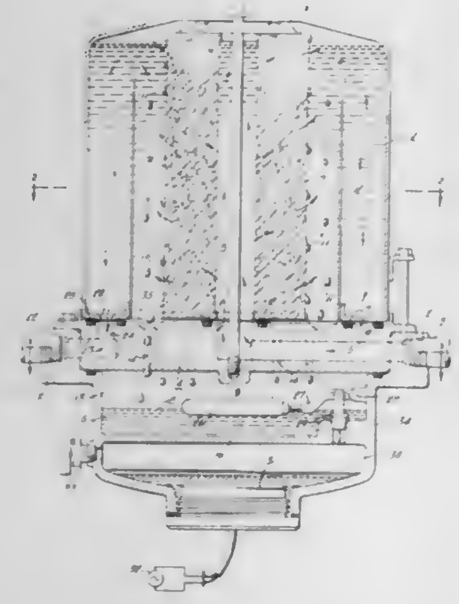
Roydon B. Cooper, Locust Valley, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Apr. 29, 1968, Ser. No. 725,034
Int. Cl. B01d *23/26, 27/08*
U.S. Cl. 210—90 **19 Claims**



A filter assembly is provided in which the bowl cover of the housing is easily detachable from the bowl but tightly seals thereagainst. The bowl cover has a rotatable coupling lever attached thereto. The coupling lever threadedly engages the threaded end of a support pipe in the bowl portion, and upon rotation of the lever, the head portion is either drawn onto or pulled away from the bowl portion depending upon the direction of rotation. A sealing ring is positioned between the cover and the support pipe to form a seal interiorly of the threaded portion of the support pipe so as to form a seal between the cover and the bowl via the support pipe and at the same time isolate the coupling mechanism from flow through the assembly.

3,508,658
APPARATUS FOR CLEANING AND DRYING GASOLINE

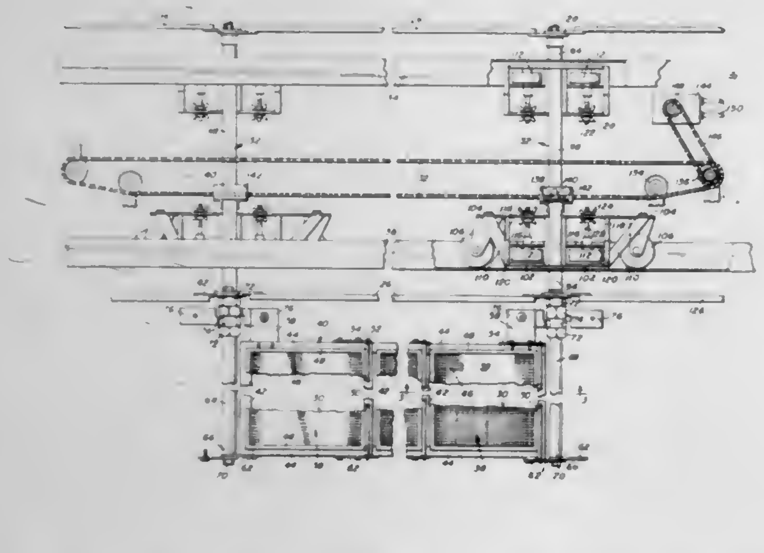
Donald R. McVay, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Mar. 25, 1968, Ser. No. 715,817
Int. Cl. B01d *27/02, 29/42, 35/18*
U.S. Cl. 210—14 **6 Claims**



Apparatus for treating gasoline comprises a filter-coalescer device which removes solids from the gasoline and also coalesces the water entrained in the gasoline. The coalesced drops of water fall toward the bottom of the apparatus and accumulate there as a layer of water; when this water layer builds up to a certain depth, the water is removed to an evaporation chamber for disposal thereof.

3,508,659
CANTILEVERED TRAVELING SCREEN

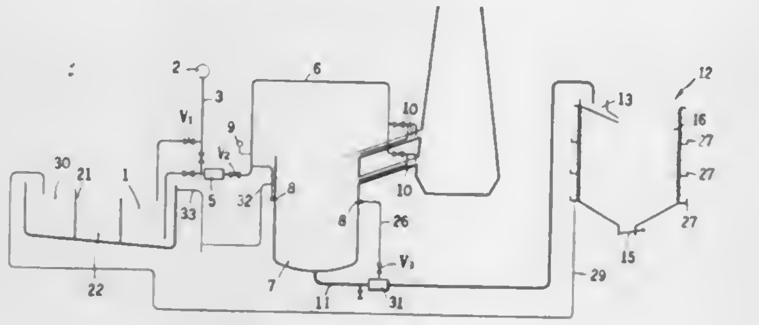
Daniel W. Bates, Portland, and Ernest W. Murphey, Tigard, Oreg., assignors to the United States of America as represented by the Secretary of the Interior
Filed Apr. 2, 1969, Ser. No. 812,740
Int. Cl. B01d *29/02*
U.S. Cl. 210—160 **10 Claims**



An endless screen travels on cantilevered carriages which are supported by an oval track. The screen is partially submerged for continuous filtration of a flowing fluid. Critical moving parts remain above the fluid surface, reducing maintenance difficulties.

3,508,660
SLAG EXTRACTING APPARATUS

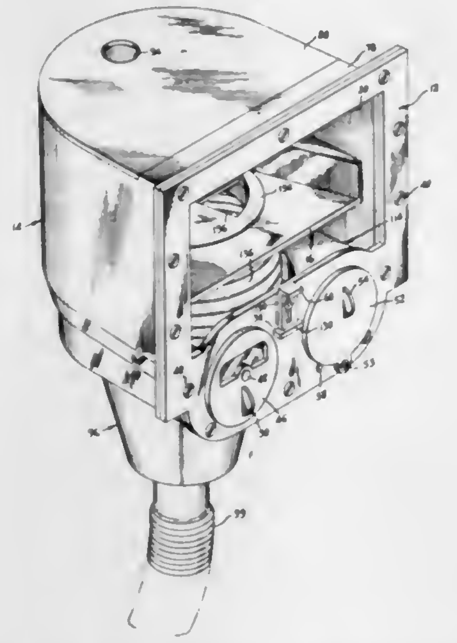
Akira Takano, Ibaragi, Japan, assignor to Rasa Shoji Co., Ltd., Tokyo, Japan
Filed Mar. 21, 1968, Ser. No. 714,912
Claims priority, application Japan, Mar. 25, 1967, 42/18,732
Int. Cl. B01d *35/20, 50/00*
U.S. Cl. 210—167 **5 Claims**



A slag extracting apparatus comprises an inlet for slag sent out from a blast furnace, an agitating tank provided with a number of water discharging nozzles for discharging water supplied from a reservoir, a dehydrating separator for receiving a mixture of the water and slag passed out from said agitating tank and separating the slag from the water, and a circulation channel for circulating the water separated by said separator into said reservoir through a filter. Said dehydrating separator is provided with a container having a shutter in the bottom portion thereof and constructed of net, and with troughs for receiving and guiding to said circulation channel the water flowing out of the meshes of said container.

3,508,661
SKIMMER FOR SWIMMING POOLS AND THE LIKE

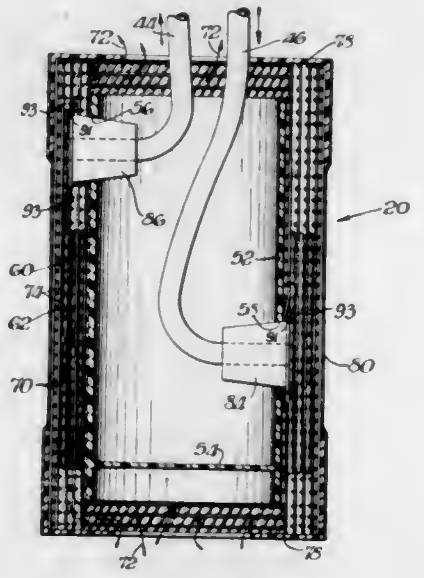
Joseph Diemond, Simsbury, and Melvin Y. Gershman, West Hartford, Conn., and Fred A. Ravreby, Framingham, Mass., assignors to Coleco Industries, Inc., Hartford, Conn., a corporation of Connecticut
Filed Feb. 7, 1969, Ser. No. 797,396
Int. Cl. E04h *3/20*
U.S. Cl. 210—169 **28 Claims**



A skimmer for the sidewall of swimming pools and other liquid-containing tanks has a face member with a major flow opening for mounting on the inside of the sidewall. The housing on the outside of the sidewall has at least one aperture registering with the major flow opening and a discharge flow passage adjacent the lower end thereof. A float assembly in the housing includes a float member adapted to control the flow of fluid into the discharge flow passage. Either or both the face member and the float assembly have a relatively small flow opening therein providing for passage of liquid into the housing and control means for varying the size of the flow opening.

3,508,662
DISPOSABLE, LOW-PRIME, SPIRALLY WOUND, ARTIFICIAL KIDNEY

Frederick W. Miller III, Avondale, Pa., assignor to Extracorporeal Medical Specialties, Inc., a corporation of Pennsylvania
Filed Jan. 21, 1969, Ser. No. 792,507
Int. Cl. B01d *31/00, 13/00*
U.S. Cl. 210—321 **10 Claims**

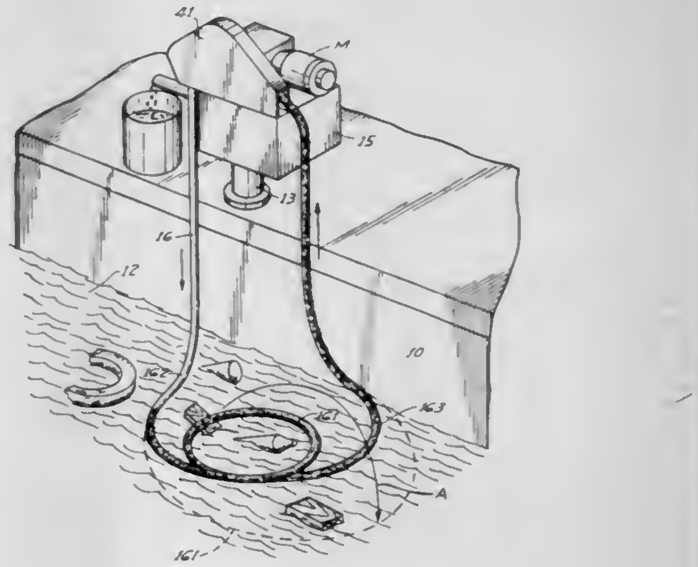


An extracorporeal, disposable, low-prime, artificial kidney coil unit or dialyzer cartridge for use in artificial kidney systems of the general type including a tank for dialyzing fluid having a support for the coil unit and means for supplying dialyzing fluid to one end of the coil unit, wherein the coil unit has a single tubular membrane of regenerated cellulose produced by the cuprammonia process providing a continuous, elongated spiral blood passage, large diameter adapter plug connections between the blood inlet tubing and the tubular membrane and between the membrane and the blood outlet tubing, and a single layer of membrane spacing and supporting mesh of non-woven plastic such as polyolefin wider than the flattened membrane and having longitudinal strands on one face and angled cross-strands on the other face which is spirally wrapped in sandwiched relationship to the tubular membrane.

3,508,663
FLEXIBLE ELONGATED GENERALLY CYLINDRICAL COLLECTOR FOR HYDROPHOBIC MATERIALS

Eugene L. Brill, 1803 W. Royalton Road,
Cleveland, Ohio 44141
Continuation-in-part of application Ser. No. 601,937, Dec. 15, 1966. This application Oct. 10, 1968, Ser. No. 766,399
Int. Cl. B01d *35/16, 33/36, 33/04*
U.S. Cl. 210—396 **12 Claims**

A flexible, hose-like elongated collector adapted for collecting hydrophobic materials floating in a layer on a reservoir of water or the like is formed into an endless loop which passes into or upon the liquid in the reservoir, then upwardly and out through or away from the layer of hydrophobic material which collects on the surface of collector, after which a doctor blade helically wound around the collector scrapes the coated material therefrom. An improvement of this collector is that the sole support for the collector loop is a drive pulley located entirely above the liquid in the reservoir, there being nothing of the collector means passing beneath or near the water except the collector hose or loop itself. Another improvement is the provision of a single separate loop of flexible material of circular cross section capable of whipping about in a random manner from its overhead suspension. Drive teeth for the collector loop are provided about the driving pulley or chain alternately on opposite sides of the driving element so that the collector loop passes in a wavy manner around the periphery of the driving element being forced alternately to one side or the other as it is threaded between the collector drive teeth.

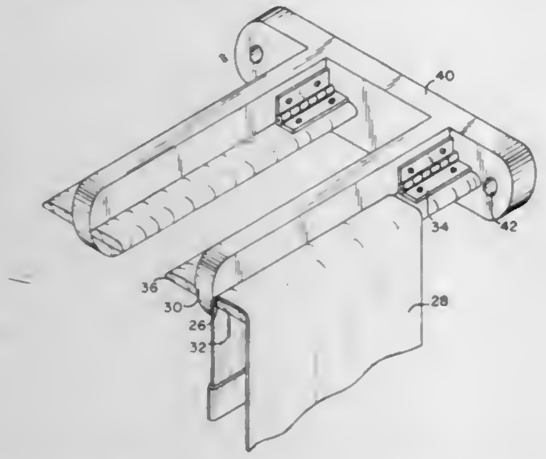


This collector loop may be used in several ways. If the distance from the sole support of the collector loop down to the top level of the liquid in the reservoir is short, then the collector loop is of sufficient stiffness that the driving element can push the collector loop beneath the surface of the liquid in the reservoir, after which it again comes out of the liquid and back to the sole support. Another use of the collector loop is to provide a relationship between the sole support and the top level of the liquid in the reservoir so that there is sufficient length of the collector loop that a portion of it may float upon the liquid in the reservoir to pick up the hydrophobic material, after which it returns to the driving element by way of the doctor blade which removes the hydrophobic material from the collector loop. Another use of the device is to provide a length of the collector loop floating on the liquid in the reservoir sufficiently long to form a generally circular coil on the liquid with the approaching portion of the loop overlying the departing portion thereof.

3,508,664
PANTS RACK

Roy W. Lessard, 9638 Lemon Ave.,
La Mesa, Calif. 92041
Filed Dec. 27, 1967, Ser. No. 693,951
Int. Cl. A47g *25/04;* **A47j** *51/14*
U.S. Cl. 211—89 **8 Claims**

A pants rack having a longitudinal base member with longitudinal pants holding members secured to each side of the base member by pivotal connections at one end of the holding members allowing pairs of pants to be inserted through the openings between the other ends of each of the holding members allowing pairs of pants to be inserted through the openings between the other ends of the holding members and the base member, which pants are rested on the holding members thereby rotating



the side of the holding member in pivotal movement toward the side of the base member gripping the pants therebetween.

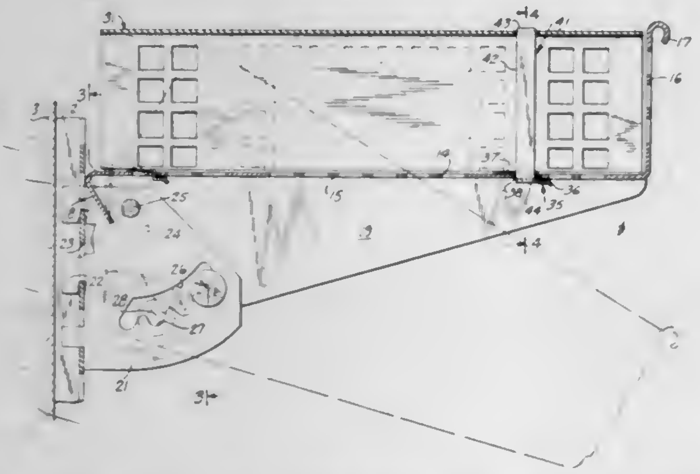
3,508,665
ONE-PIECE SHEET METAL SHELF

Arthur Goldstein, Scarsdale, N.Y., and Theodore Sobel, South Orange, N.J., assignors to Butler Industries, Inc., Newark, N.J., a corporation of New Jersey

Filed Aug. 28, 1968, Ser. No. 755,940

Int. Cl. A47f *5/00*

U.S. Cl. 211—150 **8 Claims**



A shelf formed of a single sheet with various portions of the shelf so arranged that the shelf has substantial structural rigidity when supported at the ends thereof. The shelf can be divided by means of removable dividers which are locked in place when in position.

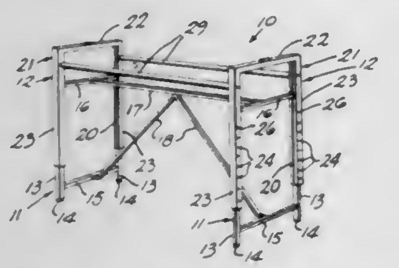
3,508,666
ADJUSTABLE HEIGHT CLOTHES RACK

Erich O. Schwengel, Coldwater, Mich., assignor to R. D. Jones Export Company, Inc., Coldwater, Mich., a corporation of Michigan

Filed Jan. 26, 1968, Ser. No. 700,930

Int. Cl. A47f *5/10*

U.S. Cl. 211—176 **6 Claims**



The present invention deals with a special form of rack for clothing or the like, having upper and lower assemblies which telescopically fit each other in manner facilitating adjustment of the overall rack assembly to different heights to meet different requirements, there being latching means in each of the legs of the overall assembly which facilitate said vertical adjustment. Stability of the assembly is facilitated by special bracing of the lower assembly, and slotting the legs of the upper assembly so that they will telescopically fit the spaced apart legs of the lower assembly without interfering with the bracing of the lower assembly.

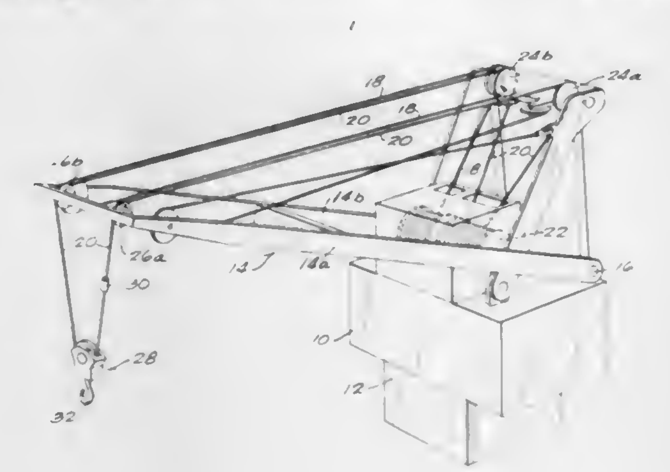
3,508,667
ANTIPENDULATION CRANE WITH DAMPED SHEAVE ON BIGHT OF HOIST ROPE

Lawrence S. Commora, Duluth, Minn., assignor to Lake Shore, Inc., Iron Mountain, Mich., a corporation of Michigan

Filed June 3, 1968, Ser. No. 733,998

Int. Cl. B66c *23/06*

U.S. Cl. 212—58 **5 Claims**



The crane damps pendulation of the load as a consequence of slewing of the crane by supporting the load from a frictionally damped sheave rolling on the bight of the rope between the spaced boom ends.

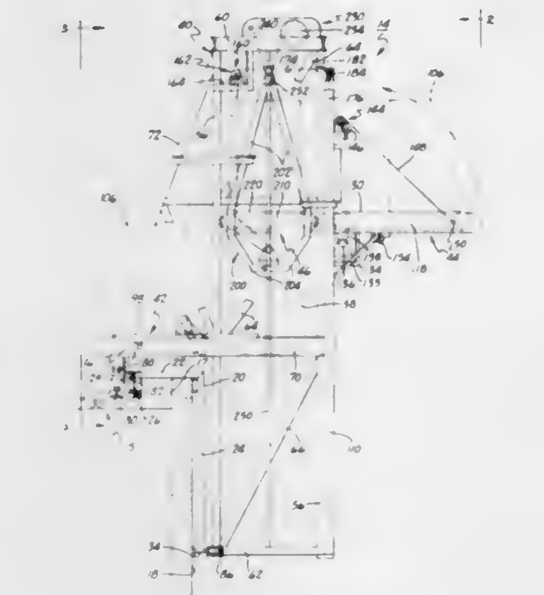
3,508,668
LOAD TRANSFERRING APPARATUS

Robert Ross Young, Danville, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

Filed June 11, 1968, Ser. No. 736,058

Int. Cl. B65g *67/58*

U.S. Cl. 214—14 **6 Claims**



An apparatus for transferring loads between a fixed elevation on a dock and various elevations on a carrier, such as a ship, including a dockside conveyor positioned on the dock, a carrier conveyer adapted to project into a side port of the ship, to the open deck or to other selected positions on or in the ship, and an elevator conveyor movable between a first position aligned with the dockside conveyer for transferring a load between the dockside conveyer and the elevator conveyer and a second position aligned with the carrier conveyer so as to transfer a load between the carrier conveyer and the elevator conveyer.

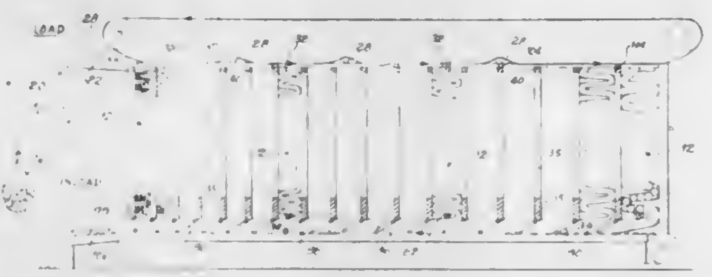
3,508,669
STORAGE FACILITY FOR PIPES AND SIMILAR ARTICLES

William H. Cook, 2738 N. Pinegrove, Chicago, Ill. 60614

Continuation-in-part of application Ser. No. 635,756, May 3, 1967. This application Feb. 12, 1969, Ser. No. 798,751

Int. Cl. B65g *47/00*

U.S. Cl. 214—16 **13 Claims**



A storage facility for holding pipes or the like in separate bins whereby the pipes can be selectively removed from the bins for shipment or use. The facility is provided with an upper ramp which is employed for directing the pipes to entrances for the respective bins which are formed of spaced apart members defining downwardly extending sinuous paths. Means are provided for selectively opening the bins whereby pipes of certain characteristics can be stored in the proper bin, and these same means lock and unlock lateral support elements which extend between the bins. The first pipes introduced into the bins will immediately move toward exits for the bins whereby a "first in-first out" operation is achieved. The pipes move under the influence of gravity or through the use of conveyors whereby a minimum amount of handling is required.

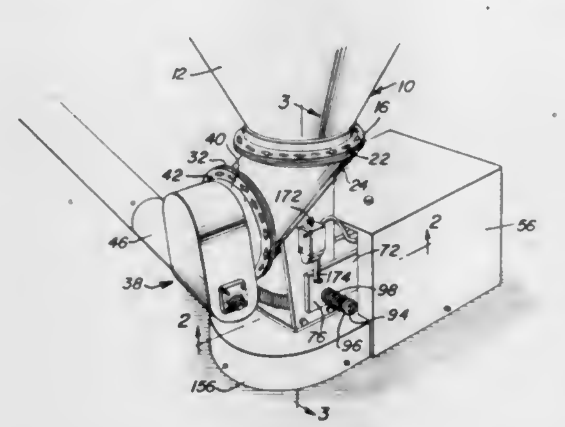
3,508,670
BIN UNLOADER

Leo A. Schuld, Mosinee, Wis., assignor to Schuld Manufacturing Co., Inc., a corporation of Wisconsin

Filed Aug. 26, 1968, Ser. No. 755,042

Int. Cl. B65g *65/46*

U.S. Cl. 214—17 **8 Claims**



A rotatable angled auger assembly for a storage bin including inverted conical lower walls, the auger assembly including a driven angled auger screw supported at its lower end from a driven rotary mount supported for rotation about a vertical axis in the lower end of the bin for sweeping the auger screw about the inverted conical lower walls of the bin. The drive for the auger screw includes excess torque input control means operable not to exceed a predetermined normal driving input torque to the rotary mount and to maintain such predetermined normal input torque should resistance to turning of the mount exceed said predetermined torque.

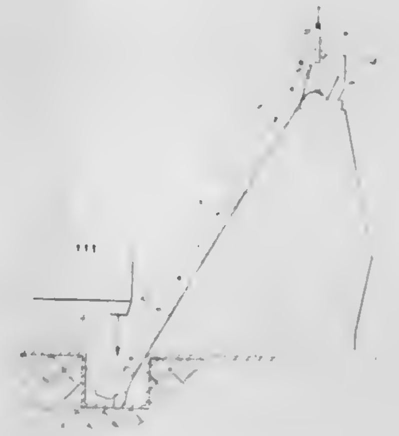
3,508,671
BLAST FURNACE SKIP CAR

Donald J. Leach, William N. Moore, and Billy J. Snyder, Ashland, Ky., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Feb. 6, 1969, Ser. No. 797,101

Int. Cl. F27b *11/12*

U.S. Cl. 214—19 **4 Claims**



A skip car for delivering a blast furnace charge comprising a primary chamber and a secondary chamber in the form of a chute communicating with the primary chamber. The respective chambers are so arranged that when they are positioned at the dump angle, the material contained in the secondary chamber will pass into the primary chamber and into the furnace's charge receiving hopper.

3,508,672
TIE LOADERS

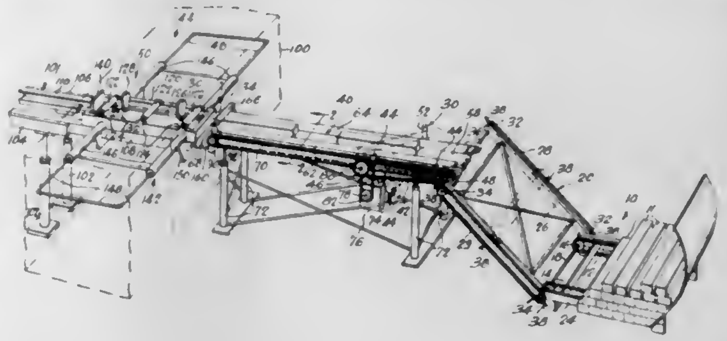
Mark Stanoy, Montreal, Quebec, and Georges J. Barnett, Laprairie, Quebec, Canada, assignors to Domtar Limited, Montreal, Quebec, Canada, a company of Canada

Filed Feb. 12, 1969, Ser. No. 798,741

Claims priority, application Canada, Mar. 2, 1968, 13,870

Int. Cl. B65g *67/12*

U.S. Cl. 214—41 **10 Claims**

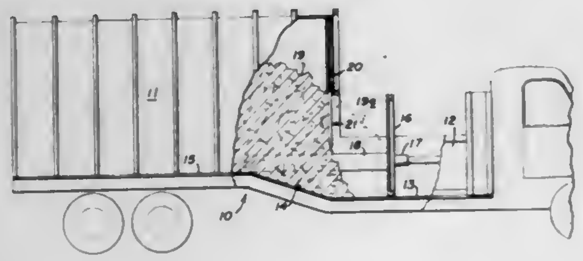


A tie loading apparatus comprising a carriage having a casting mechanism an element of which rotates to engage, accelerate and throw a tie from the carriage, along and off the free end of a pair of extendible slides projecting laterally from said carriage.

3,508,673
REFUSE BODY WITH RETAINING FINGERS

George Demo Pappas, Fort Worth, Tex., assignor to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan

Filed Mar. 5, 1968, Ser. No. 710,558
Int. Cl. B65f *3/00*
U.S. Cl. 214—83.18 **1 Claim**

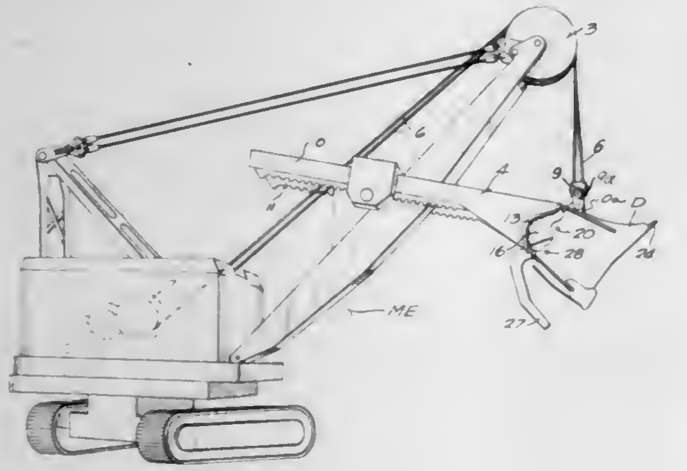


A refuse hauling body having a loading hopper on its forward end, a transverse packer blade traveling the length of the hopper, and having an automatic gate to prevent the load from falling back into the hopper when the packer blade is retracted.

3,508,674
DIPPER MOUNTING AND METHOD OF ASSEMBLY THEREOF

Karl Schneider, Greenfield, Wis., assignor to Harnischfeger Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed July 17, 1968, Ser. No. 745,592
Int. Cl. B66f *9/00*
U.S. Cl. 214—145 **13 Claims**



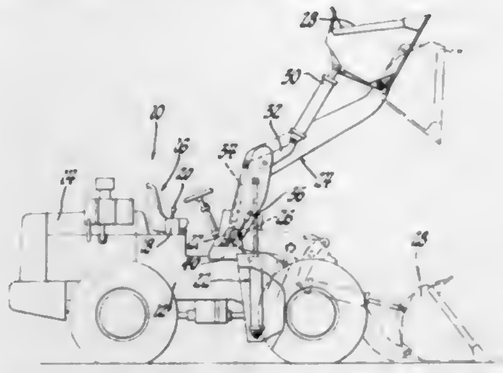
A cushioned mounting for a dipper of a material handling machine such as an excavator or shovel. The dipper is mounted on a pin on the handle and the mounting also includes a resilient member on one side of the pin which can be preloaded by shims located on the other side of the pin. The method of assembling the dipper on the handle and preloading the cushion.

3,508,675
AUTOMATIC POSITIONING MECHANISM

George A. Fisher, Mentor, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Nov. 1, 1968, Ser. No. 772,482
Int. Cl. E02f *3/70*
U.S. Cl. 214—762 **5 Claims**

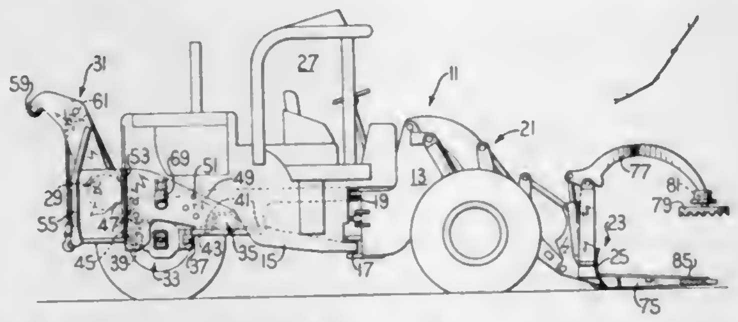
An automatic positioning mechanism for a front end loader vehicle having a pivoted lift arm movable by a hydraulic cylinder between a lowered-dig position and a raised-dump position. A valve controls flow of pressurized fluid to the hydraulic cylinder and is movable from a detented operating position to a closed position when a cam supported by the lift arm assumes a position related to a predetermined raised position of the lift arm.



3,508,676
LOADER-SKIDDER

Robert A. Peterson, San Leandro, Calif., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed May 23, 1968, Ser. No. 731,434
Int. Cl. B66f *9/18*
U.S. Cl. 214—767 **2 Claims**

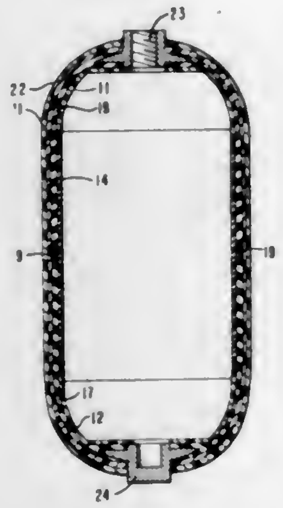


A wheeled vehicle having a loader on one end and a skidder on the other end thereof wherein: the axle on the skidder end of the vehicle has been moved nearer that end of the vehicle so as to improve balance; the loader end of the vehicle has mounted thereon a pressure disc for holding a work piece immovably against a work holding member; and the entire vehicle is stabilized by means of hydraulic cylinders acting upon the vehicle axles.

3,508,677
VESSEL FOR STORING HIGH-PRESSURE GASES

Jerry Laibson, San Diego, Emerson R. Harmon, El Cajon, and Richard R. Heitkamp, Long Beach, Calif., assignors to Whittaker Corporation, Los Angeles, Calif., a corporation of California

Filed Aug. 20, 1968, Ser. No. 753,908
Int. Cl. B65d *25/00, 7/42*
U.S. Cl. 220—3 **12 Claims**



A vessel for storing gases under extreme pressures for relatively long periods comprises:

(a) A thermoplastic resin inner liner;

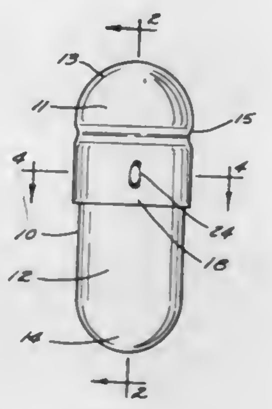
(b) An intermediate diaphragm bonded to and completely enclosing the inner liner; and

(c) An exterior housing composed of multiple layers of resin impregnated fiber glass strands wound in substantially perpendicular directions and having a slip plane between selected layers.

3,508,678
LOCKING CAPSULE

Richard J. Graham, Grosse Pointe, Oscar B. Noren, Grosse Pointe Farms, and Ralph E. Mottin, Grosse Pointe Park, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

Filed Apr. 29, 1968, Ser. No. 724,720
Int. Cl. B65d *43/10*
U.S. Cl. 220—60 **11 Claims**

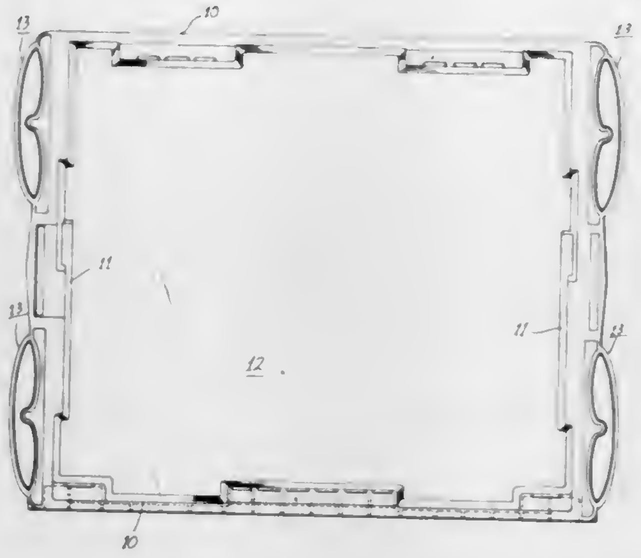


An economical locking capsule is provided having telescopically joinable cap and body parts adapted to be joined together in a mechanical part-lock position and also, when more fully joined, in a fully locked position. The capsule, for packaging of medicaments and the like, is produced by the dip-molding technic on conventional automatic machinery and can be printed, filled, etc., using standard equipment.

3,508,679
TOTE BOX WITH BUMPER

Richard J. Semple, Cincinnati, Ohio, assignor to MS Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 21, 1968, Ser. No. 768,992
Int. Cl. B65d *7/42*
U.S. Cl. 220—72 **4 Claims**

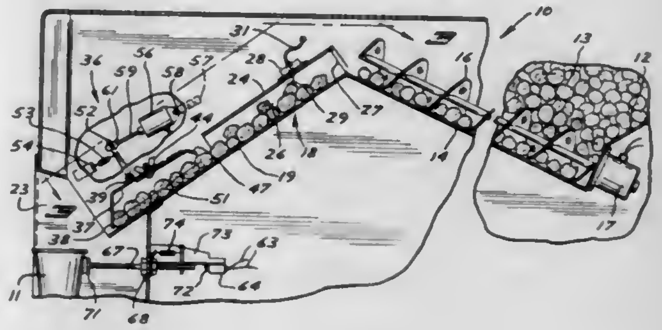


A tote box for transporting articles from one place to another on a conveyor is provided with bumper elements to prevent damage to the boxes and/or articles therein which might result from succeeding boxes bumping into each other on the conveyor.

3,508,680
DEVICE FOR METERING AND DISPENSING MATERIALS

John N. Ewald, Jr., Rte. 3, Box 242A, Litchfield, Minn. 55355, and Donald A. Schuldt and James H. Casey, St. Paul, Minn.; said Schuldt and said Casey assignors to said Ewald

Filed June 3, 1968, Ser. No. 742,470
Int. Cl. B65g *59/00*
U.S. Cl. 221—258 **14 Claims**

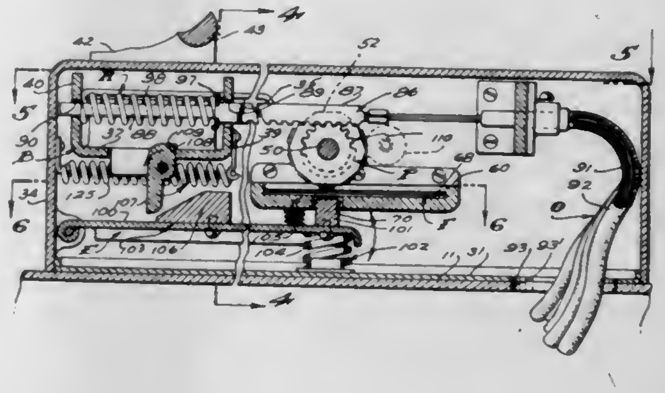


An apparatus for discharging a quantity of material into a container. The apparatus has a downwardly inclined trough providing a passageway for dispensable material. A motor driven auger operates to move material into the top of the trough. Pivotally mounted on the lower portion of the trough is a gate operable to hold the material in the trough. A solenoid moves the gate to a position whereby a portion of the material in the trough is discharged from the trough. The upper portion of the trough is closed forming a tunnel through which the material moves toward the gate. A switch having an actuator extended into the tunnel is operable to control the operation of the auger motor in response to the amount of material in the tunnel.

3,508,681
GASOLINE PUMP SALES RECORD PRINTER

John J. Fitzgerald, 2120 Roselin Place, Los Angeles, Calif. 90039

Continuation-in-part of application Ser. No. 667,123, Sept. 12, 1967. This application Sept. 6, 1968, Ser. No. 758,062
Int. Cl. B67d *5/24*
U.S. Cl. 222—30 **12 Claims**



A sales record printing mechanism for a gasoline dispensing pump having a computor with a plurality of rotary drums with circumferentially spaced visually readable characters to indicate the volume and the cost of each sale of gasoline dispensed by the pump, said printing mechanism being operatively related to the computor to print the volume and cost of each sale indicated by the computor on a sales slip from and including a plurality of rotatable printing wheels, each related to one of the drums and having circumferentially spaced character fonts corresponding with the characters on the drum, means between each related wheel and drum to rotate and set the wheel in a predetermined rotative position relative to the drum and including setting means comprising a rotatable cam with circumferentially and radial spaced, stop lands corresponding in number with the numbers and fonts of the drum and wheel and driven by the drum, a pinion gear related to the wheel, a manually shiftable carriage, an elongate rack shiftably carried by said carriage and engaging the pinion gear and an elongate, flexible, axially shiftable drive cable with one end fixed to an end of the rack and its other end shiftable into and out of engagement with the cam upon shifting of the carriage, a form support to position a form relative to the wheel, and a platen shiftable into and out of engagement with the form and driven by the carriage.

3,508,682

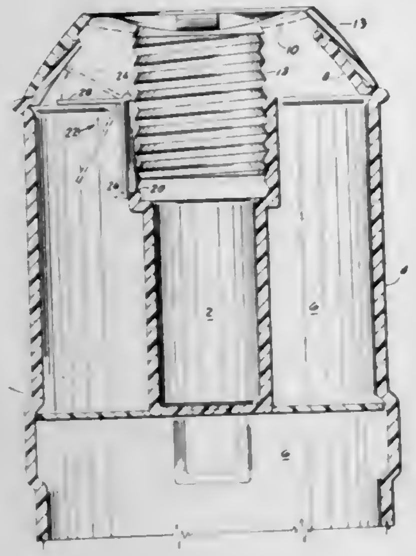
DISPENSING OF DETERGENT BLENDS OF PREDETERMINED STRENGTH

Morton Hollis, Boston, Mass., and Kenneth N. Sherman, Stamford, Conn., assignors, by direct and mesne assignments, of seventy percent to Kenneth N. Sherman, Newton, Mass., and thirty percent to Cambridge Research and Development Group, Westport, Conn., a limited partnership of Connecticut

Continuation-in-part of application Ser. No. 351,780, Mar. 3, 1964. This application Aug. 14, 1967, Ser. No. 668,274

Int. Cl. B67d

U.S. Cl. 222—48 **7 Claims**



A hand operative dispenser for dispensing a liquid detergent blend of predetermined strength comprises two chambers containing a low strength detergent and a high strength detergent, a mixing chamber with a dispensing nozzle, connecting passageways from the two chambers to the mixing chamber, and hand operative valve means adapted to vary the flow of liquid through one of the connecting passageways. The valve means is indexed to indicate the strength of the detergent blend being dispensed.

Preferably, one of the detergents contains an indicator that imparts a predetermined color to the detergent blend dependent on the mixing ratio of the high and low strength detergents.

3,508,683

METHOD AND APPARATUS FOR TRANSPORTING A HIGHLY VISCOUS LIQUID FROM A VACUUM CHAMBER

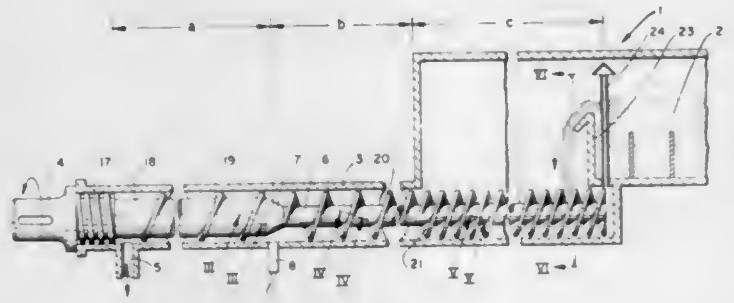
Bernard L. A. van der Schee, Velp, Gelderland, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Mar. 27, 1968, Ser. No. 716,476

Claims priority, application Netherlands, Apr. 7, 1967, 6704932

Int. Cl. B67d *5/08*

U.S. Cl. 222—55 **8 Claims**



Method and apparatus for conveying under pressure a highly viscous liquid such as high molecular weight thermoplastics and the like comprising screw conveying means mounted in a suitable housing, said means comprising a plurality of sections with each of said sections having a liquid conveying channel therein, the depth of the channel being different in each section and with the depth of the channel in the first two sections being three to four times greater than that of the last section. The height of the conveying channel defined by the shaft of the conveyor and the flights is three to four times greater at the intake end than at the discharge end. Means are also provided for controlling the amount of liquid being conveyed.

3,508,684

COMBINATION COLLAPSIBLE TUBE AND AEROSOL DISPENSER

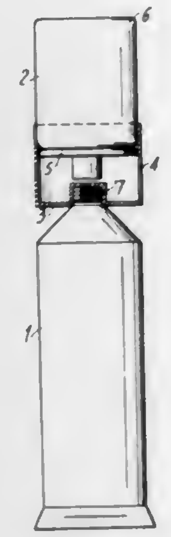
Loris Grech, Vaduz, Liechtenstein, assignor to Les Laboratoires Reunis Etablissement, Vaduz, Leichtenstein

Filed May 16, 1967, Ser. No. 638,994

Claims priority, application Switzerland, Nov. 23, 1966, 16,809/66

Int. Cl. B65d *35/24, 83/14*

U.S. Cl. 222—93 **2 Claims**



A toilet article comprising a tube of toilet preparation and an aerosol dispenser, either or both of which

are provided with cooperating attaching means enabling them to be attached together in at least a position of non-use. The attaching means may be formed in the cap of the tube or on the top or bottom of the dispenser.

3,508,685

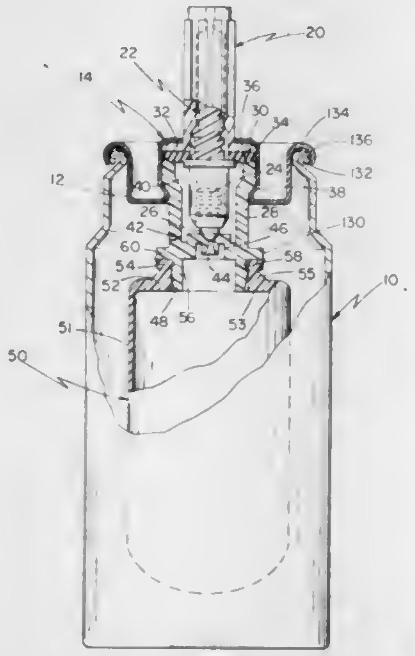
DISPENSING DEVICE

John Barry Flynn, Needham, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Continuation-in-part of application Ser. No. 716,827, Mar. 28, 1968. This application Nov. 21, 1968, Ser. No. 777,779

Int. Cl. B65d *35/22*

U.S. Cl. 222—94 **6 Claims**



A pressurized dispensing device has two containers, each of which has an outlet orifice. A valve assembly for controlling the selective dispensing of a mixture of materials from the two containers includes a flexible tubular nozzle structure and a rigid core structure, the upper portion of which is disposed inside the nozzle structure. Secured to the lower end of the valve assembly is a cylindrical self-supporting polyethylene bottle whose cylindrical main wall has a thickness of 0.025 inch. A coupling depending from the valve assembly projects into an opening in the bottle and an annular surface supporting this coupling is sealed to a cooperating surface of the bottle.

3,508,686

APPARATUS FOR POSITIVELY DISPLACING FLUIDS

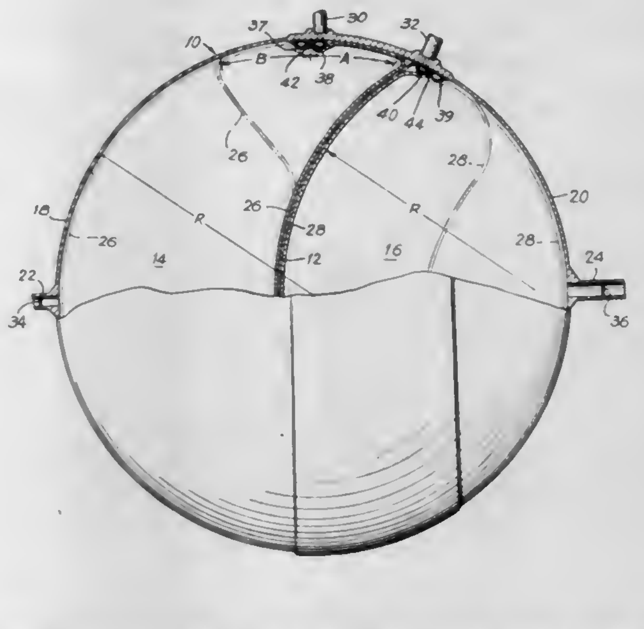
Lloyd William Goldberg, Clifton, N.J., assignor to Thiokol Chemical Corp., Bristol, Pa., a corporation of Delaware

Filed Aug. 16, 1966, Ser. No. 574,491

Int. Cl. B67d *5/42*

U.S. Cl. 222—135 **4 Claims**

Disclosure relates to a tank for storing liquids having a partition for dividing the tank into separate chambers with a predetermined volume ratio and flexible diaphragms in the chambers which may be flexed by admitting gas under pressure to one side thereof to deliver liquid at the opposite side through outlet ports. The edge of each diaphragm is attached to the tank wall so as to provide the same area of tank wall and partition at opposite sides of the diaphragm as the area of the diaphragm itself. In the illustrated embodiment the tank is spherical and the partition is in the form of a spherical segment.



3,508,687

BIN WITH DOSING DEVICE FOR DIFFICULTLY FLOWING POWDERY SUBSTANCES

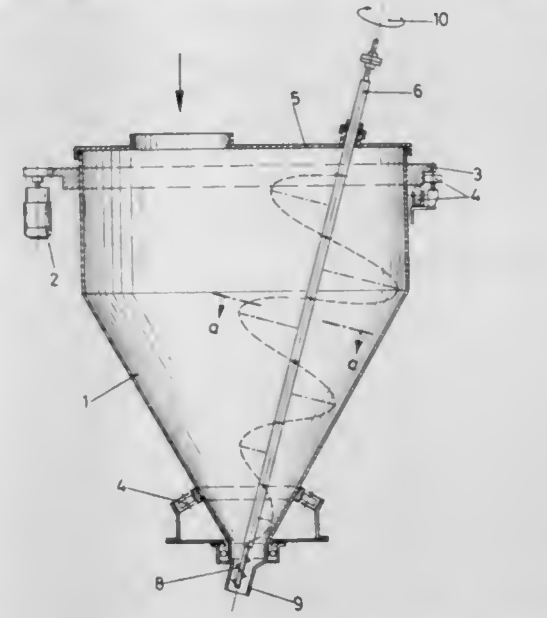
Gottfried Burgstaller, Burgkirchen (Alz), Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Filed July 2, 1968, Ser. No. 742,029

Claims priority, application Germany, July 13, 1967, F 52,940

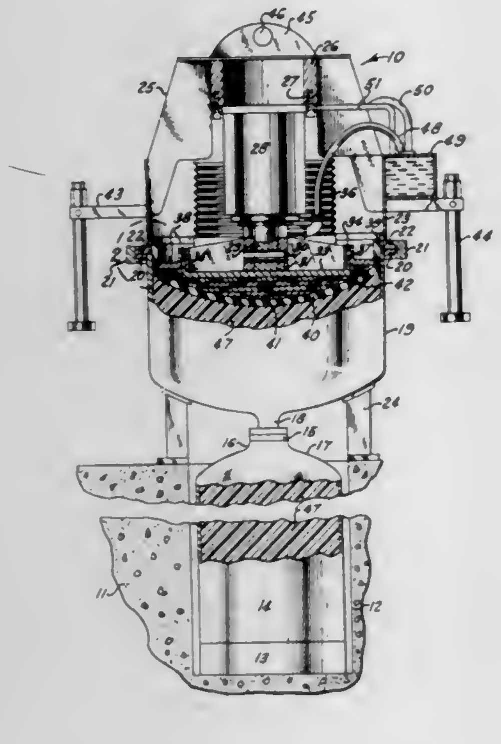
Int. Cl. B67d *5/64*

U.S. Cl. 222—162 **4 Claims**



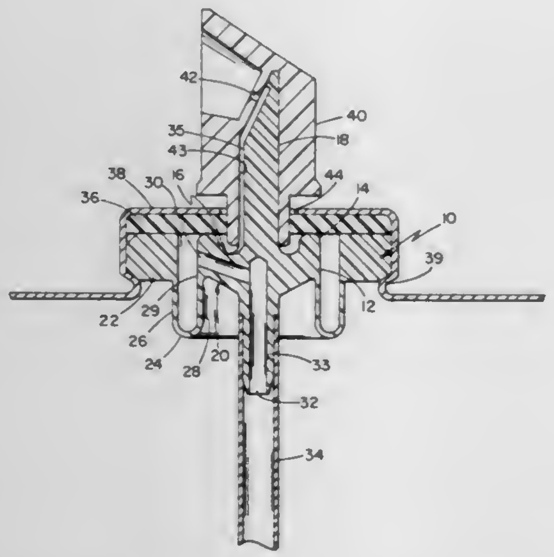
A dosing bin for poorly flowing powdery material is described which bin is conical in its lower part, is rotatable around its vertical axis, has means for loosening or aerating the contents in its interior, and is provided with means for withdrawing material from the bin in dosed quantities. As means for aerating the contents a screw-type conveyor is used the conveying direction of which is upward and the rotating axis of which is inclined so as to include acute angles with the vertical rotating axis of the bin as well as with the wall of the lower conical part of the bin. As dosing means a dosing screw is used the conveying direction of which is opposed to that of the aerating device, and the rotating axis of which is the direct continuation of the rotating axis of the aerating device.

3,508,688
HYDRAULIC ACTUATOR FOR SOLID PROPELLANT CASTING ASSEMBLY
Jerry J. Webb, Alfred H. Hecht, and Grover G. Griffith, Huntsville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Oct. 2, 1967, Ser. No. 672,217
Int. Cl. G01f *11/08*
U.S. Cl. 222—326 6 Claims



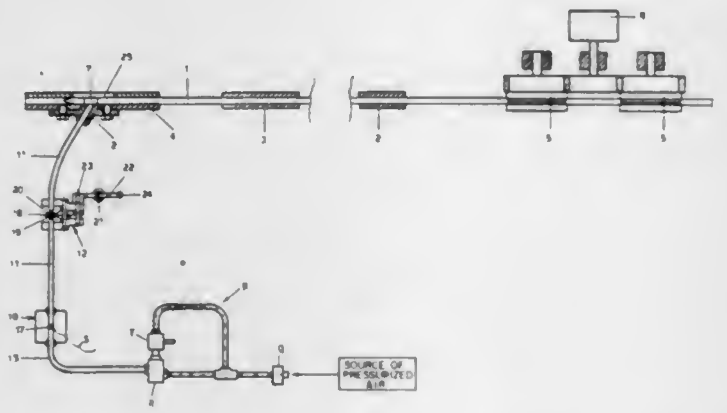
A hydraulic actuator that is to be mounted on a casting can for solid propellant to control the flow of the viscous uncured solid propellant from the casting can into a rocket motor case.

3,508,689
VALVE FOR PRESSURIZED CONTAINER
Milo Edward Webster, Braintree, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Oct. 10, 1967, Ser. No. 674,160
Int. Cl. B65d *83/00*
U.S. Cl. 222—402.24 11 Claims



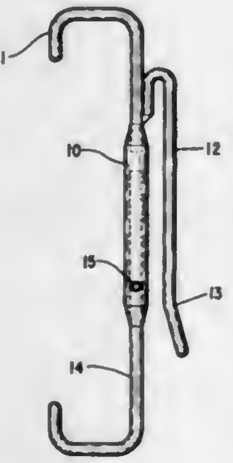
An integral valve member having a radially extending central body portion with a sealing lip on the upper side thereof, an outer, annular, support portion normally in a plane below the upper side, and a thin walled, resilient, annular channel of U-shaped cross section, integral with the body and support portions extending away from said upper side for providing a biasing effect on relative movement of the body and support portions; and said valve member in a pressurized fluid container assembly with said support and body portions in a common plane thereby deforming said channel to bias said lip against a seal.

3,508,690
DEVICE FOR THE AUTOMATIC THREADING OF A FRINGING MACHINE NEEDLE
Giovanni Battista Pozzolo, Lovere, Italy, assignor to SMIT S.p.A.-Societa Macchine per l'Industria Tessile, Milan, Italy, a company of Italy
Filed May 22, 1967, Ser. No. 640,051
Claims priority, application Italy, May 25, 1966, 18,251
Int. Cl. A41h *31/00*
U.S. Cl. 223—99 7 Claims



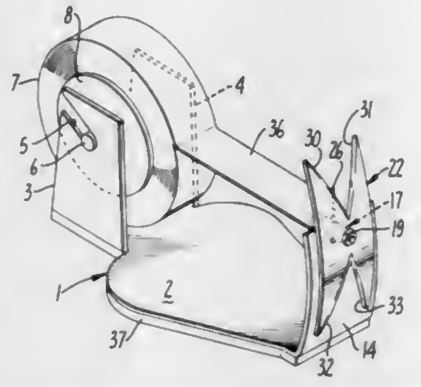
Apparatus for automatically threading the needle in a fringing machine which threads a string through the fringes to prevent them from unrolling. The string is conveyed through a conduit by either a pneumatic or mechanical system which directs the string through the eye of the needle upon the needle reaching the end of its forward stroke. The needle pulls the string through the fringes on its return stroke and the string is cut when the return stroke of the needle has been completed.

3,508,691
BELT TAPE REEL HOLDER
Glenn E. Langbehn, 914 N. Euclid, Pierre, S. Dak. 57501
Filed Nov. 24, 1967, Ser. No. 685,673
Int. Cl. A45c *1/04*
U.S. Cl. 224—26 1 Claim



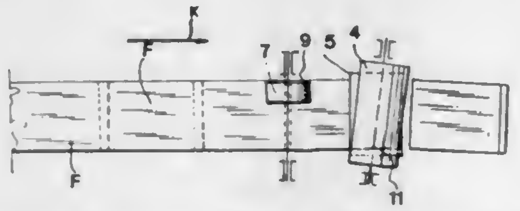
A belt supported hanger for coiled tape measures. The hanger utilizes an adjustable hook to clamp the tape measure into the hanger, the measure being useable while supported by the hanger.

3,508,692
TAPE DISPENSER AND CUTTER
Victor E. Holtan, 34 Turk St., San Francisco, Calif. 94102
Filed June 10, 1968, Ser. No. 735,864
Int. Cl. B26f *3/02*
U.S. Cl. 225—7 7 Claims



A tape dispenser and cutter for cutting a predetermined length of tape from a rotatably supported roll wherein the free end of the tape is held by impalement while the tape is cut on a cutting blade having a V-shaped cutting edge.

3,508,693
AUTOMATIC TEARING DEVICE FOR CONTINUOUS COUPLING MACHINES
Giuseppe Rossi, Carugate, 20127, Italy (% Ing. Misitano A.G., Via Padova 217, Italy)
Filed Apr. 29, 1968, Ser. No. 724,712
Claims priority, application Italy, June 9, 1967, 17,035/67
Int. Cl. B26f *3/02*
U.S. Cl. 225—96.5 5 Claims

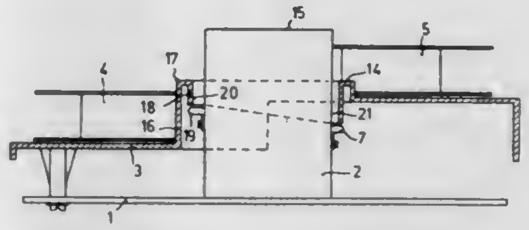


The invention concerns an automatic tearing device for plastics film, particularly for continuous coupling machines. It comprises a pair of feed rollers for feeding coupled cardboard sheets in marginal superimposed relationship and connected to each other by the plastics film, a pair of superposed incision rollers. The upper roller of the incision rollers is formed with a number of spikes or a rechangeable blade and the co-operating lower roller has an elastic covering so as to incise the end of the plastics film adjacent the superimposed margin and a pair of tearing rollers located upstream of the incision rollers. The tearing rollers operate to drag the plastified coupled sheets with a higher translation speed than the feed rollers so as to cause a progressive divergent tearing of the plastics film adjacent the superimposed margin of two subsequent sheets.

3,508,694
SECONDARY FUNCTION TAPE CELL
Bernard A. Gruber, Cambridge, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
Continuation-in-part of application Ser. No. 538,249, Mar. 29, 1966. This application Mar. 6, 1968, Ser. No. 710,950
Int. Cl. B65h *17/22;* **H01m** *27/00*
U.S. Cl. 226—188 3 Claims

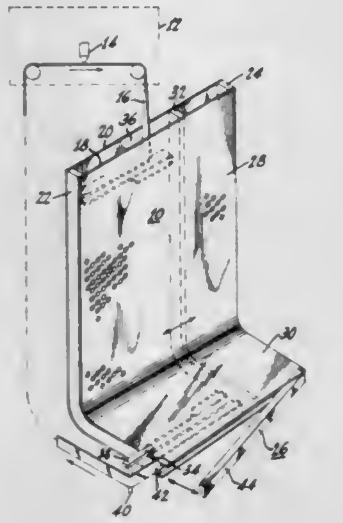
Electrically powered self-actuated apparatus for recording information utilizing electrical power drawn from electrochemical cell reaction components carried by the tape in which the tape both electrochemically actuates its own motion and records information.

3,508,695
GUIDE STRUCTURE FOR RECORD CARRYING DRUM
Franz Werner, Vienna, Austria, assignor to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 9, 1968, Ser. No. 696,635
Claims priority, application Austria, Jan. 25, 1967, A 708/67
Int. Cl. B65h *23/02*
U.S. Cl. 226—196 5 Claims



A drum for supporting a record carrier used in a recording and/or playback apparatus. The drum is partially surrounded by an envelope and has guide elements projecting from the drum periphery toward the envelope for supporting the record carrier in a helical path around the drum.

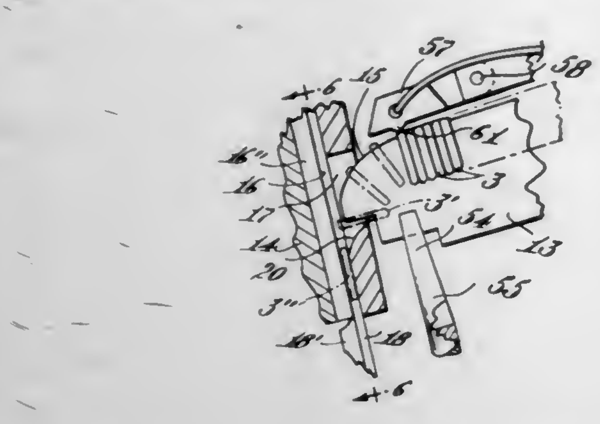
3,508,696
TAPE BASKET
George V. Taylor, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 23, 1968, Ser. No. 699,862
Int. Cl. G11b *23/12*
U.S. Cl. 226—199 9 Claims



A basket for storing a magnetic tape includes a vertically extending upper portion into which the magnetic tape is received, an arcuately shaped intermediate portion, and a horizontally disposed lower portion from which the stored tape exits.

3,508,697
FASTENER MACHINE
Paul B. Montague, Melrose, Mass., assignor to Standard Rivet Company, Boston, Mass., a corporation of New Hampshire
Filed Nov. 8, 1967, Ser. No. 681,319
Int. Cl. B25c *5/02*
U.S. Cl. 227—116 11 Claims

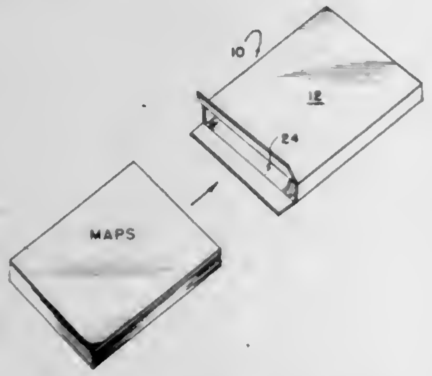
An industrial stapler feeds loose, unconnected staples downwardly astride a guide rail to the throat of a staple guide assembly through which the staples are driven by a sliding hammer upwardly to an anvil. When released by a gating device individually from the guide rail to the



throat the staples are inverted and drop, legs pointing up, on the hammer.

3,508,698
COMBINATION SHIPPING AND STORAGE CONTAINER

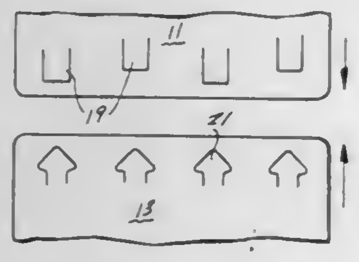
Clarence R. Shultz, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 29, 1968, Ser. No. 748,321
Int. Cl. B65d *13/00*
U.S. Cl. 229—23 2 Claims



This invention comprises a combination storage and shipping container. The container is adapted to be stacked with similar units and designed to be durable for field use to store maps and other documents. The container includes upper and lower telescoping members having a sealed end and an end which may be opened. The lower member includes foldable flaps to enclose reinforcing members to give a triple layer construction.

3,508,699
AUTOMATICALLY ADJUSTABLE PUNCH LOCK DEVICE

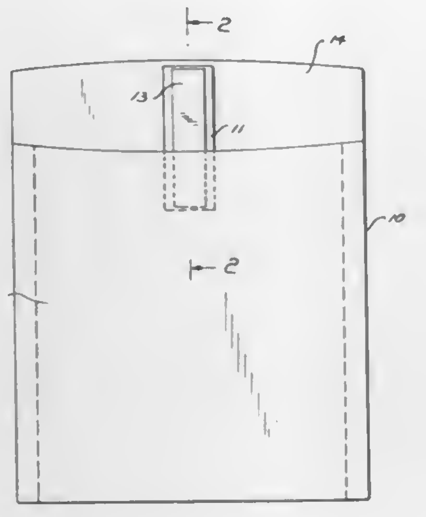
Earl J. Graser, Monroe, La., assignor to Olinkraft, Inc., a corporation of Delaware
Filed Mar. 26, 1968, Ser. No. 716,132
Int. Cl. B65d *5/02, 25/14*
U.S. Cl. 229—40 5 Claims



An automatically adjustable punch lock device for a wraparound article carrier of the type utilized to contain a plurality of generally similar articles, said articles frequently varying in dimensions within tolerable limits.

3,508,700
RECEPTACLE FOR COLLECTING LITTER AND OTHER REFUSE

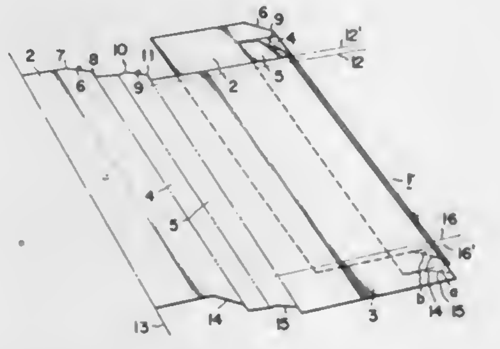
William H. Kelly, Latham, N.Y., assignor to Market Masters Industries Inc., a corporation of Delaware
Filed Aug. 30, 1968, Ser. No. 756,677
Int. Cl. B65d *33/14*
U.S. Cl. 229—53 4 Claims



A receptacle is provided for collecting litter and other refuse which can be suspended from a vertical surface and is suitable for use in automobiles. The receptacle includes an envelope provided with front and rear panels and a backing strip secured at its upper end to the rear panel. The outer surface of the backing strip carries an adhesive and covering shield. When the shield is removed and the backing strip bent upwards in a plane normal to the rear panel through an angle of about 180°, the midpart of the backing strip folds back upon itself and adheres thereto while the upper part of the backing strip extends vertically above the rear panel and will adhere to a vertical surface to permit the receptacle to be securely suspended therefrom for use.

3,508,701
GUSSETED BAGS

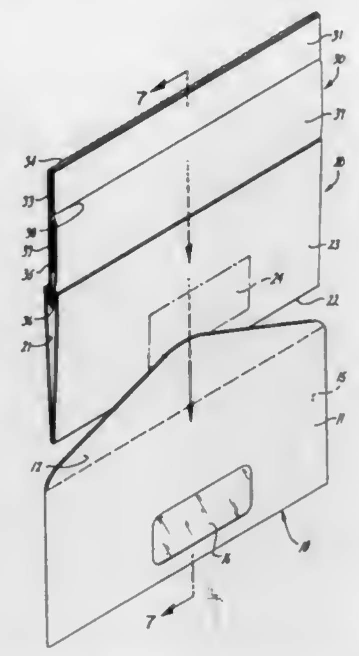
Akio Saito, Tokorozawa-shi, and Yoshio Matsumoto, Kameyama-shi, Japan, assignors to Showa Seitai Kogyo Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed Sept. 24, 1968, Ser. No. 762,024
Claims priority, application Japan, Feb. 6, 1968, 43/7,262
Int. Cl. B65d *31/10*
U.S. Cl. 229—53 4 Claims



A gusseted bag fabricated in a single gluing step from a blank. The end portion of the front panel of the bag, the rear panel of the bag and the panels of the gussets are in stepped relationship, and the edges of the respective panels which are at right angles to each other are joined by an oblique edge portion so that the edge portions join each other at outside angles greater than 90°.

3,508,702
CREDIT CARD MAILING ASSEMBLY

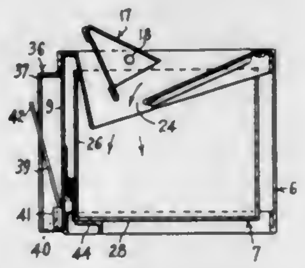
Frank C. Kaiser, San Francisco, Calif., assignor to Wells Fargo Bank, National Association, San Francisco, Calif.
Filed Nov. 1, 1968, Ser. No. 772,737
Int. Cl. B65d *27/04*
U.S. Cl. 229—71 11 Claims



Credit card mailing assembly comprising two foldable members enclosed in an envelope, said foldable members being of a weight and thickness and folded in such a manner to provide protection against theft of or damage to the credit cards.

3,508,703
ASH AND TRASH RECEPTACLE

Gerald W. Wyant, 4343 Mayfair Ave., Montreal, Quebec, Canada
Filed Nov. 21, 1967, Ser. No. 684,665
Claims priority, application Canada, Dec. 1, 1966, 976,935
Int. Cl. A24f *19/08*
U.S. Cl. 232—43.2 2 Claims

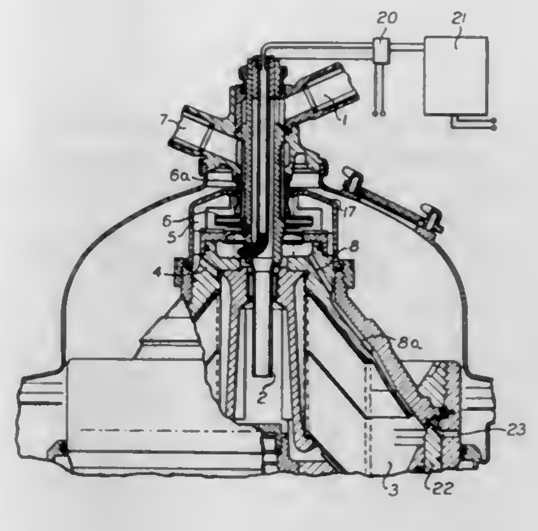


An ash and trash receptacle comprising an outer casing having side and end walls and an open bottom, and a top wall sloping inwardly and downwardly from one side wall and extending part way towards an opposite side wall. A tiltable member is biased to normally close the opening between the sloping top wall and the opposite side walls, and an open top receptacle is removably mounted on one side wall for withdrawal through the open bottom of the outer casing.

3,508,704
CENTRIFUGAL SEPARATOR CONTROL

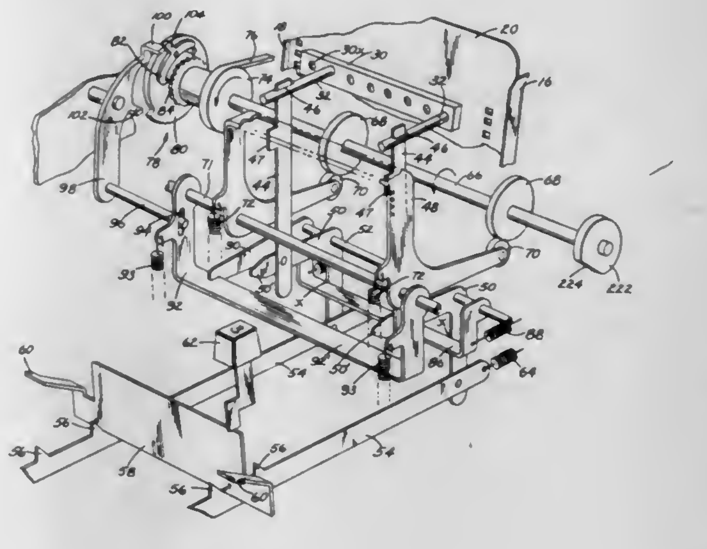
Heinrich Hemfort, Oelde, Westphalia, Germany, assignor to Westfalia Separator A.G., Oelde, Westphalia, Germany, a corporation of Germany
Filed Feb. 6, 1968, Ser. No. 703,364
Claims priority, application Germany, Feb. 8, 1967, W 43,319
Int. Cl. B04b *11/04*
U.S. Cl. 233—20 7 Claims

In controlling the desludging cycle of a centrifugal bowl of the self-opening type by sensing the level of liquid flowing through a holdup chamber which rotates with the bowl and is in communication with the sludge chamber of the bowl, false signals caused by foam are avoided by dividing the chamber into two compartments by a radially extending partition. The liquid is introduced into the first compartment and passes from the bottom the first compartment to the second compartment. The height of the first compartment is less than the height of the second compartment and accordingly foam overflows from the first compartment and does not get into the second compartment.



3,508,705
PUNCH FOR TELEPHONE DIAL CARDS AND THE LIKE

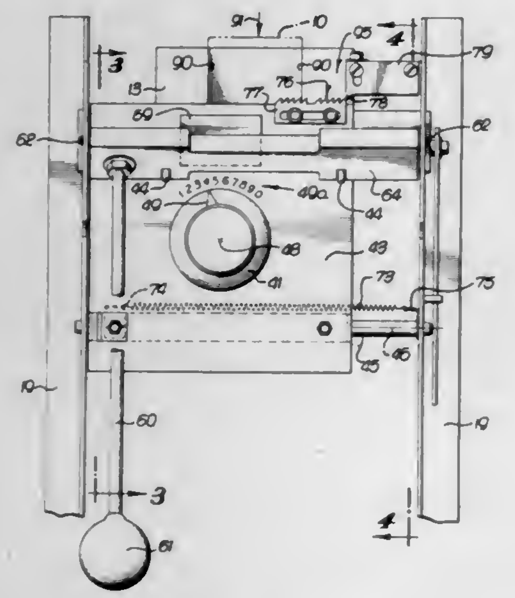
Robert J. Scranton, Mentor, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Dec. 15, 1967, Ser. No. 690,976
Int. Cl. G06k *1/00*
U.S. Cl. 234—51 9 Claims



A punch for punching coded information in a two-hole code into plastic cards (such as telephone dialing cards) includes a row of punches each activated by levers which can be shifted so as to place an interposer portion into operative relationship to a power bail. Operating a key on the keyboard acts through a code bar system, first raising the appropriate levers for selected punches to active position, then trips the power bail while also providing means to lock the levers in activated position during the stroke. Completion of the punching cycle automatically steps the card to the next punching position and resets the tripping mechanism. The equipment includes a settable tabbing mechanism to provide for programming the skipping of certain punch positions, and an auxiliary punch mechanism for punching special signal or "stop" holes without advancing the card. Card movement is powered by a spring barrel which is wound by inserting the card into the machine. The parts are arranged to provide card position and card motion simulating the card position and motion in existing telephones of the automatic dialing type.

3,508,706
CODE PERFORATING DEVICE

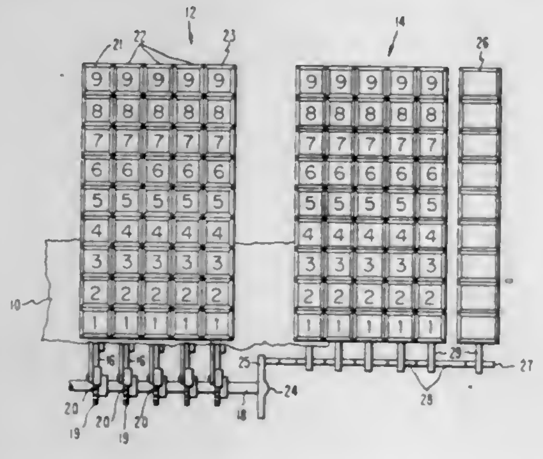
Andrew M. McInnis, Covina, Calif., assignor, by mesne assignments, to Rusco Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Jan. 30, 1968, Ser. No. 701,601
Int. Cl. G06k *1/08*
U.S. Cl. 234—100 10 Claims



The invention concerns manually programmed apparatus operable to automatically punch coded holes in layers of material, such as a limited number of nondestructible cards, at rapid rates.

3,508,707
CHECK DIGIT VERIFIER

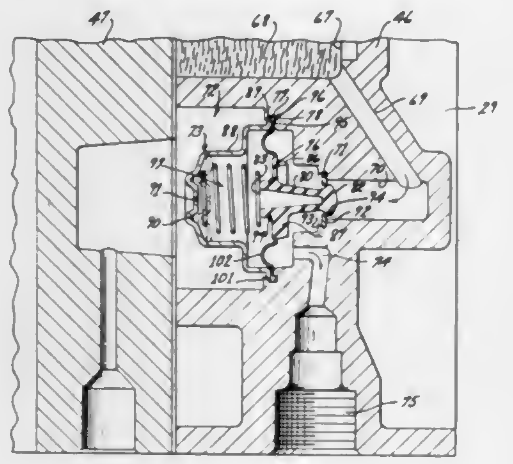
Wilbur M. Davis, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,843
Int. Cl. G06c *7/04*
U.S. Cl. 235—145 14 Claims



A transaction recorder incorporating a mechanical verifying device for determining the correctness of information manually entered using a keyboard. An accumulator shaft is rotated incrementally in accordance with the values of keys depressed in a designated field of keybanks and effects interlocking of a subsequent field of keybanks or other apparatus if an incorrect entry is keyed.

3,508,708
PRESSURE REGULATOR CONSTRUCTION

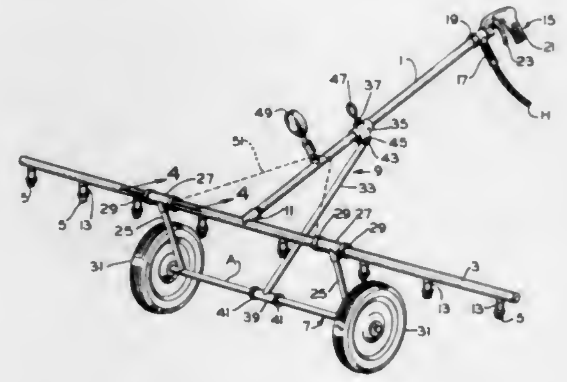
Michael J. Caparone, Arcadia, and Theodore J. Dykzeul, Rolling Hills, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Original application Mar. 23, 1964, Ser. No. 353,924, now Patent No. 3,439,699, dated Apr. 22, 1969. Divided and this application May 6, 1968, Ser. No. 752,403
Int. Cl. F23n *5/02*
U.S. Cl. 236—33 8 Claims



This disclosure relates to a pressure regulator formed from a one-piece flexible diaphragm and valve member structure wherein the flexible valve member is disposed spaced from one side of the flexible diaphragm so that the flexible valve member can be flexed through a valve seat of a housing to open and close the valve seat on one side thereof while the flexible diaphragm is disposed on the other side of the valve seat and can be utilized to cooperate with the housing structure carrying the valve seat to define a chamber therewith.

3,508,709
MOBILE ADJUSTABLE SPRAYER

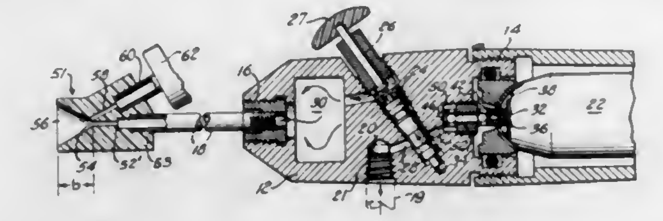
William A. Small, Ferguson, Mo., George P. Blanchard, Buellton, Calif., and William E. Serbousek, St. Louis, Mo., assignors to Mallinckrodt Chemical Works, St. Louis, Mo., a corporation of Missouri
Filed July 10, 1968, Ser. No. 743,805
Int. Cl. B05b *9/02*
U.S. Cl. 239—287 9 Claims



A sprayer comprising a spray boom on wheels for being rolled over the ground for spraying the ground with a liquid, such as a liquid fungicide, insecticide, weed killer, fertilizer, dye, paint or the like. The boom is a tubular boom extending transversely at the lower end of a tubular handle, and having a plurality of spray nozzles spaced along its length. A wheeled support is pivoted on the boom and an adjustable connection is provided between the support and the handle, whereby the boom may be positioned either inboard or outboard of the wheels and its elevation above ground level adjusted.

3,508,710
DISPOSABLE PLASTIC ASPIRATOR

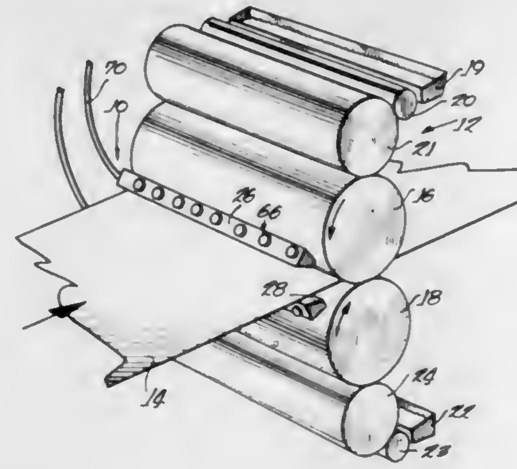
David Hadler, Philadelphia, Pa., assignor to Ethicon, Inc., a corporation of New Jersey
Continuation of application Ser. No. 651,721, July 7, 1967. This application May 13, 1969, Ser. No. 827,093
Int. Cl. B05b *1/28, 11/00*
U.S. Cl. 239—308 1 Claim



A disposable aspirator is constructed of plastic with two corverging conduits that terminate in a diverging chamber.

3,508,711
FLUID DISPENSING SYSTEM

Thomas G. Switall, Niles, Ill., assignor to Ryco Graphic Mfg., Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 29, 1967, Ser. No. 694,474
Int. Cl. A62c *37/20*
U.S. Cl. 239—562 11 Claims

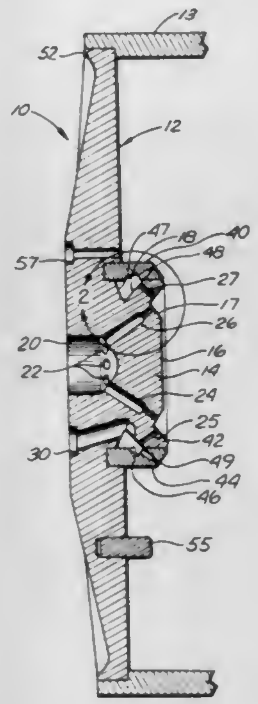


A valve within a manifold chamber is operated by means responsive to the fluid pressure within the chamber. The pressure within the chamber is controlled by adjustable means operable in one position of adjustment for placing a pressurized fluid source in communication with the manifold and operable in another position for interrupting the fluid communication between the manifold and the pressurized fluid source and for releasing the fluid pressure within the manifold. The adjustable means is preferably a flexible member disposed within a vessel and movable between two positions by means controlling the pressure within the vessel. The flexible member controls a valve and is in fluid communication with the manifold. When the vessel is pressurized, the flexible member is compressed, and the valve is opened to pressurize the manifold, and when the pressure is released within the vessel, the flexible member expands to close the valve and release the pressure within the manifold.

3,508,712
FLUID INJECTOR WITH MANIFOLD-FORMING SEALING RING

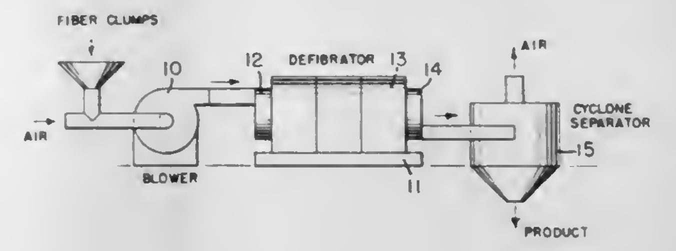
James L. MacMunn, Canoga Park, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Oct. 4, 1966, Ser. No. 584,214
Int. Cl. B05b *7/00*
U.S. Cl. 239—600 4 Claims

A fluid injector, particularly a fuel and oxidizer injector for rocket engines having a circular boss containing fluid exit passageways extending from a main body, the boss having an annular peripheral groove, and a ring shrink fitted on a boss peripheral surface outwardly from the annular groove and bridging the groove forming a fluid manifold therewith in communication with the exit passageways.



3,508,713
MECHANICAL DEFIBRATION

Glen P. Huppke, Beaver Falls, N.Y. 13305
Filed Feb. 13, 1968, Ser. No. 705,037
Int. Cl. B02c *13/10*
U.S. Cl. 241—19 7 Claims

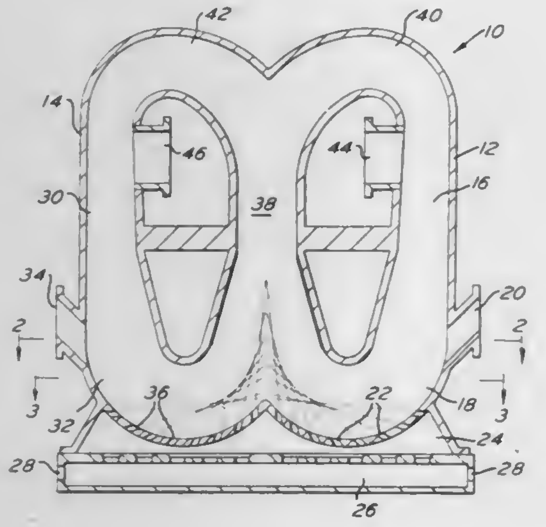


Mechanical defibration in which small clumps of fibers, while suspended in a gaseous annular layer, are impacted and split by sharp points closely spaced on a rotor, are thrown centrifugally against spiral baffles located on the interior of a stationary surrounding shell, and rebound from the baffles into repeated contact with the points, whereby the clumps are reduced to individual fibers without substantial fiber shortening.

3,508,714
MULTIPLE SECTION FLUID ENERGY GRINDING MILL

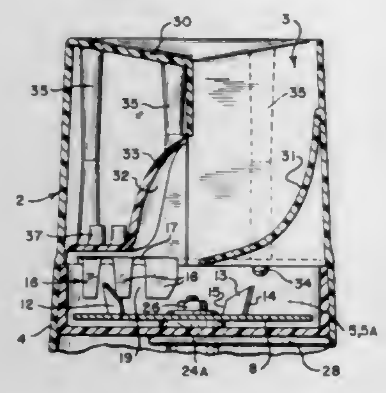
Nicholas N. Stephanoff, Haverford, Pa., assignor to Fluid Energy Processing & Equipment Company, Hatfield, Pa., a corporation of Pennsylvania
Continuation-in-part of application Ser. No. 455,265, May 12, 1965. This application Feb. 7, 1968, Ser. No. 703,647
Int. Cl. B02c *19/06*
U.S. Cl. 241—39 5 Claims

A fluid energy mill utilizing at least two opposed generally annular mill portions. Solid particles are fed to either one or both mill portions and high velocity, high pressure fluid, either a gas or vapor, is propelled into the bottom of each mill portion to entrain the particles and to project the particles against each other. The impact of the streams of particles from the two mill portions are substantially angular and may be effected in an area between the two mill portions for a more direct impact, or the streams may be projected in the same annular path for a less direct impact and a greater degree of blending to form a circulating vortex.



3,508,715
ICE CHIPPER

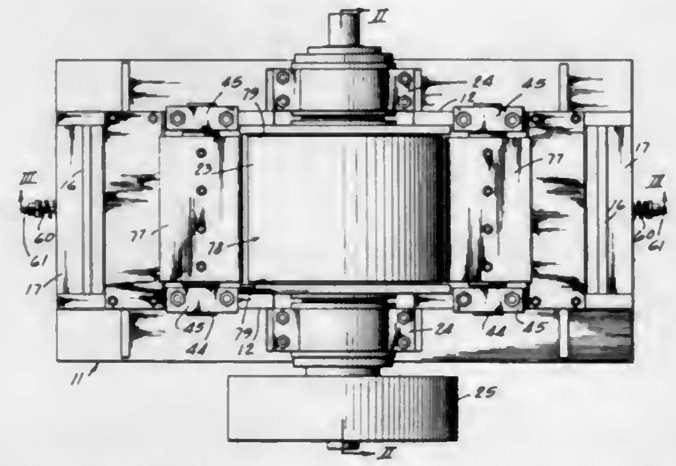
Ernest S. Erickson, Windybush, Wilmington, Del., assignor to Ronson Corporation, Woodbridge, N.J., a corporation of New Jersey
Filed Oct. 17, 1967, Ser. No. 675,928
Int. Cl. B02c *13/24*
U.S. Cl. 241—186 **2 Claims**



This invention is an improved apparatus for breaking ice into particles of a predetermined maximum size. In an ice chipping chamber of this apparatus pointed chipping instruments, mounted on the surface of a rotatable disc, shatter the ice into particles which are then driven against a metering grate, with only those particles smaller than gaps or spaces in the grate passing through such spaces into a discharge passage. The forward edge on each chipper from its point downward toward the disc surface defines a rake angle, such that ice contacted by this edge is held or deflected downward toward the disc and thus restrained from bouncing upward. A spiral entrance passage delivers the ice to the chippers at a place remote from the entrance opening, thus further reducing the possibility of kickback or ricocheting.

3,508,716
ROCK CRUSHER

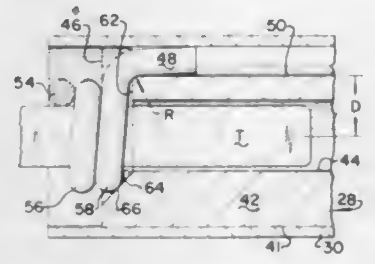
James G. Daly, Chicago, Ill., assignor to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 530,035, Feb. 25, 1966. This application May 1, 1968, Ser. No. 725,850
Int. Cl. B02c *4/12*
U.S. Cl. 241—204 **10 Claims**



Horizontal gyratory type of rock crusher in which the periphery of a crusher roll, freely journalled on an eccentric, which drives the roll with a back and forth gyratory action, cooperates with crusher jaws on opposite sides of the roll to define crushing zones for crushing rock to a selected size. The crusher jaw spaced from the downrunning side of the drive eccentric is concave, having a crushing face defining a crushing zone converging toward the crusher roll as the jaw extends in a downward direction. The crusher jaw spaced from the uprunning side of the drive eccentric is non-concave, having a flat or convex crushing face converging toward and diverging from the crusher roll as it extends vertically past a line of closest proximity to the crusher roll.

3,508,717
COATED CONDUCTOR WRAPPING BIT

David R. McCarthy, Muskegon, and Eugene M. Yedinak, Grand Haven, Mich., assignors to Gardner-Denver Company, Quincy, Ill., a corporation of Delaware
Filed Apr. 29, 1968, Ser. No. 724,860
Int. Cl. H01b *13/00*
U.S. Cl. 242—7.17 **8 Claims**

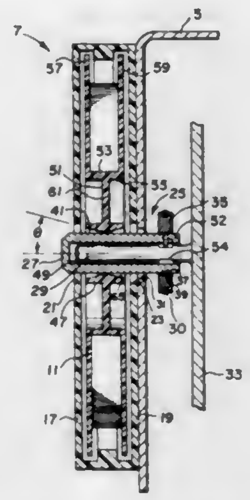


A bit for making wrapped solderless connections of electrical conductor wire to a terminal post having a coating of vapor deposited titanium carbide on the wire guiding and camming surfaces for improved wrapping characteristics and for longer bit life.

3,508,718
SPINDLE FOR CARTRIDGE-LOADING MOTION PICTURE PROJECTORS

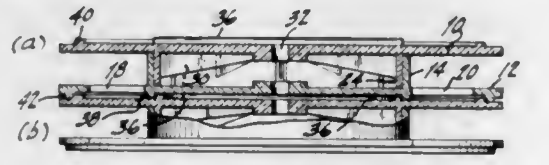
Frank W. Paul, Jr., Macedon, Peter Andrews, Penfield, and George Niedzielski, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 24, 1968, Ser. No. 731,880
Int. Cl. B65h *17/02*
U.S. Cl. 242—68.3 **5 Claims**

A projector spindle for supporting a reel in a cartridge comprises a hollow sleeve received on an elongated shaft fixed to the projector. The sleeve is mounted for axial movement with respect to the shaft as well as rotary movement with respect thereto, such that the sleeve and a reel supported thereon can move axially in response to engagement between the reel and cartridge to center the reel in the cartridge.



3,508,719
MAGNETIC TAPE REEL

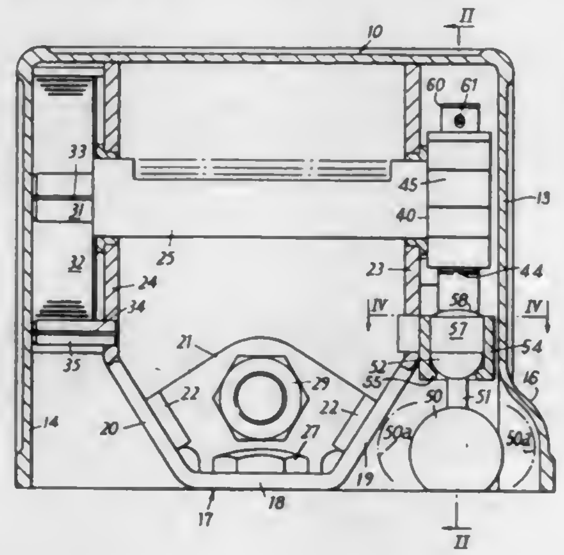
Robert D. Browning, Indianapolis, Ind., assignor to RCA Corporation, a corporation of Delaware
Filed Jan. 2, 1968, Ser. No. 695,256
Int. Cl. B65h *75/18*
U.S. Cl. 242—71.8 **2 Claims**



In a magnetic tape reel, means are provided on the outwardly facing surfaces of the reel flanges for the interlocking of two or more reels stacked one upon the other.

3,508,720
SAFETY BELTS

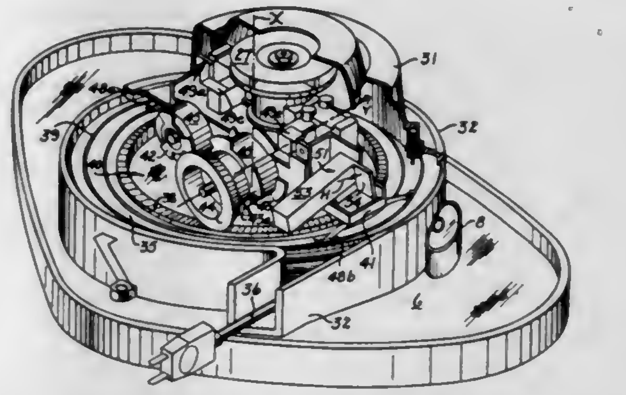
John Kell, Carlisle, Cumberland, England, assignor to Kangol Magnet Limited, Carlisle, Cumberland, England, a British company
Filed Mar. 18, 1968, Ser. No. 713,804
Claims priority, application Great Britain, Mar. 21, 1967, 13,291/67
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.4 **5 Claims**



A pendulum-operated vehicle-sensitive inertia reel device has its pendulum suspended by means of a hemispherical member mounted on the top of the stem of the pendulum with its curved surface confronting the pendulum bob. This hemispherical member rests in the socket. When the pendulum is displaced from the vertical, the resulting upward movement of the edge of the plane upper surface of the pendulum causes a pawl to move into engagement with a ratchet wheel on the reel.

3,508,721
CORDWINDER FOR A FLOOR CARE MACHINE

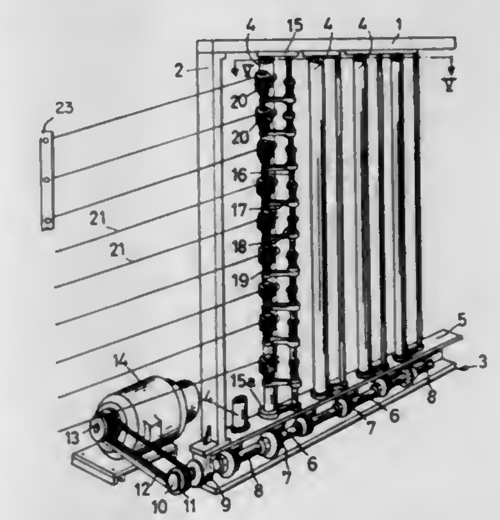
Paul E. Gaudry, Laval des Rapides, Quebec, Edouard Gaudry, Cite St. Laurent, Quebec, Raymond Descarries, Montreal, Quebec, and James Anderson, Baie d'Durfe, Quebec, Canada, assignors, by mesne assignments, to Consolidated Foods Corporation, Chicago, Ill., a corporation of Maryland
Original application June 20, 1967, Ser. No. 647,378. Divided and this application Dec. 19, 1968, Ser. No. 798,552
Int. Cl. B65h *75/48*
U.S. Cl. 242—107.6 **4 Claims**



A cordwinder for a household appliance, such as a floor care machine; a reel having a hub and a pair of spaced flanges extending radially from the hub. A cord is wound and unwound from the hub and confined between the flanges. The reel is received in a cordwinder tray defining an annular well within which the reel is loosely fitted. A ball bearing supports the reel in the tray by virtue of a ball race which is integral with the tray and a second ball race formed integral with the reel.

3,508,722
CREEL FOR A DIRECT WARPING MACHINE

Karl Kohl, 20 Offenbacher Landstr., Hainstadt am Main, Germany
Filed Nov. 17, 1967, Ser. No. 683,989
Claims priority, application Germany, Nov. 19, 1966, M 71,701
Int. Cl. B65h; D02h; D03j
U.S. Cl. 242—131.1 **3 Claims**

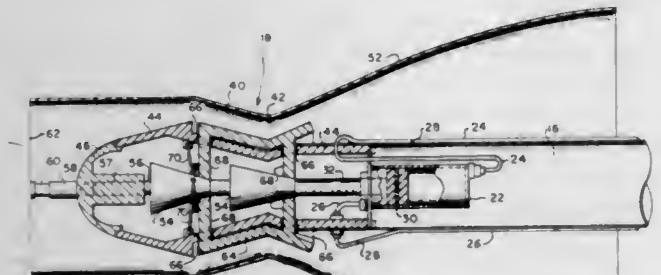


Cylindrical yarn packages for warping sectional warps for warp knitting machines are mounted in an upright frame in approximately coaxial groups, a driven friction roller rotating about an upright axis being associated with each group of packages from which threads are withdrawn tangentially and about the circumference of the roller to the reed of the warping machine. Rubber threads may be warped at high speed from this creel.

3,508,723
METHOD AND APPARATUS FOR SECURING TO A SPACECRAFT

Alfred P. Warren and William R. Lauderdale, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Dec. 26, 1967, Ser. No. 693,419
Int. Cl. B64g *1/20;* **B64d** *39/00*
U.S. Cl. 244—1 **15 Claims**

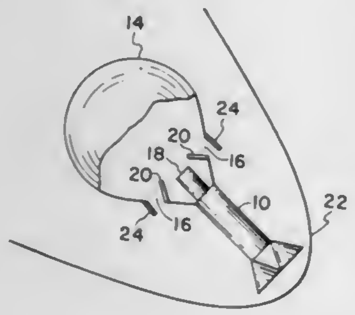


A method and apparatus for connecting two spacecraft together by inserting a probe on one spacecraft into the rocket engine nozzle of the other spacecraft and expanding the device laterally in order to secure directly to the nozzle of the rocket engine. The apparatus utilizes a probe having power driven locking shoes mounted on it. The locking shoes are arranged to be retracted while the probe is being inserted into the nozzle. The shoes may then be expanded laterally by gas or hydraulic pressure to lock to the throat of the nozzle. Two embodiments of the device are disclosed, one designed to fit a particular size and type of rocket engine and the other designed as a universal type securing device which will fit a variety of types and sizes of rocket engines.

3,508,724
HOT AIR BALLOON DECELERATION AND RECOVERY SYSTEM

Stanley H. Scher, Newport News, and James C. Dunavant, Yorktown, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Continuation of abandoned application Ser. No. 665,682, Aug. 31, 1967. This application Nov. 14, 1968, Ser. No. 775,966
Int. Cl. B64b *1/40, 1/62;* **B64g** *1/00*
U.S. Cl. 244—31 **10 Claims**

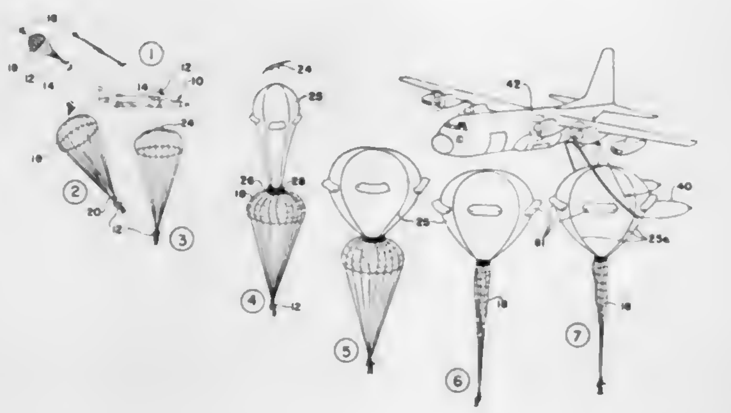


A deceleration and recovery system employing a hot air balloon with ram-type openings through which aerodynamically heated atmosphere enters and inflates the balloon during deceleration, thus causing the balloon to become buoyant.

3,508,725
PILOT AIRBORNE RECOVERY DEVICE

Fred R. Nebiker, Akron, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed May 14, 1968, Ser. No. 728,968
Int. Cl. B64b *1/48;* **B64d** *1/02*
U.S. Cl. 244—32 **9 Claims**

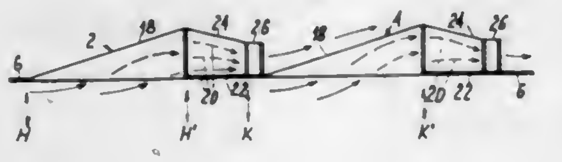


A personnel escape system characterized by personnel-seat ejection, personnel-seat separation, and parachute deployment. A hot air balloon packaged on top of the parachute canopy is released and ram-air inflated until completely unfolded and deployed. The balloon is attached to the parachute by a chord suspension system and has its base opening aligned with an opening in the apex of the parachute. A gas burner is located within and between the openings of the balloon and parachute and provides a means to supply hot air to the balloon and achieve a controlled buoyancy equilibrium. The personnel or load held aloft by the balloon can then be retrieved by a pick-up aircraft.

3,508,726
MEMBERS SUBJECTED TO AN AIRFLOW

Pierre Marcel Lemoigne, 103 Avenue Verdier, Montrouge 92, France

Filed Nov. 13, 1967, Ser. No. 682,228
Claims priority, application France, Nov. 18, 1966, 84,096
Int. Cl. B64c *21/02;* **B64d** *17/14;* **B63h** *9/04*
U.S. Cl. 244—42 **6 Claims**



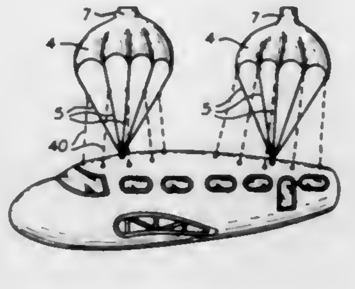
The invention provides an improved member such as an aircraft wing, the sail of a ship or a parachute canopy having a passage of varying cross-section extending through it to improve airflow characteristics.

3,508,727
APPARATUS FOR SAVING OF THE PASSENGERS OF A CRASH LANDING, DITCHING OR DIVING AND IN DANGER TO BE DIVING, RESPECTIVELY, AIRPLANE

Peter Willems, Steinhofholde 20–22, Lucerne, Switzerland

Filed Mar. 1, 1968, Ser. No. 709,560
Claims priority, application Switzerland, Aug. 8, 1967, 11,248/67
Int. Cl. B64d *25/12*
U.S. Cl. 244—140 **8 Claims**

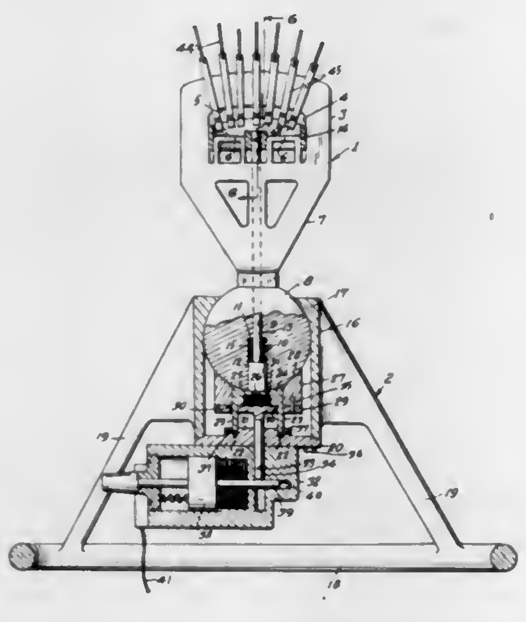
A method of and apparatus for saving the passengers of a crash-landing, ditching or diving and in danger to be diving, respectively, airplane, which comprises the steps of releasing spontaneously a saving cell receiving at least one passenger from parts of the airplane carrying the saving cell, and reducing the speed of the freely falling saving cell by aerodynamic means to a value no more dangerous for a landing and ditching, respectively.



3,508,728
LOAD RELEASE FOR CARGO PARACHUTE

Dwain C. Oliver, Tucson, Ariz., assignor to the United States of America as represented by the Secretary of the Army

Filed May 27, 1968, Ser. No. 732,344
Int. Cl. B64d *17/38*
U.S. Cl. 244—151 **6 Claims**



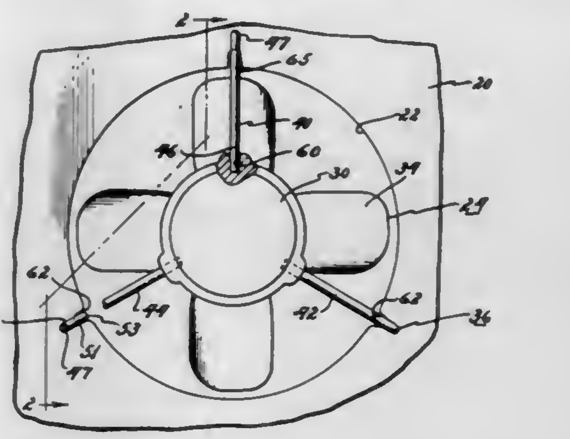
A release for disconnecting a parachute from a cargo upon landing consisting of a parachute attachment assembly and a load suspension assembly which will separate a parachute therefrom when the wind drag on the parachute tilts the parachute attachment assembly thirty degrees with respect to the load suspension assembly.

3,508,729
MOUNT FOR A MOTOR AND FAN UNIT

William E. Wilson, Detroit, Mich., assignor, by mesne assignments, to Kelvinator, Inc., Cleveland, Ohio, a corporation of Delaware

Filed Apr. 22, 1968, Ser. No. 723,109
Int. Cl. F04d *29/60*
U.S. Cl. 248—26 **5 Claims**

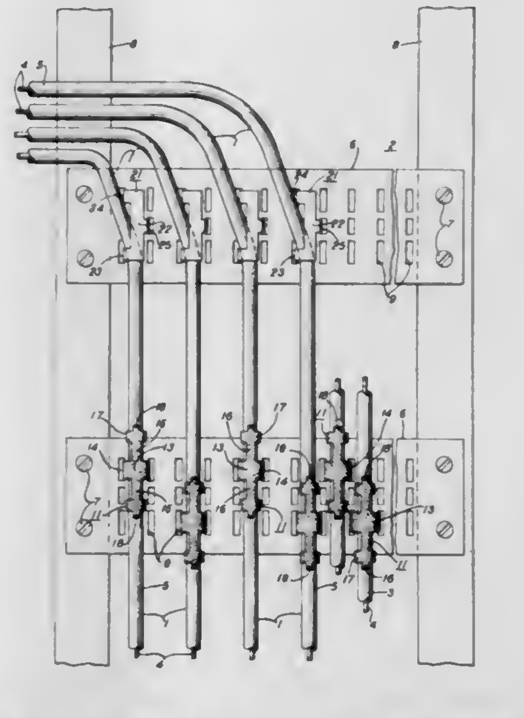
A mounting comprising individual wire members of resilient material spaced about and radially extended from a motor of a motor and fan assembly unit. The wire members are assembled by inserting one end into a respective opening formed in spaced apart relation in the motor body and the opposite end being in yielding engagement against the edge of the wall opening in which the unit is disposed for operation.



3,508,730
CABLE SECURING CLIP

John Knezo, Jr., Cranford, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York

Filed Dec. 20, 1967, Ser. No. 692,229
Int. Cl. F16l *3/04*
U.S. Cl. 248—73 **3 Claims**



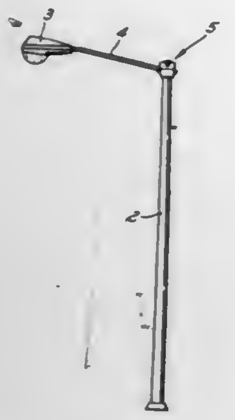
A cable securing clip for holding a deformable cable without distortion thereof and comprising a central portion for straddling a cable without applying pressure thereto and two end portions that are bent for applying a predetermined degree of pressure to a cable. A modification has an arm at each end of one side of the clip and a third arm at the middle of the other side for mounting diagonally across a cable. Another modification of the clip has U-shaped arms at each end and a central resilient section for pressing against a cable.

3,508,731
POLE TOP LUMINAIRE MOUNTING DEVICE

Edward R. Jablonski, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

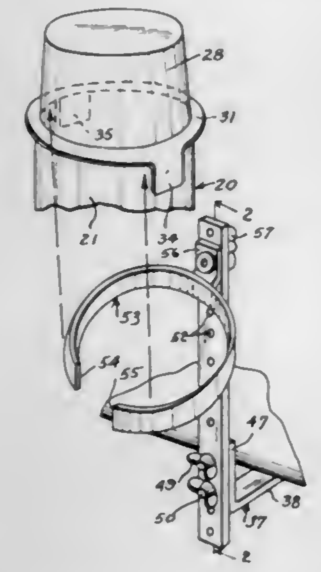
Filed Jan. 4, 1968, Ser. No. 695,764
Int. Cl. F16l *25/00;* **F21v** *21/00*
U.S. Cl. 248—221 **10 Claims**

A pole top luminaire mounting fitting having collet type means for engaging the interior of a round tubular upright pole and clamping means for holding the secured end of a cantilever luminaire support. The fitting further includes a removable cover and means for adapting the device for supporting either one or two luminaires.



3,508,732
CLAMP FOR ATTACHING A RECEPTACLE SUPPORTING BRACKET

Leonard Trachtenberg and Peter Warren Trachtenberg, both of 512 Pleasant Valley Way, West Orange, N.J. 07052
Continuation-in-part of application Ser. No. 593,887, Nov. 14, 1966. This application Aug. 26, 1968, Ser. No. 766,659
Int. Cl. A47f *5/08, 7/28;* **B60n** *3/10*
U.S. Cl. 248—226 **6 Claims**

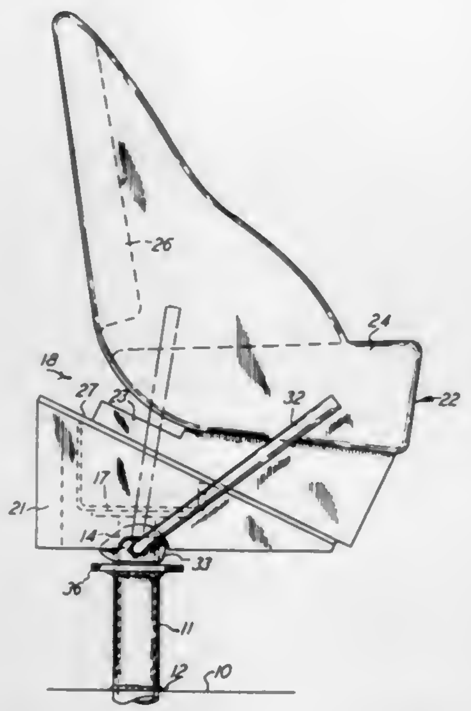


A clamp device adapted to releasably receive an insulated bottle adapted to be releasably attached to the under flange of a vehicle dashboard. A ring is secured between the bottle parts upon the same being disassembled and then parts tightened upon the ring to provide flange means upon the bottle by which the bottle can be detachably supported upon the clamp device. A supporting bracket for the clamp device can be loosened and is tiltable for pouring from the bottle the contents thereof. The bracket may be adapted to receive trays, map holders, and other members, and tightened to hold these members against tilting movement upon the clamp device.

3,508,733
SWIVEL SEAT

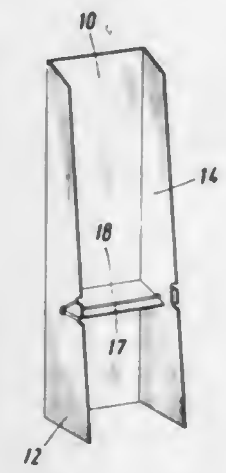
James C. Skeel, Terre Haute, Ind., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed May 20, 1968, Ser. No. 730,386
Int. Cl. F16m *13/00*
U.S. Cl. 248—415 **5 Claims**

A swivel seat including a seat portion and a support member rotatably mountable on a pedestal for facing the seat in what may be either a forward facing position or a rearward facing position. A lock connection is effective between the stationary pedestal and the movable support member, and the connection is releasable by a lever which may be operated while the operator is seated in the seat at the time of releasing the lock connection and also during the time of rotating the seat for reverse facing of the seat. A lift member, in the form of a cam in the embodiment shown, is secured to the lever for the release of the lock connection.



3,508,734
FOLDABLE SUPPORT STRUCTURE

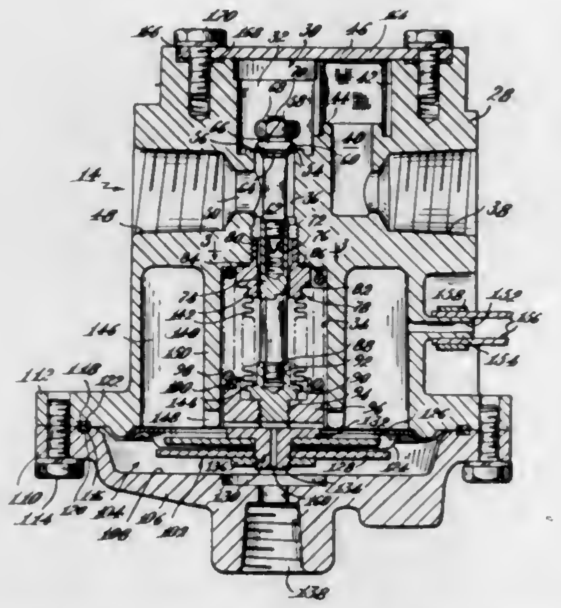
Hans C. Thomas An der Eiche 1, Gelnhausen, Germany
Filed May 23, 1968, Ser. No. 731,437
Claims priority, application Germany, Aug. 19, 1967, Reg. No. (utility model) 1,971,874
Int. Cl. A47b *97/00*
U.S. Cl. 248—459 **10 Claims**



A flat sheet of material is formed with parallel longitudinal score lines to provide a front panel and integral wing sections; the wing sections are notched at their corners, and when folded to be essentially parallel, and perpendicular to the front section, are maintained in position by a rubber band hooked into the notches, and resiliently pulling the wings against a spacer or spreader member. From a flat, foldable sheet, the structure can be erected by putting the rubber bands in the notches and letting the wings snap together against the spacer member. The spacer member may be a flap cut from the front panel, connected thereto by a score line and extending between the wing sections.

3,508,735
VALVE

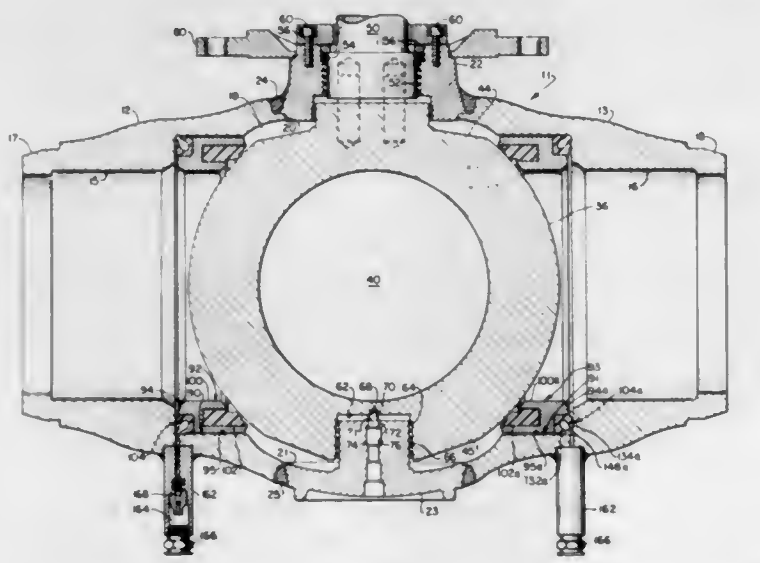
Robert D. Reis, Hingham, Mass., assignor to United Electric Controls Company, Watertown, Mass., a corporation of Massachusetts
Filed Dec. 20, 1967, Ser. No. 692,215
Int. Cl. F16k *31/165*
U.S. Cl. 251—61.4 **9 Claims**



A refrigeration system in which liquid nitrogen is injected into a refrigeration chamber through a pressure-operable valve and the pressure-operable valve contains a fluid chamber, a valve chamber and a pressure chamber, the latter containing a diaphragm supported part operable to effect movement of the valve in a manner to control flow of the liquid nitrogen through the fluid chamber to the refrigeration chamber, and the valve being provided with means for maintaining the valve chamber and the component parts therein subjected to movement at a temperature corresponding substantially to the liquid nitrogen passing through the fluid chamber to prevent frosting.

3,508,736
SEAT RING ASSEMBLIES FOR VALVES

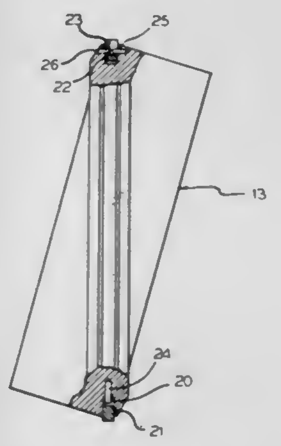
Allen F. Rhodes and Eldert B. Pool, Pittsburgh, and Mathew L. Freeman, Mars, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1967, Ser. No. 641,007
Int. Cl. F16k *25/00, 5/06, 15/04*
U.S. Cl. 251—172 **36 Claims**



A ball type valve plug seat ring construction having an annular elastomeric member bonded to a rigid seat ring and formed with elastically deformable, dual seat-to-valve body sealing lips. The lips are so oriented as to respectively resiliently bias the valve plug seat ring radially with respect to fluid flow through the valve and axially toward the plug to establish a seat-to-plug seal.

3,508,737
SEALING RING RETAINMENT AND ADAPTATION TO A BUTTERFLY VALVE

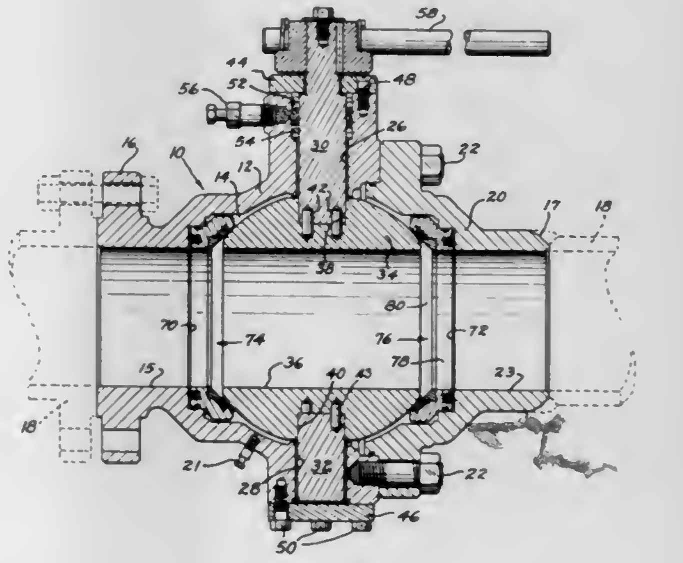
John Sikorcin, Elmhurst, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 19, 1968, Ser. No. 699,071
Int. Cl. F16k *1/228;* **F16j** *9/24*
U.S. Cl. 251—306 **3 Claims**



Butterfly valve including means for retaining a commercially available restrained gap two piece sealing ring set in a butterfly disc groove. First and second circumferentially spaced pins extend from the disc and into open areas of the rings to retain the rings in fixed relation to the disc.

3,508,738
VALVE

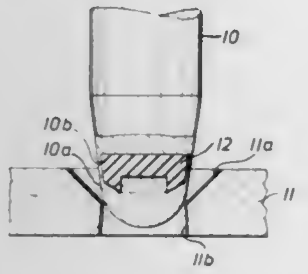
Eulas R. Atkinson, Sugar Land, and Joseph T. Stewart, Jr., Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed May 2, 1966, Ser. No. 546,748
Int. Cl. F16k *5/06, 5/20*
U.S. Cl. 251—315 **8 Claims**



A spherical plug valve having seat assemblies comprised of a seat ring and a retainer ring which interfit to define an annular groove having a generally triangular cross sectional shape and having a restricted annular opening. An annular resilient sealing member having a generally triangular cross sectional shape is disposed within the annular groove with an annular portion thereof extending from the restricted opening for sealing engagement with the working surface of a spherical rotary plug member. The sealing member is so related to the seat ring and retainer ring that specific annular areas of high compression are developed at the inner peripheral portion of the sealing member to establish fluidtight seals between the sealing member and the retainer ring and between the sealing member and the innermost portion of a base surface defined on the seat ring thereby preventing fluid pressure from getting behind the sealing member.

3,508,739
METAL VALVE PINTLE WITH ENCAPSULATED ELASTOMERIC BODY

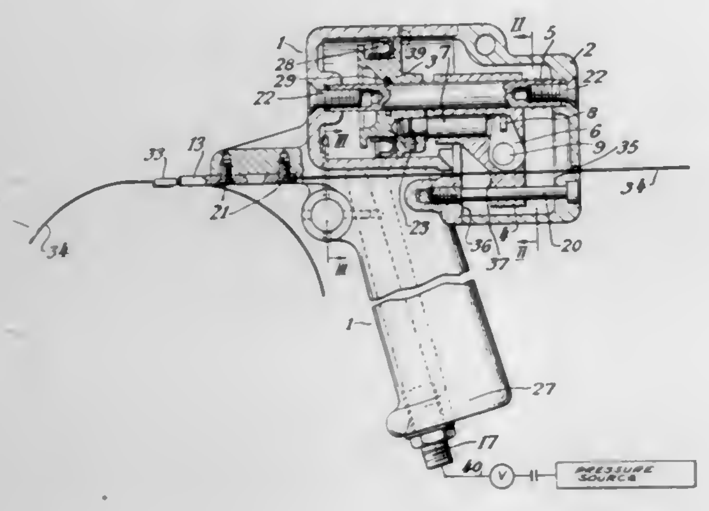
Robert K. Allgeier, Jr., Houston, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 17, 1968, Ser. No. 768,336
Int. Cl. F16k *25/00*
U.S. Cl. 251—358 **15 Claims**



An elastomeric body having a predetermined configuration is completely encapsulated within one contoured end of a metal shaft which moves axially to meet and close an apertured, correspondingly contoured metal seat. The shaft and elastomeric body are deformed in relation to the mating contours of the seat and shaft which in turn is related to the length of axial travel of the shaft into the seat to thereby provide a controllable, variable sealing force. The elastomeric body also acts to restore the original shaft contour when the shaft is retracted from the seat.

3,508,740
BAND TENSIONING TOOL

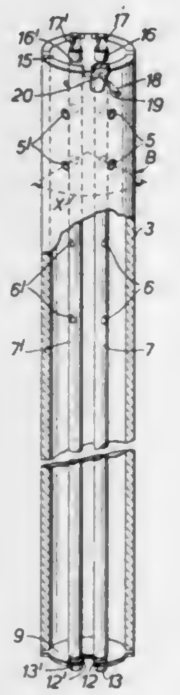
Basil Stoddard Palmer, 22 East St., Titchfield, Fareham, Hampshire, England
Filed Sept. 14, 1967, Ser. No. 667,724
Claims priority, application Great Britain, Oct. 27, 1966, 48,186/66
Int. Cl. B21f *45/18;* **B66f** *19/00*
U.S. Cl. 254—51 **7 Claims**



This disclosure relates to a device for tensioning an elongated band which includes a housing, a piston movably disposable in the housing, means for subjecting the piston to fluid power, a carrier displaceable by the piston, a gripping member for the band, the gripping member being carried by the carrier, and means connecting the piston to the gripping member such that the gripping member is actuated by the piston prior to the movement of the carrier by the piston to tighten the band.

3,508,741
FENCE POST AND METHOD OF TIGHTENING A FENCE

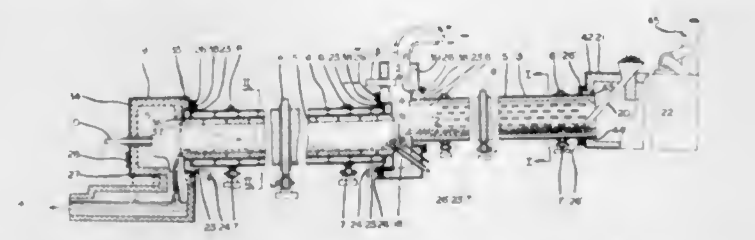
Jan Steenhoudt, Kortrijk, Belgium, assignor to Trefileries Leon Bekaert, PVBA, Zwevegem, Belgium
Filed Sept. 4, 1968, Ser. No. 757,379
Claims priority, application France, Sept. 7, 1967, 120,231
Int. Cl. E40h *17/02*
U.S. Cl. 256—40 **4 Claims**



A tubular fence post with at least one line of holes for inserting wires attached to a fence. At least one rotatable rod in the post, which has a line of holes corresponding to one line of holes in the tubular post for inserting the wires therethrough. Means for rotating the rod thereby winding the wires thereon and thus tightening the fence; means for securing the rod in the tightened position. The method of erecting and tightening a fence.

3,508,742
METHOD AND APPARATUS FOR MELTING GLASSY MATERIALS BY A ROTARY KILN

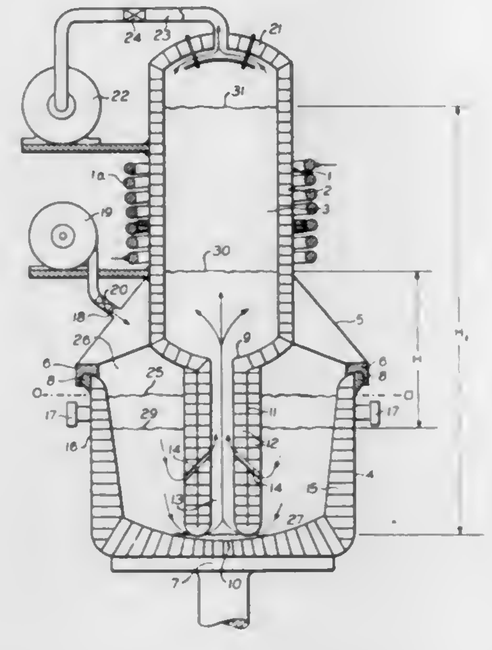
Susumu Minegishi, 729 Higashiterao-cho, Tsurumi-ku, Yokohama-shi, Kanagawa, Japan
Filed Apr. 9, 1968, Ser. No. 719,984
Claims priority, application Japan, Aug. 14, 1967, 42/51,778
Int. Cl. F27b *7/02*
U.S. Cl. 263—32 **9 Claims**



A method and an apparatus for melting glassy materials by using a ring-grate shaped rotary kiln lined with corrosion resistant refractories. Said rotary kiln is heated to high temperature sufficient to keep a fluidity of the glassy raw materials which are preheated so as not to make them a sticky state through a preheating kiln, and melted at the inlet end of said rotary kiln.

3,508,743
APPARATUS FOR THE PURIFICATION OF MOLTEN METAL

Frank F. Erdélyi, Raleigh, N.C., assignor to Walter Sieckman, Allegheny County, Pa.
Filed Mar. 29, 1966, Ser. No. 538,296
Claims priority, application Switzerland, Apr. 2, 1965, 4,617/65
Int. Cl. C21c *7/06, 7/10*
U.S. Cl. 266—34 **6 Claims**

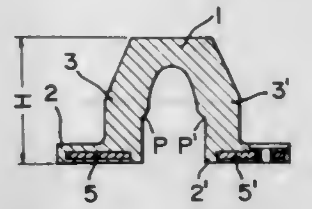


Apparatus for treating molten metal comprising a vacuum chamber and a container for a quantity of molten metal to be treated including means for moving the chamber and container toward and away from each other and a molten metal conducting pipe connected in a sealed relation to the lower end of the vacuum vessel and to the container at a point below the level of molten metal. Means are provided for subjecting the vacuum chamber to subatmospheric pressure sufficient to draw a quantity of molten metal into the vacuum chamber and second means for simultaneously applying a pressure to the molten metal in the container which is greater than atmospheric pressure, so that the amount of molten metal drawn into the vacuum chamber is greater than that quantity therein resulting from the subatmospheric pressure alone. As an alternative to providing a super-atmospheric pressure on the container, the container may be disposed at an elevation greater than the lower end of the vacuum chamber to increase the quantity of molten metal in the chamber above that which would result from the subatmospheric pressure alone.

3,508,744
FENDER

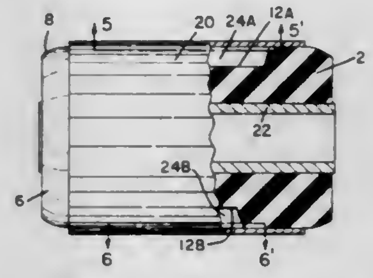
Ryosuke Kikukawa, Fumiya Hamatani, Masayoshi Kuwabara, and Akihisa Mori, Totsuka-ku, Yokohama, Japan, assignors to Bridgestone Tire Company Limited, Tokyo, Japan
Filed Sept. 10, 1968, Ser. No. 758,835
Claims priority, application Japan, Nov. 2, 1967, 42/92,387
Int. Cl. F16f *1/36*
U.S. Cl. 267—1 **4 Claims**

An arch-shape fender having a lateral cross section comprising an elongated shock-receiving portions, located at the top of the cross section, a pair of mounting portion located at the bottom of the cross section, and a pair of shock-absorbing portions extending between said shock-receiving portion and said mounting portions. Each shock-absorbing portion has a buckling point located away from said mounting portion by 0.4H to 0.8H, H being the distance between the pair of mounting portions.



3,508,745
ELASTOMERIC CLOSED END TRIPLE-RATE BUSHING

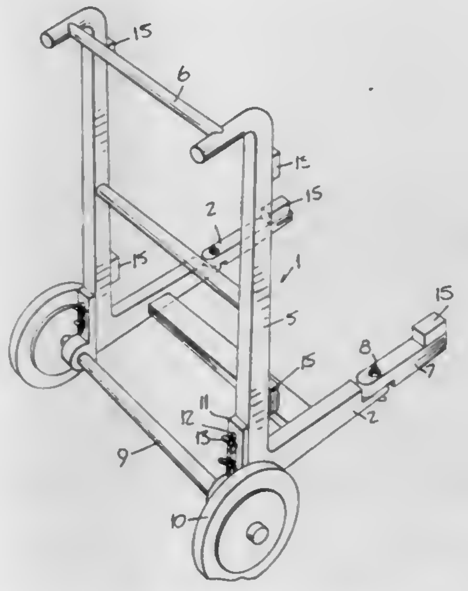
Donald L. Deane, Logansport, Ind., assignor to General Tire & Rubber Company, a corporation of Ohio
Filed July 13, 1967, Ser. No. 653,213
Int. Cl. B60g *11/42;* **F16f** *1/16, 1/52*
U.S. Cl. 267—57.1 **3 Claims**



A resilient bushing of the type used in the front eye of the leaf spring of an automobile is composed of a pair of rigid concentric sleeves with an elastomeric insert radially compressed therebetween. The surface of the insert in contact with the outer sleeve is provided with a pair of radially opposed recesses, the axial length of which differ from one another, whereby the spring rate of the bushing in the direction of one of the recesses is different than that in the direction of the other, and both rates are lower than the spring rate in the axial plane normal thereto.

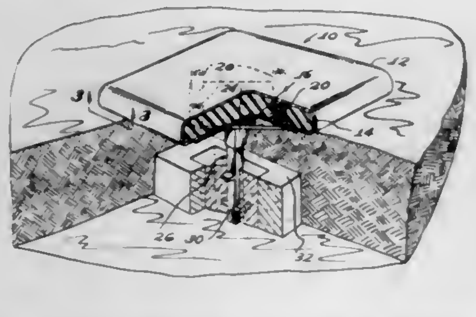
3,508,746
TELEVISION REPAIR DEVICE

James B. Lindsay, 18 Bodwell Terrace, Millburn, N.J. 07041
Filed Nov. 30, 1967, Ser. No. 687,023
Int. Cl. B62b *1/26;* **B23q** *3/10*
U.S. Cl. 269—17 **1 Claim**



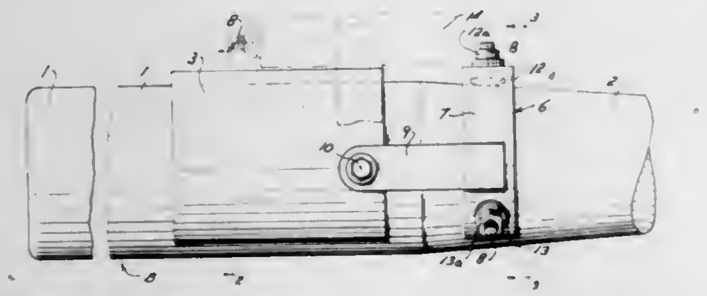
A television repair device or support for facilitating the in-place repair of typical television sets or similar console cabinets including electronic or electro-mechanical elements. The device has spaced support arms for engaging the cabinet bottom and handle means for turning or rotating the cabinet for exposing the heat opening in the set bottom and therefore the underside of the interior television circuit chassis or the other internal elements.

3,508,747
BASEBALL BASE ANCHORING DEVICE
Louis A. Orsatti, 1749 N. Eastern Ave.,
Los Angeles, Calif. 90032
Filed Nov. 6, 1967, Ser. No. 680,764
Int. Cl. A63b *71/00*
U.S. Cl. 273—25 **9 Claims**



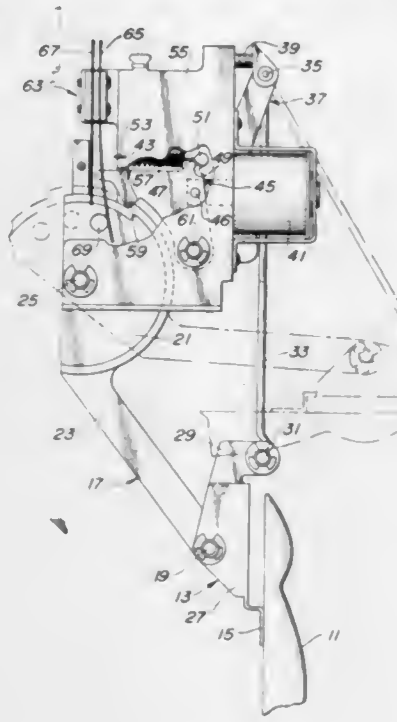
A baseball base assembly having a baseball base constructed of a unitary covering sheath and filled with spongeous composition material. An anchoring bracket is mounted on the underside of the base by means of bolts and cooperating wood plugs set in the spongeous material. A mounting sleeve extends outwardly from the anchoring bracket and is adapted to telescopingly engage and key with an anchoring post embedded in the ground.

3,508,748
DETACHABLE WEIGHT FOR BASEBALL BATS
Robert S. Strimel, Buckley Road, Penllyn, Pa. 19458
Filed Jan. 18, 1968, Ser. No. 698,923
Int. Cl. A63b *69/00*
U.S. Cl. 273—26 **2 Claims**



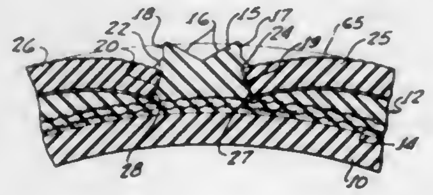
A weight means readily mountable on (and removeable from) a baseball bat to increase the effective weight thereof, the weight being held on the bat by clamping structure wherein the head of a bolt engages the tapered section of the bat. The clamping structure may be in the form of a C-shaped clamp pivotally connected to the weight means and the bolt may be positioned either in the weight means or the clamp.

3,508,749
SUPPORTING ARRANGEMENT FOR USE IN A GAME AMUSEMENT DEVICE SUCH AS A SIMULATED BOWLING ALLEY
Francis T. Murphy, Chicago, Ill., assignor to Williams Electronics, Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,274
Int. Cl. A63d *5/00*
U.S. Cl. 273—41 **7 Claims**



An arrangement is disclosed for causing a simulated bowling pin in a simulated bowling game to be raised to a horizontal position in response to either closure of a switch by a simulated bowling ball or by the simulated bowling ball striking the simulated bowling pin. Closure of the switch results in energization of a solenoid to release a spring-biased member to thereby raise the simulated bowling pin. To achieve raising of the simulated bowling pin when the pin is struck by the simulated bowling ball, a mechanical linkage mechanically actuates the armature of the solenoid to release the spring-biased member.

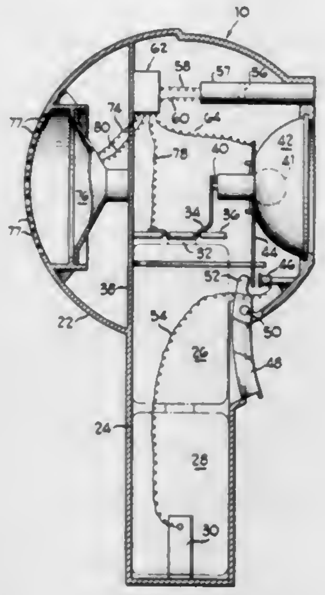
3,508,750
GAME BALL
Robert Bruce Henderson, Newport Beach, Calif., assignor to W. J. Voit Rubber Corp., a corporation of California
Filed Sept. 11, 1964, Ser. No. 395,678
Int. Cl. A63b *41/00*
U.S. Cl. 273—65 **1 Claim**



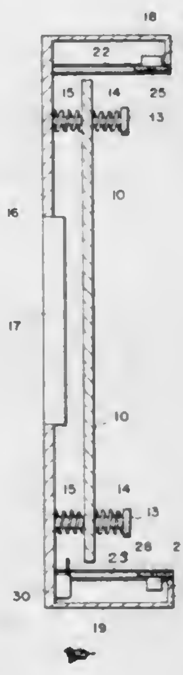
A game ball wherein cover panels are cemented to a carcass including seams and convex depressions extending along the sides of the seams. The unskived edges of the cover panels abut the sides of the seams and are inwardly curved along the depressions. The seams extend upward to a circle which encompasses the panels, except for the inwardly curved portions adjacent the seams. Laterally projecting flanges are integrally formed on the sides of the seams and overlaps the cover panels.

3,508,751
ELECTRONIC SEARCHING GAME
Burton C. Meyer, Norman Kramer, and Marvin I. Glass, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Feb. 19, 1968, Ser. No. 706,374
Int. Cl. A63f *9/02*
U.S. Cl. 273—101.1 **3 Claims**

A hand-held unit projects a beam of light and has a photocell, oscillator and speaker arranged in a circuit, so as to emit a succession of "beeps" when the light of the beam is reflected from a light reflective object and received by the photocell. The frequency of the sounds varies with the reflection characteristics of the object. Each of the players wears an apron having one or more surface portions which are highly reflective, and the player who is "it" is blindfolded and required to search the darkened room by means of the light and to identify one of the other players by the pattern of "beeps" that he hears in the speaker.

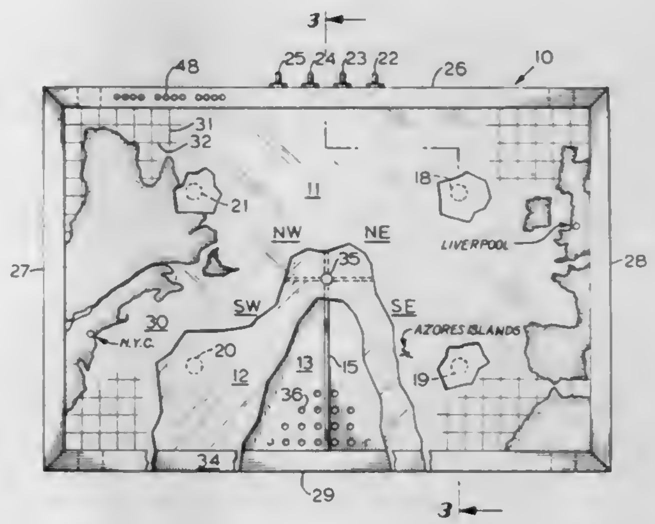


3,508,752
MAGNETIC DART BOARD
George E. Lemon, 286 Lora Ave.,
Youngstown, Ohio 44504
Filed Aug. 21, 1968, Ser. No. 754,286
Int. Cl. F41j *3/00*
U.S. Cl. 273—102 **6 Claims**



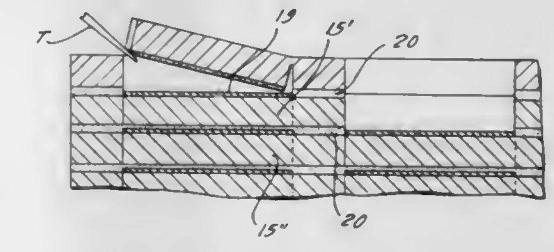
Disclosed is a dart board for use with darts having magnetic tips. The metal target is mounted for limited movement along the path of travel of the darts. An electromagnet is provided a short distance behind the target and, when the dart approaches the target, a detector mechanism, a light beam and photocell arrangement in the preferred embodiment, is actuated and the detector in turn energizes the electromagnet, thus causing the dart board to be pulled rearwardly. When the target has reached the rear limit of its path of travel, it trips a limit switch de-energizing the electromagnet and permitting the target to return to its normal position.

3,508,753
NAVAL GAME APPARATUS WITH MULTIPLE ILLUMINATED PLAYING SURFACES
Steven A. Mackey, Tacoma, Wash., assignor of ten percent to Floyd W. Ayers, ten percent to Oran A. Conklin, ten percent to Andrew F. Mackey, and five percent to Lucile D. Solberg, all of Tacoma, Wash., five percent to Elvin I. Hoel, Kent, Wash., five percent to Kenneth R. G. Taylor, Bellevue, Wash., and one percent to Theron H. Nichols, Seattle, Wash.
Filed Aug. 28, 1967, Ser. No. 663,609
Int. Cl. A63f *3/02*
U.S. Cl. 273—131 **6 Claims**



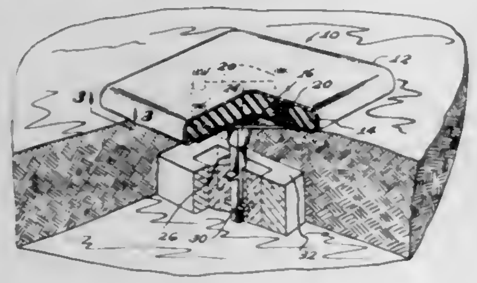
A naval game apparatus with multiple illuminated playing surfaces comprising a rectangular box having two translucent playing surfaces, one spaced immediately above the other, with playing pieces, including replicas of ships and depth charges on the top surface and replicas of submarines and torpedos on the lower surface. Permanent walls under the lower surface divide the game board into quadrants, each quadrant having a separate light source and switch whereby any one quadrant may be lighted at the desired time by a player. The translucence of the two surfaces maintains the lower surface playing pieces invisible until those in a particular quadrant, and only that quadrant, are rendered visible by the turning on of the light for the desired quadrant. With the lower playing pieces comprising a ferromagnetic material, a magnetic guide on the upper surface is utilized to move the playing pieces about on the lower level.

3,508,754
STACKED SHEET ARTICLE WITH RELEASE COATED REMOVABLE AREAS
Philip Shorin, Kings Point, N.Y., assignor to Chromographic Press, Inc., Hamden, Conn., a corporation of Connecticut
Filed Sept. 28, 1967, Ser. No. 671,331
Int. Cl. A63f *9/18*
U.S. Cl. 273—139 **4 Claims**



A game board or the like and method of making the same comprising stacked discrete sheets, portions of which sheets have been coated with release coat areas, the release coat areas of the sheets being in registry with the elements. The device has spaced support arms for engaging the cabinet bottom and handle means for turning or rotating the cabinet for exposing the heat opening in the set bottom and therefore the underside of the interior television circuit chassis or the other internal elements.

3,508,747
BASEBALL BASE ANCHORING DEVICE
Louis A. Orsatti, 1749 N. Eastern Ave., Los Angeles, Calif. 90032
Filed Nov. 6, 1967, Ser. No. 680,764
Int. Cl. A63b *71/00*
U.S. Cl. 273—25 **9 Claims**



A baseball base assembly having a baseball base constructed of a unitary covering sheath and filled with spongeous composition material. An anchoring bracket is mounted on the underside of the base by means of bolts and cooperating wood plugs set in the spongeous material. A mounting sleeve extends outwardly from the anchoring bracket and is adapted to telescopingly engage and key with an anchoring post embedded in the ground.

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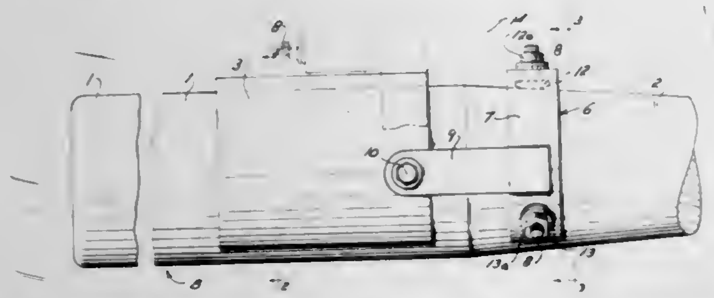
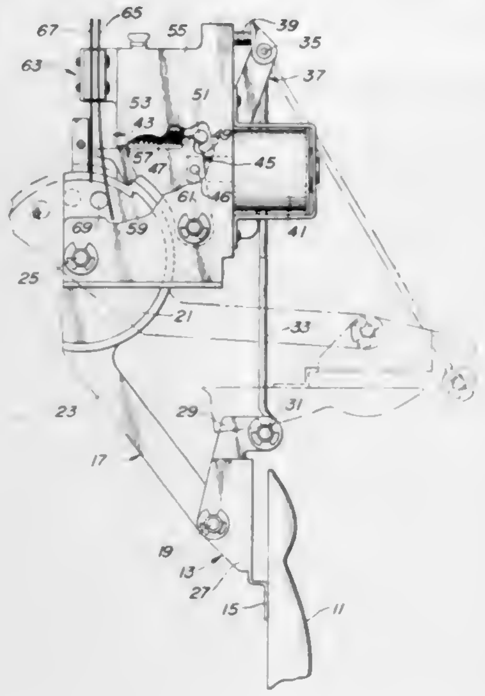
Robert S. Strimel, Buckley Road, Penllyn, Pa. 19458
Filed Jan. 18, 1968, Ser. No. 698,923
Int. Cl. A63b *69/00*
U.S. Cl. 273—26 **2 Claims**



A weight means readily mountable on (and removeable from) a baseball bat to increase the effective weight thereof, the weight being held on the bat by clamping structure wherein the head of a bolt engages the tapered section of the bat. The clamping structure may be in the form of a C-shaped clamp pivotally connected to the weight means and the bolt may be positioned either in the weight means or the clamp.

3,508,749
SUPPORTING ARRANGEMENT FOR USE IN A GAME AMUSEMENT DEVICE SUCH AS A SIMULATED BOWLING ALLEY
Francis T. Murphy, Chicago, Ill., assignor to Williams Electronics, Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,274
Int. Cl. A63d *5/00*
U.S. Cl. 273—41 **7 Claims**

An arrangement is disclosed for causing a simulated bowling pin in a simulated bowling game to be raised to a horizontal position in response to either closure of a switch by a simulated bowling ball or by the simulated bowling ball striking the simulated bowling pin. Closure of the switch results in energization of a solenoid to release a spring-biased member to thereby raise the simulated bowling pin. To achieve raising of the simulated bowling pin when the pin is struck by the simulated bowling ball, a mechanical linkage mechanically actuates the armature of the solenoid to release the spring-biased member.



3,508,750
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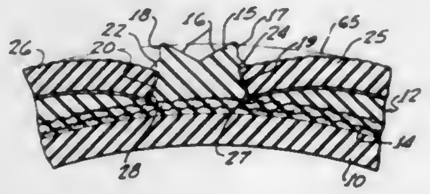
Robert Bruce Henderson, Newport Beach, Calif., assignor to W. J. Voit Rubber Corp., a corporation of California
Filed Sept. 11, 1964, Ser. No. 395,678
Int. Cl. A63b *41/00*
U.S. Cl. 273—65 **1 Claim**



A game ball wherein cover panels are cemented to a carcass including seams and convex depressions extending along the sides of the seams. The unskived edges of the cover panels abut the sides of the seams and are inwardly curved along the depressions. The seams extend upward to a circle which encompasses the panels, except for the inwardly curved portions adjacent the seams. Laterally projecting flanges are integrally formed on the sides of the seams and overlaps the cover panels.

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Int. Cl. A63f *9/02*
U.S. Cl. 273—101.1 **3 Claims**

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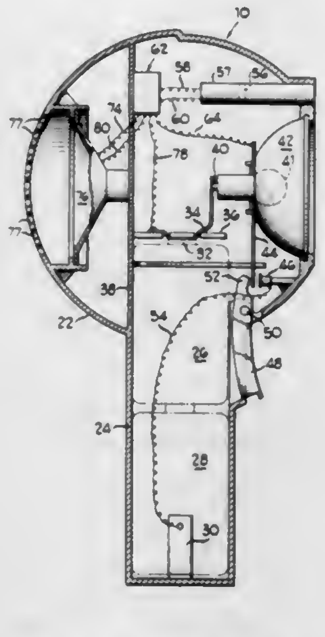
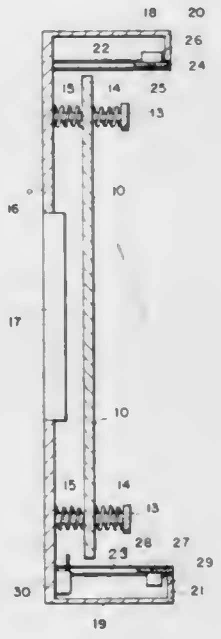
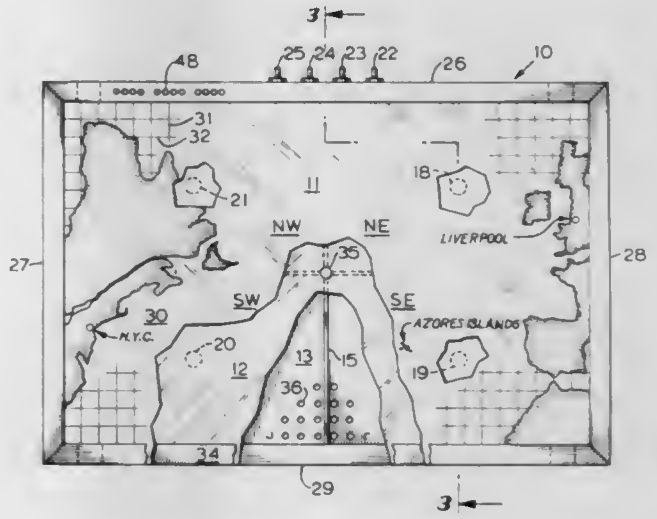


3,508,752
MAGNETIC DART BOARD
George E. Lemon, 286 Lora Ave., Youngstown, Ohio 44504
Filed Aug. 21, 1968, Ser. No. 754,286
Int. Cl. F41j *3/00*
U.S. Cl. 273—102 **6 Claims**



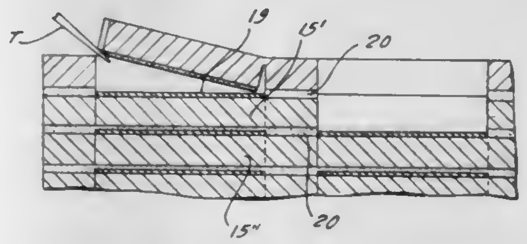
Disclosed is a dart board for use with darts having magnetic tips. The metal target is mounted for limited movement along the path of travel of the darts. An electromagnet is provided a short distance behind the target and, when the dart approaches the target, a detector mechanism, a light beam and photocell arrangement in the preferred embodiment, is actuated and the detector in turn energizes the electromagnet, thus causing the dart board to be pulled rearwardly. When the target has reached the rear limit of its path of travel, it trips a limit switch de-energizing the electromagnet and permitting the target to return to its normal position.

3,508,753
NAVAL GAME APPARATUS WITH MULTIPLE ILLUMINATED PLAYING SURFACES
Steven A. Mackey, Tacoma, Wash., assignor of ten percent to Floyd W. Ayers, ten percent to Oran A. Conklin, ten percent to Andrew F. Mackey, and five percent to Lucile D. Solberg, all of Tacoma, Wash., five percent to Elvin I. Hoel, Kent, Wash., five percent to Kenneth R. G. Taylor, Bellevue, Wash., and one percent to Theron H. Nichols, Seattle, Wash.
Filed Aug. 28, 1967, Ser. No. 663,609
Int. Cl. A63f *3/02*
U.S. Cl. 273—131 **6 Claims**



A naval game apparatus with multiple illuminated playing surfaces comprising a rectangular box having two translucent playing surfaces, one spaced immediately above the other, with playing pieces, including replicas of ships and depth charges on the top surface and replicas of submarines and torpedos on the lower surface. Permanent walls under the lower surface divide the game board into quadrants, each quadrant having a separate light source and switch whereby any one quadrant may be lighted at the desired time by a player. The translucence of the two surfaces maintains the lower surface playing pieces invisible until those in a particular quadrant, and only that quadrant, are rendered visible by the turning on of the light for the desired quadrant. With the lower playing pieces comprising a ferromagnetic material, a magnetic guide on the upper surface is utilized to move the playing pieces about on the lower level.

3,508,754
STACKED SHEET ARTICLE WITH RELEASE COATED REMOVABLE AREAS
Philip Shorin, Kings Point, N.Y., assignor to Chromographic Press, Inc., Hamden, Conn., a corporation of Connecticut
Filed Sept. 28, 1967, Ser. No. 671,331
Int. Cl. A63f *9/18*
U.S. Cl. 273—139 **4 Claims**

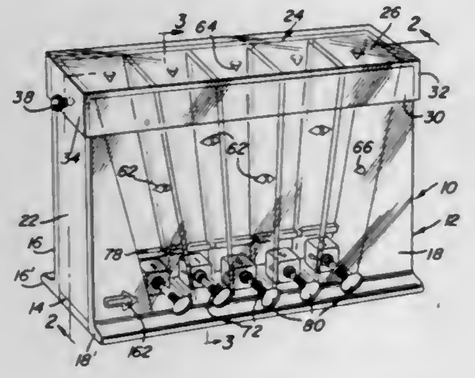


A game board or the like and method of making the same comprising stacked discrete sheets, portions of which sheets have been coated with release coat areas, the release coat areas of the sheets being in registry with the release coat areas of the next adjacent sheets, continuous adhesive layers or films being interposed between adjacent sheets, the release coated portions of the stacked sheets being substantially completely separated from the main body of the sheets to permit removal.

3,508,755

DICE SHAKER

Walter H. Johnson, Denver, Colo.
(4711 Lamar St., Wheat Ridge, Colo. 80033)
Filed Feb. 14, 1967, Ser. No. 615,940
Int. Cl. A63f *9/04*
U.S. Cl. 273—145 9 Claims

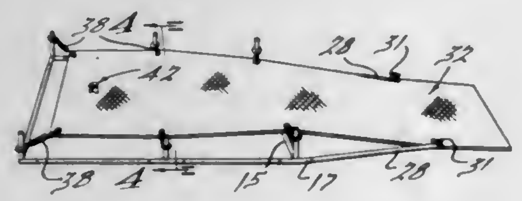


An elongated housing including a bottom, upstanding front and rear walls and upstanding partitions spaced along said housing and extending between said front and rear walls dividing the interior of said housing into individual compartments between the front and rear walls thereof, each of said compartments having a die disposed therein and including die pushing and clamping means adapted to engage the corresponding die when disposed at rest in the bottom portion of the compartment and to push the die toward one of the upstanding walls of the housing which includes a transparent portion through which the face of the dice opposing the transparent portion may be viewed from the exterior of the housing.

3,508,756

VARIABLE SURFACE PUTTING DEVICE

William A. Bedford, Jr., Sarasota, Fla., assignor, by mesne assignments, to Microdot Inc., New York, N.Y., a corporation of California
Filed Jan. 19, 1968, Ser. No. 699,157
Int. Cl. A63b *67/02, 57/00*
U.S. Cl. 273—176 7 Claims



A C-shaped golf ball putting cup is supported on a sheet of tensioned cloth which forms a putting surface. The edges of the cloth are vertically adjustable relative to a supporting frame so that flat or undulated cloth putting surfaces may be formed.

3,508,757

GOLF SWING PRACTICE DEVICE

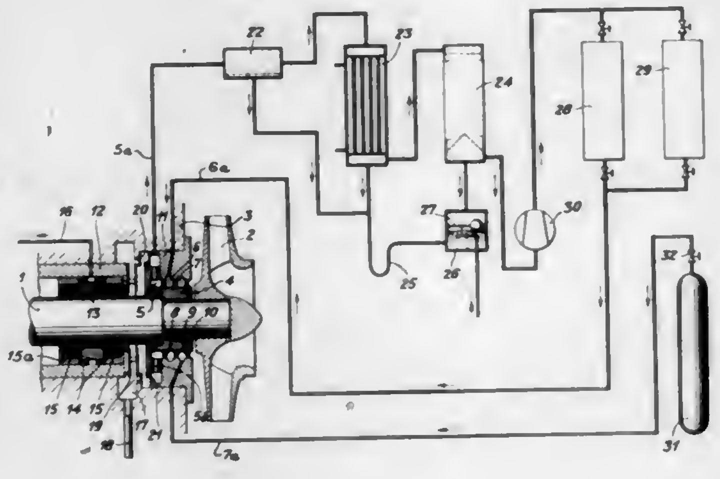
Cecil C. Rhodes, P.O. Box 3315, St. Andrews Branch, Charleston, S.C. 29407
Filed Dec. 2, 1966, Ser. No. 598,753
Int. Cl. A63b *69/36*
U.S. Cl. 273—190 1 Claim

A compact, portable training device for use when practicing a golf swing comprising a rigid, elongated member having outwardly opening cup-like portions at each end with rubber edgings, one of the edgings serving to cushion the head of the user and the other edging frictionally engaging a vertical surface against which the device is placed when being used.

3,508,758

FLUID-TIGHT SEAL FOR ROTATING SHAFT

Rene Strub, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed Oct. 2, 1967, Ser. No. 672,246
Claims priority, application Switzerland, Oct. 12, 1966, 14,807
Int. Cl. F16j *15/16, 15/40*
U.S. Cl. 277—15 10 Claims

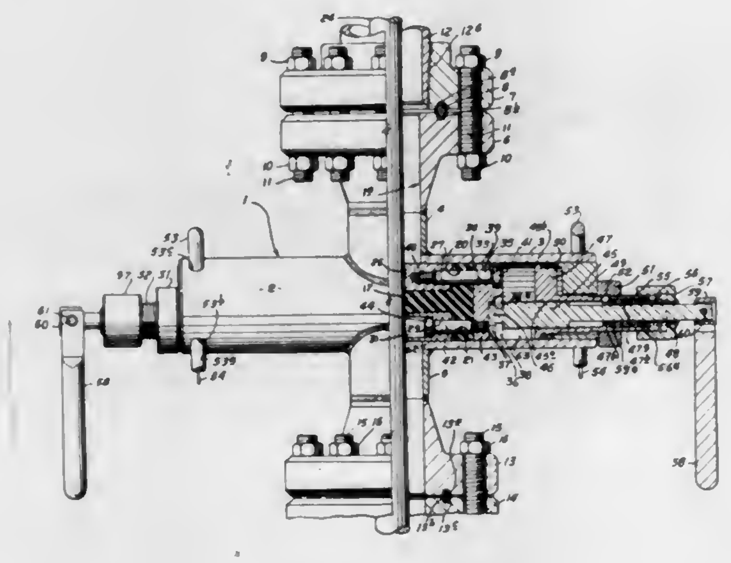


A fluid-tight seal for a rotating shaft is disclosed, the seal comprising liquid sealing means adapted to maintain a body of liquid sealant in fluid tight contact with the surface of the rotating shaft and the adjacent surface of a stationary casing through which the shaft passes, and gas barrier means adapted to prevent liquid sealant from the liquid sealing means from coming into contact with the fluid being contained. The gas barrier means is mounted on the rotating shaft and defines at least three longitudinally spaced annular barrier gas spaces in which a barrier gas may be maintained. Barrier gas is introduced into the centermost of the annular barrier gas spaces and is withdrawn from the annular barrier gas space nearest the liquid sealing means. The barrier gas is then circulated through a closed barrier gas circuit in which entrained liquid sealant is removed from the gas before the gas is returned to the centermost of the annular barrier gas spaces. Blower means are provided for circulating the barrier gas through the barrier gas circuit and the gas barrier means, the blower advantageously comprising an impeller mounted on the rotating shaft in the annular gas barrier space adjacent the liquid sealing means. Make-up barrier gas is advantageously added to the barrier gas circuit at the annular barrier gas space furthest away from the liquid sealing means.

3,508,759

TUBING BLOWOUT PREVENTER

Morgan L. Crow and Frederick Lee Adams, Dallas, Tex., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Original application May 13, 1965, Ser. No. 455,451, now Patent No. 3,399,901, dated Sept. 3, 1968. Divided and this application Feb. 13, 1968, Ser. No. 719,284
Int. Cl. F16j *15/16, 9/06*
U.S. Cl. 277—75 2 Claims



A blowout preventer for use in oil and gas wells that has a hollow body with a vertical bore and coinciding lateral bores communicating with the vertical bore. In each lateral bore, there is a ram assembly and a seal assembly.

In one form of the invention, the ram assembly, for moving the seal assembly relative to the vertical bore, has an end plate slidable within the lateral bore and has a feed screw housing also slidable within the lateral bore with an outer elongated threaded end extending freely through the end plate. The feed screw housing is positioned within the lateral bore intermediate the end plate and the back plate. A feed screw is attached rotatably to the back plate and extends through the feed screw housing and its outer elongated end. A yoke element is dropped through an opening in the housing defining the lateral bore to lock the end plate in place so that by tightening a nut on the outer elongated threaded end of the feed screw housing, the feed screw housing and the end plate are drawn together to compress a packing therebetween into sealing engagement with the lateral bore.

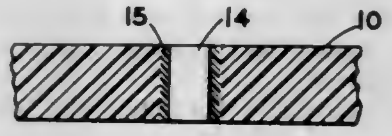
Each seal assembly includes a top plate and a lower plate positioned on opposite sides of a resilient sealing element. A pin extends through the back plate of the ram assembly and attaches the top plate thereto. A similar pin attaches the lower plate to the back plate, so that both the top plate and the lower plate are moveable relative to the sealing element.

3,508,760

FLUID SEAL MEANS FOR A SHAFT AND METHOD FOR MAKING SAME

George V. Woodling, 22077 W. Lake Road, Rocky River, Ohio 44116
Filed Dec. 14, 1967, Ser. No. 690,436
Int. Cl. F16j *15/00*
U.S. Cl. 277—237 5 Claims

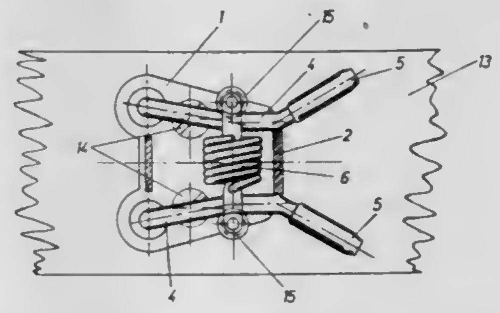
The subject disclosure relates to a shaft seal and features a structure and a method for making same to provide a minimum of friction. The shaft may be either a rotating shaft or a reciprocating shaft and preferably comprises a wire having a diameter residing in a range from approximately .025 to .125 of an inch. The shaft extends through a bore provided in a body consisting of a resistingly deformable mass of plastic material, preferably Teflon. The bore has a flow-back inter-lining constituting a fluid seal for sealing fluid pressure around said shaft. The flowback inter-lining is integrally secured to the body of material and comprising substantially a continuous cylindrical sealing band of body material consisting of body material forceably displaced from said body in providing said shaft-bore. The shaft-bore is determined by piercing the plastic material to a diameter larger than that of said shaft, with the pierced diameter thereafter shrinking to a diameter slightly less than that of said shaft to provide a fluid seal with a minimum of friction.



3,508,761

TOE IRON FOR SAFETY SKI BINDINGS

Otto Huss, Wallgau, Bavaria, Germany, assignor to Hannes Marker, Garnisch-Partenkirchen, Germany
Filed Feb. 15, 1968, Ser. No. 705,717
Claims priority, application Germany, Mar. 13, 1967, M 73,162
Int. Cl. A63c *9/85*
U.S. Cl. 280—11.35 5 Claims

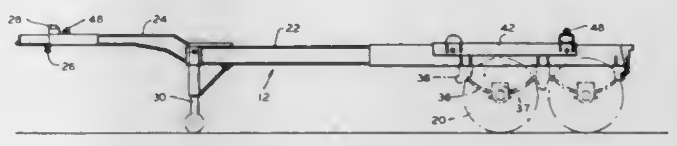


A toe iron for safety ski bindings is suitable for downhill and cross-country skiing and comprises two soleholders, which extend rearwardly and inwardly into engagement with the skiing boot and are pivoted to a toe iron part that is fixed to the ski. The soleholders are held in their normal position under the action of a tension spring. In said normal position, the soleholders diverge from the points of action of the spring on the soleholders to the pivots of the soleholders. The spring is connected to the soleholders for movement in the longitudinal direction thereof.

3,508,762

CONTAINER CHASSIS

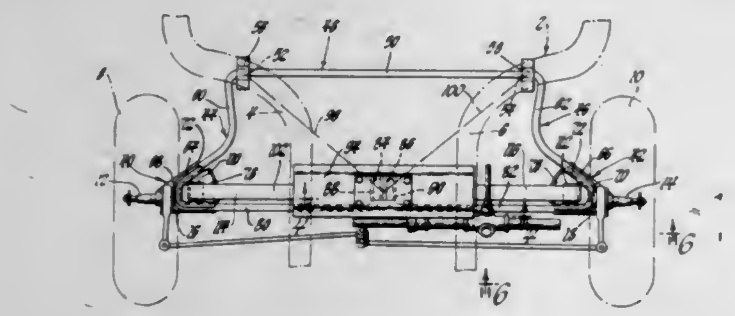
Robert A. Pratt, Harbert, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Mar. 22, 1968, Ser. No. 716,285
Int. Cl. B62d *27/06*
U.S. Cl. 280—81 5 Claims



A container carrying wheeled chassis which is adjustable to accept different sizes of containers, and the length of which is adjustable to accommodate it to the laws of the various states, and which will permit three 24 ft. containers on three such chassis to be carried on a single 85 ft. piggyback railroad car.

3,508,763
DIRIGIBLE WHEEL SUSPENSION WITH UNITARY LOWER CONTROL ARMS AND TORSIONAL ROLL STABILIZER

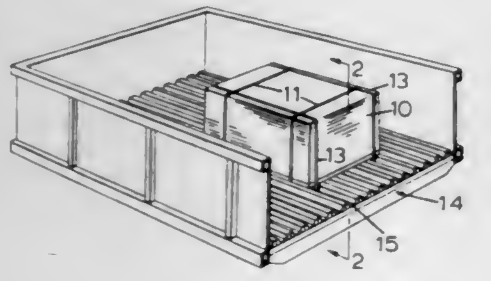
Paul B. Kuehl, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 22, 1968, Ser. No. 731,194
Int. Cl. B60g *11/34*
U.S. Cl. 280—96.2 10 Claims



A suspension construction for vehicles in which each of a pair of wheels are rotatably and dirigibly mounted on laterally opposite generally vertically extending telescoping struts pivotally connected at their upper ends to the vehicle and at their lower ends to the outer ends of a pair of transversely oppositely extending vertically swingable control arms, the control arms being formed as a part of a continuous one-piece bar of uniform cross section which includes a central transversely extending torsionally active roll stabilizer portion, and the arms including portions angularly disposed relative to the central portion so that the sprung portion of the vehicle is supported in parallel ride deflection by torsional elasticity of such angularly disposed portions.

3,508,764
LOAD RESTRAINING SYSTEM FOR VEHICLES

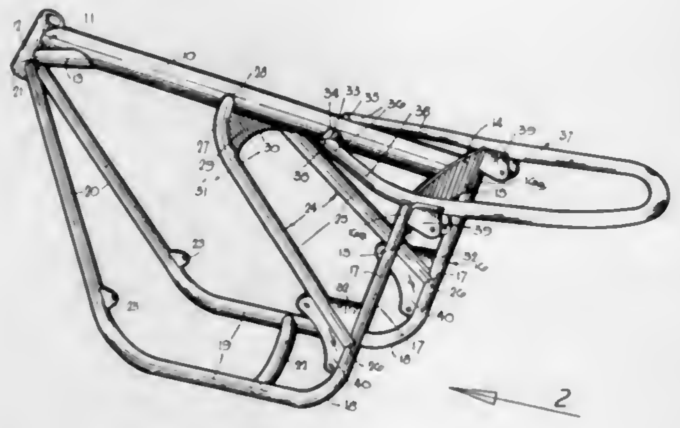
Richard N. Dobson, Burlington, Ontario, and Howard J. Bexon, Oakville, Ontario, Canada, assignors to Dominion Foundries and Steel Limited, Hamilton, Ontario, Canada
Filed Oct. 11, 1968, Ser. No. 766,705
Int. Cl. B60p *7/10*
U.S. Cl. 280—179 10 Claims



In a load-restraining system for metal-floored vehicles one or more wedge-shaped skid runners are fastened by metal straps to the underside of the load, and the metal floor is provided with longitudinal grooves of complementary shape in which the skid runners engage; the arrangement provides a high-friction restraint permitting the load to move along the floor without damage under impact applied to the vehicle without requiring positive fastening of the load to the vehicle.

3,508,765
MOTORCYCLE FRAME

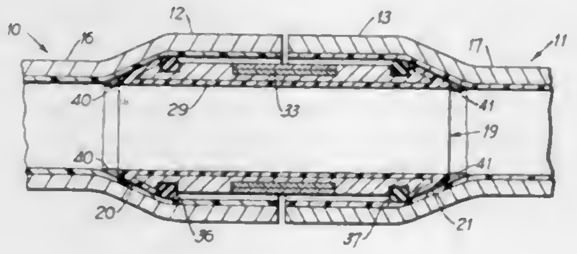
Stefan George Bauer, Hilton, Bernard Hooper, Stourbridge, and Robert Victor Trigg, Birmingham, England, assignors to Norton Villiers Limited, Wolverhampton, Staffordshire County, England, a British company
Filed June 4, 1968, Ser. No. 734,312
Claims priority, application Great Britain, June 7, 1967, 26,254/67
Int. Cl. B62k *11/02*
U.S. Cl. 280—281 10 Claims



The disclosure describes motorcycle frames each of which has a straight tubular backbone which is triangulated with two pairs of straight tubes, one tube of each pair being on each side of the backbone and the tubes being connected to attachment means at the rear end, and intermediate the ends, of the backbone.

3,508,766
WELDED JOINT FOR PIPE HAVING INTERNAL COATING

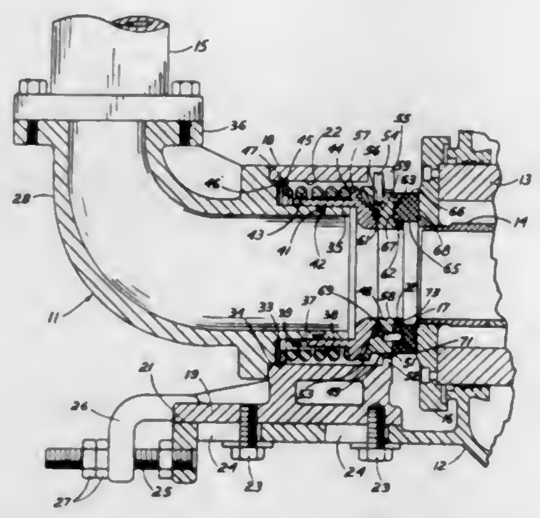
Newlin W. Kessler, Oklahoma City, Okla., and Orville C. Berg, Edmonton, Alberta, Canada, assignors to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 25, 1968, Ser. No. 770,532
Int. Cl. F16l *13/02*
U.S. Cl. 285—21 9 Claims



A welded joint between belled ends of tubular members having internal surfaces coated with corrosion resistant material which is subject to damage by excessive heat. Joint includes internally coated sleeve disposed coaxially within belled ends and having heat retardant means thereabout to retard the flow of heat from the region of the weld. Ends of sleeve are sealed to inner surface of tubular members by a thermosetting or thermoplastic sealant applied while in the plastic state, and formed into seals during assembly of the joint by packer means on the sleeve. To prevent welding gasses from blowing through the packer means and the uncured sealant, an incomplete girth weld is made about the ends of the tubular members, thereby forming a vent to permit the escape of welding gasses. Subsequently, the vent is welded closed to provide a fluid tight corrosion resistant joint.

3,508,767
ROTARY STEAM JOINT

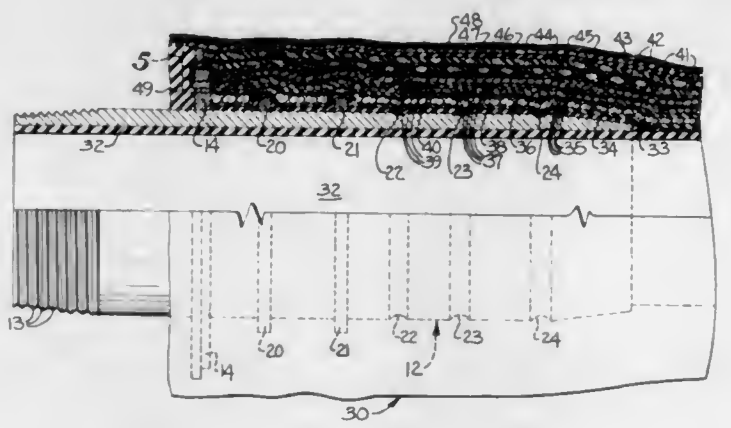
Elmer E. Crist, Sam Palazzolo, and Ronald D. Cooke, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Delaware
Filed Feb. 24, 1969, Ser. No. 801,510
Int. Cl. F16l *15/34;* **F16l** *17/00, 27/00, 33/16*
U.S. Cl. 285—95 10 Claims



An improved rotary steam joint employs an easily replaceable annular sealing ring having parallel flat faces, one of which bears against a rotating flat seating surface. The sealing ring is non-rotatably carried by a self-aligning carrier ring having a convex spherical surface supported by a mating concave spherical surface of a slidably supported sleeve which is spring loaded to maintain tight contact between the sealing ring and the rotating seating surface. The opposed forces exerted on the sealing ring and its attendant support elements by the pressure within the joint are substantially balanced so that the contact pressure between the sealing ring and the rotating seating surface remains relatively constant throughout the life of the ring regardless of variations in internal pressure. Leak proof cooperation between the various elements of the joint is achieved by means of O ring seals or the like, which eliminate entirely all bellows members, packing glands or similar expensive and troublesome sealing elements heretofore employed in analogous rotary joints.

3,508,768
FLEXIBLE HOSE COUPLING ASSEMBLY AND METHOD OF MANUFACTURE THEREFOR

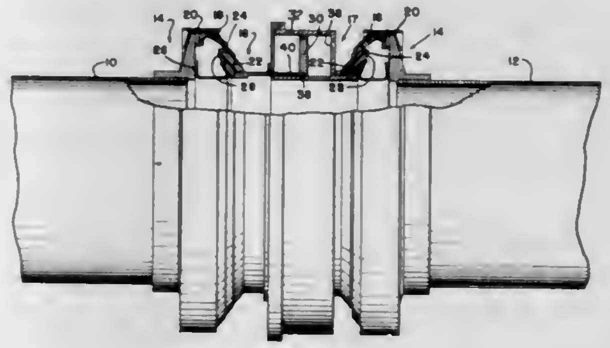
Joseph R. Hogan, Salisbury, N.C., assignor to Carolina Rubber Hose Company, a corporation of North Carolina
Filed Sept. 11, 1968, Ser. No. 759,128
Int. Cl. F16l *11/08, 33/22*
U.S. Cl. 285—149 6 Claims



A flexible hose coupling assembly for use in high pressure drilling rigs, pipe laying rigs, etc., comprising hollow nipple means disposed on each end of the coupling assembly, and hollow flexible hose means secured to and extending between the nipple means for forming an integral coupling assembly. The hose means comprises a plurality of layers of material integrally secured together and collectively being of sufficient strength to withstand internal air pressures up to approximately 6000 pounds per square inch burst. The flexible hose coupling assembly is specifically constructed to prevent leakage of air between the nipple means and the hose means as the air passes through the coupling assembly, and, preferably, to provide a positive lock between spirally wound cable in the hose means and the nipple means.

3,508,769
HYDRODYNAMIC PIPE COUPLING

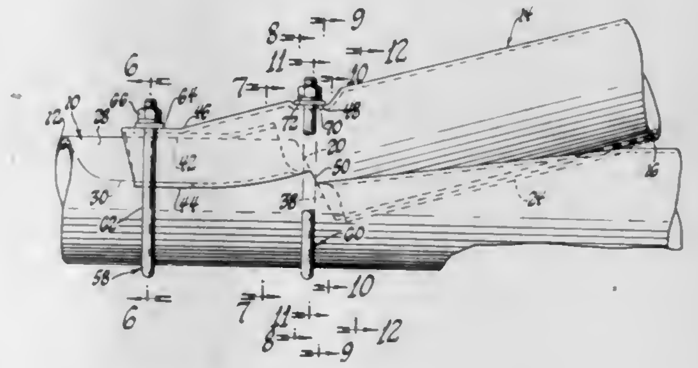
William J. Wucherpfennig, Escondido, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 12, 1968, Ser. No. 712,428
Int. Cl. F16l *15/02*
U.S. Cl. 285—165 1 Claim



The disclosure describes an improved telescoping ball-and-socket pipe coupling wherein the telescoping is accomplished by using an annular piston and cylinder. Air leakage through the cylinder allows for shock absorption while permitting temperature expansion and contraction. The cylinder head prevents uncoupling.

3,508,770
PIPE COUPLING

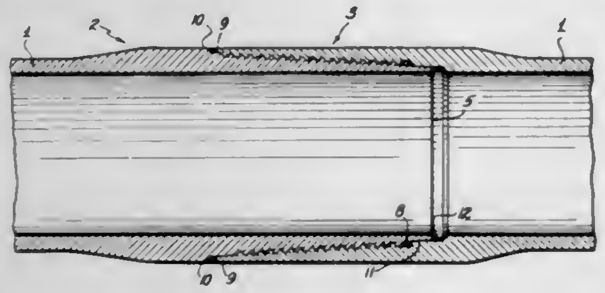
Thomas R. Cassel, Birmingham, Mich., assignor to Torca, Inc., Birmingham, Mich., a corporation of Michigan
Filed Nov. 24, 1967, Ser. No. 685,493
Int. Cl. F16l *41/00*
U.S. Cl. 285—189 12 Claims



There is provided an improvement in pipe couplings of the type wherein a branch pipe approaches a through pipe at an angle and is secured thereto for fluid flow through both the through pipe and the branch pipe. The improvement includes a transverse slot formed in the through pipe and a portion of the pipe adjacent the slot being inwardly deformed and angularly disposed relative to the axis of the through pipe, such portion being inwardly arcuate. A transverse slot is made in the branch pipe and spaced from the end thereof, a portion between the end of the pipe and the transverse slot being collapsed inwardly toward the opposite wall of the pipe, such portion being arcuate and disposed at an angle relative to the axis of the branch pipe. The two pipes are assembled such that the undeformed portion of the branch pipe engages the deformed portion of the through pipe, the deformed portion of the branch pipe engages the undeformed portion of the through pipe, and with the edges of the slots being in abutting relation. Clamping means are provided to secure the branch pipe to the through pipe.

3,508,771
JOINTS, PARTICULARLY FOR INTERCONNECTING PIPE SECTIONS EMPLOYED IN OIL WELL OPERATIONS

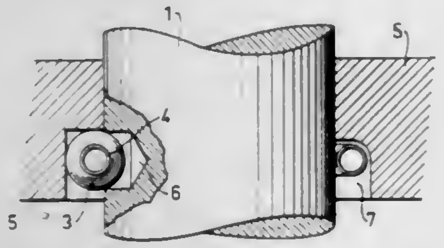
Jean Louis Albert Duret, Aulnoye Aymeries, France, assignor to Societe Anonyme dite: Vallourec, Paris, France, a corporation of France
Continuation of application Ser. No. 406,489, Oct. 26, 1964. This application July 17, 1967, Ser. No. 654,018
Claims priority, application France, Sept. 4, 1964, 987,184
Int. Cl. F16l *25/00*
U.S. Cl. 285—334 **5 Claims**



A joint for repeatedly connecting and disconnecting pipe sections includes an externally threaded tapering male portion at one end of one section, with an external shoulder near its base, and a mating internally threaded tapering female portion at one end of the other section, the thickness of the threads on one portion being less than the width of the grooves between the threads on the other portion, so as to provide decreased resistance to entry of the male member into the female member until the tip of the female member strikes the shoulder.

3,508,772
FACE SEAL FASTENING

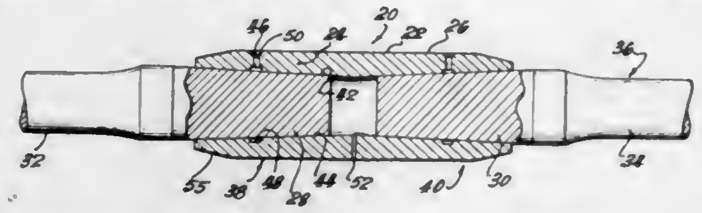
Filip Torvald Ståhl, Alvsjo, and Sixten Englesson, Djursholm, Sweden, assignors to Stenberg-Flygt, AB, Solna, Sweden, a corporation of Sweden
Filed May 22, 1967, Ser. No. 640,297
Claims priority, application Sweden, June 3, 1966, 7,697/66
Int. Cl. B60b *27/06;* **F16d** *1/06*
U.S. Cl. 287—52.05 **3 Claims**



In a pump shaft face seal comprising a stationary member secured to the pump casing and a rotatable member, the latter being fastened to the pump shaft by means of a ball engaging a groove in said member and a recess provided in the shaft, said ball being maintained in position by an extension spring extending through the ball and around the shaft.

3,508,773
FRICTION-TYPE ROD JOINT

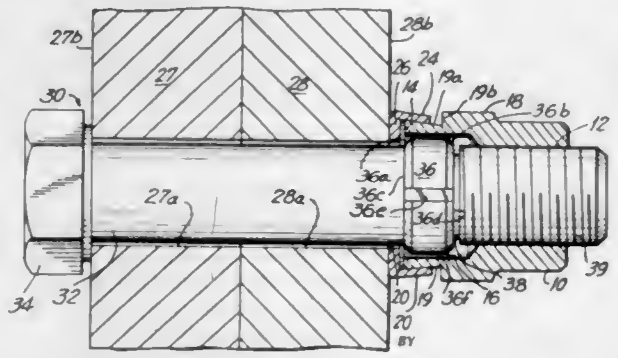
Clarence J. Coberly, San Marino, and Francis Barton Brown, La Crescenta, Calif., assignors to Kobe, Inc., Huntington Park, Calif., a corporation of California
Continuation of application Ser. No. 326,408, Nov. 27, 1963. This application June 12, 1967, Ser. No. 645,549
The portion of the term of the patent subsequent to Dec. 17, 1980, has been disclaimed
Int. Cl. F16d *1/02*
U.S. Cl. 287—108 **13 Claims**



A high-strength, friction-type joint for interconnecting rods, such as sucker rods for oil well pumping, in end-to-end relation to form a rod string capable of withstanding high axial tension loads. Adjacent, tapered rod ends converging axially toward each other are telescoped into complementarily tapered ends of a coupling frictionally connecting the rods. The axial lengths of the tapered interfaces between the rod ends and the coupling ends, the engagement pressures between the coupling ends and the rod ends in such interfaces, and the effective coefficients of friction between the coupling ends and the rod ends in such interfaces, are so related as to provide frictional resistances to relative bodily displacements of the coupling and rod ends at least nearly equal to the yield strength of the body portions of the rods.

3,508,774
SAFETY NUT ASSEMBLY

Eugene P. Simonson, Glenside, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1968, Ser. No. 762,919
Int. Cl. F16b *5/02, 1/00, 7/18;* **F16l** *5/00, 15/00*
U.S. Cl. 287—189.36 **2 Claims**

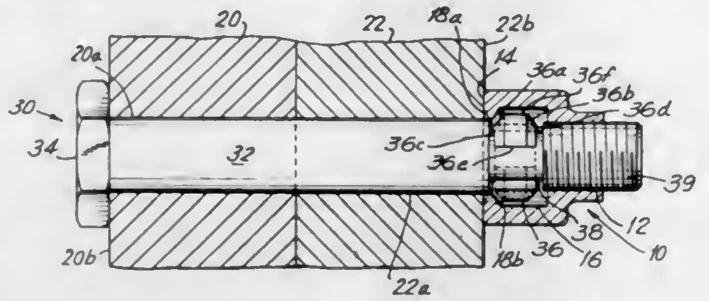


An assembly having a washer loosely carried by a nut at one end of the nut. The nut has a counterbore at its endface adjacent the washer. The washer forms a lip at the open end of the counterbore of the nut. The assembly is arranged to receive a circumferentially compressible collar carried by a bolt as it is turned into the nut. The lip formed by the washer compresses the collar to permit the collar to enter into the counterbore of the nut to be captivated within the counterbore and also to be removed from the counterbore.

3,508,775
SAFETY NUT

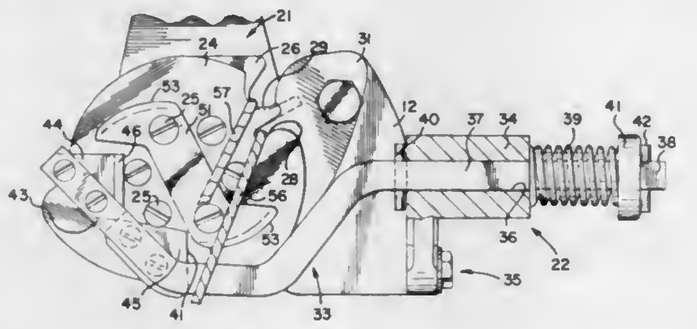
Eugene P. Simonson, Glenside, Pa., assignor to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Sept. 26, 1968, Ser. No. 762,920
Int. Cl. F16b *5/02*
U.S. Cl. 287—189.36 **3 Claims**

A nut having a lipped cavity in its bearing surface. The lip of the cavity is arranged to compress a circumferentially compressible collar carried by a mating bolt as this bolt is turned into the nut, whereby the collar can pass through the lip to be captivated within the cavity. The lip of the cavity also is arranged to compress the collar as the bolt is turned out of the nut, whereby the collar can pass through the lip and be free of the cavity.



3,508,776
CAM ACTUATED TWINE KNIFE

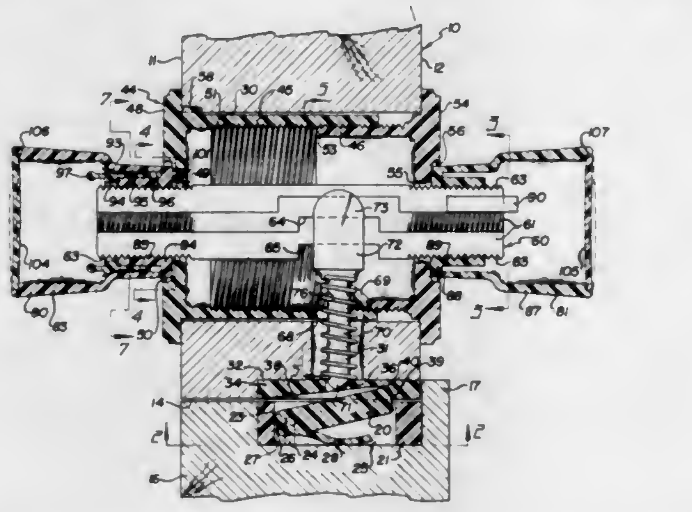
Homer N. Grillot, Naperville, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,330
Int. Cl. B65h *69/04*
U.S. Cl. 289—14 **4 Claims**



A twine knife movably mounted on a twine knotter and actuated to effect a cutting stroke through the joint action of a cam mounted on the knotter cord holder and a follower mounted on the knife. The cam and follower are provided with intermeshing surfaces whereby the parts are maintained in planar alignment as the former acts upon the latter.

3,508,777
DOOR LATCH APPARATUS

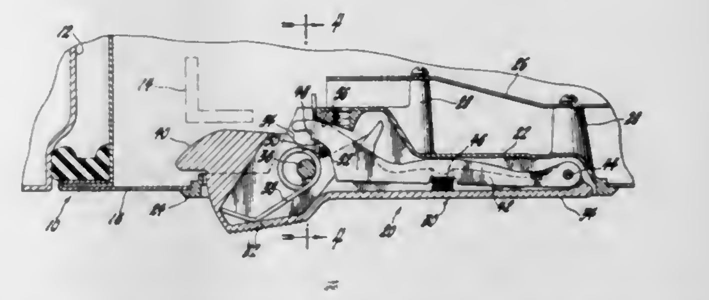
Stuart G. McBurnie, Burnaby, British Columbia, Canada, assignor to Velto Industries Ltd., Vancouver, British Columbia, Canada, a corporation of Canada
Filed Jan. 3, 1967, Ser. No. 606,879
Int. Cl. E05b *15/02;* **E05c** *13/00*
U.S. Cl. 292—254 **12 Claims**



An apparatus for latching a door and having a housing which is adjustable lengthwise. A cross shaped shaft extends through the housing and handle knobs are secured to the shaft, the knobs being journalled on housing parts. A spring pressed latch plate on the door jamb normally holds the door closed and a plunger is mounted in the door between the shaft and the latch plate. Rotation of one of the handle knobs in either direction will operate the plunger to depress the latch plate and unlatch the door.

3,508,778
FLUSH TYPE DOOR HANDLE FOR VEHICLE BODIES

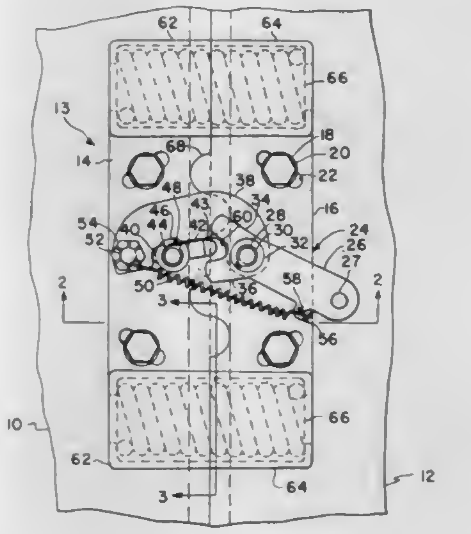
George D. Legge, Farmington, and Robert A. Sutton, Southfield, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 21, 1968, Ser. No. 777,566
Int. Cl. E05b *3/00*
U.S. Cl. 292—336.3 **6 Claims**



A flush type outside operating vehicle body door handle pivotable on an escutcheon on the door between a flush inoperative position and an extended position operating the door latch is further provided with a manually operated handle latching member responsive to finger pressure on the gripping portion of the handle when it is swung to its extended position to hold the handle in such position thereby facilitating the application of door closing forces through the handle and specifically to accomplish the keyless locking function in the door latch.

3,508,779
LATCH/EJECTOR UNIT

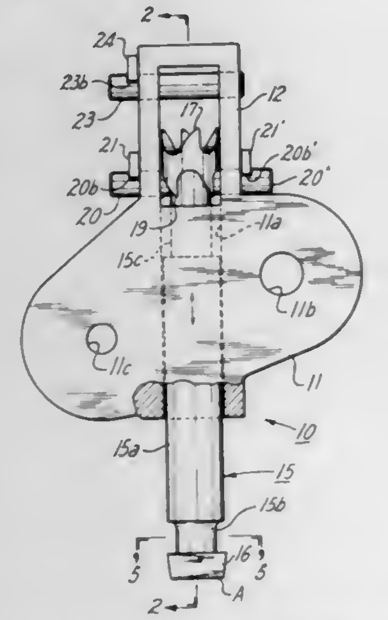
T. O. Paine, Deputy Administrator of the National Aeronautics and Space Administration, in respect to an invention of Stuart K. Edleson, Dallas, Tex.
Filed July 31, 1968, Ser. No. 749,149
Int. Cl. B64d *1/02*
U.S. Cl. 294—83 **8 Claims**



A latching mechanism featuring a pivoting but positively engaging and quick-releasing catch, combined with a self-contained spring ejection arrangement for the latched members.

3,508,780
CONTROL DEVICE FOR TONGS

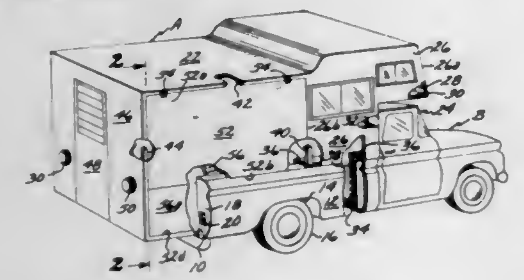
Daniel A. Bartman, Pittsburgh, Pa., assignor, by mesne assignments, to American Forge and Manufacturing Company, Inc., a corporation of Delaware
Filed June 17, 1968, Ser. No. 737,404
Int. Cl. B25b *13/00*
U.S. Cl. 294—110 **7 Claims**



A tong-operating, control or latching device is operatively-connected centrally at a pivot joint between an upper pair of lever or toggle arms and, through the agency of a latching lug and a keeper, at a pivot joint between a lower pair of lever or toggle arms that serve as a pair of tong, grapple or grip arms of a lazy-tong lifting assembly. The device has a main body surmounted by a hollow housing, with a plunger slidably-positioned within the body to extend at its upper end into the housing. The upper end of the plunger has a cam provided with opposed upper and lower camming faces. The housing carries an upper cross-extending latch pin and a pair of lower, oppositely-extending guide and latch pins. The upper and lower cam faces are shaped and sloped and have a 45° offset with respect to each other such that when the plunger moves upwardly, the upper edge of the cam will cause it to turn clockwise 45° on the upper pin and into latching engagement therewith, and when the plunger moves downwardly, the lower edge of its cam will turn it another 45° clockwise on and into latching engagement with the lower pair of pins. Up and down or reciprocating movement of the plunger and its incident rotation, as effected by the camming surfaces, is employed to move the latching lug that is carried on the lower end of the plunger into and out of a locked position within the keeper.

3,508,781
CAMPER BODY STRUCTURE

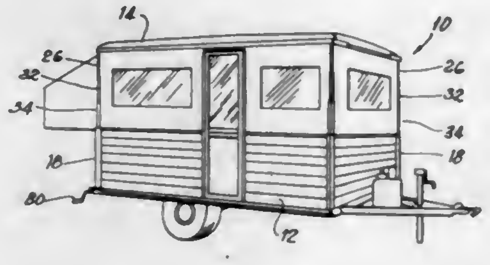
Charles A. Anderson, 10440 Ferina St., Bellflower, Calif. 90706
Filed Aug. 23, 1968, Ser. No. 754,898
Int. Cl. B60p *3/32*
U.S. Cl. 296—23 **5 Claims**



A camper body having side portions which are adapted to increase the sleeping capacity of the camper body when the vehicle on which it is mounted in a parked position.

3,508,782
SUPPORTING MEANS FOR CONVERTIBLE TOPS

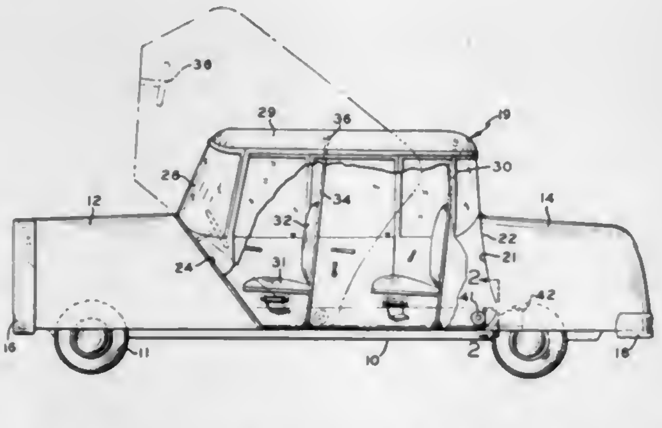
Omer M. Hostetler, Nappanee, and Donald L. Corl, Bremen, Ind., assignors to Corl Corporation, Bremen, Ind., a corporation of Indiana
Filed Feb. 27, 1969, Ser. No. 802,941
Int. Cl. B60p *3/32*
U.S. Cl. 296—27 **7 Claims**



A construction for raising and lowering and supporting a convertible top comprising flexible drive and supporting elements operatively connected to the top, and a drive screw operatively connected at the ends of the elements for moving the elements in response to rotation of the drive screw. The drive elements are preferably enclosed within telescoping tubular members whereby the drive elements are completely enclosed in the raised position of the top.

3,508,783
SAFETY VEHICLE

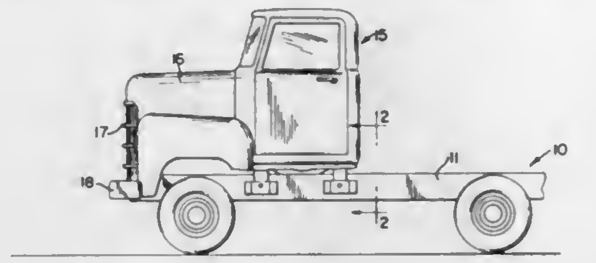
Samuel L. Schlanger, 120–126 Sutton St., Brooklyn, N.Y. 11222
Filed Apr. 22, 1968, Ser. No. 723,131
Int. Cl. B62d *39/00*
U.S. Cl. 296—35 **4 Claims**



A vehicle wherein the body is in the nature of a capsule provided with seats and doors and which, upon impact at the front end of the vehicle is released for forward and upward movement while the rear end of the body moves forward a limited distance. A wall fixed at the rear of the motor housing which is inclined forwardly at an angle of about 45°, and the body is formed with a front wall inclined at the same angle as said fixed rear wall of the housing and normally contacting the same. The inclined wall cams the forward end of the body upwardly upon impact with an object.

3,508,784
VEHICLE CAB MOUNTING

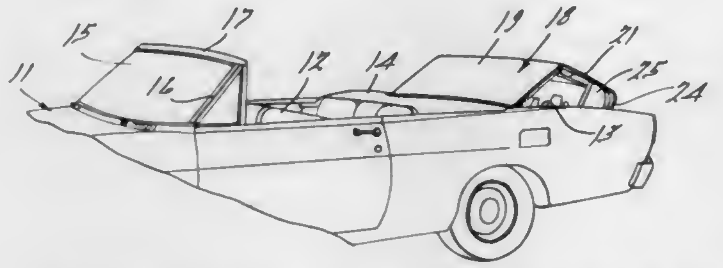
Charles L. Small, Chicago, Ill., assignor to Hendrickson Mfg. Co., Lyons, Ill., a corporation of Illinois
Filed May 28, 1968, Ser. No. 732,783
Int. Cl. B62d *39/00*
U.S. Cl. 296—35 **7 Claims**



A cab mounting for a heavy duty motor vehicle wherein the cab frame is supported on the side rail members of the vehicle frame by resilient connections at three points arranged in triangular formation and disposed in a horizontal plane extending through the longitudinal center line of the frame side rail members with two of the connecting points spaced along the one side rail member and the other connecting point on the opposite side rail member.

3,508,785
VEHICLE ROLL-OVER PROTECTION DEVICE

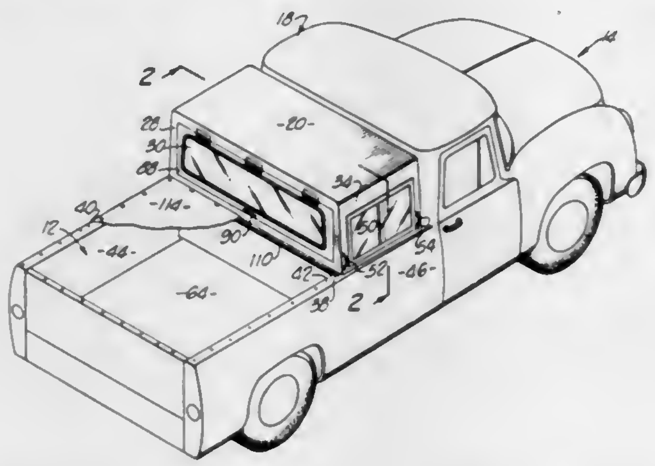
Fu-Shueng Chang, Melvindale, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 14, 1968, Ser. No. 767,292
Int. Cl. B62d *25/10*
U.S. Cl. 296—76 **5 Claims**



A roll-over protection device for a vehicle body having a passenger compartment and a luggage compartment. The luggage compartment deck lid is articulated. Upon the vehicle inadvertently being inverted relative to a road surface as the result of a collision or other mishap, the deck lid is articulated into a triangular structure. The apex of this structure projects above the normal closed position plane of the deck lid. The function of the deck lid in triangulated condition is to protect the vehicle occupants against being crushed beneath the vehicle.

3,508,786
REMOVABLE PASSENGER ENCLOSURE FOR PICKUP TRUCK

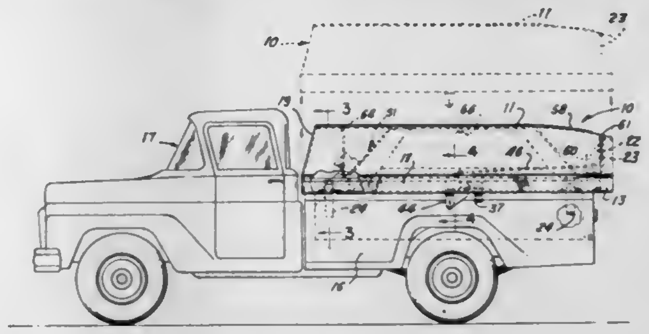
William K. Colville, Los Angeles, Calif. (7954 McGroarty St., Sunland, Calif. 91040)
Filed Dec. 5, 1968, Ser. No. 781,329
Int. Cl. B60j *7/00*
U.S. Cl. 296—99 **4 Claims**



A removable enclosure adapted to be installed in the front end of the cargo compartment of a conventional pickup truck. The rear window is removed from the truck cab when the enclosure is installed in place, and the enclosure includes a front wall disposed adjacent the rear cab wall and having an opening of substantially the same configuration as the rear cab window opening and aligned therewith, thereby providing access to the interior of the enclosure through the rear cab window opening. A rubber ring is clamped in place between the rear cab window opening and the front enclosure opening to seal the enclosure and cab against the elements.

3,508,787
CONVERTIBLE ENCLOSURE FOR PICKUP TRUCK BEDS

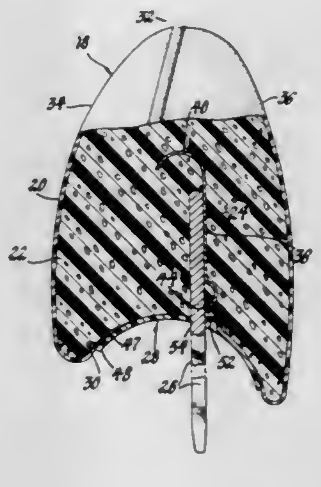
Ricks Strong, 11585 E. Ricks Circle 75230, and Paul B. Strong, 6005 Preston Road 75205, both of Dallas, Tex.
Filed Oct. 1, 1968, Ser. No. 764,179
Int. Cl. B60p *7/02;* **B63b** *7/02*
U.S. Cl. 296—100 **4 Claims**



A closure for pickup truck beds capable of removal therefrom and convertible into a boat, the bow portion of which is adapted to be contained within the closure while the truck is in transit and removable therefrom, as desired, when the closure is used only as a cover for the truck bed in the normal use of the truck.

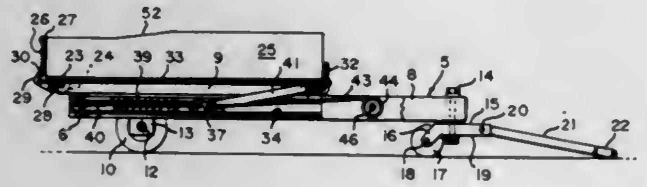
3,508,788
VEHICLE HEADREST

James F. Barton, Jr., Livonia, Glenn M. Lieving, Warren, and Albert J. Gonas, Grosse Pointe, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 6, 1968, Ser. No. 750,513
Int. Cl. A47c *7/38*
U.S. Cl. 297—391 **3 Claims**



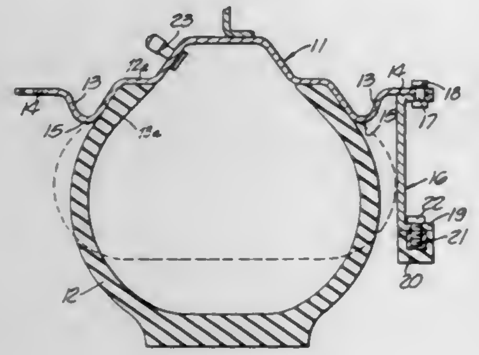
A headrest for a motor vehicle seating unit that includes a flexible shell having a downwardly opening cavity and a metallic reinforcing member located therewithin. A foam padding fills the cavity and is adhesively bonded to the interior surface of the shell and the reinforcing member to form an integral headrest construction. A support bar is attached at an upper end to the reinforcing member and has a lower end that is adapted to be adjustably connected to a vehicle seatback. A plastic cover plate is inserted over the support member and is secured against the shell by plastic fastening devices which have ribbed shank portions that locally deform within holes formed in the reinforcing member.

3,508,789
TOY DUMP WAGONS
Cyril Gazdarica, near Tilley, Alberta, Canada
Filed June 6, 1968, Ser. No. 734,959
Int. Cl. B60p *1/14*
U.S. Cl. 298—19 **6 Claims**



A toy wagon is provided that is equipped with a dump body and a variety of kinds of machinery and machine elements such as hinges, pivots, latches, levers, springs, connecting rods, windlasses, detents and castor wheels so that a child using the toy dump wagon will become familiar with various kinds of machinery.

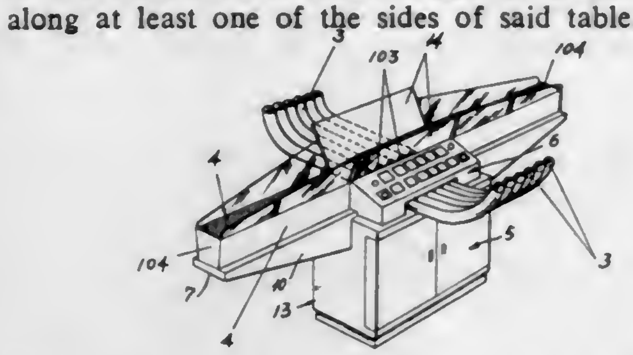
3,508,790
TIRE RIM FOR MOUNTING AN AUXILIARY SAFETY WHEEL ON A MOTOR VEHICLE
Gene C. Holmes, 5708 Briarcliff Road, Hollywood, Calif. 90028
Filed Dec. 20, 1967, Ser. No. 692,077
Int. Cl. B60c *17/04*
U.S. Cl. 301—39 **15 Claims**



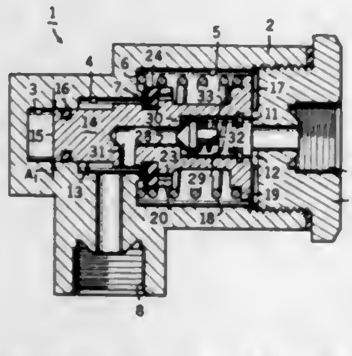
A tire rim for a motor vehicle wheel which is provided with an outwardly extending flange on either or both sides thereof for mounting a safety wheel to the vehicle wheel. Various configurations of suitable rims and safety wheels and the means of attaching them are disclosed.

3,508,791
AUTOMATIC DISTRIBUTOR
Carlo Mizzau, Bologna, Italy, assignor to American Machine and Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 18, 1968, Ser. No. 716,280
Int. Cl. B65g *53/04*
U.S. Cl. 302—28 **7 Claims**

A substantially horizontal table, onto which the shredded tobacco is continuously fed, is encircled by walls from which peripherally depart suction tubes for the pneumatic conveyance of the shredded tobacco to the single cigarette-making machine. The table is reciprocated in a direction parallel to the plane of the table, and the inlets of the suction tubes are arranged in at least one row along at least one of the sides of said table, while the shredded tobacco is fed onto the table in a fixed central position.

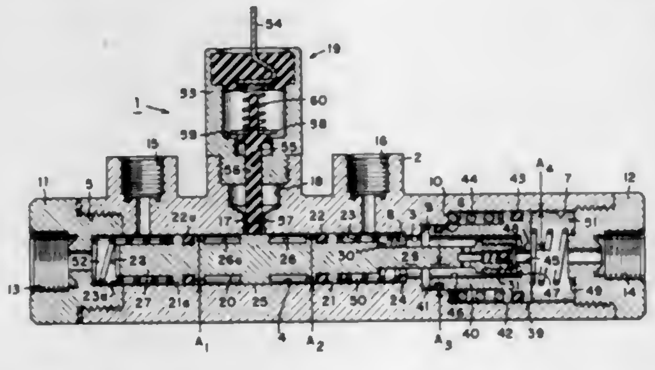


3,508,792
CONTROL VALVE
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Filed Apr. 25, 1968, Ser. No. 724,198
Int. Cl. B60t *8/26, 8/18*
U.S. Cl. 303—6 **13 Claims**



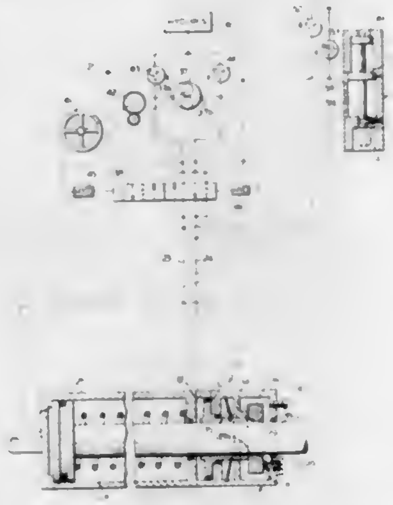
A proportioning valve for effecting an applied fluid pressure in a predetermined ratio with fluid pressure supplied thereto in excess of a predetermined value and responsive to another predetermined value of the supplied fluid pressure greater than the first named predetermined value to effect an applied fluid pressure in substantially a 1:1 ratio therewith.

3,508,793
CONTROL VALVE
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, Newark, N.J., a corporation of Delaware
Original application Sept. 5, 1967, Ser. No. 665,489. Divided and this application Mar. 3, 1969, Ser. No. 803,670
Int. Cl. B60t *8/26, 17/22*
U.S. Cl. 303—6 **8 Claims**



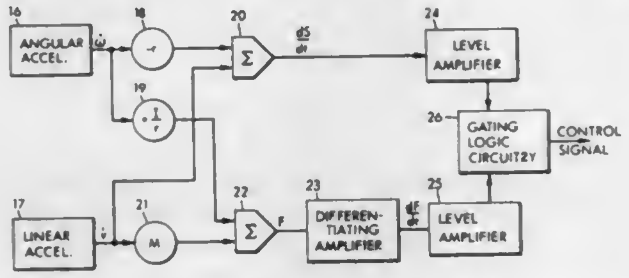
A control valve including switch means for comparing the magnitudes of separate fluid pressures supplied thereto and movable toward opposed switch positions in response to a predetermined differential between the magnitudes of the separately supplied fluid pressures, and metering means for metering engagement with a portion of said switch means to control the application through said control valve of one of the supplied fluid pressures.

3,508,794
HYDRAULIC BRAKE CIRCUITS
Thomas H. Engle, Cape Vincent, N.Y., assignor to General Signal Corporation, a corporation of New York
Filed May 6, 1968, Ser. No. 726,766
Int. Cl. B60t *17/16, 7/10*
U.S. Cl. 303—10 **53 Claims**



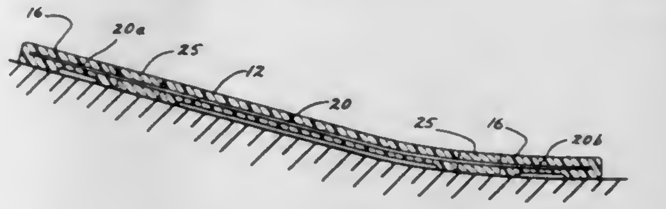
Hydraulic hand brake circuits for railroad cars including a reversible pump of either the fixed displacement or variable displacement, pressure compensated type which is driven by a handwheel through a step-up gear train, and a brake cylinder equipped with a lock and a detent device which is overpowered by a lock or an unlock motor depending upon whether the brake is being applied or released. Valving mechanism automatically utilizes the output of the pump to apply and lock the brake when the pump is operated in one sense, and to release the brake and the lock when the pump is operated in the opposite sense. A visual indicator operated by pressures within the circuit may be included to show the condition of the brake lock, and it can include mechanism for minimizing the risk of a premature indication of lock release. A pump unloading valve may also be used to provide a "feel" indicative of brake release. The hydraulic cylinder of the hand brake may also serve a service braking system, and in these installations the number of lines required to transmit fluid to and from the brake cylinder and the lock-controlling motors may vary from one to three depending on which of several types of valving mechanism is employed. Certain of the combined hand brake-service brake circuits include slack compensators and permit use of the hand brake on all wheels of a car.

3,508,795
ANTI-SKID BRAKING SYSTEM
Ronald S. Scharlack, San Antonio, Tex., and David B. Eisenhaure, North Reading, Mass.; said Scharlack assignor, by direct and mesne assignments, to Kelsey-Hayes Company, Romulus, Mich.
Filed Mar. 28, 1967, Ser. No. 626,626
Int. Cl. B60t *8/08, 13/68*
U.S. Cl. 303—21 **9 Claims**



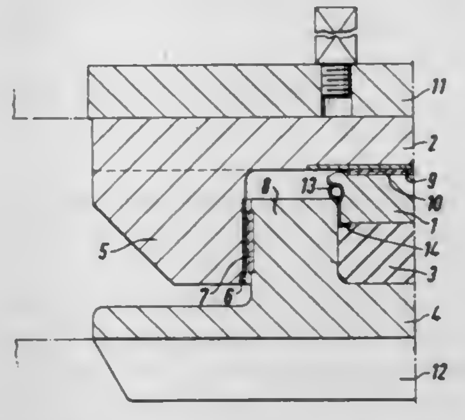
A system for controlling the braking of a wheeled vehicle to prevent skidding in which the braking force applied to the vehicle wheel is effectively responsive to changes in polarity of a control signal representative of the rate of change of the braking force as a function of wheel slip so that such rate of change is maintained substantially at or near zero during the braking operation under all road conditions.

3,508,796
ENDLESS TRACK FOR VEHICLE
William W. Paulson, Braham, Minn. 55006, and Roger W. Cherrington, 900 3rd Ave. W., Pine City, Minn. 55063
Filed Sept. 6, 1968, Ser. No. 757,826
Int. Cl. B62d *55/24*
U.S. Cl. 305—38 **3 Claims**



An endless rubber-like track for a motor vehicle comprising a central body portion and having portions at either side spaced therefrom, transverse flexible rods integral with said portions holding the same in spaced relation and being spaced about said track, driving members carried by said rods between said body portion and the portions spaced at either side thereof, said driving members being engaged by the sprockets driving said track and said rods yielding and flexing with a transverse bending of said track in traversing irregular terrain and in banking in progressing through a curve.

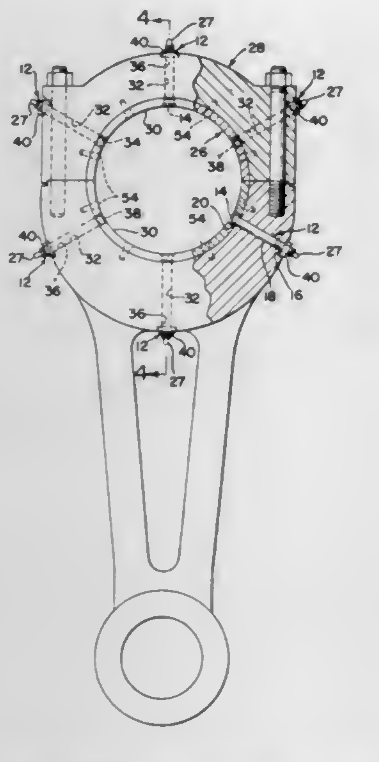
3,508,797
BEARINGS
Sydney William Marsh, New Malden, Surrey, England, assignor to Solarbridge Engineering Limited, Glasgow, Scotland, a corporation of Scotland
Filed Apr. 30, 1968, Ser. No. 725,427
Claims priority, application Great Britain, May 3, 1967, 20,637/67
Int. Cl. F16c *23/04, 33/20;* **E01d** *19/06*
U.S. Cl. 308—3 **5 Claims**



A bridge bearing having a rubber disc **3** located between a shallow piston **1** and a cylinder **4** wherein the piston floats within the cylinder intermediate an upper sliding plate **2** and the rubber disc **3** such as to minimise the effect of laterally applied loads on the piston **1** and cylinder **4**.

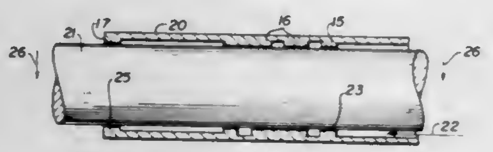
3,508,798
BUSHING ASSEMBLY
Joseph A. Geuss, Erie, Pa., assignor to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Sept. 26, 1968, Ser. No. 762,962
Int. Cl. F16c *1/24, 9/00*
U.S. Cl. 308—121 **5 Claims**

A bearing assembly which includes semi-cylindrical bushing halves and a bearing housing which contains the bushing halves. A plurality of hollow bolts extend radially through the bushing halves and housing securely holding the assembly together and the hollow bolts may be connected to a source of lubricant so that lubricant can be forced into the inside surface of the bushing halves.



3,508,799
GAS BEARINGS

Carroll M. Gordon, Danville, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed July 22, 1968, Ser. No. 746,576
Int. Cl. F16c *1/24*
U.S. Cl. 308—122 **4 Claims**

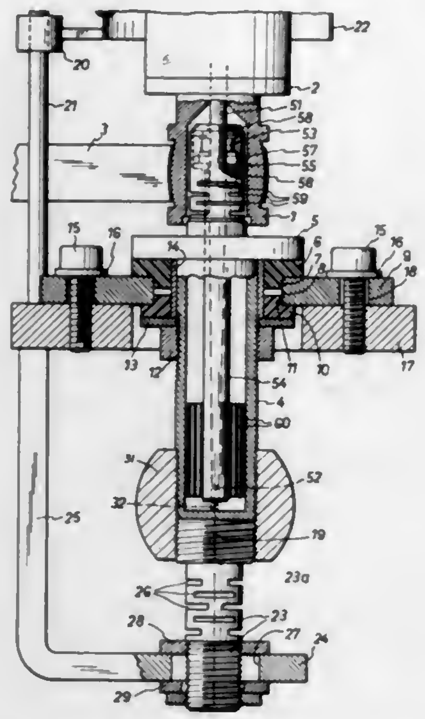


An externally pressurized, gas-lubricated journal bearing having bushing or bearing surface recessed to define a plurality of relatively large shallow pressure pockets and relatively narrow inlet orifice pockets equally spaced about the circumference adjacent to the gas outlet and inlet sides of the bearing, respectively. Each pressure pocket is connected by a channel to a diametrically opposite narrow orifice pocket to implement inherent servo control for centering and strengthening lateral stiffness of the moving member of the bearing.

3,508,800
TEXTILE MILL SPINDLE BEARING ASSEMBLY

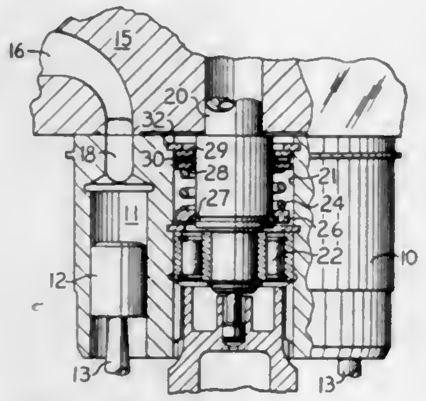
Karl Beerli, Niederuster, Zurich, Switzerland, assignor to Spindel-, Motoren- und Maschinenfabrik AG, Uster, Zurich, Switzerland
Filed Aug. 27, 1968, Ser. No. 755,553
Claims priority, application Switzerland, Aug. 29, 1967, 12,078/67
Int. Cl. F16c *35/00*
U.S. Cl. 308—152 **7 Claims**

A bearing assembly for textile mill spindles comprises a casing in which a bearing sleeve containing a collar bearing and a foot bearing for the spindle shaft is oscillably mounted. The casing is connected to the spindle rail by means of a resilient member permitting oscillation and lateral displacement of the casing. Moreover, the casing is oscillably retained at a second level by a second retaining member fixed to an auxiliary support rigidly connected to the spindle rail. The position of either or both said resilient member and said second retaining member relative to the spindle rail and to the auxiliary support, respectively, is adjustable transversely of the axis of the casing.



3,508,801
NEEDLE THRUST BEARING

Ivan R. Lamport, East Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Nov. 8, 1968, Ser. No. 774,458
Int. Cl. F16c *19/30*
U.S. Cl. 308—231 **2 Claims**



A thrust bearing of the needle type for use where one of the bearing races is backed up by a ring which tends to distort it and a contoured annular member between the ring and the race to distribute the thrust load uniformly across the width of the race and throughout the length of the needles.

3,508,802
EXPANDABLE CABINET ASSEMBLY

Charles E. Schroer, Columbus, Ind., assignor to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed July 18, 1968, Ser. No. 745,937
Int. Cl. A47b *45/00*
U.S. Cl. 312—205 **8 Claims**

An expandable cabinet assembly for bindingly retaining a plurality of cabinets between a pair of vertically spaced surfaces in which there is provided a first cabinet

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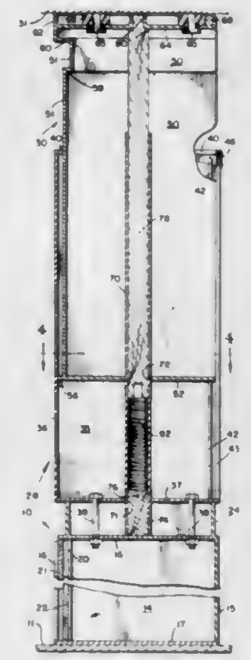
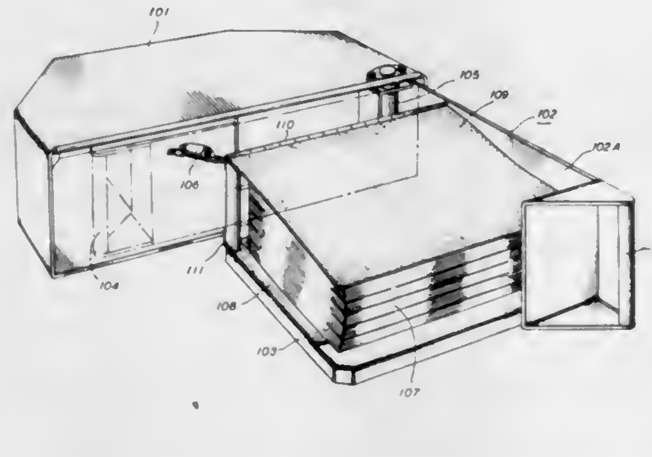
having a pair of side walls interconnected by front and bottom walls. A second cabinet is slidably carried in the first cabinet and comprises a pair of side walls interconnected by front, top, and bottom walls. The cabinets are provided with interfitting flange and guide elements for guiding the movements of the second cabinet with respect to the first. A sleeve is carried in aligned openings in the bottom walls of the cabinets and has a stop fixedly mounted in its lower end. A plunger is slidably carried in the sleeve and projects thereabove for connection to the second cabinet. A spring is carried in the sleeve with its opposed ends bearing against the stop and plunger for thus urging the second cabinet upwardly with respect to the first so that with the first cabinet resting against one supporting surface the upper end of the second cabinet will bear against a second surface vertically spaced from said first surface.



3,508,803
TELEPHONE DIRECTORY MOUNTING

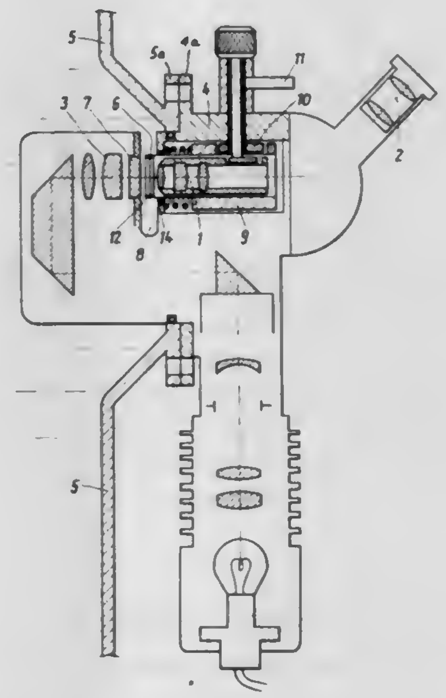
Thomas E. Redick, Indianapolis, Ind., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed July 18, 1968, Ser. No. 745,940
Int. Cl. A47b *63/00*
U.S. Cl. 312—233 **9 Claims**



A telephone directory is supported horizontally under a shelf by a pivotally mounted swing-out tray. A pulling force exerted on a handle that is integral with the tray pivots the tray outwardly from its normal position inside a box-like housing member. The binder is attached to the supporting tray by means of a hinge that is affixed to the spine of the binder so that when opened, one side of the directory is supported by the shelf and the other half by the tray.

3,508,804
MICROSCOPE INSPECTION ARRANGEMENT

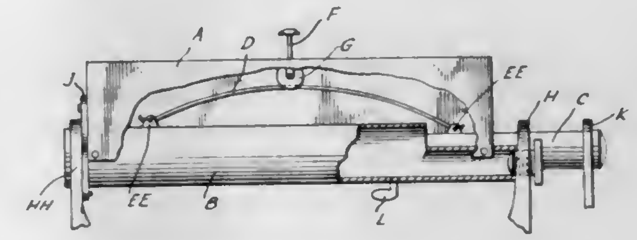
Hans Müller, Im Allmendli, Erlenbach, Zurich, Switzerland
Filed Oct. 11, 1967, Ser. No. 674,531
Claims priority, application Switzerland, Oct. 13, 1966, 14,911/66, Patent 453,739
Int. Cl. G02b *21/00, 23/00*
U.S. Cl. 350—19 **10 Claims**



An arrangement for observing a liquid contained in a vessel. The ocular of a microscope is arranged outside the wall of the vessel, and the objective of the microscope extends through a fluid-tightly sealed opening into the interior of the vessel. A condensor-type lighting system is so arranged that the light source is located outside the vessel whereas the lens system of the lighting system is located within the vessel. Both the lighting system and the ocular are so arranged that the fluid contents of the vessel cannot intrude. The arrangement is, however, such that the fluid has access to a space between the lens system of the condensor-type lighting device and the objective so as to permit observation of the fluid.

3,508,805
FOCUSING BINOCULARS

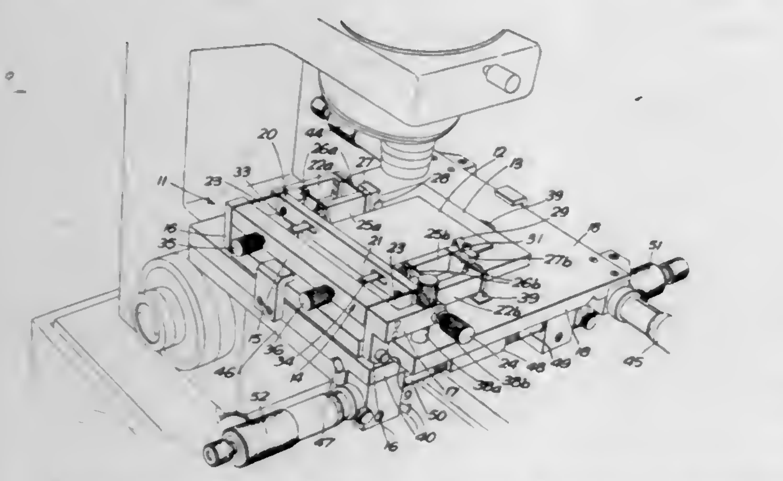
Jerome O. Bray, 6542 Elizabeth Lake Road, Palmdale, Calif. 93055
Filed May 23, 1968, Ser. No. 731,654
Int. Cl. G02b *7/04, 7/06, 21/20*
U.S. Cl. 350—46 **3 Claims**



This invention relates generally to a push button spring actuator for focusing binoculars.

3,508,806
POSITIONING APPARATUS

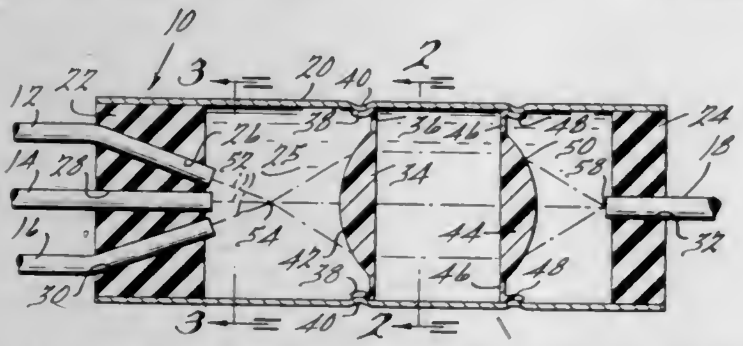
Kenneth Frank Hall, Barnet, England, assignor to W. Watson & Sons Limited, Barnet, England, a British company
Filed Feb. 1, 1968, Ser. No. 702,324
Claims priority, application Great Britain, Feb. 2, 1967, 5,045/67
Int. Cl. G02b *7/00, 21/24*
U.S. Cl. 350—90 **9 Claims**



An adjustable jig has a fixed frame pivotally mounted on a table. A movable frame is connected to the fixed frame by first leaf springs and an adjusting screw is provided to move the movable frame. Two spaced jaw members, having resilient gripping pads, are each connected to the movable frame by second leaf springs extending perpendicular to the first springs. Separate adjusting screws are provided for moving each jaw member perpendicular to the second springs so that a member held in the jig may be rotated to a limited extent as well as moved in two perpendicular directions.

3,508,807
LIGHT PIPE CONNECTOR

Richard H. Mayer, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 27, 1967, Ser. No. 678,601
Int. Cl. G02b *5/14*
U.S. Cl. 350—96 **4 Claims**

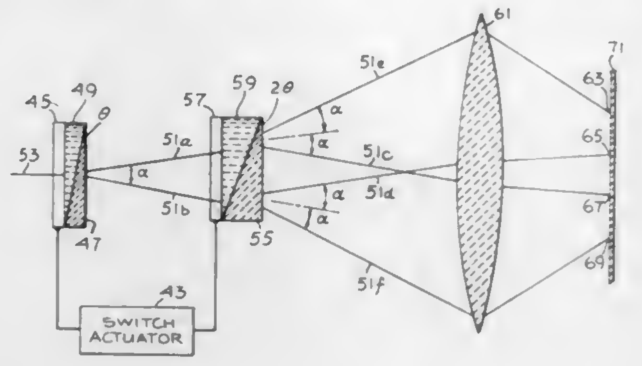


Apparatus for optically connecting a plurality of light pipes to a single light pipe. Lense means are utilized to gather the light emitted from the plurality of light pipes, transform the gathered light to parallel light rays and focus the parallel rays at the end of a single light pipe. Within the single light pipe, the focused light rays are intermingled.

3,508,808
DIGIT LIGHT DEFLECTOR

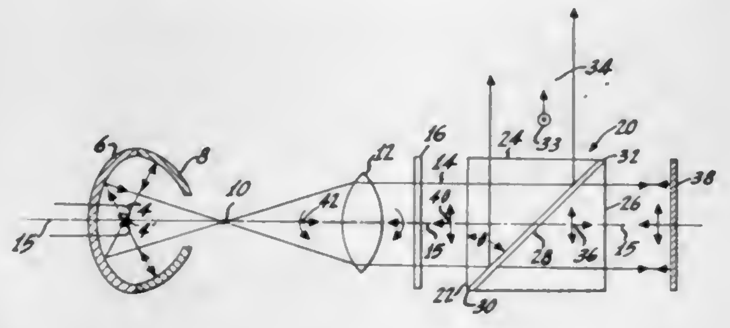
Uwe J. Schmidt, Los Angeles, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 228,563, Oct. 5, 1962. This application Apr. 4, 1969, Ser. No. 817,244
Int. Cl. G02f *1/24, 1/26;* **G06k** *9/08*
U.S. Cl. 350—150 **17 Claims**

A system for interposition between a source of a beam of plane polarized light and a target having a plurality of positions thereon for deflecting the beam to a target position defined by applied digital control signals. The system includes a plurality of beam deflecting stages disposed between the light source and the target. Each stage includes, in the order of the incoming beam, (1) a polarization switch such as a Kerr cell and (2) a birefringent prism. The Kerr cell acts to polarize the beam in either a first or second plane depending upon the state of the digital control signal applied thereto. The birefringent prism refracts a beam polarized in a first plane by a first angle and a beam polarized in a second plane by a second angle.



3,508,809
HIGH EFFICIENCY LIGHT POLARIZATION SYSTEM

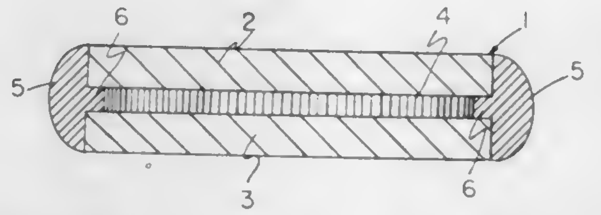
Joseph Wilder, Princeton, N.J., and Walter Gorkiewicz, New York, N.Y., assignors to RCA Corporation, a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,741
Int. Cl. G02b *1/24, 5/30*
U.S. Cl. 350—157 **5 Claims**



A beam of polarized light is formed from a source of unpolarizd light by placing a light retarder between the source and a polarizing beam splitter and by returning light of one polarization emerging along one output path of said beam splitter back along that path.

3,508,810
PHOTOCHROMIC SYSTEMS

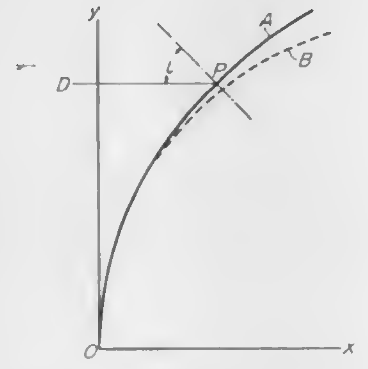
Donald H. Baltzer, Cincinnati, Ohio, assignor to Vari-Light Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed July 19, 1967, Ser. No. 654,634
Int. Cl. G02f *1/28;* **E05f** *17/26*
U.S. Cl. 350—160 **10 Claims**



The provision of normally unstable photochromic substances which are subject to rapid deterioration in systems wherein their useful life is greatly enhanced while at the same time enhancing their photochromic response, the substances comprising mercury dithizonate or a spiropyran incorporated in a resinous vehicle, such as polyvinyl butyral resin, sealed between protective surfaces, such as glass plates.

3,508,811
ASPHERIC LENS HAVING LOG COS SURFACES

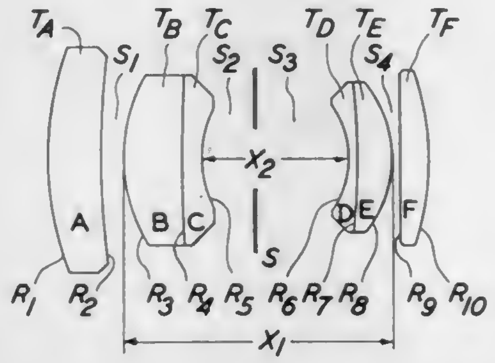
Shotaro Yoshida, Sendai-shi, Japan, assignor to Taisuke Tsugami, Shinjuku-ku, Tokyo, Japan
Filed Nov. 9, 1966, Ser. No. 593,206
Claims priority, application Japan, Nov. 18, 1965, 40/70,953, 40/70,954, 40/70,955, 40/70,956, 40/70,957, 40/70,958; Apr. 5, 1966, 41/21,368, 41/21,369
Int. Cl. B29d *13/18;* **G02b** *3/04*
U.S. Cl. 350—189 **7 Claims**



An aspheric lens having a surface of revolution defined by a log cos function which reduces spherical aberration and/or coma to provide a very large effective aperture ratio, e.g. *f*/0.45 to *f*/0.8.

3,508,812
HIGHLY CORRECTED SIX ELEMENT GAUSS TYPE LENS

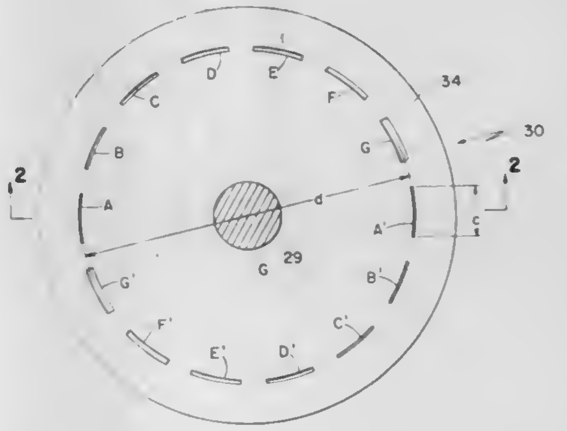
Warren A. Carlough, Jr., Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 12, 1967, Ser. No. 638,059
Int. Cl. G02b *9/36*
U.S. Cl. 350—221 **1 Claim**



A six element gauss type lens for use with microfilm reduction or enlargement equipment with the lens elements made of relatively low index glass and being well corrected for chromatic and monochromatic image aberrations and further having a performance which is diffraction limited at approximately 10× to 18× magnification at *f*/5 and up to 100 mm. focal length.

3,508,813
ADJUSTABLE SLIT SYSTEM FOR USE IN SPECTROANALYSIS APPARATUS

Stanley Babcock Smith, Jr., Lexington, and Jerrold Zindler, Cambridge, Mass., assignors to Instrumentation Laboratory, Inc., Watertown, Mass., a corporation of Massachusetts
Filed Mar. 24, 1967, Ser. No. 625,862
Int. Cl. G02f *1/30;* **G01j** *3/12*
U.S. Cl. 350—275 **11 Claims**

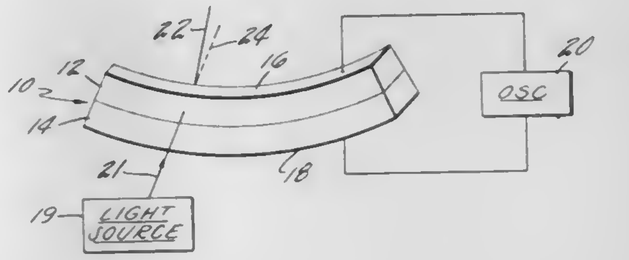


A monochromator having an entrance and exit slit defining structure comprising a disc having seven pairs of matched slits formed in a series along a radius about the disc axis. The disc is mounted for rotation about the monochromator axis.

The disc, in one embodiment, includes a transparent quartz substrate and an opaque aluminum film deposited thereon in which the pairs of matched slits of fixed width and length are formed. Each pair of matched slits differs in width from the other pairs of slits on the disc and the slits of each matched pair are located radially opposite each other for positioning selectively at the entrance and exit positions of the monochromator. The entrance slit of each pair is narrower than the exit slit of that pair.

3,508,814
FLEXURE MODE TRANSDUCER FOR OPTICAL BEAM SCANNING

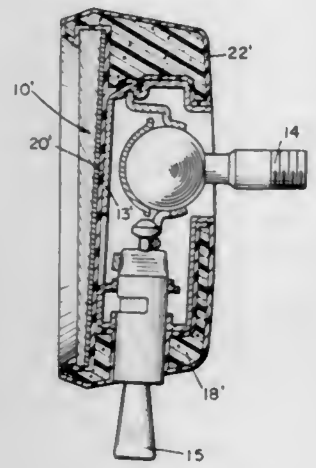
Herbert G. Aas, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 19, 1966, Ser. No. 602,892
Int. Cl. G02f *1/28, 1/34*
U.S. Cl. 350—285 **4 Claims**



Light beams are deflected by solid, optically transparent material vibrated in a flexure mode, which results either from piezoelectric material bonded to another material or bonded to like material in opposite polarity, or by different portions of one piezoelectric material being excited electrically with opposite sense. Flexure results in concomitant differential index of refraction change and attendant directional change which occurs continuously, in an arc, within the flexed device.

3,508,815
SAFETY REARVIEW MIRROR

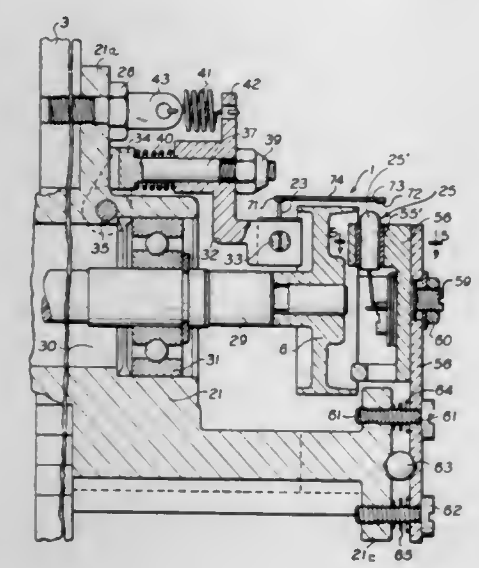
George E. Scheitlin and William W. Julbert, Columbus, Ind., assignors to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Sept. 25, 1967, Ser. No. 670,214
Int. Cl. G02b *5/08;* **A47g** *1/17*
U.S. Cl. 350—288 **1 Claim**



A safety rearview mirror includes a resilient casing of thermoplastic foam having a thin flexible thermoplastic skin bonded to its outer surface. The casing extends around the periphery of a reflector element and partially encapsulates a supporting structure. In one form, the reflector element is bonded directly to the casing which in turn is bonded directly to the supporting structure. In another form, the inner surface of the casing is also covered by a thin flexible thermoplastic skin which is bonded to the casing. A web of said skin extends between and is bonded to the reflecting element and supporting structure.

3,508,816
PROJECTION APPARATUS HAVING MULTIPLE SOUND UNIT

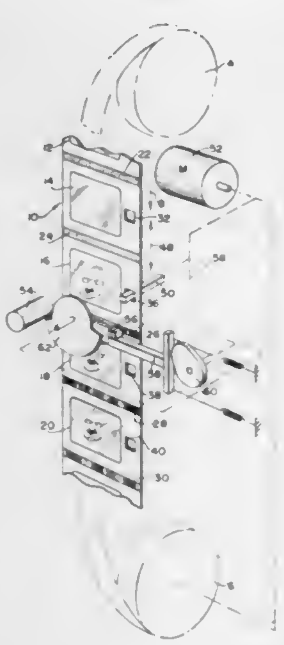
Angelo Bottani, Corso Matteotti 10, Milan, Italy
Filed May 26, 1967, Ser. No. 641,571
Claims priority, application Italy, June 3, 1966, 18,623/66
Int. Cl. G03b *31/02*
U.S. Cl. 352—6 **10 Claims**



A multiple sound unit for coin actuated audio-visual projectors. At least three sound pickups are disposed about a rotatable sound drum, two of the pickups being in the same radial plane and one being in a different radial plane. The pickups are relatively adjustably positionable with respect to one another.

3,508,817
SOUND RECORDING FOR MOTION PICTURE FILMS

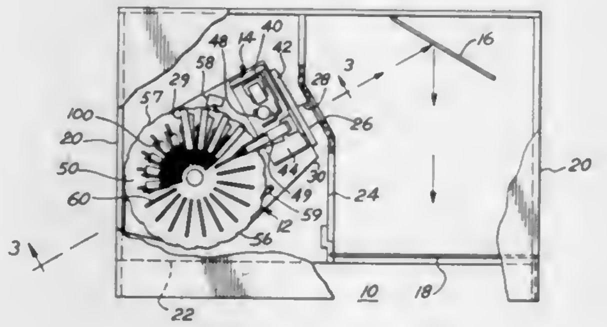
Milo P. Hnilicka, Jr., Concord, Mass., assignor to National Research Corporation, Newton, Mass., a corporation of Massachusetts
Filed Sept. 8, 1966, Ser. No. 577,940
Int. Cl. G03b *31/02*
U.S. Cl. 352—27 **1 Claim**



Sound motion picture apparatus in which the sound is recorded in transverse strips between the frames on the motion picture film. During the time when the intermittently moving film is stopped on electroluminescent diode light source is driven transversely of the film to record a variable density sound track.

3,508,818
FILM STORAGE AND PROJECTION APPARATUS

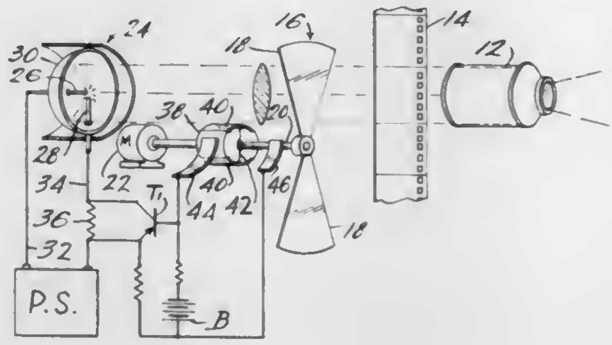
Mitchell E. Fried, North Miami Beach, Calif., and Wilbur Webb Selley, Winter Park, Fla.; said Fried assignor, by mesne assignments, to Rowe International, Inc., Whippany, N.J., a corporation of Delaware
Filed Aug. 3, 1967, Ser. No. 659,566
Int. Cl. G03b *21/04*
U.S. Cl. 352—123 **4 Claims**



This apparatus has an annular multi-cartridge magazine from which a film cartridge is transported on selection into a film projector for display of its endless loop film on a back-lighted screen. The film selection coincides with the selection of a record on a coin-controlled phonograph or juke box for simultaneous play of both a selected film and record. At the conclusion of play, both record and cartridge are restored to their storage locations with the respective magazines.

3,508,819
APPARATUS FOR PROJECTING FILM AND THE LIKE

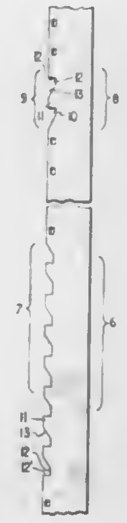
Angelo Boudouris, Sylvania, Ohio, assignor to Eprad Incorporated, Toledo, Ohio, a corporation of Ohio
Filed Aug. 2, 1967, Ser. No. 657,916
Int. Cl. G03b *21/00*
U.S. Cl. 352—199 **5 Claims**



A light source for a movie projector is pulsed in a manner to be off when the shutter is closed and on when the shutter is open. The light pulse is controlled by an electronically responsive switch which selectively connects an impedance into and out of the circuit in response to the position of the shutter. A commutator arrangement or a magnetically responsive reed switch is used to coordinate the electronically responsive switch and the shutter position. The light thus is on about one-half the time, only during the time in which it is needed to project an image from the film. This provides a longer lamp life or enables a brighter light to be produced by supplying higher power to the lamp for a shorter period of time. Power consumption also is substantially reduced.

3,508,820
MOVIE FILM

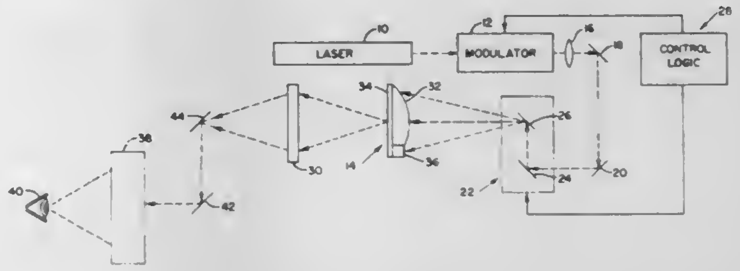
Katsuhiko Tsunoda, Kanagawa, Japan, assignor to Fuji Photo Film Co., Ltd., Kanagawa, Japan
Filed Apr. 3, 1967, Ser. No. 627,837
Claims priority, application Japan, Apr. 2, 1966, 41/20,575
Int. Cl. G03c *1/76*
U.S. Cl. 352—235 **3 Claims**



A motion picture film having a plurality of serrations at each end. Each serration has one driving edge perpendicular to the edge of the film for driving the film in one direction only and extending inwardly to a depth sufficient to include the sprocket hole. The opposite edge of the serration extends at an angle to the edge of the film. The longitudinal length of the serrations is less than the distance between the sprocket holes so that upon the drive member reaching the area of the serrations the film will be stopped but upon reversal of the drive member the film will be driven in the opposite direction.

3,508,821
DATA DISPLAY DEVICE

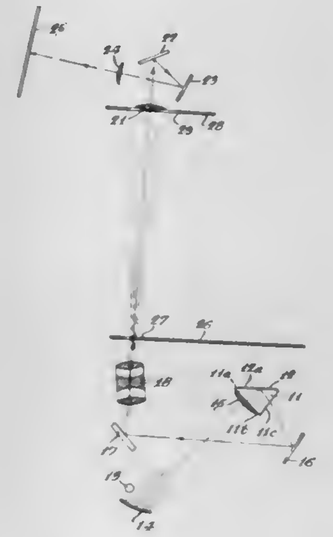
Gabor K. Ujhelyi, Sergio T. Ribeiro, and Andras M. Bardos, Bristol, Conn., assignors to Carson Laboratories, Inc., Bristol, Conn., a corporation of Connecticut
Filed Aug. 11, 1966, Ser. No. 571,784
Int. Cl. G03b *21/00, 27/00;* **G02b** *5/14*
U.S. Cl. 353—10 **10 Claims**



A display system wherein information to be displayed is employed to modulate and deflect a beam of coherent light, the modulated and deflected light beam forming an image on a fielding element. The image created on the fielding element is projected by a hologram which is created so as to present, to the coherent light forming the image, the characteristics of a lens having a long focal length. The fielding element is positioned in the focal plane of the hologram lens and the image projected by the hologram thus appears to be located a substantial distance therefrom. The hologram lens is produced by simultaneously exposing a hologram plate to intersecting beams of coherent light emanating from two point sources respectively positioned adjacent to and a substantial distance from the plate.

3,508,822
PROJECTION SYSTEM

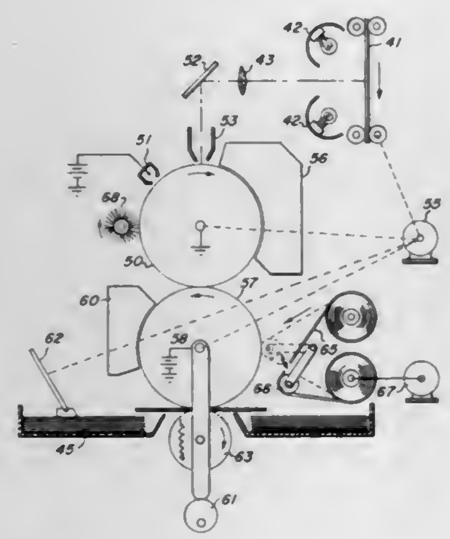
William D. Cornell, Grand Haven, and Michael G. Gautraud and Anthony J. Gretzky, Muskegon, Mich., assignors to Brunswick Corporation, a corporation of Delaware
Filed Feb. 1, 1967, Ser. No. 613,352
Int. Cl. G03b *21/132, 21/28*
U.S. Cl. 353—69 **9 Claims**



A projection system for a continuously changing legend such as bowling scores wherein the sources of the image is on a face of a prism which when utilized in an optical system gives rise to distortion error which is corrected in part by added glass on the prism and in part by a tilted lens in a manner such that distortion is held to acceptable levels. In order to elevate the image above the heads of persons of average height, the system includes a relay lens, and the image of the filament of the light source is reproduced adjacent the center of one or more lenses in order to not appear in the image as projected onto a screen. The prism is covered with a protective glass plate at the printing surface.

3,508,823
DUPLICATING APPARATUS

Robert W. Gundlach, Victor, and Vsevolod S. Mihajlov, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Continuation-in-part of application Ser. No. 276,108, Apr. 26, 1963. This application Feb. 5, 1968, Ser. No. 702,959
Int. Cl. G03g *15/14*
U.S. Cl. 355—3 **6 Claims**

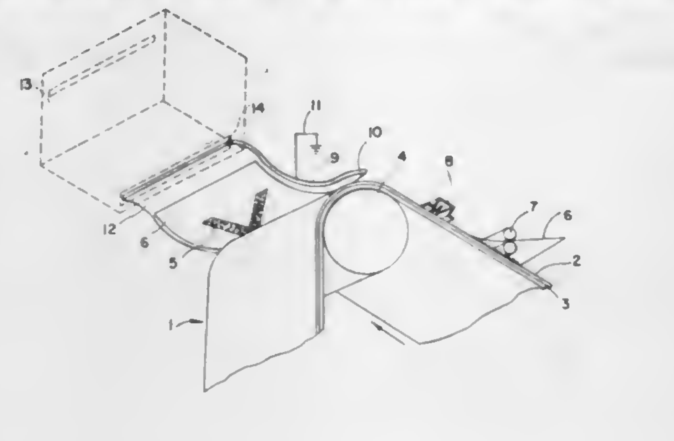


A machine which is capable of making multiple copies of an electrostatic latent image. The electrostatic latent image is developed with a toner composition comprising a vaporizable color producing agent. A specially salt-treated copy paper then contacts the developed image, in the presence of heat, and a reaction between them causes a visible image on the copy paper, and multiple copies may be made.

3,508,824
MEANS FOR HANDLING ELECTROPHOTOGRAPHIC TRANSFER SHEETS

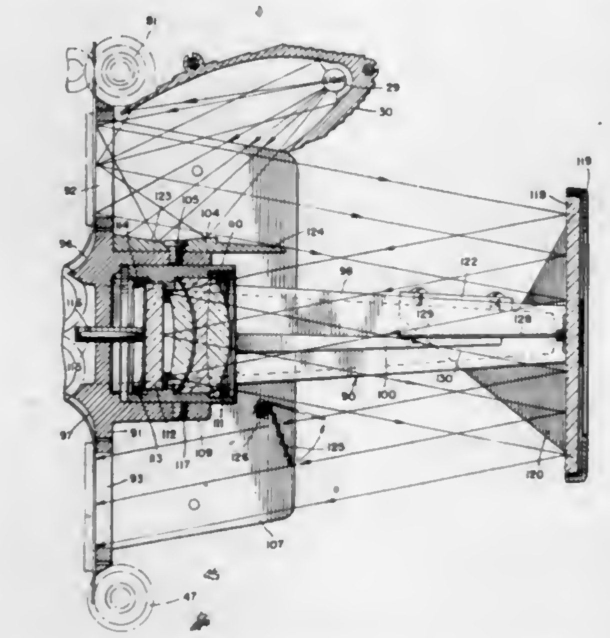
Richard K. Leinbach and Thaddeus Swanke, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 8, 1967, Ser. No. 621,565
Int. Cl. G03g *15/00*
U.S. Cl. 355—3 **9 Claims**

An electrophotographic reproducing apparatus, with an electrically conductive guide plate for conveying a transfer sheet from a photoconductive member to a fixing station without disturbing a loose powder image on the transfer sheet. The transfer sheet is stripped from the photoconductive member by advancing the photoconductive member through a bend near the guide plate to cause the leading edge of the transfer sheet to be separated from the photoconductive member by the resistance of the transfer sheet to bending. The guide plate is electrostatically attractive to the transfer sheet. The guide plate is positioned to contact the non-image side of the separated leading portion of the transfer sheet. The leading portion of the transfer sheet is guided to the fixing station while the trailing portion of the transfer sheet is driven by the moving photoconductive member.



3,508,825
ELECTROSTATIC PHOTOCOPY MACHINE

Alfred M. Hyosaka, Chicago, Ill., assignor to Speed-O-Print Business Machines Corporation, Chicago, Ill., a corporation of Illinois
Filed Aug. 3, 1967, Ser. No. 658,196
Int. Cl. G03b *27/32*
U.S. Cl. 355—11 **8 Claims**

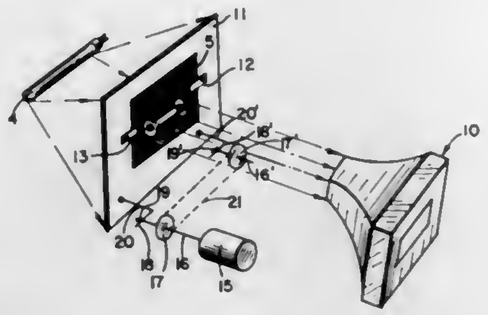


A graphic original document and a copy sheet are fed into the machine and guided past an illuminating station and an exposure station, respectively. The image on the original is projected through a double-folded optical system from the illuminating station onto the charged surface of the copy sheet at the exposure station. Feeding and guide assemblies for the original and copy sheets are pivotally mounted to rotate away from the illuminating and exposure stations, respectively, for access thereto.

3,508,826
POINT EXPANSION SYSTEM

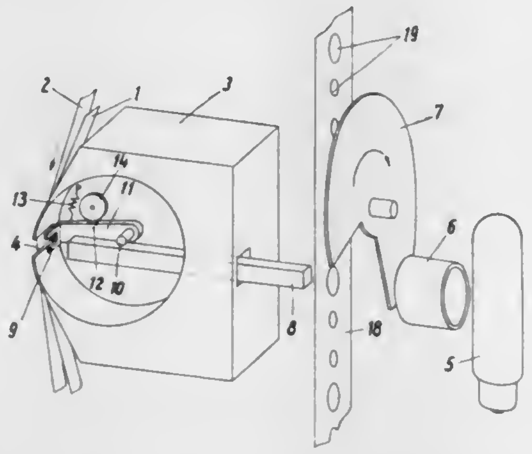
Earl J. Grabau, Manhattan Beach, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
Filed Oct. 3, 1966, Ser. No. 583,512
Int. Cl. G03b *27/32*
U.S. Cl. 355—18 **1 Claim**

A photographic printing system including a cam driven plate for rotating a circuit pattern relative to a fixed photosensitive recording medium in a camera while exposing the medium to light through the pattern. The camera has an adjustable objective lens which preselectively increases or decreases the degree of enlargement of the projected image. All points of the pattern are expanded on the medium as a function of both the type and amount of cam movement and the degree of enlargement.



3,508,827
METHOD AND APPARATUS FOR PRINTING BLACK AND WHITE OR COLOUR FILMS

Günter Feiler, Berlin, Germany, assignor to Geyer Maschinen- und Apparatebau G.m.b.H., Berlin, Germany, a company of Germany
Filed Mar. 30, 1967, Ser. No. 627,202
Claims priority, application Germany, Apr. 25, 1966, G 46,677
Int. Cl. G03b *27/04*
U.S. Cl. 355—124 **10 Claims**

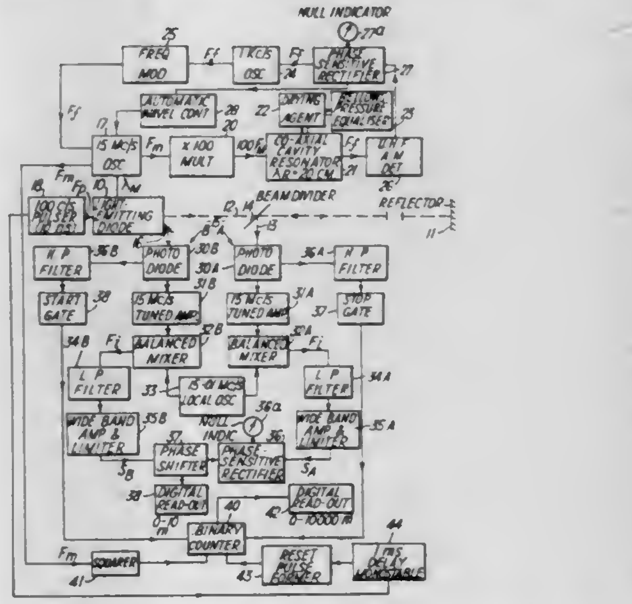


A method and apparatus for printing monochrome or colour films using a printing slot over which the negative and the unexposed positive film are moved in contact at a constant speed along with a light beam which is interrupted at intervals. The light beam has a dimension in the direction of film travel equal the height of a frame, and it illuminates successive frames by being guided across the printing slot in the direction of film travel while a frame is being exposed, and the light beam returns to its starting position and in the opposite direction during a dark period.

3,508,828
DISTANCE MEASURING APPARATUS

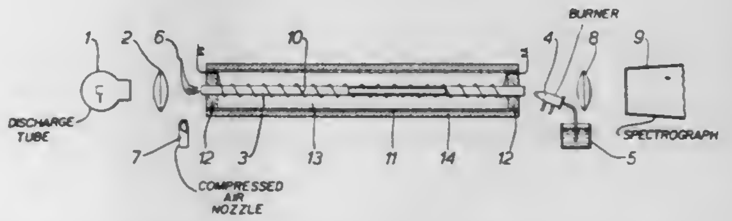
Keith Davy Froome and Robert Howard Bradsell, Teddington, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Nov. 14, 1966, Ser. No. 594,199
Claims priority, application Great Britain, Nov. 19, 1965, 49,232
Int. Cl. G01c *3/08*
U.S. Cl. 356—5 **10 Claims**

A distance measuring apparatus utilizing the transmission of a beam over the distance to be measured includes a cavity resonator for controlling the wavelength of a modulation oscillator used in producing an amplitude pulse marked modulation signal having a stabilized predetermined wavelength. A counter counts the number of cycles of the modulation signal between transmission and reception of a pulse and a phase detector detects the phase difference between the modulation of the transmitted and received beams so that the distance to be measured is indicated in terms of a whole number of modulation wavelengths as determined by the counter and a fraction of a modulation wavelength as determined by the phase detector.



3,508,829
ANALYTICAL ATOMIC ABSORPTION SPECTROMETRY

Robert Cecil Hamilton MacCormac, Bradfield, Geoffrey Ivor Goodfellow, Basingstoke, and Anthony Charles Turner, Baughurst, Basingstoke, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 29, 1965, Ser. No. 510,271
Claims priority, application Great Britain, Dec. 4, 1964, 49,560
Int. Cl. G01j *3/30*
U.S. Cl. 356—87 **3 Claims**

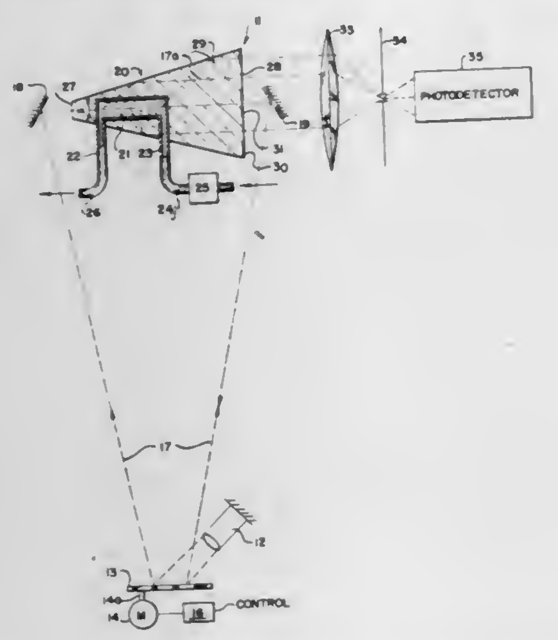


An apparatus for analytical atomic absorption spectrometry wherein the tube which carries the hot gas containing the material to be analyzed is heated by outside means in addition to the hot carrier gas itself, preferably an electrical winding.

3,508,830
APPARATUS FOR LIGHT SCATTERING MEASUREMENTS

Robert C. Hopkins, Kensington, Samuel M. Brassington, Concord, and George J. Hecht, El Cerrito, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Nov. 13, 1967, Ser. No. 682,464
Int. Cl. G01n *21/00*
U.S. Cl. 356—103 **15 Claims**

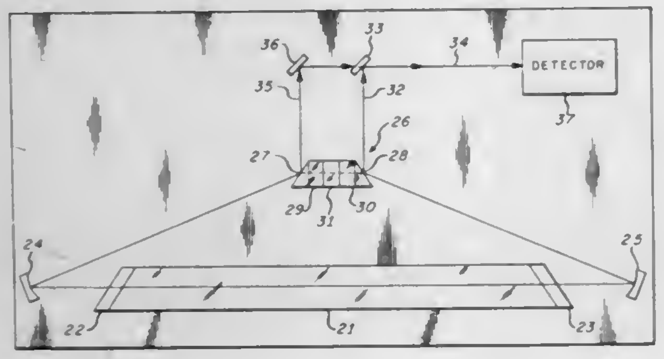
The intensity of light scattered from a liquid solution is determined by passing the beam of an exciting light source through a liquid disposed in a cylindrical cavity coincident with the longitudinal axis of a transparent conical cell. The rays of light scattered from the solution are reflected off the conical surface of the cell and pass out



through the base of the cell. These rays are then focused through an aperture and onto a device for measuring the intensity of the rays.

3,508,831
RING LASER HAVING MINIMIZED FREQUENCY LOCKING CHARACTERISTIC

Warren M. Macek, Huntington Station, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,428
Int. Cl. G01b *9/02, 11/26*
U.S. Cl. 356—106 **3 Claims**

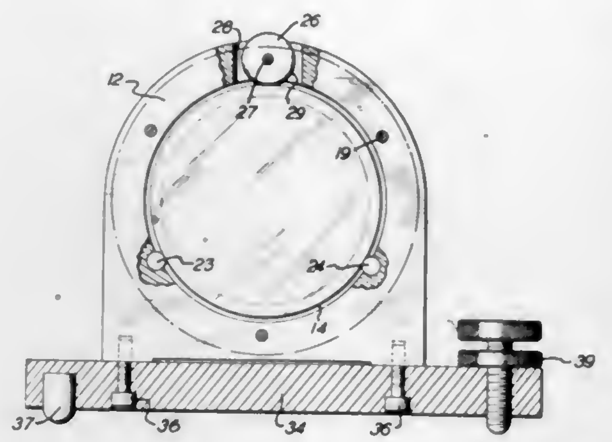


A ring laser device including a composite structure forming a corner of the laser cavity and comprising a light beam velocity controlling medium located between a pair of prisms along the propagational axis of the contradirectional light beams oscillating in the laser cavity, the light beams being redirected by refraction through the prisms and so polarized while traversing the beam velocity controlling medium as to be differentially affected thereby.

3,508,832
ANGLE GENERATING SYSTEM

Richard L. Schroeder, Newark, Ohio, assignor to Accurate Optics, Inc., Columbus, Ohio
Filed Mar. 1, 1966, Ser. No. 530,825
Int. Cl. G01c *25/00*
U.S. Cl. 356—138 **3 Claims**

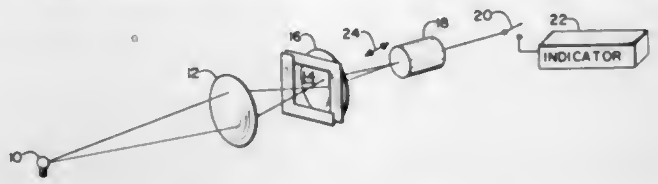
Apparatus for calibrating short range optical measuring instruments which measure angular displacement of reflected light rays. The apparatus includes a rotatable prism shaped lens for causing the light rays to deviate a known amount so that the resulting reflected image to



the short range optical measuring instrument can be used to calibrate the instrument.

3,508,833
AIM ASSESSMENT APPARATUS

Charles H. Waldhauer, Jr., Glendora, Calif., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,662
Int. Cl. G01b *11/26*
U.S. Cl. 356—152 **4 Claims**



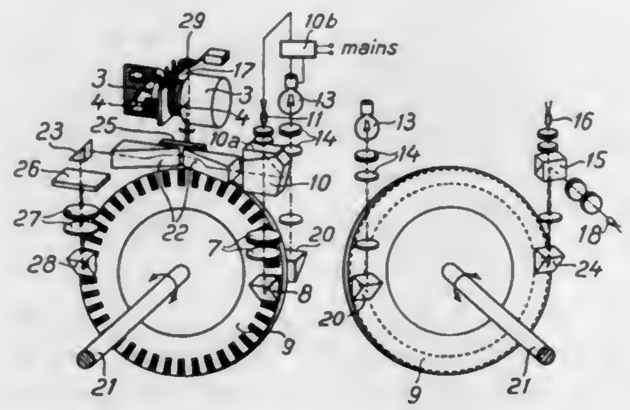
This disclosure describes an optical system for evaluating how well a simulated weapon is pointed at a target. Radiation from a light source mounted on the target enters the optical system and passes through to a detector for a predetermined percentage of the time, which percentage depends on the incident angle of the radiation with respect to the optical axis of the optical system. Whether or not the radiation passes through to the detector is dependent upon the instantaneous size of a variable aperture which continuously varies or oscillates in a predetermined manner.

3,508,834
PHOTOELECTRIC MEASUREMENT SYSTEM COMPRISING MOVABLE GRATING

Fromund Hock and Knut Heitmann, Wetzlar, Germany, assignors to Ernst Leitz GmbH, Wetzlar, Germany
Continuation-in-part of application Ser. No. 653,870, July 17, 1967. This application Feb. 3, 1969, Ser. No. 801,229
Claims priority, application Germany, July 21, 1966, L 54,129
Int. Cl. G01d *5/34*
U.S. Cl. 356—152 **5 Claims**

In a photoelectric incremental transducer having a movable grating system of which an image of a grating is projected onto a second grating or onto a different portion of the same grating, means are disclosed for obtaining a precision reading of the measurement result above one full period of the grating. Said means consist of a closed control loop including a displaceable light-reflecting element in the path of the image-forming light rays. The loop is connected to the output terminals of the transducer and—via differential amplifier and a summing-power-amplifier—controls the position of said light-reflecting element in such a way that the transducer whose difference is constantly equal to zero will generate position-defining signals. At the end of the measurement

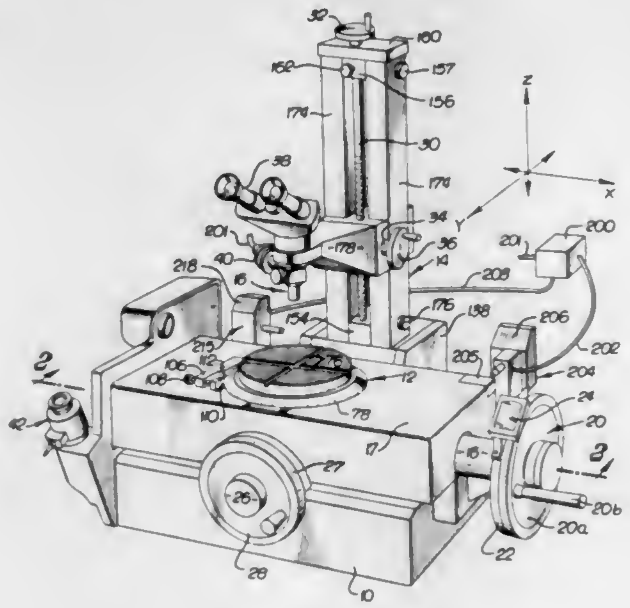
the current need to keep the reflecting element in its particular position will be proportional to the fraction by which the length of the object to be measured exceeds the full period. By means of a special device this current can be converted into digital units.



Further, a positioning device is disclosed which can be pre-set to fractions of one full period.

3,508,835
MEASURING MICROSCOPE

William A. Ware, South Pasadena, Calif., assignor, by mesne assignments, to Rusco Industries, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Aug. 1, 1966, Ser. No. 569,379
Int. Cl. G01b *11/00, 11/04*
U.S. Cl. 356—170 **16 Claims**

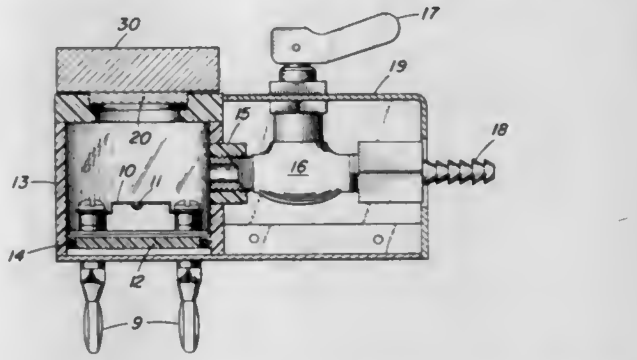


The disclosure concerns guiding and moving mechanisms for apparatus such as optical devices, enabling movement of an optical objective in three mutually perpendicular directions, and with extreme accuracy.

3,508,836
CELL FOR INFRARED SPECTROSCOPY

Stanley E. Polchlopek, Wilton, and Robert L. Harris, Bethel, Conn., assignors to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed May 4, 1965, Ser. No. 453,030
Int. Cl. G01n *1/10;* **C23c** *13/08*
U.S. Cl. 356—246 **2 Claims**

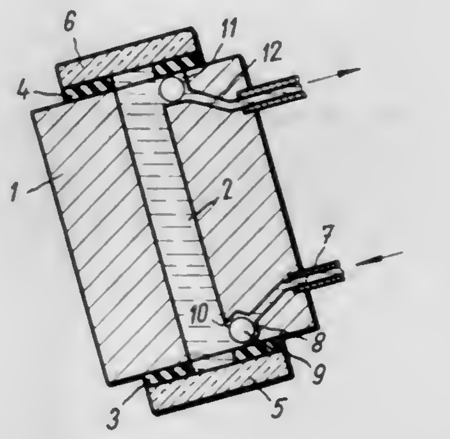
A process and apparatus for obtaining gaseous or non-gaseous pyrolyzate samples of materials for infrared analysis is described. The collecting devices or cells are of two types: For non-gaseous pyrolyzates which at ordinary temperature may be liquid or partially solid the cell is provided with a heat ribbon having a depression to take the pyrolysis sample and a cover with a hermetically sealable opening taking a pyrolyzate plate which may be an attenuated total reflection plate, one side being exposed to the pyrolysis vapors on the inside and the other coolable. The heater is connectable to a power source and the cell to a source of vacuum with a valve which can be shut after pyrolysis is complete to maintain the vacuum.



The gaseous phase pyrolysis cells are similar, but have no opening for a pyrolysis plate. On the other hand, these cells have an infrared window and the connections to the electric power source are plug-in pins. The cell can be evacuated, the sample heated, the valve closed, and the cell then unplugged and inserted in an infrared analytical instrument.

3,508,837
PHOTOMETRIC CELL FOR OPTICAL MEASUREMENT OF A LIQUID SECTIONALIZED INTO SAMPLE SEGMENTS BY INTERVENING SEPARATING PISTONS OF A GAS

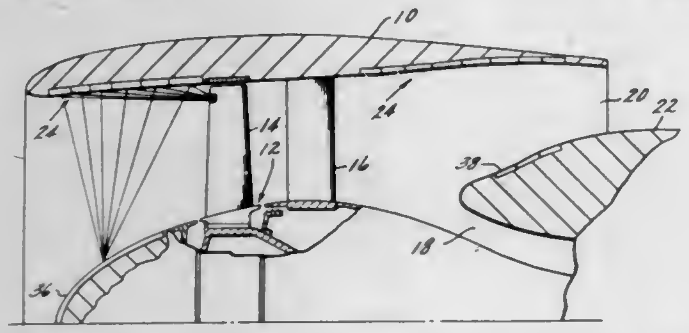
Jiri Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia, a corporation of Czechoslovakia
Filed Dec. 5, 1966, Ser. No. 599,153
Claims priority, application Czechoslovakia, Dec. 3, 1965, 7,262/65
Int. Cl. G01n *1/10*
U.S. Cl. 356—246 **5 Claims**



A photometric cell for use in an apparatus for photoelectric measurement of a liquid sectionalized into sample segments by intervening separating pistons of a fluid. The liquid is moved in a stepwise fashion through a capillary feed conduit entering said cell at one end thereof and a discharge tubing attached to the other end of said cell. A retaining chamber is provided at the entrance of said feed conduit into said cell and permits separating pistons entering thereinto and retained therein to substantially spherically extend and to allow the following sample segment of fluidal medium to flow around into and be measured in the cell until a higher flow rate of the liquidal medium forces the separating fluidal piston to move out of the retaining chamber and move toward and away through the discharge tubing.

3,508,838
SOUND SUPPRESSION OF COMPRESSORS USED IN GAS TURBINE ENGINES

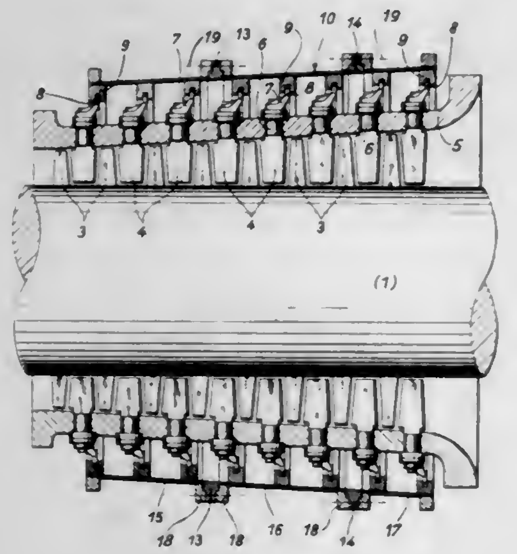
Alfred J. Martenson, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 16, 1968, Ser. No. 762,266
Int. Cl. E04b *1/99;* **F04b** *39/00*
U.S. Cl. 415—19 9 Claims



The disclosure shows a gas turbine engine in which focusing means are provided in the fan duct wall to control propagation of sound in a forward and rearward direction.

3,508,839
PLURAL-STAGE AXIAL COMPRESSOR

Rene Strub, Winterthur, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company
Filed June 26, 1968, Ser. No. 740,271
Claims priority, application Switzerland, Jan. 15, 1968, 568/68
Int. Cl. F01d *9/02;* **F04d** *27/00*
U.S. Cl. 415—149 2 Claims

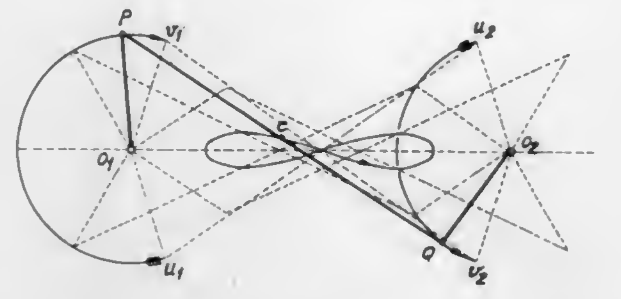


A plural-stage axial compressor having variable pitch stator blades, in which a blade pitch-adjusting sleeve includes a plurality of sections each engaging the pitch-adjusting levers of the blades of one or more stator blade stages, and also including a spacing ring disposed between and fastened to each pair of axially adjacent sleeve sections.

3,508,840
METHOD OF AND MACHINE FOR TRANSFORMING ENERGY IN FLUID MEDIA

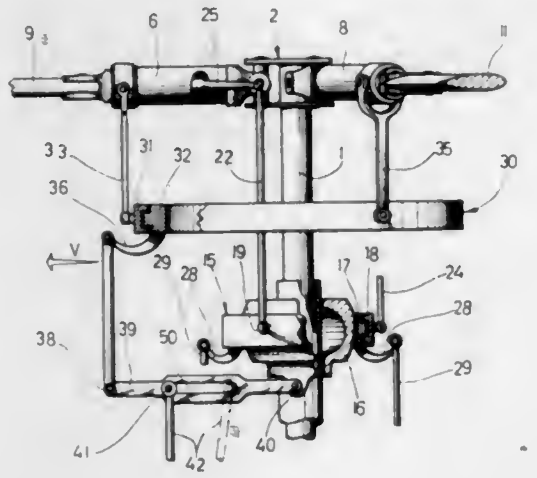
Guy Lederlin, 6 Rue d'Auteuil, Paris, France
Filed Apr. 9, 1968, Ser. No. 721,129
Claims priority, application France, July 17, 1967, 114,422
Int. Cl. B64c *33/02*
U.S. Cl. 416—1 16 Claims

A machine for transforming fluid energy has a wing system with at least one airfoil which, while transforming energy, creates and maintains a vortex doublet by which stored energy is returned by blowing at the surface of the airfoil so that separation of fluid from the surface is inhibited. A mechanism imparts to the airfoil a composite motion comprising the flapping movements, one transversely to the airfoil span, and the other being a rotary movement.



3,508,841
STABILIZING DEVICE FOR ADJUSTING THE BLADE SETTING ANGLE OF ROTARY WING AIRCRAFT ROTOR

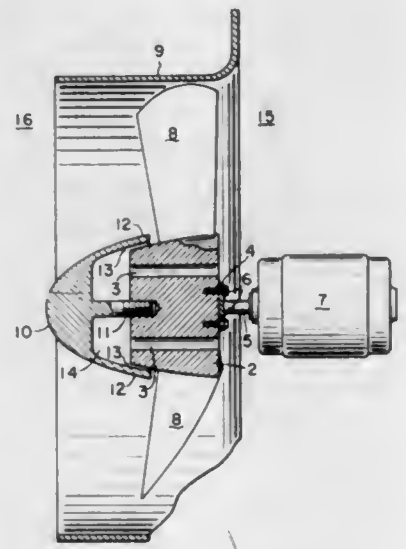
Hans Derschmidt, Munich, Germany, assignor to Bolkow Gesellschaft mit beschrankter Haftung, Ottobrunn, Germany
Filed Feb. 13, 1968, Ser. No. 705,166
Claims priority, application Germany, Feb. 25, 1967, B 91,378
Int. Cl. B64c *27/44, 27/76*
U.S. Cl. 416—40 8 Claims



A device for stabilizing a rotor of a high speed balanced blade rotary wing aircraft rotor includes a setting sleeve which is freely mounted around the main rotor shaft and which may be moved axially along the shaft. The setting sleeve carries an inner ring which rotatably supports an outer ring which is connected through linkages to sleeves mounting each blade for the purpose of tilting the blade about its longitudinal axis in order to change the setting angle of the blade during the rotation of the rotor. The outer ring and the inner ring may be inclined in respect to the axis of the rotor shaft by shifting it over a curved surface of the sliding sleeve. A feature of the construction is that when the setting sleeve is shifted axially, the setting angle of all of the blades of the rotor are changed collectively, whereas the individual setting angles are periodically changed during rotation of the rotor in accordance with the tilt of the inner and outer rings of a first wobble plate as determined by the tilt position of the first wobble plate in respect to the sliding sleeve upon which it is mounted.

3,508,842
APPARATUS FOR IMPROVING AXIAL VELOCITY PROFILE OF AXIAL FLOW FANS

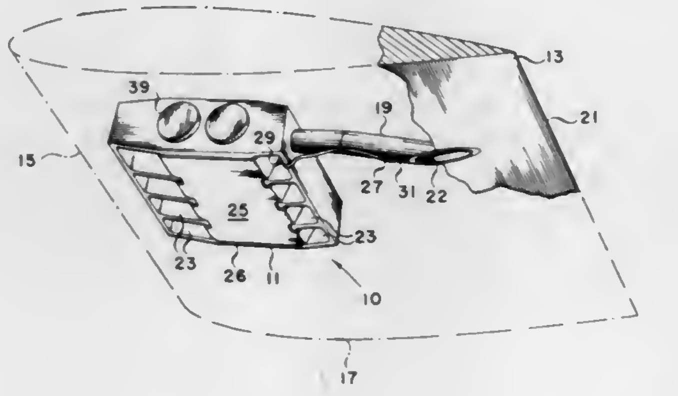
Ronald J. Lievens, Onalaska, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed Oct. 8, 1968, Ser. No. 765,803
Int. Cl. F04d *19/00, 25/06;* **B63h** *7/00*
U.S. Cl. 416—93 5 Claims



A fan having a novel hub attached to the fan wheel which directs induced air in a near axial direction across the fan wheel improves the axial velocity profile.

3,508,843
ANTINODE WEIGHT ASSEMBLY FOR ROTOR BLADES

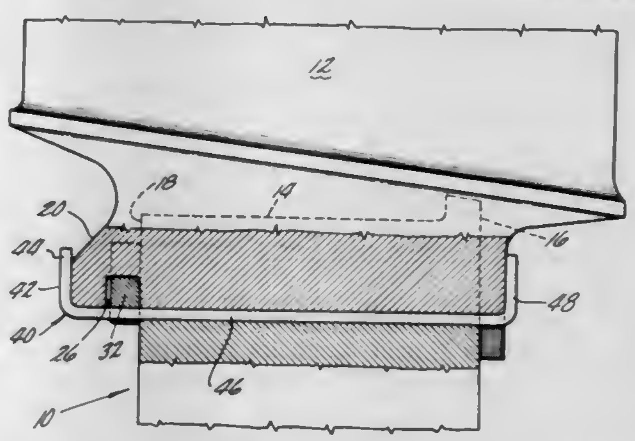
Jacob Schmidt, Van Nuys, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 1, 1968, Ser. No. 749,535
Int. Cl. B64c *11/8, 27/46*
U.S. Cl. 416—144 7 Claims



A rotor blade tuning apparatus for adding or removing weight within the contour of a stressed skin rotor blade without affecting the structural continuity of the main load carrying members of the blade. The apparatus which is installed beneath the skin portion of the rotor blade includes a fitting having cavities formed therein for receiving a low temperature solidifying alloy. Heating elements extend over the fitting to heat the walls of the cavities to melt the alloy and permit its removal from the cavities.

3,508,844
BLADE LOCK

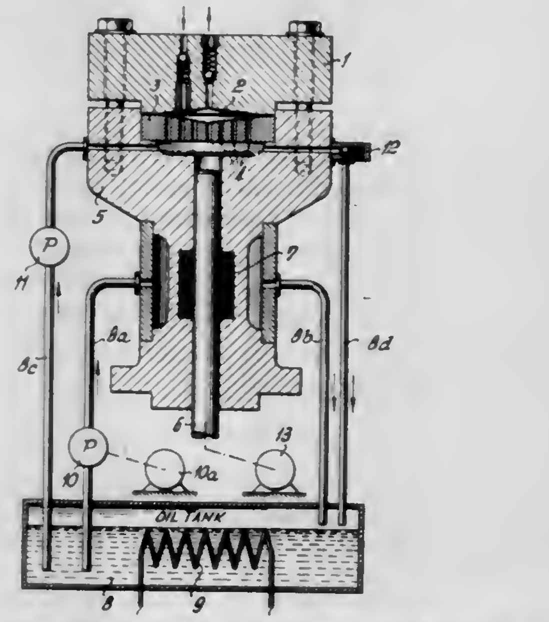
George P. Le Blanc, East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 25, 1968, Ser. No. 747,524
Int. Cl. F01d *5/32*
U.S. Cl. 416—221 6 Claims



A turbomachine having a rotor assembly construction wherein a blade lock construction is employed between the blade root and the rotor disk to prevent any axial movement of the blade root in the rotor disk.

3,508,845
METHOD OF OBTAINING HIGHER PRESSURES WITH A DIAPHRAGM COMPRESSOR AND DIAPHRAGM COMPRESSOR FOR CARRYING OUT SAID METHOD

Friedhelm Strassburger, Mulheim, Germany, assignor to Andreas Hofer Hochdruck-Apparatebau G.m.b.H., Mulheim (Ruhr), Germany
Filed June 13, 1968, Ser. No. 736,663
Claims priority, application Germany, June 14, 1967, H 62,999
Int. Cl. F04b *39/06, 45/00;* **F15b** *7/00*
U.S. Cl. 417—32 8 Claims

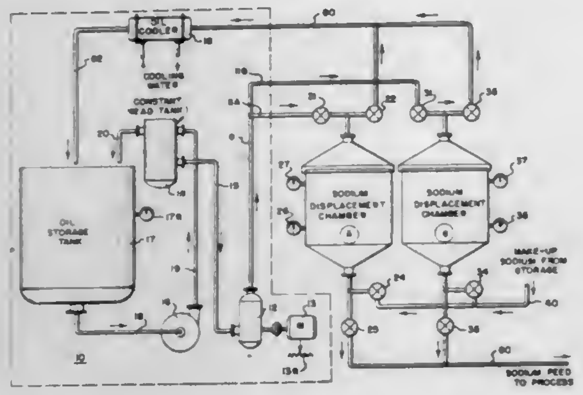


A high pressure diaphragm compressor in which the cylinder with the reciprocable actuating plunger is heated, and in which heated up oil is pumped by said plunger to the diaphragm of said diaphragm compressor.

3,508,846
HYDRAULIC METHOD AND APPARATUS FOR METERING MOLTEN ALKALI METALS

Gilbert I. Addis, Plainfield, and Theodore H. Kelly, Princeton, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed June 19, 1967, Ser. No. 647,116
Int. Cl. F04b *19/22*
U.S. Cl. 417—65 5 Claims

Method and apparatus for metering a molten alkali metal wherein the molten alkali metal is transiently stored in and transferred or metered from one or more displacement chambers to an output line by hydraulic displacement at a substantially constant predetermined volume flow-rate with a liquid, such as mineral oil, that is inert to and immiscible with the molten alkali metal.


OIL COOLER
COOLING WATER
CONSTANT HEAD TANK
OIL STORAGE TANK
SODIUM DISPLACEMENT CHAMBER
SODIUM DISPLACEMENT CHAMBER
MAKE-UP SODIUM FROM STORAGE
SODIUM FEED TO PROCESS
10

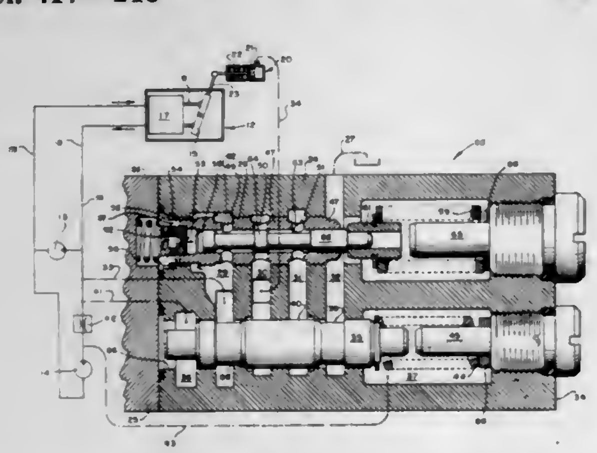
3,508,847
PUMP CONTROL SYSTEM

Robert J. Martin, Hutchinson, Kans., assignor to The Cessna Aircraft Company, Wichita, Kans., a corporation of Kansas

Filed Sept. 11, 1968, Ser. No. 759,027

Int. Cl. F04b *1/02, 49/00*

U.S. Cl. 417—218 10 Claims



A pressure and flow compensating control for varying the displacement of a variable delivery pump to meet the changing demands of one or more fluid motors. Upon receiving an indication of either an excess flow or excess flow or excess pressure, the control reduces the pump displacement while the control will not increase the displacement until there is an indication of both deficient flow and deficient pressure.

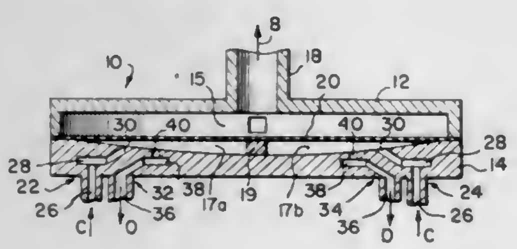
3,508,848
PNEUMATIC PUMP

Albertus E. Schmidlin, Caldwell, N.J., assignor to Singer-General Precision, Inc., a corporation of Delaware

Filed July 5, 1968, Ser. No. 742,558

Int. Cl. F04b *17/00*

U.S. Cl. 417—395 11 Claims



A pneumatic pump having a hollow housing divided into a resonant cavity and a pumping chamber by a diaphragm. Means are provided to produce pressure waves in the cavity to pump liquid through the chamber.

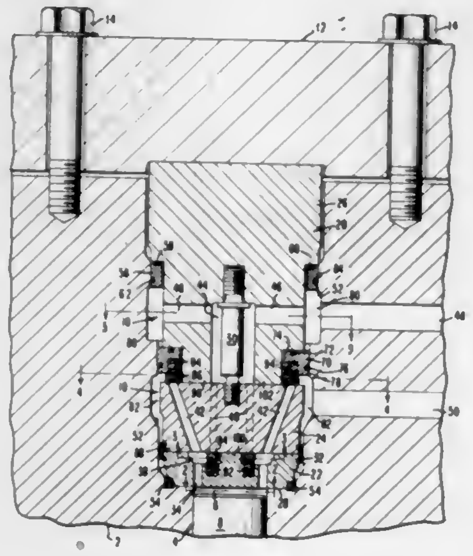
3,508,849
COMPRESSOR VALVE

Paul R. Weber, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 30, 1968, Ser. No. 701,682

Int. Cl. F04b *39/10*

U.S. Cl. 417—454 10 Claims



A suction-discharge valve for a high pressure compressor is provided, the valve comprising forward, intermediate and rearward sections arranged in contiguous series within a cavity communicating with a compression chamber of the compressor. The intermediate section has an annular array of inlet passages running lengthwise of the cavity and also an annular array of diverging outlet passages encompassing the inlet passages, with the forward and rearward surfaces of the intermediate section serving as the valve seat for washer-like closure elements operating to open and close the inlet passages and outlet passages, respectively, in response to the action of the compressor. The forward section has an annular array of passages running lengthwise of the cavity communicating between the inlet and outlet passages of the intermediate section and the compression chamber of the compressor. The rearward, intermediate and forward sections are spaced from the wall of the cavity and appropriately sealed thereagainst to provide a chamber of the fluid compressed by the compressor surrounding the forward and intermediate sections and another chamber for surrounding the rearward section with the pressure of the inlet fluid. The rearward section has passages communicating the inlet fluid with the inlet passages of the intermediate section. The compressor has a discharge passage for discharging the compressed fluid from the first mentioned surrounding chamber and an inlet passage for supplying fluid to be compressed to the second mentioned surrounding chamber.

3,508,850
PNEUMATICALLY OPERATED CONTROL SYSTEM AND METHOD

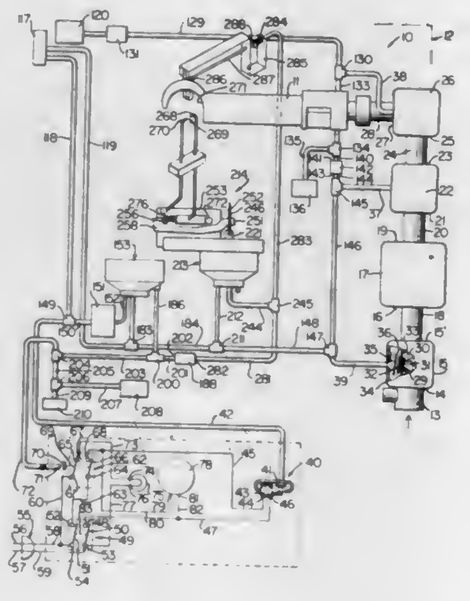
Arthur L. Good, Elkhart, Ind., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Mar. 15, 1968, Ser. No. 713,370

Int. Cl. F23 *5/00*

U.S. Cl. 431—2 40 Claims

This disclosure relates to a pneumatically operated control system for a fuel burning apparatus wherein pneumatically operated valve means are provided for controlling the flow of fuel to the main burner and pneumatically operated actuator means are provided for operating the ignition means for igniting the fuel issuing from the main burner means, the control system including means for automatically terminating the ignition means once a flame appears at the main burner and for turning off the control system should the main burner not be ignited during a predetermined time period.



3,508,851
APPARATUS FOR THE COMBUSTION OF GAS MIXTURES AND VAPOR MIXTURES

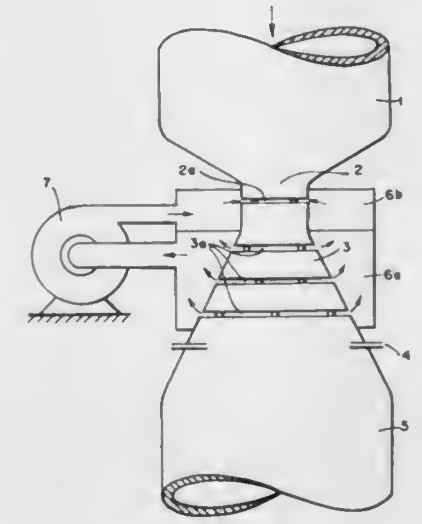
Matthias Lempp, Mannheim, and Friedrich Lorenz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed May 17, 1968, Ser. No. 729,972

Claims priority, application Germany, May 18, 1967, 1,642,930

Int. Cl. F23l *7/00*

U.S. Cl. 431—116 5 Claims



A burner for the partial oxidation of gas mixtures and vapor mixtures which is divided by a nozzle-shaped constriction into a pre-chamber and a combustion and gasification chamber, the burner wall having openings in the region of the constriction through which a branch stream of the unburned mixture can be supplied and/or withdrawn by means of a blower to stabilize the front of the flame.

3,508,852
OIL BURNER

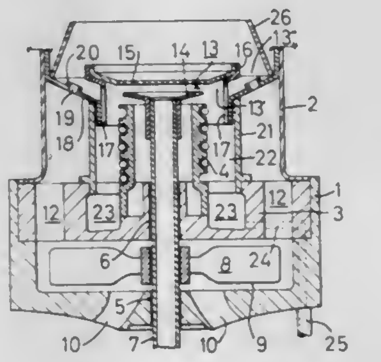
Avinoam Hourwitz, 4 Hameassfim St., and Boleslaw Houchman, 11 Hatham Sofer St., both of Tel-Aviv, Israel

Filed Jan. 2, 1968, Ser. No. 695,215

Claims priority, application Israel, Jan. 4, 1967, 27,216

Int. Cl. F23d *11/04*

U.S. Cl. 431—168 6 Claims



A burner comprising a chamber in which is disposed a rotary cup mounted on a hollow rotating shaft through which supply fuel is delivered to the cup and ejected therefrom in atomized form, the ejected fuel being vapourized in a first region of the chamber and ignited in a second region thereof, a fan for aspiring air to be mixed with the vapourized fuel, a cover spaced above the rotary cup, and a fixed body in the form of a conical plate surrounding and spaced outwardly from the rotary cup and cover, the plate being located in the trajectory of the ejected fuel and having air passages for the aspired air disposed in the second region of the chamber.

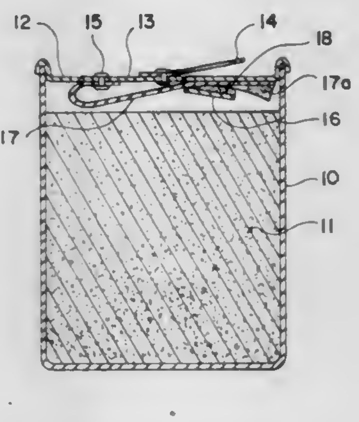
3,508,853
IGNITER

James R. Thurston, Brigham City, Henry J. Roberts, Ogden, and Christopher W. Bolieau and Edward E. McCullough, Brigham City, Utah, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Oct. 31, 1968, Ser. No. 772,327

Int. Cl. F23q *1/02*

U.S. Cl. 431—270 10 Claims



An igniter for flares, smoke pots, canned heat and other solid or semi-solid combustible materials contained in a sealed tear top can in which the igniter is completely attached to the underside of the can top, is spring loaded to assure positive high friction between a scratcher and a match material, and is operated simply by opening the tear top of the can.

CHEMICAL

3,508,854

DYEABLE DEXTRIN-MODIFIED LATEX TREATED ARTICLE

Malcolm R. Sockol, Pittsfield, Mass., and Chester J. Kawa, Naugatuck, Conn., assignors to Uniroyal, Inc., a corporation of New Jersey
No Drawing. Filed Nov. 17, 1966, Ser. No. 594,999
Int. Cl. D06p *5/00, 7/00*
U.S. Cl. 8—18 **7 Claims**

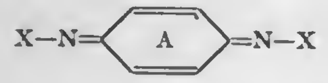
The invention relates to a rubber coated textile fabric comprising a textile fabric substrate and an elastomeric polymer film coating thereon wherein the polymer film contains a dextrin dye acceptor which renders the elastomeric polymer film dyeable with the identical textile dyes which are capable of dyeing the textile fabric substrate.

3,508,855

PROCESS FOR PAD-DYEING AND PRINTING

Eiji Koike, Toyonaka-shi, Seizo Naito, Ibaraki-shi, Hisashige Terao, Toyonaka-shi, and Takayuki Morita, Osaka, Japan, assignors to Sumitomo Chemical Company, Ltd., Osaka, Japan, a corporation of Japan
No Drawing. Filed Sept. 12, 1966, Ser. No. 578,492
Claims priority, application Japan, Sept. 16, 1965, 40/56,915; Jan. 6, 1966, 41/770; Jan. 12, 1966, 41/2,000
Int. Cl. D06p *1/32, 3/08*
U.S. Cl. 8—32 **7 Claims**

A process for pad-dyeing or printing textile fabrics of synthetic or semi-synthetic fibers by applying thereto a quinone-dihaloimine having the formula,



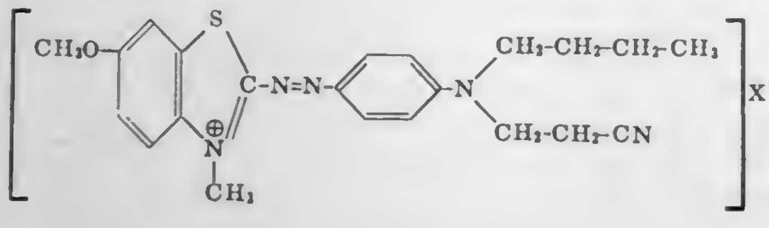
wherein X is a halogen atom and nucleus A may have a halogen atom or a lower alkyl or alkoxy group as a substituent, under the pH more than 8 inclusive in the presence of an inorganic alkaline agent, at a pH exceeding 8. Preferred compounds are 1,4-quinone-dichloride or 1,4-quinonedibromide. The medium may include substituted aromatic amines or hydrocarbons such as phenols, cresols and naphthols.

3,508,856

POLYACRYLONITRILE TEXTILE MATERIALS DYED WITH A QUATERNIZED BENZOTHIAZOLE AZO DYE

Hans Ruprecht Hensel, Heidelberg, and Magnus Rosenkranz, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Aug. 24, 1966, Ser. No. 574,565
Claims priority, application Germany, Mar. 10, 1966, 1,619,328
Int. Cl. C09b *27/00, 45/48;* **D06p** *3/70*
U.S. Cl. 8—41 **3 Claims**

The present invention relates to polyacrylonitrile textile material dyed with a dye having the formula:



I

in which $X^{\ominus}$ denotes a colorless anion.

3,508,857

PROCESS FOR REMOVING KERATIN-CONTAINING PARTS FROM ANIMAL HIDES AND PELTS AND THE KERATIN-CONTAINING PARTS ADHERING TO SUCH HIDES AND PELTS

Kurt Rosenbusch and Gustav Hudec, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Feb. 17, 1967, Ser. No. 616,798
Claims priority, application Germany, Feb. 25, 1966, F 48,521
Int. Cl. C14c *1/06*
U.S. Cl. 8—94.16 **15 Claims**

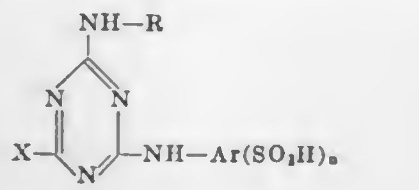
Process for removing keratin-containing parts of animal hides and pelts by exposing the hides and pelts to the action of chlorine dioxide until the keratin-containing parts have jellified and softened, and by then treating the hides and pelts with an alkaline bath.

3,508,858

PROCESS AND PRODUCT FOR IMPROVING THE TEXTILE CHARACTERISTICS OF NATURAL AND SYNTHETIC FIBERS AND FIBERS OBTAINED THEREBY

Vittorino Cadario and Davide Miglierina, Gozzano, Novara, Italy, assignors to Bemberg S.p.A., Gozzano, Novara, Italy, a company of Italy
No Drawing. Filed Jan. 5, 1967, Ser. No. 607,384
Claims priority, application Italy, Jan. 11, 1966, 556/66
Int. Cl. D06m *13/34*
U.S. Cl. 8—115.5 **15 Claims**

A process for permanently imparting improved textile characteristics to natural and synthetic fibers having in their molecules free hydroxyl or amino groupings or mobile hydrogen atoms. The fiber is treated with an aqueous bath containing a compound having the general formula



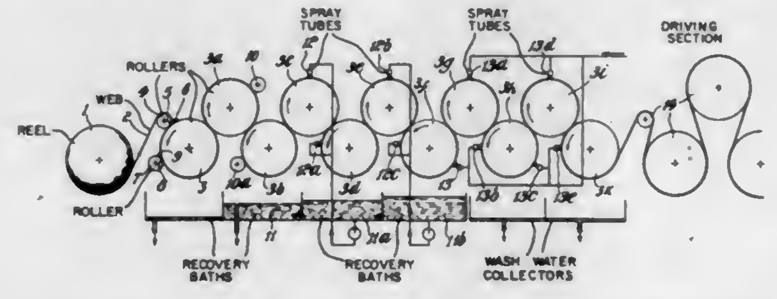
wherein R is an aliphatic radical formed by a chain of from 14 to 30 carbon atoms, X is a halogen atom, Ar is an aromatic radical selected from the group consisting of benzene, naphthalene, biphenyl, stilbene, and *n* is an integer comprised between 1 and 4.

3,508,859

MANUFACTURE OF VEGETABLE PARCHMENT PAPER

Konrad Agahd, deceased, late of Kempten, Germany, by Gerlinde Agahd, born Homola, heiress, Kempten, Germany; Max Bauer, Obergunzburg, Volker Dietrich, Durach, Adolf Hildenbrand, Kempten, and Werner Abele, Varel, Germany, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Continuation-in-part of application Ser. No. 189,344, Apr. 23, 1962. This application Nov. 2, 1966, Ser. No. 601,260
Int. Cl. D21h *5/08*
U.S. Cl. 8—119 **6 Claims**

A process of manufacturing thin parchment paper where a paper web is treated with parchmentizing liquids from a storage reservoir while the web is supported in a substantially tensionless condition on a train of driven rollers, the rollers having an adhesion-resistant peripheral surface of a material such as polyethylene, polytetrafluoroethylene and silicone rubber. The web is thereafter dried.



3,508,860

FLAT DRYING, WET WRINKLE RESISTANT FINISH FOR CELLULOSIC TEXTILE MATERIALS

William Julius Van Loo, Jr., Rye, N.Y., and Samuel James O'Brien, Dunellen, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Aug. 25, 1966, Ser. No. 574,900
Int. Cl. D06m *13/00*
U.S. Cl. 8—120 **4 Claims**

A new use process of applying a polyhalotetrahydrothiophene 1,1-dioxide to a cellulosic substrate to produce a flat-drying, wet-crease resistant cellulosic textile material such as fibers, yarns, and fabrics.

3,508,861

PROTECTION OF ZIRCONIUM ALLOYS AGAINST HYDRIDING IN ORGANIC COOLANTS

Stanley R. Hatcher and John Boulton, Pinawa, Manitoba, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada
Filed Sept. 2, 1965, Ser. No. 484,594
Int. Cl. C23f *11/08*
U.S. Cl. 21—2.7 **2 Claims**

A method for reducing the accelerated hydriding of zirconium alloys exposed to organic coolant contaminated with chlorine by maintaining a concentration of at least 60 p.p.m. of water in the coolant.

3,508,862

PROCESS FOR SEPARATION OF NIOBIUM AND TANTALUM

Franklin Dee Stevenson and John E. Conway, Ames, Iowa, assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 4, 1967, Ser. No. 658,989
Int. Cl. C22b *59/00*
U.S. Cl. 23—21 **6 Claims**

A method of separating niobium from tantalum by passing a mixture of the two metal pentachlorides, as a gas, through heated calcium oxide and calcium fluoride to form a volatile niobium compound and nonvolatile tantalum compounds, and separating the niobium compound from the tantalum compounds.

3,508,863

PREPARATION OF SODIUM CARBONATE MONOHYDRATE FROM SODA SMELT SOLUTION

Keijo R. T. Kiminki and Lauri K. Keskinen, Heinola, Finland, assignors to Oy Tampella Ab, Tampere, Finland, a corporation of Finland
Filed May 19, 1967, Ser. No. 639,873
Claims priority, application Finland, May 25, 1966, 1,370/66
Int. Cl. C01d *7/00*
U.S. Cl. 23—63 **3 Claims**

An aqueous smelt solution containing sodium carbonate, sodium sulfide, sodium thiosulphate, and sodium sulfate is pre-carbonated to form sodium bicarbonate in solution which is evaporated in the presence of recycled crystalline sodium bicarbonate to drive off hydrogen sulfide and precipitate sodium carbonate monohydrate.

3,508,864

HYDROXYLAMMONIUM PERCHLORATE MANUFACTURE

Wallace W. Thompson, Tarzana, and David R. V. Golding, Malibu, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
No Drawing. Filed Oct. 21, 1966, Ser. No. 588,323
Int. Cl. C01b *11/18*
U.S. Cl. 23—85 **1 Claim**

This invention relates to the manufacture of hydroxylammonium perchlorate using ion exchange resins to separate interfering ions from starting hydroxylammonium and perchlorate reactants.

3,508,865

AMMONIUM POLYPHOSPHATE PRODUCED AT ATMOSPHERIC PRESSURE

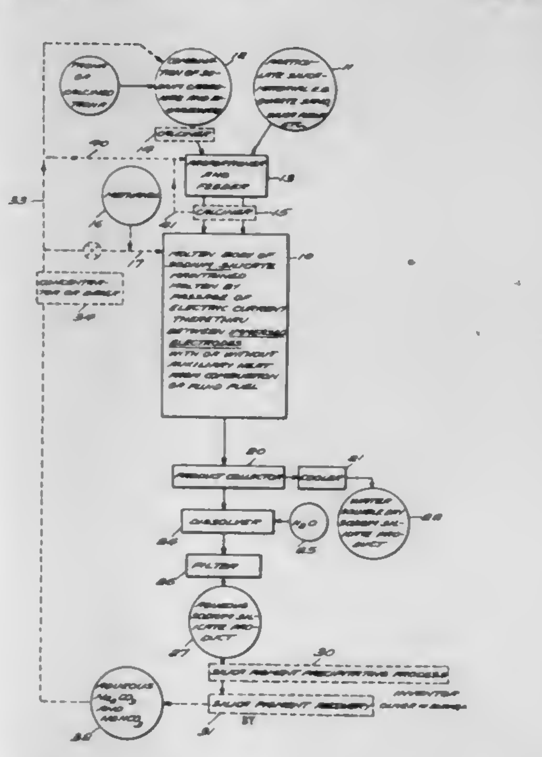
Thad D. Farr, Sheffield, and Henry K. Walters, Jr., Florence, Ala., assignors to Tennessee Valley Authority, a corporation of the United States
Continuation-in-part of application Ser. No. 663,171, Aug. 24, 1967. This application Sept. 12, 1968, Ser. No. 759,308
Int. Cl. C01b *25/28, 25/38*
U.S. Cl. 23—107 **1 Claim**

A process wherein superphosphoric acid containing P_2O_5 in the range of about 70 percent to about 83 percent is treated with ammonia and water at atmospheric pressure to prepare an aqueous slurry at pH about 8 that is mixed with product recycle fines and fresh acid and then ammoniated to produce dry granular products, without the need of a drying step, which have high ratios of N to P_2O_5 and which contain mostly ammonium ortho-, pyro-, and tripolyphosphates.

3,508,866

PREPARATION OF ALKALI METAL SILICATES

Oliver W. Burke, Jr., 506 Intracoastal Drive,
Fort Lauderdale, Fla. 33304
Filed Apr. 21, 1967, Ser. No. 632,730
Int. Cl. C01b *33/32*
U.S. Cl. 23—110 **24 Claims**



Aqueous sodium silicate solutions and aqueously soluble sodium silicate are prepared by an improved process wherein a melted body of sodium silicate is formed, an electric current is passed through said melted body of sufficient intensity to maintain the molten state (with or without auxiliary direct heating by combustion of fluid fuel), a proportioned mixture of reactants is prepared from particulate silica material and a combination of sodium carbonate and bicarbonate and fed to the melt, and correspondingly, water soluble sodium silicate is recovered from the molten material withdrawn from the melt. The "combination" may be recycled from a silica pigment process or may be derived from trona and may be calcined before or after mixing with the particulate silica material. Sodium carbonate or hydroxide may also be fed to the current conducting melt, and such materials may be fed thereto as aqueous solutions preferably containing 0.05 to 5% methanol for protecting the electrodes.

3,508,867

CRYSTALLINE ALUMINOSILICATES

Vincent J. Frilette, Delaware Township, Camden County, N.J., and Paul B. Weisz, Media, Pa., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 754,915, Aug. 14, 1958. This application Dec. 21, 1961, Ser. No. 161,242

Int. Cl. C01b *33/28*

U.S. Cl. 23—111 **1 Claim**

Crystalline aluminosilicates of the molecular sieve type having non-metallic ions such as hydrogen or ammonium ions in combination with metallic cations having a valence greater than one selected from Groups I–B through VIII of the Periodic Table. The compositions are prepared by treating a crystalline aluminosilicate with a solution containing the desired ions until such time as the aluminosilicate is base-exchanged so as to contain combinations of the aforementioned metallic and nonmetallic cations. The compositions have particular use as catalysts for the conversion of hydrocarbons.

3,508,868

METHOD OF TREATING EXHAUST GASES CONTAINING SULFUR DIOXIDE

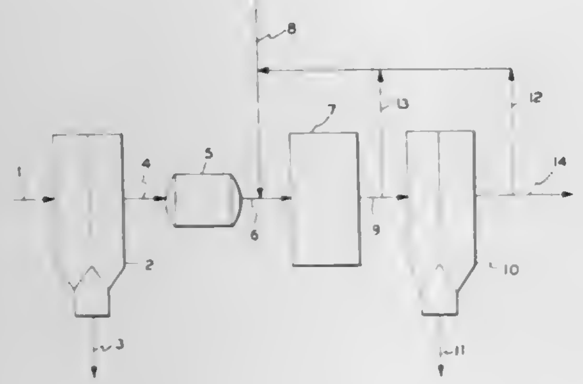
Raisaku Kiyoura, Tokyo, Japan, assignor to Mitsui Toatsu Chemicals Incorporated, Tokyo, Japan, a corporation of Japan

Filed Mar. 4, 1966, Ser. No. 531,808

Claims priority, application Japan, July 3, 1965, 40/39,540; Aug. 3, 1965, 40/46,786

Int. Cl. C01c *1/24*

U.S. Cl. 23—119 **13 Claims**



1. Process for removing SO_2 from exhaust gas containing less than 3% SO_2 and producing ammonium sulfate therefrom comprising the steps of contacting said gas at a temperature of about 340° C. to about 410° C. and a space velocity of about 1,000 to about 8,000 with vanadium pentoxide catalyst to convert SO_2 in said gas to SO_3, reacting at a temperature in the range of about 60° C. to about 250° C. the thus treated gas with water vapor and gaseous ammonia in amounts approximately stoichiometric to that required to convert the SO_3 contained in said gas to ammonium sulfate, removing formed ammonium sulfate crystals from said gas, and recycling a part of the depleted gas after removal of said ammonium sulfate crystals to said reacting step, to dilute the gaseous ammonia fed to said reaction step.

3,508,869

NOVEL CRYSTALLINE $Mg(OH)_2$ AND MgO AND METHODS OF PREPARATION

Robert J. Shoaff, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 4, 1966, Ser. No. 591,987

Int. Cl. C01f *5/08, 5/20*

U.S. Cl. 23—201 **10 Claims**

$Mg(OH)_2$ crystals hexagonal in form and 15 to 3000 microns in length and width and about 700 angstrom units in thickness are formed by precipitation from an aqueous solution of a water soluble magnesium salt at a temperature above about 300° C. with a nitrogenous base. MgO having length and width of 10–3000 microns and a thickness of about 700 angstrom units can be made by calcining the $Mg(OH)_2$.

3,508,870

OSMIUM CARBONYL

Christopher William Bradford, London, England, assignor to Johnson, Matthey & Co. Limited, London, England, a British company

No Drawing. Filed Jan. 2, 1968, Ser. No. 694,887

Claims priority, application Great Britain, Jan. 3, 1967, 221/67

Int. Cl. C01g *1/04, 55/00*

U.S. Cl. 23—203 **5 Claims**

Method of preparing osmium carbonyls wherein a solution of osmium tetroxide in an inert hydrocarbon solvent is heated at an elevated temperature under super atmospheric pressure in the presence of carbon monoxide. The product is primarily $Os_3(CO)_{12}$ with traces of $Os_4O_4(CO)_{12}$.

3,508,871

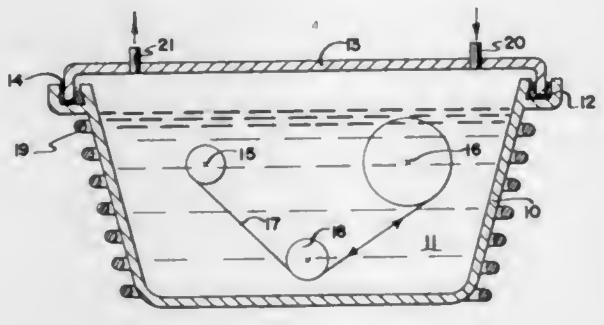
CARBONIZING FIBROUS MATERIALS

Myron T. Cory, Lewiston, N.Y., assignor, by mesne assignments, to The Carborundum Company, a corporation of Delaware

Filed May 29, 1963, Ser. No. 284,151

Int. Cl. C01b *31/07*

U.S. Cl. 23—209.1 **11 Claims**



A process for treating carbonizable fibrous materials comprising (1) contacting the carbonizable fibrous material with a heating medium organic solvent to partially carbonize the fibrous material and removing the tarry residue released by decomposition, (2) separating the fibrous material from the heating medium, (3) further carbonizing the fibrous material in an inert gaseous atmosphere and products made according to this process.

3,508,872

PRODUCTION OF GRAPHITE FIBRILS

Dagobert E. Stuetz, Westfield, and Charles L. Smart, Millington, N.J., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 1, 1967, Ser. No. 664,930

Int. Cl. C01b *31/04*

U.S. Cl. 23—209.1 **3 Claims**

A naturally occurring cellulosic material such as particulate wood is converted to graphite fibrils by thermal treatment. The graphite fibrils formed according to the invention possess highly desirable physical properties, and are particularly suited for use as a fire resistant smokeless reinforcing medium for incorporation in a binder to form a composite article.

3,508,873

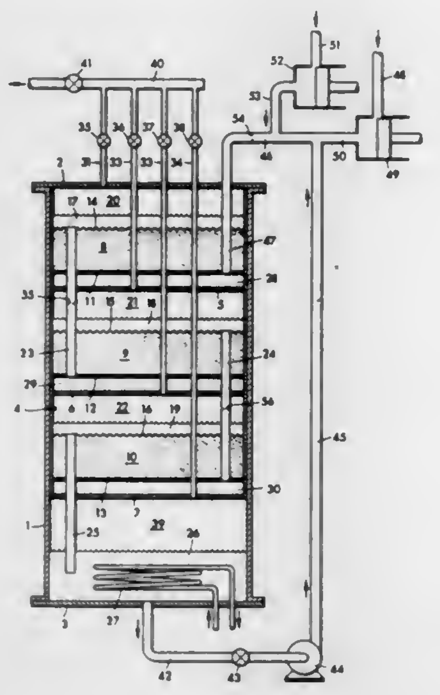
HYDROGEN PRODUCED IN AQUEOUS HYDROCARBON EMULSION MULTIBED REACTOR

William F. Taylor, Scotch Plains, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Feb. 3, 1967, Ser. No. 613,936

Int. Cl. B01j *9/04;* **C01b** *2/16*

U.S. Cl. 23—211 **8 Claims**



Means and method for treating liquid mixtures successively distributed up through solids beds under controlled varied pressures in series and for removal of gaseous products as they are formed in each of the beds.

More particularly, it relates to a high pressure apparatus and operation for producing hydrogen by reaction of liquid hydrocarbon dispersed in water as an emulsion or liquid reaction mixture brought into contact with catalyst solids in a number of vertically spaced beds with means for distributing such liquid emulsion up through each bed, for passing such emulsion of unconverted liquid reactants serially through the beds and for removing gas product formed in the beds in a manner that avoids further contact of gas products with the catalyst solids.

3,508,874

PRODUCTION OF CARBON YARNS

Richard N. Rulison, Drummondville, Quebec, Canada, assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 12, 1968, Ser. No. 700,672

Int. Cl. C01b *31/07*

U.S. Cl. 23—209.1 **11 Claims**

An improved process for the production of carbon and graphite yarns wherein an acrylic yarn is passed through a liquid medium containing a dispersion of particulate carbon and then continuously dried before preoxidation and pyrolysis.

3,508,875

METHOD FOR TRACING THE FLOW OF WATER IN SUBTERRANEAN FORMATIONS

Burton B. Sandiford, Placentia, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Oct. 3, 1967, Ser. No. 672,448

Int. Cl. G01n *31/22, 33/24;* **E21b** *47/10*

U.S. Cl. 23—230 **6 Claims**

A method for tracing the flow of water from a plurality of origin points to at least one recovery point in which a different water-soluble iodide, thiocyanate or salicylate compound is added to the water at each origin point and the recovered water analyzed for the presence of iodide, thiocyanate and salicylate by admixing a portion of the recovered water with carbon tetrachloride and then adding ferric chloride solution.

3,508,876

METHOD FOR TRACING THE FLOW OF WATER IN SUBTERRANEAN FORMATIONS

Orville L. Polly, Long Beach, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Oct. 3, 1967, Ser. No. 672,452

Int. Cl. G01n *31/22, 33/24,* **E21b** *47/10*

U.S. Cl. 23—230 **16 Claims**

A method for tracing the flow of water through a subterranean formation in which a water-soluble aldehyde is added to the water at a selected point and samples of water are withdrawn from the formation at one or more points remote from the point of addition and analyzed for the presence of aldehyde.

3,508,877

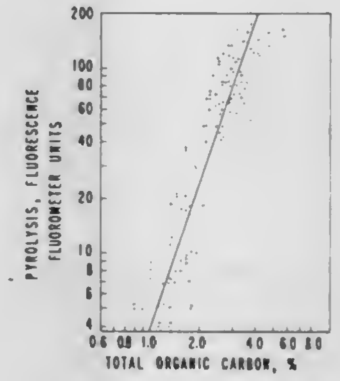
PROCESS FOR MEASURING THE LIVE CARBON CONTENT OF ORGANIC SAMPLES

Robert L. Heacock, Littleton, Colo., and Archie Hood, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Nov. 13, 1967, Ser. No. 682,466

Int. Cl. G01n *21/24, 31/12, 33/24*

U.S. Cl. 23—230 **8 Claims**



A process for measuring the live carbon content of an organic sample by heating the sample to pyrolyzing temperature so that vapors are given off. The vapors are condensed, the fluorescence thereof is measured and the live carbon content of the sample material is determined by correlating the measured fluorescene with the fluorescence from a material of known carbon content.

3,508,878

CONTAINERS FOR DISPENSING DROP-SIZE QUANTITIES OF LIQUIDS

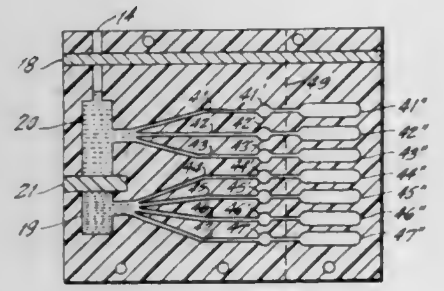
Efron Gunders, Rehovoth, Israel, assignor to Yeda Research and Development Co., Ltd., Rehovoth, Israel

Filed Dec. 5, 1966, Ser. No. 599,053

Claims priority, application Israel, Dec. 29, 1965, 24,894

Int. Cl. G01n *31/00;* **B65d** *35/08, 35/22*

U.S. Cl. 23—253 **4 Claims**



Container for use in chemical and serological analysis made of thin plastic material, the container being adapted for dispensing drop-size quantities of fluids contained therein. The container is particularly suitable for use in blood typing.

3,508,879

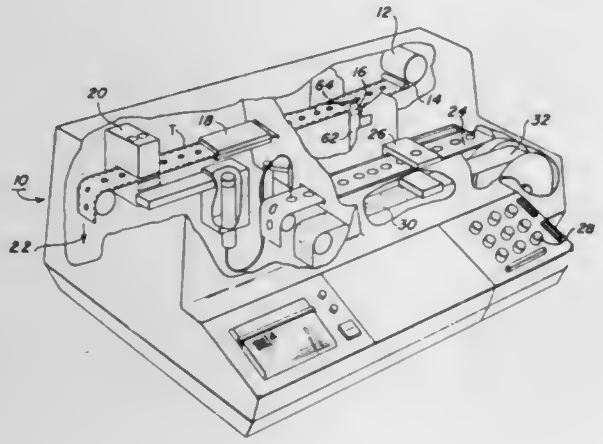
ALIQUOTTING DEVICE

Engene Findl, Granada Hills, and Douglas G. Marlow, Arcadia, Calif., and William B. Mason, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 15, 1966, Ser. No. 602,080

Int. Cl. G01n *27/02, 31/00, 1/14*

U.S. Cl. 23—253 **13 Claims**



This application relates to an automatic aliquoter having a hollow head having a measuring tube attached thereto, the measuring tube defining a measured portion of liquid, when the tube is completely filled, to be transferred from a liquid reservoir to a location remote therefrom. The hollow head is alternately connected to a source of vacuum and a source of pressure by valve means, and means are provided to sense when the measuring tube is completely filled and to terminate the withdrawal action of the vacuum source thereby leaving the measuring tube in a completely filled condition. When the measuring tube is oscillated to the remote location, the measuring tube is connected to the source of pressure so that the liquid can be expelled from the measuring tube.

3,508,880

APPARATUS FOR CARRYING OUT CHROMATOGRAPHIC ANALYSES OF AMINO ACIDS, THEIR MIXTURES AND SIMILAR MATERIALS

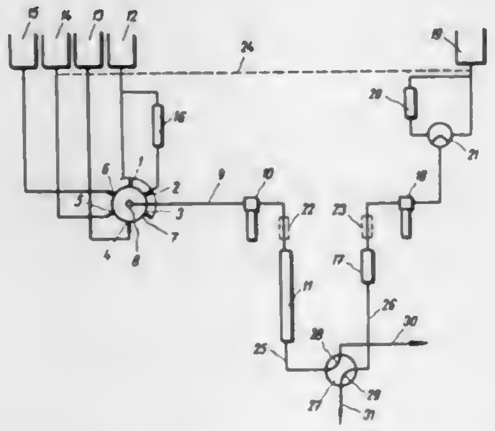
Jiří Hrdina, Prague, Czechoslovakia, assignor to Ceskoslovenska akademie ved, Prague, Czechoslovakia, a corporation of Czechoslovakia

Filed Jan. 6, 1967, Ser. No. 607,818

Claims priority, application Czechoslovakia, Jan. 7, 1966, 107/66

Int. Cl. G01n *31/08, 31/06*

U.S. Cl. 23—253 **5 Claims**



Apparatus for chromatographic analysis including one larger column and one smaller column, whose effluents flow through a valve either into an evaluation apparatus or to waste disposal, depending upon the position of the valve. Each column has its own pump for supplying fluid under pressure. In one column, a short regeneration is effected, during which the final stage of the separation of the preceding sample proceeds in the portion of the column downstream from the regeneration zone, while the separation of components of another sample occurs upstream from the regeneration zone.

3,508,881

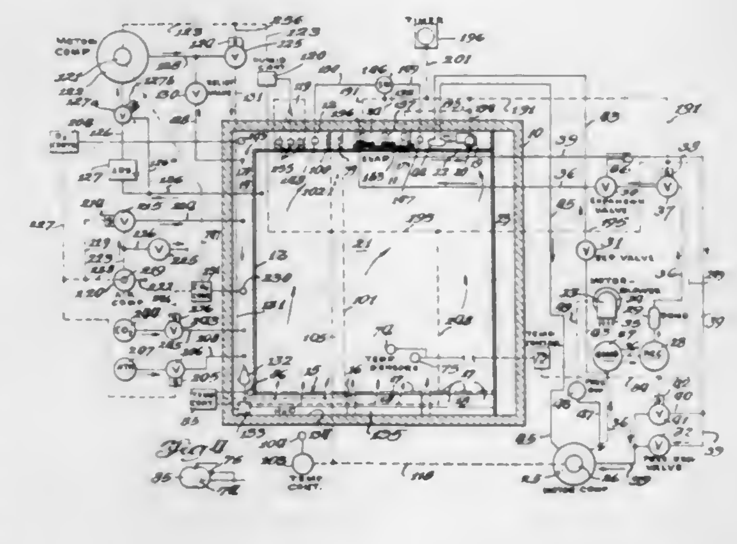
STORAGE UNIT

Richard G. Hagenauer, Southfield, Mich., Jack I. Anderson, Salinas, Calif., and Marvin A. Fuller, Benton Harbor, and Alexander L. Reiter, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware

Original application Mar. 9, 1964, Ser. No. 350,205, now Patent No. 3,307,618, dated Mar. 7, 1967. Divided and this application Dec. 1, 1966, Ser. No. 598,255

Int. Cl. B01j *7/00;* **F26b** *21/06;* **A23b** *7/00*

U.S. Cl. 23—281 **2 Claims**



Fluid circuitry and atmosphere control system for automatically maintaining preselected levels of oxygen, carbon dioxide, nitrogen and moisture in the atmosphere of a storage container for plant and animal materials.

3,508,882

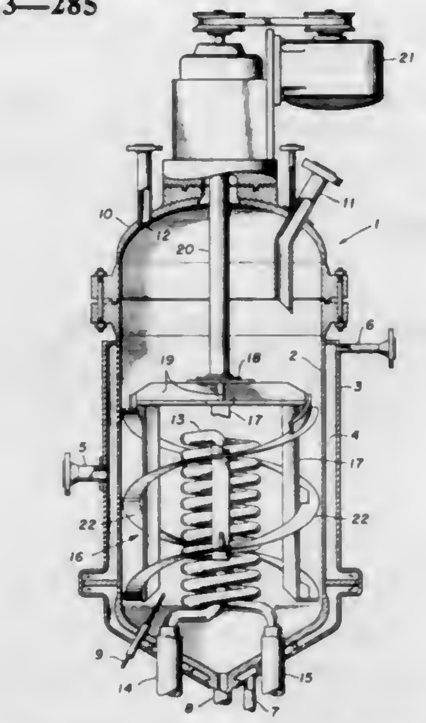
STIRRED AUTOCLAVE

Jimmie E. Farnell, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Filed Nov. 17, 1967, Ser. No. 683,841

Int. Cl. B01j *3/00*

U.S. Cl. 23—285 **1 Claim**



An autoclave having a thermally heated lower and an unheated upper portion and a driven cylindrical cage stirrer overhanging a heating means therein providing an autoclave that resists formation and accrual of degradable residue and yields extended batch reacting of polymeric salt solutions.

3,508,883

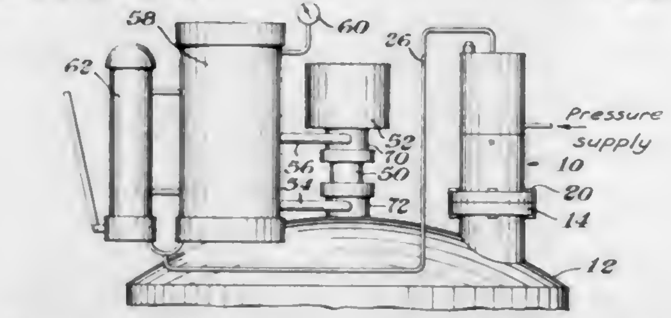
AUTOMATIC PRESSURE ADJUSTOR

David M. Gatto, Antioch, Calif., and Kenneth E. Cox, Albuquerque, N. Mex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 30, 1967, Ser. No. 678,918

Int. Cl. B01j *3/00;* **F16n** *11/10, 11/64*

U.S. Cl. 23—290 **6 Claims**



Means to automatically vary the pressure on the lubricant in the rotary seal of a stirred reactor vessel so that the seal pressure always exceeds the pressure in the reactor vessel by a preselected amount, comprising a mechanical analogue of a pressure adder in which two piston disks are mounted on a common shaft. The reactor pressure is applied to one disk. A predetermined bias (spring or fluid pressure) is exerted on one face of the second disk so that the sum of the reactor and bias pressures is transmitted by the other face of the second disk to the lubricant which is fed to the seal.

3,508,884

REMOVAL OF SODIUM CARBONATE AND SODIUM SULFATE FROM BAYER SOLUTIONS

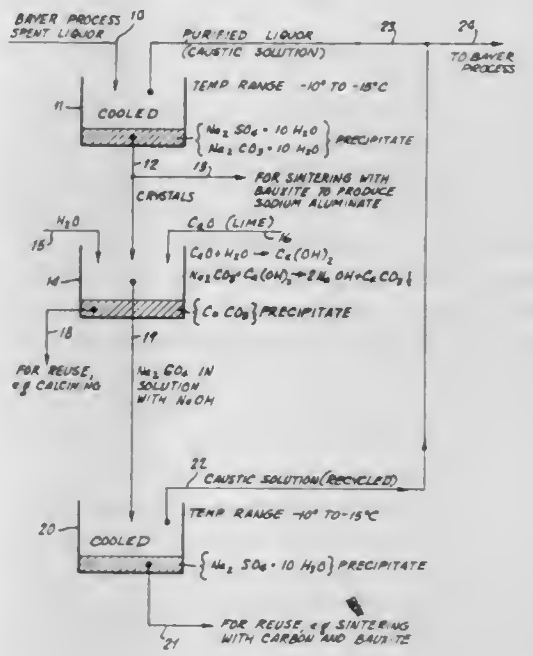
Stephen Ostap and Denis Bartok, Arvida, Quebec, Canada, assignors to Alcan Research and Development, Limited, Ottawa, Ontario, Canada

Filed Feb. 3, 1967, Ser. No. 613,855

Int. Cl. B01d *9/02*

U.S. Cl. 23—302 **2 Claims**

In the Bayer process, bauxite is digested in caustic-aluminate solution to dissolve the alumina. After the caustic-insoluble impurities are separated, the alumina is recovered from the pregnant aluminate solution by cooling and seeding with gibbsite. The spent aluminate solution contains some carbonate as an undesirable impurity. Sodium carbonate and other materials, such as sodium sulfate, are removed from the spent aluminate solution, without otherwise concentrating the spent solution, by low temperature crystallization.


BAYER PROCESS SPENT LIQUOR
10
PURIFIED LIQUOR (CAUSTIC SOLUTION)
23
24
TO BAYER PROCESS
TEMP RANGE -10° TO -15°C
11
COOLED
Na2 SO4 · 10 H2O
Na2 CO3 · 10 H2O
PRECIPITATE
12
13
FOR SINTERING WITH BAUXITE TO PRODUCE SODIUM ALUMINATE
CRYSTALS
H2O
15
CaO (LIME)
16
CaO + H2O → Ca(OH)2
Na2 CO3 + Ca(OH)2 → 2Na OH + Ca CO3
14
Ca CO3 PRECIPITATE
18
19
FOR REUSE, e.g. CALCINING
Na2 CO4 IN SOLUTION WITH NaOH
22
CAUSTIC SOLUTION (RECYCLED)
TEMP RANGE -10° TO -15°C
20
COOLED
Na2 SO4 · 10 H2O PRECIPITATE
FOR REUSE, e.g. SINTERING WITH CARBON AND BAUXITE
21

3,508,885

METAL SANDWICH COMPOUNDS CONTAINING $B_{10}H_{10}S^{2-}$ AND ITS DERIVATIVES

Walter R. Hertler, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 559,730, June 23, 1966. This application Mar. 15, 1967, Ser. No. 623,236

Int. Cl. C01b *6/22*

U.S. Cl. 23—361 **3 Claims**

Sandwich compounds of iron, cobalt and nickel and half-sandwich compounds of cobalt, palladium, platinum, manganese and rhenium with icosahedral $B_{10}H_{10}S^{2-}$ fragments having up to four hydrogen atoms substituted by aryl groups, can be made by reacting halogen-containing transition metal compounds with $X[B_{10}H_{11}S]$ or its aryl substituted derivatives, when X is an alkali metal ion, ammonium or hydrogen in the presence of an alkali metal or an alkyllithium compound under anhydrous conditions. Mixed sandwich compounds with cyclopentadienyl groups and icosahedral $B_{10}H_{10}S^{2-}$ groups can also be obtained.

3,508,886

INORGANIC ALUMINUM-FLUORINE-ALUMINUM BOND POLYMERS

Edward E. Flagg and Donald L. Schmidt, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 3, 1967, Ser. No. 627,860

Int. Cl. C01f *7/52*

U.S. Cl. 23—365 **9 Claims**

This invention is concerned with novel inorganic polymers based on aluminum and fluorine wherein there is aluminum-fluorine-aluminum bonding. The polymers are prepared by reacting an aluminum source material, e.g. an alane, substituted alane, aluminum alkyl or substituted aluminum alkyl with hydrogen fluoride.

3,508,887
COUPLED FERROMAGNETIC FOILS OR LAYERS

Pierre Georges Henri Chezel, René Fernand Victor Girard, Georges Grunberg, and Louis Neel, Grenoble, France, assignors to Societe Industrielle Bull-General Electric (Societe Anonyme), Paris, France
No Drawing. Filed Mar. 24, 1966, Ser. No. 536,997
Claims priority, application France, Apr. 2, 1965, 11,755
Int. Cl. B32b *15/00*
U.S. Cl. 29—183.5 9 Claims

Arrangement of coupled ferromagnetic thin films comprising a nonmagnetic support, a first thin film and a second thin film deposited upon said support and made of a ferromagnetic alloy of the same metals, said films being separated from each other by a thin conductive nonferromagnetic intermediate layer and exhibiting different coercive forces, said second film is of a homogeneous composition having a magnetostriction of substantially zero value, while the first film is of a nonhomogeneous composition varying in the direction of its thickness on either side of a mean value corresponding to the alloy having a magnetostriction of substantially zero value, so that said first film exhibits a magnetostriction of substantially zero value and a coercive force which is higher than that of said second film. In the disclosed method of making the composite structure, the films are deposited on the layer by electrolysis.

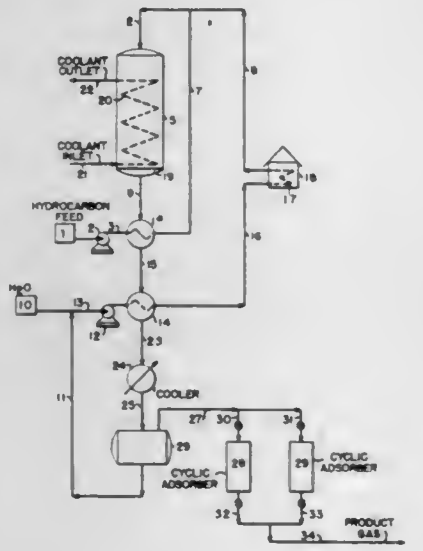
3,508,888
HYDROXY-TRIPHENYLAMINES AS ANTI-OZONANTS FOR RUBBER AND GASOLINE

Ronald B. Spacht, Kent, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,702
Int. Cl. C10i *1/22;* **C08f** *45/60;* **C07c** *87/50*
U.S. Cl. 44—75 7 Claims

2. An olefinic gasoline normally susceptible to oxidation and containing, in amount sufficient to inhibit such oxidation, a triphenylamine having at least one p-hydroxy group and no additional ring substituents other than alkyl groups.

3,508,889
PROCESS FOR PRODUCING HIGH QUALITY TOWN GAS FOR DELIVERY

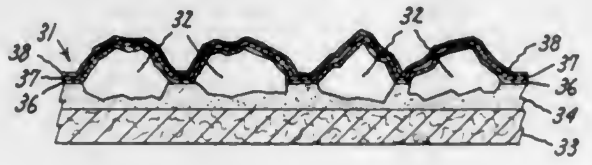
John E. Hofmann, Berkeley Heights, William R. Epperly, Murray Hill, and Barry N. Heimlich, Union, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed May 22, 1964, Ser. No. 369,388
Int. Cl. C10g *11/28*
U.S. Cl. 48—214 4 Claims



A Town Gas of constant heating value is continuously produced by progressively adjusting conversions of feed hydrocarbons to partially compensate for decreasing activity of the Town Gas catalyst.

3,508,890
COATED ABRASIVE ARTICLES HAVING PLURAL METAL COATINGS

Ethel L. Fontanella, Burnt Hills, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1968, Ser. No. 695,060
Int. Cl. B24d *11/00*
U.S. Cl. 51—295 3 Claims



Improved coated abrasive articles for wet (lubricated) grinding, such as abrasive sheets, belts, discs and the like for polishing hard or soft surfaces are described. These coated abrasive articles are prepared by the vacuum deposition of one layer or a plurality of separate layers in sequence, of oxide-forming metals or of metal oxides themselves over the surface and/or between abrasive grains previously adhered to a waterproof backing material. As many as three different such layers have been employed to provide a reduction in the number of steps normally required in polishing hard surfaces and to substantially increase the life of the abrasive article.

3,508,891
HEAT TREATMENT OF INSULATING UNWOVEN PRODUCTS FORMED OF VITREOUS FIBERS

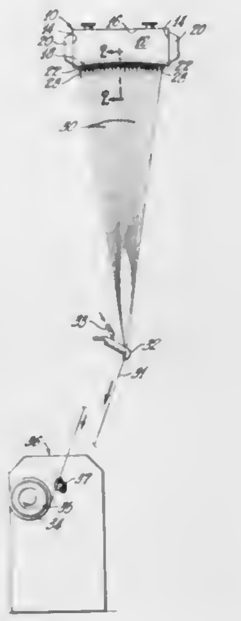
Jean Paymal, Clermont, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France, a corporation of France
Filed June 20, 1966, Ser. No. 558,762
Claims priority, application France, July 13, 1965, 24,486
Int. Cl. B32b *5/02;* **C03c** *25/00, 25/02*
U.S. Cl. 65—3 9 Claims

The production of resilient insulating unwoven mats of fibers of vitreous material of substantial thickness, which are rendered stable at the high temperatures which the mats may encounter in use, by subjecting the mats to a heat treatment for a short period of time, such as one minute and no longer than five minutes, at a temperature in the vicinity of the annealing temperature of the vitreous material, and well below the softening temperature of the vitreous material, while simultaneously compressing the mat to a limited degree.

3,508,892
APPARATUS FOR FORMING MULTIFILAMENT STRAND

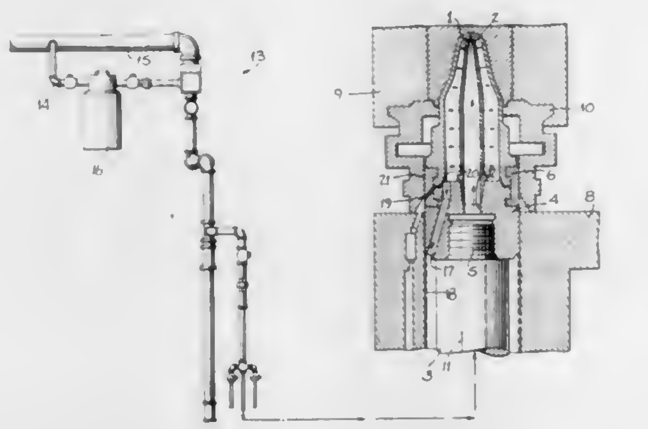
George T. McCoppin, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Apr. 26, 1967, Ser. No. 633,965
Int. Cl. C03c *27/00*
U.S. Cl. 65—11 3 Claims

Forming mineral fibers such as glass fibers into a strand or the like by flowing molten material through a plurality of closely spaced orifices in a wall to provide individual streams at their outlets and attenuating each filament along a path that is aligned to form a straight line with the flow axis of its associated orifice; combining the filaments into a strand.



3,508,893
COOLING AND LUBRICATING MEANS FOR GLASS FORMING PLUNGERS

David C. Duggan, Lancaster, Ohio, assignor to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 15, 1967, Ser. No. 668,049
Int. Cl. C03b *39/00;* **F16n** *1/00, 39/08*
U.S. Cl. 65—24 8 Claims



A cooling and lubricating method and system for the plunger cylinders of I.S. type glass forming machines wherein a micro-fog of fine oil-water mist generator is included in the plunger cooling system. Cooling air including the lubricating mist is directed into the hollow interior of the glass forming plunger spraying the inner surfaces of the plunger and for thereafter flowing conduits in the plunger assembly and lubricating the bearing surfaces including the surrounding bushings. The mist is also directed to the surface of the plunger split ring or mounting clamp through conduits provided therein.

3,508,894
METHOD FOR METALIZING A GLASS SURFACE

Julius Joseph Torok, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
No Drawing. Filed Sept. 29, 1966, Ser. No. 583,100
Int. Cl. C03c *21/00*
U.S. Cl. 65—30 13 Claims

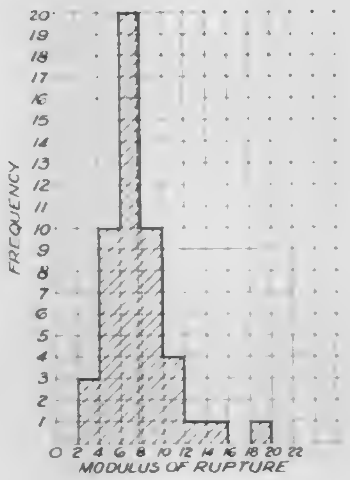
A glass surface is metalized by means of an in situ surface conversion of certain metal oxide glass forming constituents from an oxidized state to a reduced elemental metallic state. The conversion is effected by providing a glass, which on a mole percent theoretical oxide basis is composed essentially of the following range of indicated constituents:

Constituents:	Mole percent
SiO_2	50–94
Al_2O_3	0.5–30
Cu_2O	1.5–35
TiO_2	0–11
Fe_2O_3	0–6
NiO	0–6
CoO	0–6
AlF_3	0–6

and by disposing the glass surface, while the latter is at a temperature of about 750–950° C., in a room temperature oil bath of animal, mineral or vegetable oil to thereby effect a liberation of hydrogen from the oil bath and a consequent hydrogen surface reduction of the metal oxide glass forming constituents and converts the latter to a reduced elemental metallic state.

3,508,895
THERMOCHEMICAL METHOD OF STRENGTHENING GLASS

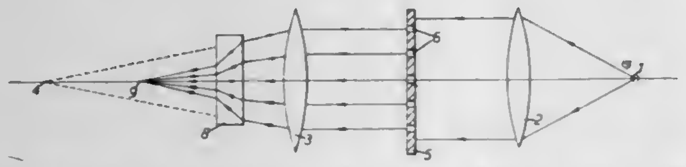
James P. Poole, Herbert C. Snyder, and Robert J. Ryder, Brockway, Pa., assignors to Brockway Glass Company, Inc., Brockway, Pa.
Continuation-in-part of application Ser. No. 545,250, Apr. 26, 1966, which is a continuation-in-part of application Ser. No. 318,069, Oct. 22, 1963. This application Mar. 27, 1967, Ser. No. 626,203
The portion of the term of the patent subsequent to Apr. 18, 1984, has been disclaimed
Int. Cl. C03c *21/00*
U.S. Cl. 65—30 3 Claims



A method of strengthening glass bodies by increasing the viscosity of a surface layer of glass relative to the body as a whole whereby cooling of the body from the annealing range down through the strain points of the glass surface layer and the glass body produces a compressive stress in the surface layer. The surface layer viscosity is altered by substituting fluorine ions for oxygen and/or hydroxyl ions in the surface layer of glass to a sufficient depth to produce a surface layer of more viscous glass of a thickness sufficient to provide a compressive stress layer. Representative materials applied to the hot glass surface are fluoborates of tin, lead and zinc, stannous fluoride and titanium tetrafluoride.

3,508,896
METHOD OF PRODUCING AN ARRAY OF LIGHT PIPES

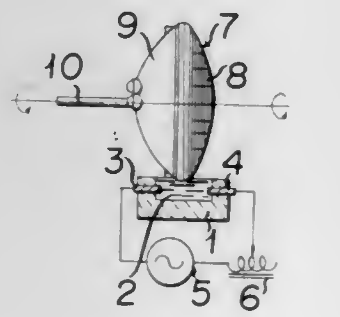
George Christie Turner, Stockport, England, assignor to Ferranti, Limited, Hollinwood, England, a company of Great Britain and Northern Ireland
Filed Apr. 27, 1967, Ser. No. 634,232
Claims priority, application Great Britain, May 3, 1966, 19,424/66
Int. Cl. C03c *3/22, 15/00;* **G02b** *5/14*
U.S. Cl. 65—31 **4 Claims**



A method of producing an array of light pipes which are of smaller diameter at one end than at the other comprises exposing a block of photosensitive glass to light beams of the required shape and dimensions and etching away the exposed glass, the remainder of the block is then rendered opaque.

3,508,897
METHOD AND APPARATUS FOR SEALING WITH GLASS PORTIONS TO BE SEALED

Eizo Goto, Chigasaki-shi, Japan, assignor to Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan, a corporation of Japan
Filed Feb. 23, 1967, Ser. No. 617,948
Claims priority, application Japan, Feb. 28, 1966, 41/11,694; Oct. 7, 1966, 41/65,607; Oct. 27, 1966, 41/70,421; Oct. 31, 1966, 41/71,623; Dec. 9, 1966, 41/80,322; Jan. 9, 1967, 42/1,399
Int. Cl. C03c *27/06*
U.S. Cl. 65—40 **14 Claims**

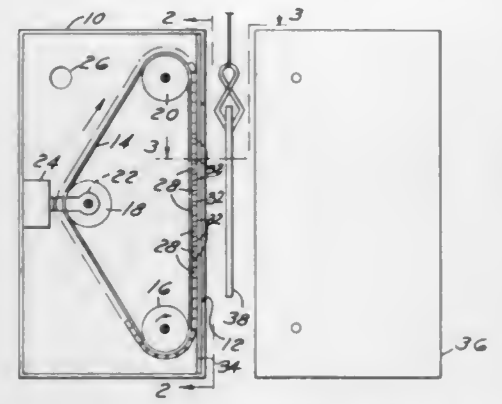


A method and apparatus for sealing wherein sealing glass is fused by heat, an electric current is passed through the molten glass to heat it to a desired viscosity, and portions to be sealed of an article are successively dipped in said molten glass by rotating the article whereby all said portions are sealed by the molten glass adhering thereto.

3,508,898
APPARATUS AND PROCESS FOR SWEEP QUENCHING GLASS

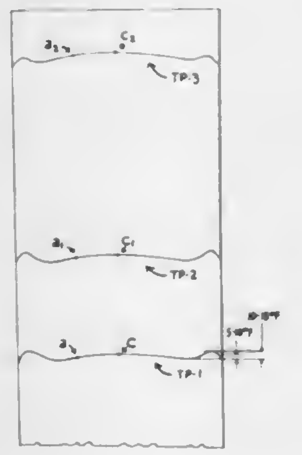
John C. Akfirat, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 14, 1967, Ser. No. 667,694
Int. Cl. C03b *27/00*
U.S. Cl. 65—114 **10 Claims**

A flexible belt moves across an opening in one wall of a housing, the interior of which is pressurized with cooling air. The air passes through slots in spars extending across the belt so the air sweeps a heated sheet of glass positioned in front of the opening, thereby uniformly quenching the glass sheet with a minimum amount of air.



3,508,899
EDGE HEATING IN ANNEALING PROCESS

Cecil R. Ward, Gibsonia, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 534,938, Jan. 28, 1966, which is a continuation-in-part of application Ser. No. 464,507, June 16, 1965. This application Mar. 21, 1969, Ser. No. 809,331
Int. Cl. C03b *25/00*
U.S. Cl. 65—119 **5 Claims**



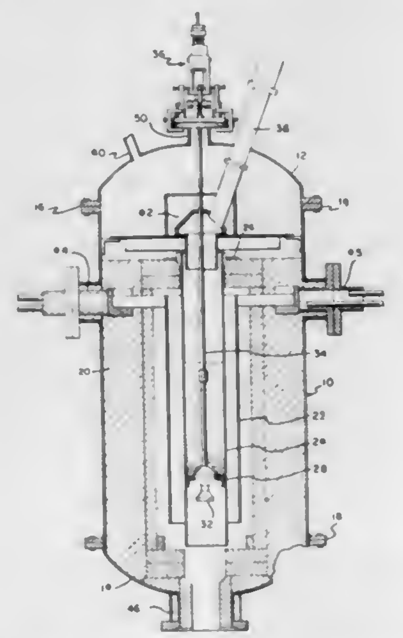
This invention relates to a method and apparatus for annealing a ribbon of glass by controlling the temperature between the center of the glass ribbon and the temperature of points near the edges of said ribbon in relation to the temperature of other sections of the moving ribbon to improve the uniformity of the annealing of said glass ribbon.

The apparatus provides means for adding heat or otherwise controlling the temperature of the said points of the ribbon in a glass drawing machine.

3,508,900
QUARTZ MELTING AND TUBE FORMING FURNACE

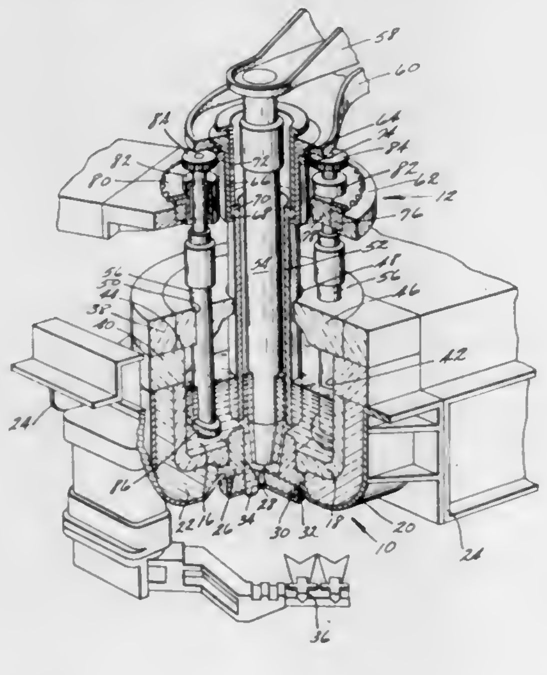
Frederick A. Loughridge, Manchester, and Richard G. Britt, Burlington, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 12, 1966, Ser. No. 572,110
Int. Cl. C03b *15/14*
U.S. Cl. 65—157 **7 Claims**

An electrically heated quartz melting and tube forming furnace having a functionally shaped mandrel head and an adjustment mechanism that provides vertical, horizontal, and angular adjustment of the mandrel shaft. The mandrel head has an upper and lower portion separated by an intermediate ring. The upper portion includes a pair of oppositely disposed truncated cones separated by an upper ring of diameter equal to the base diameter of the cones. The lower portion includes a truncated cone of smaller base diameter than the upper cones and a lower ring disposed on the base of the lower cone. The intermediate ring has a diameter substantially equal to the apexes of the upper cones. The adjustment mechanism includes a tilt ball positioned at the top of the mandrel shaft and held within a pliant seal. A housing for the tilt ball is fitted to the top of a slide plate. Set screws fixed to the slide plate provide angular adjustment and a series of clamps which adjust the slide plate, and a screw portion provide the horizontal and vertical adjustment respectively.



3,508,901
GLASS FEEDING STIRRER

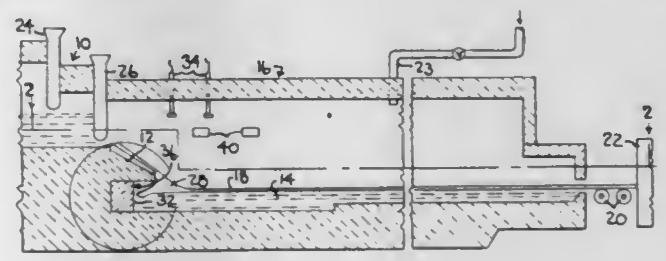
George E. Noe, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Nov. 13, 1967, Ser. No. 682,333
Int. Cl. C03b *5/18*
U.S. Cl. 65—180 **1 Claim**



Method and apparatus for improving uniformity and homogeneity of glass gobs as they issue from gob feeder-bowls, wherein a plurality of stirring screws are positioned adjacently outwardly of a reciprocating plunger element each being adopted for simultaneous rotation about a common central axis and about their individual axes.

3,508,902
WETBACK HEATING APPARATUS

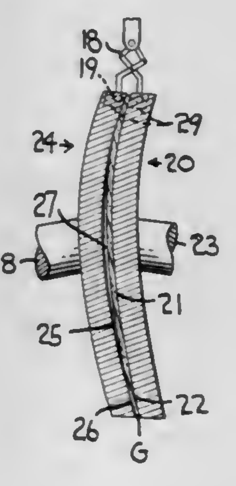
Charles S. Cusick, Pittsburgh, Pa., assignor to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 558,441, June 17, 1966. This application Dec. 11, 1968, Ser. No. 782,957
Int. Cl. C03b *18/00*
U.S. Cl. 65—182 **3 Claims**



In the float glass process, apparatus consisting of a heating means mounted below the lip tile but above the wetback to apply heat uniformly and transversely of the molten metal bath and across the entire extent of the wetback at a location rearwardly of the forward flow of the glass from the wetback.

3,508,903
APPARATUS FOR PRESS SHAPING GLASS SHEETS

Samuel L. Seymour, Oakmont, Pa., assignor to PPG Industries, Inc., a corporation of Pennsylvania
Filed July 6, 1967, Ser. No. 651,416
Int. Cl. C03b *23/02*
U.S. Cl. 65—273 **3 Claims**

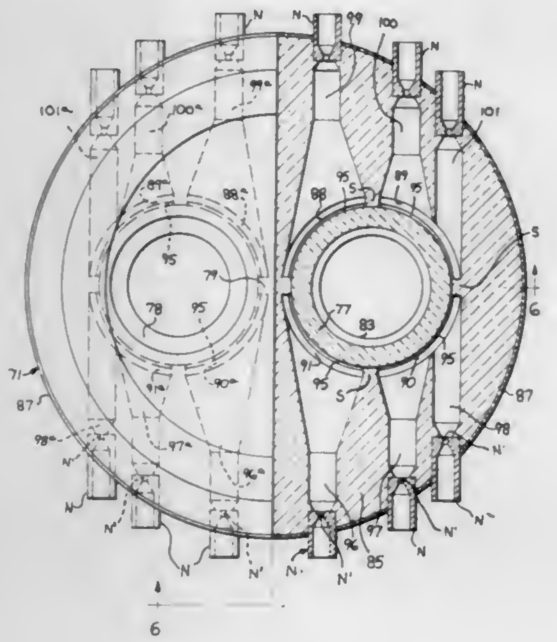


Glass sheet shaping molds for shaping heat-softened glass sheets by pressurized engagement, each shaping mold including a glass facing surface having a marginal portion that conforms to the marginal portion of the glass sheet undergoing shaping, at least one of the glass facing surfaces having an intermediate portion recessed a maximum distance of about 3/16 inch so that when the marginal portions of the shaping molds engage the opposite surfaces of a hot glass sheet, the intermediate portion of the glass sheet facing the intermediate portions of the shaping molds is not sandwiched in direct pressurized engagement between the shaping molds, but is spaced a sufficiently short distance from one of the opposite shaping molds to avoid any significant difference in heat exchange between the shaping molds and the opposite glass sheet surfaces.

3,508,904

GLASS FEEDING ORIFICE WITH MULTICHAMBER COMBUSTION ZONES

George E. Keefer, Toledo, Ohio, assignor to Owens-Illinois, Inc., a corporation of Ohio
Filed Apr. 29, 1965, Ser. No. 451,935
Int. Cl. C03b *5/26*
U.S. Cl. 65—326 4 Claims



In the feeding of molten glass, wherein a supply of melted glass is flowed to a feeder bowl, it is important to be able to control the temperature of the glass issuing from a discharge orifice positioned in the bottom of the bowl. Control of the temperature of the glass issuing from the discharge orifice is accomplished by having well-defined combustion zones surrounding the orifice with the burning of combustible gases within the combustion zones impinging flames on the exterior of the feeder orifice with the exhaust gases being guided so as not to impinge on the issuing glass. By providing a plurality of zones which are circumferentially spaced about the orifice, closer control of temperature distribution with respect to the cross-section of the issuing glass is accomplished.

3,508,905

HERBICIDAL COMPOSITION AND METHOD

Mervin E. Brokke, Richmond, Calif.; George E. Lukes, deceased, late of El Cerrito, Calif., by John Hazzard, administrator, Kentfield, Calif.; and Duane R. Arneklev, Sunnyvale, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Apr. 20, 1965, Ser. No. 450,262, now Patent No. 3,435,043, dated Mar. 25, 1969. Divided and this application Nov. 29, 1968, Ser. No. 835,822
Int. Cl. A01n *9/36*
U.S. Cl. 71—86 12 Claims

Herbicidal compositions and methods using adduct complexes of phosphorous pentafluoride and contain substituted acetamides.

3,508,906

BENEFICIATION OF CHROMIUM ORE TO REDUCE THE IRON CONTENT

Henry K. Bruner, Cambridge, Ohio, assignor to Foote Mineral Company, Exton, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 30, 1967, Ser. No. 664,288
Int. Cl. C22b *1/100, 3/100*
U.S. Cl. 75—1 8 Claims

A method of beneficiating chromium ores in which pulverized chromium ore is heated with carbon under a vacuum to reduce iron oxides. Thereafter, ore is leached with acid to form soluble iron salts which are washed away leaving a product with a high Cr/Fe ratio.

3,508,907

MEANS FOR PURIFYING SODIUM

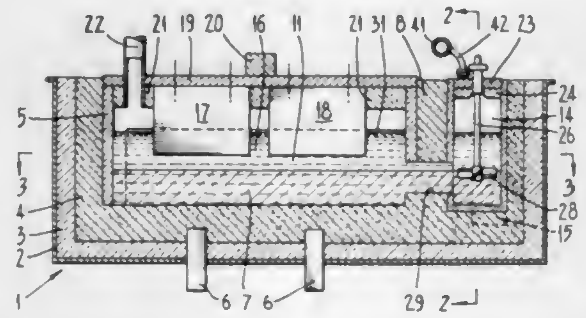
Willy Henri Graff, Grenoble, and Louis Jean Marcel Champeix, Sceaux, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Dec. 28, 1966, Ser. No. 605,450
Claims priority, application France, Dec. 30, 1965, 44,383
Int. Cl. C22b *27/00*
U.S. Cl. 75—66 8 Claims

The invention pertains to the purification of commercial sodium containing minor amounts of calcium and/or barium. The sodium is treated with minor amounts of sodium peroxide at a temperature ranging from about 150° C. to about 300° C. At the end of this treatment, the solid precipitate containing calcium oxide and/or barium oxide is removed by filtration. The purified sodium contains less than 10 p.p.m. of calcium or of barium.

3,508,908

PRODUCTION OF ALUMINUM AND ALUMINUM ALLOYS

George Lang Herwig, East Brighton, Victoria, and Ernest Foley, East Burwood, Victoria, Australia, assignors to Conzinc Riotinto of Australia Limited, Melbourne, a corporation of Victoria, and Commonwealth Scientific and Industrial Research Organization, Victoria, Australia, a body corporate of Australia
Filed Sept. 6, 1966, Ser. No. 577,473
Claims priority, application Australia, Sept. 8, 1965, 63,759/65; Aug. 29, 1966, 10,290/66
Int. Cl. C22b *21/02;* **C22d** *3/12*
U.S. Cl. 75—68 20 Claims



A process for the production of aluminum and aluminum alloys wherein a fused salt electrolyte containing at least one alkali metal halide is electrolyzed using a cathode of a molten metal or alloy, in which the electrolyte comprises a halide of a metallic reductant for aluminum chloride which reductant is soluble in the cathode, the metallic reductant being deposited by electrolysis from the electrolyte and dissolved in the cathode, and the cathode metal or alloy and the contained reductant being brought into contact with a double salt of alchlor.

3,508,909

TIN SMELTING

Thomas Ronald Albert Davey, Glen Waverley, Victoria, Australia, assignor to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia, a body corporate
No Drawing. Filed Aug. 28, 1967, Ser. No. 663,549
Claims priority, application Australia, Sept. 2, 1966, 10,581/66
Int. Cl. C22b *25/02, 25/08*
U.S. Cl. 75—85 7 Claims

A method of producing tin comprising the step of smelting a tin concentrate, hard-head and flux in a furnace under conditions such that equilibrium is substantially attained to produce high grade tin and high-tin slag and extracting high grade tin from the furnace and retaining the high-tin slag therein; and the further step of adding flux and a carbonaceous reducing agent to the high-tin slag and smelting same in the furnace under conditions such that equilibrium is substantially attained to produce low-tin slag and hard-head and extracting low-tin slag from the furnace and retaining the hard-head therein; and wherein the said steps are alternated to provide a two stage countercurrent process in which the high-tin slag is passed to the said further step and in which the hard-head is passed to the first said step.

3,508,910

MASTER ALLOY

Walter L. Finlay, New York, N.Y., and Howard B. Bomberger, Jr., East Liverpool, Ohio, assignors to Crucible Inc., a corporation of Delaware
No Drawing. Filed Feb. 1, 1966, Ser. No. 523,866
Int. Cl. C22c *27/00*
U.S. Cl. 75—122 12 Claims

A molybdenum master alloy useful in the production of titanium-base alloys containing a substantial quantity of molybdenum. The master alloy consists essentially of 30 percent maximum chromium, 25 percent maximum titanium, 20 percent maximum iron, up to about 10 percent in total of manganese, hafnium, columbium, tantalum, vanadium, nickel, copper and cobalt, 20 to 40 percent zirconium and 30 to 75 percent molybdenum.

3,508,911

LOW CARBON STEEL WITH TITANIUM ALUMINUM AND BORON

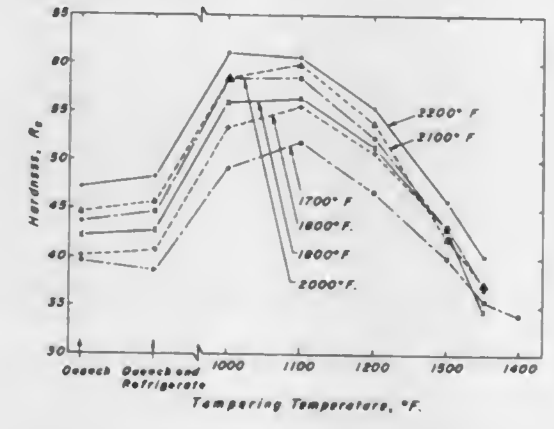
John Y. Riedel, Bethlehem, Pa., assignor to Bethlehem Steel Corporation, a corporation of Delaware
No Drawing. Filed May 11, 1967, Ser. No. 637,617
Int. Cl. C22c *39/02*
U.S. Cl. 75—124 7 Claims

A hypoeutectoid boron steel containing small amounts of aluminum, titanium and, optionally, columbium, which is readily weldable and which can be heat treated to provide a combination of high yield strength and low V-Notch Charpy impact transition temperature and in heavier sections than prior art steels.

3,508,912

TOOL STEEL CONTAINING CHROMIUM AND COBALT

Vijay K. Chandhok, Mount Lebanon, and August Kasak, Upper St. Clair, Pa., assignors to Crucible Inc., Pittsburgh, Pa., a corporation of Delaware
Continuation-in-part of application Ser. No. 514,076, Dec. 15, 1965. This application May 26, 1969, Ser. No. 830,920
Int. Cl. C22c *39/20*
U.S. Cl. 75—128 2 Claims



This invention relates to a tool steel that may be machined in the austenitized and quenched condition and then age-hardened. The composition, in percent, is carbon+nitrogen up to .08, chromium 2.5 to 6, molybdenum 3 to 12, cobalt 8 to 15, nickel up to 4, cobalt+nickel 10 to 18, manganese up to 1, balance iron.

3,508,913

LEAD, TIN AND THEIR ALLOYS INCORPORATING ORGANO-SILICON

Ernest R. Boller, Southfield, Mich., assignor to Industrial Smelting Company, Detroit, Mich., a corporation of Michigan
No Drawing. Continuation-in-part of application Ser. No. 555,275, June 6, 1966. This application Apr. 17, 1969, Ser. No. 817,170
Int. Cl. C22c *11/00, 13/00*
U.S. Cl. 75—134 11 Claims

The subject matter of this invention is a metal composition and method of manufacture. The composition comprises a metal selected from the group consisting ot lead, tin and their alloys in which the sum of the lead and tin by weight is at least 75% of the weight of the metal and in which one or more organo-silicon compounds have been added. In addition, one or more polymeric materials selected from the group consisting of olefin type polymers, vinyl type polymers, allyl type polymers and polysulphide type compounds may be added.

3,508,914

METHODS OF FORMING AND PURIFYING NICKEL-TITANIUM CONTAINING ALLOYS

William J. Buehler, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed Oct. 7, 1965, Ser. No. 493,940
Int. Cl. C22c *1/02, 1/06, 19/00*
U.S. Cl. 75—135 8 Claims

Methods for forming and treating titanium-nickel alloys which include preparing the alloys by induction melting the nickel, adding the titanium to the molten nickel, contacting the resulting alloy with carbon while under vacuum. The alloys are further cast in suitable graphite molds with the solidification process proceeding from the bottom toward the top of the mold.

3,508,915

METHOD OF FABRICATION OF GERMANIUM-SILICON ALLOY

Pierre Paoli, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Oct. 15, 1965, Ser. No. 500,487
Claims priority, application France, Oct. 27, 1964, 992,829
Int. Cl. C22c *31/00*
U.S. Cl. 75—135 7 Claims

A method for preparing a doped germanium-silicon alloy. The method consists of mixing germanium and silicon and thereafter melting the mixture by application of high frequency energy from a source which is displaced relative to the mixture of germanium and silicon at a rate sufficient to obtain good homogenization of the mixture. The doping material may be added to the germanium and silicon prior to mixing or during the melting step.

3,508,916

Cu BASE DIE CASTING ALLOY

George S. Foerster, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 622,456, Mar. 13, 1967. This application July 9, 1969, Ser. No. 840,537
Int. Cl. C22c *9/00, 9/04*
U.S. Cl. 75—157.5 8 Claims

A copper base die casting alloy containing, by weight, about 5 to 25 percent of antimony and about 1 to 10 percent of magnesium is improved, e.g., making it more ductile and lower in cost, upon partial substitution of zinc or manganese or a mixture thereof for the antimony and magnesium content.

3,508,917
ALLOY FOR GAS REFORMER TUBES

Michael John Fleetwood, Birmingham, and Alfred John Fletcher, Hollywood, near Birmingham, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 2, 1967, Ser. No. 657,792
Claims priority, application Great Britain, Aug. 15, 1966, 36,396/66
Int. Cl. C22c *19/00, 19/04*
U.S. Cl. 75—171 **10 Claims**

Heat and corrosion resistant alloy containing nickel, chromium, tungsten and carbon, along with titanium and/or zirconium, has characteristics especially suitable for use in gas reforming plant apparatus.

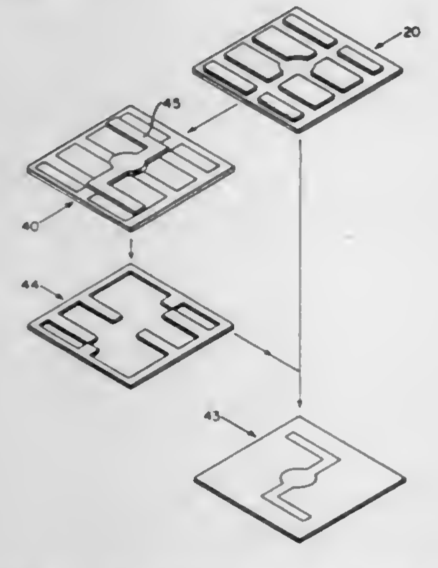
3,508,918
XEROGRAPHIC PLATE CONTAINING ALUMINUM SELENIDE BARRIER LAYER

Mortimer Levy, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed June 21, 1966, Ser. No. 559,276
Int. Cl. G03g *5/02*
U.S. Cl. 96—1.5 **5 Claims**

A xerographic plate having a conductive substrate coated with a photoconductive layer, preferably of vitreous selenium, and a barrier layer sandwiched between the conductive substrate and photoconductive layer, with the barrier layer comprising aluminum selenide.

3,508,919
MASTER ARTWORK TECHNIQUE FOR PRODUCING PRINTED WIRING BOARDS

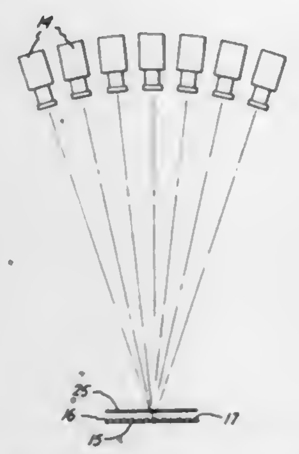
William A. Reimer, Wheaton, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed June 13, 1966, Ser. No. 556,969
Int. Cl. G03c *5/00*
U.S. Cl. 96—36.2 **7 Claims**



A technique for the preparation of artworks for use in the manufacture of printed wiring boards with different layouts of conductors and interconnection pads. In this technique the critical dimensions for conductors and pads are established by a dimensionally accurate artwork while the unique conductor routings and the locations of the pads actually used for each unique board are established by a different artwork which can be less accurate. The two artworks are overlaid in contact with each other and opaque material, such as tape, corresponding to the unique pattern is applied to the top sheet of the stack formed.

3,508,920
THREE-DIMENSIONAL PICTURES AND METHOD OF MAKING

William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Continuation-in-part of application Ser. No. 495,276, Oct. 12, 1965. This application Apr. 18, 1967, Ser. No. 631,770
Int. Cl. G03c *9/00*
U.S. Cl. 96—40 **11 Claims**

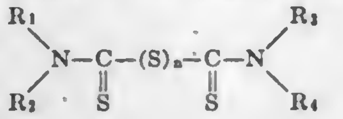


A method of printing three dimensional pictures of the type including a plurality of picture elements arranged in groups with each group viewed through an overlying lenticular lens and with the picture elements of each group each taken from a different vantage point, which method includes the production of a halftone picture with the dimension of the width of the halftone dots being equal to the width of the picture elements and the maximum length of the dots along the picture elements being several times that dimension, e.g., equal to the width of a lenticular lens element. The pictures taken from different vantage points are each converted to a continuous tone picture and then to a set of halftone pictures by exposing films through a halftone screen ruled in a single direction. The composite halftone picture is then made by imaging these halftone pictures on a film through a lenticular lens sheet on the film or other image area. The halftone dots in adjacent picture elements may be displaced along the picture elements by an amount equal to one-half the maximum dimension of the dots in that direction.

3,508,921
LIGHT-DEVELOPABLE PHOTOGRAPHIC MATERIAL AND RECORDING PROCESS

Paul Desire van Pee, Edegem, and Jozef Frans Willems, Wilrijk-Antwerp, Belgium, assignors to Gevaert-Agfa N.V., Mortsel, Belgium, a Belgium company
No Drawing. Filed Oct. 11, 1966, Ser. No. 585,733
Claims priority, application Great Britain, Oct. 11, 1965, 42,373/65
Int. Cl. G03c *5/32*
U.S. Cl. 96—45.2 **22 Claims**

Photographic elements are described which comprise a radiation-sensitive silver halide emulsion layer of the light-developable type applied from a coating composition containing (1) a silver iodide sol and/or a compound which will release iodide ions, and (2) at least one halogen acceptor corresponding to the following general formula



$$\begin{matrix}R_1 & & & & & & & & R_3\\ & N & - & \underset{\underset{S}{\|}}{C} & -(S)_n- & \underset{\underset{S}{\|}}{C} & - & N & \\ R_2 & & & & & & & & R_4\end{matrix}$$

wherein:

each of R_1, R_2, R_3 and R_4 is hydrogen, an alkyl radical or an aryl radical, or

R_1 and R_2 and/or R_3 and R_4 together are the atoms necessary to close a heterocyclic ring, and

n is an integer from 1 to 4.

The photographic element has application in light-development recording and the like.

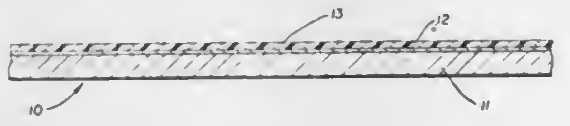
3,508,922
DIRECT-WRITING RECORDING ELEMENTS YIELDING SILVER AND DYE IMAGES

Eugene Dwight Seiter, Westfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 22, 1967, Ser. No. 624,983
Int. Cl. G03c *1/76*
U.S. Cl. 96—68 **12 Claims**

Oscillograph recording elements comprising a support, e.g., film or paper, a direct-writing, light-developable, blue-sensitive silver halide layer having an extra range of sensitivity in the green and/or red regions of the spectrum, and a direct-writing, light-developable, blue-sensitive silver halide layer, at least one of said layers containing a non-diffusing color former.

3,508,923
BIMETAL PLANOGRAPHIC PLATE AND METHOD OF PREPARATION

John E. Pickard, Selma, Ind., assignor to Ball Corporation, Muncie, Ind., a corporation of Indiana
Filed Sept. 21, 1966, Ser. No. 581,117
Int. Cl. G03c *1/94*
U.S. Cl. 96—86 **7 Claims**



A method for producing a bimetal lithographic plate by coating a bimetal substrate with a solution of polyvinyl cinnamate photosensitive resin, immediately drying the resin at an elevated temperature, and, after imagewise development of the dried photosensitive layer, printing images directly from the polymer coating, and a plate so produced.

3,508,924
LITHOGRAPHIC PLATE AND METHOD OF MAKING SAME

John E. Pickard, Selma, Ind., assignor to Ball Corporation, Muncie, Ind., a corporation of Indiana
No Drawing. Continuation of application Ser. No. 480,496, Aug. 17, 1965. This application Apr. 9, 1969, Ser. No. 817,253
Int. Cl. G03c *1/94*
U.S. Cl. 96—86 **11 Claims**

This invention pertains to a method of preparing zinc surfaced lithographic plates and particularly zinc plated grained aluminum plates, by coating the zinc surface with a photosensitive vinyl cinnamate polymer solution, and immediately heating the coated surface to adhere the polymer to the zinc surface without adversely affecting the photosensitivity of the polymer, and to plates so prepared.

3,508,925
METHOD FOR PREPARING GELATINO EMULSIONS CONTAINING LATEXES AND POLYVALENT SALTS AND PRODUCTS OBTAINED THEREBY

Thomas E. Whiteley and Charles A. Goffe, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 8, 1967, Ser. No. 666,472
Int. Cl. G03c *1/08*
U.S. Cl. 96—114.7 **16 Claims**

Methods for preparing stable gelatino emulsions containing latex polymers and polyvalent salts and emulsions produced thereby. In one aspect, this invention relates to a method for (1) initially mixing a gelatino solution and a latex polymer which comprises no more than about 24%, by weight, of units of a water solubilizing moiety and (2) then adding polyvalent salts to the mixture.

3,508,926
METHOD FOR THE UTILIZATION OF BAKED FOOD PRODUCTS

Sanford Werbin, Dumont, N.J., and David Weinstein, Baltimore, and Irving H. Rubenstein, Stevenson, Md., assignors to Maryland Cup Corporation, Owings Mills, Md.
No Drawing. Continuation-in-part of application Ser. No. 568,125, July 27, 1966. This application Dec. 21, 1966, Ser. No. 603,435
Int. Cl. A23l *1/10*
U.S. Cl. 99—1 **13 Claims**

Baked goods containing gelatinized starch as a result of the baking process are comminuted and then coated with a mixture of a melted shortening and an emulsifier to reduce water absorption and to render the mixture capable of agglomeration.

3,508,927
USE OF UNSATURATED ORGANIC ACIDS AS BACTERIAL GROWTH PROMOTERS

John F. Herndon, Bethesda, Md., and Michael B. Perkins and Nicholas J. Stevens, Colonia, and John D. Douros, Jr., Millington, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Sept. 15, 1965, Ser. No. 487,584
Int. Cl. A23k *1/00;* **C12d** *13/06*
U.S. Cl. 99—9 **8 Claims**

In a fermentation process using a hydrocarbon as the source of carbon growth stimulants are added to the fermentation zone, the growth stimulants being selected from the class of unsaturated organic compounds consisting of acrylic acid, fumaric acid and oleic acid.

3,508,928
METHOD FOR MAKING CULINARY PREMIXES

George Ewing, Minneapolis, Robert L. Holland, Rosemont, and George E. Johnson and Robert F. Kozlik, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Nov. 10, 1966, Ser. No. 593,278
Int. Cl. A23c *1/10*
U.S. Cl. 99—94 **12 Claims**

A method for forming a culinary premix comprised of flour and sugar, by subjecting flour and sugar particles to impact forces whereby the particles are finely ground. The sugar particles impinge against the flour particles during impact, and cause the starch cells to be ruptured to a greater extent, than if the flour alone is subjected to impact forces. Culinary mixes which includes the premix, exhibit a greater tolerance to the addition of improper amounts of liquid during the batter forming stage.

3,508,929
METHOD FOR MAKING CULINARY MIXES

Robert W. Callaghan, Minneapolis, Robert L. Holland, Rosemont, and Robert F. Kozlik and Eugene H. Sander, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Nov. 10, 1966, Ser. No. 593,279
Int. Cl. A21d *2/00, 13/08*
U.S. Cl. 99—94 **14 Claims**

A premix, comprised of emulsifier coated flour particles, or emulsifier coated flour and sugar particles, which can be used to form a variety of culinary mixes by combining it with other ingredients. The premix is formed by subjecting a mixture of flour and fluid emulsifier, or flour, sugar, and fluid emulsifier to impact forces which fine grind the flour and sugar particles and distribute the emulsifier about the individual particles.

3,508,930

PACKAGE FOR CLAMS

Robert A. Bennett, 2178 Barnum Ave., Stratford, Conn. 06497, and Eric A. Viesturs, East Norwalk, Conn.

Filed Sept. 7, 1966, Ser. No. 577,626

Int. Cl. B65b *25/06*

U.S. Cl. 99—174 **7 Claims**

A package for clams which keeps them in a fresh condition consisting of two engaging pieces, each one formed with one or more depressions in the shape of half of a clam shell. The two pieces of the package, when fastened together, form a pocket or pockets for holding clams in a substantially horizontal position when the package is placed in a substantially horizontal position, thus preventing leakage of the clam's natural juices. The package has one or more openings in the edge of the bottom piece for letting air communicate with the clams.

3,508,931

CURING SALT COMPOSITIONS AND METHODS OF MAKING SAME

Louis Sair, Evergreen Park, Ill., assignor to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 15, 1967, Ser. No. 646,180

Int. Cl. A23l *3/34;* **A23b** *1/01*

U.S. Cl. 99—222 **16 Claims**

A method for making free-flowing, non-caking, particulate, curing salt compositions suitable for curing meat products, which involves coating, preferably with mixing, without necessitating the presence of added water, a major proportion of sodium chloride crystals with a minor, curing proportion of substantially chemically uniform molten or heat-liquefied curing salt (nitrite and/or nitrate). This coating operation involves the use of controlled heating conditions so that substantially all of the curing salt is in a melted condition and only a minor proportion of the sodium chloride crystals is melted, but below the temperature at which any substantial amount of decomposition of the curing salt occurs and below the temperature at which a substantial proportion of the sodium chloride would melt, to coat (e.g., to distribute or spread) and bond substantially uniformly (i.e., substantially evenly) the curing salt to surfaces of the sodium chloride crystals, and to produce a curing salt composition having a substantially chemically uniform composition in different size gradations.

3,508,932

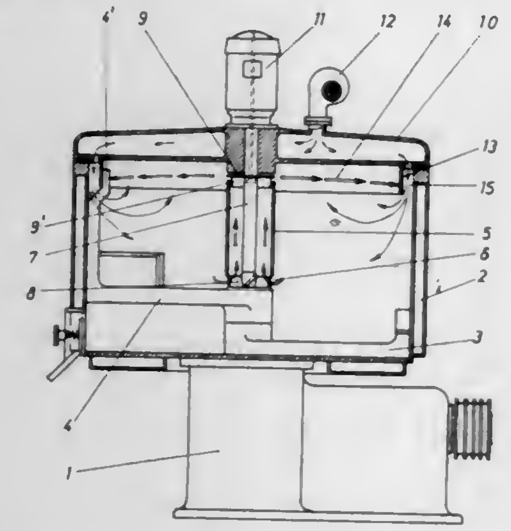
APPARATUS FOR TREATING A CHOCOLATE MASS

Herbert Pilz, deceased, late of Frankfurt am Main, Germany, by Gertrud Pilz, heir, Zeppelin-Allee 37, Frankfurt am Main, Germany

Filed Dec. 6, 1966, Ser. No. 600,692

Int. Cl. A23g *1/00*

U.S. Cl. 99—236 **2 Claims**



An apparatus for stirring a mass of chocolate and centrifugally dispersing the chocolate through an air mass for aeration thereof.

3,508,933

AUTOMOBILE POLISH

Gerald P. Yates, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Feb. 20, 1967, Ser. No. 617,064

Int. Cl. C08h *9/06;* **C09a** *1/08*

U.S. Cl. 106—10 **10 Claims**

Wax containing automobile polishes are made detergent resistant by incorporating therein the reaction product of a hydroxyl endblocked polydimethylsiloxane having a viscosity in the range of 10 to 15,000 cs., and a silane selected from the group consisting of those having the general formulae $R''_n(R'O)_{3-n}Si(CH_2)_3NHR'''$ and

$$R''_n(R'O)_{3-n}SiRNHCH_2CH_2NH_2$$

wherein R''' is a hydrogen atom or a methyl radical, R'' is a monovalent hydrocarbon radical free of aliphatic unsaturation and contains from 1 to 6 carbon atoms, *n* has a value of from 0 to 2, R' is an alkyl radical containing from 1 to 4 carbon atoms, and R is a divalent hydrocarbon radical free of aliphatic unsaturation and contains 3 to 4 carbon atoms, the weight ratio of the siloxane to the silane being in the range of about 1:1 to 20:1.

3,508,934

FIRE-RESISTANT BITUMINOUS COMPOSITIONS

Frank Ware, 12092 Chillicothe Road, Chesterland, Ohio 44026

Continuation-in-part of application Ser. No. 238,861, Nov. 20, 1962. This application Feb. 14, 1967, Ser. No. 615,935

Int. Cl. C09d *5/14, 5/16*

U.S. Cl. 106—15 **10 Claims**

This invention is directed to bituminous fire-resistant compositions comprising felts, asphalt and/or coal tar saturants, inorganic fillers, and a fireproofing composition comprising a natural-occurring phosphate rock and/or shale from phosphoria formations, deposits or beds having 0.25 to 40% by weight of phosphorous oxide.

3,508,935

CELLULOSIC LACQUERS AND PRINTING INKS

Douglas J. Bridgeford, Danville, Ill., assignor to Tee-Pak, Inc., a corporation of Illinois

No Drawing. Continuation-in-part of applications Ser. No. 200,621, June 7, 1962, and Ser. No. 416,795, Dec. 8, 1964. This application Dec. 8, 1966, Ser. No. 600,060

The portion of the term of the patent subsequent to Aug. 27, 1985, has been disclaimed

Int. Cl. C09d *11/14*

U.S. Cl. 106—26 **12 Claims**

A novel printing ink or lacquer is prepared by admixture of a dye or pigment, including finely divided metallic pigments, with a decausticized solution of sodium cellulose xanthate or other analogous polymeric alcohol xanthates. The decausticized xanthate solution with which the dye or pigment is mixed is preferably prepared by dialysis or ion exchange reaction or by combinations of dialysis and ion exchange or in some cases weak acid neutralization under carefully controlled conditions. The decausticized xanthate solution may be used as is or may be spray dried to produce a stable powder capable of storage for extended periods of time. The spray dried powder may be re-dissolved in water to reconstitute a decausticized xanthate solution with which the pigment or dye may be mixed. Also, the decausticized solution may be mixed with a pigment or dye prior to spray drying and a stable powder obtained which will produce the desired lacquer or printing ink upon re-dissolving and/or dispersing in water. The composition which is produced by admixture of a dye or pigment and a decausticized polymeric alcohol xanthate solution is regenerable by heat or by treatment with acid. It is preferred to merely dry the solution as a lacquer or imprint on the desired substrate and regenerate the polymeric alcohol binder film in the course of the drying operation.

3,508,936

METHOD OF MAKING FLUID SELF-HARDENING MIXTURE, PREFERABLY FOR MANUFACTURING FOUNDRY MOULDS AND CORES

Abram Moiseevich Lyass, Sharikopodshipnikovskaya ulitsa 2, kv. 146; Pavel Afanasievich Borsuk, Nizhne-Pervomaiskaya ulitsa 59, kv. 10; Lidia Dorofeevna Snulova Sharikopodshipnikovskaya ulitsa 2, kv. 125; Anna Ivanovna Tsyruleva, Serpovpereulok 3/5, kv. 8; Elena Vladimirovna Neifak, Nizhne-Pervomaiskaya ulitsa 51/10, kv. 9; and Radzhinald Alexeevich Korotkov, Profsojuznaya ulitsa 32/10, kv. 263, all of Moscow, U.S.S.R.

No Drawing. Filed Sept. 27, 1968, Ser. No. 763,388

Int. Cl. B28b *7/00;* **C04b** *25/06*

U.S. Cl. 106—38.35 **2 Claims**

A method of making a fluid self-hardening mixture, preferably for manufacturing foundry molds and cores, composed of a filler, for example quartz sand, water glass as a binder, an additive in the form of dicalcium silicate or materials containing dicalcium silicate providing for hardening of the mixture, and a foaming agent selected from the group of anionic and non-ionogenic surface active agents, said mixture also comprising abietic resin in the amount of 0.1–0.5 parts by weight.

3,508,937

FLUOROPHOSPHATE GLASS

Heinz Bromer, Hermannstein, and Norbert Meinert, Wetzlar, Germany, assignors to Ernst Leitz G.m.b.H., Optische Werke, Wetzlar, Germany

No Drawing. Filed June 12, 1967, Ser. No. 645,535

Claims priority, application Germany, June 25, 1966, L 53,924

Int. Cl. C03c *3/18*

U.S. Cl. 106—47 **21 Claims**

Fluorophosphate glass, characterized in that it is produced by melting from a mixture consisting of: 9–12 mol percent of the metaphosphates of the elements selected from the group consisting of lithium, sodium, potassium, magnesium, and aluminum; 81–90 mol percent of fluorides of the elements selected from the group consisting of magnesium, calcium, strontium, barium and aluminum; 0.4–7 mol percent of at least one of the compounds selected from the group consisting of potassium arsenate, potassium fluorotitanate, potassium fluorozirconate, and potassium fluorotantalate; and with the proviso that a proportion of aluminum metaphosphate is always present to at least one-half of the phosphate proportion; and the calcium fluoride is always present at about one-half (+ or −10%) and the aluminum fluoride is always present at about one quarter of the proportion of fluorides.

3,508,938

ADHESIVE MATERIAL AND THE METHOD OF MAKING AND USING THE SAME

Francis Lee Jones, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

No Drawing. Filed June 22, 1966, Ser. No. 559,411

Int. Cl. C03c *5/00, 7/02*

U.S. Cl. 106—48 **4 Claims**

A ceramic adhesive for bonding refractory metals uses a borosilicate glass as a carrier for metal additives. It has been found that metal additives to borosilicate glass react with the refractory metal surfaces to be bonded forming high strength, intermetallic phases. The borosilicate glass provides a medium in which this reaction can take place. Under bonding pressure, a large portion of the glass flows out of the lap area leaving essentially the intermetallic bond.

3,508,939

FIBERIZABLE GLASS COMPOSITIONS

Bernard Laurent, Paris, and Claude Haslay, Ronquerolles-par-Agnetz, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, Hauts-de-Seine, France

No Drawing. Filed Dec. 29, 1965, Ser. No. 517,486

Claims priority, application France, Jan. 14, 1965, 1,906

Int. Cl. C03c *13/00, 3/10*

U.S. Cl. 106—50 **5 Claims**

Although the use of glass fibers is very great the number of glasses which can be used in fibering is very small. The compositions which are satisfactory are extremely limited because of the requirements of the several fibering processes. The requirements are easy to state and hard to meet: The glass must have high resistance to attack by water; high resistance to attack by chemical agents which are present in the air and other places of use; substantial inertia to objects with which they are used; of low viscosity; of low melting point; of low material cost and low cost of fibering. Highly satisfactory fibers have as their essential constituents 11–13% Na_2O, 2–3% K_2O, 5 to 6.5% CaO, 5 to less than 6% B_2O_3, 0.7 to 1.57 ZnO, 1.5 to 2.5% ZrO_2, 57 to 60% SiO_2, 6 to 7.5% Al_2O_3, 2 to 2.5% MgO, 1.0 to 2% BaO, 0.5 to 1.5% F, the proportion of MgO to CaO being 0.3 to 0.5, the proportion of K_2O to Al_2O_3 being 0.35 to 0.45, the proportion of combined MgO, CaO, BaO, and ZnO to combined Na_2O and K_2O being 0.7 to 0.85, and the proportion of combined Al_2O_3 and ZrO_2 to combined Na_2O and K_2O being 0.55 to 0.62, the content of alkali oxide being 13.5 to 15%.

3,508,940

LIGHTWEIGHT REFRACTORY INSULATION AND METHOD OF PREPARING THE SAME

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Hiroshi H. Nakamura, Harold L. Rechter, and Adi J. Mountvala, Chicago, Ill.

No Drawing. Filed Feb. 17, 1967, Ser. No. 617,774

Int. Cl. C04b *21/10, 21/00*

U.S. Cl. 106—88 **10 Claims**

A lightweight refractory insulation composition for use as a rigid heat shield. The composition comprises, in weight percent, zircon, mullite or calcium aluminate, 54 to 75; an alkali metal silicate binder, 6.9 to 8.5; a complexing agent, 1 to 3; refractory fibers, 1.5 to 10; water, 23.9 to 25.7; whipping agent, 0.15 to 1.0 and clay, 0 to 2. This composition is prepared and fabricated by mixing the above ingredients, whipping the mixture to produce a castable foam, applying the foam as a layer on the substrate to be protected and curing by heating to a temperature less than about 260° F. The resulting heat shield exhibits favorable heat-reflecting properties and mechanical integrity sufficient to withstand severe vibration and acceleration forces.

3,508,941

METHOD OF PREPARING POLYMERS FROM A MIXTURE OF CYCLIC AMINE OXIDES AND POLYMERS

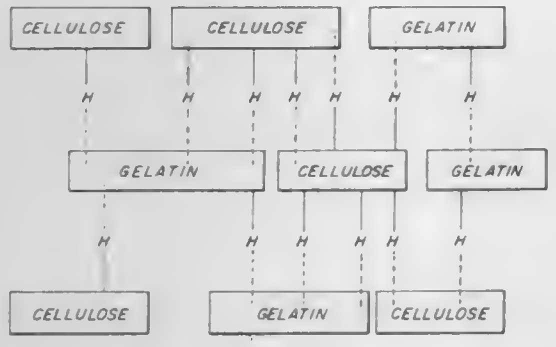
Dee Lynn Johnson, St. Paul, Minn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 576,902, Sept. 2, 1966. This application Jan. 13, 1969, Ser. No. 790,585

Int. Cl. C08b *23/00, 25/00;* **C08h** *7/00*

U.S. Cl. 106—125 **18 Claims**

Polymeric compositions comprising at least two different polymers which have been contacted with a cyclic mono(N-methylamine-N-oxide) compound and then precipitated. In one aspect, the new compositions have a lower solubility in water than an admixture of the polymeric compounds contacted with said cyclic amine oxide.



3,508,942
PROCESS FOR THE MANUFACTURE OF OPTICALLY BRIGHTENED SHAPED PRODUCTS FROM REGENERATED CELLULOSE

Horst Nobs, Rienach, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Continuation-in-part of application Ser. No. 485,110, Sept. 3, 1965. This application Feb. 19, 1968, Ser. No. 706,667
Claims priority, application Switzerland, Sept. 15, 1964, 12,029/64
Int. Cl. C08b *29/22;* **D06m** *13/34*
U.S. Cl. 106—165 **6 Claims**

A process for the production of optically brightened shaped articles from regenerated cellulose, which comprises submitting to precipitation and shaping a viscose composition to which has been previously added a solution of an optical brightener in an emulsifier.

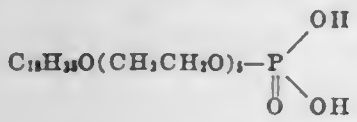
The brightener should at most be only sparingly soluble in water to avoid a solution of the brightener in the coagulating bath. On the other hand, it must be possible to dissolve the brightener in the emulsifiers to be used, if necessary with the aid of a suitable solution promoter.

The emulsifiers used are nonionic substances, especially polyglycol condensation products with higher alcohols and with para-alkyl phenols containing higher alkyl radicals or reaction products of long chain fatty acids with substituted amines.

3,508,943
PREPARATION OF SYNTHETIC NACREOUS PIGMENT PASTES

Takaji Watanabe, Omiya-shi, Hisao Suzuki, Tokyo, Hiroshi Okawa, Suita-shi, and Kanji Nagasawa, Kyoto, Japan, assignors to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed June 29, 1967, Ser. No. 649,841
Claims priority, application Japan, July 11, 1966, 41/45,526
Int. Cl. C09c *1/14*
U.S. Cl. 106—291 **6 Claims**

Synthetic nacreous pigment crystals prepared in a strongly acidic aqueous medium, such as crystals of lead hydrogen arsenate, are flushed, or directly transferred, into a conventional organic dispersing medium, such as a hydrocarbon, ester or ketone, using an organo polyoxyethylene phosphate, such as:



$$C_{18}H_{37}O(CH_2CH_2O)_5-P(=O)(OH)_2$$

Flushing is accomplished without agglomeration or breakage of the crystals and residual water is easily expelled from the organic dispersing medium. The crystal paste thus obtained, after further dilution with organic dispersing medium, can be incorporated into thermoplastic, such as polystyrene or polyvinyl chloride, to provide cast sheets having a lustrous pearlescent sheen.

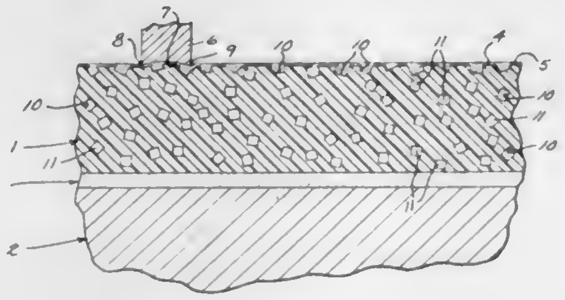
3,508,944
BIAXIALLY ORIENTED LINEAR HIGHLY CRYSTALLINE POLYOLEFIN FILM COATED WITH A POLYOLEFIN COATING

William E. Henderson, Hinsdale, Ill., and Gerald R. Toy, Basking Ridge, and William Sacks, Gillette, N.J., assignors to Union Carbide Corporation, a corporation of New York
Original application Oct. 24, 1962, Ser. No. 232,716. Divided and this application Feb. 14, 1966, Ser. No. 600,673
Int. Cl. B05c *3/12;* **B29d** *7/24*
U.S. Cl. 117—7 **7 Claims**

This invention relates to a film, which is particularly useful as a packaging material, comprising a biaxially oriented linear highly crystalline polyolefin film such as polypropylene, and a coating of a polyolefin such as low density polyethylene bonded to at least one surface thereof. The polyolefin coating, which has a melting point of at least about 5° C., preferably 20 to 90° C., below the melting point of the highly crystalline film, can be heat-sealed to itself at a temperature below the temperature at which shrinking and puckering of the biaxially oriented film occurs.

3,508,945
ARTIFICIAL SKATING SURFACE

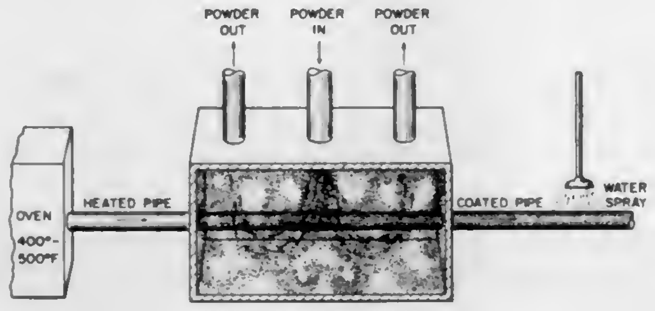
Laurence F. Haemer, Sheboygan, Wis., and Randolph C. McCulley, Upper Darby, and Vincent J. Stoltz, Jr., Havertown, Pa., assignors to Vinyl Plastics, Inc., Sheboygan, Wis., a corporation of Wisconsin
Filed Sept. 28, 1967, Ser. No. 671,458
Int. Cl. B44c *1/20, 1/22, 5/00*
U.S. Cl. 117—8 **8 Claims**



In both embodiments, sheets are cemented to a backing board. The vinyl sheets have cavities dispersed throughout. In the first embodiment, the cavities are created by suspended salt crystals that can be washed away to leave lubricant reservoirs as the vinyl wears. In the second embodiment, droplets of silicone oil are suspended in the vinyl to be released as lubricant as the vinyl wears.

3,508,946
PIPE COATED WITH EPOXY RESIN COMPOSITION CURED WITH EXTRA-COORDINATE SILICON COMPLEX AND PROCESS FOR COATING SAID PIPE

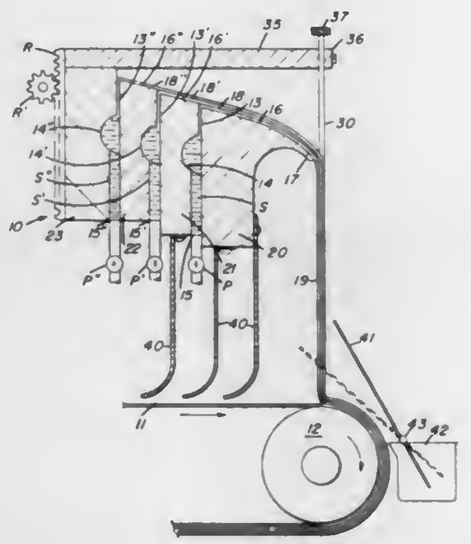
Edwin P. Plueddemann and Harold L. Vincent, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan.
Original application Nov. 16, 1964, Ser. No. 412,590. Divided and this application Oct. 22, 1968, Ser. No. 769,541
Int. Cl. C08g *51/04;* **B44d** *1/094*
U.S. Cl. 117—18 **43 Claims**



A process is disclosed for coating pipe with an epoxy resin composition cured with an extracoordinate silicon complex which process comprises heating the pipe to a temperature such that the powdered coating composition will fuse and flow out into a smooth coating when the pipe is brought into contact therewith, passing the heated pipe through a cloud of the coating composition whereby it becomes coated, and then cooling the coated pipe.

3,508,947
METHOD FOR SIMULTANEOUSLY APPLYING A PLURALITY OF COATED LAYERS BY FORMING A STABLE MULTILAYER FREE-FALLING VERTICAL CURTAIN

Donald J. Hughes, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 3, 1968, Ser. No. 733,971
Int. Cl. G03c *1/74;* **B44d** *1/12, 1/16*
U.S. Cl. 117—34 **24 Claims**



A coating comprised of a plurality of distinct superposed layers is applied to the surface of an object by forming a stable multilayer free-falling vertical curtain, in which individual layers may be formed from the same or different liquid coating compositions, and directing the object so that the free-falling curtain impinges thereon. Apparatus for carrying out this method includes means for moving the object to be coated at the desired speed and one or more coating hoppers adapted to form a plurality of flowing layers of liquid coating composition and to bring these layers into face-to-face contact with one another to form a composite layer which is directed onto the moving object as a free-falling vertical curtain. This method and apparatus are employed with particular advantage in the manufacture of multilayer photographic elements, such as photographic film or paper.

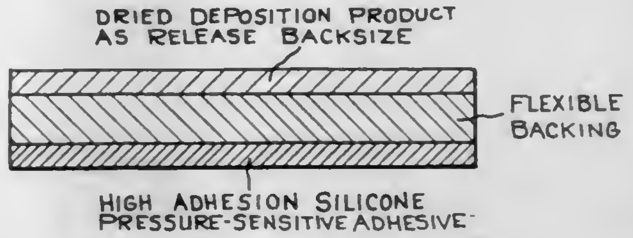
3,508,948
CARBON PAPER HAVING BARRIER COAT OF CONCENTRATED SULFITE WASTE LIQUOR

Warren A. Lemke, Glens Falls, and Jerry J. Iannucci, Hudson Falls, N.Y., assignors to International Paper Company, New York, N.Y., a corporation of New York
No Drawing. Filed June 22, 1966, Ser. No. 559,413
Int. Cl. B41b *5/10;* **B41c** *1/06*
U.S. Cl. 117—36.4 **6 Claims**

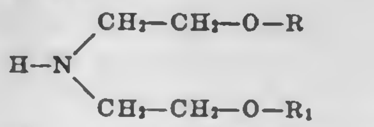
A carbon paper having improved carbon release when subjected to pressure consisting of carbon dope and carbonizing tissue made from lightly refined pulps and barrier coated with water-soluble concentrated sulfite waste liquor alone or in combination with a water-soluble resin such as polyvinyl alcohol.

3,508,949
RELEASE AGENTS FOR SILICON PRESSURE-SENSITIVE ADHESIVES

Richard F. Grossman, Voorheesville, and Charles S. Webber, Loudonville, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Jan. 19, 1967, Ser. No. 610,339
Int. Cl. B44d *1/10;* **C09g** *7/02*
U.S. Cl. 117—68.5 **6 Claims**


DRIED DEPOSITION PRODUCT AS RELEASE BACKSIZE
FLEXIBLE BACKING
HIGH ADHESION SILICONE PRESSURE-SENSITIVE ADHESIVE

Release agents specific to high adhesion silicone pressure-sensitive adhesives are formed by treating the reaction product of a long straight chain (at least 14 C atoms) fatty acid in an alcoholic solution and a compound selected from the group consisting of vanadium oxytrichloride, molybdenum pentachloride and antimony pentachloride with a solution of water and a water-soluble secondary amine selected from the group consisting of morpholine and amines having the structure:



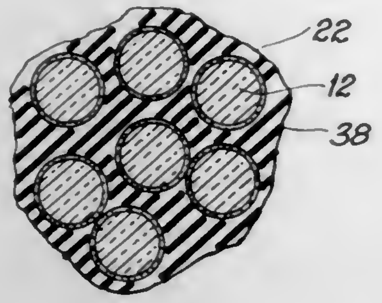
$$H-N(CH_2-CH_2-O-R)(CH_2-CH_2-O-R_1)$$

wherein R and R_1 may be either hydrogen or alkyl groups.

3,508,950
METHOD OF COMBINING GLASS FIBERS AND RUBBER

Alfred Marzocchi, Cumberland, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Sept. 6, 1966, Ser. No. 594,298
Int. Cl. C03c *25/02*
U.S. Cl. 117—72 **15 Claims**

The manufacture of glass fiber reinforced elastomeric products wherein the glass fiber surfaces are coated or bundles of the glass fibers are impregnated with an elastomeric component which is worked in the presence of an anchoring agent for reaction of the anchoring agent with



reactive sites as they are released upon thermal breakdown of the rubber to form a rubber-anchoring agent reaction product which serves strongly to bond the elastomeric phase to the glass fibers.

3,508,951
PROCESS FOR COATING A SUBSTRATE USING AN EPOXIDE RESIN PRIMER AND AN UNSATURATED POLYESTER TOPCOAT AND PRODUCT OBTAINED THEREBY

David A. Shimp and William S. Bobo, Jr., Louisville, Ky., assignors to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 22, 1967, Ser. No. 669,701
Int. Cl. B32b *27/36, 27/38;* **B44d** *1/16*
U.S. Cl. 117—72 10 Claims

Room temperature curable compositions useful in moldings, encapsulations, impregnations and coatings made from a blend of (1) an unsaturated polyester, a polymerizable monomer and a free radical producing catalyst with (2) a polyepoxide, an aromatic polyamine and an acid catalyst. Also, a process for coating a substrate with separately applied polyepoxide resin primer and unsaturated polyester topcoat and the resultant product.

3,508,952
COATED PAPER ARTICLE AND PROCESS THEREFOR

Robert William Eykamp, Silver Spring and Charles C. Kirk, Laurel, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut
No Drawing. Filed June 28, 1967, Ser. No. 649,475
Int. Cl. B44d *1/16;* **D21h** *1/22;* **B32h** *29/04*
U.S. Cl. 117—76 10 Claims

The process of forming an impermeable composition which comprises imparting directly onto a smooth cellulosic substrate 0.5 to 5 lbs. per 3000 ft.^{2} of said substrate of a plate-like clay coating material having an axial ratio in the range 20–300:1 and a maximum length of about 30 microns and the composition therefor. The clay is pretreated with a salt of a member of the group consisting of chromium, zirconium and mixtures thereof. Additionally, if desired, the thus treated substrate can be top coated with conventional polymeric compositions.

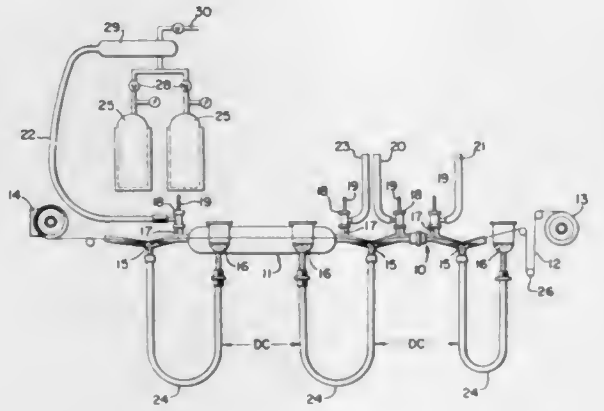
3,508,953
HYDROPHILIC POLYURETHANE SPONGE

John G. Simon and Jon P. McGurran, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Dec. 22, 1967, Ser. No. 692,709
Int. Cl. B05c; B44d *1/02;* **C23c**
U.S. Cl. 117—98 7 Claims

Polyurethane sponges are rendered hydrophilic by immersing them in an aqueous suspension of clay from the montmorillonite group, squeezing out the excess, and, if, desired, drying the sponge. The hydrophilic properties are retained for an extremely long period of time.

3,508,954
SILICON CARBIDE STRUCTURES

Rudolph C. White, Midlothian, and Harold R. Davis, Richmond, Va., assignors, by mesne assignments, to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 5, 1967, Ser. No. 673,054
Int. Cl. C23c *11/00*
U.S. Cl. 117—106 3 Claims



Silicon carbide structures are made by heating a refractory substrate to a temperature of from about 2100° F. to about 2500° F. in an atmosphere of methyltrichlorosilane, methyldichlorosilane and hydrogen. The method is particularly useful for the production of filaments of high tensile strength and high elastic modulus.

3,508,955
METHOD OF MAKING SELF-LUBRICATING FLUORIDE-METAL COMPOSITE MATERIALS

Harold E. Sliney, Parma, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
No Drawing. Original application May 1, 1967, Ser. No. 635,972,, now Patent No. 3,419,363, dated Dec. 31, 1968. Divided and this application Mar. 11, 1968, Ser. No. 711,921
Int. Cl. B44d *1/02*
U.S. Cl. 117—119 3 Claims

Making a self-lubricating composite material for use in a chemically reactive environment by impregnating a porous metal with a barium fluoride-calcium fluoride eutectic composition.

3,508,956
TREATMENT OF GLASS SURFACES

Frank Moser, Sarver, and Richard R. Lewchuk, Allison Park, Pa., assignors to PPG Industries, Inc., Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Continuation of application Ser. No. 424,853, Jan. 11, 1965, which is a continuation-in-part of application Ser. No. 166,354, Jan. 15, 1962. This application July 5, 1968, Ser. No. 747,003
Int. Cl. C03c *17/28*
U.S. Cl. 117—124 10 Claims

A glass article which is resistant to staining, iridescence, and scumming by reason of a dried residue of a basic solution of a metal ammino halide or a metal ammino nitrate on the surface thereof, the metal being an amphoteric metal such as zinc, copper, chromium, lead, aluminum, and beryllium. The process for forming such article comprises contacting the glass at about 200° C. with a basic solution of ammonium hydroxide and an amphoteric metallic ammino compound of the type described above. The coating solution is allowed to dry to a protective residue.

3,508,957
COATED RAZOR BLADES

Walter Blöchl, Karlsruhe, Germany, assignor to Laura Noss, trading as Firma Tondeo-Werk Adolf Noss
No Drawing. Filed Oct. 21, 1965, Ser. No. 500,194
Claims priority, application Germany, Oct. 23, 1964, T 27,268
Int. Cl. B26b *21/54;* **B44d** *1/36*
U.S. Cl. 117—132 8 Claims

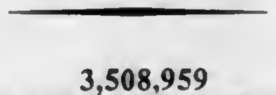
The present disclosure is directed to razor blades having a coating of polyperfluoropropylene and to the method of making such blades. The polyperfluoropropylene may be applied to the blades in a solution or emulsion followed by drying of the blades and heating them at temperatures above 190° C. The resultant blades have excellent keenness and retain this property throughout numerous uses of the blade.

3,508,958
PROCESS FOR PRODUCING A WATER-REPELLENT FINISH FAST TO WASHING ON FIBROUS MATERIALS

Armin Hiestand, Binningen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Filed June 7, 1967, Ser. No. 644,070
Claims priority, application Switzerland, June 16, 1966, 8,747/66
Int. Cl. C08g *9/30;* **D06m** *15/54*
U.S. Cl. 117—135.5 10 Claims

A water repellent finish fast to washing can be produced on fibrous materials, such as cellulosic fibers, without undesired deposit of waxy products on the fibrous material or on the apparatus, by treatment in an aqueous bath and subsequent heat treatment, if desired or required after an intermediate drying, by using a bath which contains:

(a) a methylolaminotriazine esterified with higher fatty acids or etherified with higher alcohols
(b) a hydrophobic wax-like substance
(c) a surface-active product containing at least one higher aliphatic hydrocarbon residue with at least 16 carbon atoms, linked with nitrogen, and polyglycol residues with an average of at least 10



$$-\underset{|}{\overset{|}{C}}-\underset{|}{\overset{|}{C}}-O-$$

groups
(d) a protective colloid and
(e) a curing catalyst,

the ratio (a):(b) being from 2:3 to 9:1, and the preparation containing 2 to 10% of the components (a)+(b) and 0.05 to 5% of component (d).

3,508,959
NONCOAGULATING SURFACES

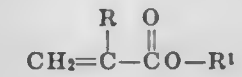
Robert H. Krahnke, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Continuation of application Ser. No. 558,620, June 20, 1966. This application Mar. 5, 1969, Ser. No. 808,716
Int. Cl. B32b *25/20;* **C08j** *1/44*
U.S. Cl. 117—138.8 1 Claim

Materials whose surfaces have been sulfonated whereby the surfaces are rendered anticoagulative and as a result, do not predispose to clot formation when in contact with blood. Since silicone articles used as medical implants and the like are in continuous contact with blood, sulfonation of these articles would be particularly valuable to achieve the desired effects.

3,508,960
PROCESS FOR BINDING NONWOVEN TEXTILES

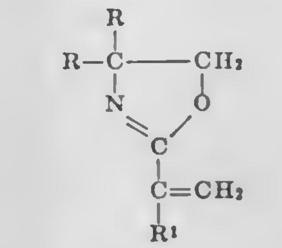
Domenick D. Gagliardi, East Greenwich, and Robert J. Cicione, Cranston, R.I., assignors to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed June 17, 1968, Ser. No. 737,397
Int. Cl. C08f *15/26;* **D06n** *3/04*
U.S. Cl. 117—140 5 Claims

A process for binding nonwoven textiles by impregnating a nonwoven textile with a liquid application medium containing a copolymer of an acrylic monomer of the formula



$$CH_2=\overset{R}{\overset{|}{C}}-\overset{O}{\overset{\|}{C}}O-R^1$$

wherein R is hydrogen or methyl and R^1 is hydrogen or an alkyl radical having 1 up to about 6 carbon atoms and an oxazoline of the formula



wherein R is a lower alkyl radical having 1 up to about 3 carbon atoms, a hydroxymethyl radical or the radical —CH$_2$—OOC—R^1 and R^1 is an alkyl radical having 1 up to about 25 carbon atoms, then drying and curing the impregnated textile. The weight ratio of acrylic monomer to vinyl oxazoline in the copolymer is in the range of from about 75:25 to about 95:5.

3,508,961
PROCESS FOR THE PRODUCTION OF A LIGHT SENSITIVE BODY HAVING AN INSULATING PHOTOCONDUCTIVE LAYER

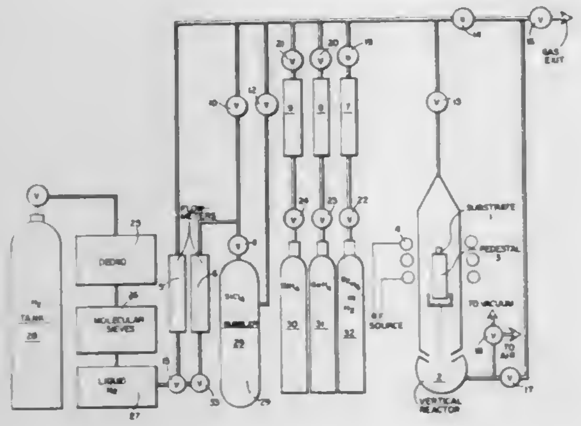
Katsuo Makino and Iwao Sawato, Ashigara-Kamigun, Kanagawa, Japan, assignors to Fuji Shashin Film Kabushiki, Kaisha, Ashigara-Kamigun, Kanagawa, Japan
No Drawing. Filed Dec. 20, 1965, Ser. No. 515,202
Claims priority, application Japan, Dec. 19, 1964, 39/71,584
Int. Cl. G03g *5/08*
U.S. Cl. 117—201 3 Claims

Process for producing a light sensitive body having an insulating photo-conductive layer which comprises dispersing a photo-conductive cadium sulfide powder having an average grain size of less than 1.5 microns in an electrically insulating thermo-setting resin having a specific resistance (by volume) of at least $10^{11}\Omega$ cm. at room temperature. The dispersion is applied to a support ano heated to thus harden or cure the resin and to simultaneously heat treat the fine cadmium sulfide powder and the resin.

3,508,962
EPITAXIAL GROWTH PROCESS

Harold M. Manasevit, Anaheim, and William I. Simpson, La Puente, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware
Filed Feb. 3, 1966, Ser. No. 524,765
Int. Cl. C23c *11/00*
U.S. Cl. 117—227 5 Claims

The invention is directed to a process for growing an epitaxial film on a single crystal substrate comprising the steps of forming initially an extremely thin film of semiconductor material on a desired substrate or surface by thermal decomposition of a hydride. Subsequently, a thicker film is deposited or grown on the thin film by thermally decomposing a halide in a hydrogen atmosphere or a mixture of halides and hydrides in a hydrogen atmosphere.



3,508,963
RESIN-COATED ELECTRIC WIRE

Hiroshi Izumi, Toyama-shi, Tomonori Sengoku, Namerikawa-shi, and Sumio Igarashi and Kosaku Kamio, Uozu-shi, Japan, assignors to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan
No Drawing. Filed July 7, 1967, Ser. No. 651,710
Claims priority, application Japan, July 12, 1966, 41/45,056
Int. Cl. B44c *1/36;* **H01b** *3/44*
U.S. Cl. 117—232 4 Claims

The present invention provides an electric wire (herein the term "wire" includes cables) coated with a resin composition comprising a vinyl chloride containing 13–40% by weight of a monoolefin not higher than C_4, preferably ethylene. This resin-coated wire is much improved in properties such as flexibility, insulation resistance, weather resistance, heat resistance and aging resistance, compared with the conventional one coated with polyvinyl chloride resin composition.

3,508,964
STARCH OF GOOD WATER RETENTION

Philip Roemer, Bradley, and Russell Downhour, Jr., Kankakee, Ill., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed July 27, 1966, Ser. No. 568,103
Int. Cl. C08b *25/02;* **C10m** *7/26;* **C13l** *1/08*
U.S. Cl. 127—33 6 Claims

A starch product having good water retention is prepared by wetting amylaceous material in the presence of a base, elevating the temperature of the wetted material and then extruding the material to produce an expanded product which is then dried and ground.

3,508,965
SUGAR PURIFICATION

John R. Harrison, West Chester, Pa., and Ronald D. Lees and Daniel J. Monagle, Wilmington, Del., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 15, 1966, Ser. No. 594,365
Int. Cl. B01d *21/01;* **C13d** *3/00, 3/12*
U.S. Cl. 127—48 11 Claims

Manufacturing sugar and especially purification of aqueous sugar slurry by contacting same with certain acrylamide-acrylate copolymers as a processing aid (e.g. as a flocculant, settling, filtering, etc. aid).

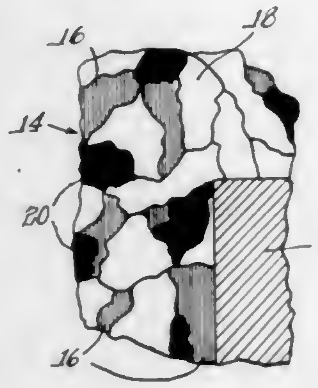
3,508,966
ELECTROCHEMICAL CELL WITH NON-AQUEOUS ELECTROLYTE

Morris Eisenberg, Palo Alto, Calif., assignor to Electrochimica Corporation, a corporation of California
No Drawing. Filed May 22, 1967, Ser. No. 640,335
Int. Cl. H01m *35/00*
U.S. Cl. 136—6 11 Claims

A non-aqueous electrolyte for use in rechargeable electrochemical cells wherein the active anode material is a metal selected from the group consisting of lithium, sodium, calcium and magnesium and the active cathode material is a halide of a metal selected from the group consisting of copper, silver, iron, nickel and cobalt. The electrolyte contains a solute that is a Lewis acid of the class having a metal cation of an element selected from groups III*a* and V*a* of the periodic table of elements, and a halide anion; a coordinating compound capable of forming a complex with a selected one of said Lewis acids; a saturator salt which is a metal halide having a cation of the same specie as the active anode material and an anion of the same specie as the halide of said active cathode material. The saturator salt is provided in sufficient quantity to form a saturated solution in the electrolyte; and a non-aqueous solvent is provided for the solute, coordinating compound and saturator salt which is substantially non-reactive chemically with the anode and cathode. In an alternative embodiment of my invention, the Lewis acid and coordinating compound is replaced by a solute selected from the group consisting of salts having a cation selected from the elements of groups I*a* and II*a* of the periodic table of elements, and an anion selected from the group consisting of perchlorate and the ion formed by a Lewis acid of the class described above in coordination with a simple halide anion of the same specie as the halide of the Lewis acid.

3,508,967
NEGATIVE LITHIUM ELECTRODE AND ELECTROCHEMICAL BATTERY CONTAINING THE SAME

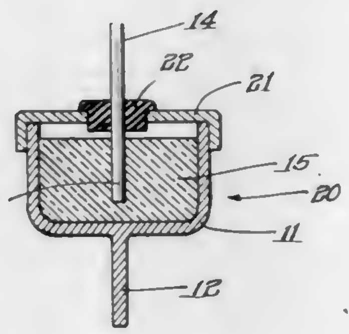
Arthur E. Lyall, Bridgewater, and Harvey N. Seiger, East Brunswick, N.J., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed Sept. 22, 1967, Ser. No. 669,802
Int. Cl. H01m *35/02*
U.S. Cl. 136—20 16 Claims



A rechargeable battery is provided with a lithium electrode which comprises a reinforcing grid support made on an inactive material, most preferably one having a noble metal coating, upon which grid support there is compacted a comminuted mixture having, as essential ingredients, powered lithium metal and particles of permanently conductive material, preferably degassed granular carbon or deoxidized filamentous nickel powder, in extensive electric contact with one another and held together on the grid support by a minor proportion of a binder material which is most desirably particles of polyethylene which have been softened and compacted with said comminuted mixture, or carboxymethylcellulose applied as a porous adhesive coating on the lithium particles and the particles of permanently conductive material.

3,508,968
THERMOELECTRIC DEVICE

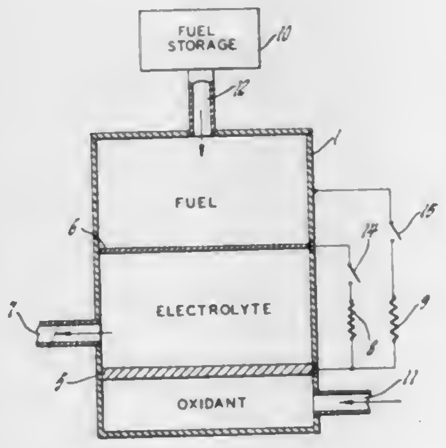
Stanford R. Ovshinsky, Detroit, Mich., assignor, by mesne assignments, to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware
Filed May 28, 1962, Ser. No. 198,093
Int. Cl. H01m
U.S. Cl. 136—83 10 Claims



1. A thermoelectric device for producing a D.C. electrical potential in accordance with differential temperature conditions consisting essentially of spaced apart first and second metallic electrodes of substantially the same metal, and a composition including as an essential active ingredient at least one lithium compound interposed between and in contact with said first and second metallic electrodes, means for producing respectively different temperatures at said first and second metallic electrodes, said at least one lithium compound being asymmetrically heated thereby and producing a substantial D.C. potential between said first and second metallic electrodes in accordance with the temperature differential therebetween, said device being so constructed that the said composition is not exposed to air or an active gas during production of said D.C. potential.

3,508,969
GALVANIC CELL WITH REMOVABLE BARRIER BETWEEN ELECTROLYTE AND ELECTRODE AND PROCESS FOR ACTIVATING CELL

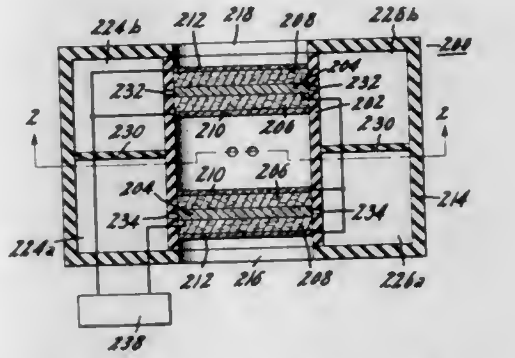
Robert D. Weaver, Santa Barbara, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 18, 1966, Ser. No. 551,094
Int. Cl. H01m *29/02, 27/00*
U.S. Cl. 136—86 11 Claims



A temporary, removable barrier between a cell's electrolyte and one of the members of the cell's galvanic couple, which barrier isolates the member from the electrolyte during the startup (e.g., thermal activation) of the cell.

3,508,970
TUBULARLY HOUSED FUEL CELL

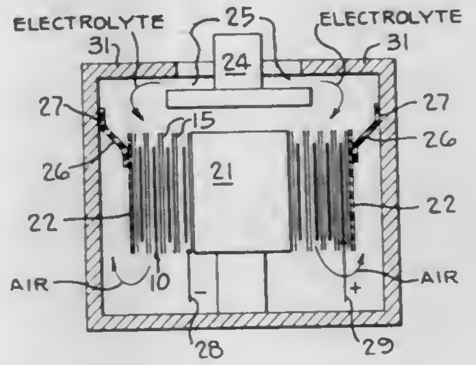
Willard T. Grubb, and Carl E. Cliche, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Dec. 30, 1966, Ser. No. 606,225
Int. Cl. H01m *27/00*
U.S. Cl. 136—86 3 Claims



The invention is directed to a fuel cell enclosed in a tubular housing including a cathode passive toward a water soluble fuel and an anode for the electrochemical oxidation of the water soluble fuel. An aqueous alkaline electrolyte ionically communicates the anode and the cathode, and a mixture of dissolved fuel and electrolyte lies in a fuel chamber in communication with the anode.

3,508,971
WATER ACTIVATED BATTERY

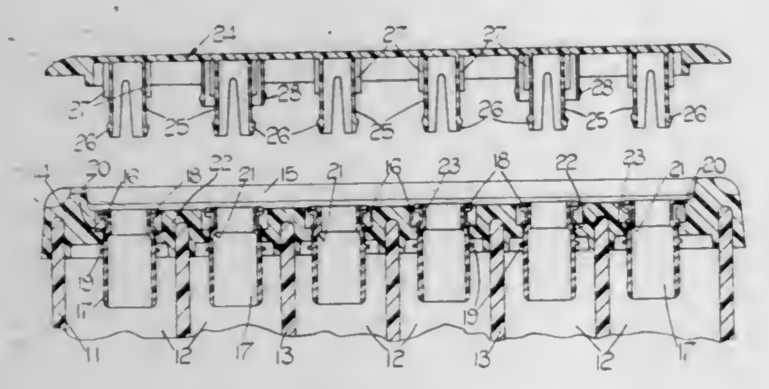
Derek B. Colbeck and Thomas H. Purcell, Jr., Raleigh, N.C., assignors, by mesne assignments, to ESB Incorporated, Philadelphia, Pa., a corporation of Delaware
Filed June 7, 1967, Ser. No. 644,271
Int. Cl. H01m *7/00, 21/12, 3/00*
U.S. Cl. 136—90 11 Claims



A water activated battery having improved rapid activation as a result of an electrolyte-directing means positioned between the battery chamber wall and the electrode-separator assembly, near an electrolyte entry port at the top of the battery chamber and spaced a substantial distance from the bottom of the battery chamber. The electrolyte-directing means prevents electrolyte from entering the space between the electrode-separator assembly and the battery chamber sidewall and thereby provides space to accommodate air pushed from between the electrodes by the electrolyte. Provision of the air space overcomes the problem of air entrapped between the electrodes which impairs activation of the battery. The electrolyte-directing means may be firmly bonded to the chamber wall, the electrode-separator assembly or both. Silver chloride and magnesium are generally the positive and negative active materials.

3,508,972
BATTERY WITH FILLING VENTING DEVICE

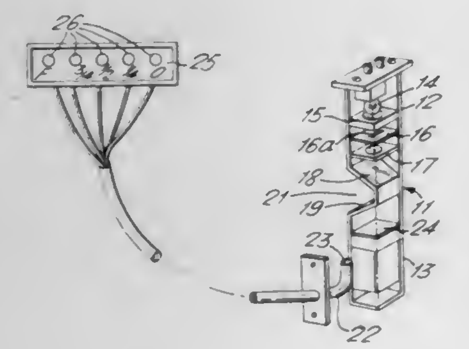
Charles Henry Goldingay, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Continuation-in-part of application Ser. No. 681,660, Nov. 9, 1967. This application Dec. 20, 1968, Ser. No. 785,493
Claims priority, application Great Britain, Nov. 14, 1966, 50,874/66
Int. Cl. H01m *1/02, 7/00*
U.S. Cl. 136—170 **8 Claims**



In an electric storage battery a filling and venting device is provided which includes a moulded sleeve slidable in a bore in the lid of the battery. The sleeve can move between a first position in which the cell of the battery is closed to atmosphere, other than through the sleeve, and a second position in which the cell is open to atmosphere through a path other than through the sleeve. When a cover engages the lid of the battery it moves the sleeve to its second position, and when the cover is disengaged it moves the sleeve to its first position. The lower end of the sleeve may be resilient and acts against a fixed abutment to urge the sleeve upwardly, and the movement of the sleeve can be effected by the resilient portion of the sleeve, or by the lid, or by a combination of both.

3,508,973
REMOTE INDICATION OF THE SPECIFIC GRAVITY OF BATTERY ELECTROLYTE

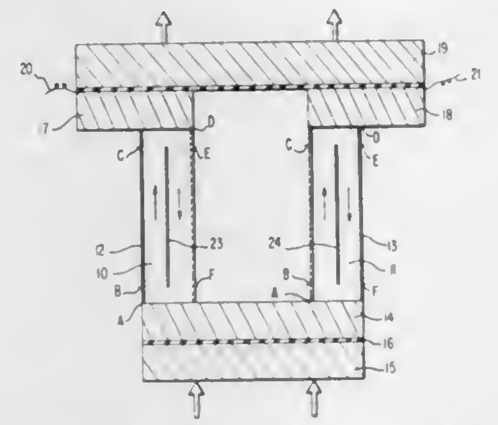
Harris Vernon Hicks, Lichfield, and Kenneth James Jones, Sutton Coldfield, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed Feb. 14, 1968, Ser. No. 705,414
Claims priority, application Great Britain, Mar. 6, 1967, 10,420/67
Int. Cl. H01m *31/04*
U.S. Cl. 136—182 **4 Claims**



The specific gravity of a liquid is indicated at a remote point by using a light projector to pass a beam of light through a sample of the liquid, the beam impinging on a receiver including a plurality of optical cables. The optical cable which is illuminated depends on the specific gravity of the liquid, and the other ends of the optical cables are arranged so as to indicate the specific gravity. The invention is particularly useful for indicating the state of charge of a battery.

3,508,974
THERMOELECTRIC DEVICE WITH FLUID THERMOELECTRIC ELEMENT

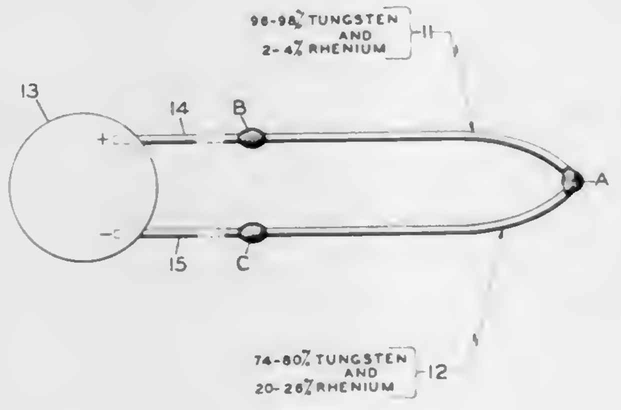
Reinhard G. Bressler, 1833 Chickadee Drive, Knox County, Tenn. 37919
Filed Nov. 12, 1964, Ser. No. 410,386
Int. Cl. H01v *1/02*
U.S. Cl. 136—205 **12 Claims**



A thermoelectric device having a heat exchanger incorporated in the thermoelectric elements themselves whereby heat losses can be reduced and the overall performance can be increased. The thermoelectric elements may consist of electrically conductive fluids and these may be thermoelectrically dissimilar to thereby provide the thermoelectric device.

3,508,975
TUNGSTEN-RHENIUM ALLOY THERMOCOUPLE WITH COMPENSATING LEAD WIRES

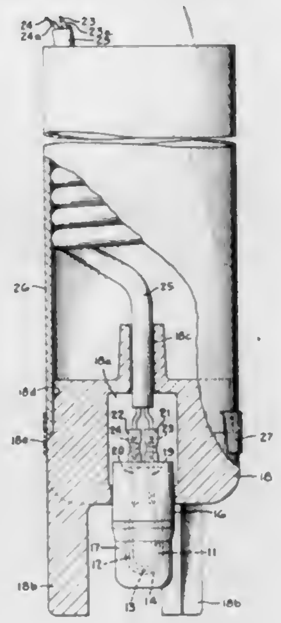
Eugene E. Osovitz, Englishtown, N.J., Julius F. Schneider, Oker-Harz, Germany, and Edward D. Zysk, Livingston, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Oct. 19, 1966, Ser. No. 587,803
Int. Cl. H01v *1/14;* **C22c** *19/00, 27/00*
U.S. Cl. 136—227 **5 Claims**


96-98% TUNGSTEN AND 2-4% RHENIUM
13
14
B
A
C
15
74-80% TUNGSTEN AND 20-26% RHENIUM
12

A thermocouple having a leg and lead wire combination comprising a positive leg wire of 96–98% tungsten and 2–4% rhenium joined to a negative leg wire of 74–80% tungsten and 20–26% rhenium, a lead wire connected to the positive leg composed of 87–93% nickel and 7–13% chromium and a lead wire connected to the negative leg composed of 95–97.5% nickel, 1.5–3.0% chromium, 0.5–3% aluminum, 0.3–1.5% silicon, and 0–1.5 tungsten, said percentages of ingredients being by weight.

3,508,976
THROW-IN THERMOCOUPLE FOR BASIC OXYGEN FURNACE

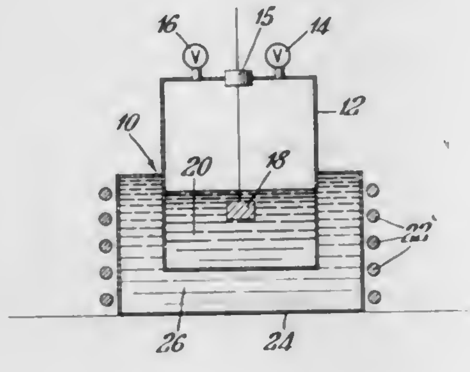
Kenneth B. Parker, Jr., Norristown, Pa., assignor to Leeds & Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1965, Ser. No. 514,961
Int. Cl. H01v *1/04*
U.S. Cl. 136—234 **7 Claims**



An expendable immersion temperature-sensing assembly adapted to be thrown into a bath of molten material to measure the temperature thereof including weight structure and a tube loosely fitted thereon and supporting lead wires and heat softening means releasably securing the weight structure to the tube, the heat softening means having the characteristic of melting as the assembly enters a zone at elevated temperature thereby effecting separation of the weight structure from the tube so as to reduce the buoyancy of the portion of the assembly which enters the bath of molten material.

3,508,977
PROCESS FOR PRODUCING METAL BORIDES ON THE SURFACE OF METALS

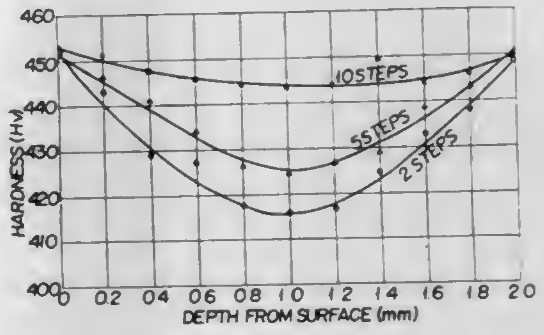
Malcolm Basche, West Hartford, Conn., assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 11, 1967, Ser. No. 608,644
Int. Cl. C23c *11/08, 9/10;* **C23f** *7/00*
U.S. Cl. 148—6.11 **7 Claims**



A process for coating a metal object with a metallic boride which consists of submerging a heated metal object into a liquid bath of boron trichloride. Alternatively, the metal object can be submerged in the bath of boron trichloride and thereafter heated to a temperature sufficient to cause a boride coating to occur on the surface of the metal object.

3,508,978
PROCESS FOR MANUFACTURING SKI EDGES WITH L-SHAPED CROSS SECTION

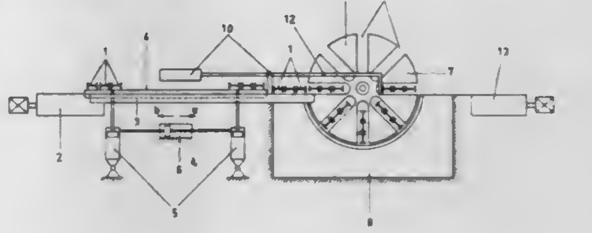
Toshimori Shuin, Takeo Sata, and Masayuki Takamura, Hamamatsu-shi, Japan, assignors to Nippon Gakki Seizo Kabushiki Kaisha, Nakazawa-cho, Hamamatsu-shi, Shizuoka-ken, Japan, a corporation of Japan
Filed Mar. 23, 1967, Ser. No. 625,451
Claims priority, application Japan, Mar. 31, 1966, 41/20,329
Int. Cl. C21d *7/02, 9/10;* **C22c** *41/02*
U.S. Cl. 148—12 **8 Claims**



A method for manufacturing a ski edge of an L-shaped cross-section comprises a first stage for making a soft intermediate product having an L-shaped cross-section and a second stage for making a hard final product of a ski edge having an L-shaped cross section, the thicker portion being thinned by a greater rate of thickness reduction than the rate of thickness reduction at thinner portion from the intermediate product. The first stage consists of several steps of cold drawing and annealing, and the second stage consists of few steps of cold drawing and heat-hardening, the cold drawing being carried out with a tension greater than the yield stress applied lengthwise to the material. The surface of the thicker portion is hardest of the product.

3,508,979
METHOD FOR COOLING WORKPIECES

Otto Mödder, Dahlbruch, Kreis Siegen, Germany, assignor to Siegener Maschinenbau G.m.b.H., a corporation of Germany
Filed Mar. 9, 1966, Ser. No. 532,919
Claims priority, application Germany, Mar. 20, 1965, S 96,078
Int. Cl. C21d *7/14*
U.S. Cl. 148—12.4 **2 Claims**

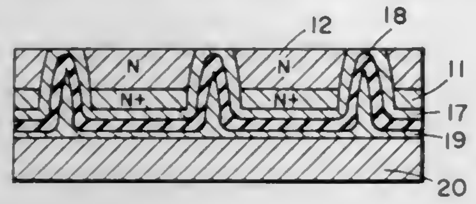


A method and apparatus for the rapid cooling of rolled materials from rolling temperature to room temperature and, more particularly, to materials such as sheets, billets or the like that are sensitive to stresses and distortion.

3,508,980
METHOD OF FABRICATING AN INTEGRATED CIRCUIT STRUCTURE WITH DIELECTRIC ISOLATION

Don M. Jackson, Jr., and Bernard W. Boland, Scottsdale, Ariz., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed July 26, 1967, Ser. No. 656,215
Int. Cl. H01l *7/36, 7/50*
U.S. Cl. 148—175 **1 Claim**

An integrated circuit structure with dielectric isolation is made by a process which involves the bonding of a "handle wafer" to a protected epitaxial film grown on a low resistivity substrate of the same conductivity type. The back side of the substrate is then thinned to about one mil, preferably by chemical etching. Isolated semiconductor islands or mesas are formed by selectively etching through the remaining substrate and epitaxial layer, followed by impurity diffusion or metallization to form highly conductive channels for surface collector contacts. The islands are then isolated by the formation of an oxide film and a "back-fill" of polycrystalline silicon, high temperature glass, or other ceramic material. The handle wafer is removed whereby the epitaxial portions of the semiconductor islands are exposed and prepared for device fabrication by light mechanical polishing to remove any surface damage.



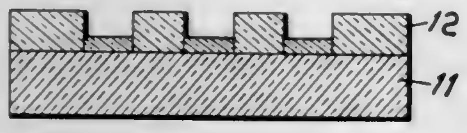
3,508,981
THICKENED AQUEOUS SLURRY EXPLOSIVE COMPOSITION CONTAINING AMMONIUM NITRATE TRINITROTOLUENE SURFACE ACTIVE AGENT

Yoshikazu Wakazono, Kyoto, Terushige Ogawa, Yokohama-shi, and Toshio Ozu and Yoshiyasu Otsuka, Niihama-shi, Japan, assignors to Sumitomo Chemical Co., Ltd., Osaka, Japan
No Drawing. Filed Apr. 17, 1969, Ser. No. 817,189
Claims priority, application Japan, Apr. 24, 1968, 43/27,827
Int. Cl. C06b *9/04*
U.S. Cl. 149—57 9 Claims

A slurry explosive composition containing 0.1 to 5.0%, by weight, of at least one surface active agent selected from the group consisting of an acid salt of a higher alkylamine, an alkyltrimethylammonium chloride, an imidazoline derived from a fatty acid and aminoethyl ethanolamine, and a sodium salt of a higher alcohol sulfate. The slurry is stable in its properties and has higher explosion velocity.

3,508,982
METHOD OF MAKING AN ULTRA-VIOLET SELECTIVE TEMPLATE

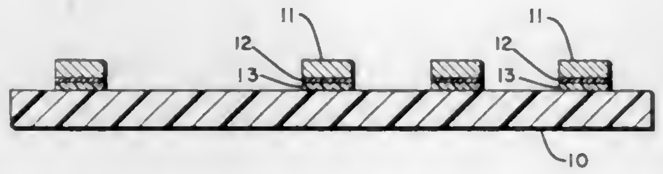
Elmo B. Shearin, Jr., Riviera Beach, Fla., assignor to International Telephone and Telegraph Corporation, a corporation of Delaware
Filed Jan. 3, 1967, Ser. No. 607,048
Int. Cl. G02b; C23f *1/02;* **B44c** *1/22*
U.S. Cl. 156—3 10 Claims



A mask used for photoprocessing of semiconductor devices. The mask is employed in conjunction with photoresists which are sensitive to ultraviolet radiation. The mask comprises a substrate of glass which is transparent to both visible and ultraviolet light, one surface of the substrate being coated with a layer of silicon monoxide. The silicon monoxide layer has relatively thick portions, in accordance with a desired pattern, which are substantially opaque to ultraviolet light, and relatively thin portions which are substantially transparent to ultraviolet light. The entire silicon monoxide layer is substantially transparent to visible light.

3,508,983
USE OF A SILANE COATING TO BOND COPPER TO PLASTIC IN MAKING A PRINTED CIRCUIT

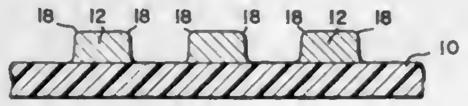
Terrence F. Origer, Northfield, Minn., and Herbert J. Fick, London, England, assignors to G. T. Schjeldahl Company, Northfield, Minn., a corporation of Minnesota
Continuation-in-part of application Ser. No. 358,778, Apr. 10, 1964. This application Apr. 24, 1967, Ser. No. 634,423
Int. Cl. C23f *1/02*
U.S. Cl. 156—3 3 Claims



A technique for the preparation of an improved printed circuitry laminate structure utilizing the steps of deoxidizing a copper surface, applying a film of gamma-aminopropyl triethoxysilane to the deoxidized surface, thereafter bonding the treated copper to a substrate surface utilizing a polyester base adhesive.

3,508,984
METHOD OF PRODUCING PRINTED CIRCUITS

Lawrence R. Travis, Brockton, Mass., assignor to Electro Connective Systems, Inc., Brockton, Mass., a corporation of Massachusetts
Filed June 29, 1967, Ser. No. 649,877
Int. Cl. B32b *31/14;* **C23b** *3/02*
U.S. Cl. 156—3 1 Claim



An improved method for producing printed circuitry from conductive foils bonded to insulatory backing is shown. Areas of the foil desired as the circuit pattern are masked with an etchant resistant material, unmasked foil is partially removed by etching, masking is removed and the remainder of the foil is etched away. The final circuit paths produced by the two-step etch method has rounded corners which are less damaging to coating or encapsulation materials and are not areas of high dielectric stress concentration.

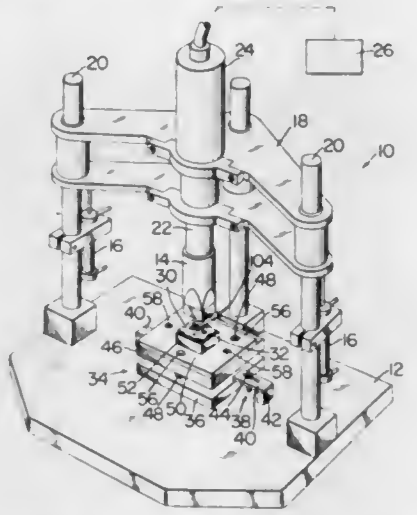
3,508,985
METHOD FOR MAKING A PICTORIAL PHONOGRAPH RECORD EMPLOYING A SOLUTION OF POLYVINYL ALCOHOL AS BONDING AGENT

Kumao Sakamoto, 1229 Takahatadaido-cho, Nara-shi, Nara-ken, Tokyo, Japan
No Drawing. Filed May 29, 1967, Ser. No. 642,179
Claims priority, application Japan, Oct. 12, 1966, 41/66,597
Int. Cl. B32b *27/00*
U.S. Cl. 156—62.2 9 Claims

The invention relates to an improvement in the method for making pictorially illustrated phonograph records, the improvement being the use of a solution of polyvinyl alcohol in water as a bonding agent for bonding the plastic surface material in which the sound track is impressed to the printed matter.

3,508,986
METHOD OF SONICALLY WELDED CHANNEL PLATES

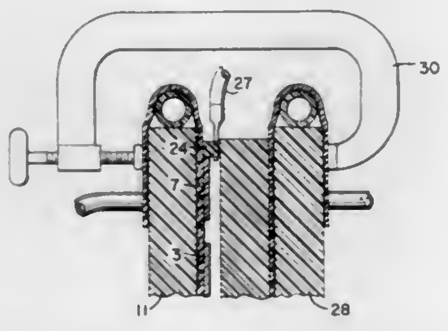
Walter J. Berleyoung, Kenneth G. Kreuter, and Klaus P. Mueller, Goshen, Ind., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Apr. 5, 1967, Ser. No. 628,700
Int. Cl. B29c *27/08;* **B32b** *31/16*
U.S. Cl. 156—73 15 Claims



This application discloses a method of sonically welding a channel between one of a pair of thermoplastic plates. Ridge means are placed along the sides of the channel. The crests of the ridge means provide a relatively small frictional area which is to be sonically welded adjacent the sides of the channel. The ridge means includes an outer ridge and an inner ridge along the sides of the channel with the outer ridge being higher than the inner ridge. Openings may be provided in either of the plates or both of the plates, which openings are connected with the channel, so that fluid may be circulated into or out of the channel through either or both of the plates. A tube or tubes may be connected with the openings in the plates for guiding the fluid into or out of the channel.

3,508,987
METHOD FOR MAKING THIN GLASS-FACED PLASTIC COMPOSITES

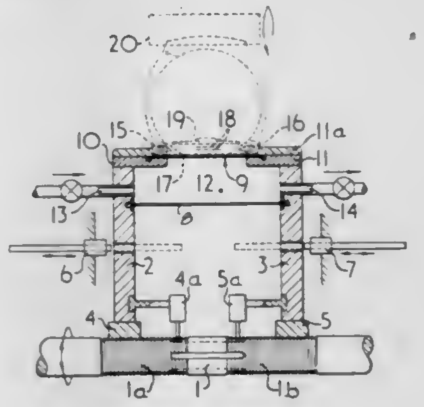
Ralph A. Burkley, Cuyahoga Falls, Donald C. Cully, Tallmadge, and John L. Folk, Akron, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed May 12, 1964, Ser. No. 366,743
Int. Cl. B32b *17/10;* **C03c** *27/12*
U.S. Cl. 156—99 3 Claims



A method or process of providing accurately shaped, usually specially contoured laminates comprising providing a contoured primary carrier sheet and then attaching a thin glass-faced sheet to one surface of the carrier sheet while reinforcing the glass sheet and maintaining or providing one face of the glass sheet contoured complementary to a carrier surface of the carrier sheet. The glass sheet is reinforced, as by attaching it by vacuum forces to a rigid backing or reinforcing member and then attaching the unit of the glass sheet and reinforcing member to the carrier sheet to provide an assembly thereof with associated faces of the carrier sheet and glass sheet in accurately spaced relationship. A liquid thermosetting resin is provided between the space surfaces of the carrier sheet and glass sheet and then the entire assembly is heated to thermoset the resin and bond the glass sheets to the carrier sheet. Apparatus for performing such method is also disclosed.

3,508,988
METHOD OF MAKING FIBRILLATED REINFORCED ELASTOMERIC MATERIAL

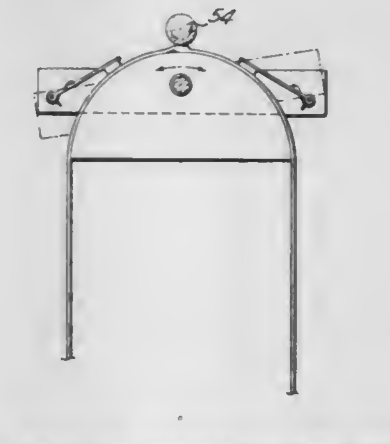
Roy Ernest Sykes Waller, Sutton Coldfield, England, assignor to The Dunlop Company Limited, London, England, a British company
Filed Aug. 30, 1966, Ser. No. 576,043
Claims priority, application Great Britain, Sept. 8, 1965, 38,446/65
Int. Cl. B29h *17/10, 17/26*
U.S. Cl. 156—123 8 Claims



A reinforced article such as a pneumatic tyre carcass is manufactured by applying a sheet of orientable fissile material such as a polyamide, or polypropylene, to a sheet of elastomeric material such as natural or synthetic rubber or plasticized chloride. The composite sheet is first supported in the unshaped condition and then shaped and expanded with sufficient orientation in one region to be capable of fibrillation and then after at least partly fibrillating the sheet to provide the finished article with the fibrillated reinforcing layer.

3,508,989
METHOD OF FORMING ENDLESS MAGNETIC TAPE LOOPS

Murray D. Lawrence, Kings Park, and Louis G. Metzger, New York, N.Y., assignors to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed May 20, 1966, Ser. No. 551,732
Int. Cl. B32b *31/00*
U.S. Cl. 156—154 7 Claims

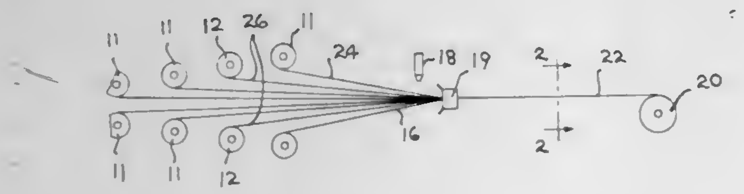


A method of forming magnetic tape loops of the type used in information storage systems, in which a length of tape stock is cut to a length slightly in excess of the loop to be formed thereby to provide overlapping end portions, joining the overlapped end portions by welding and reducing the thickness of the splice formed by welding to approximately the thickness of the tape stock. The precise length of the tape stock is established by wrapping the tape around a mandrel having a peripheral dimension corresponding to the tape loop and cutting overlapped end portions of the tape after they have been moved away from the mandrel periphery to establish the length of tape overlap.

3,508,990

METHOD OF PRODUCING A MULTI-ELEMENT GLASS CORD CONSTRUCTION

Alfred Marzocchi, Cumberland, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Oct. 24, 1965, Ser. No. 504,626
Int. Cl. B32b *17/04*
U.S. Cl. 156—166 **10 Claims**

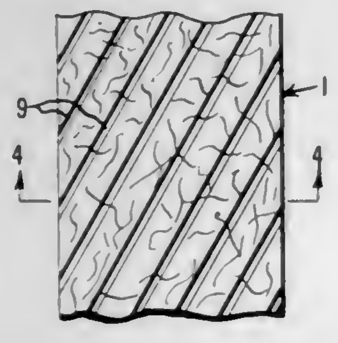


A continuous cord is produced by a process featuring merging of continuous filaments of glass and at least one continuous filament of a heat-softenable organic filament followed by a heating, causing the organic element to flow into enveloping relationship with the glass filaments. In a preferred embodiment, the assembly is subjected then to an impregnation with a resinous material which cooperates with the interior organic to accomplish complete envelopment of the glass components.

3,508,991

PROCESS OF MAKING BONDED BATTS OF MICROCELLULAR FILAMENTS

Malak E. Yunan, Devonshire, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 28, 1966, Ser. No. 605,254
Int. Cl. B32b *5/02*
U.S. Cl. 156—209 **3 Claims**

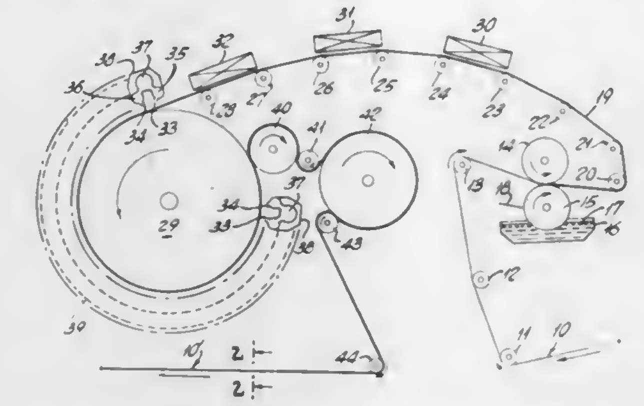


A process for preparing consolidated reticulate batts of fully inflated microcellular filaments in which randomly deposited collapsed filaments are calendered to a compacted sheet, heated blades are drawn over the batt surface(s) to create a pattern of fused lines which solidify on cooling, and the unfused portions of filaments are subsequently fully inflated. Provides bonding and stable pre-loading of batts of pneumatic microcellular filaments for firm cushioning uses.

3,508,992

METHOD OF MAKING LAMINATED MATERIAL HAVING CELLS BETWEEN THE LAYERS

Marc A. Chavannes, New York, N.Y., assignor to Sealed Air Corporation, Hawthorne, N.J., a corporation of New Jersey
Original application Dec. 26, 1963, Ser. No. 336,097, now Patent No. 3,405,020, dated Oct. 8, 1968. Divided and this application June 3, 1968, Ser. No. 733,965
Int. Cl. B32b *31/16*
U.S. Cl. 156—209 **8 Claims**

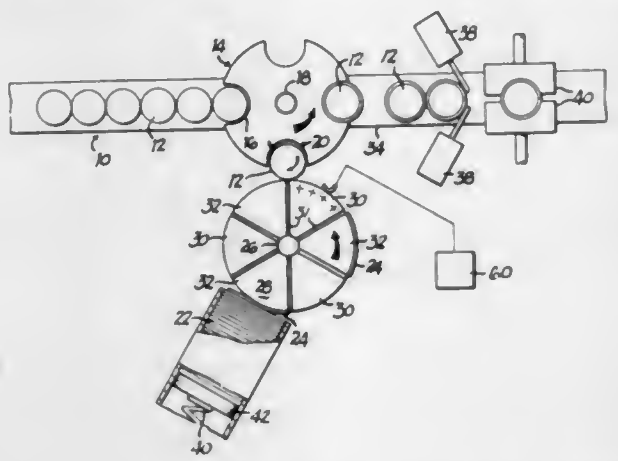


An improved method for the manufacture of cellular material utilizing multi-ply laminates wherein at least one of the laminates is embossed prior to the sealing of the laminates one to the other, and cellular products wherein the cell walls are formed of laminated materials.

3,508,993

METHOD AND APPARATUS FOR APPLYING LABELS TO CONTAINERS

Samuel L. Belcher and Jerome R. Grothjan, Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed July 18, 1966, Ser. No. 565,797
Int. Cl. B65c *3/08*
U.S. Cl. 156—215 **9 Claims**



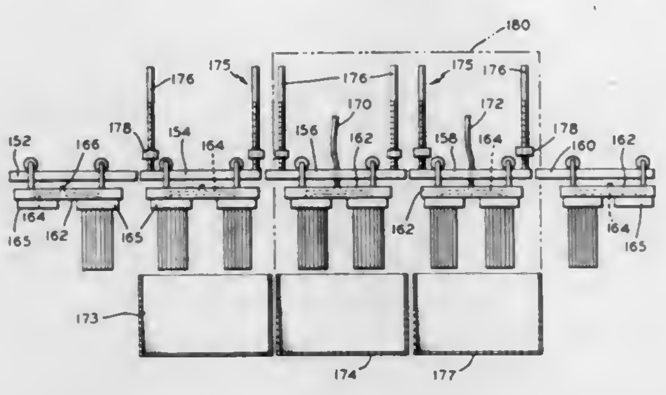
The method of applying plastic labels to containers wherein a turntable with adjacent sectors provided with a vacuum and an electrostatic charge is used to pick up labels from a stack, transfer the charge to the container surface and apply the label to the charged surface while simultaneously relieving the vacuum to facilitate the label application. Thereafter the label is bonded to the container surface.

3,508,994

METHOD FOR PRODUCING MEMBRANE SEPARATION DEVICES

Per Nyrop, Norwalk, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed July 7, 1966, Ser. No. 563,592
Int. Cl. B32b *31/12;* **B44d** *1/032*
U.S. Cl. 156—280 **13 Claims**

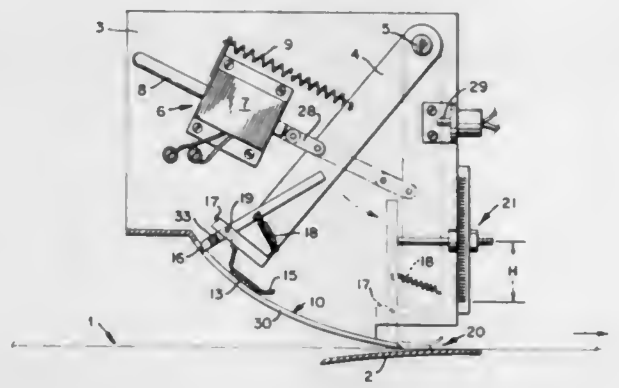
The present invention relates to new methods for producing membrane separation devices and to the devices thus produced. The method involves the preassembly of a plurality of membrane supporting members into a substantially-fixed closely-spaced arrangement followed by a subsequent temporary immersion of this assembly into a bath of a membrane-forming liquid. The plurality of preassembled membrane supports are arranged to facilitate contact of all the surface of the membrane supports with the membrane-forming liquid and to facilitate drainage of excess liquid upon withdrawal of the assembly from the bath. Suitable treatment of the liquid coating thus deposited forms the membranes in situ in the preassembled device.



3,508,995

WEB VOID MARKING DEVICE

Albion J. Thompson, Millinocket, Maine, assignor to Great Northern Paper Company, a corporation of Maine
Filed Feb. 10, 1967, Ser. No. 615,143
Int. Cl. G01d *5/04*
U.S. Cl. 156—364 **5 Claims**



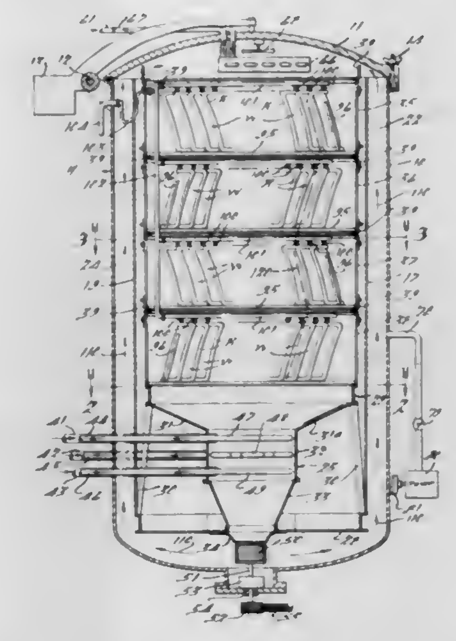
An apparatus for sequentially dispensing void markers against moving webs of paper or other material for the purpose of marking voids or other irregularities as detected in the web. A marker transport element is effective to accelerate the marker from a remote stationary position in a magazine to a speed approximately equal to the speed of the moving web and then urges the marker against the web for attachment to it.

3,508,996

PRESSURE VESSEL FOR LAMINATING OPERATIONS

Dale H. Hill, Farmington, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Original application Apr. 25, 1963, Ser. No. 275,610, now Patent No. 3,347,723, dated Oct. 17, 1967. Divided and this application June 22, 1967, Ser. No. 662,224
Int. Cl. B32b *31/00*
U.S. Cl. 156—382 **8 Claims**

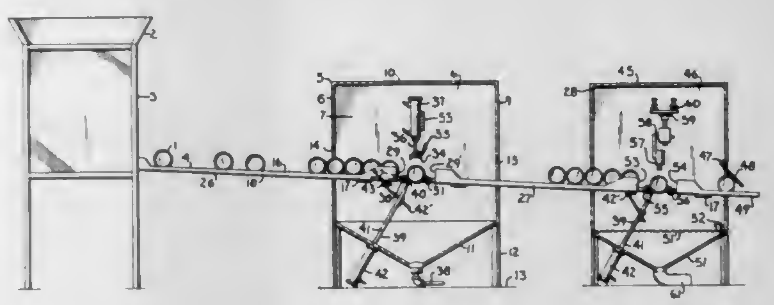
Autoclave apparatus for effecting lamination of glass sheet assemblies. The apparatus is composed of a tank structure capable of being internally temperature controlled and of supporting laminate assembly racks. The tank structure and racks are provided with cooperating piping whereby a vacuum can be maintained about the periphery of each assembly independent of the internal tank pressure.



3,508,997

METHOD AND APPARATUS FOR CLEANING AND RECONDITIONING OF MATERIAL CONTAINING CANS

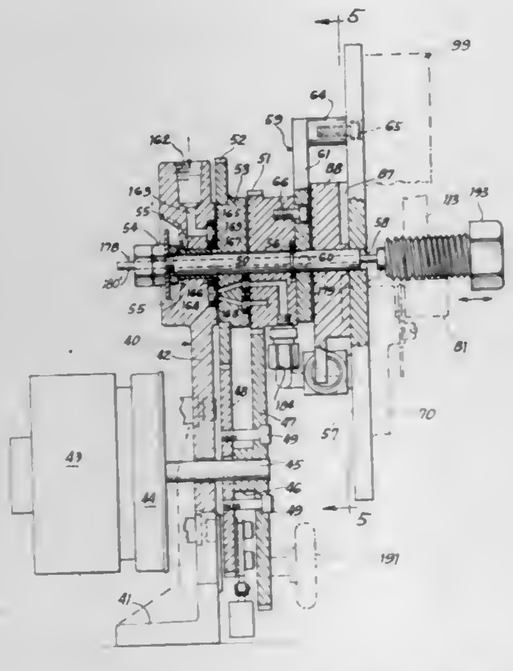
John McKenney Werling, 2800 E. 13th St., Kansas City, Mo. 64127
Filed Dec. 1, 1966, Ser. No. 598,501
Int. Cl. B32b *35/00*
U.S. Cl. 156—389 **9 Claims**



This invention is in the salvaging of canned goods and the improving of the appearance of the containers whereby they are salable and includes a method and apparatus for the cleaning and reconditioning such material containing cans. The cans of goods are moved in a path from station to station that are selectively operated or allowed to remain inactive as is desirable in the reconditioning of the cans with the stations including a label cleaning station, a label removing station, a can cleaning station, a can painting station, a paint drying station, and a paint baking station, after which new labels are applied and the cans placed in cases and the cases sealed whereby they are then ready for movement to a store for sale. Different size cans may be processed, however, in any one operation, all of the cans should be of the same size and segregated as to contents for proper cleaning, labeling, and packaging. The cans are moved along the path and at the label cleaning, label removing, can cleaning, and can painting stations, the cans are stopped and are then rotated individually with the treated can being moved on and simultaneously another can being moved into position for treatment at the station.

3,508,998
APPARATUS FOR WRAPPING TAPE AROUND THREADED ARTICLES

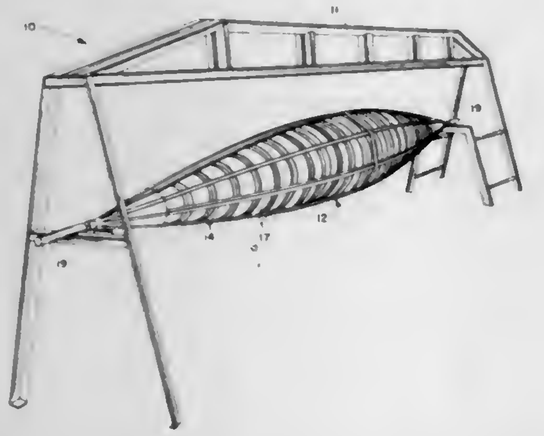
Robert A. Bilbrey, Orinda, Calif., assignor to Crane Packing Company, Morton Grove, Ill., a corporation of Illinois
Filed Feb. 13, 1967, Ser. No. 615,519
Int. Cl. B65c *3/12, 3/16, 9/04*
U.S. Cl. 156—457 **18 Claims**



Apparatus comprises a rotatable deck carrying (1) a roll of tape; (2) tape feeding means; (3) tape cutting shears and (4) pressure rollers, and fluid pressure cylinders for operating these devices with cam-operated valves controlled by rotation of the deck for determining sequence of operation. Threaded article is held between rollers until one or more turns of the tape is wrapped around and rolled into threads. Insertion of article into apparatus initiates operation of apparatus, but apparatus shuts itself off upon completion of cycle.

3,508,999
ROTATING MANDREL FOR ASSEMBLY OF INFLATABLE DEVICES

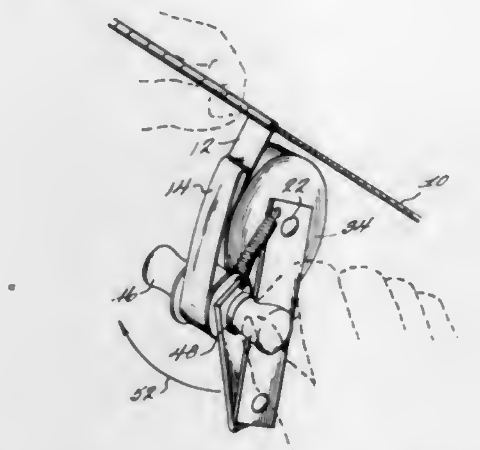
James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Sigvard J. Stenlund, Northfield, Alfred J. Wendt, Minneapolis, and John A. MacFadden, Farmington, Minn.
Filed Mar. 31, 1967, Ser. No. 628,246
Int. Cl. B32b *31/04, 31/10;* **B65b** *9/06*
U.S. Cl. 156—510 **10 Claims**



Apparatus facilitating the accurate measurement, cutting and assembling of an adequate number of gores from sheet stock material to form an inflatable structure with a configuration of a solid of revolution.

3,509,000
HAND TOOL FOR APPLYING RUBBER TAPE

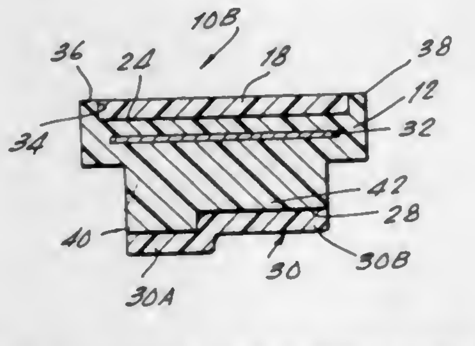
Walter P. Brown, Reedsville, Ohio 45772
Filed Sept. 19, 1967, Ser. No. 668,826
Int. Cl. B32b
U.S. Cl. 156—584 **4 Claims**



A dispensing device for tape of the type which includes an adhesive portion and a backing layer which includes a pair of pivotally interconnected arms with a reel on the free end of a first arm for rotatably supporting a roll of such tape and a take-up reel with handles secured thereto rotatably mounted on the free end of the other arm, said arms being biased toward each other for maintaining the take-up reel in contact with the roll of tape is disclosed.

3,509,001
SIMULATED WOOD TRIM STRIP

Victor Shanok and Jesse P. Shanok, Brooklyn, N.Y., assignors to Glass Laboratories Company, Brooklyn, N.Y., a limited partnership of New York
Filed Jan. 12, 1966, Ser. No. 520,133
Int. Cl. B44f *1/02, 9/02*
U.S. Cl. 161—5 **4 Claims**



A trim strip comprising an elongated plastic base strip having a predetermined color, a clear decorative facing strip secured thereto along one longitudinally extending surface, the facing strip being a flexible plastic material having a decorative pattern provided thereon, and a mounting strip of flexible plastic material secured to the opposing longitudinally extending surface.

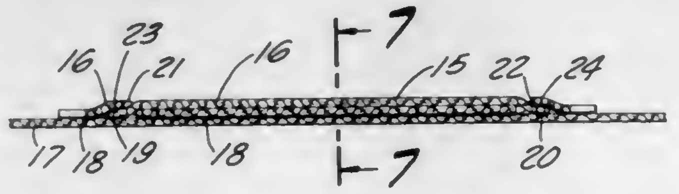
3,509,002
COLORED REINFORCED LAMINATES

Walter Murray Edwards, Wilmington, Del., and Robert Allen Maginn, Ringwood, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of abandoned application Ser. No. 287,492, June 13, 1963. This application Dec. 20, 1966, Ser. No. 603,157
Int. Cl. B32b *5/02*
U.S. Cl. 161—6 **9 Claims**

A laminar construction comprising a lamina of polymethyl methacrylate; a lamina of polyester-styrene, polyester, or polymethyl methacrylate resin containing reinforcing fibers; a colored lamina consisting of cellulose nitrate lacquers, plasticized polyvinyl chloride film or pigmented acrylic lacquer interposed between the polymethyl-methacrylate lamina and lamina of resin containing reinforcing fibers and bonded to the polymethyl methacrylate lamina; and a layer of cellulose nitrate, nylon, ammoniated methyl methacrylate-glycidyl methacrylate copolymers, plasticized polyvinyl butyral polymers, polyvinyl chloride, acrylic lacquer having a low plasticizer content or acrylic sheet which is substantially impermeable to any component in the lamina of resin containing reinforcing fibers, the layer being interposed between and bonded to the lamina of resin containing reinforcing fibers and the colored lamina.

3,509,003
CLOTHES LABEL

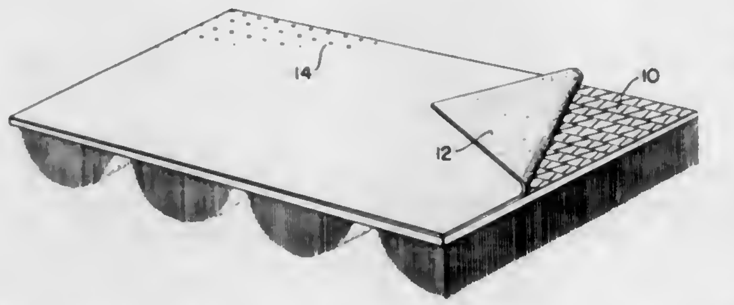
Milton A. Engle, 4907 Alcove, North Hollywood, Calif. 91607
Filed Jan. 12, 1966, Ser. No. 520,222
Int. Cl. D03d *27/00;* **D04h** *11/00;* **B32b** *3/10*
U.S. Cl. 161—39 **6 Claims**



A piece of cloth of predetermined outline has one major surface provided with adhesive to permit securing to clothing. A border is cemented onto the outer margins of the cloth piece and immediately adjacent parts of the clothing. A further aspect is to provide the border with slits through which the cloth piece outer margins are received.

3,509,004
SIMULATED FUR SKINS

Mano E. Becker, 345 W. 86th St., Room 1309, New York, N.Y. 10024
Filed June 2, 1967, Ser. No. 643,144
Int. Cl. D03d *27/00*
U.S. Cl. 161—63 **4 Claims**

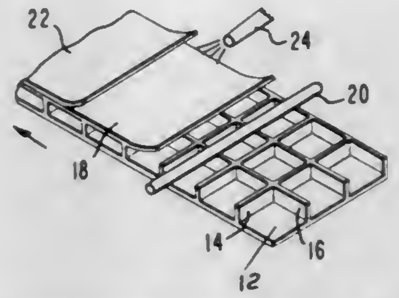


An artificial fur having the handling properties of natural fur is formed by combining a pile fabric simulation of a natural fur with a backing of natural leather or artificial leatherlike material. A product resembling a garment or panel formed of combined fur strips is provided by forming the pile fabric with parallel bands containing no pile.

3,509,005
RIBBED STRUCTURES OF THERMOPLASTIC RESIN

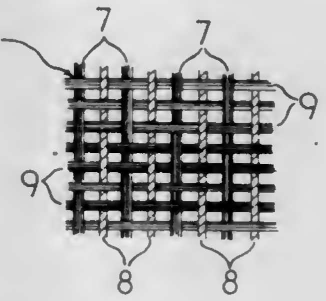
Martval J. Hartig, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Continuation-in-part of application Ser. No. 552,183, May 23, 1966. This application Mar. 2, 1967, Ser. No. 619,995
Int. Cl. B32b *3/12*
U.S. Cl. 161—69 **15 Claims**

Molten thermoplastic resin, e.g., polyethylene, is forced into a pattern on the surface of a rotating roll to form a web of ribs usually integrally molded to a continuous film; this web is of low density and has a high strength-to-weight ratio so as to be used for structural purposes and packaging. The low bulk densities of the ribs and overall ribbed structure are obtained by employing thin films, from 0.001 to 0.0025 inch, and thin ribs generally spaced apart a distance which is from 20 to 50 times the thickness of the film. Also disclosed is a process of butt edge welding a pair of said ribbed structures.



3,509,006
MECHANICAL BELTING

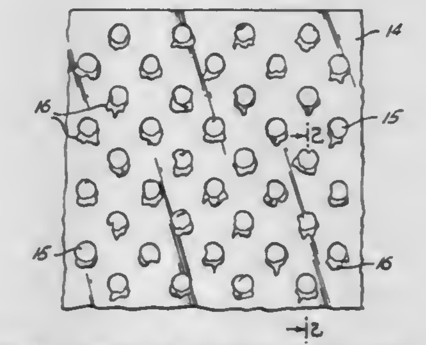
Norman Gilby Baxendale, Liverpool, and Peter Michael Robinson, Woolton, Liverpool, England, assignors to The Dunlop Company Limited, London, England, a British company
Filed Oct. 12, 1964, Ser. No. 403,129
Claims priority, application Great Britain, Oct. 22, 1963, 41,601/63
Int. Cl. F16g *1/10;* **B65g** *15/34*
U.S. Cl. 161—91 **15 Claims**



Mechanical belting having a twill-woven reinforcement including woven first and second warp yarns, the first warp yarns being of greater breaking strength than the second warp yarns which second warp yarns under normal loads serve to resist straightening of the first warp yarns by tying down the weft yarns.

3,509,007
PERFORATED SHEET MATERIAL

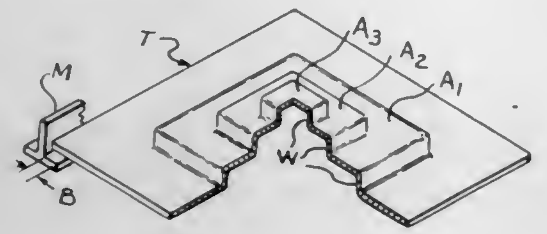
Frank Kalwaites, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Original application Mar. 5, 1965, Ser. No. 437,469, now Patent No. 3,408,776, dated Nov. 5, 1968. Divided and this application Mar. 18, 1968, Ser. No. 713,690
Int. Cl. B32b *3/10*
U.S. Cl. 161—110 **3 Claims**



Perforated sheet material having a smooth face and a roughened face. Portions of the material about each perforation extend out of the plane of the material and are set in such a configuration.

3,509,008
DECORATIVE NONCOMBUSTIBLE CEILING TILE

George John Adomshick, Raritan, and Robert Gerard Quinn, Bound Brook, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Dec. 27, 1965, Ser. No. 516,370
Int. Cl. E04c *2/50;* **B32b** *3/28*
U.S. Cl. 161—130 4 Claims



A fireproof and self-supporting ceiling tile and method of making, preferably produced by admixing by weight about 80 to about 88 percent of asbestos fibers, about 10 to about 15 percent of thermoplastic resin, and about 2 to 5 percent of a whitening agent in which the thermoplastic resin has a minimum softening point of about 200° F., subjecting the mixture to a cleansing operation such as centrifuging an aqueous slurry of the mixture, forming the cleansed mixture into a paper of substantially continuous length, slitting the length of paper into several strips of predetermined width, heating a strip of the paper prior to an embossing step, embossing a pattern on the heated strip of paper to an extent that the pattern includes displacement of at least a portion from the general linear plane of paper to provide a transverse dimension greater than the thickness of the strip of paper, and thereafter cutting the embossed paper into individual tiles.

3,509,009
NON-WOVEN FABRIC

Ludwig Hartmann, Oberflockenbach, Germany, assignor to Carl Freudenberg Kommanditgesellschaft, Weinheim, Bergstrasse, Germany, a corporation of Germany
Continuation-in-part of applications Ser. No. 254,601, Jan. 29, 1963, Ser. No. 302,370, Aug. 15, 1963, and Ser. No. 341,489, Jan. 27, 1964. This application Feb. 6, 1967, Ser. No. 614,093
Claims priority, application Germany, Feb. 10, 1966, F 48,397; Feb. 16, 1966, F 48,438; July 15, 1966, F 49,698
Int. Cl. D04h *1/04, 3/08*
U.S. Cl. 161—150 19 Claims

Apparatus and process for producing a non-woven fabric. The fabric is composed of filaments which are substantially continuous, substantially randomly disposed with respect to each other, randomly intersecting with each other and axially molecularly oriented by drawing at a ratio of at least 30:1.

3,509,010
BUILDING COMPONENT AND METHOD OF FORMING SAME

Emil Metzger, Thayngen, Switzerland, assignor to Hermann Klaue, Montreux, Switzerland
Continuation-in-part of abandoned application Ser. No. 419,451, Dec. 18, 1964. This application July 3, 1968, Ser. No. 744,258
Claims priority, application Switzerland, May 11, 1964, 6,175/64
Int. Cl. E04f *13/00;* **B32b** *13/02*
U.S. Cl. 161—162 9 Claims

A synthetic composite building component includes a layer of expanded pellets, such as grains or particles of expanded clay, bonded by a binder and having a covering sheet on at least one surface, or on two opposite surfaces, bonded to the layer by the same binder. The components may be manufactured by continuously feeding a glass fiber mat, impregnated with partially set hydraulic cement still retaining bonding properties, continuously covering the fed strip-form mat with a layer of pellets mixed with partially set hydraulic cement still retaining bonding properties, and, if desired, continuously applying a thickened continuously fed strip of glass fiber mat, similarly impregnated, to the other surface of the layer. The continuous product, after hardening or setting of the hydraulic cement, may be severed into components of the desired size and contour.

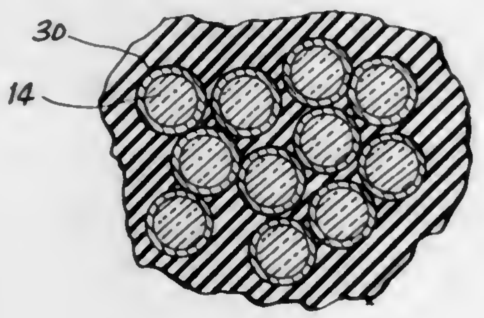
3,509,011
MANUFACTURE OF FLAT GLASS

Lionel Alexander Bethune Pilkington, Rainhill, England, assignor to Pilkington Brothers Limited, Liverpool, England, a company of Great Britain
Original application June 7, 1957, Ser. No. 664,245, now Patent No. 3,083,551, dated Apr. 2, 1963. Divided and this application Dec. 27, 1961, Ser. No. 162,545
Claims priority, application Great Britain, May 3, 1957, 14,205/57
Int. Cl. C03b *18/00;* **B32b** *17/00*
U.S. Cl. 161—164 1 Claim

1. A sheet of glass cut from a ribbon of glass produced by delivering glass at a controlled rate to a bath of molten metal and advancing the glass along the surface of the bath under thermal conditions which assure that a layer of molten glass is established on the bath, maintaining said glass layer in molten condition until there is developed on the surface of the bath a buoyant body of molten glass of stable thickness by permitting said layer of molten glass to flow laterally unhindered to the limit of its free flow under the influence of gravity and surface tension, and thereafter continuously advancing the buoyant body in ribbon form along the bath, and sufficiently cooling this ribbon as it is advanced to permit it to be taken undamaged out of the bath by mechanical means.

3,509,012
COMPOSITION AND COMPOUND FOR TREATMENT OF GLASS FIBERS TO IMPROVE ELASTOMERIC BONDING

Alfred Marzocchi, Cumberland, R.I., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 22, 1965, Ser. No. 508,931
Int. Cl. D04h *1/00*
U.S. Cl. 161—170 5 Claims



A glass fiber reinforced elastomeric product in which the bonded relationship between the glass fiber surfaces and the elastomeric material is enhanced by a coating on the glass fiber surfaces containing an amino silanized alkylene oxide condensate.

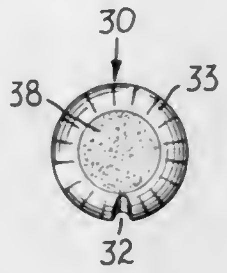
3,509,013
COMPOSITE POLYPROPYLENE FILAMENT

George C. Oppenlander, Embreeville, Pa., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 26, 1966, Ser. No. 581,764
Int. Cl. D02g *1/00*
U.S. Cl. 161—173 7 Claims

Composite filaments are prepared of stereoregular polypylene wherein at least one component is unmodified polypropylene and at least one component is polypropylene modified by addition thereto of a crystallinity modifier.

3,509,014
QUASI-EXTRUDED FELT

Wendell H. Stickney, Springdale, Conn., assignor to GAF Corporation, a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,766
Int. Cl. D02g *3/22*
U.S. Cl. 161—180 1 Claim



A felt article useful as a liquid reservoir consisting of a cylindrical fibrous member formed with a longitudinal groove along at least one side and having rounded end portions, between about one-fifth and about one-half of the fibrous material being binder fibers is disclosed. The fibrous member is heated so that the binder fibers near the outer surface of the article are bonded to the other fibers to a greater extent than are those in the interior of the article.

3,509,015
GLASS LAMINATED WITH POLYURETHANE

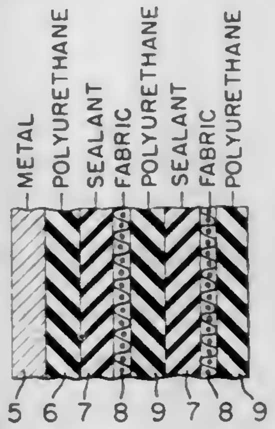
Marco Wismer, Gibsonia, Vernon G. Ammons, Glenshaw, and Michael E. Dufala, Tarentum, Pa., assignors to PPG Industries, Inc., a corporation of Pennsylvania
Continuation-in-part of applications Ser. No. 68,942 and Ser. No. 68,943, both filed Nov. 14, 1960. This application Feb. 24, 1965, Ser. No. 435,017
Int. Cl. B32b *17/10;* **C03c** *27/12*
U.S. Cl. 161—190 36 Claims

Laminated glass articles suitable as safety glass windows and windshields for automobiles or other vehicles are made with a polyurethane interlayer. The polyurethane is a reaction product of a poly(oxypolymethylene) glycol; or organic polyisocyanate and a curing agent containing at least two active hydrogens per molecule. The curing agent can be a polyol or a polyamine and may be used with an excess of polyisocyanate. Preferably, a prepolymer of poly(oxytetramethylene) glycol is made and then cured. The curing can be carried out while the reaction mixture is in contact with the outer members of the laminate.

3,509,016
SELF-SEALING FUEL CELL WALL

Theodore A. Underwood, Cuyahoga Falls, William S. Wickersham, Jr., North Canton, and Robert W. Sutton, Tallmadge, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Feb. 16, 1966, Ser. No. 527,929
Int. Cl. B32b *27/40*
U.S. Cl. 161—190 5 Claims

A self-sealing wall for fuel tanks or conduits having a substantially rigid supporting layer and at least one layer of elastomeric polyurethane. The polyurethane has sufficient resiliency to stretch and thereby permit passage of a projectile therethrough and then to contract to its original position to substantially seal the opening made by the projectile.



3,509,017
MULTI-LAYERED PYROLIZED PARA-POLYPHENYLENE STRUCTURES AND METHOD OF MAKING SAME

Oliver E. Accountius, Tarzana, Calif., assignor to North American Rockwell Corporation, a corporation of Delaware
No Drawing. Filed July 22, 1966, Ser. No. 567,089
Int. Cl. B32b *13/04*
U.S. Cl. 161—206 8 Claims

A method of making a multi-layered structure from para-polyphenylene, para-polyphenylene containing a metal, or para-polyphenylene containing a filler, said method comprising pressing the layers to produce a multi-layered structure and then pyrolyzing said para-polyphenylene containing layers.

3,509,018
CORD-TO-RUBBER ADHESION IMPROVEMENT BY THE ADDITION OF METHYLENE DONORS SUCH AS 1,3-DIMETHYLOL-2-IMIDAZOLIDININE

Richard Leshin, Akron, Charles N. Meier, Stow, and Norman G. Endter, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 21, 1965, Ser. No. 427,139
Int. Cl. B32b *25/02, 25/08*
U.S. Cl. 161—241 2 Claims

Discloses rubber and non-metallic reinforced rubber structures wherein the rubber is modified with a resin formed in situ from the reaction of a methylene acceptor such as resorcinol and a methylene donor reactable therewith. The donors are N-(substituted oxymethyl) derivatives of urea, N-(substituted oxymethyl) derivatives of imidazolidines, N-(substituted oxymethyl) derivatives of hydantoins, and N-(substituted oxymethyl) derivatives of melamines.

3,509,019
DIALLYL PHTHALATE DECORATIVE LAMINATES

Harry H. Beacham, Severna Park, Md., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 16, 1967, Ser. No. 638,765
Int. Cl. B32b *27/10*
U.S. Cl. 161—251 15 Claims

This specification discloses diallylic phthalate resin decorative laminates with improved mar and abrasion resistance and improved bond strength between the resin layer and the substrate. These laminates are prepared by impregnating an unpigmented fibrous carrier sheet with a diallylic phthalate resin solution, drying the resin impregnated carrier sheet to a tack- and volatile-free state, and then laminating this overlay sheet to the top surface of the decorative layer. The improved properties are obtained by using as the impregnating solution for the overlay sheet a diallylic phthalate resin solution which comprises (a) diallylic phthalate, 85–100% by weight of the diallylic phthalate being partial polymer and the remaining 0–15% being monomer, (b) a catalytic amount of organic peroxide, (c) a volatile solvent, and (d) a small amount of a simple mixture of an alkylated methylol melamine and certain alcohols containing 1–3 hydroxyl groups.

3,509,020
METHOD OF FORMING INTEGRAL FIBROUS SHEETS

Fred J. Gelsomino, Buffalo, N.Y., assignor to National Gypsum Company, Buffalo, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1966, Ser. No. 604,543

Int. Cl. B32b *9/00;* **D21h** *1/02*

U.S. Cl. 162—124 **9 Claims**

A method of obtaining natural bonding of a plurality of fibrous plies into an integral fibrous sheet which is not subject to delamination during handling and/or use. An aqueous solution of a water soluble thickening agent is applied to the surface of the thin fibrous plies and the plies then pressed together. The solution, which is not readily absorbed into the plies, remains at the interface of the plies when they are pressed together to provide natural bonding of the plies.

3,509,021
POLYACRYLAMIDE-AMINOPLAST RESIN COMPOSITIONS AND THEIR USES

Fred E. Woodward, Watchung, N.J., assignor to Diamond Shamrock Corporation, a corporation of Delaware

No Drawing. Filed Mar. 20, 1967, Ser. No. 624,154

Int. Cl. D21d *3/00;* **D21h** *3/54;* **C08g** *37/32*

U.S. Cl. 162—167 **3 Claims**

Mixtures of polyacrylamide and aminoplast resin in a weight ratio of from 1:9 to 9:1 are used as flocculant compositions to separate finely divided solids from aqueous systems. These mixtures are also used as pigment retention aids and dry strength agents in the manufacture of paper.

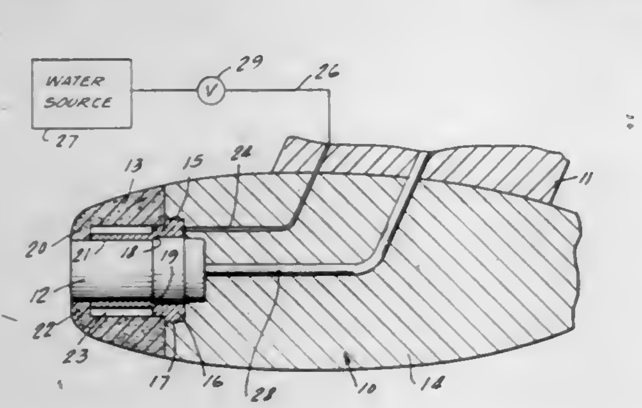
3,509,022
SENSING DEVICE FOR SLICE DELIVERY

Salomon M. Salomon, Madison, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Dec. 11, 1967, Ser. No. 689,512

Int. Cl. D21 *7/06*

U.S. Cl. 162—263 **19 Claims**



A method and structure for continuously creating a lubricating boundary on the surface of a sensing device used in a slice delivery of a paper machine, for example, which prevents fibers from clinging to the sensing device and also reduces the drag caused by the boundary layer on the sensing device.

3,509,023
NUCLEAR REACTOR PLANT

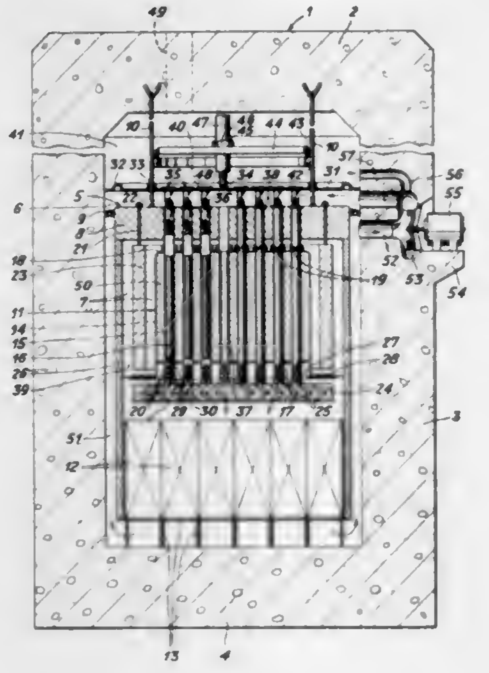
John Delwyn Williams, Winterthur, Switzerland, assignor to Sulzer Brothers, Ltd., Winterthur, Switzerland, a corporation of Switzerland

Filed July 11, 1967, Ser. No. 652,480

Claims priority, application Switzerland, July 14, 1966, 10,261/66

Int. Cl. G21c *19/02, 19/00, 13/02*

U.S. Cl. 176—52 **14 Claims**



The nuclear reactor is suspended by the separating columns from the intermediate floor of the pressure vessel and the intermediate floor is suspended by tie rods from the ceiling of the pressure vessel. The support for the nuclear reactor is sealed from the relatively hot coolant gases emerging from the reactor and thus need not be of high heat resistant material. Also, the pressure of the moderator fluid in the reactor is regulated with respect to the coolant passing through the separator columns.

3,509,024
ASPERGILLOPEPTIDASE FOR USE IN THERAPY AND A PROCESS FOR THE PREPARATION THEREOF

Jörg H. Jürgens, Buchschlag, near Frankfurt am Main, Germany, and Axel Fredrik Valdemar Eriksson and Per Olof Svärd, Sodertalje, Sweden, assignors to Aktiebolaget Astra, Sodertalje, Sweden, a company of Sweden

Filed Aug. 26, 1966, Ser. No. 575,406

Claims priority, application Sweden, Aug. 27, 1965, 11,191/65

Int. Cl. C07g *7/028*

U.S. Cl. 195—66 **6 Claims**

Therapeutically motive aspergillopeptidase useful in preventing the formation of thrombi and embodi is obtained from the culture fluid of *Aspergillus oryzae*. The enzyme does not hydrolyze N-α-tosyl-L-arginine ethyl ester and N-acetyl-L-tyrosine ethyl ester.

3,509,025
METHOD AND AGENT FOR THE ENZYMATIC DETERMINATION OF GLUCOSE

Hans Ulrich Bergmeyer and Hans Moellering, Tutzing, Upper Bavaria, Germany, assignors to Boehringer Mannheim Gesellschaft mit beschrankter Haftung, a corporation of Germany

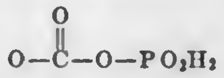
No Drawing. Filed Aug. 10, 1966, Ser. No. 571,416

Claims priority, application Germany, Aug. 17, 1965, B 83,297

Int. Cl. G01n *31/14*

U.S. Cl. 195—103.5 **9 Claims**

Process for the enzymatic determination of glucose comprising mixing a sample containing glucose with a phosphate donor having the formula:



$$\mathrm{O{-}\overset{\overset{\displaystyle O}{\|}}{C}{-}O{-}PO_3H_2}$$

wherein R is an organic radical which does not possess a negative charge in the vicinity of the phosphate group and a transferase, acyl phosphate:glucose-6-phosphotransferase which converts glucose into glucose-6-phosphate, thereafter reacting the glucose-6-phosphate formed with triphospho-pyridine-nucleotide (TPN) and glucose-6-phosphate-dehydrogenase to form reduced triphospho-pyridine-nucleotide, the reduced TPN being determined spectrophotometrically and correlated to the corresponding glucose value.

The scope of the invention also includes an agent for use in the enzymatic determination of glucose comprising a phosphate donor, transferase, glucose-6-phosphate dehydrogenase and triphosphopyridine nucleotide.

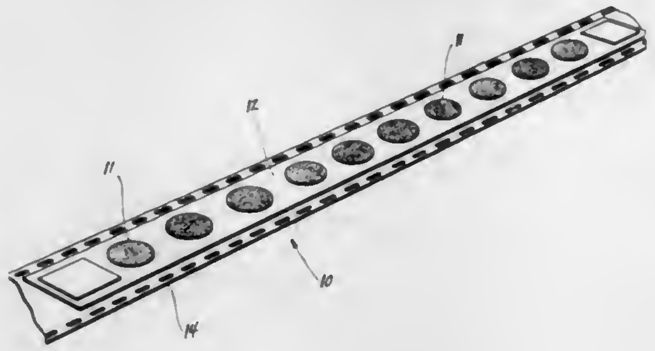
3,509,026
METHOD OF AND APPARATUS FOR INDICATING THE SENSITIVITY OF MICROORGANISMS TO ANTIBIOTICS

Robert G. Sanders, Mound, Minn., assignor to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Jan. 19, 1967, Ser. No. 610,410

Int. Cl. G01n *31/00;* **C12k** *1/04*

U.S. Cl. 195—103.5 **6 Claims**



A mounting strip is provided with a series of pads formed from inert material and is secured to a carrier which is suitable for advancing the mounting strip and the pads for processing. Each pad is provided with a nutrient medium, an antibiotic agent and a substrate. The pad is innoculated with bacteria and then incubated. The substrate normally has an undetectable characteristic and is acted upon by a vital enzyme system formed by the growth of the bacteria to produce a detectable end product which is indicative of the bacterial growth. If the bacteria is sensitive to the antibiotic agent, the end product production is limited, indicating such antibiotic sensitvity. One substrate which is reactive with the vital enzyme system alkaline phosphatase is flavone 3-diphosphate. The enzyme system hydrolyzes the flavone 3-diphosphate to produce the fluorescent end product 3-hydroxy flavone which is detectable to provide an indication of the antibiotic sensitivity of the bacteria producing the alkaline phosphatase.

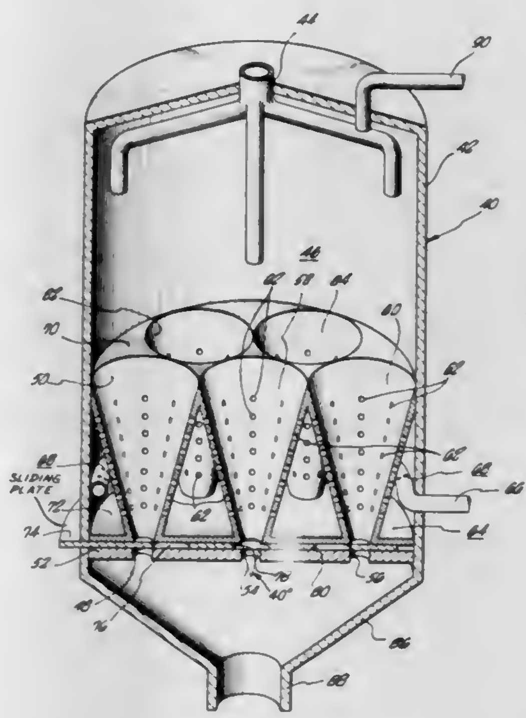
3,509,027
OIL SHALE RETORTING APPARATUS HAVING FRUSTO-CONICAL PASSAGES

Robert Harry Savage, Downey, Calif., and John William Savage, Rte. 1, Box 107, Rifle, Colo. 81650; said John W. Savage assignor to said Robert H. Savage

Filed Apr. 20, 1967, Ser. No. 632,385

Int. Cl. C10b *53/06, 1/04, 49/06*

U.S. Cl. 202—108 **9 Claims**



A retort and retorting system using one or more vessels, each having several outlets for the discharge of processed solids. Each of these outlets is communicated with the interior of the vessel by an inverted frusto-conical passage which is shaped to bound the cone flow pattern of the solids. Process gases are introduced through the walls of the frusto-conical passages.

3,509,028
DRYING p-CRESOL BY DISTILLATION WITH TOLUENE

William Budd, Cuyahoga Falls, and Albert H. Olzinger, Akron, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 29, 1967, Ser. No. 649,806

Int. Cl. B01d *3/36;* **C07c** *37/38*

U.S. Cl. 203—14 **5 Claims**

A process for reducing the water content of phenols to low levels comprising the use of a drying agent and distillation techniques.

3,509,029
PHOTOTROPIC FINISHED ANODIZED ALUMINUM DOSIMETER

Howard G. Lasser, 5912 Camberly Ave., Springfield, Va. 22150, and Sidney Levine, 3 Pooks Hill Road, Bethesda, Md. 20014

Filed Dec. 16, 1966, Ser. No. 602,415

Int. Cl. C23f *17/00;* **C23b** *9/02;* **G01t** *1/04*

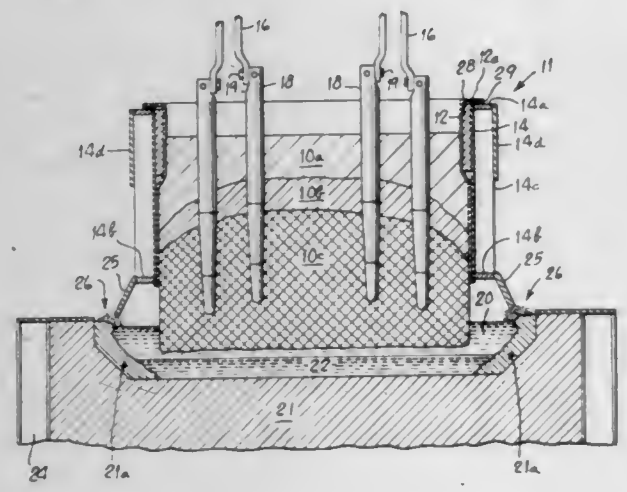
U.S. Cl. 204—38 **1 Claim**

A dosimeter with an anodized aluminum base has a phototropic material dyed into the aluminum oxide formed by the anodizing to provide a radiation detector for personal use and to provide a radiation detector in structural units such as door knobs, door facings and the like.

3,509,030
CASING LINER

Matthew Ernest Gooding, Kitimat, British Columbia, Canada, assignor to Alcan Research and Development Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Dec. 15, 1967, Ser. No. 690,882
Int. Cl. C22d *3/12;* **B01k** *3/04*
U.S. Cl. 204—67 **19 Claims**



In the production of aluminum employing a vertical stud anode improved results are obtained by providing the anode casing which supports the anode and within which the anode moves vertically downward with a liner made up of a metal having a greater heat conductivity than the material making up the anode casing. Specifically, improved results are obtained by providing a steel anode casing with an aluminum liner. The liner is in contact with and substantially conforms to the shape or configuration or dimensions of the interior of the lower portion of the anode casing but is spaced from the interior of the upper portion of the anode casing to provide space between the upper portion of the anode casing and the liner for the introduction of suitable insulating material therebetween. By providing the anode casing with a metal liner, a more uniform temperature distribution is obtained within the anode and the formation of frozen anode paste rims and "corns" which tend to interfere with the lowering of the anode during the aluminum production operation is avoided. Additionally, the metal liner, particularly an aluminum metal liner, provides a surface to which the baked anode is less adherent, thereby permitting easier downward movement of the anode within the casing for maintaining contact with the electrolyte and reducing the likelihood of anode paste leaks into the electrolyte.

3,509,031
ELECTROCHEMICAL OXIDATION OF PHENOL

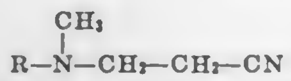
Frank H. Covitz, Lebanon, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 616,453, Feb. 16, 1967. This application Aug. 28, 1968, Ser. No. 755,821
Int. Cl. B01k *1/00;* **C07c** *49/62, 49/74*
U.S. Cl. 204—78 **18 Claims**

The electrochemical oxidation of phenol to hydroquinone or benzoquinone was achieved at high chemical and electrical efficiencies by electrolyzing aqueous solutions of phenol at temperatures of 25 to about 100° C., a pH of less than about 4 at a current density of 4 to about 100 amperes/dm.^{2} until up to about 80% by weight of the phenol had been electrolyzed.

3,509,032
CHLOROPYRIMIDINES

Gunther Beck and Hans Holtschmidt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 31, 1967, Ser. No. 679,527
Claims priority, application Germany, Feb. 9, 1967, F 51,475; Mar. 15, 1967, F 51,820; June 8, 1967, F 52,634, F 52,635
The portion of the term of the patent subsequent to Apr. 14, 1987, has been disclaimed
Int. Cl. B01j *1/10;* **C07d** *51/36*
U.S. Cl. 204—158 **15 Claims**

Chloropyrimidines are formed by treating a compound of the formula



$$R-\overset{\substack{CH_3\\|}}{N}-CH_2-CH_2-CN$$

at a temperature between 0° C. and 250° C. with an excess of gaseous chlorine.

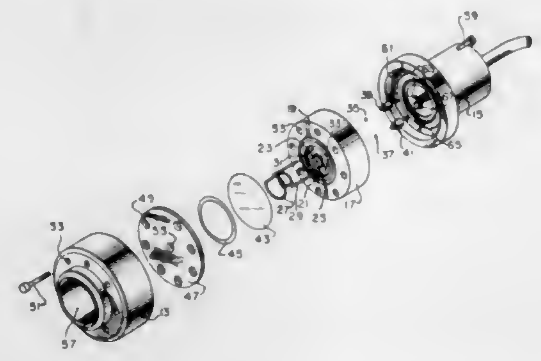
3,509,033
ELECTRODEPOSITION OF WATER-DISPERSIBLE, HEAT-HARDENING INTERPOLYMERS CONTAINING METHOXYALKYL TRIAZINE GROUPS, HYDROXYL GROUPS, AND CARBOXYL GROUPS

Kazys Sekmakas, Chicago, Ill., assignor to De Soto, Inc., Des Plaines, Ill., a corporation of Delaware
No Drawing. Original application Feb. 25, 1966, Ser. No. 529,924, now Patent No. 3,450,660, dated June 17, 1969. Divided and this application Feb. 10, 1969, Ser. No. 798,167
Int. Cl. C23b *13/00;* **B01k** *5/02*
U.S. Cl. 204—181 **5 Claims**

Acrylic copolymers containing methoxyalkyl triazine groups, hydroxyl groups, and carboxyl groups are dispersed in water with the aid of a base and electrophoretically deposited therefrom.

3,509,034
PULSE-ACTIVATED POLAROGRAPHIC HYDROGEN DETECTOR

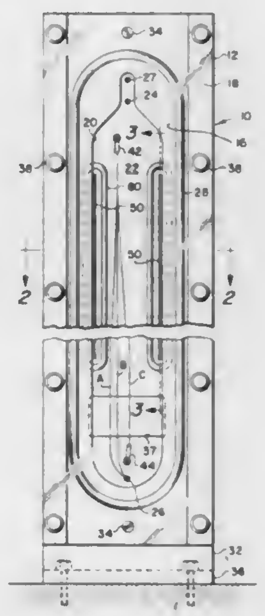
T. O. Paine, Administrator of the National Aeronautics and Space Administration, with respect to an invention of John N. Harman III, Placentia, Calif.
Filed May 29, 1968, Ser. No. 732,917
Int. Cl. G01n *27/54, 27/46*
U.S. Cl. 204—195 **6 Claims**



A polarographic hydrogen detector having three electrodes, a platinized anode, a copper reference electrode and an auxiliary electrode, and a system for periodic reactivation of the platinized anode by means of potential pulsing. The electrodes are disposed in a housing containing a liquid electrolyte and having a permeable membrane for introduction of hydrogen. Hydrogen is oxidized at the anode, and a current proportional to hydrogen partial pressure is produced. A short-duration cycle of positive and negative potential pulsing is applied periodically to the anode in order to maintain the activity of the platinized anode. A memory and disabling circuit connected to the current output of the detector eliminates the current surges produced during pulsing.

3,509,035
CONTINUOUS PARTICLE ELECTROPHORESIS CELL

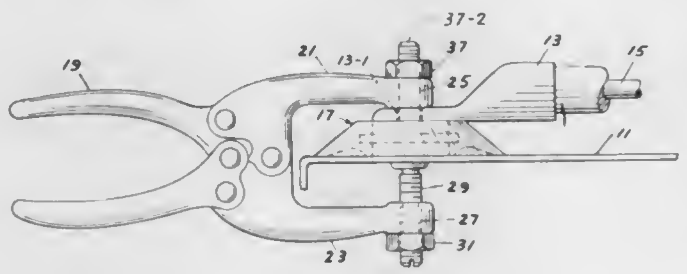
Victor R. Huebner, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Apr. 14, 1967, Ser. No. 630,980
Int. Cl. B01k *5/00*
U.S. Cl. 204—299 **3 Claims**



An improved continuous particle electrophoresis cell supported by a rigid backing member and having an electrophoresis space defined by a front plate, a rear plate and a shaped, non-deformable spacer in between the plates. The sample to be electrophoretically separated is injected into an electrolyte curtain flowing in the electrophoresis space. Electrophoretic separation is accomplished by a potential gradient applied across the curtain via electrode assemblies mounted in the rear plate, the front plate being mounted for quick removal.

3,509,036
CIRCUIT AND COMPONENT THEREOF FOR USE IN ELECTRODEPOSITION OF ORGANIC COATINGS

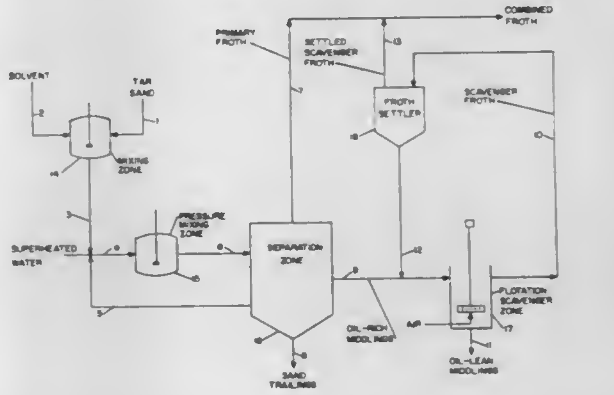
Raymond A. Igras and Norbert J. Milke, Dearborn Heights, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 22, 1967, Ser. No. 625,090
Int. Cl. C23b *13/00, 5/70, 5/72*
U.S. Cl. 204—299 **4 Claims**



An electrical circuit for use in electrically inducing deposition of a film-forming organic coating material upon an electrically conductive substrate comprising in combination an aqueous electrolyte having said organic coating material dispersed therein, a first electrode immersed in said electrolyte, a second electrode immersed in said electrolyte and spaced apart from said first electrode, a power source from which electrical energy can be transmitted through said circuit, first conduction means providing means for establishing electrical connection between said power source and said first electrode, second conduction means providing electrical connection between said power source and said second electrode, and detachable connector means for providing electrical connection between said first electrode and said first conduction means, said connector means comprising in combination a connector-conductor, clamping means for holding said connector-conductor in electrical connection with said first electrode and said first conduction means, and resilient shielding means in contact with an substantially encompassing said connector-conductor and shielding at least a portion of said connector-conductor from contact with said coating material when said first electrode, said connector means and said first conduction means are in electrical connection and said first electrode and said connector means are immersed in said electrolyte; and the connector means of said circuit.

3,509,037
TAR SAND SEPARATION PROCESS USING SOLVENT, HOT WATER AND CORRELATED CONDITIONS

Harold F. Tse, Bala Cynwyd, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 11, 1967, Ser. No. 659,903
Int. Cl. C10g *1/00*
U.S. Cl. 208—11 **8 Claims**



This invention relates to a method for the processing of bituminous tar sands. The process comprises first forming a mixture of the sands and a solvent. The solvent is characterized by having a boiling range above the boiling point of water under the same conditions. The sands and solvent are then mixed with superheated water at correlated conditions of temperature and pressure such that substantially no vaporization of water occurs. The tar sands, solvent and superheated water are then discharged into a separation zone operated under correlated conditions of temperature and pressure such that at least a portion of the water in the mixture is vaporized into bitumen froth forming steam to form an upper bitumen froth layer, a middlings layer comprising water, clay and bitumen and a sand tailings layer. This process allows the recovery of a higher amount of bitumen froth over that recovered in a conventional hot water process.

3,509,038
CHEMICAL TREATMENT OF AN ASPHALT FLUX

Luke W. Corbett, Mountainside, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 14, 1967, Ser. No. 622,889
Int. Cl. C10c *3/02*
U.S. Cl. 208—22 **7 Claims**

Petroleum residuum or asphalt flux is reacted at elevated temperatures with an aldehyde, a metal halide and a hydrogen abstracting agent such as chlorine gas, sulfuric acid, etc. The resultant asphaltic product is found to have the unusual combination of properties including a high softening point, excellent penetration characteristics and a low staining propensity.

3,509,039

PROCESS FOR DEOILING SLACK WAX

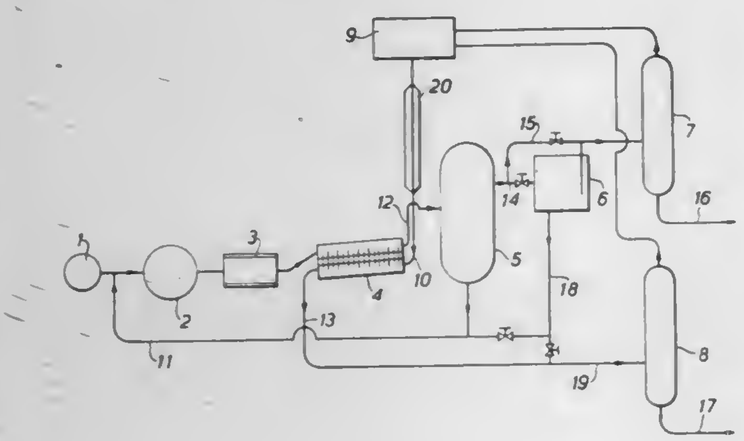
Raymond Yves Henri Helion, Malo-les-Bains, Charles Fernand Hugue, Rosendael, and Charles Jean Rouit, Versailles, France, assignors to The British Petroleum Company Limited, London, England, a corporation of England

Filed Jan. 24, 1968, Ser. No. 700,159

Claims priority, application France, Jan. 31, 1967, 93,248

Int. Cl. C10g *43/08*

U.S. Cl. 208—31 **9 Claims**



Slack wax is dispersed in a selective solvent for oil and contacted countercurrently with a further quantity of the same solvent. Oil in the slack wax is transferred to the counter current solvent and deoiled slack wax is recovered from the dispersion. There is preferably thorough mixing during contacting using a horizontal contactor with rotating paddles. The dispersed wax phase is preferably the upper phase in the horizontal contactor.

Known selective solvents may be used in amounts of from 150–500 v./v. of wax for the dispersion and from 200–800 v./v. of wax for the counter-current solvent. The temperature of contacting may be from 0–40° C. and the residence time in the contacter from ½–2 hours.

3,509,040

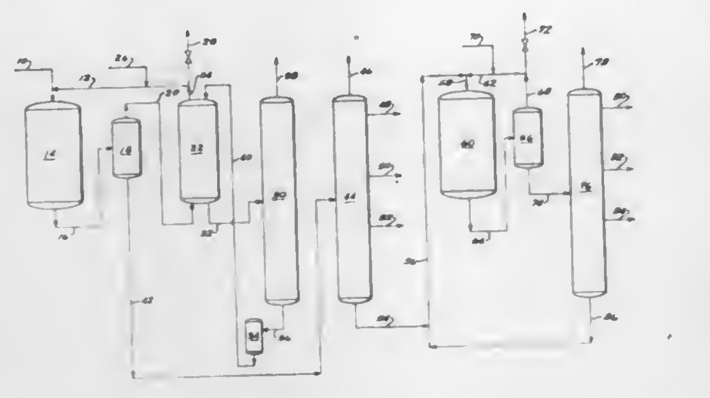
PROCESS FOR PRODUCING JET FUEL

Joel D. McKinney, Indiana Township, Allegheny County, and Eldon M. Sutphin, O'Hara Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware Continuation-in-part of application Ser. No. 393,300, Aug. 31, 1964. This application Feb. 23, 1968, Ser. No. 732,470

Int. Cl. C10g *13/00*

U.S. Cl. 208—59 **6 Claims**

A process for producing high quality jet fuel from gas oils (e.g. 550° F.+ fractions) by hydrocracking the gas oil in a first hydrocracking stage, fractionating the effluent to separate the components boiling above the jet fuel-kerosene range (e.g. 550° F.+), charging only such components boiling above the jet fuel range to a second hydrocracking stage and recovering as product the jet fuel boiling range materials from the second hydrocracking stage.



3,509,041

MANGANESE SILICATE-CONTAINING MINERALS AND THEIR USE IN HYDROCARBON CONVERSIONS

Joseph N. Miale, Trenton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Nov. 28, 1966, Ser. No. 597,243

Int. Cl. C10g *13/02;* **B01j** *11/58*

U.S. Cl. 208—110 **18 Claims**

A catalyst for hydrocarbon conversion comprising a base exchanged, calcined manganese silicate-containing mineral having hydrogen ions bonded thereto.

3,509,042

SHAPE SELECTIVE ZEOLITE HAVING A METAL COMPONENT THEREIN

Joseph N. Miale, Trenton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 431,180, Feb. 8, 1965, which is a continuation-in-part of application Ser. No. 86,582, Feb. 2, 1961. This application May 17, 1967, Ser. No. 639,046

Int. Cl. C10g *11/02;* **B01j** *11/40*

U.S. Cl. 208—120 **10 Claims**

A shape selective metal-containing catalyst characterized by treatment with an ion solution incapable of penetrating into the interior of the zeolite and capable of removing by base exchange metal ions from the external surfaces of the zeolite. The ion solution may comprise an ion sufficiently large to be incapable of penetrating into the interior of the zeolite such as tetramethylammonium or an ion dissolved in a solvent which has sufficiently large molecules to be incapable of penetrating the zeolite, such as calcium ions dissolved in dimethylformamide.

3,509,043

INCREASING CATALYST ON-STREAM TIME

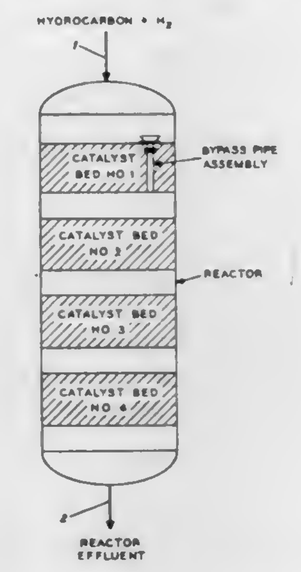
John B. McMaster, Moraga, and Frank M. Parker, San Rafael, Calif., assignors to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed Nov. 14, 1967, Ser. No. 682,912

Int. Cl. C10g *23/02*

U.S. Cl. 208—213 **5 Claims**

On-stream time for a reactor comprised of a series of fixed beds of catalysts is increased by providing one or more small bypass pipes through the upper catalyst beds. Metals and other materials which deposit in the top catalyst bed cause a relatively rapid increase in the pressure drop across the first bed. During the first part of the on-stream time, preferably the bypass is blocked by a disc which is placed in the bypass pipe. The disc bursts at a predetermined pressure drop so as to allow a substantial part of the reactants to bypass the first catalyst bed when the pressure drop has built up to the predetermined level. Thus, better utilization of the catalyst beds is obtained and the reactor may be operated for a longer period of time before it is necessary to stop operations for replacement of catalyst.



3,509,044

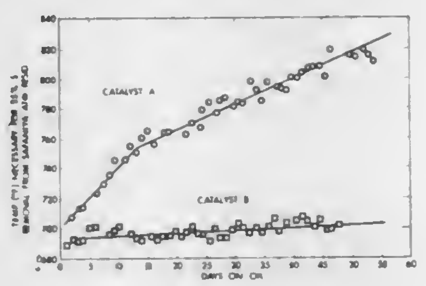
HYDRODESULFURIZATION OF PETROLEUM RESIDUUM

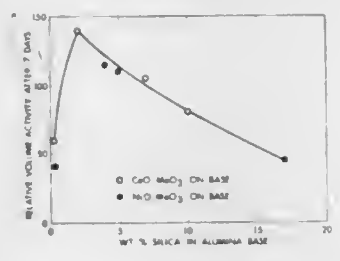
Clark E. Adams and William T. House, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 26, 1967, Ser. No. 648,604

Int. Cl. C10g *23/02, 23/04*

U.S. Cl. 208—216 **10 Claims**





Process for the desulfurization of petroleum residuum is carried out at nondestructive hydrodesulfurization conditions by contacting said residuum with a high activity catalyst consisting essentially of a cobalt salt or nickel salt with a molybdenum salt or tungsten salt deposited on a support material consisting essentially of 1 to 6 wt. percent silica and 94 to 99 wt. percent alumina, said support being characterized by a maximum pore volume and surface area in pores 30 to 70 A. in diameter.

3,509,045

DESULFURIZATION USING HYDROGEN CHLORIDE AND HYDROGEN

James E. Erman, Richmond, Calif., assignor to Chevron Research Company, San Francisco, Calif., a corporation of Delaware

Filed July 11, 1968, Ser. No. 744,002

Int. Cl. C10g *17/02, 23/00*

U.S. Cl. 208—225 **6 Claims**

Heavy oils are desulfurized by contacting the oil with hydrogen and hydrogen chloride at a hydrogen chloride partial pressure of at least 50 p.s.i.g. at a temperature between 600 and 950° F.

3,509,046

USE OF HETEROCYCLIC POLYMERS AS WATER CLARIFIERS

Robert R. Annand, St. Louis, and Derek Redmore, Ballwin, Mo., and Brian M. Rushton, Edina, Minn., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

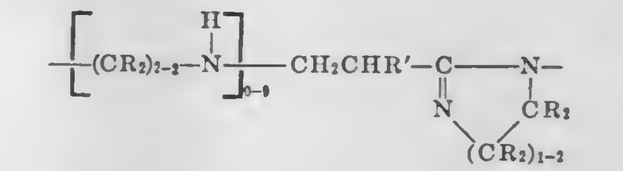
No Drawing. Original application Oct. 22, 1965, Ser. No. 502,447, now Patent No. 3,450,646, dated June 17, 1969. Divided and this application Jan. 22, 1969, Ser. No. 793,155

Int. Cl. B01d *21/01;* **C02b** *1/20*

U.S. Cl. 210—54 **14 Claims**

The use as a water clarifier, such as an oil-in-water demulsifier or as a coagulant, of heterocyclic polymers, such as polymers containing a heterocyclic group in the main polymeric chain, and more particularly to the use as a water clarifier, such as an oil-in-water demulsifier or as a coagulant, of heterocyclic polymers containing a cyclic amidine group, or a related group, in a unit of the polymer chain.

These heterocyclic polymers are illustrated by polymers containing repetitive units of the following formula:



where R and R′ are hydrogen, methyl, ethyl, etc.

3,509,047

PROCESS OF WATER CLARIFICATION

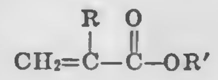
Brian M. Rushton, Edina, Minn., assignor to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Mar. 25, 1965, Ser. No. 442,793, now Patent No. 3,445,441, dated May 20, 1969. Divided and this application Jan. 13, 1969, Ser. No. 790,845

Int. Cl. B01d *21/01;* **C02b** *1/20*

U.S. Cl. 210—54 **6 Claims**

Process for water clarification characterized by treating water containing suspended matter with an amino-amido polymer characterized by being a reaction product of at least a polyamine and an acrylate-type compound having the formula



$$CH_2{=}\overset{\overset{\large R}{|}}{C}{-}\overset{\overset{\large O}{\|}}{C}{-}OR'$$

where R is hydrogen or methyl and R′ is methyl, ethyl, propyl, isopropyl, butyl, sec-butyl, tert-butyl, aryl or hexyl, or a cross-linked reaction product.

3,509,048

SOFTENING AGENT FOR COTTON AND FOR SYNTHETIC TEXTILE SUBSTRATES

James Marvin Brown, Charlotte, N.C., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 3, 1966, Ser. No. 583,976

Int. Cl. D06m *13/32, 13/26*

U.S. Cl. 252—8.7 **1 Claim**

A softening agent for cotton and other cellulosic textiles comprising a sulfated mono-oleate ester of diethylene glycol. Textiles treated with this softening agent are characterized by good rewettability and the agent is effective on textiles in the presence of metallic ions.

3,509,049
FABRIC SOFTENING AND BRIGHTENING COMPOSITIONS

Reinhard Zweidler, Basel, Switzerland, assignor to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 1, 1965, Ser. No. 507,998

Int. Cl. D06m *13/46;* **C09k** *1/02*

U.S. Cl. 252—8.75 **7 Claims**

A fabric softening and brightening composition consisting essentially of (a) a quaternary ammonium salt fabric softener and (b) an oxacyanine optical brightener containing at least one methoxy substituent on the benzene rings. A viscosity-adjusting additive may also be present. An illustrative example of said composition is a mixture of di-(hydrogenated tallow)-dimethyl ammonium chloride and 3,3′-dimethyl-5,5′-dimethoxy-oxacyanine-p-toluene sulfonate.

3,509,050
ANTIFRICTION MATERIALS

Vasily Vladimirovich Korshak, Irina Alexandrovna Gribova, Alexandr Petrovich Krasnov, Alla Nikolaevna Chumaevskaya, and Rostislav Lazarevich Brontman, Moscow, U.S.S.R., assignors to Institut Elementoorganicheskikh Soedineny Akademii Nauk, U.S.S.R., Moscow, U.S.S.R.

No Drawing. Filed Dec. 6, 1967, Ser. No. 688,372

Claims priority, application Union of Soviet Socialist Republics, Dec. 8, 1966, 1,114,868

Int. Cl. C10m *7/26, 7/16, 7/06*

U.S. Cl. 252—12 **13 Claims**

A plastic antifriction material consisting of phenolphthalein-phenol-formaldehyde resin and molybdenum disulfide as a filler.

3,509,051
LUBRICATING COMPOSITIONS CONTAINING SULFURIZED OXYMOLYBDENUM DITHIOCARBAMATES

Homer H. Farmer, Westport, and Eugene V. Rowan, Rowayton, Conn., assignors to T. R. Vanderbilt Company, Inc., New York, N.Y., a corporation of New York

Original application Aug. 7, 1964, Ser. No. 388,110, now Patent No. 3,356,702, dated Dec. 5, 1967. Divided and this application Aug. 24, 1967, Ser. No. 675,724

Int. Cl. C10m *7/52, 7/36, 7/30*

U.S. Cl. 252—33.6 **6 Claims**

Lubricating oils and greases exhibit excellent extreme pressure antioxidant and wear properties when they contain sulfurized oxymolybdenum dithiocarbamates of the general formula $[R_2N—CS—S—]_2Mo_2O_mS_n$, where $m+n=4$, m is in the range of 2.35 to 3 and n is in the range of 1.65 to 1, and R is a hydrocarbon group having 1 to 24 carbon atoms.

3,509,052
LUBRICATING COMPOSITIONS

John P. Murphy, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Continuation-in-part of application Ser. No. 669,282, Sept. 20, 1967. This application Sept. 30, 1968, Ser. No. 763,946

Int. Cl. C10m *1/36, 1/26*

U.S. Cl. 252—34.7 **10 Claims**

Improved lubricating compositions containing a lubricating oil, a dispersant which is a derivative of a substituted succinic acid where the substituent contains at least 50 aliphatic carbon atoms, and a demulsifier. These improved compositions reduce or eliminate the formation of sludge on the internal metal surfaces of internal combustion engines. Polyoxyalkylene polyols are preferred demulsifiers.

3,509,053
LUBRICANT ADDITIVES

Sidney John Branch, Hornsea, England, assignor, by mesne assignments, to Orobis Limited, London, England, a British company

No Drawing. Filed Aug. 2, 1967, Ser. No. 657,797

Claims priority, application Great Britain, Aug. 24, 1966, 37,887/66

Int. Cl. C10m *1/38, 1/32*

U.S. Cl. 252—42.7 **14 Claims**

The invention is a process for making overbased lubricant additives. An alkyl phenol and sulphur are heated together in the presence of a catalyst such as sodium hydroxide. The product is further reacted with an oxide alkoxide or hydroxide of a metal of Group II–A of the Periodic Table and a specified amine compound, followed by carbonation.

3,509,054
LIQUID HYDROCARBON COMPOSITIONS OF BORON ESTERS

James B. Hinkamp, Birmingham, and John D. Bartleson, Franklin, Mich., and Glenn E. Irish, Fullerton, Calif., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Application May 5, 1958, Ser. No. 732,819, now Patent No. 3,356,707, dated Dec. 5, 1967, which is a continuation-in-part of applications Ser. No. 579,127, Apr. 19, 1956, and Ser. No. 605,486, Aug. 22, 1956. Divided and this application Oct. 11, 1967, Ser. No. 714,369

Int. Cl. C10m *1/10;* **C10l** *1/30;* **B01a** *1/16*

U.S. Cl. 252—49.6 **4 Claims**

Esters of boron acids such as orthoboric acid, metaboric acid, pyroboric acid, boronic acid, and boronic acid with a phenol having alkyl groups in the two positions ortho to the hydroxy group are useful as additives for hydrocarbon materials exemplified by petroleum crudes, intermediate fractions, fuels and lubricants. Partial esterification of the acids can be from alkanols or glycols.

3,509,055
OIL-SOLUBLE DISPERSANTS, METHODS OF MAKING THEM AND LUBRICATING COMPOSITIONS CONTAINING THEM

La Verne N. Bauer, Cheltenham, Pa., assignor to Rohm and Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 539,221, Mar. 31, 1966, which is a continuation of application Ser. No. 221,306, Sept. 4, 1962. This application Jan. 8, 1969, Ser. No. 789,933

Int. Cl. C10m *1/26;* **C08f** *37/06*

U.S. Cl. 252—56 **21 Claims**

Oil-soluble dispersant polymers are prepared by polymerizing at least one monoethylenically unsaturated ester having an oil-solubilizing group until about 50% to 90% thereof has polymerized, then adding itaconic or maleic anhydride in an amount from 1 to 10% of the weight of said ester, the anhydride being dissolved in a lower acrylate, and then copolymerizing the mixture.

3,509,056
VISCOSITY INDEX IMPROVERS

Thomas H. Shepherd, Hopewell, N.J., assignor to Princeton Chemical Research, Inc., Princeton, N.J., a corporation of New Jersey

No Drawing. Continuation-in-part of applications Ser. No. 283,672, May 28, 1963, and Ser. No. 357,294, Apr. 3, 1964. This application Oct. 10, 1966, Ser. No. 585,299

Int. Cl. C10m *1/18*

U.S. Cl. 252—59 **5 Claims**

Viscosity index improver for lubricating oils in the form of pure oil-soluble hydrocarbon polymers having a molecular weight between about 50,000 and 2,000,000 composed of a hydrocarbon chain having a number of alternate stereoregular and amorphous segments, the amorphous segments contributing at least 50% of the molecular weight of the polymer giving it its oil-solubility characteristics and the stereoregular segments being present in sufficient quantity to give the polymer a viscosity index improving efficiency of at least 1.0 without destroying the oil-solubility characteristics. The stereoregular segments are preferably of the group of polybutene-1, polypropylene, poly-4-methyl, pentene-1, poly-3-methyl butene-1, polystyrene, polypropylene-butene-1 copolymers, polypropylene-styrene copolymers, polyethylene-ethylene copolymers, ethylene-butene-1 copolymers and polybuten-1. The amorphous segments are alpha olefin polymers. Preferably the polymer is a ter-polymer additionally containing up to 25 mol percent of a higher alpha olefin. Most preferably the polymer is a ter-polymer having isotactic polypropylene segments and amorphous segments of a polymer of a lower alpha olefin and additionally containing 1–20 mol percent of a higher alpha olefin. The improver is generally dissolved in petroleum lubricating oil in amount from 1 to 20%.

3,509,057
METHOD FOR THERMAL SYNTHESIS OF POLYOXIDE COMPOUNDS

Herbert Hans Greger, 9901 Glen Road,
Rockville, Md. 20854

Filed Mar. 10, 1964, Ser. No. 350,803

Int. Cl. C01g *1/00;* **C04b** *35/24*

U.S. Cl. 252—62.56 **9 Claims**

A process for producing polyoxide compounds of improved magnetic properties is disclosed. The raw materials are reduced to powders of an average particle size of less than 1 micron and blended to form an homogeneous mixture. The mixture is compressed to form a shaped article. The shaped article is soft-sintered at a temperature which limits the average crystalline growth size of the polyoxide compounds to no greater than 2 microns. The soft-sintered shaped article is thereafter reduced in size to a powder of an average particle size of no greater than 2 microns and thereafter formed into another shaped article. This latter shaped article is hard-sintered to produce a final polyoxide compound shaped article, which can be used in the solid state microwave electronic field.

3,509,058
FERROMAGNETIC MATERIALS ON THE BASIS OF NICKEL FERRITE OR NICKEL-ZINC FERRITE

Georges Estival, Argenteuil, Val-d'Oise, and Marc Monneraye, Aubervilliers, Seine-St.-Denis, France, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 15, 1967, Ser. No. 660,605

Claims priority, application France, Aug. 23, 1966, 73,798

Int. Cl. C04b *35/28, 35/30*

U.S. Cl. 252—62.62 **2 Claims**

A nickel-zinc-cobalt-vanadium ferrite suitable for use at frequencies higher than 1 mHz. characterized by a minimum (optimum) value of tan δ/μ; a minimum value of the temperature factor F of the initial permeability (μ); and insensitivity to magnetic impact effect such that the properties of the material as a whole are not substantially affected in an irreversible manner by the action of a strong constant or a demagnetizing alternating magnetic field. In addition to including small but significant amounts of cobalt and vanadium oxides, the iron oxide (Fe_2O_3) content does not exceed 50 mol. percent.

3,509,059
PROCESS OF MAKING BUILT LIQUID DETERGENTS CONTAINING POLYMERIC DISPERSING AGENTS

Adolph Renold, Somerset, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,408

Int. Cl. C11d *11/00, 3/075, 3/16*

U.S. Cl. 252—135 **9 Claims**

Stable heavy duty liquid detergent compositions which contain high electrolyte content as the builder component thereof are produced in stabilized form by polymerizing to a polymer a monomer in the presence of the detergent material the latter being present in major amounts, said polymer acting as a stabilizer for said compositions.

3,509,060
CLEANING AND ANTISTATIC AGENT

George J. Kostas, Houston, Tex., and Orwin G. Maxson and Wayne R. Sorenson, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Original application Dec. 2, 1964, Ser. No. 415,226. Divided and this application July 28, 1966, Ser. No. 568,415

Int. Cl. C09d *9/00*

U.S. Cl. 252—170 **5 Claims**

A low molecular weight alcohol containing 5–20% of an ethoxylate of a high molecular weight alcohol are disclosed as cleaning and antistatic compositions. Windows, for example, cleaned with such compositions remain clear for extended periods.

3,509,061
METHOD AND COMPOSITIONS FOR DISPLACING ORGANIC LIQUIDS FROM SOLID SURFACES

William A. Zisman, Silver Spring, Md., and Marianne K. Bernett, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Oct. 18, 1966, Ser. No. 588,258

Int. Cl. C09d *9/04*

U.S. Cl. 252—171 **8 Claims**

A nonaqueous liquid surface-active composition for displacing organic films from solid surfaces. The composition is a solution in which both the solute and the solvent are active displacing agents. The solute is an organic fluoro compound and may be a fluoroalcohol, a fluoromonocarboxylic acid, a partially fluorinated diester, a partially fluorinated silane, a fully fluorinated hydrocarbon or a chloro-substituted fully fluorinated hydrocarbon. The solvent is a volatile liquid perfluoroalkane or fully fluorinated bromo- or chloroalkane.

3,509,062
CHEMILUMINESCENT COMPOSITION

Walter D. Lusk, Hawthorne, and James L. Dyer, Redondo Beach, Calif., assignors to TRW Inc., Redondo Beach, Calif., a corporation of Ohio

No Drawing. Filed Mar. 6, 1967, Ser. No. 620,653

Int. Cl. C09k *1/52*

U.S. Cl. 252—186 **2 Claims**

This invention relates to an inexpensive, non-toxic, storable chemiluminescent material produced by the reaction of hydrobromic acid or hydrofluoric acid and calcium silicide. A reactivatable, high intensity light is produced when the chemiluminescent material is mixed with an inorganic oxidizer such as ceric ammonium nitrate, ceric ammonium sulfate, ceric oxide, ceric sulfate, chromium trioxide, ferric chloride, potassium hexanitrate cerate, potassium permanganate, potassium ruthenate, uranyl acetate, and uranyl nitrate. The hydrobromic acid-derived chemiluminescent material produces an orange colored light and the hydrofluoric acid-derived chemiluminescent material produces a green colored light.

3,509,063

OPTICALLY DENSE FLUID AND METHOD OF MAKING THE SAME

Dwight Maxwell Teague, Detroit, Edward H. Loeser, Bloomfield Township, Oakland County, and Herbert J. Doppke, Detroit, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

No Drawing. Continuation-in-part of abandoned application Ser. No. 156,535, Dec. 1, 1961. This application Aug. 14, 1967, Ser. No. 660,209

Int. Cl. F21v *9/08;* **G02b** *5/24, 17/00*

U.S. Cl. 252—300 **26 Claims**

A light absorbing optically dense fluid for rear view mirrors requiring control of incident light to be reflected by them. The fluid is a substantially stable colloidal suspension of carbon black particles of an average size under twenty milli-microns dispersed in a solution of an organic liquid and a dispersing agent for the carbon black particles. Examples of dispersing agents are uncured rubbers and certain condensation products of high molecular weight carboxylic acids with polyamines or glycols such as triamides of polyisobutenyl propionic acids and long carbon chain esterified alkenyl succinic acids, and examples of diluents and solvents for the agent and liquid phase for the suspension are kerosene and other oils having a refractive index in the order of magnitude of glass. The carbon black particle concentration should not exceed about 23% by weight of combined carbon black particles and dispersing agent and the latter is associated with the carbon black particles as a surface active substance stabilizing the colloidal suspension thereof.

3,509,064

ALKALINE EARTH TELLURATE PHOSPHORS

Samuel Natansohn, Massapequa Park, N.Y., assignor to General Telephone & Electronics Laboratories, Incorporated, a corporation of Delaware

Filed Dec. 1, 1966, Ser. No. 598,384

Int. Cl. C09k *1/04*

U.S. Cl. 252—301.1 **14 Claims**

A fluorescent material, uranyl activated calcium tellurate, having an emission spectrum suitable for use in xerographic reproduction equipment. In addition, other alkaline earth tellurate phosphors activated by uranyl and europium ions are disclosed.

3,509,065

METHOD OF MAKING ALKALINE EARTH PHOSPHATE PHOSPHORS

Frank C. Palilla, Maspeth, N.Y., assignor to General Telephone & Electronics Laboratories Incorporated, a corporation of Delaware

Continuation-in-part of application Ser. No. 621,807, Mar. 9, 1967. This application June 25, 1968, Ser. No. 785,406

Int. Cl. C09k *1/36, 1/06*

U.S. Cl. 252—301.4 **8 Claims**

A method of preparing divalent europium activated halogenated alkaline earth phosphate phosphors by a process employing a reducing atmosphere wherein excess halogen is included in the formulation. The resulting phosphors may be used in fluorescent lamps and in cathodoluminescent screens for cathode-ray tubes. In particular, the response of these materials to cathode ray radiation is substantially greater than that of known phosphors of similar composition. Alkaline earth phosphate phosphors activated by certain other elements of the lanthanide series are also disclosed.

3,509,066

ATTAPULGITE CLAY DISPERSIONS AND PREPARATION THEREOF

Daniel A. Jacobs, Metuchen, and Herbert R. Hamill, Iselin, N.J., assignors, by mesne assignments, to Engelhard Minerals & Chemicals Corporation, Edison, N.J., a corporation of Delaware

No Drawing. Filed Oct. 20, 1966, Ser. No. 587,992

Int. Cl. B01j *13/00;* **E21b** *21/04;* **C04b** *33/04*

U.S. Cl. 252—313 **10 Claims**

Aqueous attapulgite clay dispersions containing tetrasodium pyrophosphate as a deflocculating agent and a material selected from the group consisting of hydratable magnesia, magnesium hydroxide, aluminum hydroxide and mixtures thereof as a viscosity reducing agent for the clay dispersions.

3,509,067

POLYMERIZATION OF MONOMERS WITH GROUP II–A METAL COMPLEXES

Edgar E. Bostick, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,832

Int. Cl. C07f *3/00;* **C08d** *3/04;* **C08f** *3/16*

U.S. Cl. 252—431 **12 Claims**

Activated olefinically-unsaturated organic compounds are polymerized with a Group II–A metal-hydrocarbon complex radical ion or dianion. The Group II–A metal-hydrocarbon complexes are produced by the reaction of a Group II–A metal with a conjugated olefinic hydrocarbon or polynuclear hydrocarbon in the presence of specific aprotic dipolar solvents. The Group II–A metal radical anions and dianions are useful in the polymerization of the activated organic compounds to yield rubbery or thermoplastic polymers which are useful as gasketing materials, coatings, molded articles, hoses, wire insulation, dielectric materials, etc.

3,509,068

OLEFIN OXIDE AND OLEFIN SULFIDE POLYMERIZATION CATALYST

Joginder Lal, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Original application May 15, 1967, Ser. No. 638,598, now Patent No. 3,409,565, dated Nov. 5, 1968. Divided and this application Dec. 22, 1967, Ser. No. 721,894

Int. Cl. C08g *23/06, 23/14*

U.S. Cl. 252—431 **8 Claims**

Novel catalysts for polymerizing olefin oxides and olefin sulfides to high molecular weight polymers are obtained by reacting zinc or cadmium alkyl xanthates with a wide variety of alcohols. Mercaptans of phenols can be substituted for alcohols in preparing these catalysts. These catalysts have the unusual characteristic of possessing metal-sulfur-metal bonds detectable as ionic sulfur.

Polymers of olefin oxides obtained with these catalysts contain significant amounts of acetone-insoluble fraction (which is an approximate measure of the stereoregularity). Gum vulcanizates exhibiting high tensile strength can be obtained from copolymers of propylene oxide and allyl glycidyl ether. These elastomers are useful for a variety of rubber goods such as hose and belting.

3,509,069

CATALYST FOR PREPARING UNSATURATED ACIDS AND ALDEHYDES

Jamal S. Eden, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Original application Aug. 30, 1965, Ser. No. 483,801, now Patent No. 3,401,196, dated Sept. 10, 1968. Divided and this application Dec. 6, 1967, Ser. No. 701,510

Int. Cl. B01j *11/82*

U.S. Cl. 252—437 **3 Claims**

Catalysts useful for the oxidation of olefins to unsaturated aldehydes and unsaturated carboxylic acids comprise molybdenum oxide, tellurium oxide and a uranium phosphate.

3,509,070

ADSORBENT FOR CHROMATOGRAPHIC PURIFICATION OF VIRUS

Milton Lapidus, Rosemont, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 497,540, Oct. 18, 1965, which is a continuation-in-part of application Ser. No. 396,726, Sept. 15, 1964. This application June 13, 1968, Ser. No. 736,561

Int. Cl. B01j *11/82;* **C01b** *25/32;* **A61k** *23/00*

U.S. Cl. 252—437 **7 Claims**

This invention relates to an alkali treated calcium dihydrogen orthophosphate monohydrate adsorbent. Further, it concerns an alkali and trimetaphosphate treated calcium dihydrogen orthophosphate monohydrate adsorbent. Still further, it relates to the processes for the preparation of these adsorbents and to their use in virus purification.

3,509,071

SUPERCONDUCTING MOLECULAR SIEVES

Theodore P. Goldstein, Trenton, N.J., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 623,233, Mar. 15, 1967. This application Apr. 13, 1967, Ser. No. 630,550

Int. Cl. H01b *1/02*

U.S. Cl. 252—512 **6 Claims**

Superconductors are provided, and methods of making them, comprising crystalline aluminosilicates containing a metal. An exemplary composition is metallic lead in the pores of synthetic mordenite.

3,509,072

NON-LINEAR, VOLTAGE VARIABLE ELECTRICAL RESISTOR

Jonathan Barrington, Malvern, and Richard L. Wahlers, Feasterville, Pa., assignors to TRW Inc., a corporation of Ohio

No Drawing. Filed Feb. 13, 1968, Ser. No. 705,010

Int. Cl. H01b *1/04;* **H01c** *7/10*

U.S. Cl. 252—516 **7 Claims**

A non-linear, voltage variable electrical resistor comprising a body of particles of silicon carbide in a vitrified glass binder. The glass binder being in the amount of between 2% and 60% by volume and, preferably, between 10% and 40% by volume.

3,509,073

ELECTRICALLY CONDUCTIVE ZINC OXIDE

Robert S. Bowman, Pittsburgh, Pa., assignor to St. Joseph Lead Company, New York, N.Y., a corporation of New York

No Drawing. Filed July 27, 1966, Ser. No. 568,153

Int. Cl. C01g *9/02;* **H01b** *1/08*

U.S. Cl. 252—518 **6 Claims**

Electrically conductive zinc oxide is prepared by heating non-conductive zinc oxide in the presence of an organic siloxane compound containing at least one lower alkyl group attached to silicon by a carbon-silicon bond at a temperature of from about 400° to about 650° C. in a non-oxidizing atmosphere.

3,509,074

PROCESS FOR PREPARING HIGHLY POLYMERIZED ISOBUTYLENE OXIDE POLYMERS, AND THE POLYMERS AND ARTICLES THEREOF

Kosaku Kamio, Uozu-shi, Motoyuki Kuwana, Namerikawa-shi, and Shigeo Nakada, Uozu-shi, Japan, assignors to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan

No Drawing. Continuation-in-part of application Ser. No. 606,444, Dec. 29, 1966. This application Feb. 28,, 1968, Ser. No. 708,789

Int. Cl. C08g *23/14*

U.S. Cl. 260—2 **6 Claims**

Highly polymerized polymers of isobutylene oxide and interpolymers of isobutylene oxide with other epoxides containing at least 70% polymerized isobutylene oxide. Method of preparing these polymers and interpolymers by polymerizing in the presence of an organozinc compound having a formula $ZnRR'$ where R and R' are hydrocarbon radicals, water and monoamines having the formula $R_1—NH—R_2$ wherein R_1 is a hydrogen or a hydrocarbon radical selected from the group of alkyl, cycloalkyl, aryl and aralkyl having up to 18 carbon atoms and R_2 is alkyl, cycloalkyl, aryl or aralkyl with up to 18 carbon atoms. Also shaped products such as fibers and films comprised of said highly polymerized polymer or interpolymer and the method of preparing these shaped products.

3,509,075

POLYMERIZATION PROCESS AND PRODUCT THEREOF

Walter D. Niegisch, Watchung, and William E. Loeb, Martinsville, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed May 4, 1966, Ser. No. 548,821

Int. Cl. C08g *33/00*

U.S. Cl. 260—2 **9 Claims**

A process for preparing highly extensible poly-p-xylylenes at high deposition rates through the condensation of p-xylylene diradicals at pressures below 75 mm. Hg and at temperatures between about 0° C. and −196° C.

3,509,076

POLYMERS AND PROCESS FOR MAKING SAME

James J. Anderson, Richmond, Va., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Continuation-in-part of application Ser. No. 580,608, Sept. 20, 1966, which is a continuation-in-part of application Ser. No. 276,102, Apr. 26, 1963. This application Sept. 23, 1968, Ser. No. 761,842

Int. Cl. C08g *22/30*

U.S. Cl. 260—2.5 **27 Claims**

Cellular fire-retardant polyurethanes of improved dimensional stability when heated and resisting splitting while foaming are formed by reacting an organic polyisocyanate with a polyol and an oxyalkylated phosphorus acid in the presence of a neutral phosphorus compound.

3,509,077
RIGID POLYURETHANE FOAMS FROM CERTAIN POLYETHER MIXTURES

Andrew Shultz, Williamsville, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed July 7, 1966, Ser. No. 563,392
Int. Cl. C08g *22/44, 22/08*
U.S. Cl. 260—2.5 7 Claims

Rigid cellular urethanes having improved impact resistance and compressive strength obtained by the reaction of an organic polyisocyanate with a mixture of polyalkylene ether polyols comprising about 90 to 99 weight percent of a polyol having a hydroxyl number of from 360 to 560 and about 1 to 10 weight percent of a polyalkylene ether polyol having a hydroxyl number of from about 20 to 160 in the presence of a blowing agent.

3,509,078
CROSS LINKED MACROPOROUS POLYMERS

Lubor Roubinek, London, and Arnold G. Wilson, Ealing, London, England, assignors to The Permutit Company Limited, London, England, a British company
No Drawing. Filed Aug. 19, 1966, Ser. No. 573,476
Claims priority, application Great Britain, Aug. 26, 1965, 36,727/65
Int. Cl. C08f *1/84, 47/08;* **C08j** *1/28*
U.S. Cl. 260—2.5 6 Claims

A process for the manufacture of a cross-linked porous polymer. A monomer having a single double bond is copolymerized with a cross linking agent having two double bonds. The reaction is carried out in the presence of a polymer and the polymer is subsequently removed from the copolymer product. A macroporous copolymer product, having pores in the general size range of from 500–1000 A. is produced and only a small amount of cross linker and solvent is necessary.

3,509,079
POLYETHER POLYOL COMPOSITIONS CONTAINING EXPANDABLE STYRENE POLYMER BEADS

Michael A. Hyde and Jerry D. Ilavsky, Sarnia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 6, 1969, Ser. No. 805,036
Int. Cl. C08j *1/26;* **C08g** *53/08;* **C08f** *47/10*
U.S. Cl. 260—2.5 4 Claims

The disclosure concern dispersions of thermally expandable organic polymers in liquid polyether polyols.

This invention concerns compositions of liquid polyether polyols and thermally expandable organic polymer, e.g., styrene polymer, particles.

3,509,080
METHOD OF MANUFACTURING ANTIOXIDANT FOR RUBBER AND A RUBBER COMPOSITION COMPOUNDING THE ANTIOXIDANT

Sakae Muto and Akira Koga, Tokyo, Shigetake Sato, Yokohama, and Masumi Kiumi, Masanori Takehisa, and Takashi Watanabe, Tokyo, Japan, assignors to Bridgestone Tire Company Limited and Ouchi Shinko Chemical Industry Company Limited, both of Tokyo, Japan
No Drawing. Filed Jan. 19, 1967, Ser. No. 610,222
Claims priority, application Japan, Jan. 26, 1966, 41/4,093; Apr. 8, 1966, 41/21,725
Int. Cl. C08c *11/46*
U.S. Cl. 260—3 30 Claims

A method of producing antioxidants for rubber wherein meta-phenylenediamine or derivatives thereof are reacted with an aldehyde compound to obtain an amine intermediate product, which is condensed with a ketone compound in the presence of iodine or boron trifluoride as catalyst or wherein meta-phenylenediamine or derivatives thereof are condensed with a ketone compound in the presence of iodine or boron trifluoride as catalyst.

3,509,081
NOVEL ROOM-TEMPERATURE-CURING SILICONE ELASTOMERS AND A METHOD FOR MAKING SAME

Stanley E. Gignac, Jr., Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,548
Int. Cl. C08h *9/00*
U.S. Cl. 260—18 11 Claims

A novel method for producing room-temperature-curing silicone elastomers that involves the incorporation of a reducible dye which subsequently undergoes a color change. The color change occurs at the desired degree of cure and hence, the process serves as a valuable technique aid for dentists, artists, and the like.

Illustrative of the novel silicone elastomers of this invention is a dimethylpolysiloxane in combination with ethylpolysilicate, stannous octoate, and D & C Red No. 17 dye (1-p-phenylazophenylazo-2-naphthol).

3,509,082
TITANIUM DIOXIDE PIGMENTED PAINTS EXTENDED WITH SYNTHETIC SODIUM ALUMINO SILICATE PIGMENT

Robert K. Mays, Havre de Grace, Md., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 359,457, Apr. 13, 1964, which is a continuation-in-part of application Ser. No. 113,600, May 31, 1961. This application Oct. 7, 1968, Ser. No. 784,974
Int. Cl. C08f *45/04*
U.S. Cl. 260—22 3 Claims

Titanium dioxide pigmented paint compositions are extended by replacing from 10% to 40% by weight of the titanium dioxide from a finely divided synthetic, amorphous sodium alumino silicate pigment.

3,509,083
PROTECTIVE REPELLENT SOLUTION

Lester I. Winebrenner and James S. Knauss, Kalamazoo, Mich., assignors to U.S. Plywood-Champion Papers Inc., New York, N.Y., a corporation of New York
No Drawing. Continuation-in-part of application Ser. No. 317,066, Oct. 17, 1963. This application Mar. 15, 1967, Ser. No. 623,242
Int. Cl. C08g *51/52*
U.S. Cl. 260—23.7 14 Claims

A protective oil-in-water emulsion for cellulose products comprising a semi-penetrating water repellent fungicide of waxes, reactive polymer, fatty acid ester, orthophenylphenol, amine fatty acid soap and other additives.

3,509,084
ION EXCHANGE PROCESS

Harry D. Anspon, Kansas City, Mo., and Bert H. Clampitt, Overland Park, Kans., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 26, 1966, Ser. No. 590,459
Int. Cl. C08f *29/04, 45/22, 47/18*
U.S. Cl. 260—29.6 4 Claims

Basic aqueous dispersions containing metallic ions are contacted with strongly acidic ion exchange resins charged with ammonium ions to produce an aqueous dispersion substantially free of metallic ions.

3,509,085
COPOLYMERS OF ETHYLENICALLY UNSATURATED HYDROXY FUNCTIONAL CYCLIC AMINE ETHERS

Kazys Sekmakas, Chicago, Ill., assignor to De Soto, Inc., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Nov. 2, 1967, Ser. No. 679,998
The portion of the term of the patent subsequent to Dec. 5, 1984, has been disclaimed
Int. Cl. C08f *45/22;* **C09d** *5/02*
U.S. Cl. 260—29.6 9 Claims

Ethylenically unsaturated hydroxy-functional amines are produced by reacting ethylenically unsaturated monoepoxide such as glycidyl allyl ether or glycidyl acrylate or methacrylate with hydroxy derivatives of cyclic amines such as hydroxyethyl ethylene urea. The monoethylenic unsaturation of the epoxide is retained to produce an hydroxy amine which can be polymerized to form copolymers with other vinyl monomers. Emulsion copolymerization is particularly contemplated for the production of aqueous emulsion paints.

3,509,086
EPOXY ACRYLIC SEALER COMPOSITIONS

Frank Rohrbacher, Jr., Flint, Mich., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 650,197, June 30, 1967. This application May 12, 1969, Ser. No. 823,940
Int. Cl. C08f *45/34;* **C08g** *45/04, 51/34*
U.S. Cl. 260—32.8 18 Claims

Sealer compositions comprising polymeric binders dissolved in organic solvents wherein the polymeric binder comprises:

(A) 50–95 parts of a high molecular weight epoxy resin; and
(B) 5–50 parts of an adhesion-promoting acrylic polymer.

the sum of said components being equal to 100 weight parts. These compositions are useful for bonding organic coatings such as methyl methacrylate to organic and metallic substrates.

3,509,087
INK COMPOSITION

Robert Frank Gerhardt, Deer Park, N.Y., assignor to M & T Chemicals, Inc., New York, N.Y., a corporation of Delaware
Filed July 12, 1967, Ser. No. 652,751
Int. Cl. C08k *1/24;* **C03c** *17/32*
U.S. Cl. 260—33.6 8 Claims

An ink composition for application to a non-absorbent surface such as the outside of a glass container which ink when hardened provides on the container a decoration or label of a pigmented film forming resin which will withstand the conditions required for processing a food packed in the container.

3,509,088
CARBON BLACK DISPERSIONS, THEIR PREPARATION AND FILM PRODUCTS THEREWITH

Harold R. Dalton, 931 Rydal Road,
Jenkintown, Pa. 19046
Continuation-in-part of application Ser. No. 502,614, Oct. 22, 1965. This application Sept. 15, 1966, Ser. No. 579,778
Int. Cl. C08f *45/08;* **B41n** *1/24;* **B41f** *15/00*
U.S. Cl. 260—41 16 Claims

1. The method of preparing the electric-signal-responsive film for a recording blank, which method comprises

(a) preparing a continuity-structure-providing suspension comprising carbon black particles dispersed in a film-forming multi-phase resin-complex comprising as its essential constituents a continuity-structure-providing film-forming resin effective for said signal-responsive film and a volatile organic solvent wherein the resin content of said complex is only partially dissolved thereby to provide in said multi-phase resin-complex from about 20 to about 80 percent of its resin content in particulate form as at least one member of the class consisting of (i) solid particles and (ii) particles swelled with imbibed solvent, said particles in the dry state free of solvent being from about 1 to about 50 microns in size; and
(b) applying a layer of said suspension over a surface whereon the desired signal-responsive film is to be formed, and allowing the volatile solvent content of said layer to evaporate off.

3,509,089
DENTAL CEMENT OR TEMPORARY FILLING COMPOSITION UTILIZING ZINC OXIDE PARTICLES COATED WITH ZINC PROPIONATE

Emery W. Dougherty, Milford, Del., assignor to Dentsply International Inc., York, Pa., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 546,215, Apr. 29, 1966. This application Nov. 18, 1968, Ser. No. 776,803
Int. Cl. C08f *45/04*
U.S. Cl. 260—41 3 Claims

A temporary dental filling or dental cement composition which comprises a dispersed mixture of (a) liquid eugenol and (b) a finely divided powder comprising zinc oxide, pretreated with propionic acid to form a layer of zinc propionate on the particles, and a polymeric material said polymeric material comprising from about 5.0 to about 75.0% by weight of the finely divided powder selected from polyolefins, polyacrylates, and polymethacrylates, the finely divided powder being employed in amount of from about 1 to 8 grams per 1 cc. of eugenol.

Such temporary dental cements or temporary dental fillings are prepared by forming a dispersed mixture of the powders, i.e., zinc oxide and polymeric material, and mixing such mixture of powders with the liquid eugenol.

3,509,090
POLYCARBONATES STABILIZED WITH HALOGEN-CONTAINING ORGANO SILICON COMPOUNDS

Gerald W. Miller, Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Mar. 18, 1968, Ser. No. 714,030
Int. Cl. C08g *51/58*
U.S. Cl. 260—45.7 8 Claims

Self-extinguishing, internally lubricated thermoplastics stabilized against thermal degradation with a stabilizing amount of a halophenyl triorganosilane, a halonaphthyl triorganosilane, a bis-(halophenyl)-diorganosilane, a bis-(halonaphthyl)diorganosilane, a tris-(halonaphthyl)organosilane, a tris-(halophenyl)organosilane, a tetra-(halophenyl)silane, a tetra-(halonaphthyl)silane, a halophenoxy triorganosilane, a halonaphthoxy triorganosilane, a bis-(halophenoxy)diorganosilane, a bis-(halonaphthoxy)-diorganosilane, a tris-halophenoxy)organosilane, a tris-(halonaphthoxy)organosilane, a tetra-(halophenoxy)silane, a tetra-(halophenoxy)silane, a poly-(halophenylsilicon) compound, a poly-(halonaphthylsilicon) compound, alkyl substituted homologues of the foregoing and the like and mixtures thereof.

3,509,091

POLYCARBONATES STABILIZED WITH CYCLIC PHOSPHITES

Thomas H. Cleveland and Herbert L. Rawlings, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed July 20, 1967, Ser. No. 654,693

Int. Cl. C08g *51/58, 51/04, 51/14*

U.S. Cl. 260—45.8 **7 Claims**

A stabilized polycarbonate containing a stabilizing amount of a 5,5-dimethyl-1,3,2-dioxaphosphorinane.

3,509,092

STABILIZATION OF RIGID POLY(VINYL CHLORIDE)

Matthew Peter Di Giaimo, Old Bridge, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Continuation-in-part of application Ser. No. 728,076, May 9, 1968. This application Dec. 18, 1968, Ser. No. 784,894

Int. Cl. C08f *45/60*

U.S. Cl. 260—45.8 **9 Claims**

Stabilized, rigid poly(vinyl chloride) compositions wherein the stabilizer is a combination of an amide of an aliphatic carboxylic acid and an ultraviolet absorber which is per se capable of imparting light stability to rigid, poly(vinyl chloride) and is compatible therewith.

3,509,093

STABILIZED CHLORINE CONTAINING POLYMERS

Wolfgang Lehmann, Leverkusen, and Wilhelm Göbel, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 28, 1967, Ser. No. 663,534

Int. Cl. C08c *13/10;* **C08d** *11/04;* **C08f** *45/60*

U.S. Cl. 260—45.85 **7 Claims**

Light and heat stabilization of higher molecular weight chlorine containing polymers by the addition of a stabilizing amount of a compound of the formula:

$$\mathrm{ROCO{-}X{-}CONHNH_2}$$

wherein R is alkyl, cycloalkyl, aryl, aralkyl, hydroxyalkyl or halogenoalkyl and X is an aliphatic, cycloaliphatic, aromatic or araliphatic group or one of the aforesaid groups containing a hetero atom.

3,509,094

PROCESS FOR MAKING POLYCARBONATES

Alois M. Gemassmer, Leverkusen, Germany, assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 536,473, Mar. 22, 1966, which is a continuation-in-part of application Ser. No. 221,316, Sept. 4, 1962. This application May 9, 1968, Ser. No. 728,049

Int. Cl. C08g *17/13, 53/00*

U.S. Cl. 260—47 **9 Claims**

A process for recovering solid polycarbonate from a solution thereof by mixing a polycarbonate solution free of solid polycarbonate with sufficient polycarbonate having a bulk density of from about 25 pounds per cubic foot to about 40 pounds per cubic foot to convert the entire resulting mixture substantially immediately into a solid mass.

3,509,095

COMPOSITE POLYHYDROXY-POLYETHER RESINS AND METHOD OF MAKING SAME

Darrell D. Hicks, Louisville, Ky., assignor to Celanese Coatings Company, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 281,355, May 17, 1963. This application Feb. 2, 1967 Ser. No. 613,402

Int. Cl. C08f *7/10*

U.S. Cl. 260—47 **6 Claims**

Soluble, fusible, polymeric polyhydroxy polyether resins useful as protective coatings, are produced by reacting a mono(hydroxyaliphatic), monoglycidyl diether of a dihydric phenol with a different monoepoxide compound under boron trifluoride type catalysts.

3,509,096

PHENOLIC RESIN PLUS PERCHLORINATED DIPHENYLBENZENE OR POLYPHENYLBENZENE ADDITIVE

Lucien Sobel, Paris, France, assignor to Ugine Kuhlmann, Paris, France, a company of France

No Drawing. Filed Mar. 2, 1967, Ser. No. 619,953

Claims priority, application France, Mar. 3, 1966, 51,802

Int. Cl. C08g *5/10, 5/14, 5/16*

U.S. Cl. 260—51.5 **11 Claims**

A phenolic resin is prepared by condensing a phenol and an aldehyde with an additive selected from diphenyl and polychlorinated polyphenylbenzene derivatives containing two or more hydroxy and/or amino groups. Suitable additives include N,N′bis(ethane-2-ol)diaminooctachlorodiphenyl; bis(hydroxyethoxy)octachlorodiphenyl, octachlorodihydroxydiphenyl; N,N′bis(ethyl-2-amino)-diaminooctachlorodiphenyl; bis(dimethylol - 2,2 butoxy-1) octachlorodiphenyl, N,N′bis(ethane - 2-ol)diaminododecachloroparaterphenyl; 1,1′(hexachlorobiphenylylene)bis (diethylenetriamine).

3,509,097

NOVEL RESINOUS POLYQUINOXALINE POLYMERS AND PROCESS FOR PREPARING THE SAME

John M. Hoyt and Karl Koch, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 28, 1966, Ser. No. 605,202

Int. Cl. C08g *15/00, 9/06*

U.S. Cl. 260—65 **9 Claims**

Resinous polyquinoxalines of high heat stability useful as protective coatings and laminating resins where extreme resistance to heat is required are prepared as follows: (1) an aromatic dialdehyde is reduced at about 0–80° C. to a poly[arylene-bis(hydroxymethylene)]; this is (2) treated with nitric acid at above ambient temperature to yield a poly(arylenedicarbonyl) polymer which is (3) polycondensed with o-phenylenediamine and/or 3,3′,4,4′-tetraaminobiphenyl.

3,509,098

PROCESS FOR THE MANUFACTURE OF FINELY DIVIDED INSOLUBLE AND INFUSIBLE MELAMINE-FORMALDEHYDE SOLIDS OF LARGE INNER SURFACE

Jean Curchod, Paris, and Roland Cheritat, Le Perreux-sur-Marne, France, and Franz Rudolf Widmer and Gustav Widmer, Basel, Alfred Renner, Munchenstein, and Hans Batzer, Arlesheim, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 389,221, Aug. 12, 1964. This application Nov. 14, 1968, Ser. No. 775,963

Claims priority, application Switzerland, Aug. 23, 1963, 10,437/63

Int. Cl. C08g *9/30*

U.S. Cl. 260—67.6 **3 Claims**

A process for the manufacture of finely dispersed insoluble and infusible solid melamine-formaldehyde condensates useful as reinforcing agents for rubber which comprises forming a solid phase from an aqueous solution of melamine and formaldehyde at a molecular ratio of from 1:1.5 to 1:6 and a temperature of from 0° to 140° C., preferably 20° C. to 100° C. and at a pH value of 5 to 0, said aqueous solution further containing dissolved a surface active agent, substantially freeing said solid phase from inorganic salts, removing water at a temperature of 30° to 160° C. and comminuting the resultant product to an average particle size below 5μ.

3,509,099

PROCESS OF PREPARING POLYETHYLENE TEREPHTHALATE RESIN USING A GROUP IV–A, V–A, OR VIII METAL SALT OF ORTHOARSENIOUS ACID OR ORTHOARSENIC ACID AS POLYCONDENSATION CATALYST

Mary E. Carter, Philadelphia, John A. Price, Swarthmore, and Mary J. Stewart, Riddlewood, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 26, 1967, Ser. No. 648,958

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 **7 Claims**

Process of preparing polyethylene terephthalate resin comprising carrying out an ester-interchange reaction between ethylene glycol and dimethyl terephthalate or carrying out a direct esterification reaction between ethylene glycol and terephthalate acid and polycondensing the reaction product thereof in the presence of a heavy metal salt of orthoarsenious acid or orthoarsenic acid wherein the metal component of the salt is from Groups IV–A, V–A, or VIII of the Periodic Table.

3,509,100

PROCESS OF PREPARING LINEAR POLYESTERS USING ALKALI METAL TRIFLUOROSTANNITE POLYCONDENSATION CATALYSTS

Mary J. Stewart, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 10, 1968, Ser. No. 728,354

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 **5 Claims**

Process of preparing linear polyesters comprising carrying out an ester-interchange reaction between a polyhydric alcohol and a diester of a dicarboxylic acid or carrying out a direct esterification reaction between a polyhydric alcohol and a dicarboxylic acid and then polycondensing the reaction product thereof in the presence of an alkali metal trifluorostannite.

3,509,101

PROCESS OF PREPARING LINEAR POLYESTERS USING TANTALUM ALKALI METAL HEXAFLUORIDE POLYCONDENSATION CATALYSTS

Mary J. Stewart, Media, and John A. Price, Swarthmore, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 20, 1968, Ser. No. 730,621

Int. Cl. C08g *17/015*

U.S. Cl. 260—75 **5 Claims**

Process of preparing linear polyesters comprising carrying out an esterification reaction between a polyhydric alcohol and a dicarboxylic acid and then polycondensing the reaction product thereof in the presence of a tantalum alkali metal hexafluoride.

3,509,102

ELASTIC FIBERS PREPARED FROM EPSILON-CAPROLACTONE-BASED DIOL, AN ORGANIC DIISOCYANATE, AND A DIAMINE

Christian F. Horn, Stamford, Conn., and George Magnus, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Continuation-in-part of application Ser. No. 290,080, June 24, 1963. This application May 28, 1964, Ser. No. 371,075

Int. Cl. C08g *22/10*

U.S. Cl. 260—77.5 **15 Claims**

There is disclosed elastic fibers produced by the steps of preparing a substantially linear hydroxyl-terminated organic polymer containing at least about 50 mole percent of epsilon-caprolactone residues, reacting said polymer with an excess of an organic diisocyanate to produce an isocyanato-terminated prepolymer, and then reacting the prepolymer with a difunctional curing agent.

3,509,103

FURAN MODIFIED POLYURETHANE

Dwight Maxwell Teague, Detroit, and John H. Engel, Jr., Grosse Pointe, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

No Drawing. Filed Oct. 10, 1966, Ser. No. 585,328

Int. Cl. C08g *22/08*

U.S. Cl. 260—77.5 **8 Claims**

This invention comprises the preparation of new resins composed of furan and urethane polymers by a process in which a furfuryl alcohol blocked polyisocyanate is reacted with a polyol. The furan-urethane resin product obtained is extremely resistant to all types of solvents and acids and has a very low degree of water vapor permeability thereby providing an excellent coating material for automobiles and the like.

3,509,104

DIALKYLTIN SALT OF AROMATIC CARBOXYLIC ACIDS USEFUL AS CATALYSTS IN PRODUCING URETHANES AND POLYURETHANES

Charles H. Fuchsman, Cleveland Heights, and James C. Brown, Shaker Heights, Ohio, assignors to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 1, 1967, Ser. No. 619,793

Int. Cl. C08g *22/42*

U.S. Cl. 260—77.5 **5 Claims**

Dialkyltin salts of aromatic carboxylic acids having a pK_a in the range of about 2.0 to about 4.0 have been found to be useful as catalysts in producing urethanes and polyurethanes. When used as catalysts in the urethane reaction, these compounds greatly increase reaction speed in both the initial and later stages of the reaction when compared with the more conventional dialkyltin salts of other acids, e.g. dibutyltin dilaurate.

3,509,105
POLYAMIDE COPOLYMERS OF AROMATIC AMINO ACID AND ALICYCLIC AMINO ACID

Jack Raymond Pedersen, Parsippany, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 24, 1966, Ser. No. 522,346

Int. Cl. C08g *20/00*

U.S. Cl. 260—78 **10 Claims**

Fiber and film forming copolyamides of a meta- or para-substituted alicyclic amino acid monomer and a meta- or para-substituted aromatic amino acid monomer including one meta-substituted and one para-substituted monomer, wherein at least 18 mol percent of the units present in the copolyamide are para-substituted and at least 35 mol percent of the units present in the copolyamide are meta-substituted.

3,509,106
PROCESS FOR THE PRODUCTION OF A LINEAR FIBER-FORMING POLYAMIDE HAVING ETHER LINKAGES

Rudolf Lotz, Obernburg, Main, and Gerhard Wick, Erlenbach, Main, Germany, assignors to Glanzstoff AG, Wuppertal-Elberfeld, Germany

Filed July 26, 1967, Ser. No. 656,251

Claims priority, application Germany, Aug. 2, 1966, G 47,579

Int. Cl. C08g *20/24*

U.S. Cl. 260—78 **8 Claims**

Production of a linear fiber-forming polyamide having ether linkages in the polymer chain by polycondensing an adipic acid salt of a diaminoether of the formula

$$H_2N—(CH_2)_3—R—(CH_2)_3—NH_2$$

wherein R represents —O— or —O—$(CH_2)_n$—O—, *n* being one of the integers 2, 3 or 4, either alone or in admixture with other adipic acid salts of aliphatic diamines, especially hexamethylenediamine adipate, wherein the adipic acid salts being condensed have a content of hydroxyaminoether of less than 1 mol percent, under controlled temperature conditions so as to obtain a high molecular weight linear fiber-forming polyamide. The resulting product can be processed into fibers having distinct textile properties.

3,509,107
PROCESS FOR INCREASING POLYAMIDE VISCOSITY AND POLYAMIDE COMPOSITION PREPARED THEREBY

Edmond P. Brignac, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 430,598, Feb. 5, 1965. This application Dec. 1, 1967, Ser. No. 687,308

Int. Cl. C08g *53/00*

U.S. Cl. 260—78 **8 Claims**

In a process for preparing a fiber-forming polyamide in which molten polyamide is swept with inert gas to improve the relative viscosity of the polymeric product, the amount of inert gas required to effect a given polymer viscosity improvement can be substantially lowered and a polyamide of unexpectedly high viscosity can be obtained by carrying out the inert gas sweep in the presence of certain phosphorous compounds.

3,509,108
PREPARATION OF POLYBENZIMIDAZOLES

Arthur E. Prince, Basking Ridge, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 520,645, Jan. 14, 1966. This application Mar. 4, 1969, Ser. No. 804,316

Int. Cl. C08g *33/02*

U.S. Cl. 260—78.4 **13 Claims**

Aromatic polybenzimidazoles are prepared by a one stage polymerization process which comprises conducting the initial reaction at a temperature above 200° C. and a pressure above 50 p.s.i., and thereafter further heating the resulting reaction product at a temperature above 300° C.

3,509,109
PROCESS FOR THE POLYMERIZATION OR COPOLYMERIZATION OF VINYL CHLORIDE

Robert Buning, Oberlar and Karl-Heinz Diessel and Gerhard Bier, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, near Cologne, Germany, a corporation of Germany

No Drawing. Filed July 12, 1967, Ser. No. 652,675

Claims priority, application Germany, July 15, 1966, D 50,590; May 12, 1967, D 53,068

Int. Cl. C08f *1/56, 1/46, 3/30*

U.S. Cl. 260—78.5 **14 Claims**

Vinyl chloride homo or copolymerization with a redox cataylst at —5 to —50° C. in the presence of methyl reductic acid or tetramethyl reductic acid as the reducing agent of the redox system. Additional use of polymerization regulator such as acetone is required for very low temperature polymerization, e.g. —25 to —50° C.

3,509,110
VINYL ARYL MONOMER-HALF ESTER COPOLYMERS BY SUSPENSION POLYMERIZATION

Adolph V. Di Giulio, Pittsburgh, and David R. Williams, North Apollo, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Apr. 3, 1968, Ser. No. 718,347

Int. Cl. C08f *1/11, 19/10, 27/00*

U.S. Cl. 260—78.5 **14 Claims**

Non-equimolar copolymers of a vinyl aryl monomer such as styrene and a controlled amount of a half ester of an ethylenically unsaturated dicarboxylic acid, such as n-butyl hydrogen maleate are produced in bead form by a suspension polymerization process. The bead copolymers so produced are, by heating, readily cyclized to produce non-equimolar vinyl aryl monomer-anhydride copolymers having high heat deflection resistance.

3,509,111
COPOLYMERS OF MONOESTERS OF MALEIC, ITACONIC AND CITRACONIC ACIDS WITH ESTERS OF ACRYLIC OR METHACRYLIC AND ADHESIVES MADE THEREFROM

Carlos M. Samour, Wellesley Hills, Mass., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts

No Drawing. Original application Nov. 7, 1966, Ser. No. 592,338. Divided and this application Mar. 10, 1969, Ser. No. 823,226

Int. Cl. C08f *29/48*

U.S. Cl. 260—78.5 **9 Claims**

Copolymers of a (A) monoester of an acid selected from the group consisting of maleic, itaconic and citraconic acids with an alkylaminoalkylene alcohol in which the alkyl group contains from 1 to 28 carbon atoms and the alkylene group contains from 2 to 3 carbon atoms; together with (B) an acrylic or methacrylic ester of an alkyl alcohol having from 1–14 carbon atoms. The weight ratio of said monoester to said ester being from 1:19 to 1:1, said polymers exhibiting utility as pressure sensitive adhesives.

3,509,112
POLYMERIC ADDUCTS OF MONOEPISULFIDES AND PRIMARY AMINES

Grant McLay Cameron, Tonawanda, N.Y., assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Apr. 18, 1966, Ser. No. 543,088

Claims priority, application Great Britain, May 13, 1965, 20,319/65

Int. Cl. C08g *23/00*

U.S. Cl. 260—79 **11 Claims**

Curable compositions comprising (1) a compound containing mercaptan groups, and (2) an oxidative curing agent, component (1) being an adduct of a monoepisulphide and a compound containing at least two active hydrogen atoms, such as a primary amine or a polythiol and component (2) being a compound such as lead dioxide or tellurium dioxide.

3,509,113
PREPARATION OF ACRYLAMIDE-TYPE WATER-SOLUBLE POLYMERS

Daniel J. Monagle, Fairfax, Del., Walter P. Shyluk, Landenberg, Pa., and Verne W. Smith, Jr., Hopewell, Va., assignors to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 14, 1967, Ser. No. 660,233

Int. Cl. C08f *3/90*

U.S. Cl. 260—79.3 **13 Claims**

This case covers a precipitation process of making water-soluble acrylamide-type polymers. The process comprises dissolving acrylamide type monomer in a solvent and allowing the polymerization to occur to give polymers in readily filterable form. Either a binary solvent or a ternary solvent may be used. The binary solvent is acetone and water and the ternary solvent is acetone, tertiary butanol and water. The amount of acetone in the binary solvent is 30%–70% by weight thereof. The amount of acetone in the ternary solvent is 5%–65% by weight thereof. The amount of tertiary butanol in the ternary solvent is 65%–5% by weight thereof.

3,509,114
PROCESS FOR POLYMERIZATION OF WATER-SOLUBLE ACRYLIC MONOMERS

Donald E. Ballast, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 28, 1966, Ser. No. 590,199

Int. Cl. C08f *3/90, 15/00*

U.S. Cl. 260—80 **5 Claims**

In the polymerization of water-soluble acrylic monomers in aqueous solution, increased rates of polymerization are obtained by incorporating in the monomer solution from about 1 to about 8 percent of an alkali metal chloride and thereafter polymerizing by conventional catalytic means.

3,509,115
PROCESS OF PREPARING ETHYLENE-VINYL ACETATE COPOLYMERS

Richard J. French, Tuscola, Ill., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Dec. 11, 1968, Ser. No. 783,106

Int. Cl. C08f *1/06*

U.S. Cl. 260—87.3 **9 Claims**

In a process for the production of ethylene-vinyl acetate copolymers at elevated temperatures and pressures wherein the product is subjected to a high pressure recovery step to remove unreacted ethylene, the improvement of reducing the temperatures during said recovery step by adding ethylene feed material to the product prior to the recovery step results in reducing the acetic acid odor in the copolymer without deleteriously affecting its properties.

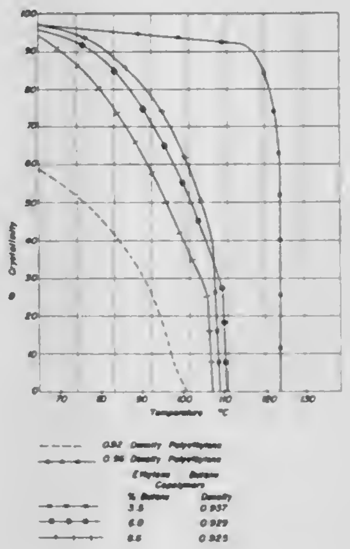
3,509,116
ETHYLENE-BUTENE COPOLYMER

James A. Cote, Kensington, and Razmic S. Gregorian, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Apr. 13, 1966, Ser. No. 542,238

Int. Cl. C08f *15/04*

U.S. Cl. 260—88.2 **1 Claim**



A composition capable of being biaxially oriented over a temperature range 98–125° C. without prior cross-linking consisting essentially of an ethylene-butene-1 copolymer having a density in the range 0.920–0.945 and containing 2–10 percent by weight butene-1 said copolymer being polymerized in the presence of a catalyst consisting essentially of an aluminum trialkyl and a mixture of ammonium silicofluoride and chromium oxide on a silica-alumina support said copolymer having the characteristic that at its crystallization temperature it crystallizes uniformly at a rate of increase in crystallinity with decreasing temperature of greater than 10%/° C. in the range 20–40% crystallinity and a rate of increase in crystallinity with decreasing temperature of less than 10%/° C. thereafter.

3,509,117
PROCESS FOR THE MANUFACTURE OF POLYOLEFINS HAVING A BROAD MOLECULAR WEIGHT DISTRIBUTION

Kurt Rust and Bernd Diedrich, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Apr. 21, 1967, Ser. No. 632,564

Claims priority, application Germany, Apr. 30, 1966, F 49,073

Int. Cl. C08f *1/44, 3/06, 15/04*

U.S. Cl. 260—88.2 **4 Claims**

Manufacture of the polyolefins having a broad molecular weight distribution and a high flow by polymerizing ethylene alone or in admixture with up to 5% by weight of butene-(1) or propylene according to the low pressure process by using as reduced titanium compound of the catalyst system a mixture consisting of the solid reaction product of $TiCl_4$ with alkyl aluminum compounds containing chlorine and of the solid reaction product of $TiCl_4$ with aluminum.

3,509,118
DIOLS OF POLY(BUTADIENE MONOXIDE)

Edwin J. Vandenberg, Foulk Woods, Del., assignor to Hercules Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 298,434, July 29, 1963. This application Aug. 16, 1965, Ser. No. 480,089

Int. Cl. C08f *7/12*

U.S. Cl. 260—88.3 **4 Claims**

Diols of both crystalline and amorphous poly(butadiene monoxide) are described, wherein the hydroxyls are attached to terminal carbons of the polymer chain and the diol has a molecular weight of 500 to 20,000.

3,509,119
PROCESS FOR COPOLYMERIZING BENZENE AND BUTADIENE AND RESULTING PRODUCT

Russell G. Hay, Gibsonia, Pa., Leo F. Meyer, Richmond, Va., and Charles M. Selwitz, Pitcairn, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Aug. 30, 1968, Ser. No. 756,370

Int. Cl. C08d *3/06*

U.S. Cl. 260—94.3 **4 Claims**

A process for copolymerizing benzene with butadiene in the presence of a Ziegler-type catalyst system and the copolymer product resulting therefrom.

3,509,120
N-TERMINAL MONO- AND DIAMINO-ACYL-INSULIN

Miklos Bodanszky, Shaker Heights, Ohio, and Asger F. Langlykke, Plainfield, and John T. Sheehan, Middlesex, N.J., assignors to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1966, Ser. No. 605,166

Int. Cl. A61k *17/02;* **C07c** *103/52;* **C07d** *99/06*

U.S. Cl. 260—112.7 **10 Claims**

Polypeptides selected from the group consisting of insulins substituted in the N-terminal position with either proline or glycine possessing increased hormonal activity.

3,509,121
SEPARATION OF LIQUOR MATERIALS BY DIFFUSION

Julius Benko, Quebec City, Quebec, Canada, assignor, by mesne assignments, to Dryden Chemicals Limited, Oakville, Ontario, Canada, a Canadian company

No Drawing. Filed Sept. 6, 1967, Ser. No. 665,729

Int. Cl. C07g *1/00*

U.S. Cl. 260—124 **18 Claims**

The invention relates to a method of separating components according to their molecular sizes of substances comprising spent sulphite liquor, kraft liquor, and bark extracts by passing alternately a solution of such a substance and wash water through a fractionating bed of particles of +20–100 mesh of a cation exchange resin having 2 to 8% cross-linkage whereby separation occurs as a result of a diffusion procedure.

3,509,122
DISAZO DYESTUFFS CONTAINING PHTHALIMIDE GROUPS

Walter Horstmann, Cologne-Buchheim, and Edgar Siegel, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

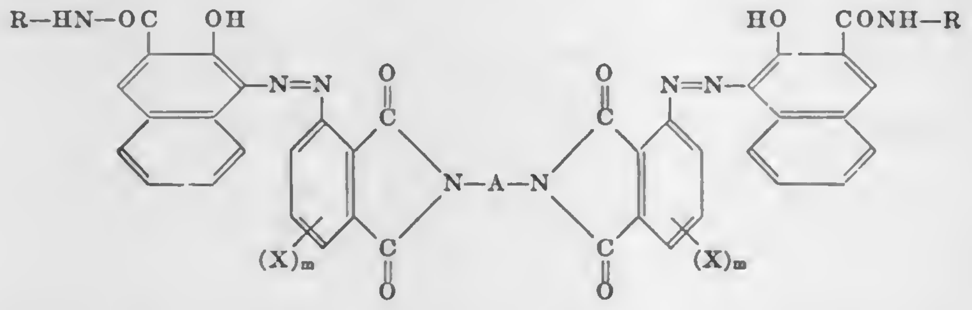
No Drawing. Filed Dec. 19, 1966, Ser. No. 602,529

Claims priority, application Germany, Dec. 28, 1965, F 48,022

Int. Cl. C09b *43/00, 43/12*

U.S. Cl. 260—157 **13 Claims**

Azo dyestuffs having the formula



in which R denotes identical or different, optionally substituted aromatic or heterocyclic radicals, the radicals X are identical or different substituents, *m* denotes integers from 0 to 3 and A is an aliphatic radical which may be interrupted by hetero atoms or by optionally substituted aromatic radicals. The dyestuffs have good tinctorial strength, thermal stability, fastness to solvents, light and migration, and are suitable for coloring plastics, lacquers, or papers and for producing printing colors and pigment pastes.

3,509,123
MONOAZO PIGMENTS

Armand Roueche, Neu Allschwil, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland

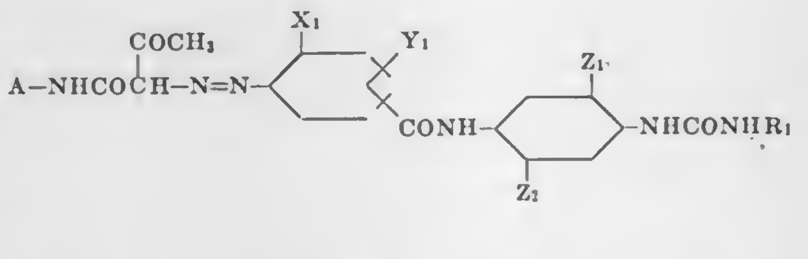
No Drawing. Filed Aug. 30, 1967, Ser. No. 664,267

Claims priority, application Switzerland, Sept. 6, 1966, 12,882/66

Int. Cl. C09b *29/32*

U.S. Cl. 260—193 **6 Claims**

Monoazo dyestuffs of the formula



in which A is a naphthyl radical or a benzene radical which may be substituted by halogen atoms, lower alkyl or lower alkoxy groups, X_1 represents a halogen atom, a lower alkyl, lower alkoxy or carbo-lower alkoxy group, Y_1 is a hydrogen or halogen atom, Z_1 and Z_2 each represents a hydrogen or halogen atom, lower alkyl, trifluoromethyl or lower alkoxy group and R_1 is a hydrogen atom, a lower alkyl, a phenyl lower alkyl or a phenyl radical which may be substituted by halogen atoms, lower alkyl, trifluoromethyl or lower alkoxy groups, are valuable pigments which yield yellow dyings of excellent fastness properties, when incorporated in pastics and lacquers.

3,509,124
MONOAZO DYESTUFF PIGMENTS

Karl Ronco and Willy Mueller, Riehen, and Paul Mueller, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Dec. 13, 1966, Ser. No. 601,351

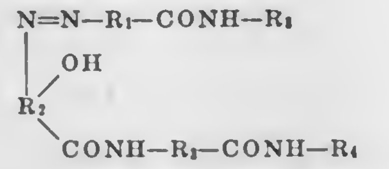
Claims priority, application Switzerland, Dec. 17, 1965, 17,481/65

Int. Cl. C07c *107/08;* **C09b** *29/20*

U.S. Cl. 260—203 **9 Claims**

Monoazo-dyestuffs of the formula:

(1)



in which R_1 is a benzene radical, R_2 is a naphthalene radical, R_3 is a phenylene or diphenylene radical and R_4 and R_5 are each hydrogen or an aryl radical free from benzoylamine groups.

3,509,125
MONOAZO DYESTUFF PIGMENTS

Karl Ronco and Willy Mueller, Riehen, and Paul Mueller, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

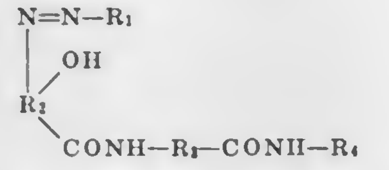
No Drawing. Filed Dec. 13, 1966, Ser. No. 601,352

Claims priority, application Switzerland, Dec. 17, 1965, 17,480/65

Int. Cl. C07c *107/08;* **C09b** *29/20*

U.S. Cl. 260—204 **7 Claims**

A monoazo dyestuff of the formula



wherein R_1 is a benzene radical, R_2 is a naphthalene residue, R_3 is a phenylene or a diphenylene residue and R_4 is aryl. The compounds are valuable pigments which can be used in a finely dispersed form for coloring rayon, viscous rayon, cellulose ethers and esters as well as for the manufacture of colored lacquers.

3,509,126
RECOVERY OF HIGH PURITY ARABINOGALACTAN FROM LARCH

Klaus Dahl, Munich, Germany, assignor to Columbia Cellulose Company Limited, Vancouver, British Columbia, Canada, a corporation of Canada

No Drawing. Filed Sept. 7, 1967, Ser. No. 665,978

Int. Cl. C08b *19/12*

U.S. Cl. 260—209.5 **11 Claims**

Arabinogalactan of high purity is recovered from solid particulate wood of the larch tree. Arabinogalactan and aromatic impurities are removed from the wood by aqueous solvent extraction, subjected to conditions in which the solubility of the aromatic impurities is increased, and the arabinogalactan product is selectively precipitated. The product may be a water-soluble white solid of at least 99 percent purity which is suitable for use as a substitute for gum arabic and other natural gums.

3,509,127
ISOLOGS OF LINCOMYCINS AND PROCESS FOR PREPARING THE SAME

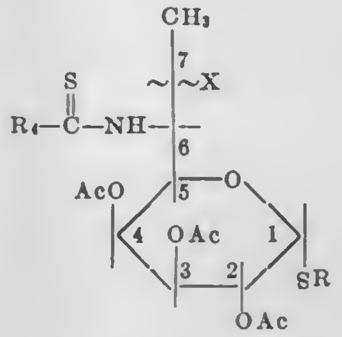
Fred Kagan, Kalamazoo, and Barney J. Magerlein, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 30, 1968, Ser. No. 725,489

Int. Cl. C07c *47/18*

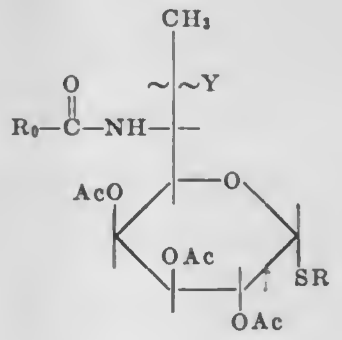
U.S. Cl. 260—210 **12 Claims**

Novel antibacterial compounds of the formula:



(I)

where Ac is hydrogen or a blocking group which is subsequently removed if desired, or an ester-or-ether-forming group, are prepared by replacing by sulfur, the carboxyl oxygen of a compound of the formula:



(II)

The replacement is effected advantageously by heating the starting compound of Formula II with phosphorous pentasulfide and if desired removing the blocking groups, X being OH or halogen and Y being OAc or halogen.

3,509,128
PROCESS FOR PURIFYING URIDINE-5′-DIPHOSPHATE AND URIDINE-5′-TRIPHOSPHATE

Yasuo Fujimoto and Masayuki Teranishi, Tokyo, Japan, assignors to Kyowa Hakko Kogyo Kabushiki Kaisha (Kyowa Hakko Kogyo Company Limited), Tokyo-to, Japan, a body corporate of Japan

Filed Mar 20, 1968, Ser. No. 714,598

Claims priority, application Japan, Mar. 24, 1967, 42/18,025

Int. Cl. C07d *51/50*

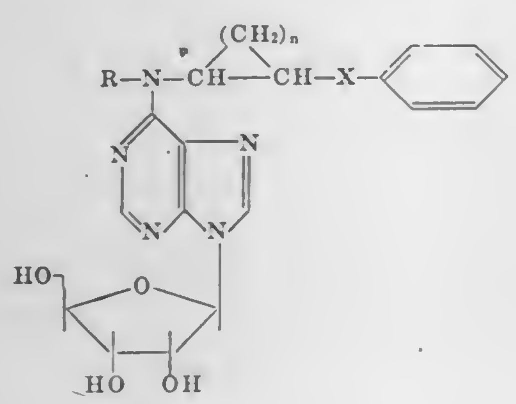
U.S. Cl. 260—211.5 **7 Claims**

A process for separating and purifying uridine-5′-diphosphate (hereinafter designated as UDP) and uridine-5′-triphosphate (hereinafter designated as UTP), which are important in metabolic processes in living bodies, from an aqueous solution of UDP and/or UTP by contacting the said aqueous solution with a strongly basic anion exchange resin in salt form, eluting the absorbed UDP and/or UTP from the said strongly basic resin with an acidic solution of an alkali metal salt and/or an acid addition salt of an organic base contacting, the said eluate fractions with a weakly basic anion exchange resin in salt form whereby UDP and/or UTP is selectively adsorbed on the said weakly basic resin, and eluting the adsorbed UDP and/or UTP from the said weakly basic resin with an alkaline solution.

3,509,129
ADENOSINE DERIVATIVES

Wolfgang Kampe, Heddesheim, Max Thiel, Mannheim, and Kurt Stach, Wolfgang Schaumann, and Karl Dietmann, Mannheim-Waldhof, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany
No Drawing. Filed Apr. 16, 1968, Ser. No. 721,608
Claims priority, application Germany, June 8, 1967, B 92,909
Int. Cl. C07d *51/54;* **A61k** *27/00*
U.S. Cl. 260—211.5 7 Claims

A series of novel adenosine derivatives possessed of hemodyanamic and coronary dynamic activity and constituting particularly effective coronary dilating agents characterized by the formula:

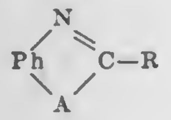


wherein R is hydrogen or lower alkyl, X is a valency bond or oxygen and *n* is a whole number having a value of from 1 to 5.

3,509,130
2-AMINO-1-BENZAZEPINES

William Laszlo Bencze, New Providence, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 9, 1966, Ser. No. 600,373
Int. Cl. C07d *41/08*
U.S. Cl. 260—239 13 Claims

2-amino-4,5-dihydro-1-benzazepines of the Formula I



(I)

Ph=a 1,2-phenylene
A=lower alkylene or aralkylene separating Ph from C—R by 3 chain-carbon atoms
R=an amino group

acyl derivatives, N-oxides, quaternaries and salts thereof, particularly the 2-n-propylamino-3-phenyl-7-methoxy-4,5-dihydro-1-benzazepine hydrochloride, exhibit hypoglycemic effects.

3,509,131
DIAZIRINE SUBSTITUTED CARBOXYLIC AMIDES

Robert Fitz Randolph Church, Riverside, Conn., and Martin Joseph Weiss, Oradell, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Dec. 30, 1966, Ser. No. 606,043
Int. Cl. C07d *45/00, 51/42, 51/70*
U.S. Cl. 260—239 9 Claims

Diazirines containing alkanamides usually prepared from the corresponding diazirine containing acid chloride and an appropriate amine, are described. These compounds are useful for their diuretic, hypoglycemic, analgesic, hypotensive, antiinflammatory, hypochlolesterolemic and antibacterial activities. In addition, the compounds have been found to possess phychic stimulant and antidepressant activities.

3,509,132
DECAHYDRO-1,6-DIAZECINES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz-Wander, Inc., Hanover, N.J., a corporation of Delaware
No Drawing. Filed July 14, 1967, Ser. No. 653,352
Int. Cl. C07d *53/00, 51/14*
U.S. Cl. 260—239 2 Claims

Compounds are of the class of 1-alkyl-2-aryl-decahydro-1,6-diazecines, e.g., 1-methyl-2-phenyl-decahydro-1,6-diazecine, which are useful as central nervous system stimulants.

3,509,133
6-SUBSTITUTED MORPHANTHRIDINES

Claude I. Judd, Mequon, and Alexander E. Drukker, Milwaukee, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 502,363, Oct. 22, 1965. This application Dec. 11, 1968, Ser. No. 783,144
Int. Cl. C07d *41/08*
U.S. Cl. 260—239 9 Claims

The compounds are 6-basic substituted morphanthridines which are useful as pharmaceutical agents, especially central nervous system depressants. In addition they are useful as intermediates in the preparation of 2,3-dihydroimidazo[1,2-a]morphanthridines which are in turn useful as anticholinergic, antihistaminic and psychopharmacologic agents and as intermediates in the preparation of pickling, wood preserving and mothproofing agents. Representative compounds disclosed are 6-aminomorphanthridine, 6-(2 - hydroxyethylamino)morphanthridine and 6-(2-chloroethylamino)morphanthridine.

3,509,134
CARBAMATES OF 11-HYDROXY-10,5(IMINOMETHANO)DIBENZOCYCLOHEPTEN-13-ONES AND INTERMEDIATES THEREOF

Martin A. Davis, Montreal, Quebec, and Thomas A. Dobson, St. Laurent, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 8, 1967, Ser. No. 614,548
Int. Cl. C07d *41/08*
U.S. Cl. 260—239.3 3 Claims

There are disclosed herein the compounds 11-carbamoyloxy-12-methyl-10,5(iminomethanol) - 10,11 - dihydro-5H-dibenzo[a,d]-cyclohepten - 13 - one, as well as the corresponding 11 - N - methyl, 11-N,N-dimethyl, 11-N-ethyl, 11-N-propyl, 11-N-benzyl, 11 - N - p - chlorophenethyl-, carbomayloxy-12-methyl, 12-ethyl, 12-propyl, 12-butyl, 12-amyl, 12-allyl, 12-benzyl, 12-phenethyl, and 12-(3,4,5 - trimethoxy)phenethyl - 10,5 - (iminomethano)-10,11 - dihydro - 5H - dibenzo[a,d]cyclohepten-5-ones, and the corresponding 11-pyrrolidino-, 11-piperidino-, 11-morpholino-, and 11 - N′ - ethylpiperazino carbonyloxy-12-methyl, 12-ethyl, 12-propyl, 12-butyl, 12-amyl, 12-allyl, 12-benzyl, 12-phenethyl, and 12 - (3,4,5 - trimethoxy)-phenethyl - 10,5(iminomethano) - 10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ones. The compounds are useful as trichomonicidal, antibacterial and anti-inflammatory agents.

3,509,135
3-OXYGENATED 4′,5 - DIHYDROSPIRO[ESTRA-4,9-DIENE-17,2′(3′H)-FURANS] AND CONGENERS

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 26, 1968, Ser. No. 747,824
Int. Cl. A61k *17/06;* **C07c** *173/00*
U.S. Cl. 260—239.55 2 Claims

Preparation of 3-oxygenated 4′,5′-dihydrospiro[estra-4,9-diene-17,2′(3′H)-furans], corresponding 9α,10α-epoxides and their anti-DCA, anti-estrogenic, and progestational activity is disclosed.

3,509,136
3 - [17β - HYDROXY - 7α - (LOWER ALKYL) THIO-3-OXOANDROST-4-EN-17α-YL]PROPIONIC ACID γ-LACTONES AND CONGENERS

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 30, 1968, Ser. No. 748,626
Int. Cl. A61k *17/16;* **C07c** *173/00*
U.S. Cl. 260—239.57 7 Claims

Preparation of the captioned compounds—for example 3-(7α-ethylsulfinyl-17β-hydroxyandrost-4-en-3 - on - 17α-yl)propionic acid γ-lactone—and their anti-inflammatory activity are disclosed.

3,509,137
3β,5,6 - TRIHYDROXY - 6 - HYDROXYMETHYL-PREGNAN-20-ONE, DERIVATIVES THEREOF AND INTERMEDIATES THERETO

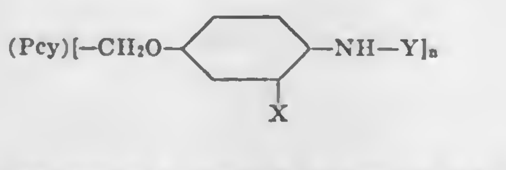
Leonard N. Nysted, Highland Park, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed Oct. 17, 1968, Ser. No. 768,528
Int. Cl. C07c *169/32, 173/00*
U.S. Cl. 260—239.55 10 Claims

The reaction of 5α-hydroxy-6-oxo steroids with dimethylsulfoxonium methylide affords the corresponding 5α,6α-epoxy - 6β - hydroxymethyl derivatives which are cleaved by means of a suitable acid or alkaline reagent to yield the 5,6-dihydroxy-6-hydroxymethyl compounds. The latter substances display useful pharmacological properties, e.g. pepsin-inhibitory and anti-protozoal.

3,509,138
REACTIVE PHTHALOCYANINE DYESTUFFS

Harlan B. Freyermuth and David I. Randall, Easton, Pa., assignors to GAF Corporation, a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 517,129, Dec. 28, 1965. This application Apr. 13, 1966, Ser. No. 542,230
Int. Cl. C07f *1/08*
U.S. Cl. 260—242 5 Claims

A dyestuff of the formula:



wherein Pcy represents a dyestuff moiety of the phthalocyanine series, X represents —H, —SO_3H or —$SO_2NR^1R^2$, R^1 and R^2 represent H, aryl or lower lalkyl or, together with the N atom, the atoms necessary to complete a 5 or 6 membered heterocycle, Y represents a 2-chloro-s-triazinyl-(6) radical, and *n* has an average value of about 1 to 4, which dyestuff is useful for coloring fibrous materials by a reactive dyeing process under alkaline conditions.

3,509,139
THIAZINOBENZOTHIAZINE ALKYL SULFONIUM SALTS

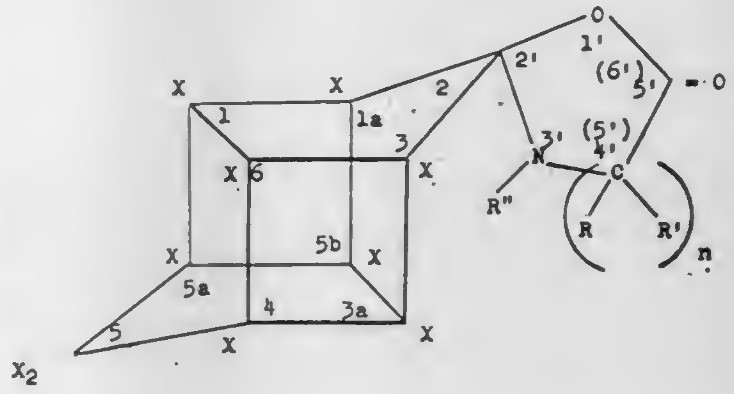
Betty H. Tarnowski, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 3, 1968, Ser. No. 733,760
Int. Cl. C07d *93/12*
U.S. Cl. 260—243 6 Claims

Disclosed is the disulfonium ditetrafluoroborate salt of 2,3,5,6-tetrahydro - (1,4) - thiazino-(4,3,2-de)(1,4)-benzothiazine wherein each of the ring sulfur atoms bears a lower alkyl group and the methyl and methoxy substituted derivatives thereof. These compounds are useful as fungicides.

3,509,140
HALOGENATED POLYCYCLIC SPIRO COMPOUNDS

Carleton W. Roberts, Midland, and Gale D. Travis, Shepherd, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Dec. 27, 1966, Ser. No. 604,538
Int. Cl. C07d *87/28, 85/06*
U.S. Cl. 260—244 9 Claims

1,1a,3,3a,4,5,5,5a,5b,6 - decahalooctahydrospiro[(1,3,4-metheno - 2H - cyclobuta(c,d)pentalene) - 2,2′ - oxazolidin]-5′-one and related-oxazinidinone compounds which can be substituted on the 3′,-4′ and, in compounds in which it is possible, on the 5′ position;

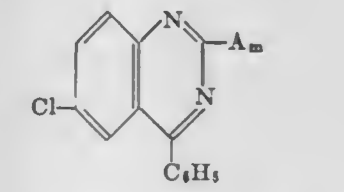


the compounds are strongly insecticidal but, at use concentrations, of very low toxicity to non-insect aquatic fauna.

3,509,141
2-AMINO-QUINAZOLINES

Gordon Northrop Walker, Morristown, N.J., assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 15, 1966, Ser. No. 579,511
Int. Cl. C07d *87/46*
U.S. Cl. 260—247.1 7 Claims

2-amino-4-aryl-quinazolines of the Formula I



(I)

Am=secondary or tertiary amino and salts thereof are useful as antiinflammatory agents, preferably for oral application, in the treatment of tissue inflammations, such as arthritic inflammations and similar conditions.

3,509,142
4-PIPERIDINO, PYRROLIDINO AND MORPHOLINO METHYL - 2,3 - DIHYDRO - 5 - PHENYL-1-BENZOTHIEPINS

Richard J. Mohrbacher, Fort Washington, Pa., assignor to McNeil Laboratories, Incorporated, a corporation of Pennsylvania
No Drawing. Application Aug. 16, 1968, Ser. No. 753,067, which is a division of application Ser. No. 636,570, Apr. 28, 1967, now Patent No. 3,444,176, dated May 13, 1969, which in turn is a continuation-in-part of application Ser. No. 462,411, June 8, 1965. Divided and this application May 22, 1969, Ser. No. 842,066
Int. Cl. C07d *87/46*
U.S. Cl. 260—247.1 4 Claims

The compounds are of the class of 2,3 - dihydrobenzothiepins, useful for their pharmacological properties as hypotensive agents.

3,509,143

VAT DYES FROM CHLOROCARBONYL ARYL DICHLOROTRIAZINES

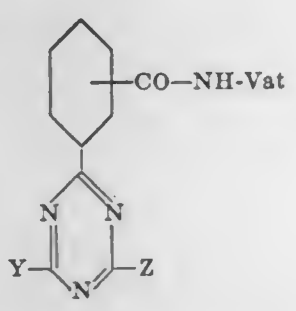
Asa W. Joyce, Millersville, Md., and Julian J. Leavitt, Plainfield, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Application Mar. 25, 1964, Ser. No. 354,757, which is a continuation of application Ser. No. 125,942, July 24, 1961, which in turn is a division of application Ser. No. 781,871, Dec. 22, 1958, now Patent No. 3,055,-895, dated Sept. 25, 1962. Divided and this application Jan. 9, 1968, Ser. No. 696,488

Int. Cl. C09b *62/06*

U.S. Cl. 260—249 **4 Claims**

Dyestuffs of the formula



wherein Vat is the remainder of an amino-vat dye, of which the —NH— of the formula is the residue of its amino group and Y and Z are chlorine, bromine or —NHR where R is the residue of an amino-azo dye, an amino-vat dye or an amino-phthalocyanine dye. They dye cotton a variety of shades including yellow, red and green depending on the particular amino-vat dyes employed.

3,509,144

TRIHALO- AND TETRAHALOPYRAZINE-1-OXIDES

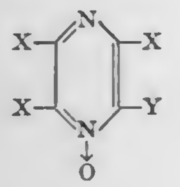
Howard Johnston, Walnut Creek, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 16, 1968, Ser. No. 762,343

Int. Cl. C07d *51/76*

U.S. Cl. 260—250 **6 Claims**

New halopyrazine-1-oxide compounds are disclosed having the formula



wherein each X is halogen and Y is hydrogen, halogen or alkoxy (—OR), wherein R represents an alkyl group. The compounds hereof are variously useful as pesticides for the control of various plant and other organisms.

3,509,145

1,2-UNSATURATED-QUINAZOLINE 3-OXIDES

George Francis Field, Nutley, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Original application Dec. 3, 1964, Ser. No. 415,793, now Patent No. 3,398,139, dated Aug. 20, 1968. Divided and this application Apr. 9, 1968, Ser. No. 735,483

Int. Cl. C07d *51/48*

U.S. Cl. 260—251 **1 Claim**

A method for preparing quinazoline 3-oxides having 1,2 unsaturation consisting of treating a quinazoline 3-oxide having a hydrogen at the N–1 position and a dihalomethylene substituent at the 2-position with a strong base. The quinazoline 3-oxides are useful intermediates in the preparation of known pharmaceutically useful 5 - phenyl-1,3-dihydro-2H-1,4-benzodiazepin-2-one 4-oxides.

3,509,146

PROCESS OF PREPARING PHTHALOCYANINE AND HETEROCYCLIC ANALOGUES

Lester Weinberger, Penfield, Paul J, Brach, Rochester, and Steven J. Grammatica, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

No Drawing. Filed July 3, 1967, Ser. No. 650,589

Int. Cl. C09b *47/06*

U.S. Cl. 260—250 **8 Claims**

A process for the preparation of an organic pigment which comprises mixing under reaction conditions a reactant consisting of a 1,3-diimino-isoindoline (substituted or unsubstituted) or a heterocyclic analogue of 1,3-diimino-isoindoline and an alkylalkanolamine.

3,509,147

ISOINDOLOQUINAZOLINES

William J. Houlihan, Mountain Lakes, N.J., assignor to Sandoz Inc., Hanover, N.J.

No Drawing. Continuation-in-part of application Ser. No. 379,711, July 1, 1964. This application Nov. 3, 1966, Ser. No. 591,694

Int. Cl. C07d *51/48, 87/08*

U.S. Cl. 260—251 **13 Claims**

ISOINDOLOQUINAZOLINES, e.g., 6a-phenyl-6,6a-dihydroisoindolo[2,1-a]quinazoline-5,11-dione, useful as CNS agents.

3,509,148

4-ARYL-1,2-DIHYDRO-2-QUINAZOLINEPROPIONITRILE 3-OXIDE AND RELATED COMPOUNDS

Stanley C. Bell, Penn Valley, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 12, 1968, Ser. No. 704,584

Int. Cl. C07d *51/48*

U.S. Cl. 260—251 **10 Claims**

This invention is concerned with 4-aryl-1,2-dihydro-2-quinazolinepropionitrile 3-oxides and 4-aryl-2-quinazolinepropionitriles which are pharmacologically active as central nervous system depressants. Further, it is concerned with a process of reacting a 4-aryl-1,2-dihydro-2-quinazoline propionitrile 3-oxide with a carboxylic acid anhydride, in the presence of acid acceptor, organic solvent, to produce the corresponding 4-aryl-2-quinazolinepropionitrile.

3,509,149

ARYL AND ARALKYL 3,4-DIHYDRO-2-(1H)-QUINAZOLINONES

John W. Cusic and William E. Coyne, Skokie, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 10, 1968, Ser. No. 728,329

Int. Cl. C07d *51/34;* **A61k** *27/00*

U.S. Cl. 260—251 **5 Claims**

The present 3,4-dihydro-2(1H)-quinazolinones have an aryl or an aralkyl substituent at the 1- and 3-positions. These compounds possess anti-inflammatory and antiprotozoal activity. They are prepared by reacting the appropriate N-monosubstituted 3,4-dihydro-2(1H)-quinazolinone with a strong base and an appropriate halide, or by cyclization of an appropriately substituted 2-aminobenzylamine.

3,509,150

4 - AMINO - 7 - HALO - 6 - PTERIDINECARBOXYLIC ACID ESTERS AND A PROCESS FOR THEIR PREPARATION

Samuel F. Sisenwine, Conshohocken, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 1, 1968, Ser. No. 702,178

Int. Cl. C07d *57/28*

U.S. Cl. 260—251.5 **3 Claims**

The invention concerns novel 4-amino-7-halo-6-pteridine-carboxylic acid esters and a method in which they may be used as starting materials in the preparation of 4,7-diamino-6-pteridine-carboxamides. The former products are useful as central nervous system depressants and as intermediates to prepare the latter compounds which are useful in comparative and experimental pharmacology as diuretics.

3,509,151

MOLECULAR COMPOUNDS OF 4 - (AMINOETHANESULFONYLAMINO) - ANTIPYRINE OR AMINOETHANESULFONYL - p - PHENETIDINE AND BARBITALS

Shun-Ichi Naito, 35 Murasakino Kamitorida-cho, Kita-ku, Kyoto, Japan

No Drawing. Filed Nov. 25, 1968, Ser. No. 778,832

Int. Cl. C07d *51/22*

U.S. Cl. 260—258 **5 Claims**

Molecular compounds made up of 1 mole of a barbital and 2 moles of 4-(aminoethanesulfonylamino)-antipyrine or aminoethanesulfonyl-p-phenetidine are obtained by the reaction with or without a solvent and the resulting compounds have pronounced analgesic and antipyretic activity. The molecular compounds are formed in the designated proportions irrespective of the relative amounts of the starting materials. Various barbitals can be used including barbital itself, allobarbital, cyclobarbital, phenobarbital, aprobarbital, amobarbital, pentobarbital, secobarbital, binbarbital, butabarbital and mephobarbital. The reactions can be carried out either by heating the reactants to their melting points or by heating them in water, a lower aliphatic alkanol or other organic solvents, or a mixture thereof, water being preferred as it gives the best yield.

3,509,152

BIS - POLYQUATERNARY AMMONIUM DODECAHYDRODODECABORATES AND OCTAHYDROTRIBORATES

Robert Ehrlich, Morristown, and Philip Shapiro, Succasunna, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Apr. 28, 1966, Ser. No. 545,881

Int. Cl. C07d *51/64*

U.S. Cl. 260—268 **7 Claims**

The invention relates to novel boron-containing polyquaternary ammonium compounds, particularly to bis-polyquarternary ammonium dodecahydrododecaborates and octohydrotriborates. The compounds are useful in rocket propellants and as reducing agents.

3,509,153

5-PHENYL (OR 5-PHENYLALKYL)-2-[ω-(4-PHENYL-1-PIPERAZINYL)ALKYL]TETRAZOLES

Shin Hayao, Elkhart, and Wallace Glenn Strycker, Goshen, Ind., assignors to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana

No Drawing. Filed Mar. 24, 1967, Ser. No. 625,614

Int. Cl. C07d *55/56*

U.S. Cl. 260—268 **4 Claims**

Tetrazole derivatives, generally 5-aryl (or aralkyl)-2-(ω-dialkylaminoalkyl)-2H-tetrazoles, having antihypertensive properties. Also, a process for the preparation of these compounds including the alkylation of a 5-aryl (or aralkyl)-2H-tetrazole with a suitable aminoalkyl halide.

3,509,154

S-OXIDES OF 10-ALKYLPIPERAZINO-10,11-DIHYDRODIBENZO[b,f]THIEPINES

Jean Clement Louis Fouche, Bourg-la-Reine, Hauts-de-Seine, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Aug. 15, 1966, Ser. No. 572,207

Claims priority, application France, Aug. 23, 1965, 29,156, Patent 1,478,355; Dec. 16, 1965, 42,629, Patent 1,505,342

Int. Cl. C07d *67/00*

U.S. Cl. 260—268 **3 Claims**

The invention provides 10-(4-lower alkyl-1-piperazinyl)-10,11-dihydro[b,f]thiepine 5-oxides and 5,5-dioxides which have useful antihistaminic activity.

3,509,155

23,24-SECOALKALOIDS

Richard W. Rees, Newton Square, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,512

Int. Cl. C07d *43/34*

U.S. Cl. 260—287 **7 Claims**

Brucine, vomicine and alkaloids related thereto are subjected to reduction conditions yielding correspondingly reduced 23,24-secoalkaloids which are useful as tranquilizers and anti-depressants.

3,509,156

1,2-DIHYDRO-2-OXO-3-QUINOLINEACETAMIDES AND RELATED INTERMEDIATES

Peter H. L. Wei, Upper Darby, and Stanley C. Bell, Penn Valley, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 8, 1967, Ser. No. 689,002

Int. Cl. C07d *33/60*

U.S. Cl. 260—287 **5 Claims**

This invention is concerned with 1,2-dihydro-2-oxo-3-quinolineacetamides which are pharmacologically active as central nervous system depressants.

3,509,157

23,24-SECOSTRYCHNIDINE DERIVATIVES

Richard W. Rees, Newton Square, and Herchel Smith, Wayne, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 31, 1966, Ser. No. 590,513

Int. Cl. C07d *43/34*

U.S. Cl. 260—287 **5 Claims**

The alkaloids strychnine, pseudostrychnine, and strychnidine are subjected to a reduction process. The final products produced are 23,24-secostrychnidines which have been found to possess antidepressant and tranquilizing activity.

3,509,158

10,5 - (IMINOMETHANO) - 10,11 - DIHYDRO-5H - DIBENZO[a,d] - CYCLOHEPTENE AND DERIVATIVES

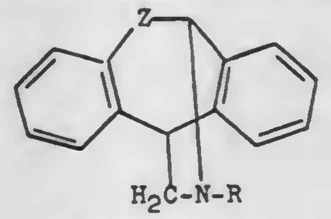
Thomas A. Dobson, Ville St. Laurent, Quebec, and Martin A. Davis, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 31, 1966, Ser. No. 576,207

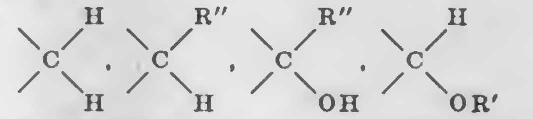
Int. Cl. C07d *39/02*

U.S. Cl. 260—287 **23 Claims**

10,5 - (iminomethano) - 10,11 - dihydro-5H-dibenzo-[a,d]-cycloheptene and derivatives of the formula:



wherein Z represents a group selected from the group consisting of



in which R and R′ are the same or different and represent hydrogen, lower alkyl, allyl, aralkyl, dialkylaminoalkyl, heterocyclicalkyl, acyl, aroyl, or aralkanoyl, and R″ represents lower alkyl, allyl, phenyl, aralkyl, or dialkylaminoalkyl. The compounds are useful as trichomonicidal, anti-convulsant, anti-parasitic, anti-inflammatory and hypotensive agents, and a process for preparing them from the corresponding 10,5-(iminomethano) - 10,11-dihydro-5H-dibenzo[a,d]cyclohepten-13-ones and methods for their use are also disclosed.

3,509,159
PREPARATION OF 8-MERCAPTOQUINOLINES FROM THIOUREA AND 8-AMINOQUINOLINE

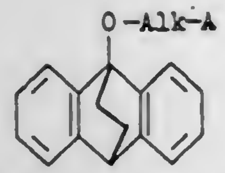
David Kealey, Pitman, N.J.
(Chale, New Road, Twyford, Berkshire, England)
No Drawing. Filed July 5, 1966, Ser. No. 562,455
Int. Cl. C07d *33/62*
U.S. Cl. 260—289 4 Claims

A technique for the preparation of 8-mercaptoquinoline and its derivatives which utilizes as a starting material an 8-aminoquinoline, the 8-aminoquinoline being treated so as to form its corresponding diazo salt; thereafter, the intermediate diazo salt product is reacted with a mercaptan forming reagent, preferably thiourea, and the 8-mercaptoquinoline is thereafter separated from the reactant mixture.

3,509,160
9(PYRROLIDINYL- AND PIPERIDINYL-ALKOXY)-ETHANOANTHRACENES

Max Wilhelm, Allschwil, Switzerland, assignor to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 23, 1967, Ser. No. 648,201
Claims priority, application Switzerland, July 18, 1966, 10,380/66; May 17, 1967, 6,927/67
Int. Cl. C07d *29/18, 27/28*
U.S. Cl. 260—294.7 4 Claims

9-amino-alkoxy-9,10-dihydro-9,10-ethano - anthracenes of the formula

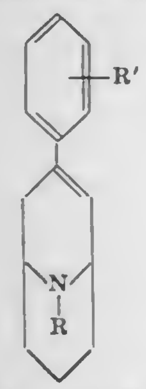


wherein Alk is an alkylene radical separating A from O by a least two carbon atoms and A is an amino group, and which may be optionally substituted at any of the ring carbon atoms, and salts thereof, show anti-allergic, antihistaminic, and antimescaline effects.

3,509,161
3-PHENYL-GRANATENE-(2)-DERIVATIVES

Otto Dold, Lampertheim, Hesse, Kurt Stach, Mannheim, and Wolfgang Schaumann, Mannheim-Waldhof, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany
No Drawing. Continuation-in-part of application Ser. No. 318,839, Oct. 25, 1963. This application July 10, 1967, Ser. No. 652,016
Int. Cl. C07d *43/18*
U.S. Cl. 260—293 6 Claims

Novel 3-phenyl-granatene-(2)-derivatives are disclosed which constitute unusually potent blood pressure increasing agents. The novel 3-phenyl-granatene derivatives are representated by the following formula:



and acid addition salts thereof wherein R is lower alkenyl, phenyl, tolyl or benzyl and R' is hydrogen, halogen, lower alkyl, lower alkoxy, lower alkylmercapto or di-lower alkylamino.

3,509,162
PHENETHYL CARBAMATES

Hedwig Besendorf, Basel, Hans Bruderer, Riehen, and Rudolf Ruegg, Bottmingen, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 20, 1966, Ser. No. 543,787
Claims priority, application Switzerland, Apr. 23, 1965, 5,702/65
Int. Cl. C07c *125/06;* **C07d** *29/26*
U.S. Cl. 260—294.3 4 Claims

Phenethyl compounds possessing ring as well as side chain substitution, prepared, inter alia, from the corresponding epoxides are described. The end products are useful as muscle-relaxants and anti-convulsants.

3,509,163
2-ALKANOYL OR AROYL-3-AMINOALKOXY INDOLES

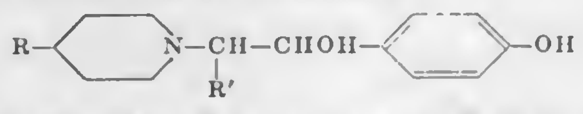
Arne Elof Brandstrom, Goteborg, and Stig Ake Ingemar Carlsson, Molnlycke, Sweden, and André Gagneux, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Filed Jan. 22, 1968, Ser. No. 699,289
Claims priority, application Switzerland, Jan. 25, 1967, 1,131/67
Int. Cl. C07d *27/56*
U.S. Cl. 260—294.7 17 Claims

The compounds are of the class of indole derivatives, more particularly indole derivatives substituted in 2- and 3-positions and acid addition salts thereof. The compounds are useful as analgesic, anti-inflammatory, antitussive, tranquilizing, anti-allergic and anaesthesia-potentiating agents. An illustrative embodiment is 2-benzoyl-3-(2-pyrrolidinoethoxy)indole.

3,509,164
DERIVATIVES OF 1-(p-HYDROXYPHENYL)-2-(4-BENZYL-1-PIPERIDINO)-(ALKANOLS)

Maurice Claude Ernest Carron and Claude Louis Clement Carron, Chatenay-Malabry, and Bernard Philippe Bucher, Palaiseau, France, assignors to Societe Anonyme des Laboratoires Robert et Carriere, Paris, France, a French body corporate
No Drawing. Filed Sept. 21, 1967, Ser. No. 669,413
Claims priority, application France, Sept. 27, 1966, 77,770
Int. Cl. C07d *29/16*
U.S. Cl. 260—294.7 4 Claims

Piperidinoalkanols of the formula:



and their salts, where R is alkyl or aralkyl and R' is alkyl, are useful as vasodilators, cardiotonics, and hypotensors.

3,509,165
PROCESS FOR PREPARING PYRIDINIUM BETAINES AND DERIVATIVES

Samuel E. Ellzey, Jr., and Wilma A. Guice, New Orleans, and Arthur F. Novak, Baton Rouge, La., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Mar. 24, 1967, Ser. No. 626,373
Int. Cl. C07d *31/34, 31/02;* **A61k** *27/00*
U.S. Cl. 260—295 9 Claims

A method for preparing novel fluorinated pyridinium salts is described. These novel compounds are pyridinium inner salts of fluorinated 2-ketocarboxylic acid hydrates. They are prepared by hydrolysis with strong mineral acids of the corresponding (polyfluorodioxocycloalkyl)pyridinium betaines. In addition to a pyridinium inner salt of a fluorinated 2-ketocarboxylic acid hydrate, the betaine having a four-carbon cycle leads to the novel (3,3-difluoro-2,2-dihydroxypropyl)pyridinium chloride.

The above pyridinium compounds were found to exhibit good antimicrobial activity against *S. aureus, E. coli, T. violaceum*, and *C. albicans.*

3,509,166
TETRAHYDRO-PYRIDINE DERIVATIVES OF BENZAMIDE

William Blythe Wright, Jr., Woodcliff Lake, N.J., and Herbert Joseph Brabander, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Continuation-in-part of application Ser. No. 596,810, Nov. 25, 1966. This application Jan. 15, 1968, Ser. No. 697,580
Int. Cl. C07d *29/38*
U.S. Cl. 260—295 7 Claims

The preparation of substituted N-(tert.-aminoalkyl)-benzamide compounds by reacting a halogen, lower alkylsulfonyloxy or monocyclic arylsulfonyloxy substituted alkylene substituted benzamide with various arylheterocyclic compounds, is described. Other methods of preparing substituted N-(tert.-aminoalkyl)benzamides are described. The substituted N-(tert.-aminoalkyl)benzamides are useful for their central nervous system (CNS) depressant properties.

3,509,167
CERTAIN 3-NITROIMIDAZO-[1,2-a]PYRIDINES

Max W. Miller, Stonington, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 18, 1967, Ser. No. 668,660
Int. Cl. C07d *31/42*
U.S. Cl. 260—296 3 Claims

Certain novel 3 - nitroimidazo-[1,2,a]pyridine compounds useful in the treatment and prevention of trichomonal infections are disclosed and a method of preparing same is described.

3,509,168
PROCESS FOR EXTRACTING 6-AMINOPENICILLANIC ACID FOR PRODUCTION OF PENICILLINS

Clarence C. Christman, Broomall, and Charles A. Robinson, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 13, 1967, Ser. No. 690,108
Int. Cl. C07d *91/14*
U.S. Cl. 260—306.7 7 Claims

A process for preparing derivatives of 6-aminopenicillanic acid from aqueous solutions of the latter by treatment of said solutions with an aliphatic amine selected from a large class of secondary and tertiary amines, in a non-reactive water-immiscible solvent devoid of hydroxyl groups. The resulting 6-aminopenicillanic acid derivatives in the solvent are useful directly in the preparation of antibiotically active penicillins, e.g., by the "silyl route," without the necessity for isolation of the 6-aminopenicillanic acid in solid form and/or transfer into another solvent for such use.

3,509,169
Δ^2-1,3,4-OXADIAZOLINE-4-CARBONITRILES AND THE PREPARATION THEREOF

Frank Dennis Marsh, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 5, 1967, Ser. No. 643,350
Int. Cl. C07d *85/54*
U.S. Cl. 260—307 10 Claims

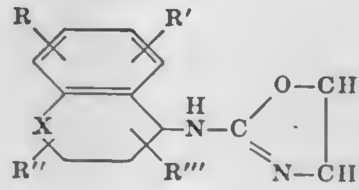
Δ^2 - 1,3,4 - oxadiazoline - 4 - carbonitriles having selected fluorinated substituents in the 5 positions formed by the reaction of a mixture of a fluoro-aliphatic ketone, cyanogen azide and an aliphatic nitrile or cyanogen halide at a temperature of 25–125° C. are claimed. These compounds are useful as soil fungicides.

3,509,170
HETEROCYCLIC AMINO-OXAZOLINES

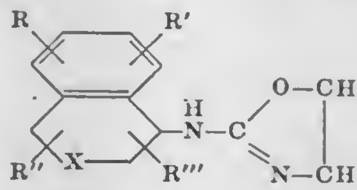
George Levitt, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed June 12, 1967, Ser. No. 646,154
Int. Cl. C07d *85/36*
U.S. Cl. 260—307 9 Claims

Amino-oxazolines useful as central nervous system depressants having the formula:

(I)



(II)



wherein

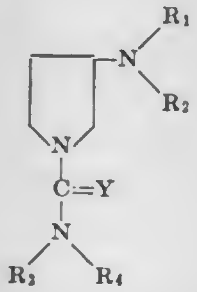
X is oxygen, sulfur or methylamino;
R is hydrogen or alkyl;
R' is hydrogen, alkyl, alkoxy, alkylthio, dimethylamino, fluorine, chlorine or bromine;
R'' is hydrogen or alkyl;
R''' is hydrogen or alkyl.

Typical is 2-(4-thiochromanylamino)-2-oxazoline useful as a central nervous system depressant.

3,509,171
3-AMINO-1-CARBAMYL AND THIOCARBAMYL PYRROLIDINES

William John Welstead, Jr., Grover Cleveland Helsley, and Ying-Ho Chen, Richmond, Va., assignors to A. H. Robins Company, Incorporated, Richmond, Va., a corporation of Virginia
No Drawing. Filed Sept. 14, 1967, Ser. No. 667,672
Int. Cl. C07d *27/06*
U.S. Cl. 260—326.3 11 Claims

Novel basic substituted pyrrolidines are disclosed which possess tranquilizing and hypotensive properties. The basic substituted pyrrolidines of the invention have the following formula:



wherein R_1 is hydrogen, lower alkyl or lower alkanoyl, R_2 is lower alkyl, phenyl or substituted phenyl; R_3 and R_4 are each hydrogen, lower alkyl, phenyl or substituted phenyl; where R_3 and R_4 taken together with the adjacent nitrogen atom form a heterocyclic ring selected from the group of piperidino, pyrrolidino, piperazino, morpholino, quinolino and Y is oxygen, sulfur or amino, The invention also includes within its scope the acid addition salts and quaternary ammonium salts of the aforesaid compounds.

3,509,172

α-1-p-CHLOROBENZOYL-2-METHYL-5-NITRO-3-INDOLINYL ACETIC ACID

John Martin Chemerda, Watchung, and Meyer Sletzinger, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed July 26, 1967, Ser. No. 656,037

Int. Cl. C07d *27/38*

U.S. Cl. 260—326.11 **1 Claim**

The invention relates to novel α-1-p-chlorobenzoyl-2-methyl-5-nitro-3-indolinyl acetic acids.

3,509,173

3,3-BIS-(INDOL-3-YL) PHTHALIDES

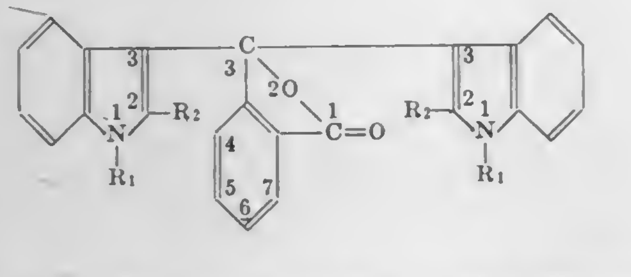
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 30, 1967, Ser. No. 612,496

Int. Cl. C07d *27/56*

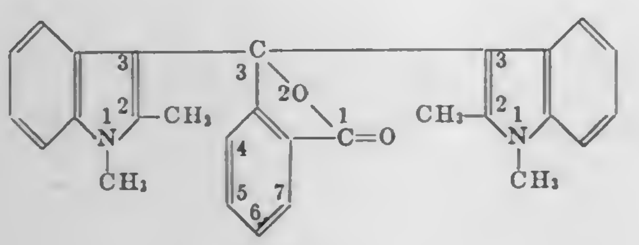
U.S. Cl. 260—326.14 **2 Claims**

A novel chromogenic material of normally colorless form, having a structural formula:



wherein R_1 and R_2 consist of alkyl radicals having fewer than five carbon atoms, phenyl radicals, and hydrogen; said material assuming a colored form upon contact with a Lewis acid molecule.

A specific example of the chromogenic material of this invention is 3,3-bis-(1,2-dimethylindol-3-yl) phthalide.



3,509,174

3-(INDOL-3-YL)-PHTHALIDES

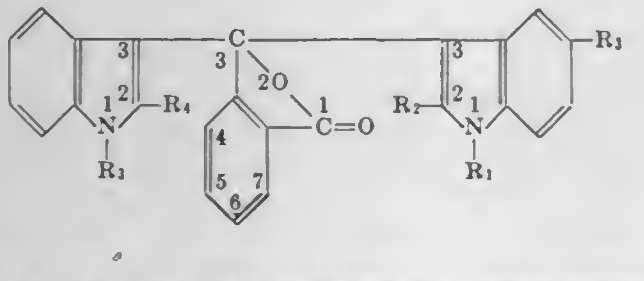
Chao-Han Lin, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Jan. 30, 1967, Ser. No. 612,558

Int. Cl. C07d *27/56*

U.S. Cl. 260—326.14 **4 Claims**

Novel chromogenic materials of normally colorless form, having structural formulae:



where R_1, R_2, R_3, and R_4 are selected from a group consisting of alkyl radicals having fewer than five carbon atoms, phenyl radicals, and hydrogen, and R_5 is selected from a group consisting of alkoxyl radicals having fewer than five carbon atoms and hydrogen, said material assuming a colored form upon contact with a Lewis acid molecule. A specific example of these novel compounds is 3 - (1,2 - dimethylindol-3-yl)-3-(2-methylindol-3-yl) phthalide.

3,509,175

RECOVERY OF PURE CIS 11-(3-DIMETHYLAMINOPROPYLIDENE) - 6,11 - DIHYDRODIBENZ(b,e)OXEPINE FROM ADMIXTURE WITH ITS TRANS ISOMER

James R. Tretter, East Lyme, Conn., assignor to Chas. Pfizer & Co., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 12, 1964, Ser. No. 403,326, now Patent No. 3,354,155. Divided and this application Aug. 31, 1967, Ser. No. 671,529

Int. Cl. C07d *9/00*

U.S. Cl. 260—333 **4 Claims**

Preparation of aminoalkyl tri-substituted phosphonium compounds, use of the latter in the preparation of aminopropylidene tri-substituted-phosphoranes and reaction of the latter with ketones in the production of aminopropylidene-dibenzoxepines and other compounds useful, inter alia, as psychotherapeutic agents. Recovery of puse cis 11-(3-dimethylaminopropylidene) - 6,11 - dihydrodibenz (b,e)oxepine from admixture with its trans isomer is also described.

3,509,176

BASIC DERIVATIVES OF DIBENZO-OXEPINE

Werner Winter and Max Thiel, Mannheim, Kurt Stach and Wolfgang Schaumann, Mannheim-Waldhof, and Annemarie Ribbentrop, Mannheim, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., a corporation of Germany

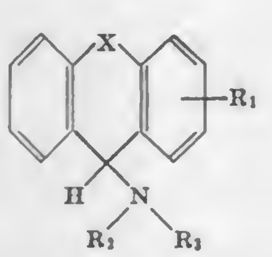
No Drawing. Filed Mar. 23, 1967, Ser. No. 625,314

Claims priority, application Germany, Apr. 30, 1966, B 86,919

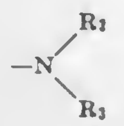
Int. Cl. C07d *9/00*

U.S. Cl. 260—333 **12 Claims**

Novel dibenzo-oxepine derivatives having the formula:



and the salts thereof with pharmacologically acceptable acids, wherein X is an oxymethylene group, R_1 is hydrogen or halogen, or a lower akyll, alkoxy, trifluoromethyl or alkylmercapto group and R_2 and R_3, which may be the same or different, are each a member of the group of hydrogen, alkyl, alkenyl, hydroxyalkyl, alkoxyalkyl and acyloxyalkyl and groups in which



$$-N\begin{matrix} R_2 \\ R_3 \end{matrix}$$

represents heterocyclic groups formed by joining R_2 and R_3 so that the nitrogen becomes part of the ring including the pyrrolidino, piperidino, morpholino and piperazino groups, and such groups substituted by alkyl, alkoxy, alkoxyalkyl, acyloxalkyl, aryl or aralkyl groups. The aforesaid compounds have been found to exhibit muscle-relaxing, tranquillizing and anti-convulsant activities.

3,509,177

ALKYLENE AND ARYLENEBIS(3-CARBAMOYL-4-HYDROXYCOUMARIN)S

John S. McIntyre, Sarnia, Ontario, and Allan R. Knight, Petrolia, Ontario, Canada, assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 24, 1968, Ser. No. 739,150

Int. Cl. A01n *9/28;* **C07d** *7/28*

U.S. Cl. 260—343.2 **8 Claims**

The present disclosure is directed to alkylene and arylenebis(3-carbamoyl-4-hydroxycoumarin)s wherein the alkylene or arylene group is attached between the two amine functions and consists of an alkylene group of 1 to 4 carbon atoms, phenylene and methylphenylene and to the corresponding bis-compound wherein the two amine functions are directly connected together. The method of preparation as well as the utility of the compounds as pesticides is taught.

3,509,178

DIBENZOFURAN ACETOHYDROXAMIC ACID

Samuel S. M. Wang, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Jan. 5, 1968, Ser. No. 695,838

Int. Cl. C07d *5/44*

U.S. Cl. 260—346.2 **1 Claim**

2-dibenzofuran acetohydroxamic acid is prepared by the reaction of 2-dibenzofuran acetyl chloride with hydroxylamine hydrochloride in the presence of a hydrogen chloride acceptor. The novel compound is useful as an anti-inflammatory agent.

3,509,179

PROCESS FOR THE PRODUCTION OF PHTHALIC ANHYDRIDE

Wilhelm Friedrichsen, Ludwigshafen (Rhine), and Otto Goehre, Wilhelmsfeld, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Original application May 9, 1966, Ser. No. 548,404. Divided and this application June 3, 1969, Ser. No. 830,097

Int. Cl. C07c *63/02*

U.S. Cl. 260—346.4 **15 Claims**

Production of phthalic anhydride by the gas phase oxidation of naphthalene or o-xylene while using a catalyst which consists essentially of an inert non-porous carrier coated to a thickness of about 0.02 to 2 mm. with a composition of 1 to 15% by weight of vanadium pentoxide and 85 to 99% by weight of titanium dioxide, the catalyst having a content of vanadium pentoxide of 0.05 to 3% by weight.

3,509,180

BENZYLBENZYL AND FURFURYLBENZYL ESTERS OF CHRYSANTHEMIC AND PYRETHRIC ACID

Michael Elliott, Harpenden, England, assignor to National Research Development Corporation, London, England, a British corporation

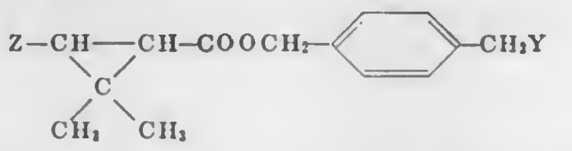
No Drawing. Filed Feb. 2, 1966, Ser. No. 524,499

Claims priority, application Great Britain, Feb. 12, 1965, 6,293/65; Oct. 22, 1965, 44,938/65

Int. Cl. C07c *69/74;* **C07d** *5/16*

U.S. Cl. 260—347.4 **13 Claims**

Esters of formula



in which Z is the isobutenyl or the 2-carbomethoxyprop-1-enyl group and Y is a phenyl or a furyl ring, have good insecticidal properties. Methods for the preparation of the novel esters as well as of the intermediate substituted benzyl alcohols, are described. When Y is a phenyl group, it may be substituted by a halogen or lower alkyl, allyl, butenyl, pentadienyl or a hexadienyl group.

3,509,181

FURFURYL AND TETRAHYDROFURFURYL DERIVATIVES AS ANTIOZONANTS FOR RUBBER

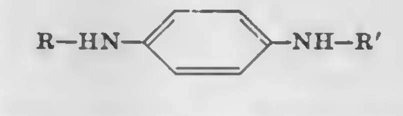
Frank Aloysius Vincent Sullivan, Westfield, and Tamara Dejneka, Skillman, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mav 18, 1967, Ser. No. 639,259

Int. Cl. C07d *5/04, 5/16*

U.S. Cl. 260—347.7 **5 Claims**

A compound of the formula:



wherein R is either furfuryl or tetrahydrofurfuryl and R′ is phenyl or naphthyl, or lower-alkyl or lower alkoxy substituted phenyl or naphthyl, or the same as R; and the use of such a compound as an antiozonant in rubber compositions.

3,509,182

PRODUCTION OF ACETALS AND MERCAPTALS

Leslie O. Hopkins, Harry Stephenson, and Donald R. Maciver, Nakuru, Kenya, assignors to The Pyrethrum Board of Kenya, Nakuru, Kenya, a body corporate of Kenya

No Drawing. Filed Mar. 9, 1967, Ser. No. 621,771

Claims priority, application Great Britain, Mar. 24, 1966, 12,938/66

Int. Cl. C07d *13/10;* **C07c** *149/30, 41/10*

U.S. Cl. 260—340.5 **9 Claims**

In order to minimise the formation of colour-imparting impurities in the production of acetals and bis-mercaptals of aromatic aldehydes which contain one benzene ring and a maximum of 12 carbon atoms and which are free from basic and acidic functional groups by condensation thereof with two moles of an alkanol, an aralkanol, or an ether-alcohol having the formula $HO(C_nH_{2n}O)_xR'$ in which R′ is an alkyl group having 1 to 6 carbon atoms, n is 2 or 3 and x is 1, 2 or 3, or with a corresponding thiol, the condensation is carried out by heating together under reflux the aldehyde and the selected alcohol or thiol in the presence of (i) an oxygen-containing atmosphere, (ii) a finely divided activated carbon which in aqueous suspension exhibits an acid pH and (iii) an entraining agent for water. The acetals of piperonaldehyde, 6-allylpiperonaldehyde and 6-n-propylpiperonaldehyde which are useful as pyrethrum synergists are readily produced in this way.

3,509,183

PROCESS FOR EPOXIDATION OF ALLYL ALCOHOL BY PERACETIC ACID

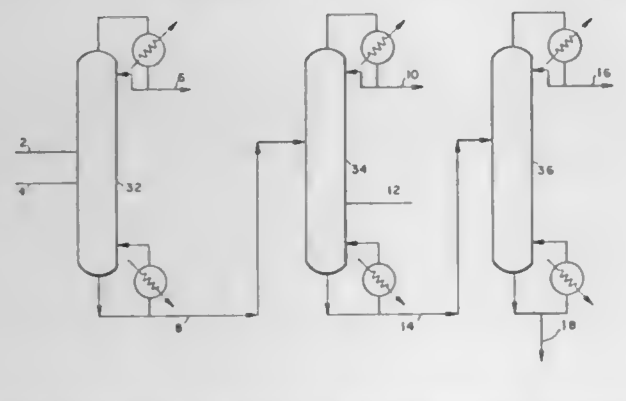
Carroll J. Wenzke, Peekskill, N.Y., and Sol A. Mednick, Pikesville, Md., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed July 17, 1967, Ser. No. 653,847

Int. Cl. C07d *1/18*

U.S. Cl. 260—348.5 **10 Claims**

This application discloses a continuous process for the rapid and efficient epoxidation of allyl alcohol by peracetic acid using a very small excess of allyl alcohol over the stoichiometric amount. The peracetic acid, dissolved in a high-boiling solvent, such as diisobutyl ketone, is introduced along with allyl alcohol into a distillation column which is operated under conditions such that peracetic acid distills upward in the column into a zone enriched in allyl alcohol where the epoxidation takes place very rapidly because of the high concentration of reactants. The reaction products glycidol and acetic acid, along with the solvent, pass downward in the column and are continuously withdrawn. The points at which allyl alcohol and peracetic acid are fed to the distillation column may be varied so that the alcohol can be fed above, below or with the peracetic acid feed. Subsequently, the acetic acid is rapidly and continuously separated from the glycidol in known manner.



3,509,184
ANTHRACYCLIDINE-ACETIC ACID DERIVATIVES

Lloyd H. Conover, Quaker Hill, Conn., and Robert B. Woodward, Belmont, Mass., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 209,269, July 11, 1962. This application Aug. 1, 1966, Ser. No. 569,052

Int. Cl. C07c *103/19*

U.S. Cl. 260—351 **12 Claims**

The total synthesis of tetracycline-type antibiotics by a multi-step process beginning with 3,4,10-trioxo-1,2,3,4,4a,9,9a,10-octahydroanthracenes comprising: (1) an aldol condensation with a glyoxalic acid ester to give a 2-carboxymethylidene - 3,4,10 - trioxo-1,2,3,4,4a,9,9a,10-octahydroanthracene ester; (2) Michael reaction of said ester with an amine to produce a 3,4,10-trioxo-1,2,3,4,4a,9,9a,10-octahydroanthracene-2-(α-amino) acetic acid ester; (3) conversion of the triketone to the corresponding 4,10-diketone by (a) selective reduction of the Michael reaction product to the corresponding 3-hydroxy compound, followed by conversion of the 3-hydroxy compound to the corresponding 3-formyloxy compound and removal of the 3-formyloxy group by treatment with zinc dust to give a 4,10-dioxo-1,2,3,4,4a,9,9a,10-octahydroanthracene 2-(α-amino)acetic acid ester; or (b) conversion of the hydrochloride salt of the Michael reaction product to a lactone by reaction with p-toluene-sulfonic acid and treatment of the lactone with zinc dust formic acid; (4) conversion of the 4,10-diketo-1,2,3,4.4a,9,9a,10-octahydroanthracene 2-(α-amino)acetic acid to a mixed anhydride; (5) followed by acylation of a malonic acid ester with the mixed anhydride; (6) cyclization of the acyl malonate derivative to a 12a-deoxytetracycline which is then hydroxylated to a tetracycline. The preparation of the 3,4,10-trioxo-1,2,3,4,4a,9,9a,10 - octahydroanthracenes from benzoyl halides by (a) Friedel-Crafts reaction of a benzoyl halide with a pyrocatechol ether, e.g., a di-(lower)alkyl ether, to produce a 3,4-di(lower)alkoxybenzophenone; (b) conversion of the benzophenone by partial or complete reduction of the carbonyl group by chemical or catalytic methods to a 3,4-di(lower)alkoxy diphenyl methanol or 3,4-di-(lower)alkoxy diphenyl methane; or to a 3,4-di-(lower)alkoxy diphenyl alkane via a Grignard reaction and reduction of the thus-produced alkanol; (c) oxidation of the 3,4-di-(lower)alkoxy diphenyl alkane, or the corresponding dihydroxy compound, to a dienedioic acid ester or dienedioic acid; (d) hydrogenation of the dienedioic acid compound to a benzyl adipic acid derivative; (e) cyclization of said compound to a 2-(2-carbalkoxyethyl)-4-tetralone by means of dehydrating or dehydrohalogenating agents; (f) cyclization of the 4-tetralone derivatives by condensation with a dialkyloxalate to give a 2-carbalkoxy 3,4,10-trioxo-octahydroanthracene; and (g) removal of the 2-substituent by decarboxylation. The intermediates and final products are useful as bactericides and/or chelating agents.

3,509,185
PROCESS FOR THE MANUFACTURE OF CARBONYL COMPOUNDS

Sidney Frank Schaeren, Bottmingen, and André Furlenmeier, Basel, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

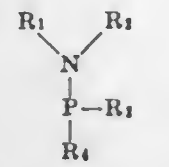
No Drawing. Filed Nov. 13, 1967, Ser. No. 682,565

Claims priority, application Switzerland, Nov. 25, 1966, 16,953/66

Int. Cl. C07c *167/12*

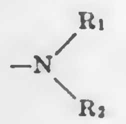
U.S. Cl. 260—397.3 **19 Claims**

A process for the preparation of carbonyl compounds from compounds having carbon-carbon unsaturation. The process comprises reduction of a hydroperoxide intermediate product, which is produced by ozonization of the unsaturated starting material, with a compound of the formula



$$(R_1)(R_2)N-P(R_3)-R_4$$

wherein each of R_1 and R_2 is independently lower alkyl or R_1 and R_2 taken together are oxa-lower alkylene or lower alkylene; and each of R_3 and R_4 is independently a moiety of the formula



$$-N(R_1)(R_2)$$

3,509,186
ORGANOTIN PHENOLATES

Toshio Seki, Osaka-shi, Kozaburo Suzuki, Kobe-shi, and Takashi Matsuzaki, Osaka-shi, Japan, assignors to Nitto Kasei Co., Ltd., Osaka, Japan, a corporation of Japan

No Drawing. Filed Sept. 15, 1966, Ser. No. 579,484

Claims priority, application Japan, Sept. 17, 1965, 40/56,652

Int. Cl. C07f *7/22*

U.S. Cl. 260—402.5 **13 Claims**

New compounds are provided of the formula:

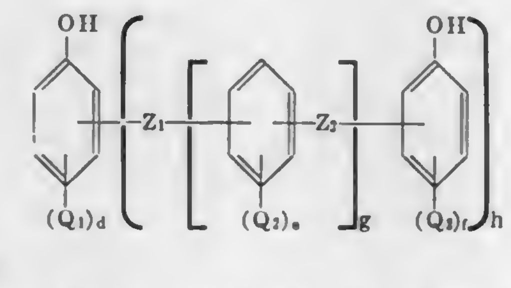
(I) $[R_mSn]_a\ [X]_b\ [Y]_c$

wherein:

(a) R is selected from the group consisting of alkyl of 1–18 carbon atoms, cycloalkyl, aryl, and benzyl;
(b) *m*, *a*, and *b* are each an integer 1–3, *c* is an integer 0–2;
(c) Y is selected from the group consisting of the residue of a carboxylic acid of 1–18 carbon atoms, mercaptan, mercapto acid ester, monoester maleate, a hydroxyl group, an oxygen atom in which *c* is 1, and a sulfur atom in which *c* is 1; and

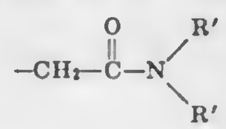
(d) X is a residue of a compound of the formula:

(II)



wherein:

(1) Q_1, Q_2, and Q_3 may be the same or different and are each selected from the group consisting of hydroxyl, alkyl of 1–12 carbon atoms, methoxy,



$$-CH_2-C(=O)-N(R')_2$$

wherein R′ is alkyl of 1–18 carbon atoms, —NHCOR′ wherein R′ is as defined above, and $—CH_2CH_2COOR'$ wherein R′ is as defined above (in which said hydroxyl groups may be attached to the tin atom via the hydroxyl-oxygen atom by removal of the hydrogen atom from said group), at least one of each of Q_1 and Q_3 being attached in the ortho position to the respective phenolic hydroxyls when Q_1 and Q_3 are alkyl of 1–12 carbon atoms;
(2) *d*, *e*, and *f* are each an integer 1–3, *g* is an integer 0–3, *h* is an integer 0–1;
(3) each of Z_1 and Z_2 is independently selected from the group consisting of sulfur, oxygen, and alkylene of 1–4 carbon atoms;
(4) when *d*, *e*, and *f* are each 2 or 3, each of Q_1, Q_2, and Q_3 may be the same or different; and
(5) all unsubstituted valences of the atoms in Formula (II) are bonded to hydrogen atoms. These organotin compounds find utility as stabilizers for synthetic resins.

3,509,187
PROCESS FOR PREPARING AN ESTER IN THE PRESENCE OF NaBr, NaI, KCl, KBr, KI, KF AND $SrCl_2$

John G. McNulty and William L. Walsh, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 1, 1964, Ser. No. 371,838

Int. Cl. C07c *69/22;* **C11c** *3/00*

U.S. Cl. 260—410.9 **11 Claims**

A process for preparing an ester which comprises reacting a monobasic organic acid with an organic halide, which can be a primary straight or branched chain alkyl halide, a primary cyclic alkyl halide, a primary straight or branched chain olefinic halide or an aromatic halide, in the presence of NaBr, NaI, KCl, KBr, KI, KF or $SrCl_2$.

3,509,188
LITHIATION OF FERROCENES

Adel F. Halasa, Akron, and David P. Tate, Northfield, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 28, 1967, Ser. No. 663,512

Int. Cl. C07f *15/02*

U.S. Cl. 260—439 **2 Claims**

Ferrocene or a derivative thereof is lithiated by reaction, at temperatures in the range 25°–100° C, in a hydrocarbon solvent, with a hydrocarbon lithium, preferably in conjunction with an N,N,N′,N′-tetraalkyl ethylene diamine (I). The products are multilithiated ferrocenes predominantly containing 2–5 lithium atoms per molecule, with substantial amounts of products containing 6 and 7 lithium atoms. The products produced in conjunction with (I) tend to higher degrees of lithiation than those produced in the absence of (I), and react with chlorotrimethyl silane to form crystalline and/or liquid nonpolymeric products.

3,509,189
PROCESS FOR MAKING METHYLENE BIS(GROUP III*a* METAL HALIDE)

Morris R. Ort, Kirkwood, and Edward H. Mottus, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Continuation-in-part of application Ser. No. 620,669, Mar. 6, 1967. This application Sept. 20, 1967, Ser. No. 669,306

Int. Cl. C07f *5/06;* **C08d** *3/04;* **B01i** *11/00*

U.S. Cl. 260—448 **7 Claims**

An improved chemical method for making compounds of the formula $X_nMCH_2MX_n$ wherein M is a Group II metal, a Group III–A metal or boron or a Group IV–A metal, X is a chlorine, bromine or iodine atom, and *n* is one less than the valence of M, e.g., the preparation of the compound methylene bis(aluminum dichloride), $Cl_2AlCH_2AlCl_2$, is described wherein Al is reacted with dichloromethane excluding water. It is preferred to use a small amount of an M and dibromomethane reaction product, iodine or an M bromide to initiate the reaction. Also, it is preferred to use high purity M to avoid contamination of the desired product $Br_2AlCH_2AlBr_2$ and $I_2AlCH_2AlI_2$ are claimed as new compounds and mixtures thereof with $Cl_2AlCH_2AlCl_2$.

3,509,190
PROCESS FOR PREPARING ORGANOALUMINUM DIHALIDES

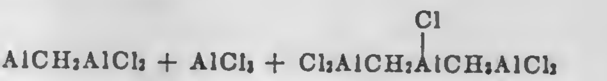
Morris R. Ort, Kirkwood, and Edward H. Mottus, Ballwin, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Sept. 25, 1967, Ser. No. 670,416

Int. Cl. C07f *5/06*

U.S. Cl. 260—448 **1 Claim**

Aluminum, an aliphatic chloride or fluoride or an aromatic bromide, chloride or fluoride and the corresponding hydrogen halide are reacted to form an organoaluminum dihalide and usually there will be some byproducts formed, one of which will contain an aluminum atom having only a single halogen atom attached and also some aluminum trihalide. For example, when hydrogen chloride, methylene dichloride and aluminum are reacted, the following compounds are formed:



$$Cl_2AlCH_2AlCl_2 + AlCl_3 + Cl_2AlCH_2\overset{Cl}{\overset{|}{Al}}CH_2AlCl_2$$

It is preferred that the hydrogen halide and aluminum be reacted in about 1:1 molar ratio for optimum yields of the dihaloaluminum compound, and it is preferred to use high purity aluminum and that all reactants be substantially moisture-free and the reaction be carried out in an inert atmosphere. Elevated temperatures will normally be preferred to react the aromatic halides and pressure can be used to contain the volatile hydrogen halide.

3,509,191
SILACYCLOPENTENES AND A METHOD FOR MAKING SAME

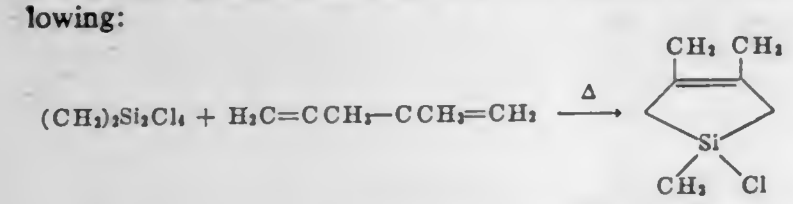
William H. Atwell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 29, 1968, Ser. No. 725,166

Int. Cl. C07d *103/02;* **C07f** *7/08;* **C07l** *7/18*

U.S. Cl. 260—448.2 **14 Claims**

A method for making certain silacyclopentenes by heating certain disilanes with butadienes to a temperature from 50° C. to 600° C. and thereafter recovering the silacyclopentene. Illustrative of the method is the following:



The silacyclopentenes which are described herein are particularly useful as crosslinkers and chain extenders for certain polymer systems.

3,509,192
METHOD OF PREPARING BRANCHED METHYL POLYSILOXANE - POLYGLYCOL ETHER CONDENSATES AND PRODUCTS THEREOF

Hans Niederprüm, Monheim, and Walter Simmler, Odenthal-Schlinghofen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 25, 1966, Ser. No. 537,273
Claims priority, application Germany, Apr. 9, 1965, F 45,777
Int. Cl. C07f *7/04, 7/18*
U.S. Cl. 260—448.8 **3 Claims**

Branched methyl polysiloxane-polyglycol ether condensates useful as pore regulators in polyrethane foam production are prepared by reacting a mono-chloro endblocked branched methyl polysiloxane with ammonia in an inert water immiscible solvent and reacting the intermediate product obtained with a polyglycol monoalkyl ether.

3,509,193
MERCAPTOMETHYL-SUBSTITUTED ORGANOPOLYSILOXANES AND PROCESS THEREOF

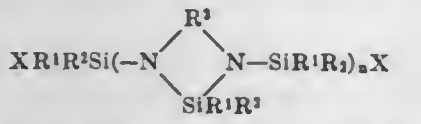
Hans Niederprüm, Monheim, and Walter Simmler, Odenthal-Schlinghofen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed May 10, 1966, Ser. No. 548,866
Claims priority, application Germany, May 14, 1965, F 46,055
Int. Cl. C07f *7/08*
U.S. Cl. 260—448.2 **9 Claims**

Mercaptomethyl substituted organopolysiloxanes useful as water repellent impregnating agents are prepared by reacting halomethyl-dimethyl-chlorosilanes with hydrogen sulfide in the presence of a tertiary nitrogen base, hydrolyzing the product obtained in the presence of a dilute aqueous acid and reacting the hydrolysate with an organochlorosilane. A representative siloxane produced is $(HS—CH_2—Si(CH_3)_2\{OSi(CH_3)_2\}_5O—)_3Si—C_6H_5$.

3,509,194
1,3-DISILYL-1,3,2-DIAZASILACYCLOALKANES AND PROCESS OF PREPARING

Walter Fink, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed July 8, 1966, Ser. No. 563,693
Int. Cl. C07d *103/02*
U.S. Cl. 260—448.2 **9 Claims**

1,3-disilyl-1,3-2-diazasilacycloalkanes of formula

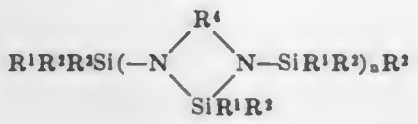


and process for making by (step 1) reacting a diamine of formula $H_2N—R^3—NH_2$ with a halosilane of formula $R^1R^2SiX_2$ using less silane than needed in final product and then heating at a higher temperature to finish step 1 of the reaction, and (step 2) of adding the balance of the halosilane and heating to complete the reaction. These compounds find utility as heat exchangers, lubricants and oil additives.

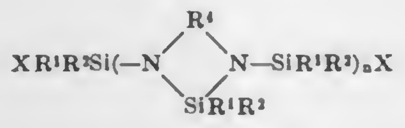
3,509,195
POLYMERIC 1,3 - BIS(SILYL) - 1,3 - DIAZA - 2 - SILACYCLOALKANES AND PROCESS FOR MAKING

Walter Fink, Zurich, Switzerland, assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 5, 1966, Ser. No. 570,429
Claims priority, application Switzerland, Aug. 20, 1965, 11,844; July 15, 1966, 10,390
Int. Cl. C07d *103/02*
U.S. Cl. 260—448.2 **10 Claims**

Compounds of the formula



wherein *n* is 2 to 10 made by reacting a compound of the formula



wherein X is Cl, Br, an amino group or residue of amine, with a compound of the formula MR^3 where M is an alkali metal or H, provided M is H when X is amino or residue of an amine. These compounds find utility as heat transferring liquids, lubricants, antifoamants, antioxidants, stabilizers, accelerators in vulcanization, plasticizers, hydrophobic agents and absorbers for neutrons.

3,509,196
AMINOARYLSILOXANOLATES AND SILOXANOLS AND THEIR PREPARATION

Edwin P. Plueddemann, Midland, and Charles A. Roth, Saginaw, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,238
Int. Cl. C07f *7/10*
U.S. Cl. 260—448.2 **25 Claims**

Aminoarylsiloxanolates and aminoarylsiloxanols are disclosed. The siloxanolates are prepared by the reduction of the corresponding nitroarylsiloxanolates under mild, alkaline conditions, while the siloxanols are prepared by neutralizing the aminoarylsiloxanolates with an acid. The novel compounds are useful as water repellents, corrosion inhibitors and coupling agents.

3,509,197
FLUORO-CONTAINING CYCLOPROPANES

Ronald A. Mitsch, Falcon Heights, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 307,728, Sept. 9, 1963. This application May 11, 1966, Ser. No. 550,878
Int. Cl. C07c *119/04*
U.S. Cl. 260—453 **16 Claims**

1. An organic compound containing from 3 to 18 carbon atoms, containing a cyclopropane ring having from 1 to 3 functional substituents attached to ring carbon atoms, the carbon atoms in said ring being otherwise fully substituted by members of the class consisting of fluorine and perfluoroalkyl groups, each functional substituent containing a functional group selected from the class consisting of cyano, isocyanate, carboxyl, fluorimino, difluoramino, nitro, nitroso, sulfone, halosulfonyl, sulfonic acid, sulfamido, vinyl, ether, allyl, amido, anhydride carboxylate salt, ester, hydroxy and oximino.

9. A compound according to claim **1** having a functional substituent which contains an isocyanate group.

15. The compound 1,6 - diisocyanatoperfluoro-3,4-bicyclopropyl according to claim **9**.

3,509,198
PREPARATION OF 2-CHLOROCARBONYL-PHENYLISOCYANATES

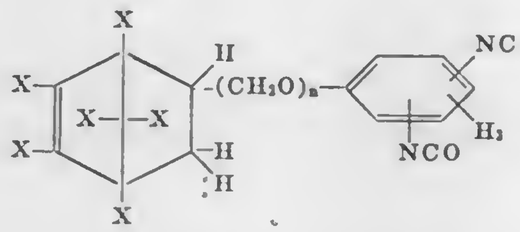
Engelbert Kuehle and Erich Klauke, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 28, 1967, Ser. No. 626,385
Claims priority, application Germany, Apr. 20, 1966, F 48,971
Int. Cl. C07c *119/04;* **A01n** *9/22*
U.S. Cl. 260—453 **3 Claims**

2-chlorocarbonyl-phenylisocyanates useful to prepare herbicides and insecticides are prepared by reacting 2-formylaminobenzoic acid lower alkyl esters with chlorine or sulphuryl chloride in thionyl chloride at 0° C. to 50° C. to prepare orthoisocyanide dichloride benzoic acid esters which then undergo direct conversion to 2-chlorocarbonyl-phenylisocyanates at an elevated temperature of 100° C. to 200° C.

3,509,199
HEXAHALOBICYCLO-DIISOCYANATOPHENYL ETHERS

Daniel S. Raden, Chicago, Ill., assignor to Velsicol Chemical Corporation, a corporation of Delaware
No Drawing. Filed Oct. 22, 1965, Ser. No. 502,552
Int. Cl. C07c *119/04;* **C08g** *22/46, 22/48*
U.S. Cl. 260—453 **4 Claims**

A compound of the structure

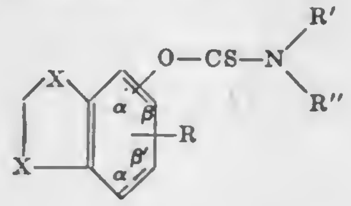


wherein X is halogen and *n* is an integer from 0 to 1. These compounds are useful in the preparation of flame retardant, rigid cellular plastic foam.

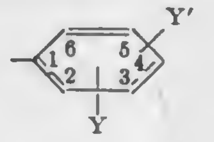
3,509,200
INDANYL THIOCARBAMATES

Bill Elpern, White Plains, and Joshua B. Youlus, Monsey, N.Y., assignors to USV Pharmaceutical Corporation, a corporation of Delaware
No Drawing. Filed June 6, 1967, Ser. No. 643,824
Int. Cl. C07c *155/08;* **A61k** *9/06;* **C07d** *13/10*
U.S. Cl. 260—455 **2 Claims**

Compounds of the formula



wherein X is O or CH_2, R is hydrogen, allyl, lower alkyl, halogen, or lower alkoxy, R′ is hydrogen, allyl or lower alkyl and R″ is adamantyl or



wherein Y and Y′ are hydrogen, allyl, lower alkyl, halogen or lower alkoxy and may be the same or different, are active antifungal compounds. Preferably, X is CH_2, R is hydrogen, R′ is methyl, R″ is m-tolyl, and the —O—CS—N(R′)R″ is in the β-position.

3,509,201
ADAMANTYL CHLOROFORMATES

Koert Gerzon and Eriks V. Krumkalns, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Original application Jan. 21, 1965, Ser. No. 427,124, now Patent No. 3,345,399, dated Oct. 3, 1967. Divided and this application Feb. 13, 1967, Ser. No. 615,315
Int. Cl. C07c *69/00*
U.S. Cl. 260—463 **5 Claims**

Adamantyl chloroformates, useful as intermediates, are prepared by the reaction of an adamantyl alcohol with phosgene in the presence of a tertiary amine. These compounds are found to be unexpectedly stable and are readily isolatable.

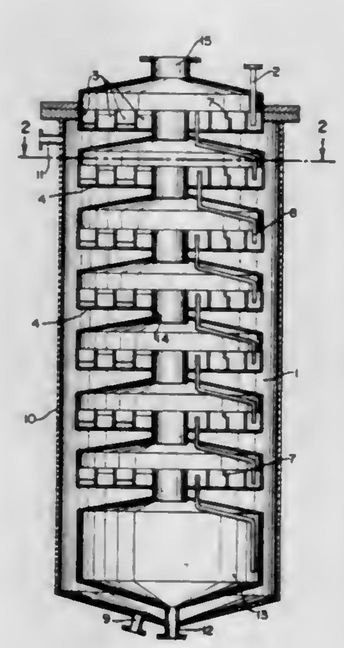
3,509,202
WATER INSOLUBLE DYESTUFF AND DYESTUFF PRECURSORS

Elmore L. Bement, Buffalo, and Frederick C. Boye, Orchard Park, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Sept. 2, 1965, Ser. No. 484,733, now Patent No. 3,409,639, dated Nov. 5, 1968. Divided and this application Dec. 26, 1967, Ser. No. 703,818
Int. Cl. C07c *101/44, 143/78*
U.S. Cl. 260—472 **4 Claims**

Production of 4-halo-3-nitrobenzene sulfonamide dyestuff precursors by reaction of an organic isocyanate and an N-(hydroxyalkyl)-4-halo-3-nitrobenzene sulfonamide. The 4-halo-3-nitrobenzene sulfonamide dyestuff precursors, when reacted with an aryl amine, produce 4-arylamino-3-nitrobenzene sulfonamide dyestuffs which impart yellow colorations to synthetic polyester fibers.

3,509,203
TRANSESTERIFICATION OF DICARBOXYLIC ALKYL ESTERS WITH GLYCOLS

Walter K. Michaelis, Brandenburg, and Wolfgang A. H. Bernstorff, Fritz R. Ch. Wiese, Reinhard K. Bärmann, Günter H. K. Majonek, and Gottfried G. E. K. Reichel, Premnitz, Germany, assignors to VEB Chemiefaserwerk "Friedrich Engels," Premnitz, Kreis Rathenow, Germany
Filed Dec. 16, 1966, Ser. No. 602,352
Int. Cl. B01j *9/00;* **C07c** *69/82*
U.S. Cl. 260—475 **11 Claims**



Apparatus for the continuous transesterification of dicarboxylic acid alkyl esters with at least one glycol comprising a plurality of bottoms in cascade arrangement, means for downward travel of the liquid, inlet means for admission of the liquid to the uppermost bottom, a plurality of concentric annular passages in each bottom for horizontal flow of the liquid, a plurality of weirs in each annular passage for breaking the flow, an overflow weir in each annular passage for directing the liquid from the outermost to the adjacent interior passage and from there to the center passage, a dividing wall whereby the temperature in the reaction liquid is equalized, outlet means at the top for the vapors and means for collecting the diglycol ester at the bottom. The apparatus prevents the reaction mixture from becoming enriched with the vapors of the byproduct. The process is conducted as a multistage operation. The weirs act as flow-breakers and the continuous change of direction gives conditions essentially analogous to an ideal flow tube.

3,509,204
PROCESS FOR PREPARING NUCLEAR CHLORINATED AROMATIC COMPOUNDS

Charles M. Selwitz, Pitcairn, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 19, 1966, Ser. No. 602,471

Int. Cl. C07c *25/06, 69/78*

U.S. Cl. 260—476 **12 Claims**

A process for preparing a nuclear chloro aromatic which comprises heating an aromatic compound selected from the group consisting of an aromatic hydrocarbon, a haolgenated aromatic hydrocarbon and an ester of an aromatic acid with a catalyst selected from the group consisting of iron, a Group 8 noble metal, a compound of iron or a compound of a Group 8 noble metal, a substance selected from the group consisting of nitrate ions and species convertible to nitrate ions, a carboxylic acid solvent having from 1 to 10 carbon atoms and perchloric acid.

3,509,205
TRANSESTERIFICATION OF MYRCENE HYDROCHLORIDE

Theodor Leidig, Holzminden, Germany, assignor to Haarmann & Reimer G.m.b.H., Holzminden, Germany, a corporation of Germany

No Drawing. Filed Aug. 30, 1967, Ser. No. 664,299

Claims priority, application Germany, Sept. 3, 1966, H 60,408

Int. Cl. C07c *69/14, 67/02, 33/02*

U.S. Cl. 260—489 **10 Claims**

Transesterification of myrcene hydrochloride with at least an equimolar, and preferably a slight excess, amount of sodium acetate in a tertiary alcohol as solvent, e.g. having 4–6 carbon atoms, optionally containing up to about 30% water, at an elevated temperature, e.g. substantially between about 90–100° C. and/or at the boiling temperature of the solvent, optionally in the presence of an alkaline compound, e.g. an alkaline earth metal carbonate such as calcium carbonate or magnesium carbonate, and optionally in the presence of a catalyst, e.g. cuprous or cupric salts, to produce ester mixtures of which up to 95% or more consist of linalyl acetate leading correspondingly to linalool upon hydrolysis.

3,509,206
ALKANESULFONIC ACID PREPARATION

Donald R. Nielsen, Corpus Christi, Tex., assignor to PPG Industries, Inc., a corporation of Pennsylvania

No Drawing. Filed Mar. 1, 1967, Ser. No. 619,576

Int. Cl. C07c *73/10*

U.S. Cl. 260—502 **6 Claims**

Alkanesulfonic acids such as methanesulfonic acid are produced from hydrogen peroxide and the corresponding alkyl mercaptan or dialkyl disulfide. Such alkanesulfonic acid preparation is especially applicable in connection with the preparation of organic peracids by a procedure which forms the peracid using stoichiometric excesses of hydrogen peroxide in a reaction medium of alkanesulfonic acid.

3,509,207
THERAPEUTICALLY ACTIVE DERIVATIVES OF p-DIHYDROXYBENZENE

Antonio Esteve-Subirana, Barcelona, Spain, assignor to Laboratories Om Societe Anonyme, Geneva, Switzerland, a company of Switzerland

No Drawing. Continuation-in-part of application Ser. No. 202,981, June 18, 1962. This application Dec. 12, 1966, Ser. No. 600,721

Claims priority, application Switzerland, Jan. 20, 1966, 769/66

The portion of the term of the patent subsequent to Nov. 21, 1984, has been disclaimed

Int. Cl. C07c *143/42*

U.S. Cl. 260—512 **1 Claim**

Compounds useful in the therapy of blood coagulation, particularly for dimmishing the time of blood coagulation, namely, hydroquinone ammonium sulfonate and hydroquinone calcium sulfonate.

3,509,208
ARYLACYL-ω-AMINOCARBOXYLIC ACIDS

Harvey E. Alburn, West Chester, Norman H. Grant, Wynnewood, and Donald E. Clark, Norristown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 16, 1966, Ser. No. 603,707

Int. Cl. C07c *101/44*

U.S. Cl. 260—518 **8 Claims**

The compounds are arylacyl-ω-aminocarboxylic acids which are useful in the suppression of the immune response in warm-blooded animals.

3,509,209
HYDROCARBOXYLATION OF CERTAIN CONJUGATED DIOLEFIN COMPOUNDS

Donald M. Fenton, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Jan. 12, 1967, Ser. No. 608,732

Int. Cl. C07c *51/14*

U.S. Cl. 260—533 **7 Claims**

Conjugated diolefins are reacted with carbon monoxide and water in the presence of a Group VIII noble metal catalyst to prepare carboxylic acids and lactones. A specific embodiment comprises the preparation of adipic acid from butadiene.

3,509,210
PREPARATION OF DICHLOROACETYL CHLORIDE

George W. Gaertner, Jr., and David E. Ramey, Modesto, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Continuation-in-part of application Ser. No. 457,607, May 21, 1965. This application Oct. 9, 1968, Ser. No. 772,451

Int. Cl. C07c *53/14;* **B01j** *1/10*

U.S. Cl. 260—544 **8 Claims**

Dichloroacetyl chloride is prepared by oxidizing trichloroethylene with an oxygen-containing gas at elevated temperatures in the presence of a free-radical generating means either at superatmospheric pressures or at atmospheric to superatmospheric pressures in the presence of a secondary or tertiary amine.

3,509,211
SULFAMIDES

Atso Ilvespaa, Neu-Allschwil, Max Wilhelm Allschwil, and Adrian Marxer, Muttenz, Switzerland, assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware

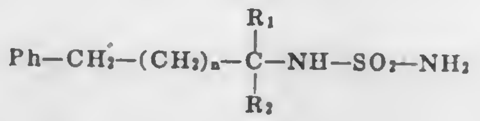
No Drawing. Continuation-in-part of application Ser. No. 553,709, May 31, 1966, which is a continuation-in-part of application Ser. No. 324,178, Nov. 18, 1963. This application Jan. 16, 1968, Ser. No. 698,158.

Claims priority, application Switzerland, Nov. 20, 1962, 13,567/62; Oct. 2, 1963, 12,111/63

Int. Cl. C07c *143/72*

U.S. Cl. 260—556 **15 Claims**

New sulfamides of the formula



$$\mathrm{Ph{-}CH_2{-}(CH_2)_n{-}\underset{R_2}{\overset{R_1}{C}}{-}NH{-}SO_2{-}NH_2}$$

wherein Ph stands for substituted or unsubstituted phenyl, R_1 for lower alkyl, R_2 for lower alkyl or hydrogen and *n* for 0 or 1, e.g. the N[1-methyl-2-(m-chlorophenyl)-ethyl]sulfamide.

Use: CNS inhibiting agents, especially sedative and narcotic agents.

3,509,212
OXYGENATED CYCLOALKYL ACYLAMIDES

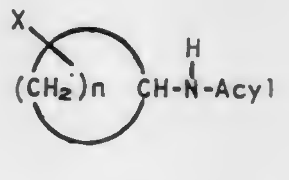
Gunther S. Fonken and Milton E. Herr, Kalamazoo, and Herbert C. Murray, Barry Township, Barry County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application Mar. 20, 1964, Ser. No. 353,581. Divided and this application Dec. 5, 1966, Ser. No. 598,902

Int. Cl. C07c *103/38*

U.S. Cl. 260—561 **7 Claims**

Novel and useful oxygenated cycloalkyl acylamides of the formula:



wherein *n* is a whole number from 9 to 14, inclusive, X is hydroxy or keto and Acyl is the acyl radical of a hydrocarbon carboxylic acid of from 1 to 12 carbon atoms, inclusive, which are useful inter alia as biocides, insect repellants, plasticizers, cross-linking agents, pharmacologic agents and as intermediates.

3,509,213
COBALT SULFIDE AND RHENIUM SULFIDE AS CATALYSTS FOR REDUCTIVE ALKYLATION OF AROMATIC AMINO AND NITRO COMPOUNDS

Harold Greenfield, Watertown, and Frederick S. Dovell, Naugatuck, Conn., assignors to Uniroyal, Inc., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 285,901, June 6, 1963. This application Oct. 19, 1966, Ser. No. 587,693

Int. Cl. C07c *85/00;* **B01j** *11/74*

U.S. Cl. 260—563 **7 Claims**

This invention provides a process for the reductive alkylation of aromatic amines and their nitro precursors with aliphatic ketones or aldehydes using a catalyst which is cobalt sulfide and/or rhenium sulfide.

3,509,214
OIL SOLUBLE OXIDIZED NAPHTHYLAMINE COMPOSITIONS

Milton Braid, Barrington, and Derek A. Law, Pitman, N.J., assignors to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Mar. 28, 1966, Ser. No. 537,639

Int. Cl. C07c *87/66;* **B01j** *1/16*

U.S. Cl. 260—576 **12 Claims**

The invention provides oil-soluble products made by heating N-phenyl-naphthylamine, N-naphthyl-naphthylamine, mixtures thereof, or mixture thereof with diphenylamine, in the presence of an oxidizing agent. The products impart improved antioxidant properties to oil compositions.

3,509,215
ACYL INDAN COMPOUNDS

Thomas F. Wood and John T. Angiolini, Wayne, N.J., assignors to Givaudan Corporation, Clifton, N.J., a corporation of New Jersey

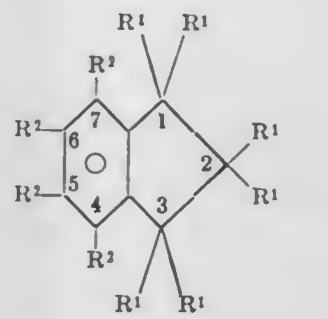
No Drawing. Continuation of application Ser. No. 399,903, Sept. 28, 1964. This application June 15, 1967, Ser. No. 646,187

Int. Cl. A01n *5/00;* **C07c** *49/76*

U.S. Cl. 260—592 **8 Claims**

A novel family of compounds having herbicidal activity, particularly on a pre-emergence basis, is disclosed.

These compounds fall within the general formula



wherein R^1 is selected from the group consisting of H and alkyl radicals from 1–3 carbon atoms, with the proviso that at least one of the R^1's is H, and wherein R^2 is selected from the group consisting of H, alkyl radicals having from 1 to 6 carbon atoms and acyl radicals derived from alkanoic acids having from 2–5 carbon atoms, with the proviso that at least one of the R^2 radicals must be an acyl radical and the maximum number of R^2's which are H is 1, and with the further proviso that if carbons 1 and 3 are both quaternary, then carbons 4 and 7 are both free of an acyl group.

A number of specific compounds as well as processes for their preparation are disclosed.

3,509,216
PROCESS FOR PREPARING META- AND PARA-CARBORANE

Clayton O. Obenland and Stelvio Papetti, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

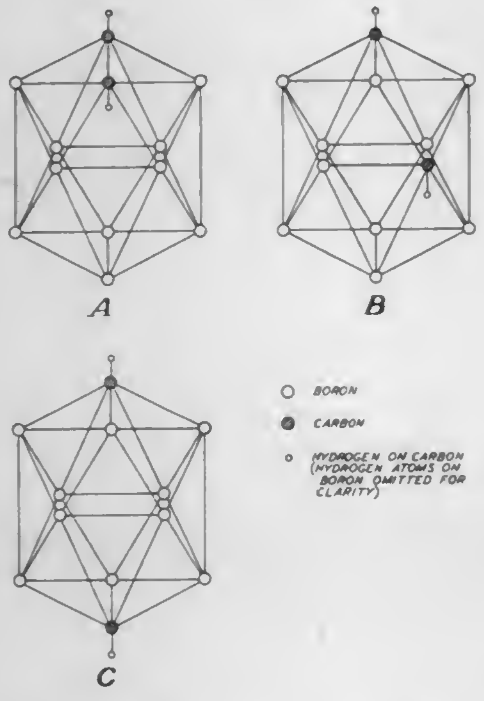
Filed Sept. 30, 1966, Ser. No. 583,209

Int. Cl. C07f *9/02*

U.S. Cl. 260—606.5 **10 Claims**

1. A process for the preparation of an isomer of orthocarborane selected from the group consisting of meta- and para-carborane, which comprises continuously introducing ortho-carborane in gaseous phase into a reactor maintained at a temperature of from about 450° C. to about 750° C., passing the said gaseous ortho-carborane

through the said reactor, continuously withdrawing from said reactor a reaction product stream containing the


A
B
C
BORON
CARBON
HYDROGEN ON CARBON (HYDROGEN ATOMS ON BORON OMITTED FOR CLARITY)

isomer of carborane and recovering said isomer from the reaction product stream, the pressure in said reaction zone being substantially atmospheric.

3,509,217
OXIDATION OF UNSATURATED THIOETHER

Harlan B. Freyermuth, Easton, Pa., assignor to GAF Corporation, a corporation of Delaware
No Drawing. Filed Oct. 6, 1961, Ser. No. 143,303
Int. Cl. C07c *147/02, 147/04, 147/14*
U.S. Cl. 260—607 1 Claim

Production of the reaction intermediate, 2-vinylsulfinylethanol, and the textile modifier, 2-vinylsulfonylethanol, by oxidation of 2-vinylthioethanol.

3,509,218
2-VINYLSULFONYLETHANOL

James Forrest Allen, deceased, late of Pennington, N.J., by Christina L. Allen, executrix, Pennington, N.J., and Harold K. Latourette, Geneva, Switzerland, assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Original application June 20, 1961, Ser. No. 118,269. Divided and this application Mar. 12, 1963, Ser. No. 265,020
Int. Cl. C07c *147/02, 147/04;* **D06m** *13/28*
U.S. Cl. 260—607 1 Claim

Preparation of 2-vinylsulfonylethanol and the use thereof to modify cellulose textile materials.

3,509,219
PROCESS FOR PREPARING MERCAPTO-TRITHIOMETHYLENE

Janine Ourgaud, Paris, and Bernard Audouze, Orthez, France, assignors to Société Nationale des Petroles d'Aquitaine Tour Aquitaine, Courbevoie, France
No Drawing. Filed Oct. 12, 1966, Ser. No. 586,038
Claims priority, application France, Oct. 26, 1965, 36,187
Int. Cl. C07c *149/06*
U.S. Cl. 260—609 9 Claims

A process for preparing substantially pure mercapto-trithiomethylene of the formula $HS(CH_2S)_3H$ is provided wherein formaldehyde is introduced into an aqueous hydrogen sulfide solution, the concentration of the hydrogen sulfide in the solution is controlled to provide at all times the presence in the solution of at least one mol of hydrogen sulfide per mol of formaldehyde, the temperature of the solution is maintained between 0° and 60° C. until a liquid oily layer is formed and the oily layer is then recovered. Mercapto-trithiomethylene is useful in the preparation of organic sulphur compounds, particularly resins.

3,509,220
2,9-BIS(3,5-DI-t-BUTYL-4-HYDROXYBENZYLTHIO)-p-MENTHANE

Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 22, 1967, Ser. No. 684,962
Int. Cl. C07c *149/00*
U.S. Cl. 260—609 1 Claim

2,9-bis(3,5-di-t-butyl-4-hydroxybenzylthio)-p-menthane can be used to stabilize organic materials.

3,509,221
PRODUCTION OF CYCLOOCTANEMETHANOL

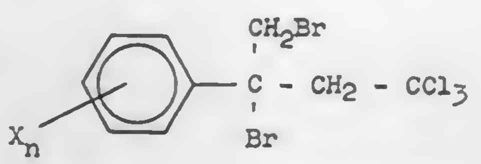
Jurgen F. Falbe, Bonn, Germany, and Nicolaas Huppes, Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 27, 1966, Ser. No. 560,897
Claims priority, application Germany, July 9, 1965, S 98,108
Int. Cl. C07c *35/20*
U.S. Cl. 260—617 4 Claims

Process of initially reacting 1,5-cyclooctadiene with carbon monoxide and hydrogen in the presence of a rhodium-containing catalyst to produce cyclooctanecarboxaldehyde and then raising the temperature and maintaining a pressure of at least 100 kg./cm.² to produce cyclooctanemethanol in high yield, thereby hydroformylating and hydrogenating in one operation without a change of catalyst or gas.

3,509,222
(1-BROMO-1-(BROMOMETHYL)-3,3,3-TRICHLOROPROPYL)BENZENE COMPOUNDS

Joseph H. Howe, Chattanooga, Tenn., and Leo R. Morris, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 5, 1967, Ser. No. 643,340
Int. Cl. C07c *25/04, 25/06, 25/14*
U.S. Cl. 260—651 5 Claims

(1 - bromo-1-(bromomethyl)-3,3-trichloropropyl)benzene compounds of the formula:



$$X_n\text{-}C_6H_4\text{-}\overset{CH_2Br}{\underset{Br}{C}} - CH_2 - CCl_3$$

wherein X represents bromo, chloro, nitro, cyano, or (trifluoromethyl) and n represents an integer of from 0 to 1, both inclusive, are useful as agents to control the growth of plants.

3,509,223
ACID - CATALYZED TRANSFORMATION OF CYCLOHEXANE INTO DIMETHYLDECALINS

Ronald D. Bushick, Glen Mills, and George Suld, Springfield, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed June 13, 1968, Ser. No. 736,598
Int. Cl. C07c *13/00*
U.S. Cl. 260—666 3 Claims

A method for preparing dimethyldecalins wherein a C_6 naphthene hydrocarbon feed is contacted with a HF-BF_3 catalyst system at a temperature in the range of —20° C. to 80° C.

3,509,224
METHOD FOR MANUFACTURING PENTACYCLO $[8.2.1.1^{4.7}.0^{2.9}.0^{3.8}]$ TETRADECA-5,11-DIENES

Edward A. Rick and Roy L. Pruett, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Original application Aug. 22, 1966, Ser. No. 573,833, now Patent No. 3,458,550, dated July 29, 1969. Divided and this application May 6, 1969, Ser. No. 822,305
Int. Cl. C07c *13/00*
U.S. Cl. 260—666 10 Claims

Compounds of the formula $Ni[CN]_2XR_nP[OR']_{3-n}$ are prepared by reacting $Ni[CN]_2$ and a phosphorous ester $R_nP[OR]_{3-n}$ in an alcohol R'OH where $x=2$ or 3, $n=0$, 1 or 2, R and R' are alkyl, cycloalkyl, alkylcycloalkyl, cycloalkylalkyl, aryl, aralkyl, alkaryl and which may be the same or different. A redistribution reaction is observed where R and R' are different. Both tetra and pentacoordinate nickel complexes may be prepared in this manner.

The complexes are used to dimerize bicycloheptadiene to pentacyclo$[8.2.1.1^{4.7}.0^{2.9}.0^{3.8}]$tetradeca-5,11-dienes.

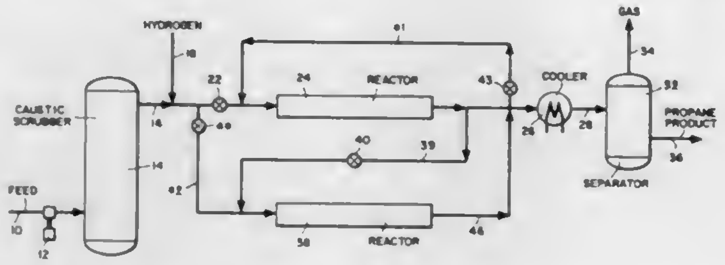
3,509,225
PROCESS FOR PRODUCING ALKYL ARYL COMPOUNDS HAVING A REDUCED 2-PHENYL ISOMER CONTENT

Robert W. Wotring, Gene E. Nicks, William A. Wentworth, and Claude D. Butler, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Sept. 16, 1968, Ser. No. 760,068
Int. Cl. C07c *3/56*
U.S. Cl. 260—671 11 Claims

An improved process is provided which produces straight-chain alkyl aryl compounds by alkylating the aromatic nuclei of aromatic compounds with partially chlorinated straight chain paraffins or straight chain olefins in the presence of an alkylation catalyst combination of a Friedel-Crafts alkylation catalyst and a catalyst modifier.

3,509,226
PROCESS FOR HYDROGENATING PROPYLENE

Jackson Eng, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed May 25, 1966, Ser. No. 552,756
Int. Cl. C07c *9/08, 5/02*
U.S. Cl. 260—676 6 Claims

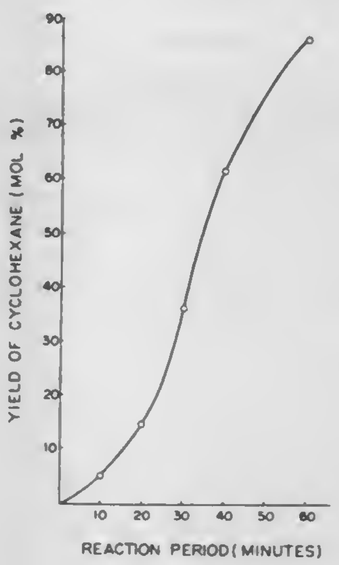


This disclosure relates to a process for hydrogenating propylene to propane in the liquid phase in the presence of a reduced nickel catalyst.

3,509,227
PROCESS FOR THE CATALYTIC HYDROGENATION OF AROMATIC COMPOUNDS

Taisuke Asano and Junichi Kanetaka, Kawasaki-shi, Japan, assignors to Mitsubishi Petrochemical Co., Ltd., Tokyo, Japan
Filed Oct. 31, 1967, Ser. No. 679,349
Claims priority, application Japan, Nov. 15, 1966, 41/75,151
Int. Cl. C07c *5/10*
U.S. Cl. 260—667 3 Claims

Process for hydrogenating carbon-carbon double bond containing organic compounds intermixed with a sulfur compound which comprises bringing said organic compounds into contact with hydrogen in the presence of a catalyst composition comprising nickel and rhenium.



3,509,228
α-OLEFIN ISOMERIZATION

Raymond A. Franz, Kirkwood, and James C. Hill, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 31, 1963, Ser. No. 334,918
Int. Cl. C07c *5/30*
U.S. Cl. 260—683.2 14 Claims

This process isomerizes internally was saturated monoolefin hydrocarbons to terminally unsaturated monoolefin hydrocarbons using an alkyl aluminum compound and a liquid n-paraffin.

3,509,229
EPOXIDE RESINS CURED WITH ALIPHATIC POLYAMINES IN ADMIXTURE WITH ARYL SULFONAMIDE-ALDEHYDE RESINS

David A. Shimp and Francis B. Alvey, Louisville, Ky., assignors to Celanese Coatings Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Sept. 5, 1967, Ser. No. 665,244
Int. Cl. C08g *45/10*
U.S. Cl. 260—834 8 Claims

Room temperature curable compositions useful in coatings and in moldings, encapsulations and other plastics applications made from a blend of an epoxide resin and a polyamine with, as an accelerator, an aryl sulfonamide-aldehyde resin.

3,509,230
THERMOSETTABLE EPOXY RESIN ADHESIVE COMPOSITIONS CONTAINING FLEXIBILIZING AMOUNTS OF A THERMOPLASTIC POLYMERIC MODIFIER BASED ON A POLYMERIZED ALKYL ESTER OF ACRYLIC ACID

James A. Clarke, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 535,008, Mar. 17, 1966. This application Dec. 4, 1968, Ser. No. 782,791
Int. Cl. C08g *45/04*
U.S. Cl. 260—836 4 Claims

This invention relates to improved thermosettable resin adhesive compositions. More particularly, the invention concerns epoxy resins containing from about 0.5 to 5 parts by weight, per hundred parts of epoxy resin, of a compatible thermoplastic polymeric modifier composed of at least about 45 weight percent of a polymerized alkyl ester of acrylic acid containing from 1 to 4 carbon atoms in the alkyl constituent with any remainder being one or more monoethylenically unsaturated comonomers.

3,509,231

OXAZOLIDINONES AND THIAZOLIDINONES AS LATENT CATALYSTS FOR CURING POLYEPOXIDE RESINS

Dan E. Ranck, Sanford, and John C. Safranski, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 21, 1967, Ser. No. 661,804

Int. Cl. C08g *45/04*

U.S. Cl. 260—837 **7 Claims**

Certain substituted oxazolidinones, thiazolidinones and imidazolidinones are effective as latent catalysts for curing polyepoxide resins admixed with a polycarboxylic acid or anhydride as a hardening agent.

3,509,232

MODIFIED THERMOPLASTIC POLYURETHANE

Charles S. Schollenberger, Hudson, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 24, 1966, Ser. No. 574,564

Int. Cl. C08g *22/00, 22/04, 41/04*

U.S. Cl. 260—858 **1 Claim**

Essentially linear high molecular weight polyesterurethanes, which are soluble in polar organic solvents such as dimethyl formamide, become insoluble in dimethyl formamide and exhibit substantially lower compression set when blended with low molecular weight isocyanate-terminated polyurethane prepolymer.

3,509,233

HYDROLYSIS RESISTANT ELASTOMERIC POLY (CARBONATE URETHANES)

Erwin Muller, Leverkusen, Wilhelm Kallert, Cologne-Stammheim, Joszef Ivanyi, Opladen, and Wilhelm Thoma, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 2, 1968, Ser. No. 718,206

Int. Cl. C08g *22/04, 41/04*

U.S. Cl. 260—858 **4 Claims**

Polyurethane prepared from diisocyanates, chain lengthening agents containing at least two hydrogen atoms which are reactive with isocyanate groups and polyhydroxy compounds which are mixtures of from about 10% to about 50% by weight of a 1,6-hexanediol polycarbonate and from about 50% to about 90% by weight of an hydroxyl polyester.

3,509,234

RADIATION CURABLE PAINT BINDERS CONTAINING VINYL MONOMERS AND A HYDROXYLATED POLYMER REACTED WITH A POLYISOCYANATE AND AN HYDROXYL ALKYL ACRYLATE

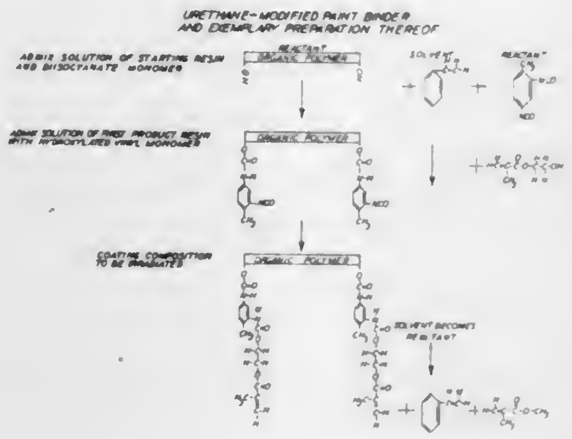
William J. Burlant, Detroit, and Clement R. Taylor, Birmingham, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Aug. 13, 1965, Ser. No. 479,522

Int. Cl. C08f *21/02, 1/16*

U.S. Cl. 260—859 **13 Claims**

Urethane-comprising, radiation-curable paints comprising a film-forming solution of vinyl monomers and a paint binder resin formed by first reacting a hydroxylated polymer consisting essentially of carbon, hydrogen and oxygen with a first —NCO group of diisocyanate monomers to provide an isocyanate terminated polymer and subsequently reacting at least a portion of the remaining —NCO groups of said diisocyanate monomers with a hydroxy alkyl acrylate or hydroxy alkyl methacrylate monomer thereby introducing into said resin alpha-beta olefinic unsaturation units each of which are separated from the principal carbon-to-carbon chain of said resin by two urethane groups.



3,509,235

THERMOSETTING COMPOSITIONS CONTAINING POLYVINYL OXAZINES, OR OXAZOLINES WITH POLYCARBOXYLIC ACIDS

Franz Riemhofer, Wolfgang Seeliger, and Franz Stürzenhofecker, Marl, Germany, assignors to Chemische Werke Huls A.G., Marl, Germany

No Drawing. Filed Sept. 18, 1967, Ser. No. 668,638

Claims priority, application Germany, Sept. 23, 1966, C 40,178

Int. Cl. C08f *33/08; 41/12;* **C08g** *39/10*

U.S. Cl. 260—873 **13 Claims**

Thermosetting compositions of polymers of alkenyl-substituted oxazines or oxazolines in admixture with polycarboxylic acids, said compositions being storable and suitable as vehicles for coating compositions.

3,509,236

MOLDING COMPOSITIONS COMPRISING VINYLIDENE CHLORIDE

Hubert Gross, Sieglar, Robert Büning, Oberlar, and Wolfgang Pungs, Troisdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

No Drawing. Filed Feb. 16, 1967, Ser. No. 617,767

Claims priority, application Germany, Feb. 19, 1966, D 49,407

Int. Cl. C08f *29/14, 29/36, 37/18*

U.S. Cl. 260—876 **5 Claims**

This specification discloses a plasticizer-free composition comprising about 50 to 95 weight percent of a first vinylidene chloride copolymer with at least one other ethylenically unsaturated monomer which is copolymerizable therewith; and about 5 to 50 weight percent of a graft second copolymer of vinylidene chloride and at least one other ethylenically unsaturated monomer which is graft copolymerizable therewith which graft copolymerization has taken place in the presence of a copolymer of ethylene and a vinyl ester. The first vinylidene chloride copolymer has a vinylidene chloride content of at least 60 weight percent. A specific composition contains 70 weight percent of a first copolymer of 70 weight percent vinylidene chloride and 30 weight percent of vinyl chloride; and 30 weight percent of a graft copolymer prepared by polymerizing a mixture of 84.1 weight percent vinylidene chloride, 9.2 weight percent of ethyl acrylate and 6.7 weight percent of a previously formed ethylene-vinyl acetate copolymer containing 45 weight percent vinyl acetate. The product of this invention has flowing or moldability properties which are very similar to those of the first copolymer admixed with a plasticizer and substantially better physical properties than the said plasticized first copolymer.

3,509,237

ABS GRAFT POLYBLENDS CONTAINING TWO GRAFT POLYMERS HAVING DIFFERENT PARTICLE SIZES

Norman E. Aubrey, West Springfield, Mass., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 535,962, Mar. 21, 1966. This application Jan. 9, 1967, Ser. No. 619,488

Int. Cl. C08f *41/08, 41/04*

U.S. Cl. 260—876 **25 Claims**

There is disclosed a polyblend composition having a matrix of an interpolymer of monovinylidene aromatic hydrocarbon and an unsaturated nitrile, and first and second graft copolymers each having a rubber substrate and a superstrate of an interpolymer of a monovinylidene aromatic hydrocarbon and an unsaturated nitrile. The first and second graft copolymers have an average particle size, based upon number average, of about 0.8 to 2.0 microns and 0.01 to 0.25 micron, respectively. The combined graft copolymers comprise 1.0 to 70.0 percent by weight of the polyblend, and the second graft copolymer comprises about 70.0 to 97.0 percent by weight of the combined graft copolymers.

A process for making such polyblends is disclosed wherein the two graft copolymers are prepared separately and thereafter blended. Preferably, the first graft copolymer is prepared by suspension polymerization and the second graft copolymer by emulsion polymerization. Other components may optionally be included.

3,509,238

ABS GRAFT POLYBLENDS CONTAINING TWO GRAFT POLYMERS WITH DIFFERENT DEGREES OF GRAFTING

Norman E. Aubrey, South Hadley, and Michael B. Jastrzebski, Ware, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

Continuation-in-part of application Ser. No. 535,752, Mar. 21, 1966. This application Apr. 29, 1969, Ser. No. 824,356

Int. Cl. C08f *41/08, 41/04*

U.S. Cl. 260—876 **20 Claims**

A polyblend contains a matrix interpolymer of monovinylidene aromatic hydrocarbon and an ethylenically unsaturated nitrile and two different graft copolymers having superstrates of an interpolymer of a monovinylidene aromatic hydrocarbon and an ethylenically unsaturated nitrile. One graft copolymer is relatively lightly grafted and the other is relatively highly grafted so as to provide a bimodal composition.

3,509,239

POLYMERIC COMPOSITIONS BASED ON RUBBER AND COPOLYMERS OF PIPERYLENE WITH 2-METHYL-2-BUTENE

Gerald W. Tindall, Berwyn, Pa., assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 27, 1967, Ser. No. 619,051

Int. Cl. C08c *9/08;* **C08d** *9/08*

U.S. Cl. 260—889 **9 Claims**

A composition and its method of preparation comprising an admixture of at least one rubber such as natural and synthetic rubber and as a tackifier therefor a synthetic resin comprising from about 40 to about 80 weight percent units derived from piperylene and from about 60 to about 20 weight percent units derived from 2-methyl-2-butene.

3,509,240

PRIMARY AMINE SALTS OF MONO- AND DI-ALKYL PHOSPHORIC ACID ESTERS THAT HAVE BEEN HEAT TREATED

Alexander H. Popkin, Maplewood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Original application July 12, 1962, Ser. No. 209,414. Divided and this application Feb. 20, 1967, Ser. No. 645,073

Int. Cl. C07f *9/08;* **C10l** *1/26;* **C09k** *3/00*

U.S. Cl. 260—924 **13 Claims**

Mono and di C_{12}–C_{20} alkyl phosphoric acid esters are fully neutralized with primary C_1–C_6 alkyl amines followed by treating the resultant acid addition salts at a temperature between about 220° and about 350° F. for from about 1 to about 18 hours to produce novel amine-phosphate esters which are useful multi-purpose additives in liquid hydrocarbon motor fuels boiling in the range of from 80° to 420° F.

3,509,241

PHENOLIC POLYPHOSPHITES AND METHOD OF PREPARATION

Patrick A. De Paolo, Jr., Prospect, and Richard A. Doran, Middlebury, Conn., assignors to Uniroyal, Inc., New York, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 6, 1967, Ser. No. 614,028

Int. Cl. C07d *105/02;* **C07f** *9/12;* **C08f** *45/58*

U.S. Cl. 260—927 **14 Claims**

Phenolic polyphosphite-containing compositions, which are reaction products of PCl_3 with a substituted hydroquinone (e.g., 2,5-di(t-butyl) hydroquinone), in molar ratio of from 1.2:3.0 to 1.9:3.0. The reaction products are believed to comprise in large part phenolic polyphosphites of the formula $P_x(ORO)_y(OROH)_z$, where x is at least 2 and R is a substituted p-phenylene radical. The phenolic polyphosphite reaction products are useful as stabilizers, particularly in polypropylene, especially in synergistic combination with one or more secondary stabilizers such as thiodipropionates, benzophenones, or benzotriazoles, for optimum protection against both heat aging and ultraviolet radiation.

3,509,242

TRI(ALKYL THIOPHENYL)PHOSPHITES

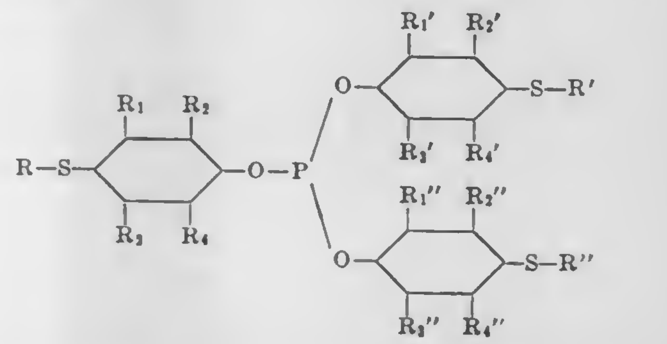
Harry Braus, Springdale, and Jay R. Woltermann, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 20, 1967, Ser. No. 691,973

Int. Cl. C07f *9/12;* **C08f** *45/58*

U.S. Cl. 260—949 **2 Claims**

Alkyl thiophenyl phosphites are provided which have the formula:



in which the R, R', and R'' radicals are alkyl having from one to about twenty-two carbon atoms and the other R's are selected from the group consisting of hydrogen and alkyl having from about one to about twelve carbon atoms, the total number of carbon atoms of the other R's in any phenyl ring not exceeding fifteen.

In addition, stabilizer combinations useful in enhancing resistance of olefin polymers to deterioration in physical properties due to heat are provided consisting essentially of the alkyl thiophenyl phosphite, in combination with carbon black and/or a hindered phenol.

Olefin polymer compositions are also provided having an enhanced resistance to heat deterioration, due to the presence therein of an alkyl thiophenyl phosphite, alone or in combination with carbon black and/or a hindered phenol.

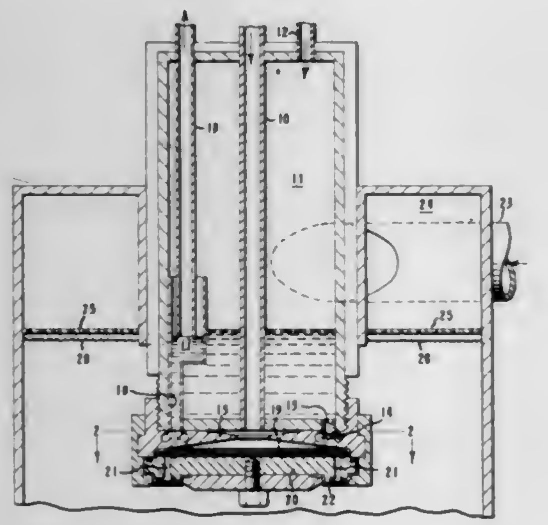
3,509,243
EXPLOSIVE COMPOSITION CONTAINING A MIXTURE OF STARCH RUBBER VINYL CHLORIDE COPOLYMER AS BINDER AND METHOD OF MAKING SAME

David Pelton Moore, Marlow, N.H.
(11724 Lovejoy St., Silver Spring, Md. 20902)
No Drawing. Filed Mar. 7, 1969, Ser. No. 805,350
Int. Cl. C06b *21/02*
U.S. Cl. 264—3 **2 Claims**

This explosive consists of any of the alkali salt oxidants, or mixtures thereof with a binder composed of an aqueous dispersion of an ignitable burnable adhesive, which is composed of a mixture of an aqueous dispersion of rubber and a vinyl chloride copolymer in varying proportions with a starch. The oxidant may be mixed with the adhesive as a dry powder or wetted to flow. This combination is then heated to from 75° to 85° centigrade, preferably 80° centigrade to swell the starch particles and make a workable putty or dough like mass to then receive the oxidant to produce a solid propellent and explosives in sheet, strip or particle form.

3,509,244
PROCESS AND APPARATUS FOR PROVIDING UNIFORM TEMPERATURE DRY-SPINNING

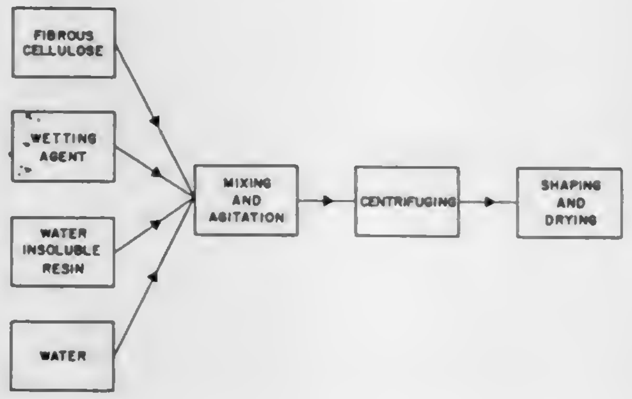
Thomas J. Cochrane, Jr., Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 9, 1967, Ser. No. 659,495
Int. Cl. B29f *3/00*
U.S. Cl. 264—40 **8 Claims**



An improvement in the method and means for dry-spinning of continuous filaments which provides a substantially uniform temperature across the spinneret, despite the variable heat pick-up from the hot spinning cell gases, by equalizing the temperature across the extrusion means by the use of a volatile liquid at its boiling point under regulated pressure in channels near the extrusion plate as the heat removal medium.

3,509,245
PRODUCTION OF FOAMED CELLULOSE

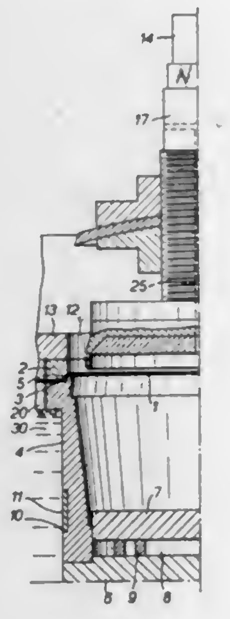
Joseph Santangelo, Morristown, N.J., and John A. McTaggart, New York, N.Y., assignors to Celanese Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 9, 1966, Ser. No. 578,142
Int. Cl. B29d *23/04, 27/06*
U.S. Cl. 264—50 **6 Claims**



A process for preparing non-collapsed foam cellulose structures is provided whereby a mixture of fibrous cellulose, wetting agent, a water-insoluble resin having a glass transition temperature of at most 50° C. and water, the cellulose comprising at least 0.7% by weight of the mixture, is centrifuged under conditions such that 50–95% of the total water in the mixture is removed in a time no shorter than 10 seconds.

3,509,246
METHOD AND APPARATUS FOR DEEP-DRAWING HOLLOW-BOTTOM BEAKERS MADE OF PLASTICS SHEET

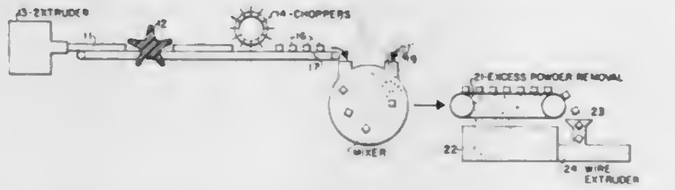
Detta Borgardt, Bremervorde, Germany, assignor to bebo-Plastik G.m.b.H.
Filed Nov. 30, 1967, Ser. No. 686,871
Int. Cl. B29c *17/03;* **B30b** *7/00*
U.S. Cl. 264—92 **6 Claims**



Apparatus for deep-drawing hollow-bottom beakers made of plastics sheet comprising a mold, means for cooling said mold, a cylindrical die, means for moving said die into and out of said mold, an annular groove in said mold corresponding in form to the base rim of the beaker to be molded, and a thin annular collar on said die slightly smaller in diameter than said annular groove.

3,509,247
EXTRUSION METHOD

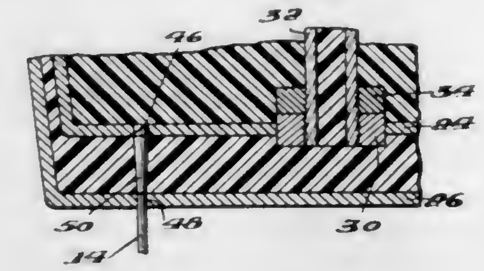
Rosario J. Perrone, Marion, and Robert M. Wade, Wabash, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware
Filed Sept. 11, 1967, Ser. No. 666,574
Int. Cl. B29c *17/14;* **B44d** *1/02;* **B29f** *3/00*
U.S. Cl. 264—131 **6 Claims**



Rubber or plastic pellets for use in a mixing extruder are fluted, with the number and depth of the flutes providing the proper surface to volume ratio for dusting or wetting with one of the components of the composition, such as a curing agent or colorant.

3,509,248
METHOD AND APPARATUS FOR PRODUCING MULTICOMPONENT FILAMENTS AND YARNS

Thomas C. Bohrer, Madison, N.J., assignor to Celanese Corporation, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 531,250, Mar. 2, 1966. This application Dec. 24, 1968, Ser. No. 788,688
Int. Cl. B29f *3/10;* **D01d** *11/06*
U.S. Cl. 264—171 **9 Claims**



Process and apparatus for producing multicomponent filaments having a sheath/core configuration are described.

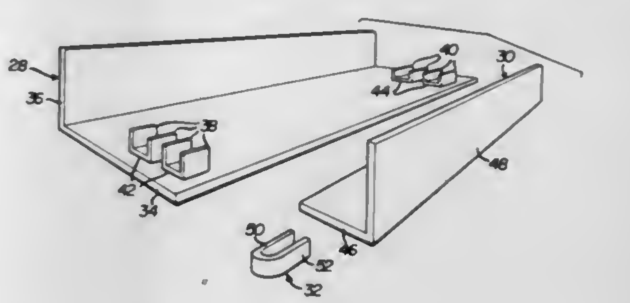
3,509,249
METHOD OF PREPARING SHAPED ARTICLES OF CELLULOSE GRAFT COPOLYMERS

Joseph M. Kuzmak, New City, N.Y., and Joseph W. Schappel, Morton, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
No Drawing. Original application May 11, 1966, Ser. No. 549,167, now Patent No. 3,445,556, dated May 20, 1969. Divided and this application Oct. 23, 1968, Ser. No. 770,065
Int. Cl. D01f *3/28*
U.S. Cl. 264—195 **6 Claims**

Cellulose graph copolymers are prepared by extruding viscose containing at least one polymerizable ethylenically unsaturated monomer in the form of a shaped article into a coagulating medium, then subjecting the article to graph copolymerizable conditions prior to complete regeneration of said article.

3,509,250
METHOD AND APPARATUS FOR MAKING WINDOW FRAMES

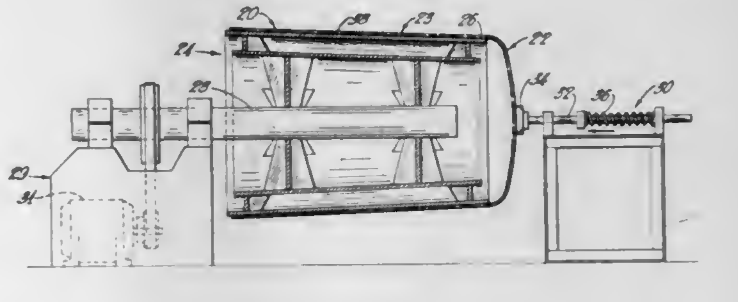
Francis E. Knipper, Hollywood, Fla.
(1631 Judie Lane, Lancaster, Pa. 17603)
Filed Feb. 21, 1968, Ser. No. 707,102
Int. Cl. B28b *7/02*
U.S. Cl. 264—219 **9 Claims**



The method of casting concrete members includes the steps of assembling together two rigid L-shaped forms to provide a U-shaped mold, affixing the forms to each other, damming the mold by placing dams therein spaced apart a predetermined distance lengthwise of the mold, pouring concrete into the mold between the dams and allowing the concrete to solidify to form a molded member and removing the molded member from the mold. The size of molded members may be changed merely by changing the spacing between the backs of the forms and/or changing the spacing between the dams. The molded members may be given a desired configuration by placing an insert having a negative of the desired configuration in the mold prior to pouring the concrete. The dams may be integrated with the inserts. The forms may be affixed together by clipping as will be described. The apparatus includes the L-shaped forms, clipping structure, dams and inserts, all of which may be assembled together to provide a very flexible mold.

3,509,251
METHOD OF FORMING A TANK SECTION

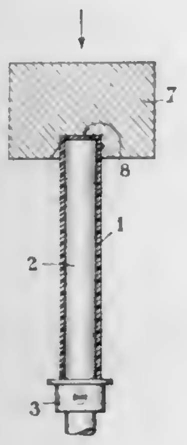
Cecil Van Anderson, Toledo, and Ward B. Miller, Waterville, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Feb. 16, 1967, Ser. No. 616,521, now Patent No. 3,454,983, dated July 15, 1969. Divided and this application Mar. 14, 1969, Ser. No. 807,234
Int. Cl. B29f *5/00*
U.S. Cl. 264—259 **10 Claims**



A section of a generally cylindrical hollow tank of a hardenable material, such as a glass fiber reinforced synthetic resin, is formed on the frusto-conical forming surface of a cantilevered mandrel. An end cap is provided over the small end of the mandrel, then the tank wall is formed on the mandrel and joined to the end cap. Once the tank section is cured to a self-supporting state, stripping forces are applied parallel to the axis of the mandrel against both the open end of the tank section and against the internal surface of the end cap, and continued to strip the tank section from the mandrel.

3,509,252
METHOD OF MANUFACTURING FROM AN OPEN ENDED PLASTIC TUBE A PLASTIC TUBE HAVING A BOTTOM

Michel Baehr, Paris, France, assignor to Isotube, Paris, France, a company of France
Filed May 16, 1967, Ser. No. 638,897
Claims priority, application France, May 24, 1966, 62,705
Int. Cl. B29d *23/10*
U.S. Cl. 264—296 **2 Claims**



A method of manufacturing a plastic tube having a shaped end and an open end from an open-ended plastic tube without using additional material by preliminarily preforming or preshaping a free end length or portion of the open-ended plastic tube in a cup and subsequently carrying out an integration of the preshaped material into a whole defining the bottom of the plastic tube and quickly completing shaping of the preshaped end portion while said material is still softened by application or relative movement, and thereby pressure, between the preshaped end portion and the unheated inner surfaces of a second shaping cup.

3,509,253
ALUMINUM CHLORIDE-ALUMINUM CHLOROHYDROXIDE COMPLEX ANTIPERSPIRANT COMPOSITION

Saul A. Babbin, Henrietta, N.Y., assignor to Pennwalt Corporation, a corporation of Pennsylvania
No Drawing. Filed Feb. 28, 1967, Ser. No. 619,159
Int. Cl. A61k *7/00, 9/00*
U.S. Cl. 424—47 **2 Claims**

A solution of aluminum chloride and an alcohol soluble complex compound obtained by reacting aluminum chloride or aluminum chlorhydroxide with an alcohol having at least two hydroxy groups or with a glycol monoether, in an aliphatic monohydroxy alcohol such as ethanol, water and a halogenated hydrocarbon propellant. Preferable additions to the above ingredients are dipropylene glycol, urea, tartaric acid, hexachlorophene and perfume. The composition is prepared by cooling the propellant to —40° F. to —60° F. and mixing in the other ingredients with stirring while maintaining the temperature at not above 5° F.

3,509,254
DEODORIZING AND BACTERICIDAL COMPOSITIONS

Nathan Krotinger, Jr., La Mirada, and Isadore Nusbaum, San Diego, Calif., assignors to Zevel Corporation, La Mirada, Calif., a corporation of California
No Drawing. Filed June 13, 1966, Ser. No. 563,321
The portion of the term of the patent subsequent to Apr. 18, 1984, has been disclaimed
Int. Cl. A61l *13/00;* **A01n** *13/00*
U.S. Cl. 424—76 **3 Claims**

Compositions comprising water-soluble zinc salts and water-soluble chelating acids for preventing fecal odors and reducing bacterial contamination in recirculating and non-recirculating chemical toilets and a process for using the same are provided.

3,509,255
PROCESS FOR THE RECRYSTALLIZATION OF NYSTATIN

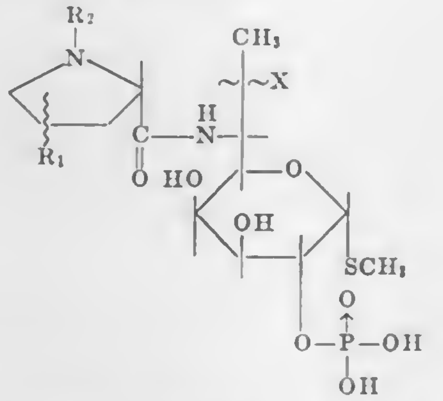
Harold Mendelsohn, Nanuet, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed July 2, 1968, Ser. No. 741,912
Int. Cl. A61k *21/00*
U.S. Cl. 424—123 **10 Claims**

This disclosure describes a process for preparing highly purified crystalline nystatin by extracting crude nystatin with acetone which is saturated with sodium iodide, sodium thiocyanate, potassium thiocyanate or ammonium thiocyanate; and precipitating highly purified crystalline nystatin from the extract by displacement of the acetone with water.

3,509,256
LINCOMYCIN-2-PHOSPHATE ANTIBIOTIC COMPOSITIONS AND PROCESS OF TREATMENT

Walter Morozowich and Donald J. Lamb, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Continuation-in-part of application Ser. No. 602,116, Dec. 16, 1966. This application Jan. 8, 1969, Ser. No. 789,915
Int. Cl. A61k *27/00*
U.S. Cl. 424—200 **7 Claims**

Compounds of the formula

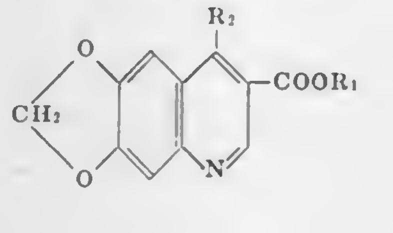


wherein X is hydroxy, chlorine or bromine, R_1 is alkyl of C_{1-8}, cycloalkyl of C_{3-8}, or aralkyl of C_{7-12}, and R_2 is hydrogen, alkyl of C_{1-8}, cycloalkyl of C_{3-8}, or aralkyl of C_{7-12} including pharmaceutically acceptable salts thereof in unit dosage form of 50 to 500 mg. with pharmaceutical carrier for oral and parenteral administration and process for therapeutic or prophylactic treatment of humans and animals hosting a lincomycin-susceptible parasite.

3,509,257
METHOD FOR CONTROL OF COCCIDIOSIS EMPLOYING QUINOLINE CARBOXYLIC ACIDS AND ESTERS THEREOF

Daniel Kaminsky, East Paterson, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed July 20, 1967, Ser. No. 654,685
Int. Cl. A01n *9/00, 9/22;* **A61k** *27/00*
U.S. Cl. 424—258 **1 Claim**

A method for control of coccidiosis in animals, which comprises feeding to animals about 0.001% to about 1% by weight of a compound of the formula:



wherein R_1 is hydrogen, or lower alkyl; and R_2 is hydroxy, or halogen.

3,509,258
THERAPEUTIC COMPOSITIONS CONTAINING PIPERIDINE DERIVATIVES AND METHODS OF TREATING COUGH THEREWITH

Hans Herbert Kuhnis, Hugo Ryf, and Rolf Denss, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of New York
No Drawing. Original application Aug. 16, 1967, Ser. No. 660,909, now Patent No. 3,456,060, dated July 15, 1969. Divided and this application Oct. 11, 1968, Ser. No. 800,012
Claims priority, application Switzerland, Jan. 15, 1965, 604/65
Int. Cl. A61k *27/00*
U.S. Cl. 424—267 **4 Claims**

Therapeutic compositions containing as active ingredients N - substituted 4 - allyl- or 4 - (methylallyl) - 4 - acyloxy-piperidines or their pharmaceutically acceptable acid addition salts, which compounds exhibit pronounced activity on the central nervous system, a first subclass of said compounds being particularly useful as antitussives with mild analgesic activity, a second subclass as analgesics of medium strength, and a third subclass as strong analgesics, as well as processes for the preparation of said compositions; methods of treating cough and/or pain by administering these compounds or therapeutic compositions containing them to mammals requiring such treatment. Illustrative embodiments of the active ingredients according to the invention are e.g. 1 - n - octyl - 4 - allyl - 4 - propionoxy - piperidine hydrochloride, 1 - methyl - 4 - allyl - 4- acetoxy - piperidine hydrochloride, 1,4 - diallyl - 4 - propionoxy - piperidine hydrochloride and 1 - (2' - phenylethyl) - 4 - allyl - 4 - acetoxy - piperidine hydrochloride.

3,509,259
PESTICIDAL COMPOSITION AND METHOD CONTAINING BENZOTHIAZOLE AND BENZOXAZOLE CARBAMATES

John R. Kilsheimer, Westfield, John D. Behun, Scotch Plains, and Harold A. Kaufman, Piscataway, N.J., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Application Jan. 25, 1965, Ser. No. 427,910, now Patent No. 3,337,572, dated Aug. 22, 1967, which is a continuation-in-part of application Ser. No. 411,559, Nov. 16, 1964. Divided and this application Dec. 19, 1966, Ser. No. 602,505
Int. Cl. A01n *9/12, 9/20*
U.S. Cl. 424—270 **9 Claims**

Agricultural pests, particularly insects and mites, are combated by benzothiazole and benzoxazole carbamates.

3,509,260
COMPOSITION AND METHOD FOR COMBATTING FUNGI

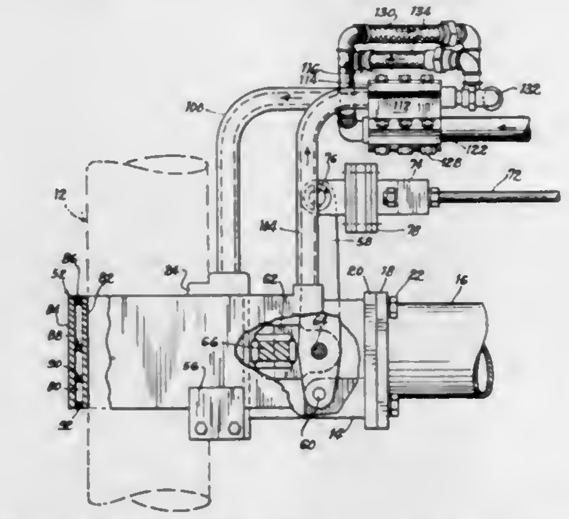
Herbert L. Wehrmeister, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Sept. 6, 1966, Ser. No. 577,156
Int. Cl. A01n *9/22, 9/28*
U.S. Cl. 424—272 **8 Claims**

A method for combatting fungi by applying to the organisms and the environment inhibited by them a 2-decenyl-2-oxazoline or a 4,4-alkyl or hydroxyalkyl substituted-2-decenyl-2-oxazoline.

ELECTRICAL

3,509,261
ELECTRIC FURNACE ELECTRODE HEAD

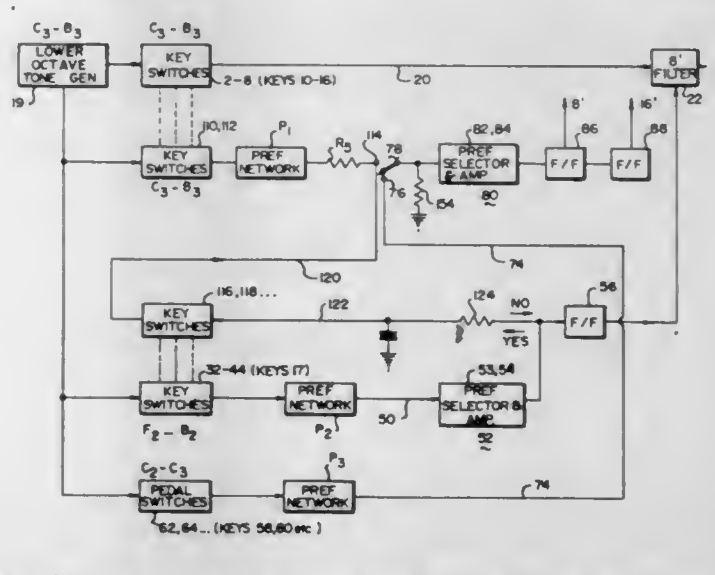
Donald L. Phillips, Birmingham, Ala., assignor to Dixie Bronze Company, Birmingham, Ala., a corporation of Alabama
Filed Dec. 5, 1968, Ser. No. 781,457
Int. Cl. H05b *7/10, 7/12*
U.S. Cl. 13—15 **12 Claims**



The electrode head comprises a U-shaped contact band and a curved contact shoe, both of which are employed to conduct the electrical current to the electrode. Both are made of copper or other highly conductive material and are formed with internal passages for carrying cooling water or the like. The contact band comprises inner and outer walls with partitions welded therebetween to form a sinuous water passage. A lever mechanism is provided to apply clamping pressure between the shoe and the band. The lever is connected by means of a link and a swivel bar to the ends of the band. The electrical current and the water are supplied by bus tubes. Downcomer tubes are connected between the bus tubes and the inlet and outlet openings on the band and the shoe to supply the electrical current thereto, while also circulating the water therethrough.

3,509,262
BASS REGISTER KEYING SYSTEM EMPLOYING PREFERENCE NETWORKS

Walter Munch, Jr., Park Hills, Ky., assignor to D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Filed July 11, 1966, Ser. No. 564,358
Int. Cl. G10h *1/00*
U.S. Cl. 84—1.01 **21 Claims**



An electronic organ system employing three preference networks of a type which responds only to the lowermost frequency tone signal of a plurality of tone signals, and only two preference selectors associated with the three networks, preference being achieved only when a network and a selector are properly connected in cascade to form a preference system. The organ includes a first plurality of keys and a further plurality of keys. When plural ones of the first plurality of keys are actuated the organ sounds a single note at least an octave below the note of lowest pitch called forth by the plural keys. When plural keys of the second plurality are actuated the single note is erased and a note at least an octave below the note of lowest pitch called forth by the second plurality of keys, the pluralities of keys employing independent preference networks but a common preference selector.

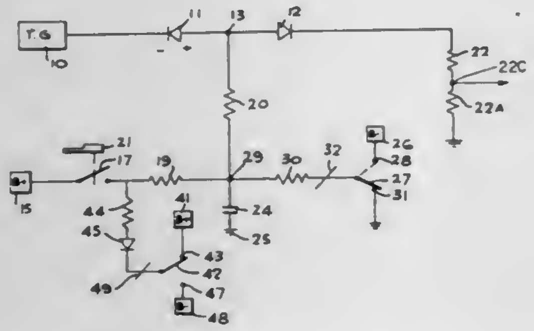
3,509,263
ELECTRONIC MUSICAL INSTRUMENT KEYING SYSTEM INCLUDING ATTACK AND DECAY CONTROL

Floyd A. Cordry, Granada Hills, Calif., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware

Continuation of application Ser. No. 293,924, July 5, 1963. This application July 7, 1966, Ser. No. 564,518

Int. Cl. G10h *1/02, 5/10*

U.S. Cl. 84—1.13 **9 Claims**



A keying network is provided for use in an electronic musical instrument, and which is operated by the keyboard of the instrument. The keying network serves selectively to connect the outputs from a plurality of tone generators to a common bus, and includes back-to-back diodes and an isolating resistance combination to prevent leakage. The keying network also includes sustaining circuitry to prevent the abrupt application or withdrawal of the tone signals to the common bus.

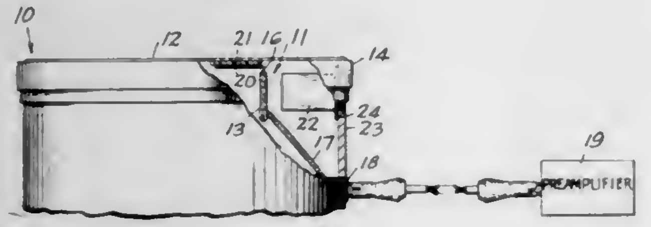
3,509,264
ELECTRIC DRUM OR OTHER PERCUSSION INSTRUMENT

Allen J. Green, 1514 44th St., Brooklyn, N.Y. 11219

Filed Dec. 29, 1967, Ser. No. 694,451

Int. Cl. G10h *3/00, 1/00;* **G10d** *13/02*

U.S. Cl. 84—1.15 **10 Claims**



The electric pickup for the instrument has two relatively movable parts, a coil and a magnet. One part is secured by epoxy cement to, and vibrates with, a vibratory member such as the skin of a drum or the disc of a cymbal. The other part is secured to a relatively fixed element of the instrument. In use, the weak signal induced in the coil is led to a preamplifier and amplified.

3,509,265
SIGNAL-SELECTING SYSTEM FOR KEYBOARD TYPE ELECTRONIC MUSICAL INSTRUMENT

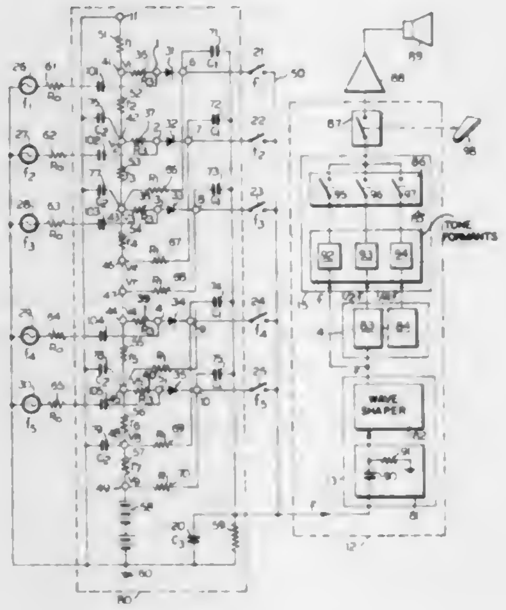
Masao Tsukamoto, Masahiko Tsunoo, and Takatsugu Nakajima, Osaka-fu, Japan, assignors to Matsushita Electrical Industrial Co., Ltd., Osaka, Japan

Filed May 9, 1968, Ser. No. 727,846

Claims priority, application Japan, May 12, 1967, 42/30,485; Oct. 12, 1967, 42/66,215, 42/66,221, 42/66,222, 42/66,223; Nov. 9, 1967, 42/72,451, 42/72,433

Int. Cl. G10h *3/06, 1/02, 1/06*

U.S. Cl. 84—1.17 **29 Claims**



A signal-selecting system for a keyboard type electronic musical instrument. The system has a plurality of tone generators which generate tone signals at frequencies corresponding to notes of a musical scale, a plurality of switching devices which have input and output terminals, and a plurality of selecting-keyswitches. The keyswitches are activated by the keys of the keyboard and have one side coupled to said switching devices and the other side coupled to a common output conductor. A plurality of tone signal coupling means are coupled between said tone generators and said input terminals, and an output system is connected to said common output conductor. A bias system is provided which produces a plurality of bias potentials which are fed to said switching devices. Said bias potentials are arranged in the order of magnitude of the potential in sequence in relation both to the order of frequencies of said tone generators and the order of notes of keys corresponding to selecting-keyswitches. The tone signals passing to said output terminals from said input terminals are switched on or off when said selecting keyswitches are closed or opened.

3,509,266
DIRECT CURRENT ELECTRIC CABLES

John Derrick Endacott, Sidcup, Kent, England, assignor to British Insulated Callender's Cables Limited, London, England

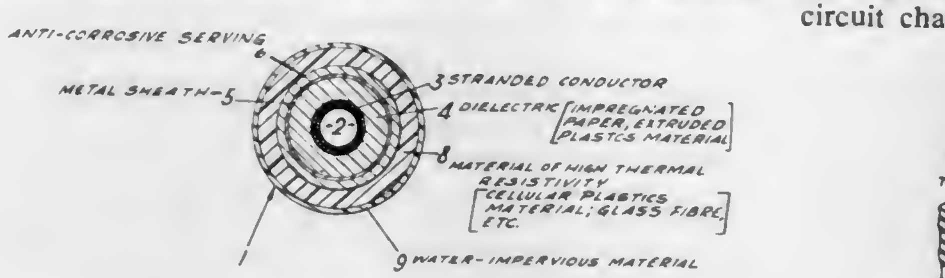
Filed Dec. 7, 1966, Ser. No. 599,873

Claims priority, application Great Britain, Dec. 10, 1965, 52,549/65

Int. Cl. H01b *7/34*

U.S. Cl. 174—15 **16 Claims**

A high voltage, high power direct-current electric cable installation comprises a conductor having at least one passage for the circulation of a non-cryogenic coolant for abstracting heat from the conductor, a wall of dielectric surrounding both the conductor and the passage, and means for artificially raising the thermal resistance between the conductor dielectric and its environment. The thermal insulating means is such that the difference between the initial stress distribution and the stress distribution on load is substantially less than in an otherwise equivalent direct-current electric cable installation of normal construction.


ANTI-CORROSIVE SERVING
6
METAL SHEATH-5
3 STRANDED CONDUCTOR
4 DIELECTRIC [IMPREGNATED PAPER, EXTRUDED PLASTICS MATERIAL]
2
8 MATERIAL OF HIGH THERMAL RESISTIVITY [CELLULAR PLASTICS MATERIAL; GLASS FIBRE, ETC.]
1
9 WATER-IMPERVIOUS MATERIAL

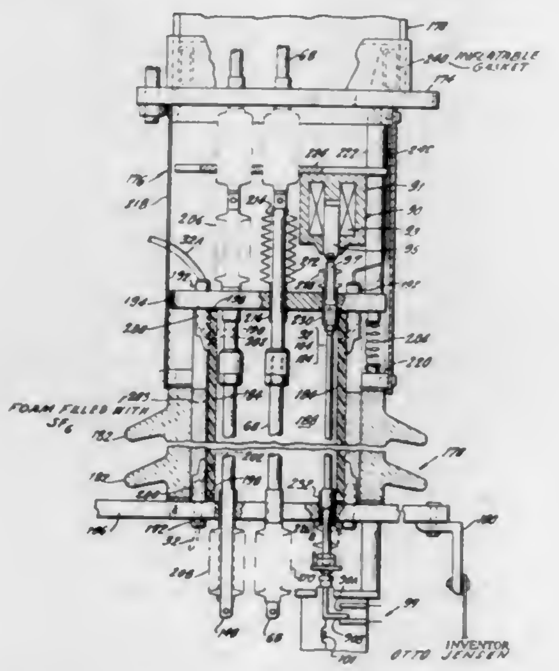
3,509,267
MULTIPURPOSE INSULATING COLUMN

Otto Jensen, Malvern, Pa., assignor, by mesne assignments, to I-T-E Imperial Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Jan. 22, 1968, Ser. No. 699,624

Int. Cl. H01b *17/36*

U.S. Cl. 174—30 **9 Claims**



An insulating column which, by the nature of its construction, is capable of performing a number of functions, such as: supporting mechanism thereabove; electrically insulating such mechanism from the potential at the opposite end of the insulator; supporting a plurality of elements intermediate the ends of the insulator; protectively housing components which pass through the interior of the insulator; together with compressed gas and associated bellows, maintaining such various components in tension at all times; functioning as a conduit by continuously and insulatively conveying such compressed gas from one potential level to another; and at the same time making available a small amount of that compressed gas to inflate gaskets which seal the mechanism supported upon the insulator.

3,509,268
MASS INTERCONNECTION DEVICE

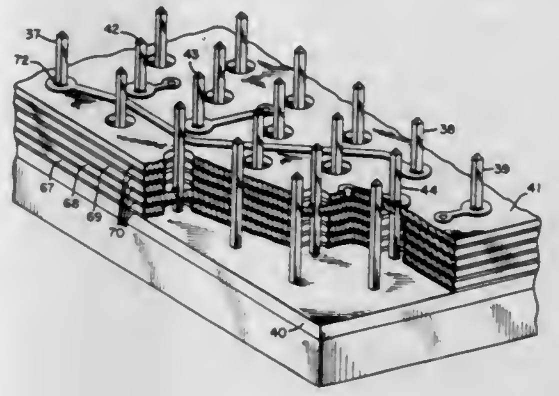
Leon Schwartz and Real J. Fradette, Philadelphia, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 10, 1967, Ser. No. 629,637

Int. Cl. H05k *3/36, 1/14*

U.S. Cl. 174—68.5 **8 Claims**

The present invention provides a plurality of electrically insulating material laminates each of which has individual printed circuits thereon and circuit connections therethrough. The laminates are provided with easy means for alignment and for easy connection to connecting pins passing therethrough. Accordingly a multi-layer printed circuit characterized by great flexibility is readily fabricated. In addition, the laminates are designed so that when fitted together a connecting pin passing through a stack thereof only comes in contact with one laminate and the pins can all be solder-connected to the proper laminate at one time.



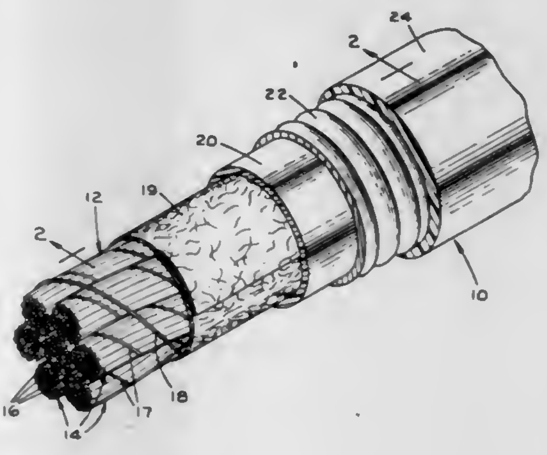
3,509,269
THERMAL BARRIERS FOR CABLES

Ray S. Elliott, Baltimore, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed June 11, 1968, Ser. No. 736,083

Int. Cl. H01b *7/02, 3/48*

U.S. Cl. 174—120 **10 Claims**

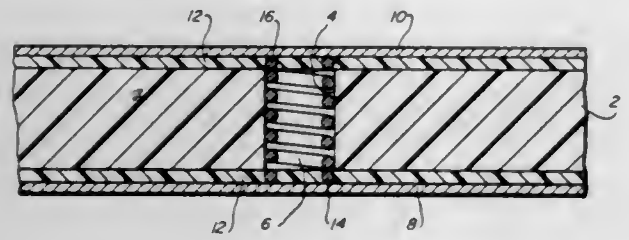


A communication cable is covered with a sheath which has an one of its components a dielectric plastic jacket applied over a core of insulated conductors wherein there is no metallic shield interposed between the dielectric plastic jacket and the core of insulated conductors. The dielectric plastic jacket is formed of an extruded tube of polyethylene which melts at substantially the same temperature as the insulation on the conductors within the core, and plastic identification tapes which are used to hold groups of the conductors together. In order to prevent melting or undesirable deformation of the insulation on the conductors or the identification tapes as a result of heat of extrusion of the plastic jacket, a thermal barrier is provided between the core and the dielectric plastic jacket which is extruded thereover. The thermal barrier need not possess any significant dielectric strength, but should be nonhygroscopic, to prevent a need for drying of the cable during manufacture thereof; must be relatively inexpensive and must possess good thermal insulating properties. A material which has been found to fit all of these necessary requirements is a matted web formed of polyethylene terephthalate filaments which are randomly arranged and which are bonded primarily at the filamentary crossovers.

3,509,270
INTERCONNECTION FOR PRINTED CIRCUITS AND METHOD OF MAKING SAME

Milford J. Dube, Windsor Locks, and Harry P. Yorgensen, Manchester, Conn., assignors to The J. M. Ney Company, Bloomfield, Conn., a corporation of Connecticut

Filed Apr. 8, 1968, Ser. No. 719,636
Int. Cl. H05k *1/04, 3/06*
U.S. Cl. 174—68.5 17 Claims

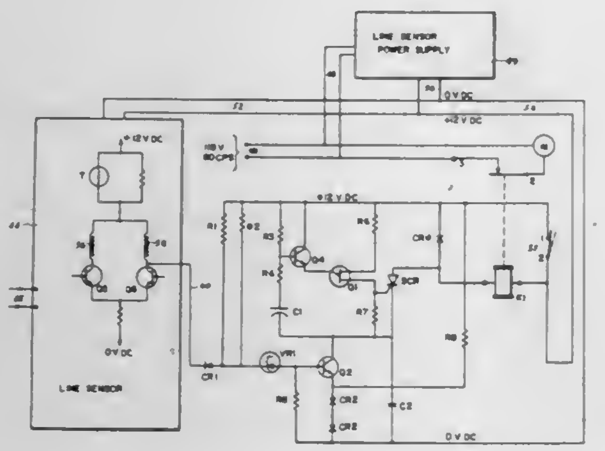


There is disclosed a printed circuit board assembly which comprises an insulating body, a pair of printed circuit members and an electrically conductive spring. The insulating body has an aperture into which the spring is inserted, and one of the printed circuit members is secured to each side of the body with a portion of an electrical circuit thereof extending into alignment with the aperture. The spring in the aperture is in electrical contact with the surface of the aligned portions of the circuits to provide an electrical connection therebetween.

3,509,271
ELECTRONIC TIME DELAY MOTOR STOP

Harvey M. Matthew, New Haven, Conn., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware

Filed July 28, 1967, Ser. No. 656,938
Int. Cl. H04l *7/00*
U.S. Cl. 178—4.1 3 Claims

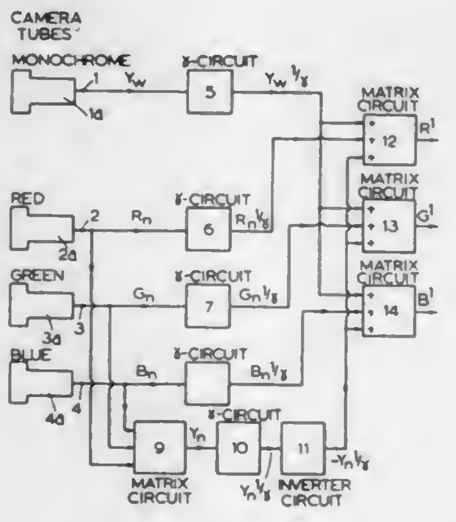


The automatic stop circiutry for the driving motor of a telegraph printer comprises a time delay circuit, a switching circuit, and a motor relay operating circuit. The switching circuit may include a Zener diode, a transistor switch, and several resistors and diodes so coupled to the telegraph line as to be conductive when there is no signal. The switching transistor is in series with the time delay circuit and starts charging of a timing capacitor. When the timing capacitor has been charged without interruption for a predetermined desired time, it fires a silicon controlled rectifier which energizes a motor relay to stop the motor. The silicon controlled rectifier is again made non-conductive when signalling is renewed, as by connecting it to the switching transistor.

3,509,272
CIRCUIT ARRANGEMENTS FOR COLOUR TELEVISION CAMERAS

Ivanhoe John Penfound James, Ealing, London, England, Wieslaw Antoni Karwowski, Syracuse, N.Y., and David Ernest Kent, Iver, England, assignors to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Jan. 30, 1967, Ser. No. 612,564
Claims priority, application Great Britain, Feb. 4, 1966, 4,909/66
Int. Cl. H04n *9/53*
U.S. Cl. 178—5.4 5 Claims



An improved circuit arrangement for colour television cameras of the type which employ a separate luminance pick-up tube for generating signals related to the luminance Y of a picture is described. The circuit is provided with four input terminals for the receipt of Y_W, R_N, G_N and B_N signals respectively, the R_N, G_N and B_N colour signals being relatively narrow frequency band signals and the Y_W signal being a relatively wide frequency band signal. The R_N, G_N and B_N signals are matrixed to form a relatively narrow frequency band luminance signal Y_N which is similar to Y_W over the frequency band spanned by the colour signals. Each of the signals Y_W, R_N, G_N, B_N and Y_N is gamma corrected and matrix circuits are provided for adding the difference between the gamma corrected wide and narrow frequency band luminance signals to each of the gamma corrected colour signals individually, thus providing three wide band output signals R', G'and B' where

$$R'=R_N{}^{1/\gamma}+Y_W{}^{1/\gamma}-Y_N{}^{1/\gamma}$$
$$G'=G_N{}^{1/\gamma}=Y_W{}^{1/\gamma}-Y_N{}^{1/\gamma}$$

and

$$B'=B_N{}^{1/\gamma}+Y_W{}^{1/\gamma}-Y_N{}^{1/\gamma}$$

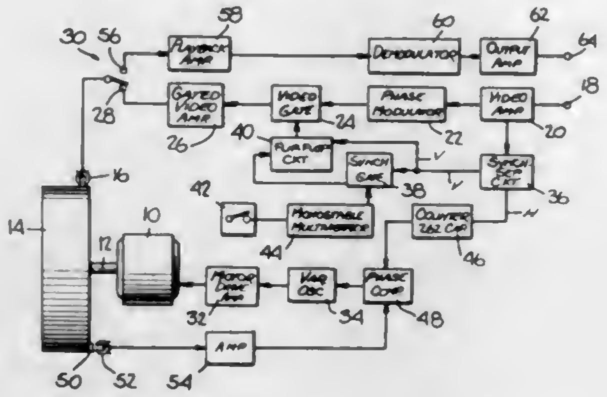
These three wide band output signals can be fed directly to a standard colour waveform encoder.

3,509,273
RECORDING OF TELEVISION SIGNALS

Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed July 18, 1966, Ser. No. 569,789
Claims priority, application Japan, July 16, 1965, 40/42,981
Int. Cl. H04n *5/22, 5/78*
U.S. Cl. 178—6.6 3 Claims

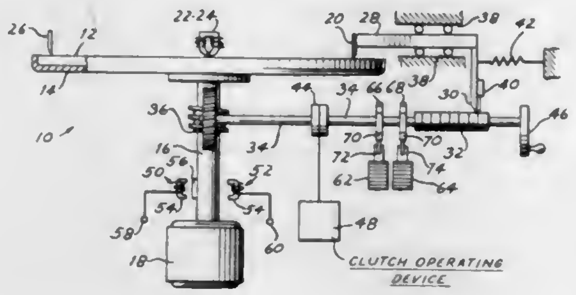
In recording selected segments of continuously occurring television signals which have horizontal and vertical synchronizing pulses interspersed therealong, a recording medium and recording head are moved cyclically relative to each other by an adjustable drive, the horizontal and vertical synchronizing pulses are separated from the television signals, the adjustable drive is controlled in accordance with phase comparison of signals representative of the speed of relative movement of the recording medium and head with signals having a fixed time relation to the horizontal synchronizing pulses so as to achieve a cycle of the relative movement precisely in the time period of each of the segments of the television signal to be recorded, and the supplying of the television signals to the recording head is gated in response to successive vertical synchronizing pulses so as to supply to the head only a selected segment of the television signals in the period for a cycle of the relative movement of the recording medium and head.



3,509,274
APPARATUS FOR THE RECORDING OF VIDEO SIGNALS AND FOR THE NORMAL SLOW MOTION OR STILL PICTURE REPRODUCTION OF SUCH SIGNALS

Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan

Continuation-in-part of application Ser. No. 540,986, Apr. 7, 1966. This application Sept. 23, 1966, Ser. No. 581,519
Claims priority, application Japan, Sept. 27, 1965, 40/59,263
Int. Cl. H04n *5/78;* **G11b** *5/56, 5/82*
U.S. Cl. 178—6.6 18 Claims

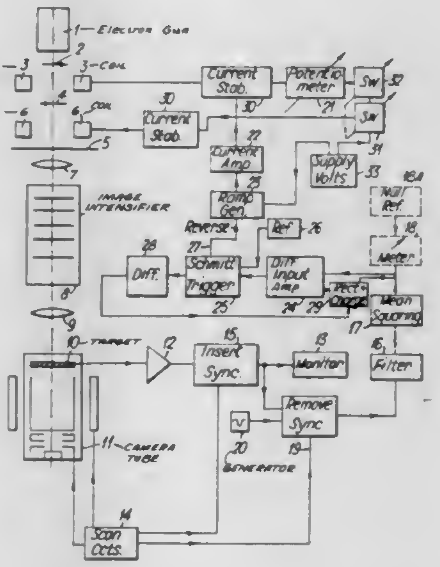


In a recording and reproducing apparatus for video signals, the successive field signals are recorded in a spiral recording track on a recording disk and, for normally reproducing such signals, the pick-up head is made to exactly scan the spiral track, whereas, for slow-motion reproduction, the pick-up head is made to trace a spiral track differing in pitch from the recording track and the signals reproduced by the pick-up head, when the track traced thereby coincides with the recording track, are isolated and reproduced repetitively. Similarly, for still picture reproduction, the pick-up head is radially located to intermittently scan the portion of the spiral recording track corresponding to the desired field of the recorded video signals, and the signals from the head are repetitively and continuously reproduced.

3,509,275
AUTOMATIC FOCUSING OF ELECTRON MICROSCOPES

Edward M. Deeley, Strand, London, and Claude D. Curling, Hayes, Kent, England, and John A. Temple, Hatfield, Pretoria, Republic of South Africa, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed May 31, 1967, Ser. No. 642,379
Int. Cl. H01f *37/26, 29/56*
U.S. Cl. 178—6.8 14 Claims

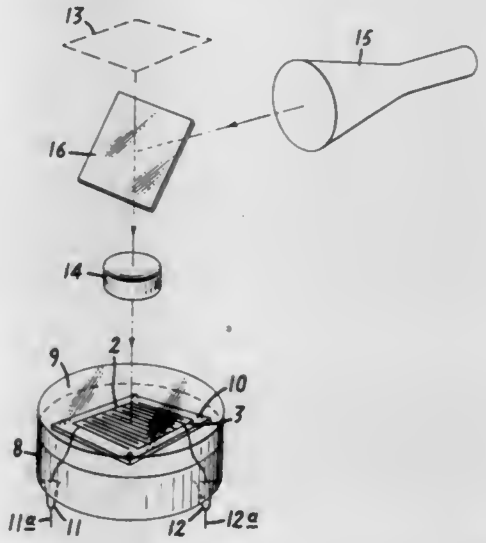


A filtered output signal is obtained having two maxima when an electron image is moved through focus. Focusing current is adjusted until the filtered signal reaches a minimum between the two maxima.

3,509,276
PHOTO-ELECTRONIC IMAGING APPARATUS

Dennis Gabor, London, England, assignor to Columbia Broadcasting Systems, Inc., New York, N.Y., a corporation of New York

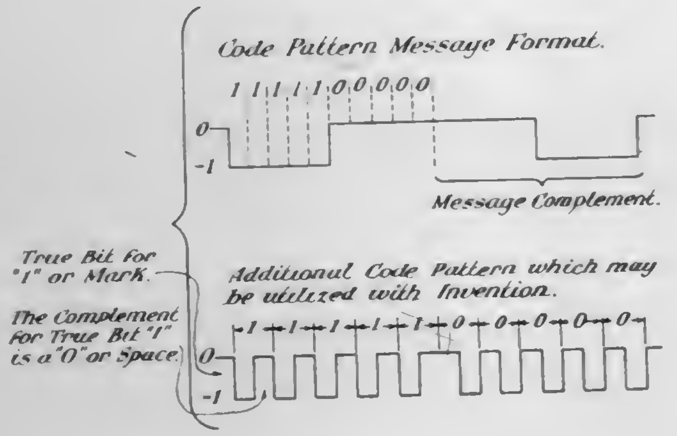
Filed June 7, 1967, Ser. No. 644,248
Claims priority, application Great Britain, June 15, 1966, 26,743/66
Int. Cl. H04n *3/14, 5/30*
U.S. Cl. 178—6.8 6 Claims



In the particular embodiments of the invention described herein, a frequency selective photo-electronic image transducer includes an insulating plate having minute closely spaced prismatic ridges, the surfaces of which are covered with a capacitative sandwich structure comprising an electrode coated on the plate, an insulating layer and a photo-emissive material at the outer surface, the latter being in the form of a mosaic of isolated elements. The electrodes on alternate ridges, or in another form on corresponding sides of every ridge, are connected together and to an alternating potential source operating at the desired frequency of selection, the other electrodes being grounded. An illuminated object containing light modulated with information at the selected frequency is imaged onto the surface of the plate intermittently and, between exposures, a line scan tube image onto the surface reads out the charge accumulated at the various elemental areas in succession. The frequency-selected image is then reproduced on a display tube. In an alternative embodiment, light from an image of the object is conveyed to the photo-sensitive plate by a fiber-optics array and a mask is provided to compensate for inequalities in the sensitivities of the photo-emissive elements.

3,509,277
CODE TRANSMISSION SYSTEM FOR MESSAGES OF UNLIMITED LENGTH

William H. Moore and Vito J. Alioto, Pittsburgh, Pa., assignors to Westinghouse Air Brake Company, Swissvale, Pa., a corporation of Pennsylvania
Filed June 28, 1966, Ser. No. 561,231
Int. Cl. G08b *29/100;* **H04l** *7/00*
U.S. Cl. 178—69.5 **5 Claims**

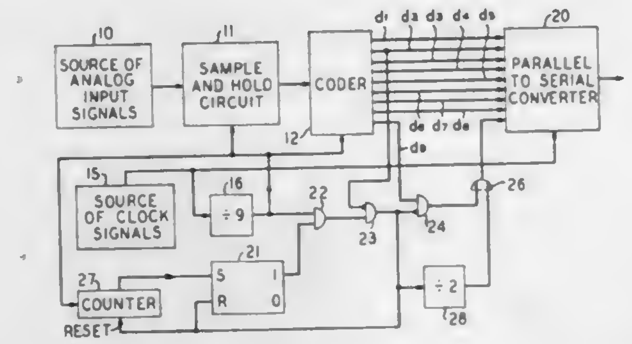

Code Pattern Message Format.
1 1 1 1 1 0 0 0 0 0
0
-1
Message Complement.
True Bit for "1" or Mark
The Complement for True Bit "1" is a "0" or Space
Additional Code Pattern which may be utilized with Invention.
1 1 1 1 1 0 0 0 0 0
0
-1

This invention relates to a code transmission system in which a message is sent from an office time base code generator over a communication link to a remote station time based receiver. The code generated is synchronized upon reception at the remote station with the time based receiver by the format of the code. The code format carries continuous message information. This continuous message in code form also simultaneously contains an inherent characteristic which maintains the remote station time based receiver synchronized with the office time based code generator whereby the message length is not limited by the need to periodically interrupt the message to bring about synchronization between the office and the remote station.

3,509,278
SYNCHRONIZATION OF CODE SYSTEMS

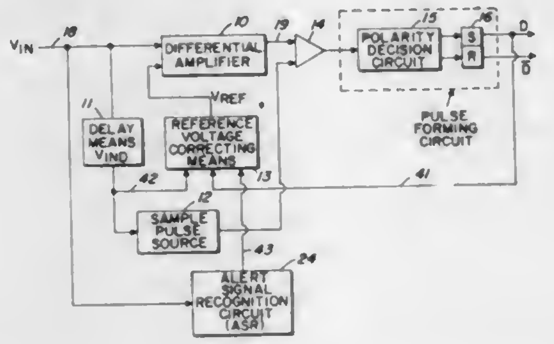
Joseph O. Bergholm, Matawan Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 27, 1967, Ser. No. 670,941
Int. Cl. H04l *7/00;* **H04b** *1/00*
U.S. Cl. 178—69.5 **4 Claims**

Framing of reflected binary code signals into code words is accomplished by inserting an alternating "1" "0" pulse pattern in the least significant digit of an occasional Gray code word. The second digit of each Gray code word is monitored and when a first "0" in that digit is detected by the monitoring apparatus, a "1" is inserted in the least significant digit of that code word in place of the pulse signal. The monitoring process is then inhibited for a predetermined number of code words and then resumed with the insertion of a "0" in the least significant digit of a second such code word. This process continues with alternating "1's" and "0's" being inserted in the least significant digit of monitored code words.



3,509,279
AM DATA DETECTOR WITH REFERENCE LEVEL RESPONSIVE TO INPUT AND DETECTED DATA TO PRODUCE COMPARISON SIGNAL

Donald L. Martin, Santa Ana, and Oscar P. Olson and William M. Hutchinson, Newport Beach, Calif., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 22, 1967, Ser. No. 640,179
Int. Cl. H04l *13/18, 15/26*
U.S. Cl. 178—88 **20 Claims**



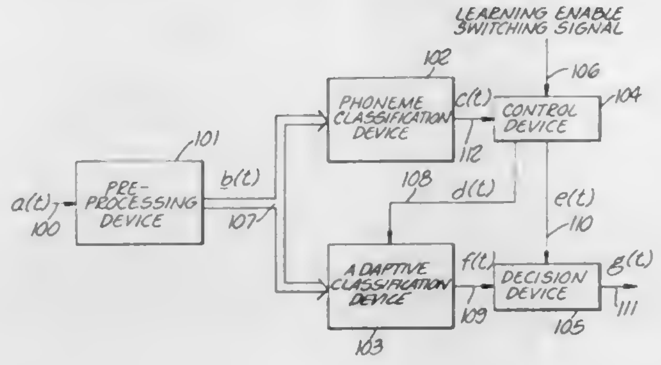
A received two-level input signal V_{in} is modified, under control of decoding means, to produce a single level signal whose amplitude bears a fixed, known relationship to a nominal D-C reference signal. The actual, existing reference signal V_{ref} is continuously compared with the modified single level input signal through integrating means to continuously correct the level of V_{ref} towards the ideal reference voltage which lies midway between the two levels of V_{in}, and changes as the average level of V_{in}.

3,509,280
ADAPTIVE SPEECH PATTERN RECOGNITION SYSTEM

James W. Jones, Granada Hills, Calif., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Delaware
Continuation-in-part of application Ser. No. 525,921, Feb. 8, 1966. This application Nov. 1, 1968, Ser. No. 772,631
Int. Cl. G10l *1/04;* **H04m** *1/24*
U.S. Cl. 179—1 **6 Claims**

The present invention concerns a unique system for automatic recognition of a given speaker or voice based on comparison of basic speech sounds (phonemes) from a newly spoken or recorded speech sample with the previously "learned" phoneme pattern of a known voice. The device gives automatic recognition or rejection in the form of a yes/no type of signal and has a high probability for correct determination.

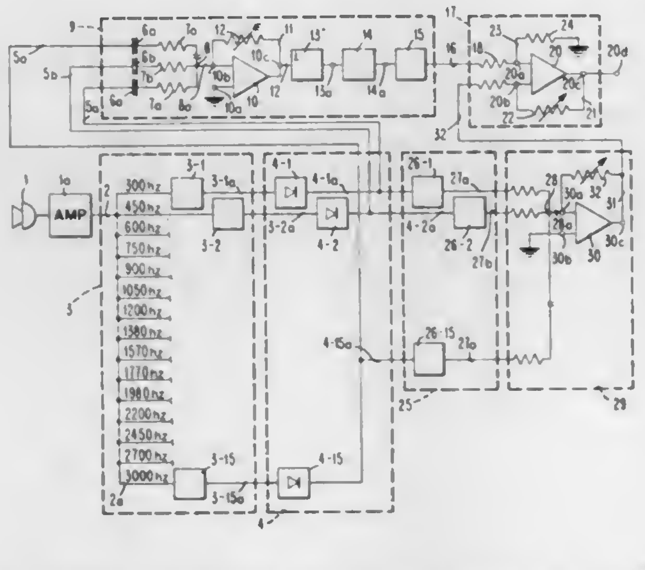
The device acts on the principle that each voice has a unique "voice print" in the form of a unique statistical behavior of the temporal spectral properties whenever a speaker enounces a particular phoneme. Such statistical behavior is unique both for the phoneme and for the individual speaker, and accordingly the text, or even the language spoken in the unknown sampling, need not be the same as in the sample which the device has "learned" previously.



Instrumentation includes a preprocessing device, phoneme classification device, adaptive classification device and decision and control circuits.

3,509,281
VOICING DETECTION SYSTEM

John H. King, Jr., Endwell, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Sept. 29, 1966, Ser. No. 582,912
Int. Cl. G10l *1/00*
U.S. Cl. 179—1 **5 Claims**



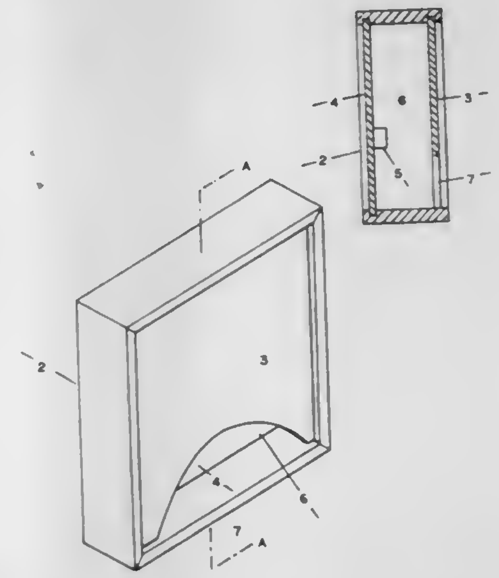
The relative magnitude of voiced sounds in a speech spectrum is determined by comparing a quasi DC signal representing the voiced sounds against a DC summation signal representing the total spectral energy in the sound spectrum.

The DC summation signal is generated by passing the sound waveforms through a filter bank having a band pass width ranging between 300–3,000 Hz. The outputs of the latter are rectified and these rectified outputs are fed through a low pass filter designed to pass signals between 0 and 15 Hz. The rectified outputs representing total sound energy are finally summed by a DC amplifier to provide the DC summation signal.

The quasi DC signal is developed by summing the same rectified outputs representing total sound energy, by means of an AC amplifier and passing the AC summed signal through a filter which is tuned to pass the voice fundamental frequency lying between 70–150 Hz., then rectifying the output of the voice fundamental and finally passing the rectified voice fundamental output through a low pass filter having a band pass width of 15 Hz. and below to provide the quasi DC signal.

3,509,282
SOUND SYSTEM

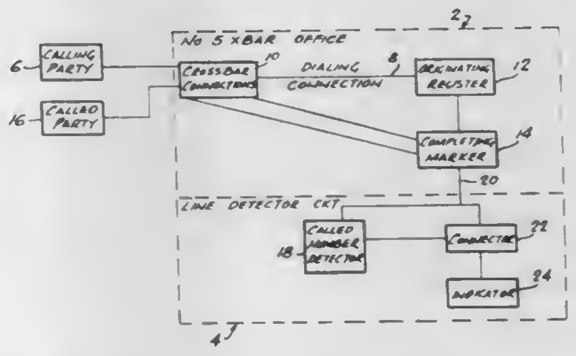
William J. Ashworth, Rt. 2, New Albany, Miss. 58652
Continuation-in-part of application Ser. No. 558,204, June 13, 1966. This application Dec. 13, 1968, Ser. No. 791,843
Int. Cl. H04r *1/28*
U.S. Cl. 179—1 **5 Claims**



A sound reproducing system comprising an audio transducer attached to a sounding board in combination with a conventional cone type loudspeaker driven from a common signal source. When the transducer is activated with an electrical audio signal, the sounding board will vibrate and generate a sound signal out of phase with the conventional loudspeaker giving a realistic illusion of sound depth not obtainable with a conventional loudspeaker system.

3,509,283
LINE DETECTOR CIRCUIT

Pierre A. Deschenes, Sherbrooke, Quebec, and Gunars Balgalvis and William N. Regan, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Dec. 27, 1965, Ser. No. 516,492
Int. Cl. H04q *3/72*
U.S. Cl. 179—18 **16 Claims**



A system for identifying telephone calls to preselected numbers that are prone to receive malicious calls, a call to such a preselected number actuating means for recording information about the calling number.

3,509,284

SINGLE-WIRE CONTROL, SUPERVISION AND FAULT DETECTING CIRCUIT ARRANGEMENT IN COMPUTER CONTROLLED AUTOMATIC TELEPHONE EXCHANGES

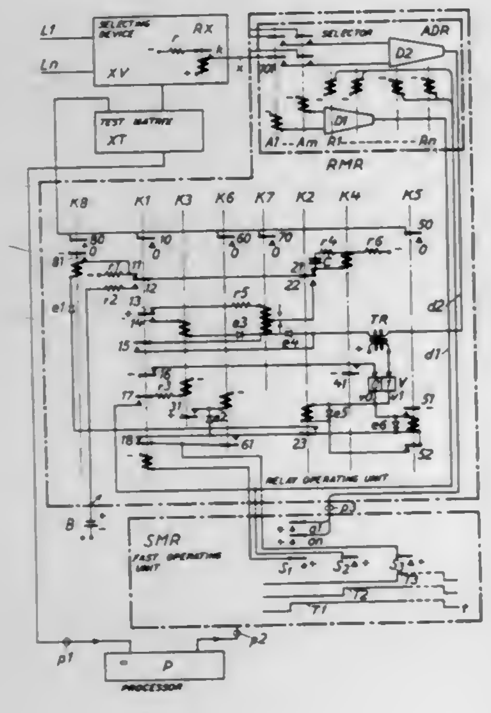
Vilnis Lapsevskis and Åke B. F. Svensson, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden

Filed June 15, 1966, Ser. No. 557,824

Claims priority, application Sweden, July 15, 1965, 9,381/65

Int. Cl. H04m *3/08*

U.S. Cl. 179—18 2 Claims



A processor controlled automatic telephone exchange includes a plurality of incoming and outgoing call lines connected to a line selecting means which is controlled by electromagnetic devices. A buffer storage unit acts as the processor's interface to transfer signals from the lines to the processor and to store signals received from the processor. The address selector of an electromagnetic device operating unit controls the connection of the electromagnetic devices in the selecting means in order to perform and supervise the operation of the devices by means of a single wire for each device. Within the buffer storage unit is a first pulse contact means signalling the operation of an electromagnetic device and other contact means for connecting an operating signal to the signal wire of the device. The primary winding of a transformer is included in the circuit of the operating signal at least when the device is released. An electronic bistable circuit is connected to the secondary winding and is switched by the decrease of current in the signal wire caused by the inductance of the transformer when the electromagnetic device is de-energized.

3,509,285

NO-TEST TRUNK CIRCUIT FOR PRIVATE BRANCH EXCHANGES

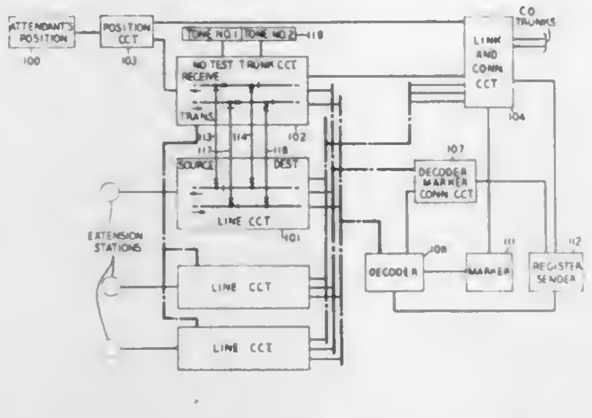
Harry R. Banks, Neptune, and Louis C. Rainone, Matawan, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 20, 1966, Ser. No. 603,364

Int. Cl. H04m *3/20*

U.S. Cl. 179—27 13 Claims

A no-test trunk circuit which permits the selective connection of a PBX attendant's position through the no-test trunk circuit to a busy station line or trunk. The transmission path of the busy line or trunk is split and the attendant may transmit to either the source end or the destination end, or both simultaneously, and may receive from either the source or destination end as desired. The attendant may thus seize or take over a busy line or trunk employed for data services for use in establishing a higher priority call.



3,509,286

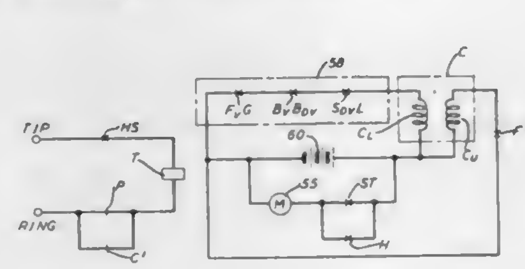
CODE TRANSMITTER UTILIZING A PRINTED CIRCUIT DISC

John J. Driscoll, Keyport, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 1, 1966, Ser. No. 539,468

Int. Cl. H04m *3/42*

U.S. Cl. 179—90 1 Claim



The apparatus includes groups of slide selector switches, a like number of groups of slow sequential actuated switches and a group of fast sequentially actuated switches provided by the interaction of contacts with conductive areas on a printed circuit board. The slide switches, slow switches, and fast switches are interconnected by conductive paths extending through the printed circuit board to form a switching matrix having a unique configuration, and the matrix is connected in series with the latching coil of a relay across a power source. When a path is provided through the switching matrix, the latching coil is energized to remove a shunt from across a pulsing switch. A pulse is thereafter transmitted concurrent with each actuation of a fast switch until the sequential actuation of the fast switches then in progress is completed, and an unlatching coil of the relay is thereupon energized to terminate the transmission of pulses.

3,509,287

CODE TRANSMITTER UTILIZING A PRINTED CIRCUIT DISC

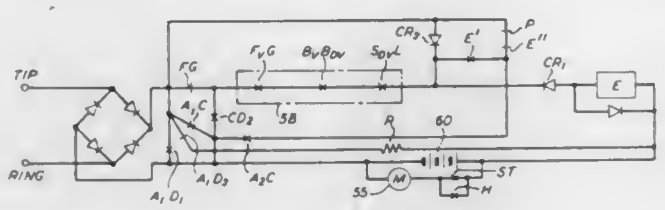
Nathaniel L. Field III, Ann Arbor, Mich., and Richard E. Waddell, Indianapolis, Ind., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 1, 1966, Ser. No. 539,469

Int. Cl. H04m *3/42*

U.S. Cl. 179—90 10 Claims

The apparatus includes groups of slide selected switches, a like number of groups of slow sequentially actuated switches, and a group of fast sequentially actuated switches provided by the interaction of contacts with conductive areas on a printed circuit board. The slide switches, slow switches, and fast switches are interconnected by conductive paths extending through the printed circuit board to form a switching matrix having a unique configuration, and the matrix is connected in series with a relay across a power source. Pulses are transmitted concurrent with each actuation of a fast switch until a path is provided through the switching matrix whereupon the relay is energized to eliminate the transmission of pulses until the next sequential actuation of the fast switches.



3,509,288

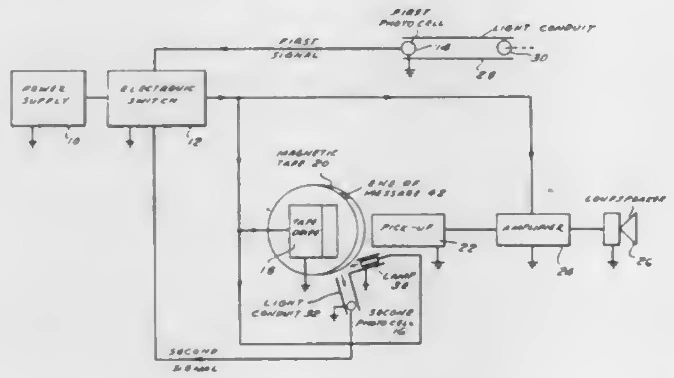
AMBIENT LIGHT TRIGGERED MESSAGE-REPEATER SYSTEM WITH ELECTRONIC SWITCHING

Leon C. Leventhal, 245 E. 63rd St., New York, N.Y. 10021

Filed Apr. 12, 1968, Ser. No. 720,801

Int. Cl. G11b *15/08;* **G08b** *13/18;* **H01j** *39/12*

U.S. Cl. 179—100.1 4 Claims



Apparatus for reproducing, in oral form, a message prerecorded on magnetic tape. The apparatus, which is portable and compact as well as being self-powered by replaceable or rechargeable batteries, photoelectrically senses the presence of one or more individuals, and, when such individuals approach, turns itself on to deliver a total message which can be composed of one or more individual messages. After the total message has been delivered, the apparatus senses the end-of-message condition and turns itself off. Typically, the apparatus is utilized anywhere a product is displayed for sale and, whenever anyone passes within a preselected maximum distance, the message, in the form of a dynamic sales "pitch" is delivered and can create a strong impulse to the listener to buy the product.

3,509,289

BINAURAL HEARING AID SYSTEM

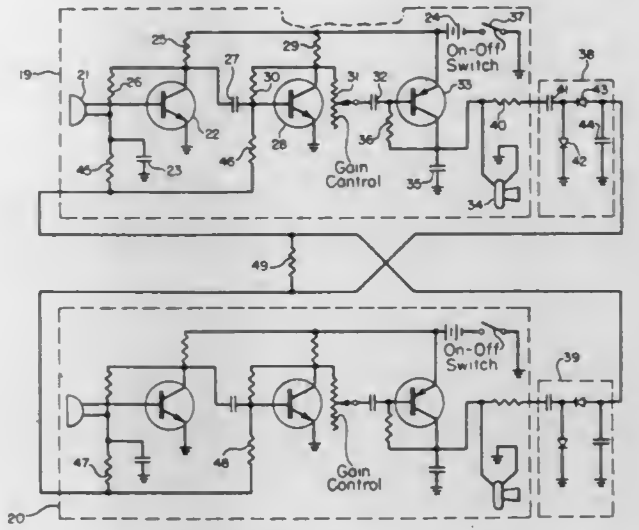
Robert J. Briskey and William G. Ely, Des Plaines, and Kenneth R. Wruk, Joliet, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 26, 1967, Ser. No. 678,289

Int. Cl. H04r *25/00, 5/00;* **G02c** *11/06*

U.S. Cl. 179—107 8 Claims

A binaural hearing aid system includes cross-coupled AGC circuitry for maintaining or enhancing the interaural level differential between contralateral and ipsilateral incident sounds. The system comprises first and second amplifying channels, the gain of each channel being varied inversely with the output of the other channel by separate AGC circuits. Cross-coupling is incorporated between the AGC circuits to stabilize the system. By enhancing the spatial separation of high-level incident sounds, this system allows a listener with binaural hearing loss to better orientate with respect to such sources of sound.



3,509,290

FLAT-PLATE TYPE LOUDSPEAKER WITH FRAME MOUNTED DRIVERS

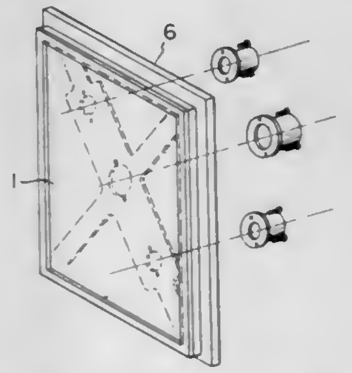
Yasunori Mochida, Ikuji Kurokawa, and Kazukiyo Ishimura, Hamamatsu-shi, Japan, assignors to Nippon Gakki Seizo Kabushiki Kaisha, Shizuoka-ken, Japan, a joint-stock company of Japan

Filed Nov. 22, 1966, Ser. No. 596,291

Claims priority, application Japan, May 3, 1966, 41/28,068, 41/28,069, 41/41,068

Int. Cl. H04r *9/04*

U.S. Cl. 179—115.5 1 Claim



A loudspeaker comprising a diaphragm plate made of foamed polystyrene in a substantially flat shape having substantial thickness throughout the plate, a supporting frame, a bass-tone driver and treble-tone drivers, periphery of the diaphragm being fixed to the supporting frame, the bass tone driver being supported by the supporting frame and connected to the diaphragm at its central portion, and the treble-tone drivers being supported by the supporting frame and connected to the diaphragm near peripheries thereof.

3,509,291

METHOD AND APPARATUS TO ADJUST THE CAPACITANCE OF A NETWORK TO SOME PREDETERMINED VALUE

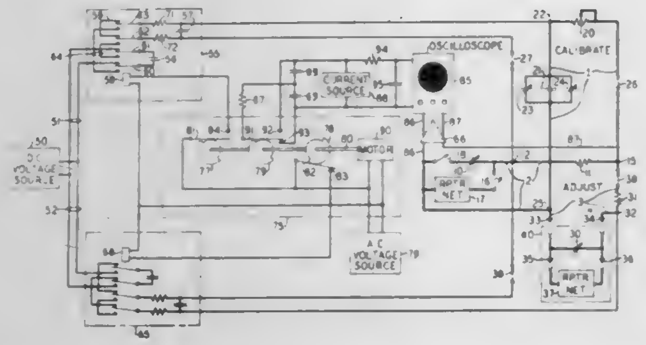
Edward H. Weber, Jr., Madison Township, Middlesex County, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Nov. 14, 1967, Ser. No. 682,888

Int. Cl. H04b *3/46*

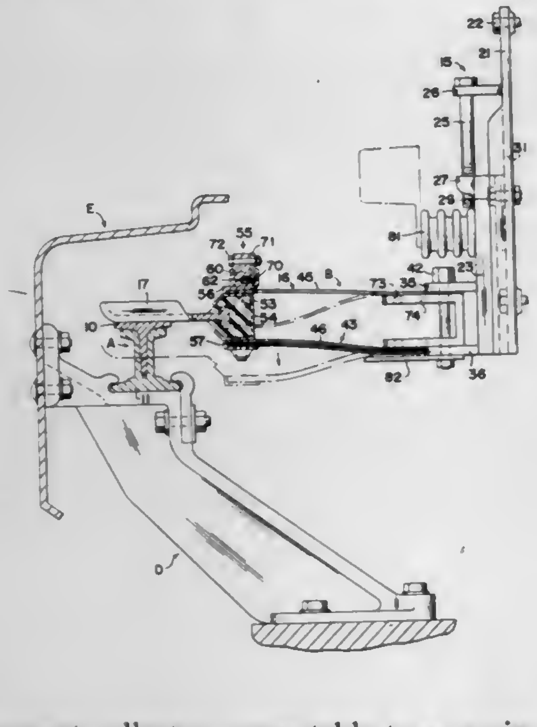
U.S. Cl. 179—175.31 8 Claims

An impedance adjustment scheme to preset an artificial cable capacitance is embodied in an adjustment apparatus comprising a plurality of parallel variable impedance ratio branch arms. In the first of these branch arms an adjustable resistor in series with a capacitor is utilized to preset a resistive-reactive impedance ratio referenced in terms of the capacitance of the artificial cable to be preset. This resistive-reactive impedance ratio is reproduced by varying the reactive impedances in the remaining branch arms in which the artificial cable capacitor to be preset is included.



3,509,292
ELECTRICAL DISTRIBUTION SYSTEM

Roy F. Dehn, Wickliffe, Ohio, assignor to The McNeil Corporation, Akron, Ohio, a corporation of Ohio
Filed Feb. 21, 1968, Ser. No. 707,239
Int. Cl. B60l *5/38;* B60g *11/34*
U.S. Cl. 191—49 7 Claims

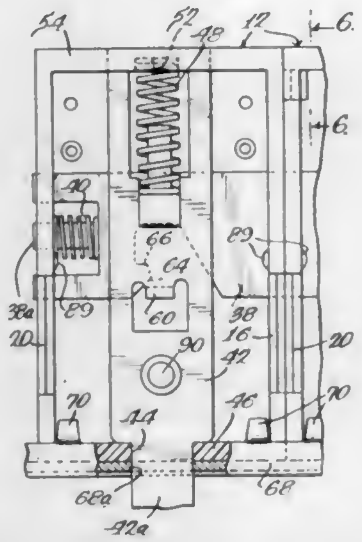


The current collector connectable to a carrier and having a collector shoe for engagement with a third rail supported by a compound elastic support assembly comprising a plurality of elastic support units having different spring constants and values of stiffness such that there will be little, if any, interruption of contact due to irregularness in the rail surface, etc., regardless of the speed of the carrier.

3,509,293
PUSH BUTTON SWITCH MECHANISM AND METHOD OF ASSEMBLY

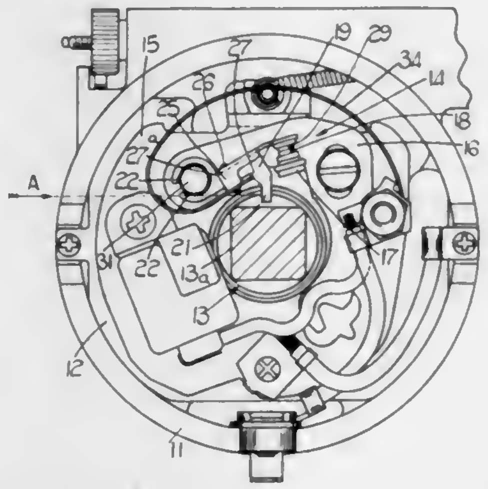
Bernard J. Goldbeck, Crystal Lake, and John H. Williams, Barrington, Ill., assignors to Oak Electro/Netics Corp., a corporation of Delaware
Filed Jan. 8, 1968, Ser. No. 696,186
Int. Cl. H01h *9/26, 9/02*
U.S. Cl. 200—5 13 Claims

A modular push button switch assembly which includes a plurality of standardized housing units, one for each push button switch, and complementary means on each of said housing units for interconnecting the housing units together side by side in a row of any desired number of switches. A plurality of stationary contact clips and a contact carrying slide member are mounted on each of the individual housing units before the units are interconnected together and each of the slide members moves the contact carried thereby into and out of engagement with one or more of the stationary contact clips on the respective housing unit. The housing units are provided with means for mounting elongated latch bars, block-out mechanisms and reinforcing plates along the row of units when connected together.



3,509,294
IGNITION DISTRIBUTORS

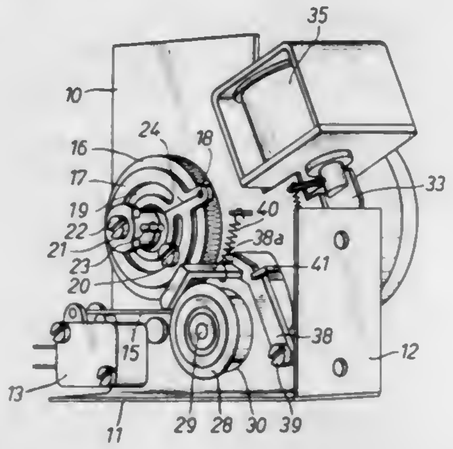
William Lawrence Fry, Kings Norton, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Oct. 25, 1967, Ser. No. 678,167
Claims priority, application Great Britain, Oct. 28, 1966, 48,428/66
Int. Cl. H01h *19/62*
U.S. Cl. 200—22 11 Claims



An ignition distributor for a road vehicle includes a casing, a cam shaft mounted for rotation within the casing, and a contact breaker assembly supported by the casing. The contact breaker assembly includes a fixed contact, and the movable contact is carried by an insulating heel which is pivotally engaged with a pivot post of the contact breaker assembly. The insulating heel includes a pair of curved resilient arms which define between them a hole for receiving the pivot post, the arms being flexed outwardly when the heel is engaged with the pivot post so that by virtue of their own resilience, the arms grip the pivot post. The heel further includes a convex bearing surface which is engaged in use by the cam shaft of the distributor.

3,509,295
APPARATUS FOR ACTUATING A SWITCH

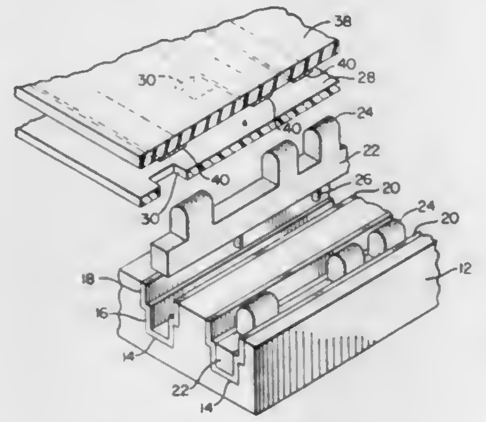
Russel W. New, Dallas, Tex., assignor to Meter-All Mfg. Co., Inc., Dallas, Tex., a corporation of Texas
Filed Jan. 25, 1968, Ser. No. 700,617
Int. Cl. H01h *7/08, 43/14*
U.S. Cl. 200—38 12 Claims



A timer wheel is mounted for rotation on a shaft supported by a mounting plate. A spring urges the wheel to rotate in one direction and a stop limits its rotation in said one direction. The timer wheel is rotated by a motor driven drive wheel which is moved into and out of driving engagement by a solenoid that is energized when the apparatus is actuated. A combination switch actuating and latch arm holds the drive wheel in driving engagement. The timer disc has a projecting finger which engages the latch and switch actuating arm, moves it out of holding position and disconnects the drive wheel from the timer wheel. As the latch is released, the arm actuates a switch. The angle through which the finger is rotated before it engages the actuator arm determines the time required for the apparatus to actuate a switch.

3,509,296
RESILIENT VARIABLE-CONDUCTIVITY CIRCUIT CONTROLLING MEANS

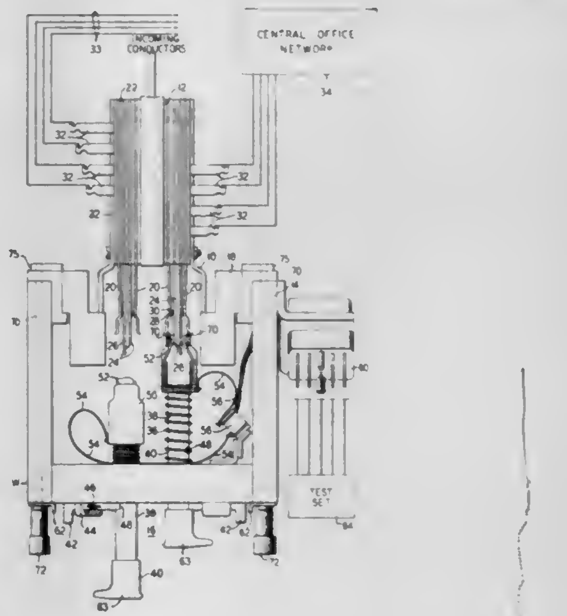
Everett Eldon Harshman, Dayton, and Richard W. Lewis, Centerville, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Oct. 23, 1967, Ser. No. 677,219
Int. Cl. H01h *43/08*
U.S. Cl. 200—46 11 Claims



Electrical circuit controlling means which utilize one or more compressible resilient circuit components, each positioned at least partially within a recess in a supporting structure, said recess having conductive side walls forming one element of the circuit controlling device, the circuit component having a low conductivity when in a noncompressed condition and a relatively high conductivity when compressed, said circuit component thus forming a second element of the circuit controlling device and being engageable with a further conductive element, which forms the third element of the circuit controlling device. This circuit controlling device is employed in a number of different applications, including switches, connectors, and media sensing apparatus.

3,509,297
TEST CONNECTOR

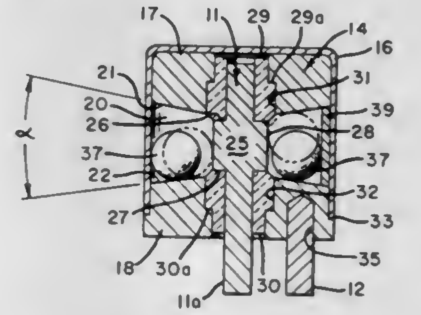
John H. King, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed July 15, 1968, Ser. No. 744,997
Int. Cl. H01r *33/30*
U.S. Cl. 200—51 18 Claims



A test connector joins fifty spring-wire connections on a telephone central office frame to a test set by contacting them with respective contact members that are each movable into three positions. In the first position, a pawl holds a contact member back against the force of a spring and out of contact with the spring-wire connections. Withdrawing the pawl partly allows the spring to move the contact member into a second position in which the member contacts one spring-wire connection and joins it to the test set. Withdrawing the pawl fully allows the spring to push the contact enough to break the spring-wire connection while maintaining contact with one spring wire. A movable plate common to all pawls selectively defines the degree to which the pawls can be withdrawn.

3,509,298
DISTURBANCE SWITCH

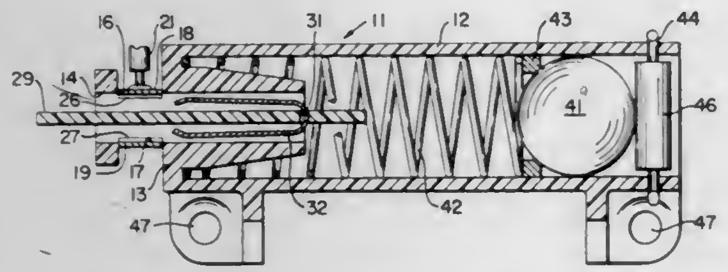
Russell F. Kirk, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 24, 1968, Ser. No. 747,301
Int. Cl. H01h *35/14*
U.S. Cl. 200—61.45 5 Claims



A normally open electrical switch which closes momentarily when subjected to disturbance forces. The switch has a center post as one terminal and a coaxial housing to which the other terminal is connected. An annular cavity within the housing about the post contains an electrical contact ball and is shaped to cause the ball to rest by gravity against the housing spaced from the center post for any physical position of the assembly. A disturbance force against the switch causes the ball to momentarily shift against both the post and the housing to close the contacts.

3,509,299
ACCELERATION SENSOR SWITCH

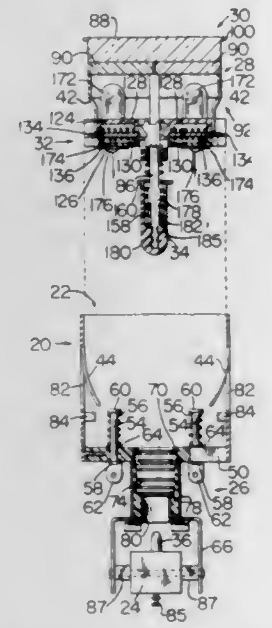
George S. Lawrie, Don Mills, and Gary W. Rose, Brampton, Ontario, Canada, assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Nov. 25, 1968, Ser. No. 778,620
Int. Cl. H01h ***35/14***
U.S. Cl. 200—61.53 **8 Claims**



An acceleration sensor switch having a simplified rigid construction wherein a mass is retained at a rest position by a spring such that when the mass is subjected to a predetermining acceleration, it moves from the rest position, striking a contact element to move the latter into a latched position between two electrodes. When the acceleration force is removed, the spring moves the mass back to the rest position; but the contact element, being free from the action of the spring, remains in the latched position until manually unlatched.

3,509,300
PUSHBUTTON MEANS WITH PULLOUT PUSHIN RELEASE

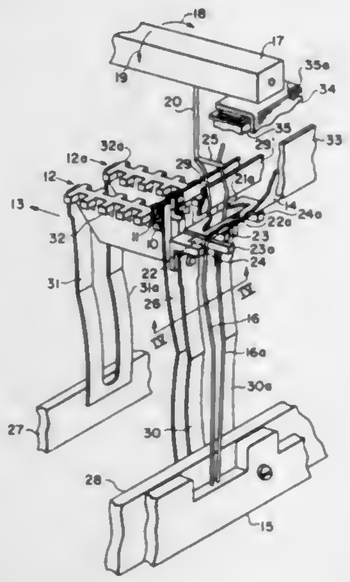
George M. Hipple, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Jan. 25, 1968, Ser. No. 700,628
Int. Cl. H01h ***9/18***
U.S. Cl. 200—167 **18 Claims**



An illuminated pushbutton switch construction has a pushbutton initially movable inward into a casing which is then released. The pushbutton is automatically locked in the casing during these actions. During this initial pushing in action, the pushbutton cannot actuate the switch that is connected with the casing. The pushbutton can be released from the casing by an initial pulling out action followed by a pushing in action and a release after such last-named pushing in action.

3,509,301
CROSSPOINT ACTUATING DEVICE FOR A CROSSPOINT SWITCH WITH FIXED STOP MEMBER VIBRATION DAMPING MEANS

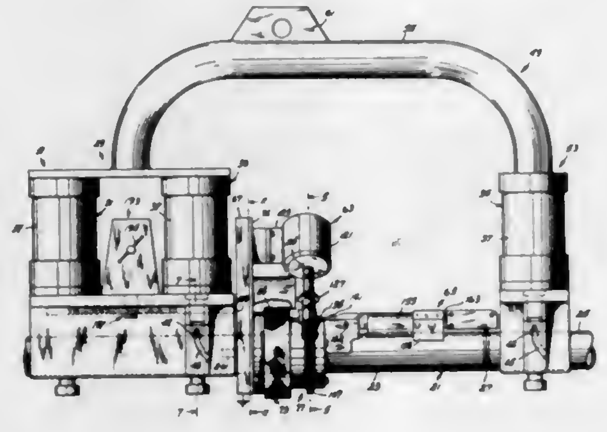
Herman De Smet, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Nov. 22, 1967, Ser. No. 685,127
Int. Cl. H01h ***63/33, 67/26***
U.S. Cl. 200—177 **6 Claims**



An apparatus which provides fixed stop members integrated with crosspoint actuating cards for damping the vibration of select fingers when the fingers are released from an operated position. The crosspoint actuating cards have a pair of fixed stop members in the form of projections which define a U-shaped channel for limiting the movement of the fingers to prevent their striking other movable members and to generally increase the operating speed of the overall crosspoint switch.

3,509,302
APPARATUS FOR WELDING CIRCUMFERENTIAL SEAMS

John Bunnell Fielder and Norman Dale Freeman, Dansville, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Dec. 22, 1966, Ser. No. 603,934
U.S. Cl. 219—60 **15 Claims**

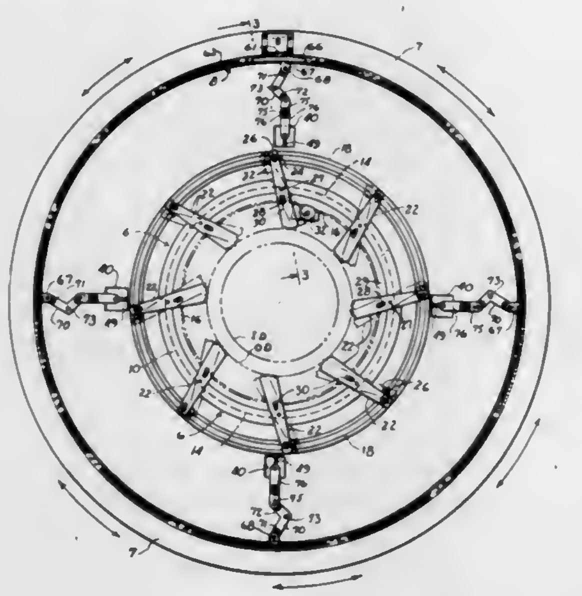


An apparatus for welding circumferential seams having an elongated member with an electrode means located at one and connected at the other end to a rotatable support assembly with a slot therein to fit over a workpiece. The rotatable support assembly which also has a

slot to fit over the workpiece is mounted on a stationary support assembly which is attached to a frame. Shielding gas and electrical energy are conducted through the stationary and rotatable support assemblies.

3,509,303
METHOD OF AND APPARATUS FOR WELDING

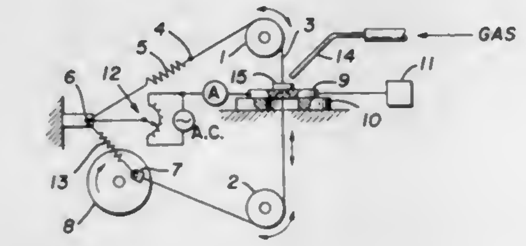
Allan B. Wesler, 1070 Park Ave.,
New York, N.Y. 10005
Filed Feb. 16, 1968, Ser. No. 706,055
Int. Cl. B23k ***9/12***
U.S. Cl. 219—60 **11 Claims**



A method and apparatus for the welding of pipe by the use of a plurality of welding guns carried on an assembly that is portable and adapted to be affixed to the pipe's surface at a point adjacent to the abutting ends of the pipe to be welded. The welding ring is manufactured as a solid ring to slip over the pipe assembly, or it may be, if desired, made as a split ring so that it is adapted to be opened and closed adjacent to the weld area. Each welding gun of the plurality of welding guns is mounted on the assembly for predetermined movement in a concentric path around the periphery of the weld zone with appropriate associated controls and mechanisms designed to stop the guns at a given point, and return them back along their arcs, thus providing an oscillating motion around the periphery of the weld zone. The oscillating motion, is modulated by a longitudinal motion back and forth along the pipe. The frame or carriage of my invention may also be employed to hold cutting, grinding, purging or other appropriate tools.

3,509,304
ELECTROEROSIVE MACHINING OF SPINNERET CAPILLARIES USING ALTERNATING CURRENT

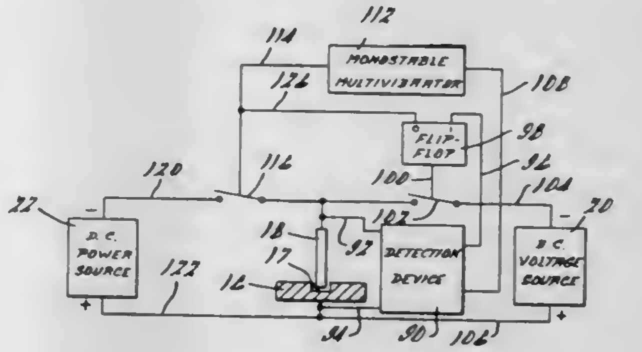
Lloyd M. Moore, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 30, 1967, Ser. No. 664,541
Int. Cl. B23p ***1/08***
U.S. Cl. 219—69 **1 Claim**



This invention concerns electroerosive apparatus for cutting small passages through a metal workpiece, especially a spinneret. The apparatus includes a source of alternating current with a frequency of not more than 700 cycles per second. An electrically conductive wire is reciprocatively mounted. A surface of the workpiece to be machined is juxtaposed to the wire. Means are provided for connecting the source of alternating current between said workpiece and said wire to cause a spark eroding discharge between the workpiece and the wire as the latter reciprocates. A gas containing at least 35 percent (%) free oxygen is present at the point of sparking.

3,509,305
RANDOM GAP PULSING SYSTEM FOR EDM

Robert B. Bertolasi, Rockford, Ill., assignor, by mesne assignments, to Amsted Industries Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 27, 1966, Ser. No. 568,169
Int. Cl. B23p ***1/08***
U.S. Cl. 219—69 **10 Claims**

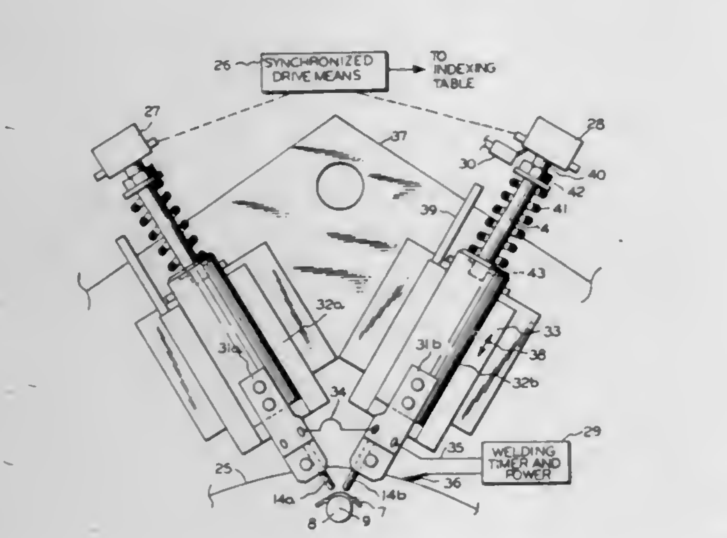


An electrical discharge machine for eroding material from a conductive workpiece by passing successive pulses through an ionizable gap defined between an electrode tool and the workpiece, in which a random gap pulsing method is employed to increase the speed at which material is removed from the workpiece. Independent sources of gap ionizing potential and material eroding energy are selectively coupled across the gap through the operation of respective switches which are controlled by a pulse generating means which, in turn, is controlled by a gap voltage detection means. The pulse includes a bistable circuit which is switched to a first state by the detection means when the gap is deionized, thereby actuating the first of the switches to couple the gap ionizing potential across the gap. It also includes a monostable pulse generator which is triggered by the detection means to provide a pulse of predetermined duration when the gap becomes ionized. This pulse switches the bistable circuit to its second state to deactuate the first switch and also actuates the second of the switches to couple the source of material eroding energy across the gap. A gate, which is inhibited or opened when the voltage across the gap falls below a predetermined low level, may be connected between the monostable pulse generator and the second switch to assure that the material eroding energy is cutoff in the event of a gap short circuit or the like.

3,509,306
METHODS OF PROJECTION WELDING MOUNTING STRAPS TO CATHODE RAY ELECTRODES AND THE LIKE

Chester O. Merchant, Owensboro, Ky., assignor to Kentucky Electronics, Inc., Owensboro, Ky., a corporation of Delaware
Filed Mar. 19, 1968, Ser. No. 714,218
Int. Cl. B23k ***9/00, 11/10***
U.S. Cl. 219—78 **3 Claims**

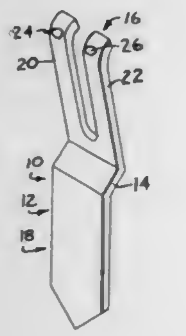
A method of projection welding a thin curved strap with projections onto a mating curved cylindrical surface of a cylindrical cathode ray tube electrode is disclosed. Individual spring loaded welding probes are directed normally to the tangent of the curved surface at a plurality of separate positions adjacent the projections in the strap to force the strap uniformly against the body



during welding with a predetermined force to achieve a face to face contact over the mating curved surfaces.

3,509,307
APPARATUS FOR MAKING ELECTRICAL CONTACTS FROM STRIP STOCK

Thomas Earl Gannoe, Warren, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Original application June 2, 1965, Ser. No. 460,693, now Patent No. 3,382,575, dated May 14, 1968. Divided and this application Mar. 12, 1968, Ser. No. 712,433
Int. Cl. B23k *9/02, 9/12*
U.S. Cl. 219—79 1 Claim

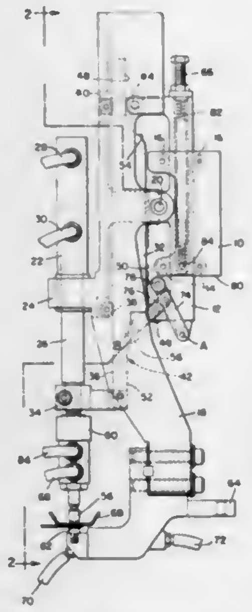


A method and apparatus for applying laterally spaced, noble metal contact points on continuous base metal strip material by effecting relative lateral movement between the strip and contact point applying means at the point applying station.

3,509,308
SELF-TILTING EQUALIZING WELDING GUN

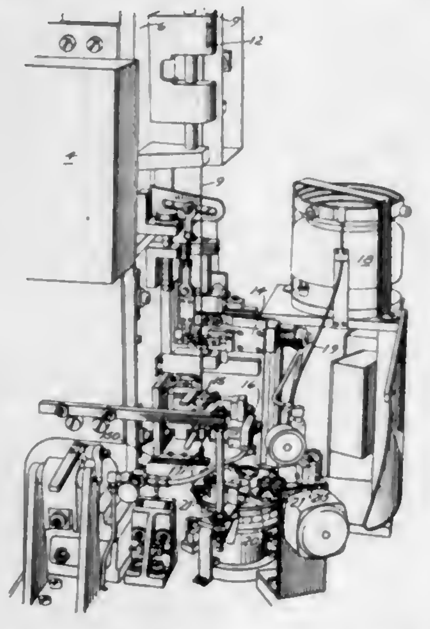
Albert Bende, Haddon Heights, N.J., and Vincent A. Kaitz, Willow Grove, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 26, 1967, Ser. No. 656,287
Int. Cl. B23k *9/28*
U.S. Cl. 219—89 4 Claims

A welding gun and supporting structure having cams, followers and linkages for moving the welding gun between a stored position and a welding position and stop means restricting movement of one electrode until in the welding position and then permitting the welding tips to equalize on the object to be welded during the weld cycle. The fluid pressure actuating means for moving the electrode and applying pressure during the weld cycle is also utilized as the power source for moving the welding gun between the stored position and the welding position.



3,509,309
AUTOMATIC STUD WELDER

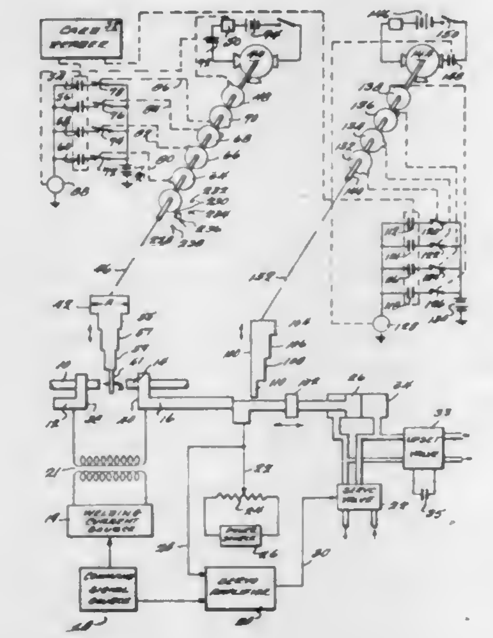
James B. Lindsay, Milburn, William T. Engel, Union, and George D. Brent, North Caldwell, N.J., assignors to Kahle Engineering Co., Union City, N.J., a corporation of New Jersey
Filed Dec. 13, 1966, Ser. No. 601,459
Int. Cl. B23k *9/22*
U.S. Cl. 219—95 7 Claims



A machine is disclosed for automatically welding two small metal parts together such as components for electronic devices including a short lead wire and a more rigid slug or cap member, or the like. The machine includes an upstanding operating head which mounts a spool of wire and which feeds the wire vertically downwardly towards a small horizontal dial mounted on the machine base. This dial has a series of small chucks at its periphery which receive the more rigid members such as the caps and which feed them to a welding position at the lower end of the downwardly feed wire. The machine cuts an end piece from the wire and moves the cut piece into engagement with the cap at the welding station and percussively welds the pieces together. The dial and chuck as well as the wire feed operate at high speeds and suitable welding currents are obtained by a multiple capacitor system which successively charges a series of capacitors and which switches them one at a time into the welding circuit.

3,509,310
APPARATUS FOR CONTROLLING THE OPERATION OF FLASH WELDING SYSTEMS UTILIZING ELECTRO-HYDRAULIC SERVO MECHANISMS

Joseph J. Riley, Warren, Ohio, assignor to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio
Filed Apr. 10, 1967, Ser. No. 629,519
Int. Cl. B23k *11/04*
U.S. Cl. 219—97 34 Claims

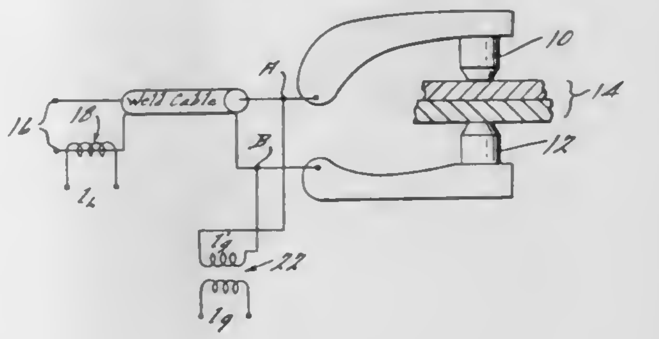


Control system flash welding apparatus utilizing electro-hydraulic servo mechanisms. An electrical signal corresponding to the instantaneous position of a movable workpiece with respect to a stationary one is applied as one input to the servo control system while the other electrical input signal is a command signal indicating the desired position of the movable workpiece with respect to the other. Any difference between the signals at these two inputs is used to position the movable workpiece in a conventional way. During flashing time, the above command signal is established by the curvature of a mechanical cam which drives a linear potentiometer, the potentiometer output being applied as an input to the servo system. The various parameters which must be selected for a given welding schedule are digitally selected, that is, through data processing equipment such as a card reader. Thus, the space bar position, gauge bar position, welding transformer primary voltage, flashing heat control, upset heat control, flashing distance, upset current time and flashing time can all be digitally selected preparatory to the welding operation. Further the selection of the initial die opening is interlocked with the preselected space bar position in such a manner that once the space bar position is established, the initial die opening is also established.

3,509,311
RESISTANCE WELDER MONITOR CIRCUIT

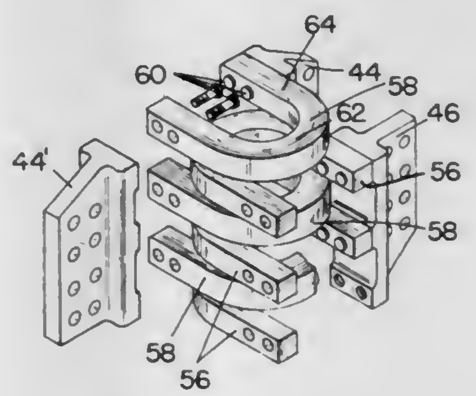
Gardiner A. Noble, Farmington, and Roland J. Le Blanc, Westland, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Continuation-in-part of application Ser. No. 312,760, Sept. 30, 1963. This application Dec. 11, 1967, Ser. No. 689,638
Int. Cl. B23k *11/24*
U.S. Cl. 219—109 6 Claims

In determining the acceptability of a weld, first and second means are used to produce a signal representative of the time after the beginning of a weld period that a positive voltage inflection point occurs and the magnitude of the voltage at that point. The signals are then combined by a signal mixer to provide an output signal which is proportional to the weld power density and which is translated into an indication of weld quality. A means is also provided to detect the slope of the voltage curve extending over the peaks of the voltage cycles following the inflection point which is then occurring. If the extent of the curve is greater than three succeeding cycles, the indicater will not indicate an acceptable weld. This is in anticipation of another positive slope leading to a second inflection point.



3,509,312
TRANSFORMER AND LEAD ARRANGEMENT FOR ELECTRIC WELDING EQUIPMENT AND THE LIKE

Robert G. Steimer and Paul M. Lowy, Pittsburgh, Pa., assignors to Mesta Machine Company, Pittsburgh, Pa.
Filed Oct. 21, 1966, Ser. No. 588,407
Int. Cl. B23k *11/24*
U.S. Cl. 219—116 9 Claims

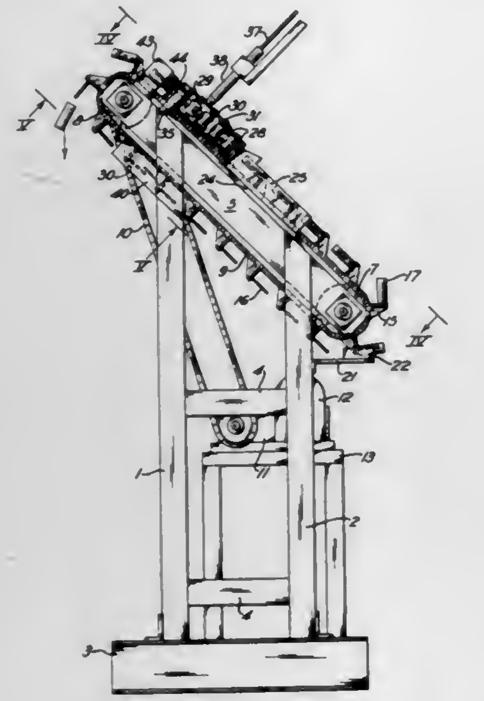


We disclose a flexible lead arrangement for high current systems, said lead arrangement comprising a plurality of flexible conductors each having a looped portion therein, each of said conductors being secured at positions adjacent said looped portion respectively to an output terminal means of a current source and to an input terminal means of a load device, said conductors being disposed in a spaced substantially parallel array to permit substantially universal relative movement between said source and said load device.

3,509,313
MACHINE FOR WELDING SLEEVES TOGETHER

Oscar E. Moyer, Zelienople, Pa., assignor to Universal Manufacturing Corporation, Zelienople, Pa., a corporation of Pennsylvania
Filed May 7, 1968, Ser. No. 727,188
Int. Cl. B23k *9/12*
U.S. Cl. 219—124 10 Claims

An endless conveyor chain extends around vertical front and rear sprockets and carries brackets, to each of which a pair of laterally spaced pins are secured at their rear ends so that as the pins travel up around the rear sprocket they can receive a pair of metal sleeves and carry them forward between guide members mounted above the upper length of the chain. The guide members hold the two sleeves together so that they can be welded together side by side before they fall off the pins traveling down around the front sprocket.



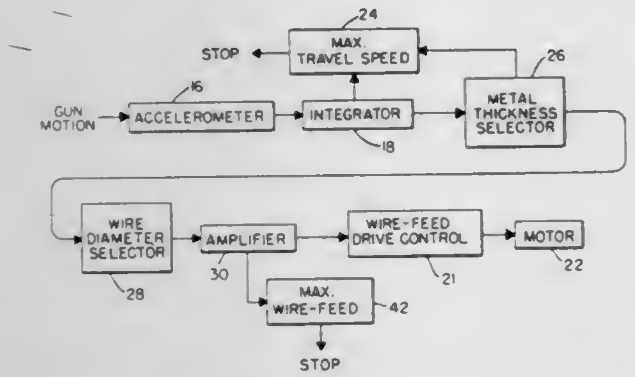
3,509,314
WIRE FEED CONTROL FOR AN AUTOMATIC WELDING SYSTEM

Norman A. Freytag, Ambler, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 26, 1967, Ser. No. 633,924

Int. Cl. B23k *9/10*

U.S. Cl. 219—131 **5 Claims**



Means are attached to a welding gun to develop a voltage relating to the speed of the welding gun. The output voltage is converted to an appropriate form and applied to a motor to control the feed rate of a consumable electrode in accordance with the velocity of the welding gun.

3,509,315
DEVICE FOR THE UNIFORM SUPPORT OF METALLIC WORKPIECES DIRECTLY HEATED BY ELECTRIC CURRENT

Erich Breuer, Holzen, and Werner Kielhorn, Essen-Steele, Germany, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

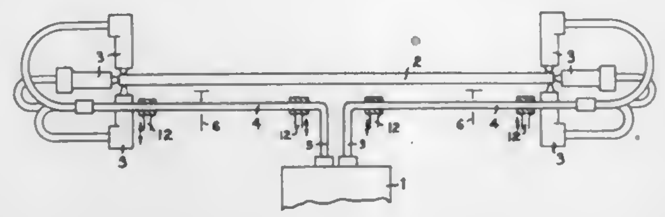
Filed June 14, 1965, Ser. No. 463,626

Claims priority, application Germany, June 18, 1964, B 77,300

Int. Cl. C21d *9/62;* **H05b** *1/00*

U.S. Cl. 219—156 **5 Claims**

For electrically heating a horizontally supported elongated workpiece by passing a current through the workpiece from one end thereof to the other, one or more current supply conductors are arranged below the level of, and parallel with, the workpiece so that the resultant electrodynamic forces created between these supply conductors and the workpiece by the rated value of the heating current passing through them approximately compensates the dead weight of the workpiece. Thus the workpiece is, in effect, practically floated electrodynamically in its horizontal attitude without sag while the current flows and eliminates the necessity for providing longitudinally spaced supports along the workpiece to keep it from sagging too much during the heating process, these supports being undesirable for the reason that they do not prevent all sag and also involve a loss of heat from the workpiece by conduction through the support.



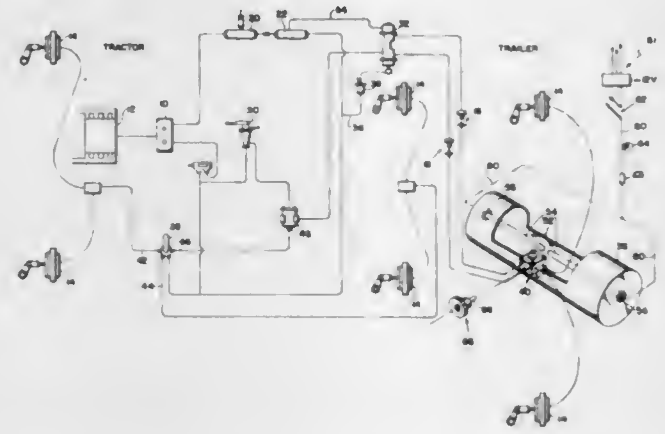
3,509,316
DEFROSTER FOR GAS BRAKING SYSTEM

Anthony J. Fresolo, 652 Hillside Ave., Arlington, Mass. 02174

Filed Oct. 30, 1967, Ser. No. 679,085

Int. Cl. H05b *3/78, 3/00*

U.S. Cl. 219—201 **4 Claims**



This disclosure depicts a gas braking system especially suited for use in trucking vehicles of the tractor-trailer type, and more particularly depicts apparatus for defrosting gas braking systems by direct and intimate contact of a thermally excited mass with the gaseous, pressure-transmitting medium in the system.

3,509,317
INDIRECT RADIANT HEAT SOLDERING APPARATUS

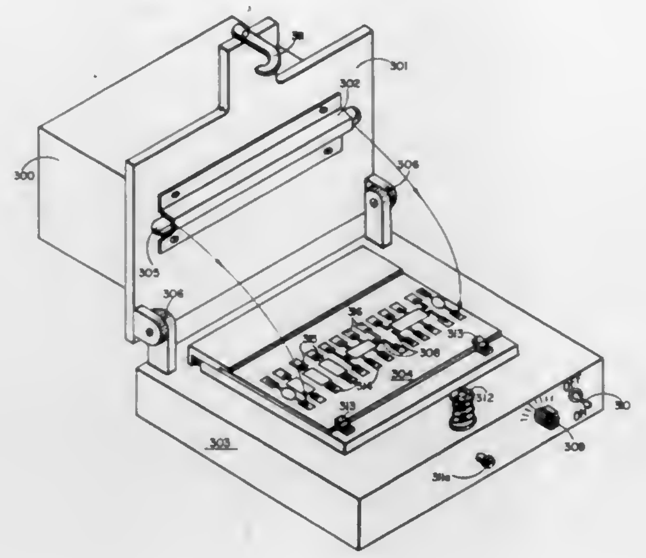
Christopher Valsamakis, Huntington Beach, and Donald E. Reinhart, Diamond Bar, Calif., assignors to North American Rockwell Corporation, a corporation of Delaware

Filed Aug. 1, 1967, Ser. No. 657,559

Int. Cl. H05b *1/00*

U.S. Cl. 219—258 **3 Claims**

Apparatus for simultaneously soldering a plurality of circuit component leads to pads. Radiant heat is applied to heat exchange elements which are in pressure contact with, and conduct absorbed radiant heat to the component leads. The heat exchange element comprises a trough of heat conductive, non-solder adherent metal having an inner coating exhibiting high heat absorptivity.



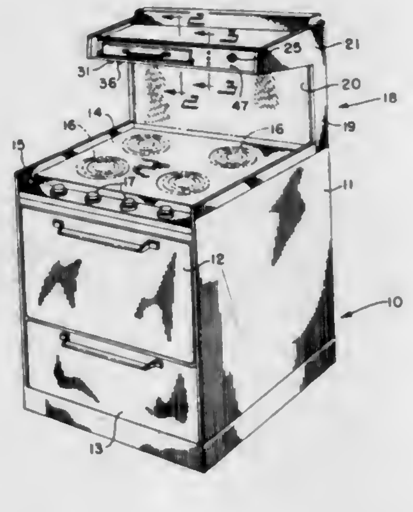
3,509,318
DOMESTIC ELECTRIC APPLIANCE

Harold E. Brown, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

Continuation of application Ser. No. 628,634, Apr. 5, 1967. This application Mar. 26, 1969, Ser. No. 810,854

Int. Cl. F27d *11/02;* **H05b** *3/68*

U.S. Cl. 219—396 **12 Claims**



A domestic electric appliance for kitchen food preparation having basic range structure, viz. an oven and cook top array of surface heaters, and, in combination, a high-speed food electric heater intended principally to provide substantially accelerated defrosting of frozen foods and heating thereof to serving temperature. The combination further includes a heated warming shelf, with the high-speed heater and warming shelf in a backward assembly on the basic range unit.

3,509,319
COUNTER TOP COOKING APPLIANCE

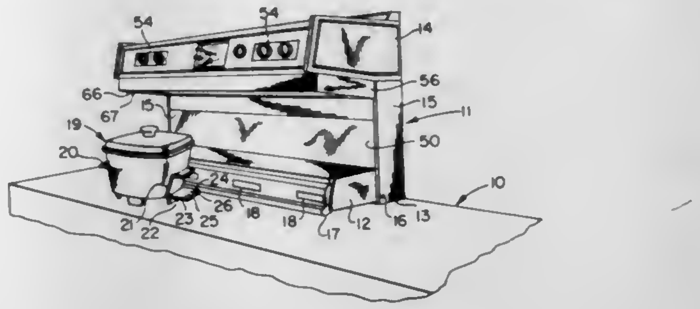
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio

Filed Mar. 5, 1968, Ser. No. 710,525

Int. Cl. H05b *3/68*

U.S. Cl. 219—432 **3 Claims**

An appliance of inverted L-shape to rest on a kitchen counter, with the upper part projecting forwardly as a shelf and a pivoted terminal box stored upright within the vertical section and swinging out to a horizontal working position on the counter. The terminal box has front sockets into which portable electrically heated vessels are plugged, the vessels having plug handle parts and carrying magnets which operate magnetic safety switches in the terminal box when the vessels are plugged in as a requirement for socket energization. The upper section includes a blower and filter for venting the counter area beneath the same.



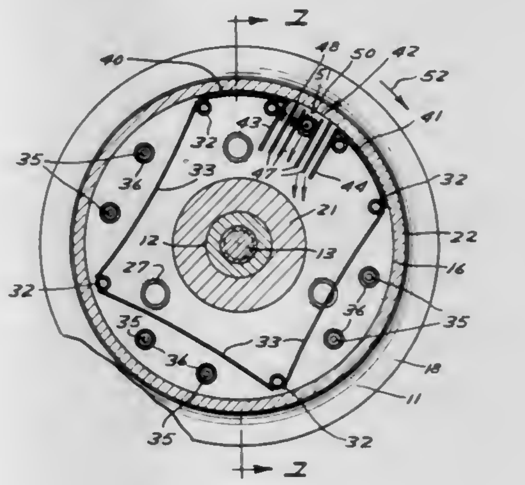
3,509,320
ROLL HEATER AND TEMPERATURE SENSOR ASSEMBLY

Frank D. Werner, Bloomington, August R. Hanson, Rosemount, and Robert A. Johnson, Bloomington, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota

Filed July 19, 1967, Ser. No. 654,500

Int. Cl. H05b *1/02;* **B21b** *27/06*

U.S. Cl. 219—471 **21 Claims**

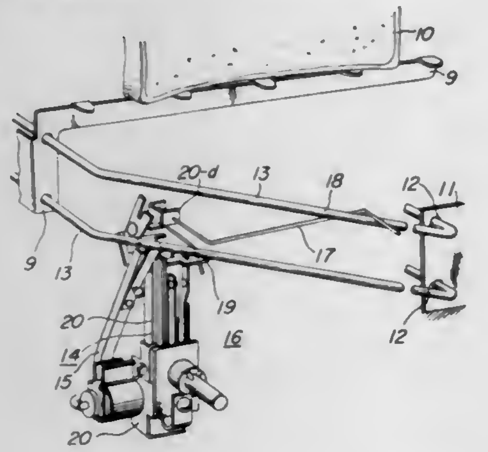


A temperature sensing assembly for sensing the temperature of a surface including a plurality of spaced apart baffle walls positioned very close to a surface to be sensed and forming fluid passageways through which air from adjacent the surface is passed, and a temperature sensor mounted between two of the baffle walls to enable sensing temperatures of air that comes from very close to the surface.

The temperature sensing assembly is used in connection with a rotating roll that has a heater mounted on the interior thereof and which includes resistance heating elements mounted within quartz tubes to minimize convection and allow a greater measure of radiant heat transfer from the elements. The elements are backed by radiation shields to direct radiant heat energy outwardly toward the shell of the rotating roll.

3,509,321
TOASTING PERIOD CONTROL DEVICES FOR AUTOMATIC TOASTERS

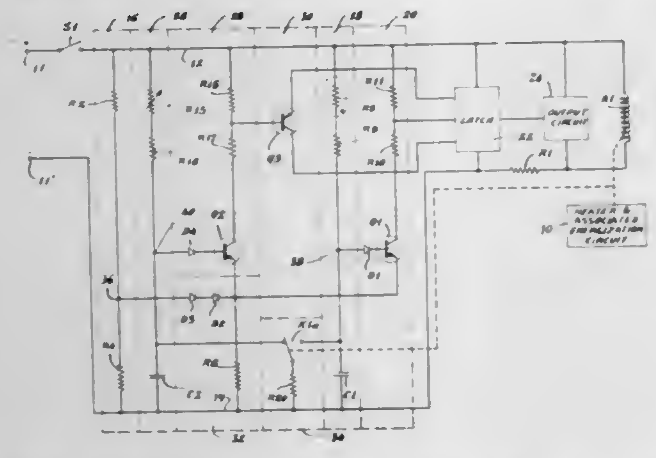
Sinzo Kimura, Higashi-Osaka-shi, and Hiroo Hosono, Osaka, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Mar. 16, 1967, Ser. No. 623,659
Claims priority, application Japan, Mar. 23, 1966, 41/18,378; Dec. 6, 1966, 41/80,506, 41/112,043; Dec. 23, 1966, 41/85,093
Int. Cl. H05b *1/02*
U.S. Cl. 219—492 **7 Claims**



In thermostats adapted to be used for controlling the toasting cycle of automatic toasters, the present invention is concerned with a bimetallic timer system which is capable of controlling the toasting period by means of heat deflection and cooling deflection of a bimetallic element. This specification describes a novel timer of the type specified above, which has overcome the drawbacks of poor followup characteristics against voltage fluctuation, narrow adjustable range of toasting period and irregularly in toasting period, possessed by conventional bimetallic timers, and which comprises radiation type heat sensitive means composed of a ring-shaped bimetallic element and a heater element arranged centrally of said bimetallic element, switch means to control said heating element and toasting heater element, and toasting period adjusting means adapted to adjust the heat deflection and cooling deflection of said bimetallic element.

3,509,322
CONDITION RESPONSIVE INPUT CONTROLLERS

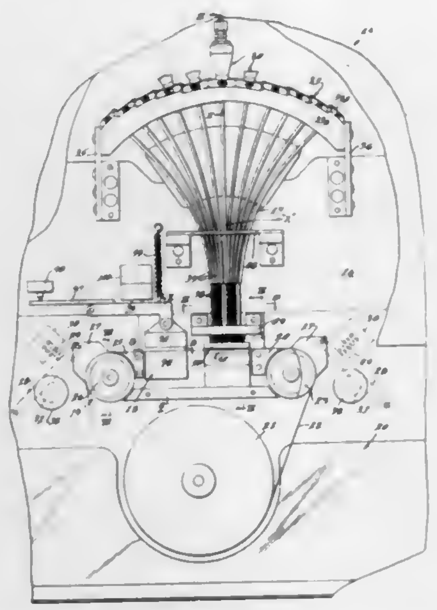
Robert S. Lundin, Thomaston, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed July 19, 1965, Ser. No. 472,844
Int. Cl. H05b *1/02*
U.S. Cl. 219—494 **10 Claims**



A time proportioning control, where the "on" time is controlled according to an existing temperature condition and the "off" time is controlled according to a desired condition. Where the dissipation rate is variable, the "off" interval or overall cycle time is controlled according to the dissipation rate.

3,509,323
TAPE CONTROL DEVICE

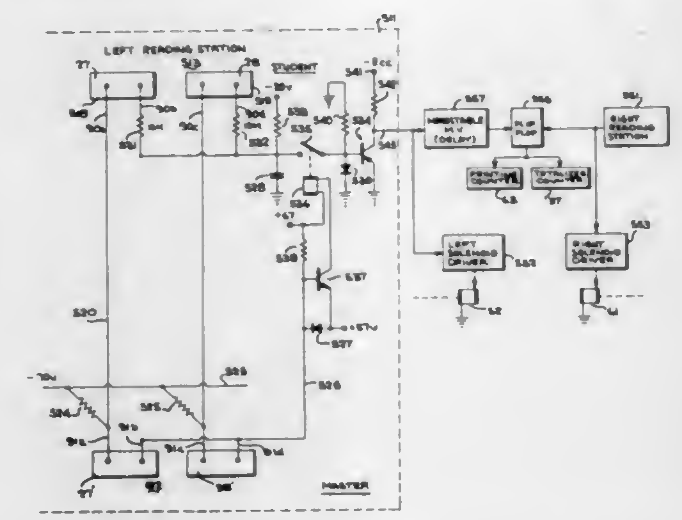
Dennis Daniels, Williamsville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed May 17, 1962, Ser. No. 195,599
Int. Cl. B26f *1/02;* **G06k** *1/08, 7/04*
U.S. Cl. 235—61.1 **8 Claims**



A control-tape device for a machine tool includes a tape perforator adapted to be fluidly connected to the machine tool for sensing and recording the various machine tool functions, certain punches being flexible and having driven ends that converge, other punches being fixedly supported, an alternatively used tape reader for controlling such machine tool functions, the reader including pressure switches whose axes converge and which have a uniform length of pressure lines, and a single intermittent tape drive for moving tape through both the tape-perforator and the tape reader.

3,509,324
TEST GRADING MACHINE

John S. Shaw, Kensington, Md., John J. Dostel, Garden City, N.Y., Donald K. White, Fairfax, Va., Edwin S. Elste, Silver Spring, and John F. Kellogg, Bethesda, Md., and John D. O'Neale, Arlington, Va., assignors, by mesne assignments, to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware
Original application July 18, 1963, Ser. No. 296,071, now Patent No. 3,324,576. Divided and this application Mar. 14, 1967, Ser. No. 632,872
Int. Cl. G06k *5/00*
U.S. Cl. 235—61.7 **10 Claims**

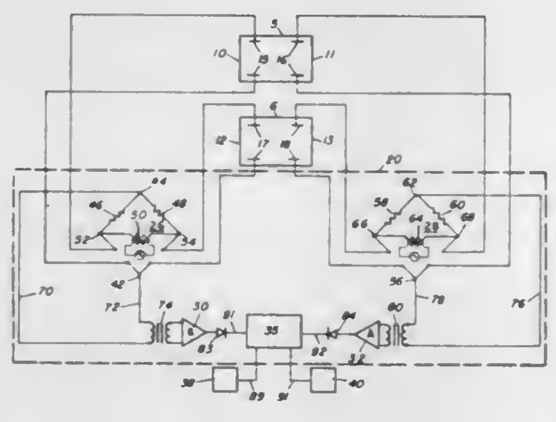


1. In a system for indicating whether a conducting mark selectively located in one of a plurality of areas on a sheet being examined coincides with a conducting mark

located in one of a plurality of areas on a master indicator, comprising a voltage source of one polarity relative to a reference potential, a voltage source of another polarity relative to said reference potential, an energy storing reactance, means for selectively establishing conducting paths through the areas on said sheet and said indicator from said sources to said reactance, the selected path applying a voltage of said first polarity to said reactance when the positions of the conducting marks coincide and applying a voltage of said second polarity to said reactance when the positions of the conducting marks do not coincide, means for discharging said reactance only after the conducting path through the mark on the master is extinguished, and means for sensing the discharge from the reactance.

3,509,325
BIDIRECTIONAL COUNTER APPARATUS WITH SEPARATE DETECTORS

Julius Rockwell, Jr., Washington, D.C., and George M. Lucich, Seattle, Wash., assignors to the United States of America as represented by the Secretary of the Interior
Filed Nov. 15, 1966, Ser. No. 594,586
Int. Cl. G06m *11/04*
U.S. Cl. 235—92 **8 Claims**

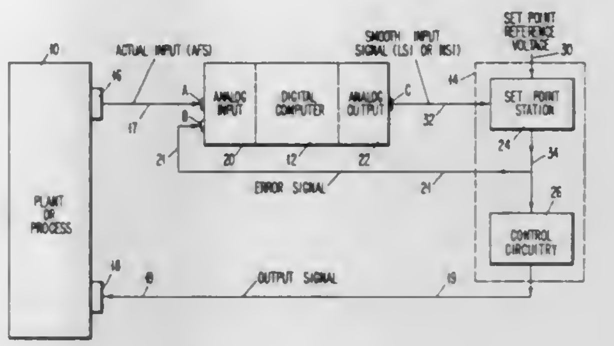


A bidirectional fish counting apparatus in which electrodes of bridge detector circuitry are paired for affixture at each of the respective opposite end openings of underwater passageways wherefore the electrodes are enabled when operable to set up separate electric fields across the respective openings. Resistive variances in arms of the bridge circuitry due to the presence of fish in the electric fields when fish pass through the openings selectively determine inputs to a logic circuit control of directional counters. The electrodes at the openings on the respective sides of the passageways are operationally associated to the bridge and logic control through distinct circuits which are electrically isolated from each other. Made possible thereby is the use of relatively short passageways for reducing the likelihood of the simultaneous presence of fish in any opening to promote counting accuracy.

3,509,326
CLOSED LOOP CONTROL SYSTEM WITH ADAPTIVE FILTER

Donald C. Union, Los Gatos, Calif., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Feb. 23, 1965, Ser. No. 434,347
Int. Cl. G06g *7/66;* **G06f** *15/46*
U.S. Cl. 235—151.1 **5 Claims**

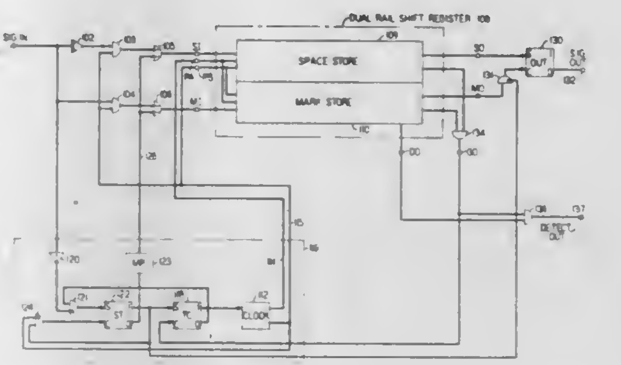
This invention relates to a method of feedback control wherein the feedback signal has a constraint placed on the rate at which it may change. If the feedback signal changes at a rate greater than the limit, the additional change is ignored. The magnitude of the limit at any particular time is a function of the magnitude of the error signal in the system at a prescribed preceding time.



Thus, the magnitude of the error signal at any particular time limits the allowable magnitude at a succeeding time.

3,509,327
CHARACTER TIMING AND READOUT OF DUAL-RAIL SHIFT REGISTER

Glenn E. Larson, Malverne, N.Y., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Sept. 12, 1966, Ser. No. 578,737
Int. Cl. G06f *5/00*
U.S. Cl. 235—154 **5 Claims**

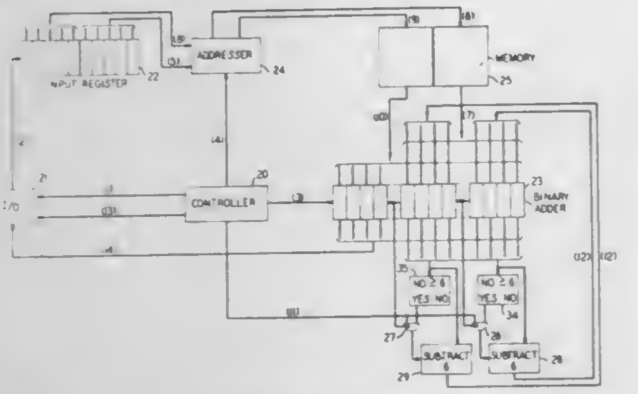


Incoming information in the form of data character binary elements is stored in a dual-rail shift register by applying a bit to the input stage of the shift register rail which represents the binary condition of the element. Upon reception of the start element of the character, however, a bit is applied to both rails. The "double" bit is thereafter detected, when shifted to the final stage of the rails, to terminate the shifting of the data and to effect character readout.

3,509,328
CODE CONVERSION

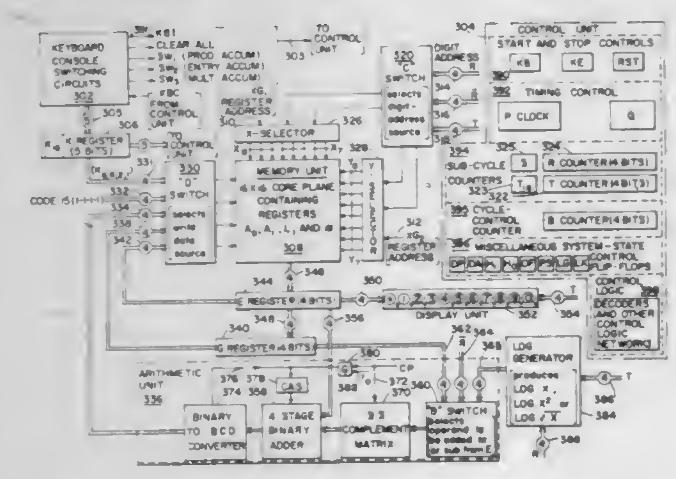
Walter Arnstein, Matawan, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 15, 1965, Ser. No. 439,633
Int. Cl. G06f *5/02;* **H04l** *3/00*
U.S. Cl. 235—155 **3 Claims**

An arrangement is disclosed for converting binary numbers to binary coded decimal numbers through the use of data processing apparatus. The binary number to be converted is registered, divided into two portions and the bits comprising each portion are employed as an address to access a respective binary coded decimal memory word at least some of whose digits are stored in the excess-3 code. The memory words corresponding to the two portions of the binary number to be converted are added in a conventional binary adder and the digits of the sum are corrected by subtracting the digit 6 when required; i.e., when the sum does not produce a "carry" to the next higher digit. The presence or absence of a "carry" may be determined by examining a digit position in the sum lying outside the range of the digits required to indicate the sum.



3,509,329
CALCULATOR

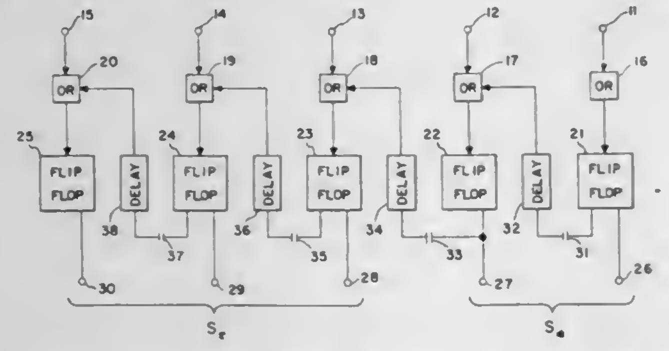
An Wang, Lincoln, Mass., and Prentice Irving Robinson, Hudson, N.H., assignors to Wang Laboratories, Inc., Tewksbury, Mass., a corporation of Massachusetts
Filed Oct. 24, 1966, Ser. No. 588,863
Int. Cl. G06f *15/02*
U.S. Cl. 235—156 **37 Claims**



An electronic calculator includes two independently controllable accumulators permitting simultaneous accumulation of products or quotients from successive multiplications or divisions in one accumulator and accumulation of operands in the other accumulator. A store of logarithmic constant values is utilized to permit single-keystroke generation of logarithms and antilogarithms.

3,509,330
BINARY ACCUMULATOR WITH ROUNDOFF

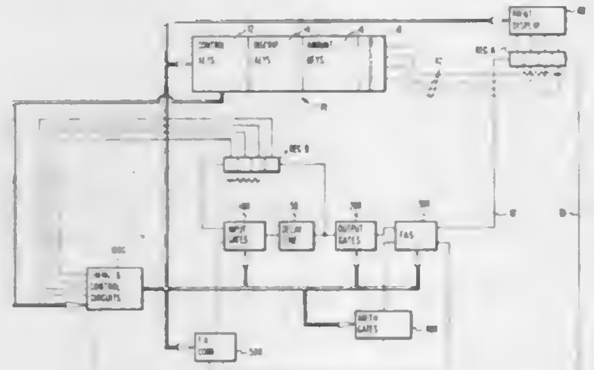
William G. Batte, 146 Westbrook Drive, Hampton, Va. 23366
Filed Nov. 25, 1966, Ser. No. 597,140
Int. Cl. G06f *7/385, 5/00*
U.S. Cl. 235—175 **2 Claims**



A binary accumulator that produces a summed output in two portions: the value of the output rounded off, and the plus or minus value of the roundoff error. There is a ratio of two-to-one between the least significant bit of the rounded off portion and the most significant bit of the roundoff error portion.

3,509,331
SERIAL-BY-DIGIT RECIRCULATING ACCUMULATING REGISTER

Alfred Cutaia, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 24, 1966, Ser. No. 588,931
Int. Cl. G06f *3/02, 7/48*
U.S. Cl. 235—176 **6 Claims**

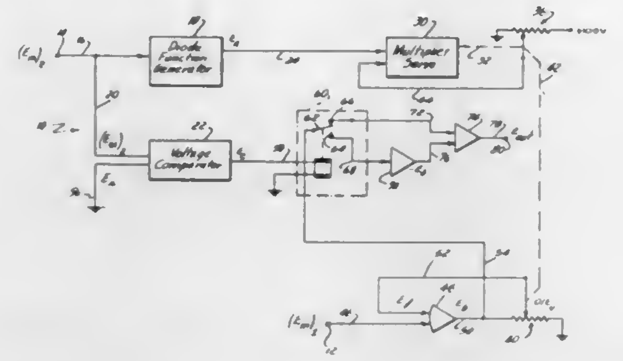


In a small calculator or computer, a delay line stores data words to be operated upon. Each word has an address-character location and a number of digit-character locations of like order. An arithmetic processor receives the digit characters from storage and other digits from manual amount keys, and combines the two sets of characters serially in accordance with an arithmetic function specified by manual control keys. A single shift register is a common entry point for data from the keys and the processor. An oscillator supplies high-frequency pulses for synchronizing the individual digit bits in the delay line and processor. Another oscillator, activated by depressing the keys, supplies low-frequency pulses for supervising the overall input, arithmetic and output synchronization; its operation is not tied to that of the first oscillator. Initially, address characters are loaded into the delay line at random locations by generating a sequence of address characters, scanning the delay line for empty address locations, and loading the characters into empty locations as they appear. A printer may display the shift register contents for outputting. Plural digit characters in each word may be used to accumulate several results simultaneously, such as minor totals and grand totals.

3,509,332
ANALOG FOUR QUADRANT DIVIDE CIRCUIT

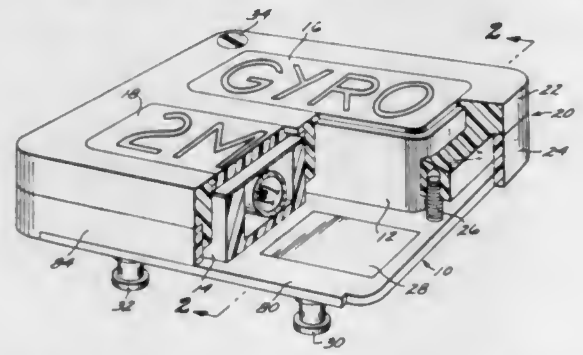
Bernard J. Newman, Eatontown, N.J., and Igor V. Golovcsenko, Winter Park, Fla., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 3, 1968, Ser. No. 733,985
Int. Cl. G06g *7/16*
U.S. Cl. 235—196 **4 Claims**

An analog four quadrant dividing device is described comprising servo means and a follow-up potentiometer, a high gain first operational amplifier connected to receive a first analog voltage input $(E_{in})_1$ and a feedback voltage from a potentiometer which is positioned with the follow-up potentiometer so as to provide an output E_b, a diode function generator connected to receive a second analog voltage input $(E_{in})_2$ and characterized by a transfer function such that it provides an output E_a to the servo means which is equal in magnitude to $(E_{in})_2$ when $|(E_{in})_2| \geq$ a predetermined value Z, and is equal to Z when $|(E_{in})_2| < Z$, whereby useful values of E_b may be obtained irrespective of one or the other of the inputs approaching zero, the device further comprising voltage comparator, relay, and additional operational amplifier means operative to produce from E_b a final output E_{out} of proper sign.



3,509,333
LIGHTED DISPLAY UNIT

William J. Lang, Orange, Calif., assignor to Symbolic Displays, Inc., Orange, Calif., a corporation of California
Filed Nov. 13, 1967, Ser. No. 682,285
Int. Cl. F21l *15/00*
U.S. Cl. 240—11.2 **8 Claims**

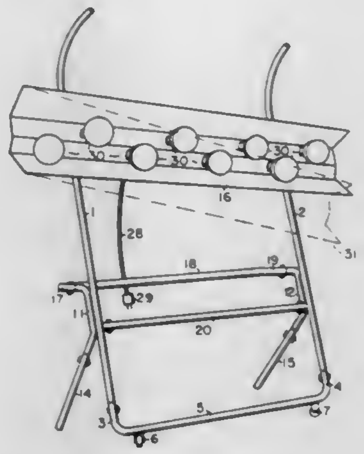


The generally cubical light modules contain incandescent bulbs whose light is emitted from one face of the cube. The opposite face of the cube is formed with electrical contact means which are placed upon the circuit contacts of a circuit board which serves as the base of the unit. A bezel overlies each of the modules. The bezels are made of transparent or translucent material coated to render them opaque except in areas defining the required indicia. The unit also includes a frame which is secured to the base and which encompasses the modules and bezels and holds them clamped against one another and the base in proper spaced relation and in contact with the electrical contacts of the base. The frame is formed in two parts, one of which nests within the other and telescopes within that other in the direction toward and away from the base. This frame arrangement precludes light leaks from the sides of the unit, overcomes differences in dimension of components within the limits of normal manufacturing tolerance, and permits resilient engagement of the module and base electrical contact means.

3,509,334
ADJUSTABLE LAMP STAND

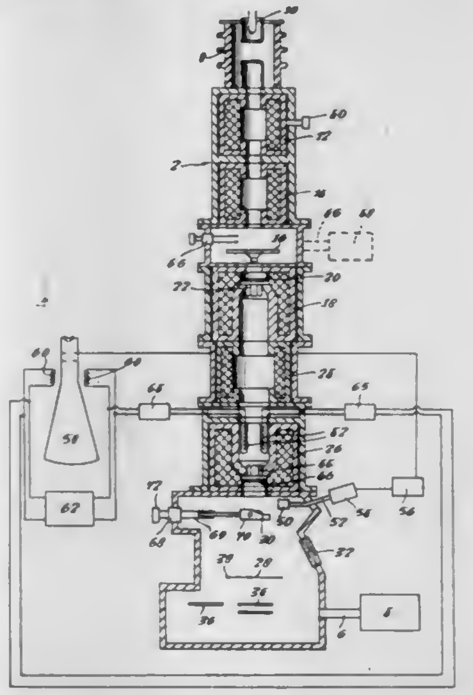
Stoyan P. Michailov, % Mikeloff Bros., 4514 San Fernando Road, Glendale, Calif. 91204
Filed July 31, 1967, Ser. No. 657,382
Int. Cl. F21s *1/12*
U.S. Cl. 240—81 **5 Claims**

An industrial lamp stand having a pair of spaced uprights for frictionally holding a horizontal member carrying plural lamps at a selected height. The uprights are curved forward at the tops for directing illumination downwardly rather than horizontally, if desired. Slots in brackets attached to the horizontal member engage the uprights with static friction because the weight of the horizontal member exerts a turning moment on the brackets. Plural horizontal elements space the uprights apart and are disconnectable for disassembly. A leg angles backward from each upright and casters on a lower horizontal element bear upon the floor for support. By slightly raising the legs the stand can be rolled from one place to another.



3,509,335
ELECTRON MICROSCOPE HAVING TWO SEPARATE SPECIMEN STAGES

William Charles Nixon, 2 Causewayside, Fen Causeway, Cambridge, England
Filed June 26, 1967, Ser. No. 648,736
Int. Cl. H01j *37/26*
U.S. Cl. 250—49.5 **10 Claims**

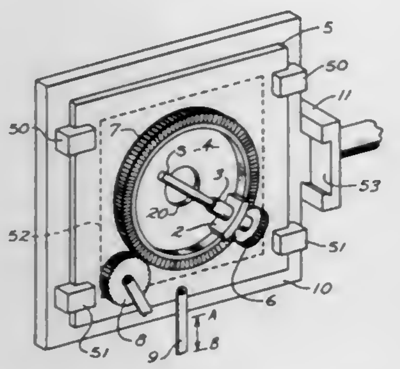


The specification discloses the construction of an electron microscope that has two separate specimen stages so arranged that the electron beam areas at the respective stages are widely disparate, the stage associated with the larger beam area thereby being utilizable for non-scanning observations and the stage associated with the smaller beam area being utilizable for scanning observations.

3,509,336
APPARATUS AND METHOD FOR OBTAINING X-RAY DIFFRACTION PATTERNS

Zigmond W. Wilchinsky, Westfield, and Thomas C. Menzel, Orange, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Continuation-in-part of application Ser. No. 521,926, Jan. 20, 1966. This application Mar. 7, 1969, Ser. No. 816,141
Int. Cl. G01n *3/20;* **H01j** *37/20*
U.S. Cl. 250—51.5 **11 Claims**

The instant application is directed to a mechanism which provides means for holding an X-ray diffraction sample wherein the sample may be rotated in a plane perpendicular to the X-ray bombardment beam and at the same time rotated about an axis parallel to said plane.

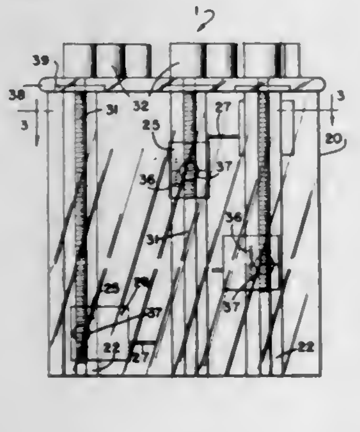


In addition, means are provided for imparting a reciprocal motion to the sample in a plane coincident with the plane of rotation of the sample perpendicular to the X-ray beam.

3,509,337
TEST OBJECT AND CASSETTE FOR TOMOGRAPHY

Joseph L. De Clerk, Red Bank, and Harry S. Harvey, Jr., Fort Lee, N.J., Lloyd S. Landa, Mamaroneck, N.Y., and James E. Rykel, Longbranch, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 30, 1967, Ser. No. 686,889
Int. Cl. G03b *41/16*
U.S. Cl. 250—61.5 **2 Claims**



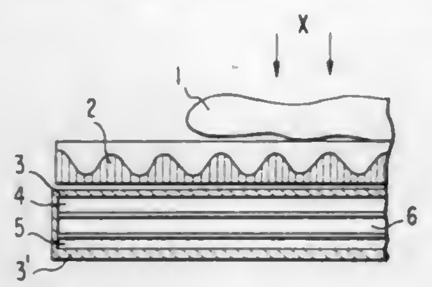
This invention relates to improvements for greater precision in the art of simultaneous multisection radiography. It has been discovered that by utilizing a book cassette having solid separation sheets of precision flatness and a phantom test object having precision machined lead numbers adjustable to the level desired, the Polytome is capable of producing body section radiographs of superior overall parallelism from film plane to film plane.

3,509,338
METHOD FOR RECORDING A RADIOGRAPH USING A PARTICULAR HALF TONE SCREEN

Mataichi Tajima, Ashigara-Kamigun, Kanagawa, Japan, assignor to Fuji Shashin Film Kabushiki Kaisha, Ashigara-Kamigun, Kanagawa, Japan

Filed Dec. 15, 1965, Ser. No. 513,958
Claims priority, application Japan, Dec. 15, 1964, 39/70,319
Int. Cl. G01n *23/04;* G03b *41/16*
U.S. Cl. 250—65 **6 Claims**

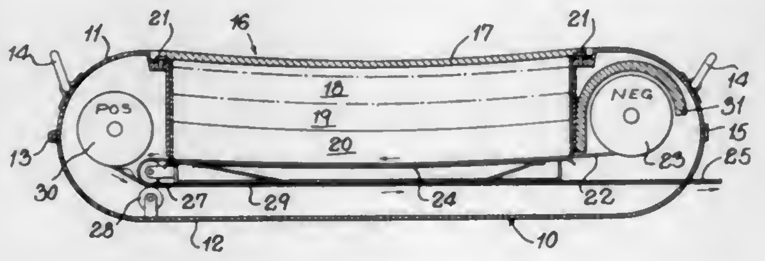
A process for recording, utilizing X-ray-sensitive materials, the improvement which comprises interposing a half tone screen of wave-like form at a place between the object which is under examination and the X-ray-sensitive material utilized for recording. X-ray recordings of greatly improved clarity may thereby be obtained without unwanted X-ray scattering.



3,509,339
APPARATUS AND METHOD FOR PRODUCING PHOTOGRAPHIC RECORDS OF DISTRIBUTION PATTERN OF RADIOACTIVE ISOTOPES IN THE HUMAN BODY

Gunther Anthony Doehner, 8 Tyson Lane, Rumson, N.J. 07760

Continuation-in-part of application Ser. No. 567,994, July 26, 1966. This application Aug. 30, 1967, Ser. No. 666,544
Int. Cl. G01n *21/34, 23/04*
U.S. Cl. 250—65 **29 Claims**



A collimating and light-producing device which forms a photographic image of the the distribution pattern of radiations emanating from a source such as a portion of the human body containing radioactive isotopes. Various forms of collimators are illustrated. Each of the collimators excludes radiations having a path of travel which deviates materially from normal to the plane of the photographic film or plate. The radiations which have passed through the collimator produce illumination and exposure of a photographic film in accordance with the radiation intensity of each of many discrete areas determined by the collimator. Light producing devices include crystals such as thallium-activated sodium iodide, caesium iodide, plastic phosphors, semiconductors such as cadmium sulfide connected to control current flow through an electrofluorescent phosphor, neon glow lamps through which current flow is controlled by a semi-conductor or an ionization chamber, and ionization chambers used directly.

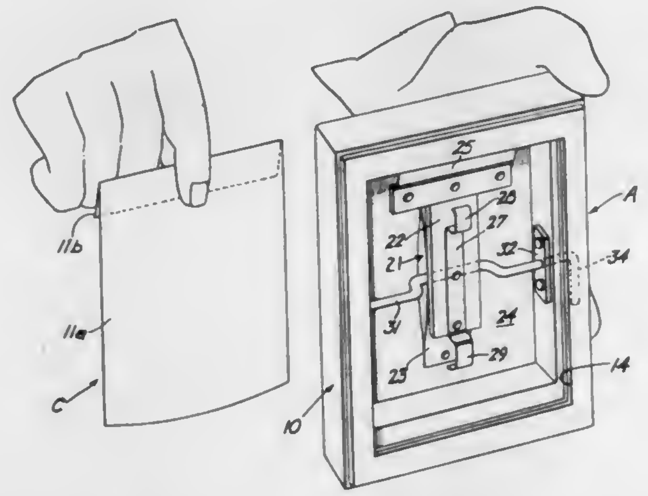
The light exposes the film with a pattern which represents the pattern of radiation distribution in the portion of the body under examination. Any abnormality in the distribution pattern indicates a corresponding abnormality in the body and diagnosis becomes possible in situations where X-ray examination would reveal nothing.

3,509,340
X-RAY SCREEN ADAPTER FOR PHOTOGRAPHIC NEGATIVE HOLDER

Davis M. Wood, Los Altos, and Warren R. Varcoe, Sunnyvale, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Jan. 10, 1967, Ser. No. 608,422
Int. Cl. G03b *41/16*
U.S. Cl. 250—68 **6 Claims**

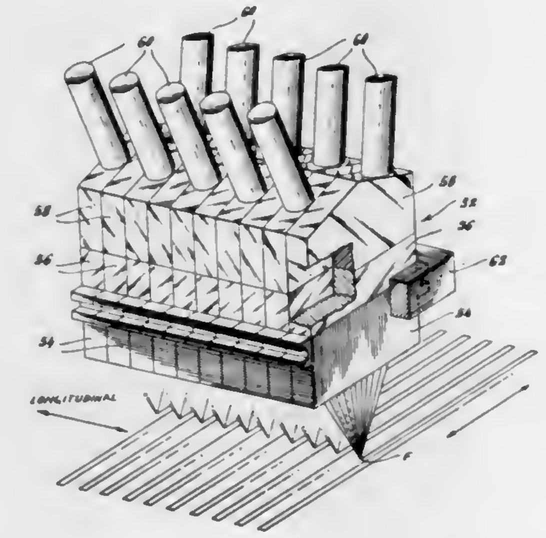
A mechanism, herein referred to an an "adapter," comprising a box-like enclosure with a light-tight recess therein for receiving a Polaroid Land type cassette having inserted therein a Polaroid Land type multilayer photosensitive monopak which includes a photographic negative with a sheet metal sealing clip on one end thereof, the negative being enclosed in a slidably removable envelope. Means are provided in the housing for supporting a sheet of fluoroescent coated material, herein referred to as an "X-ray screen," and for advancing the X-ray screen into face-to-face contact with the negative of a monopak inserted in a casette in the housing upon withdrawing the envelope of the monopak to expose the negative. Upon returning the envelope to its former position the envelope encases the X-ray screen in face-to-face relation with the negative and enters the clip to reseal the monopak. The monopak with the X-ray screen therein can then be removed from the cassette, and after exposure to X-rays the X-ray screen can be removed from the monopak and the latter again resealed by reversing the foregoing procedure, after which the photosensitive elements of the monopak may be developed as desired.



3,509,341
MULTIPLE DETECTOR RADIATION SCANNING DEVICE

Robert Hindel, Hamden, and George R. Utting, Guilford, Conn., assignors, by mesne assignments, to Picker Corporation, White Plains, N.Y., a corporation of New York

Filed June 1, 1966, Ser. No. 554,536
Int. Cl. G01t *1/20*
U.S. Cl. 250—71.5 **21 Claims**

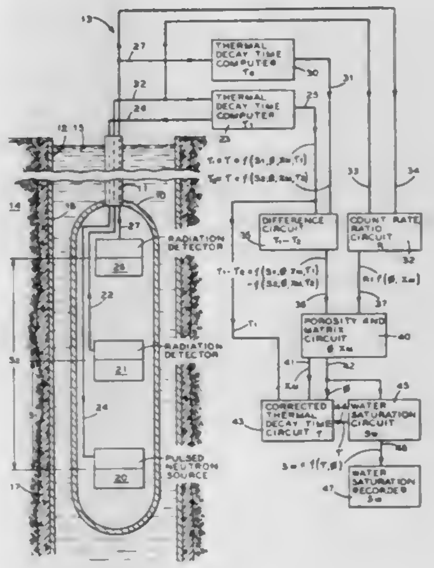


A multi-channel scanner is disclosed for mapping radioisotope distribution within a human body. The device employs a movable arm housing a scanning head enclosing a linear array of relatively large scintillation crystals. Each crystal is mounted on a collimator unit focused to an external point and atop each crystal is a light pipe and photodetector. The head is controlled to cause the focal points to trace an interlaced pattern. Digital to analogue circuitry provides a cathode ray tube display as one output, the spatial position of each collimator unit being converted to vertical and horizontal deflection voltages and the incidence of scintillations being converted to spot intensity. There is also provided a single control means for simultaneously adjusting the central energy and window width of all channels.

3,509,342
TWO DETECTOR PULSED NEUTRON LOGGING TOOL

John T. Dewan, Houston, Tex., assignor to Schlumberger Technology Corporation, Houston, Tex., a corporation of Texas

Filed Dec. 8, 1966, Ser. No. 600,170
Int. Cl. G01v *5/00;* G01t *1/16*
U.S. Cl. 250—83.1 **14 Claims**


THERMAL DECAY TIME COMPUTER
THERMAL DECAY TIME COMPUTER
RADIATION DETECTOR
RADIATION DETECTOR
PULSED NEUTRON SOURCE
DIFFERENCE CIRCUIT
COUNT RATE RATIO CIRCUIT
POROSITY AND MATRIX CIRCUIT
CORRECTED THERMAL DECAY TIME CIRCUIT
WATER SATURATION CIRCUIT
WATER SATURATION RECORDER

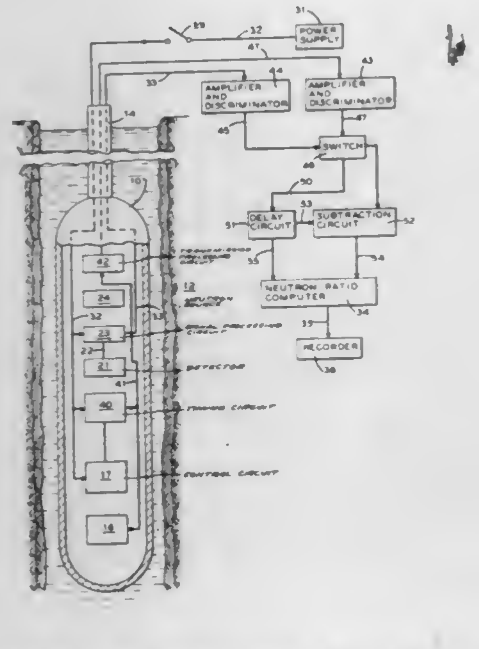
One embodiment of the invention enables the observed neutron absorption characteristics of an earth formation to be corrected for neutron diffustion effects. Two neutron detectors space at different distances from a source of pulsed neutrons observe themal neutron decay times τ_1 and τ_2. These observed values of τ_1 and τ_2 are combined with a ratio of detector count rates R to produce a more accurate value of thermal neutron decay time, τ; water saturation, S_w; and apparent thermal neutron decay time in the formation water, τ_{wa}.

3,509,343
MEASURING APPARATUS AND METHOD

Stanley Locke, Norwalk, Conn., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas

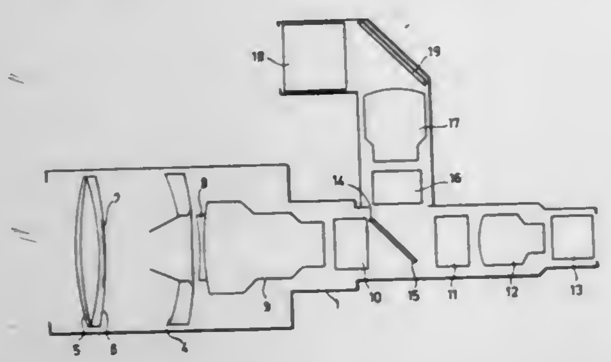
Filed Aug. 21, 1967, Ser. No. 662,111
Int. Cl. G01t *3/00*
U.S. Cl. 250—83.1 **1 Claim**

In accordance with an illustrative embodiment of the invention, a 14 mev. neutron source and a 5 mev. neutron source are mounted within a borehole logging tool, The neutron population characterizing the earth formation generated by the 14 mev. source is contrasted with the neutron population generated by the 5 mev. source by computing a ratio of the detected neutron activity originating in the higher energy range to the neutron activity produced by the low energy source. The ratio indicates the mineral composition of the earth formation surrounding the borehole. Thus, sandstone is characterized by a lower ratio than either a dolomite or a limestone formation, the silicon in the sandstone absorbing relatively more high energy neutrons.



3,509,344
DEVICE WITH A NIGHT TELESCOPE

Albert Bouwers, Den Haag, Netherlands, assignor to N.V. Optische Industrie "De Oude Delft," Delft, Netherlands, a Dutch corporation
Filed May 17, 1967, Ser. No. 639,125
Claims priority, application Netherlands, May 18, 1966, 6606802
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **1 Claim**

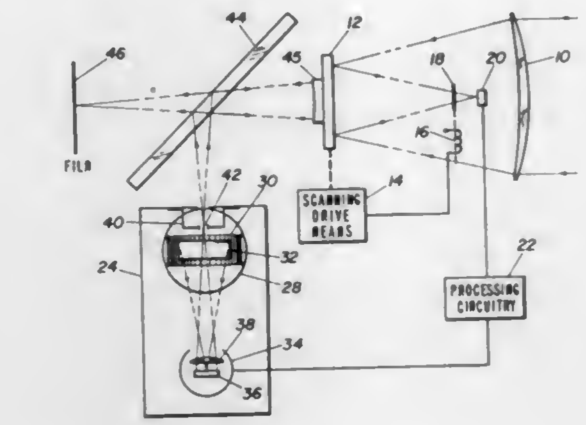


A two stage electron-optical night telescope for passive use is combined with an infra-red search light and an infrared image converter producing a visible image of the irradiated area. The latter image can be momentarily presented to the second stage of the passive telescope instead of the first stage passive image, in order to improve the perceptability of e.g. objects under trees.

3,509,345
LIGHT MODULATION MEANS FOR AN INFRARED THERMOGRAPH

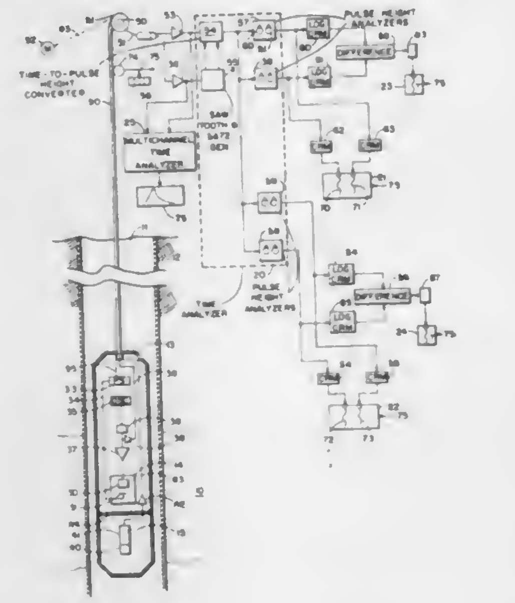
Robert W. Astheimer, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,340
Int. Cl. G01t *1/16*
U.S. Cl. 250—83.3 **4 Claims**

An infrared thermograph is provided which synchronously scans an infrared detector over a field of view and a constant brightness light source over a light sensitive surface to produce a thermal image of the field of view of the thermograph. The constant brightness light source, which is fed through a filter means, is modulated by a mirror mounted on the coil system of a galvanometer movement which is driven by the output of the infrared detector in accordance with the radiation received from the field of view of the thermograph. A variety of different visual displays, including color or gray-tone modulation, can be obtained depending on the filter used.



3,509,346
IN PULSED NEUTRON OPERATIONS, USE OF SINGLE DETECTOR TO OBTAIN MEASUREMENTS OF POROSITY AND CHEMISTRY OF UNKNOWN SUBSTANCES

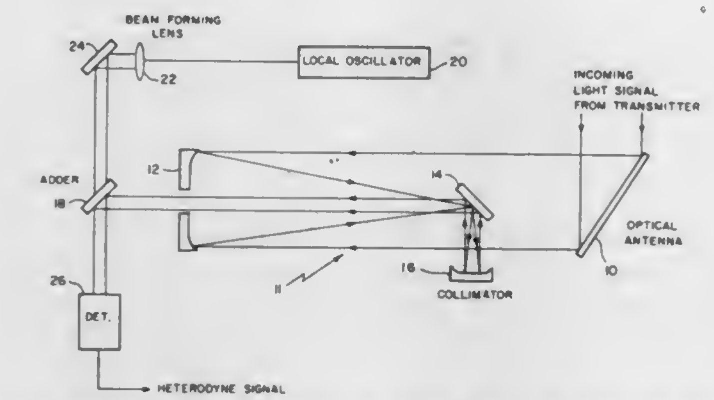
William R. Mills, Jr., and Linus S. Allen, Jr., Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed June 18, 1965, Ser. No. 464,993
Int. Cl. G01t *1/18, 1/16;* **H01j** *39/00*
U.S. Cl. 250—83.6 **1 Claim**



The specification discloses a pulsed neutron logging technique and system wherein a pulsed source is operated to produce bursts of fast neutrons and a single detector is employed to detect the resulting radiation between neutron bursts. The neutron burst time preferably is less than about twenty microseconds. The detector employed preferably is a thermal neutron detector having a relatively high efficiency for epithermal neutrons. Measurements are made of the neutrons detected within about fifty microseconds following each burst in order to obtain a measure of the epithermal neutrons detected and hence a measure of the porosity of the formations. At later time intervals, measurements are made of thermal neutrons detected in order to obtain a measure of the chemical nature of the formations.

3,509,347
OPTICAL SUPERHETERODYNE SYSTEM EMPLOYING NON-SYMMETRICAL WAVES

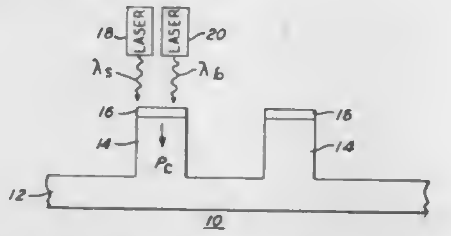
Kenneth T. Lang, Needham, and Robert F. Lucy and Edward L. McGann, Andover, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 7, 1967, Ser. No. 658,775
Int. Cl. H04b *9/00*
U.S. Cl. 250—199 **5 Claims**



An optical superheterodyne receiver in which the wavefront of the received light beam and the wavefront of the local oscillator light beam are non-symmetrical. The received signal can have either a plane or a spherical wavefront, while the local oscillator signal has a spherical wave front, and the non-symmetry of these signals when mixed permits a heterodyne output even under conditions of angular misalignment.

3,509,348
OPTICAL MEMORY DEVICE UTILIZING METAL SEMICONDUCTOR PHASE TRANSITION MATERIALS

William S. Boyle, Summit, and Hans W. Verleur, Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Sept. 18, 1967, Ser. No. 668,503
Int. Cl. H03k *19/14*
U.S. Cl. 250—211 **8 Claims**

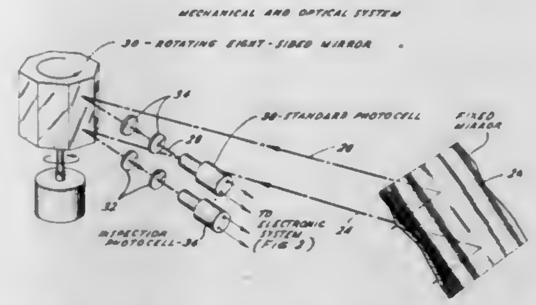


An optical memory device utilizes the variable absorptivity characteristics of materials which undergo a metal-semiconductor phase transition. The power versus temperature characteristic of the material, when the material is coupled to an appropriate heat sink, exhibits two stable temperature states, one above and one below the transition temperature. The device is accessed by two light beams.

3,509,349
SURFACE FINISH INSPECTION DEVICE UTILIZING A PLURALITY OF LIGHT SOURCES

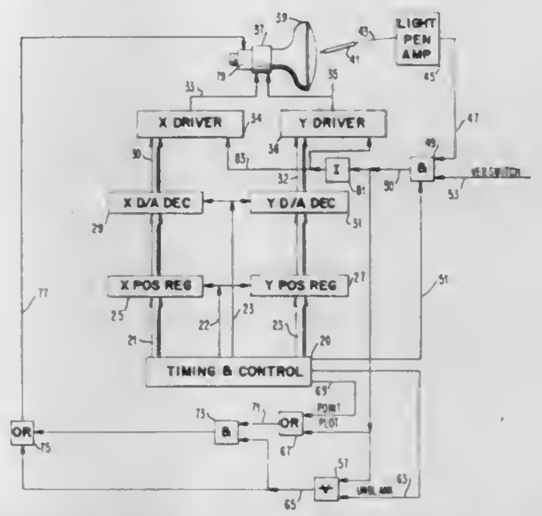
Joseph L. Molines, Gulph Mills, and Ralph T. Vernot, Philadelphia, Pa., assignors to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed May 21, 1968, Ser. No. 730,815
Int. Cl. G01n *21/16;* **H01j** *39/12*
U.S. Cl. 250—214 **10 Claims**

Surface finish inspection device employing a plurality of light sources for illuminating a surface, a scanner for generating an alternating signal whose peak-to-peak amplitude corresponds to the contrast of a scanned reflection of said light sources in said surface, and an electronic system for providing an indication when the peak-to-peak amplitude of the generated signal is below a predetermined value for a given period. In the electronic system, the generated scan signal is full-wave rectified, amplitude inverted, and keyed by a sampling signal (generated by direct scansion of an additional plurality of light sources), whereby error pulses are generated in response to any relatively rough areas of surface. Error pulses are supplied to an integrator, which triggers a threshold circuit if its output voltage exceeds a predetermined level, indicating that a relatively rough area exceeds a predetermined size.


MECHANICAL AND OPTICAL SYSTEM
30 - ROTATING EIGHT-SIDED MIRROR
28 - STANDARD PHOTOCELL
FIXED MIRROR
INSPECTION PHOTOCELLS
ELECTRONIC SYSTEM (FIG. 2)

3,509,350
LIGHT PEN DETECTION VERIFICATION DISPLAY SYSTEM

Ralph J. Gundrum, Rhinebeck, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 17, 1966, Ser. No. 587,183
Int. Cl. G02f *1/28*
U.S. Cl. 250—217 **8 Claims**

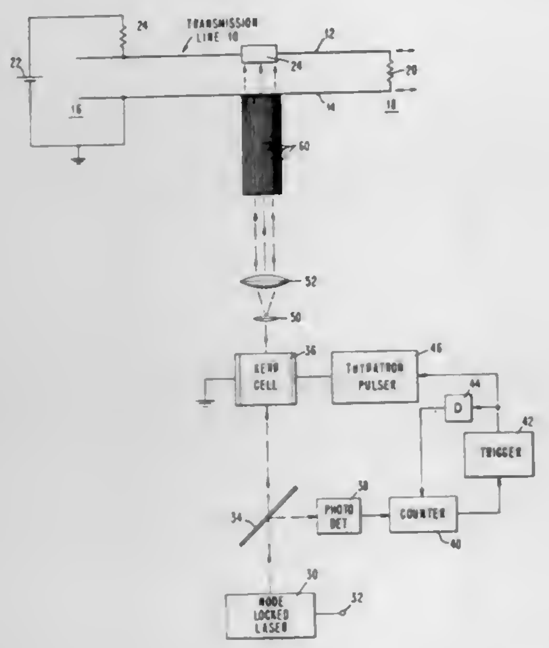


Where display criteria are closely positioned, it is essential to indicate to the operator that the specified criteria on the face of a CRT display has been detected by a light transducer rather than an adjacent criteria, since the selected criteria may form the basis for subsequent data processing. A detection verification system provides a visual verification of the detection by altering the detected symbol or pattern. Alteration takes the form of distortion by modifying the deflection signals and reversing the blank/unblank condition of the CRT for a predetermined interval such that the alteration is immediately visible to the operator.

3,509,351
LASER CONTROLLED HIGH SPEED PULSE GENERATOR

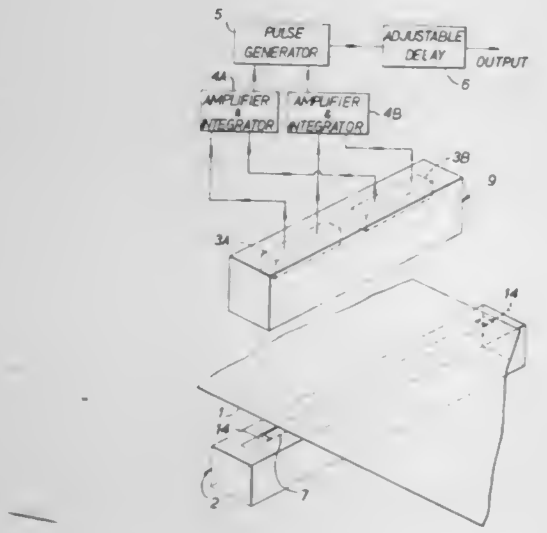
Paul E. Stuckert, Katonah, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,823
Int. Cl. H01j *39/12;* **H04b** *3/04;* **H03k** *5/00*
U.S. Cl. 250—217 **13 Claims**

The pulse generator produces outputs at one end of a coaxial transmission line which is terminated in the characteristic impedance of the line. A section of the inner conductor of the line is formed of high resistivity silicon. A light pulse of very short duration, about five picoseconds, produced by a mode locked laser is applied to the silicon section. The light pulse raises the conductivity of the silicon and causes to be produced across the characteristic impedance termination an output pulse having a rise time substantially equal to the duration of the applied light pulse.



3,509,352
HOLE DETECTOR FOR SHEET MATERIALS

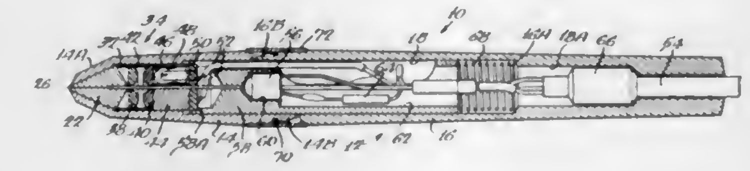
Paul Nash and Gordon Brian Hick, Ottawa, Ontario, Canada, assignors to Nash and Harrison Limited, Ottawa, Ontario, Canada
Filed Sept. 19, 1966, Ser. No. 580,495
Claims priority, application Canada, Sept. 23, 1965, 941,277
Int. Cl. G01n *21/16, 21/32*
U.S. Cl. 250—219 **8 Claims**



Means for detecting defects such as holes in moving sheet material, the sheet material being opaque to radiation in the region of 3500 to 4000 A., including projecting such radiation onto one surface of the sheet material and detecting radiation passing through said holes or thin spots by means at the opposite side of the moving sheet material.

3,509,353
PORTABLE RECORD READER

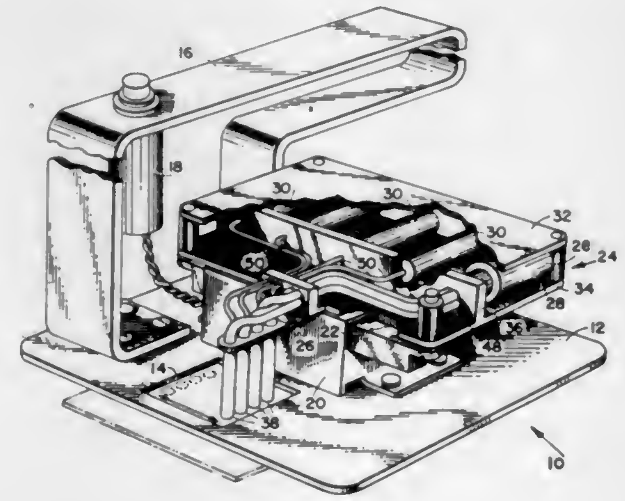
Gunnar E. Sundblad, Bromma, and Tore Améen, Solna, Sweden, assignors to Svenska Dataregister AB., Solna, Sweden, a corporation of Sweden
Filed June 27, 1967, Ser. No. 649,313
Int. Cl. H01j *5/16, 5/02*
U.S. Cl. 250—227 **6 Claims**



A portable, optical record reader with a two-part pen-like housing having a tapered end with a central opening. An integral light coupling assembly formed of a conical prism, an axially extending optical fiber, and a protective tube for the fiber are slidably mounted in the chamber with the prism at the tapered end. An annular lens assembly and a circular light source are placed next to the coupling assembly with the optical fiber extending through central openings therein to a photocell carried in a carrier slidably mounted in the chamber. A compression spring biases the reader components toward the tapered end to predetermined positions when the two parts of the housing are detachably joined.

3,509,354
OPTICAL, LABEL READ-OUT DEVICE

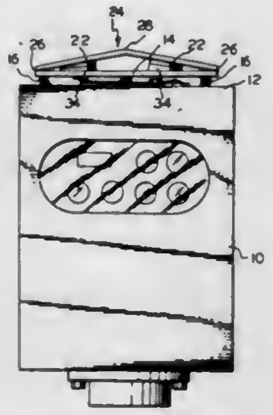
John J. Reilly, Jr., Orinda, Calif., assignor to Binary Systems, Inc., Orinda, Calif., a corporation of California
Continuation-in-part of application Ser. No. 522,591, Jan. 24, 1966. This application June 29, 1967, Ser. No. 649,928
Int. Cl. G02b *5/14;* **H01j** *5/16*
U.S. Cl. 250—227 **5 Claims**



A read-out device having light pipe structure movable in scanning relationship across the face of a coded tag or other label on an article of merchandise for optically sensing the coded information thereon and for changing the information to a usable form. Light is directed through the light pipe structure and onto the label as the latter is scanned. Reflected light is returned to the light pipe structure which directs such light to photosensitive means for generating an electronic signal corresponding to the information on the label.

3,509,355
SOLAR RADIATION INTEGRATOR MOUNTING

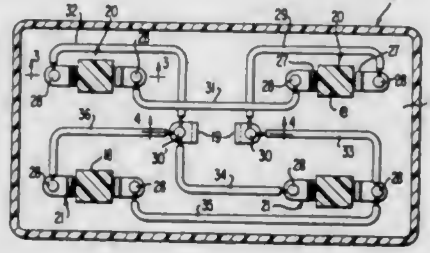
Wesley Perry Wallace, 74 Komohana St., and Colby A. Foss, P.O. Box 434, both of Hilo, Hawaii 96720
Filed Feb. 3, 1967, Ser. No. 613,939
Int. Cl. H01j *5/02*
U.S. Cl. 250—239 **4 Claims**



A solar radiation integrator in which solar cells or meters are mounted on a pair of plates forming a dihedral plate assembly supported from a shock mounted base plate and in which the cells are mounted behind isolating or scalloped openings which provide for ventilation and do minimize heat conduction from the metal plate to the cell or meter, and thereby, improving thermal and temperature isolation and characteristics for the radiation integrator, and for providing a small pitch of approximately 10° between the dihedral plate and the base metal plate for preventing the collection and puddling of water such as would occur on a level cell mounted plate and for decreasing cosine error especially at low sun angles.

3,509,356
SELECTIVE CIRCUIT CONNECTOR

David Meade Peebles, 325 Macy Ave., Oxon Hill, Md. 20021
Filed Dec. 15, 1967, Ser. No. 690,873
Int. Cl. H01r *29/00, 33/04*
U.S. Cl. 307—42 **1 Claim**

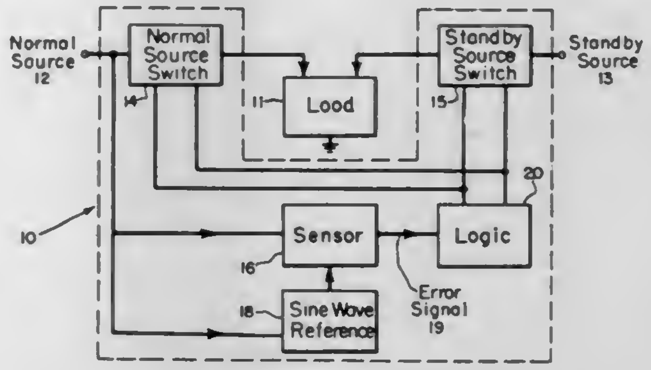


An electrical connector or outlet adapter having plural outlet terminals enabling certain plural appliances to be operated selectively under full power and full speed or half power and reduced speed. The connector or adapter is characterized by the absence of switch gear or moving parts and may be plugged into a conventional 110 volt outlet in the home or the like.

3,509,357
STATIC TRANSFER SWITCHING SYSTEM

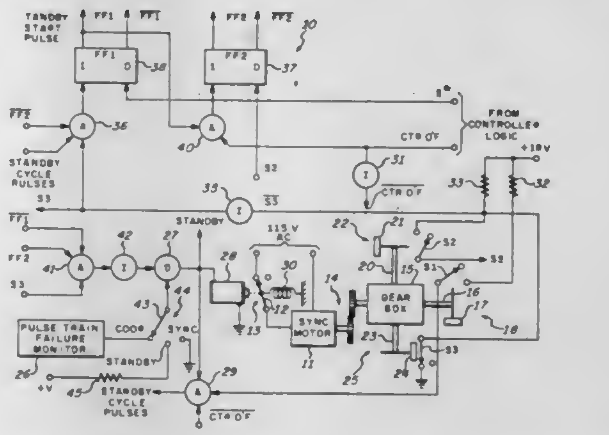
George H. Studtmann, Mount Prospect, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 10, 1967, Ser. No. 637,444
Int. Cl. H02j *9/00*
U.S. Cl. 307—64 **9 Claims**

A static transfer system includes a first switch for connecting a normally used A-C source to a load and a second switch for connecting a standby source to the load. A sensor is connected to an A-C sine wave reference source for comparing at every instant of time the normal A-C sine wave signal to the reference source signal and feeding an error signal to a logic circuit at any instant in time when the normal source signal falls below the reference signal. The logic circuit is effective to instantaneously connect the load to the standby source and disconnect the load from the normal source irrespective of the load power factor, and to reconnect the load to the normal source and disconnect the standby source from the load when the normal source is again capable of handling the load.



3,509,358
STANDBY PULSE GENERATOR

Louis A. Guido, Northport, and John J. King, Jericho, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Dec. 6, 1967, Ser. No. 688,503
Int. Cl. H08g *1/08*
U.S. Cl. 307—106 **2 Claims**

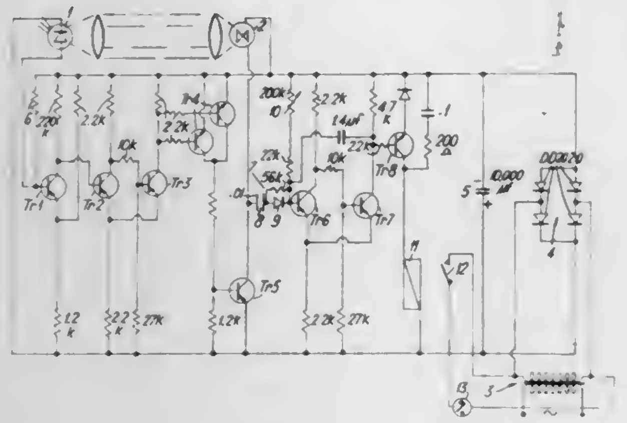


Standby pulse generating apparatus particularly suitable for vehicular traffic control systems for providing a pulse train of evenly spaced pulses including a distinctive start pulse.

3,509,359
PHOTO-ELECTRIC OR SIMILAR CONTROL OR DETECTION DEVICES

Kenneth H. Embling, Caterham, England, assignor to Photain Controls Limited, Leatherhead, England, a corporation of Great Britain
Filed Apr. 3, 1967, Ser. No. 627,797
Claims priority, application Great Britain, Apr. 5, 1966, 15,049/66
Int. Cl. G08b *13/18;* **H01h** *47/24*
U.S. Cl. 307—117 **5 Claims**

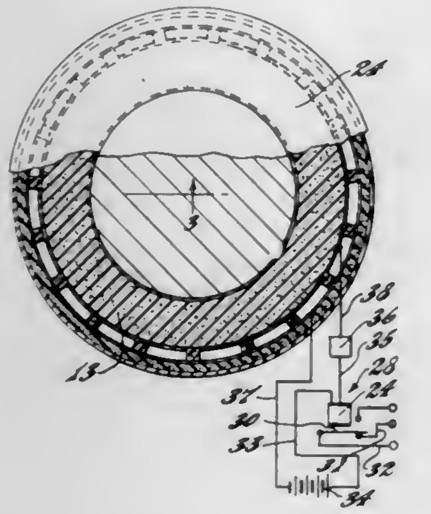
A sensing device operated by a light or other radiation includes a light or like source and a sensitive element responsive to light or radiation received from said source and adapted to control the operation of said source to effect modulation or oscillation at a unique frequency. If there is any abnormality in the path between the source and the sensitive element oscillation is disturbed or stopped and a supervisory function is initiated. The oscillaton may be transmitted to a monostable trigger circuit having a natural period greater than the oscillation period so that the monostable circuit is held triggered but releases on failure of such oscillation due to abnormality in the path between the source and the sensitive element.



3,509,360
SAFETY-STOP DEVICE

Norman K. Miller, Havertown, Pa., assignor to Miller Brothers, Upper Darby, Pa., a partnership composed of Karl K. Miller, Arsen K. Miller, and Norman K. Miller

Filed Sept. 18, 1967, Ser. No. 668,995
The portion of the term of the patent subsequent to May 22, 1984, has been disclaimed
Int. Cl. H01h *3/16*
U.S. Cl. 307—119 **7 Claims**



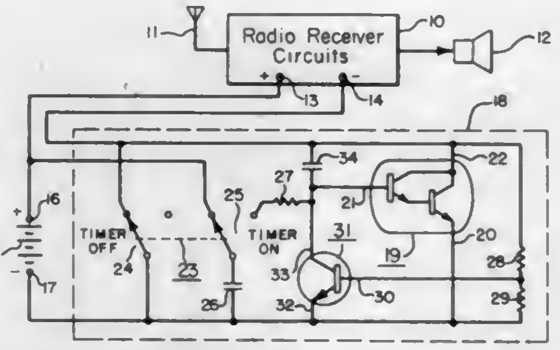
This invention is concerned essentially with a safety stop for power-operated devices wherein an annular resiliently depressible assembly includes normally spaced annular contacts movable into engagement upon depression of the assembly and electrically connected to a power source to be operated.

3,509,361
TIMER CIRCUIT

Joseph F. Yello, Wood Dale, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 17, 1968, Ser. No. 768,469
Int. Cl. H03k *17/28*
U.S. Cl. 307—141 **8 Claims**

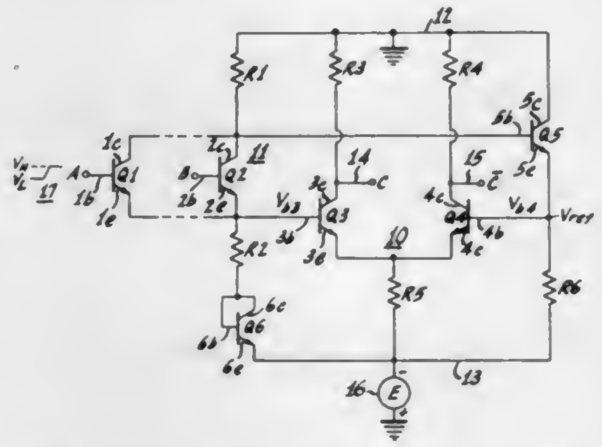
A timing system for de-energizing a radio receiver or the like after a predetermined time interval comprises a Darlington-pair switch device having principal electrodes serially connected between the receiver and its battery and a control electrode coupled to a capacitive discharge timing circuit for maintaining the Darlington-pair in saturated and non-saturated conditions during the operating interval. Because supply voltage variations distort the receiver while the switch device is in a non-saturated condition, an additional switch device responsive to the voltage drop across the principal electrodes minimizes this period by accelerating discharge of the timing capacitor after the switch device comes out of saturation. A capacitor may also be connected between the principal and control electrodes of the switch device to provide positive feedback for preventing the current demands of high level audio peaks from removing the device from saturation. Because of its economy, compactness, low battery drain and ease of installation the timing system is especially well suited for use in battery operated transistor radio receivers.



3,509,362
SWITCHING CIRCUIT

Frederick O. Bartholomew, Blackwood, N.J., assignor to RCA Corporation, a corporation of Delaware

Filed Aug. 19, 1966, Ser. No. 573,529
Int. Cl. H03k *19/08*
U.S. Cl. 307—203 **3 Claims**



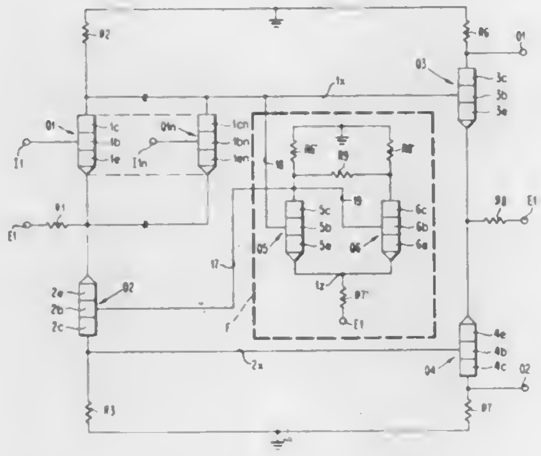
A current mode switch circuit comprising first and second transistors having their respective emitter electrodes coupled together and to a source of operating potential and their collector electrodes coupled through first and second impedance means, respectively, to a reference potential. At least one third transistor responsive to binary input signals having high and low voltage levels and means for coupling the emitter and collector electrodes, respectively, of said third transistor to the base electrodes of said first and second transistors, respectively, such that the switching speed of the switch is increased.

3,509,363
LOGIC SWITCH WITH ACTIVE FEEDBACK NETWORK

Teh-Sen Jen, Pittsburgh, Pa., and Leonard Weiss, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Jan. 13, 1967, Ser. No. 609,074
Int. Cl. H03k *19/08*
U.S. Cl. 307—203 **13 Claims**

A transistor logic circuit of the current switch type is disclosed with an active negative feedback network to maintain the quiescent potential of the reference base of the common-base stage within a predetermined incremental range about the quiescent potential of the input base of the first stage. The active feedback network is disclosed as a second transistor current switch having its own inner feedback network comprising a first conductor extending from the collector of the common-base stage to the collector of the first stage of the second current switch and a second conductor extending from said collector of the first stage to the reference base of said common-base stage.



3,509,364
VIDEO AMPLIFIER PARTICULARLY ADAPTED FOR INTEGRATED CIRCUIT FABRICATION

Frederick Buckley, Endicott, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 27, 1969, Ser. No. 811,113
Int. Cl. H03k *19/08;* **H03f** *3/18*
U.S. Cl. 307—203 **15 Claims**

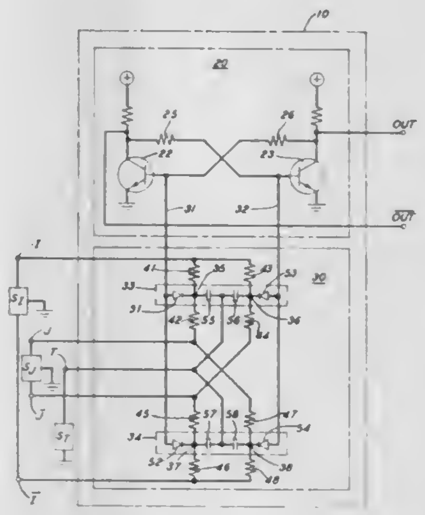
A low-cost linear video amplifier has no resistors making it especially adaptable for heavily integrated monolithic fabrication, and is characterized by high bandwidth, low and equal power dissipation in each transistor in the same stage for minimum local temperature gradients, and gain substantially independent of voltage supply levels, supply variations and ambient temperature variations within limits. Each stage comprises m matched common emitter transistor amplifiers with n matched transistors operated as diodes (i.e., short-circuited base-collector electrodes) across the amplifier base-emitter junctions to provide a gain of m/n. Succeeding stages have transistors of opposite conductivity types and the transistor-diodes of each stage provide the load for the next preceding stage.

The improved amplifier is particularly useful as an accurate, resistorless current source, a resistorless high bandwidth gain element for more complex circuits, and an interface between digital switching circuits.

3,509,365
ANTICOINCIDENCE CIRCUIT

Paul Mecklenburg, Fort Lee, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York

Filed Dec. 19, 1966, Ser. No. 602,948
Int. Cl. H03k *19/32*
U.S. Cl. 307—216 **7 Claims**

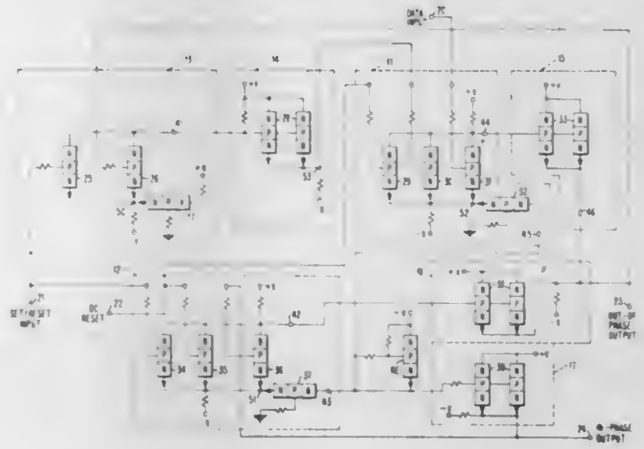


A logic circuit is developed from a combination of a flip-flop and two steering circuits arranged for applying double-rail input variables to control the flip-flop state on an EXCLUSIVE OR basis.

3,509,366
DATA POLARITY LATCHING SYSTEM

Leland D. Howe, Jr., Tioga Center, and James T. Moyer, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

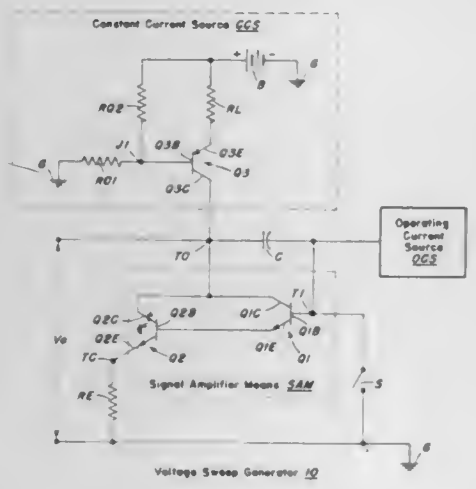
Filed Feb. 23, 1967, Ser. No. 618,189
Int. Cl. H03k *19/22, 19/40*
U.S. Cl. 307—218 **13 Claims**



This is a transistorized-latch circuit which stores the polarity of input data and is operable under a control gate, wherein a positive gate and a data signal will determine the condition of the output signal. The output can change only when the gate is positive. If the gate is positive and the data positive, the output will be positive and remain positive after the gate goes negative. If the gate is positive and the data is negative, then the output will be negative and remain negative after the gate goes negative.

3,509,367
ULTRALINEAR SWEEP GENERATOR

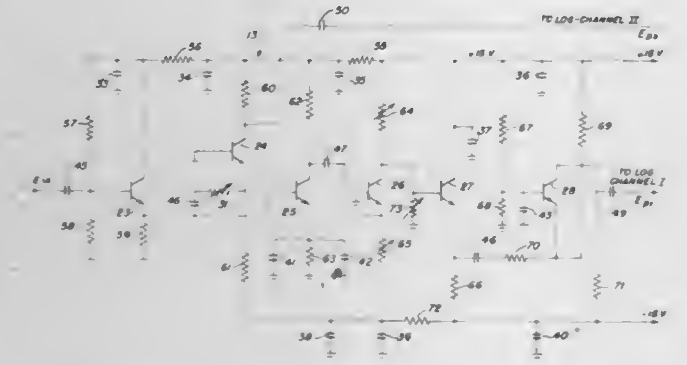
Stefan Orsen, Jersey City, N.J., assignor to American Standard Inc., a corporation of Delaware
Filed Dec. 27, 1966, Ser. No. 604,978
Int. Cl. H03k *4/08, 4/50*
U.S. Cl. 307—228 **8 Claims**


Constant Current Source CCS
Operating Current Source OCS
Signal Amplifier Means SAM
Voltage Sweep Generator 10

Covers an ultralinear voltage sweep generator. The generator includes a capacitor which is supplied with current from a source via a regulated transistor network. The capacitor is bridged across the collector-base terminals of a first transistor amplifier, the emitter of which feeds the base of a second transistor amplifier. The output voltage is supplied across the emitter-collector terminals of the second transistor amplifier.

3,509,368
CIRCUIT FOR EXTENDING THE LINEAR OPERATING RANGE OF LOG AMPLIFIERS

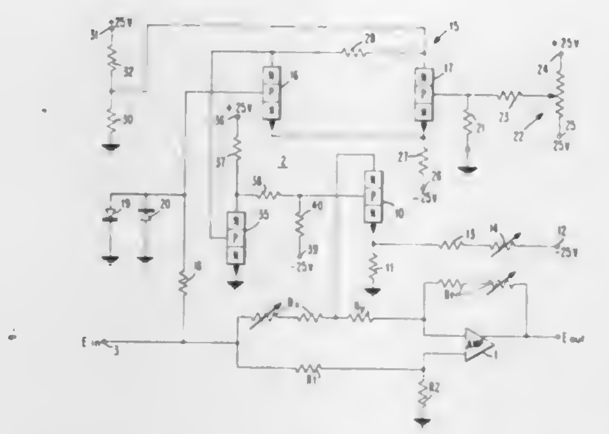
Thomas H. Pedersen, Albany, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 26, 1967, Ser. No. 634,808
Int. Cl. G06g *7/12*
U.S. Cl. 307—230 **3 Claims**



A logarithm amplifier comprising a preamplifier limiter circuit that drives two 50 db logarithmic channels the outputs of which are added. One of the logarithmic channels operates from −100 db to −50 db and is then held constant by the preamplifier limiter with further increase in the input signal. The other logarithmic channel receives a 50 db smaller signal from the preamplifier limiter and begins to operate only after −50 db is reached. The outputs of the two logarithmic channels are added which then provide a complete 100 db response.

3,509,369
ABSOLUTE VALUE FUNCTION GENERATOR

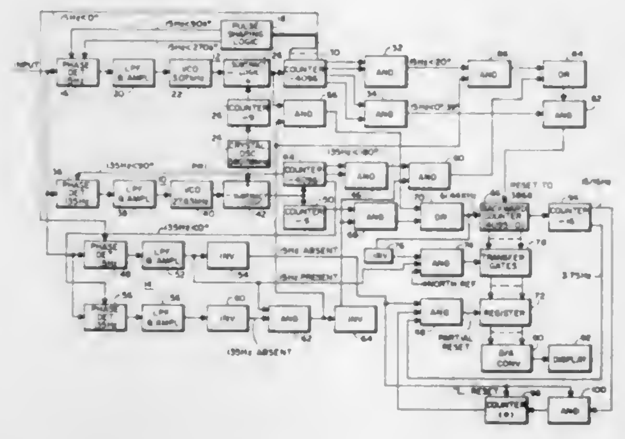
William G. Crouse, Raleigh, N.C., and Walter S. Duspiva, Endicott, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 12, 1967, Ser. No. 652,796
Int. Cl. G07g *7/12;* **H03k** *5/153*
U.S. Cl. 307—230 **7 Claims**



An electronic switch responds to the polarity of input signals to an operational amplifier of the differential amplifier type and connects the signals to one or both of the differential amplifier input terminals. The amplifier gain is alternatively plus or minus one to provide a low-cost absolute value function generator accurate at low voltage levels in the order of plus and minus five-tenths volt.

3,509,370
PHASE DETECTOR SYSTEM

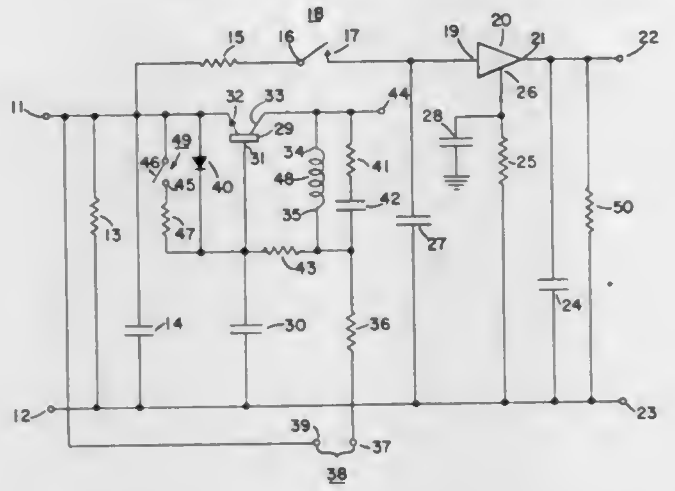
Leslie M. Harris, Jr., and Frederick J. Mimken, Monroe, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Mar. 23, 1967, Ser. No. 625,533
Int. Cl. H03k *5/20;* **H03b** *3/06*
U.S. Cl. 307—232 **5 Claims**



A phase detector system for use in a bearing computer for a Tacan system is described. The Tacan computer calculates bearing with respect to a ground beacon which transmits a reference signal and a pair of harmonically related signals of lower and higher frequency, specifically 15 Hz., and 135 Hz. on the basis of the phase relationship of the harmonically related signals and the reference signal. The phase detector system facilitates the elimination of adverse effects of an undesirable signal, such as the 135 Hz. signal, when making a phase measurement on the 15 Hz. signal. In the system, the duration of the reference signal which drives the phase detector circuit is reduced or increased with the result that the objectionable harmonic behaves like an even harmonic and balances out in the phase detector circuit.

3,509,371
PEAK FOLLOWER AND MEMORY

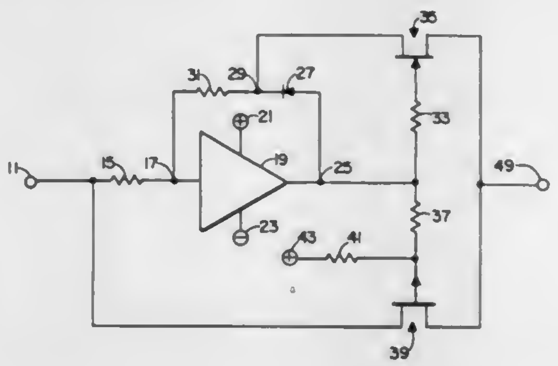
Willard W. Rice, Jr., Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Dec. 15, 1966, Ser. No. 601,882
Int. Cl. G06g *7/12;* **H03k** *5/13*
U.S. Cl. 307—233 **5 Claims**



This invention provides means for transferring the amplitude of an input electrical signal, while it is increasing, to a level retaining means, with said transferring means allowing the peak value of said amplitude to be retained until such time as said amplitude is again increasing.

3,509,372
OPERATIONAL AMPLIFIER CONTROLLING OPPOSITE-CONDUCTIVITY TYPE SWITCHES FOR PROVIDING UNIPOLAR OUTPUT PROPORTIONAL TO ABSOLUTE VALUE OF INPUT SIGNAL

Robert E. Bicking, Brooklyn Center, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Nov. 22, 1967, Ser. No. 685,061
Int. Cl. H03k *5/20*
U.S. Cl. 307—236 **6 Claims**

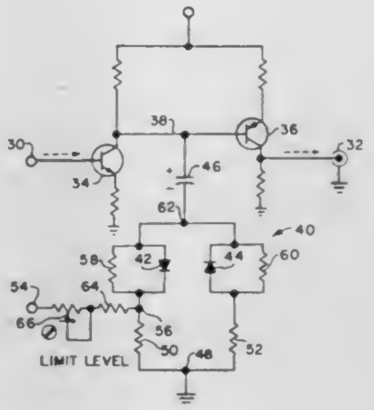


A circuit for producing a unipolar output signal having a magnitude which is proportional to the absolute value of an input signal.

3,509,373
PEAK LIMITER

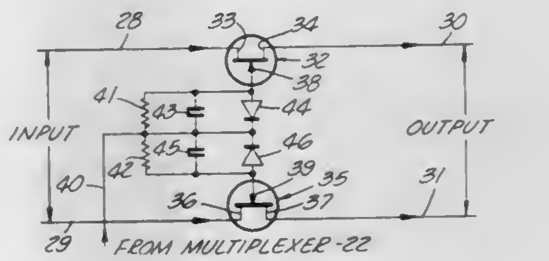
Stanley Cutler, Sepulveda, and Sava W. Jacobson, Northridge, Calif., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed Apr. 14, 1967, Ser. No. 631,001
Int. Cl. H03k *5/08*
U.S. Cl. 307—237 **3 Claims**

A limiting circuit in a musical instrument amplifier includes a pair of parallel-connected, back-to-back diodes, shunted across a load point within the amplifier. When the tone signal amplitude exceeds the forward conduction voltage threshold of the diodes, the signal is shunted to ground. The threshold may be raised, if desired, by an adjustable back bias voltage. In series with each diode is a relatively low valued resistor, which retains some resistance in the shunting circuit even when the diodes go into full conduction. Thus, the voltage peak is not flattened off abruptly, but is given a rounding off which minimizes the generation of high-frequency noise into the circuit.



3,509,374
DOUBLE POLE ELECTRONIC SWITCHING CIRCUIT

William P. Lockshaw, Canoga Park, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed May 1, 1967, Ser. No. 635,195
Int. Cl. H03k *17/00, 17/60*
U.S. Cl. 307—239 **5 Claims**

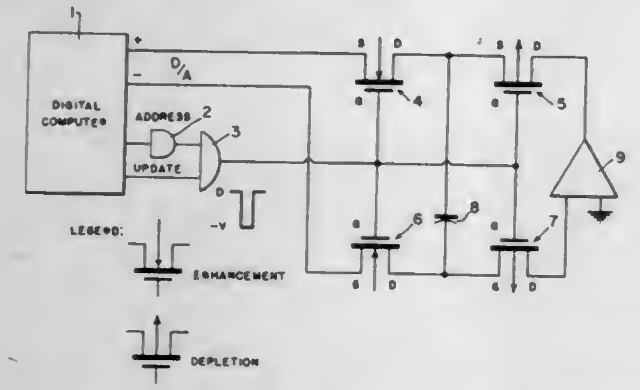


A gating system utilizing two epoxy potted field effect transistors of the junction type, each transistor being in series with a separate input to a differential amplifier, and means for supplying a gating pulse to both transistors simultaneously, whereby gating spikes transmitted by the transistors due to the high dielectric constant of the epoxy cancel out each other in the differential amplifier.

3,509,375
SWITCHING CIRCUITRY FOR ISOLATING AN INPUT AND OUTPUT CIRCUIT UTILIZING A PLURALITY OF INSULATED GATE MAGNETIC OXIDE FIELD EFFECT TRANSISTORS

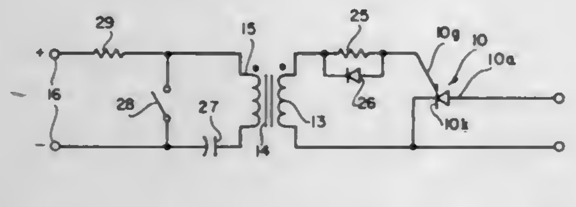
Joseph Gormley, Philadelphia County, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Oct. 25, 1966, Ser. No. 589,447
Int. Cl. H03k *17/56*
U.S. Cl. 307—251 **6 Claims**

There is provided a switching circuit which is used between an amplifier circuit and a computer circuit in a DDC system for example. The switching circuit includes a plurality of field-effect transistors which are selectively switched by control signals. The computer is, thus, selectively connected to or isolated from the memory capacitor associated with the amplifier. Additionally, the memory capacitor is selectively isolated from or connected to the amplifier circuit.



3,509,376
STATIC SOLID-STATE SWITCHING CIRCUIT UTILIZING A SWITCHING DEVICE HAVING TURN-ON AND TURN-OFF CONTROL

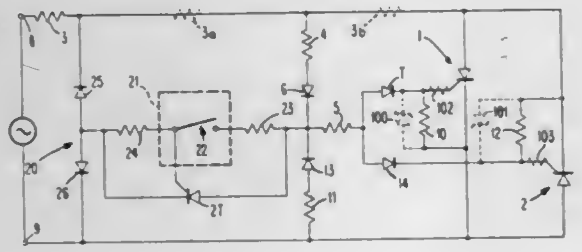
Philip W. Koetsch, Mableton, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 22, 1965, Ser. No. 474,051
Int. Cl. H03k *17/72*
U.S. Cl. 307—252 **5 Claims**



A gate turn-off control rectifier is used to provide switching circuits which electrically isolate the switched circuit from the switching control circuit and which require no electromechanical components such as relays. Switching circuits are disclosed for use either with AC or DC circuits. Additionally shown are switching circuits having single-pole, single-throw characteristics. Switching pulse circuits are disclosed which provide switching control pulses of selected polarity with the opening or closing of a control switch.

3,509,377
LOW NOISE POWER SWITCHING CIRCUITS

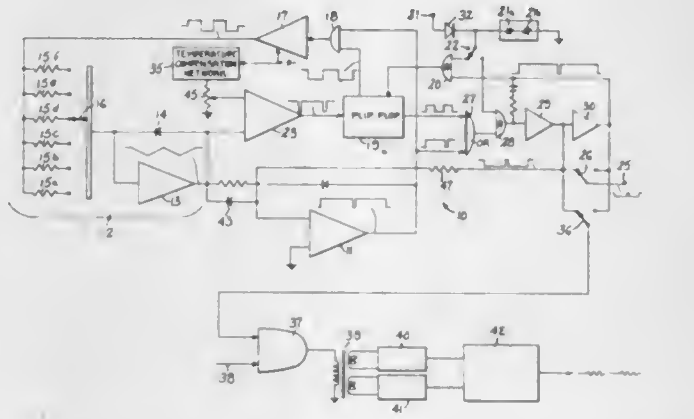
Michael J. Clark, Binghamton, and John G. Simek, Endwell, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed May 18, 1967, Ser. No. 639,479
Int. Cl. H03k *17/00*
U.S. Cl. 307—25 **4 Claims**



Low power controlled rectifiers (e.g., silicon-controlled rectifiers) assure the turn-on of high power controlled rectifiers only when the level of the alternating-current voltage supply is close to zero volts. Noise in the form of current spikes is thereby minimized.

3,509,378
SIGNAL GENERATOR PRODUCING LONG TIME DURATION PULSES

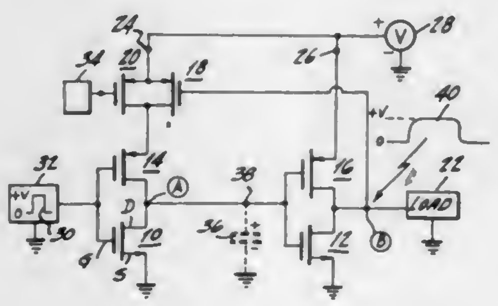
Frank Lawrence Petree, Idaho Falls, Idaho, assignor to Numerical Analysis Corporation, New Haven, Conn., a corporation of Connecticut
Filed Jan. 3, 1967, Ser. No. 606,600
Int. Cl. H03k *5/00, 17/00, 17/26, 17/28*
U.S. Cl. 307—269 **10 Claims**



A signal generator for providing long duration electrical signals, useful as timing signals, the signal generator having a differential amplifier, means for unbalancing the differential amplifier, means responsive to the means for unbalancing for generating a control signal, and means responsive to the control signal for rebalancing the differential amplifier.

3,509,379
MULTIVIBRATORS EMPLOYING TRANSISTORS OF OPPOSITE CONDUCTIVITY TYPES

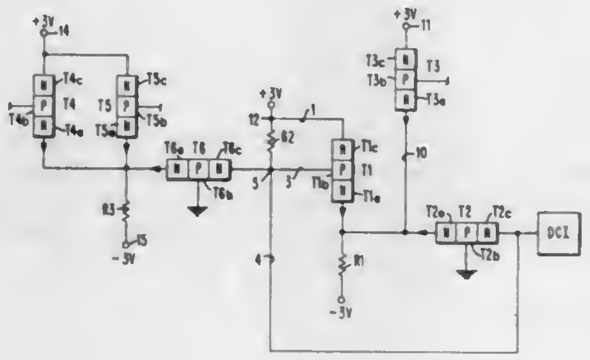
Adolph Karl Rapp, Princeton, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Apr. 15, 1966, Ser. No. 542,911
Int. Cl. H03k *3/10, 3/284*
U.S. Cl. 307—279 **17 Claims**



The distributed capacitance of a portion of a multivibrator circuit is charged through a resistance means and normally closed first switch. A normally open second switch is connected across the capacitance. When the first switch is momentarily opened concurrently with the momentary closing of the second switch, the capacitor discharges through the second switch. A feedback circuit opens a third switch across the resistance means when the capacitor discharges to less than a given value and closes the third switch when, during the next charging cycle, the capacitor again charges to said given value. The effect is to steepen the leading and lagging edges of the pulse produced across the capacitance. The switches, resistance means and feedback circuit are preferably all field effect transistors.

3,509,380
HIGH SPEED LATCH CIRCUIT ARRANGEMENT FOR DRIVING A UTILIZATION DEVICE

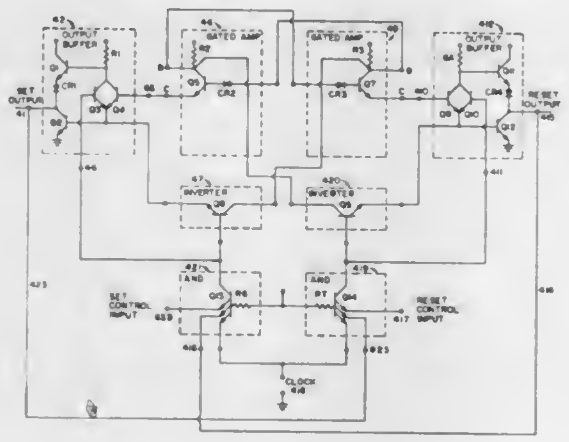
John B. Gillett, Whitenap, Romsey, and Michael H. Hallett, Chandlers Ford, England, assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Oct. 26, 1966, Ser. No. 589,540
Int. Cl. H03k *3/12*
U.S. Cl. 307—289 **1 Claim**



The invention provides a bistable switching circuit arrangement for driving, with zero delay, a utilization device in response to driving pulses applied concurrently to the bistable switching circuit and the utilization device by way of a direct circuit path containing a common terminal serving both as input and output. By virtue of this arrangement, driving signals are simultaneously applied to the bistable switching circuit and the utilization device to cause the utilization device to respond substantially immediately.

3,509,381
MULTIVIBRATOR CIRCUIT INCLUDING OUTPUT BUFFER MEANS AND LOGIC MEANS

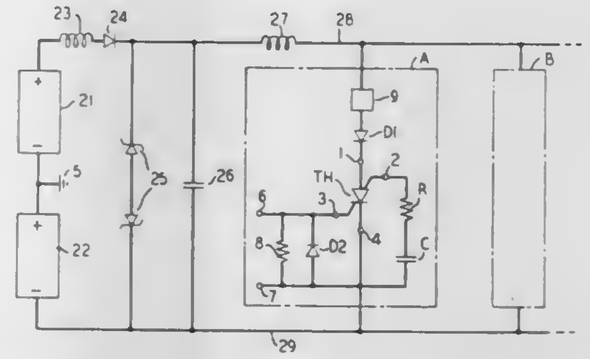
Donald E. Marshall, Jr., Framingham, and Edwin H. Paul, Jr., Natick, Mass., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed Jan. 11, 1967, Ser. No. 608,688
Int. Cl. H03k *3/12*
U.S. Cl. 307—292 **8 Claims**



A symmetrically switchable multivibrator having a pair of gated amplifiers coupled in bistable flip-flop array, each gated amplifier capable of maintaining a partially switched state near the switching threshold in a first one of two stable states. Additional circuitry biases one of the gated amplifiers into the partially switched state responsive to the leading edge of a clock or synchronizing signal while concurrently maintaining the same output signal conditions. The additional circuitry further switches the gated amplifier from the partially switched state to the second stable state in response to the trailing edge of the clock or synchronizing signal.

3,509,382
FOUR ELECTRODE THYRISTOR CIRCUIT EMPLOYING SERIES RC NETWORK BETWEEN ANODE-GATE ELECTRODE AND CATHODE ELECTRODE

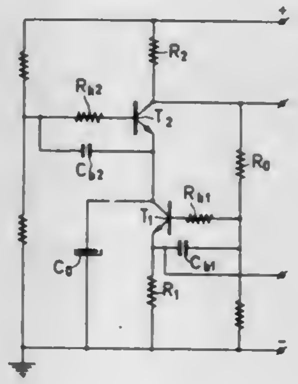
Frank J. Zgebura, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.Y., a corporation of New York
Filed Oct. 4, 1967, Ser. No. 672,899
Int. Cl. H03k *17/72*
U.S. Cl. 307—305 **6 Claims**



A circuit which improves the dynamic breakdown characteristic of an unenergized thyristor switch by connecting a capacitor and a resistor in series between the cathode and anode gate terminals of a four-terminal thyristor switch. While the thyristor switch is open, the direct voltage supply charges both the capacitor and the inherent middle junction capacitance of the thyristor to essentially the supply voltage. Should any transient condition cause a momentary change in voltage across the thyristor, no appreciable middle junction displacement current flows to cause false closing of the thyristor switch. After the switch has been closed and is in the process of reopening the capacitor rapidly recharges the middle junction capacitance to both aid in the recovery of the thyristor as well as to quickly restore its dynamic breakdown capability.

3,509,383
PICKUP COMPRISING PRESSURE-SENSITIVE TRANSISTORS

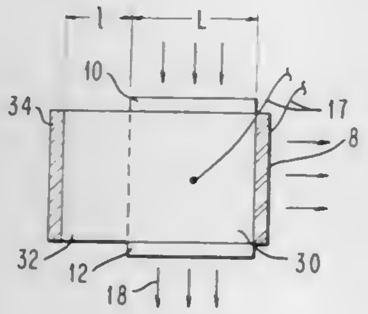
Frederik Leonard Johan Sangster, Emmasingel, Eindhoven, Netherlands, assignor to U.S. Philips Corporation, Inc., New York, N.Y., a corporation of Delaware
Filed June 2, 1967, Ser. No. 643,262
Claims priority, application Netherlands, June 14, 1966, 6608194
Int. Cl. H03k *17/60*
U.S. Cl. 307—308 **9 Claims**



A pressure sensitive semiconductor transducer for generating two channel signals is provided with two pressure sensitive transistors, the emitter collector paths of which are series connected across a source of supply current.

3,509,384
BISTABLE DEVICES

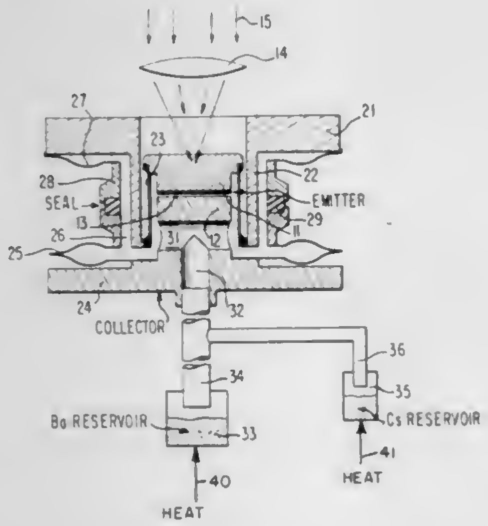
Alan B. Fowler and Gordon J. Lasher, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 31, 1964, Ser. No. 393,303
Int. Cl. H03k *23/12;* **H01s** *3/00*
U.S. Cl. 307—312 **2 Claims**



The bistable device includes two gallium arsenide injection lasers. Each laser has two reflecting surfaces to form a cavity therebetween and two nonreflecting surfaces. The lasers are arranged in combination with external reflecting surfaces so that the laser output of each laser is applied in a direction which is at right angles to the cavity formed between the reflecting surfaces on the other. When either laser is lasing, its output applied in this way quenches the other laser so that bistability is achieved.

3,509,385
THERMIONIC CONVERTERS

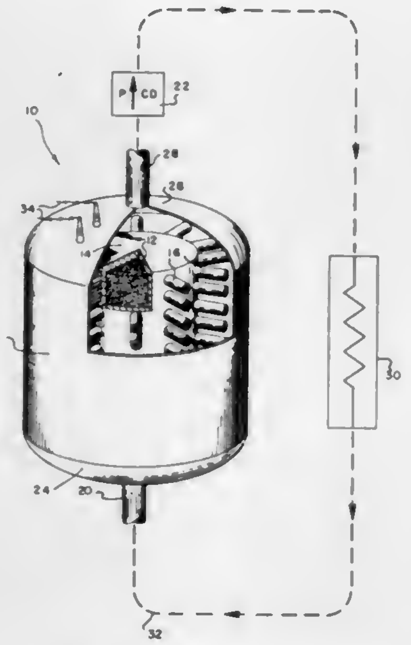
John Psarouthakis, Baltimore, Md., assignor, by mesne assignments, to Teledyne, Inc., Los Angeles, Calif., a corporation of Delaware
Filed Jan. 5, 1965, Ser. No. 423,506
Int. Cl. H02n *3/00, 7/00*
U.S. Cl. 310—4 **6 Claims**



6. A thermionic energy conversion device comprising:
an emitter electrode;
a collector electrode separated from said emitter electrode across an interelectrode space;
means for heating said emitter electrode to a temperature substantially above that of said collector electrode during operation of said device;
a first reservoir communicating with said interelectrode space and containing barium at a temperature sufficient to introduce barium vapors into said interelectrode space at a vapor pressure sufficient to coat said emitter electrode with a layer of barium to reduce the work function thereof; and
a second reservoir communicating with said interelectrode space and containing cesium at a temperature lower than that of said collector electrode but sufficient to introduce cesium vapors into said interelectrode space at substantially the lowest neutralization pressure required to neutralize space charge effects around said emitter electrode, said neutralization pressure being determined by the temperature and character of the emitter surface, the separation distance between said electrodes being shorter than the mean free path of electrons thermionically emitted from said emitter electrode.

3,509,386
HEAT PIPE THERMIONIC DIODE POWER SYSTEM

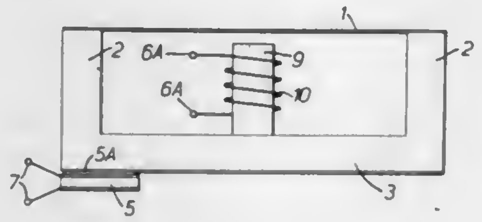
Ambrose W. Byrd, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 6, 1967, Ser. No. 666,553
Int. Cl. H01j *45/00*
U.S. Cl. 310—4 **2 Claims**



A power system utilizing a number of thermionic plasma diodes in parallel. The diodes each incorporate a cathode which is integral to a heat pipe and is heated by an isotopic heat source through the highly efficient heat transfer function of the heat pipe. The system employs a circulatory cooling system utilizing a liquid metal as a coolant.

3,509,387
ELECTRO-MECHANICAL RESONATORS

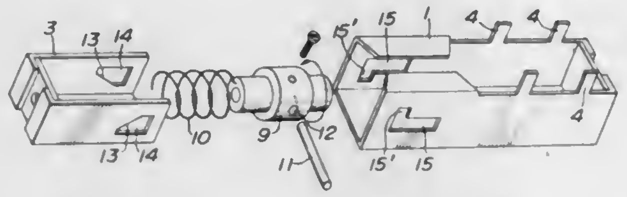
Denis William Thorn, Great Baddow, Keith Henry Littlebury, Witham, and Eric Davies, Danbury, England, assignors to The Marconi Company Limited, London, England, a British company
Filed Apr. 19, 1967, Ser. No. 632,088
Claims priority, application Great Britain, Dec. 19, 1966, 17,832/66
Int. Cl. H01u *7/00*
U.S. Cl. 310—8.3 **10 Claims**



Electro-mechanical resonator having a mechanically resonant beam which is bridged across the limb ends of a stiff U-member. The beam is vibrated by electromagentic or piezo-electric means at its resonant frequency. Output is obtained from a piezo-electric device which is mounted on or deposited on the structure at a position on the structure, such as at one end of the beam or on the U-member at a vibration node, at which vibrations occur.

3,509,388
HIGH VOLTAGE GENERATING DEVICE

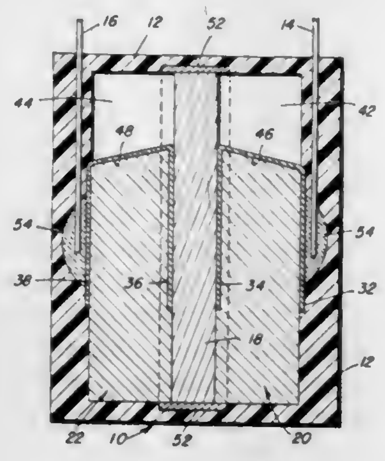
Hideo Mifune and Akira Ishii, Hirakata-shi, and Hiromoto Takeuchi, Kishiwada-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Mar. 20, 1968, Ser. No. 714,676
Claims priority, application Japan, Mar. 25, 1967, 42/25,655; Apr. 27, 1967, 42/36,073; June 13, 1967, 42/51,309; June 15, 1967, 42/51,903 (utility models)
Int. Cl. H01v *7/02*
U.S. Cl. 310—8.7 **10 Claims**



A high voltage generating device which is constituted in such a manner that an axially biasing force and a rotational force are normally applied to the striker and the striker is rotated to respectively predetermined directions when it is displaced against the axial biasing force to be given the energy required for striking hard to piezo element, and when it returns to the normal position after the striking.

3,509,389
PIEZO-ELECTRIC CRYSTAL CONSTRUCTION

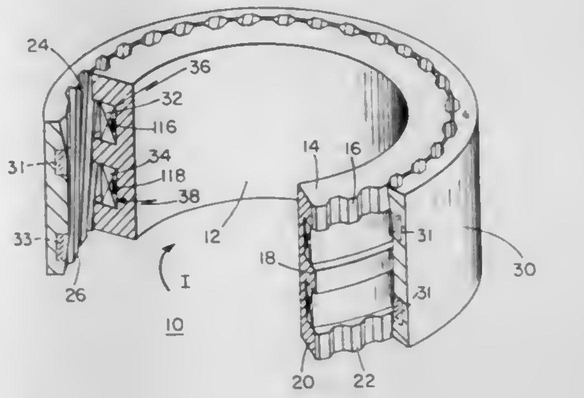
Frank Vrataric, Jr., Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army
Continuation of application Ser. No. 579,807, Sept. 14, 1966. This application Mar. 5, 1969, Ser. No. 805,118
Int. Cl. H01v *7/00*
U.S. Cl. 310—9.1 **1 Claim**



A piezo-electric crystal disposed between two holder elements and subjected to a compressive force prior to assembly. The crystal element is then assembled in such a manner that the compressive forces on the crystal are maintained.

3,509,390
VARIABLE RELUCTANCE DISC, RECIPROCATING, AND ROTARY STEPPING MOTORS AND RESOLVERS

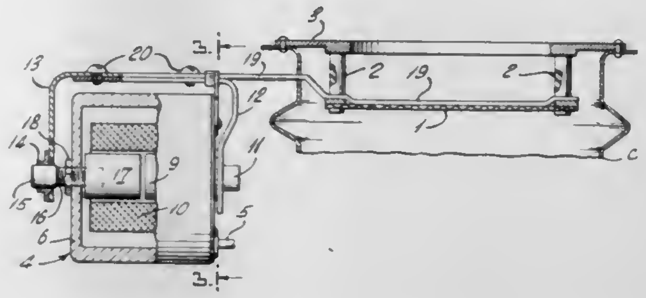
Bruce J. Loughlin, South Acton, Ervin J. Rachwal, Framingham, and Murray M. Schiffman, Newton, Mass., assignors to Data Technology, Inc., Watertown, Mass., a corporation of New York
Filed May 29, 1967, Ser. No. 641,864
Int. Cl. H02k *33/00, 35/00, 37/00*
U.S. Cl. 310—15 **53 Claims**



Variable reluctance multi-phase motor and resolver apparatus including a structure for providing two distinct flux paths, the structure having a stator and a rotor each of which has two sets of teeth axially spaced from each other for varying the reluctance of the air gap between the stator and rotor, the sets of teeth on the stator are out of phase with respect to each other and an electrical winding mounted on the stator provides magnetic flux transverse to the direction of motion of the rotor in the two flux paths. A sensing winding may be used to sense the magnetic flux in both flux paths and the sensing winding may have two sections for separately sensing the flux in each flux path. The apparatus includes disc, reciprocating, and rotary stepping motors and resolvers, and in the latter the energizing windings may be replaced with permanent magnets.

3,509,391
UNIVERSAL SUSPENSION FOR ELECTRIC VIBRATOR

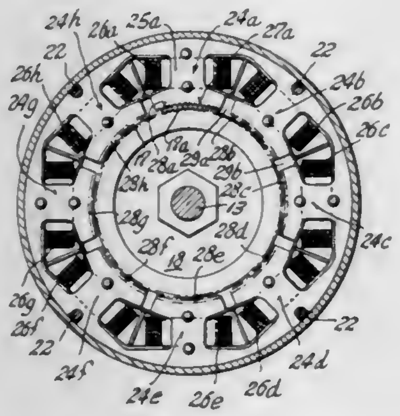
Anton Pfeuffer, 301 E. 78th St., New York, N.Y. 10021
Filed Oct. 1, 1968, Ser. No. 764,096
Int. Cl. H02k *5/24*
U.S. Cl. 310—17 **6 Claims**



A suspension and mounting for a small electric vibrator in which the diaphragm carrying the magnet assembly is relieved of a substantial portion of its supporting function by provision of a second connection between the vibrator cover and a mounting bracket enabling the vibrator to be mounted in any position without subjecting the diaphragm to possibly destructive stresses.

3,509,392
VARIABLE RELUCTANCE ELECTRIC STEPPING MOTOR WITH FIELD ENERGIZING CIRCUITRY

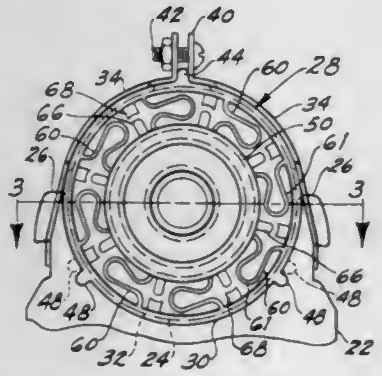
Arthur E. Snowdon, Bristol, Conn., assignor to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed May 21, 1969, Ser. No. 826,577
Int. Cl. H02k *29/02, 37/00*
U.S. Cl. 310—49 **6 Claims**



A stepping motor of the variable reluctance type capable of producing small increments of movement, as for example 1000 steps per revolution, with each change of energization of its windings providing a step and for maintaining the position to which it was last stepped when the energization is unchanged. The motor has a toothed rotor and a plurality of toothed stator poles with the rotor teeth being different from the stator teeth to enable exact alignment to occur between the rofor and stator teeth at only one location at each rotor position. Each change in energization causes the rotor to advance one step to enable exact alignment to occur between the teeth again at only one location but with the location advancing a fraction of a revolution that is the reciprocal of the number of poles. Accordingly, each step or movement of the rotor is a fraction of a revolution that is equal to the reciprocal of the number of rotor teeth times the number of stator poles.

3,509,393
ELECTRIC MOTOR HAVING RESILIENT MOUNTING RING WITH BEARING CAP

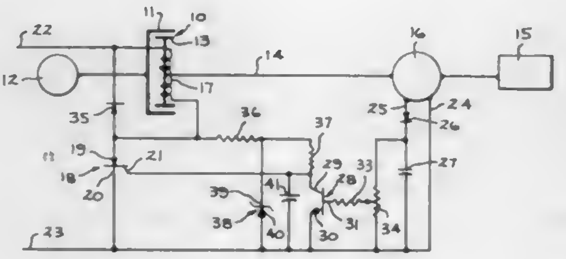
Joseph T. Roddy, Ballwin, Mo., assignor to Emerson Electric Co., St. Louis, Mo., a corporation of Missouri
Filed May 7, 1968, Ser. No. 727,202
Int. Cl. H02k *5/24*
U.S. Cl. 310—51 **8 Claims**



A shock absorbing motor mounting ring with integral bearing cap formed as a casting of synthetic thermoplastic material comprising an outer rim portion for connection to fixed support means and a central hub portion connected to the rim portion by circularly arranged resilient members, the hub portion having a deep annular groove in one face thereof and being adapted to be press fitted on the end portion of a hollow cylindrical motor end shield boss and the hub portion including a centrally perforated end wall to retain bearing lubricant.

3,509,394
ELECTROMAGNETIC CLUTCH CONTROL

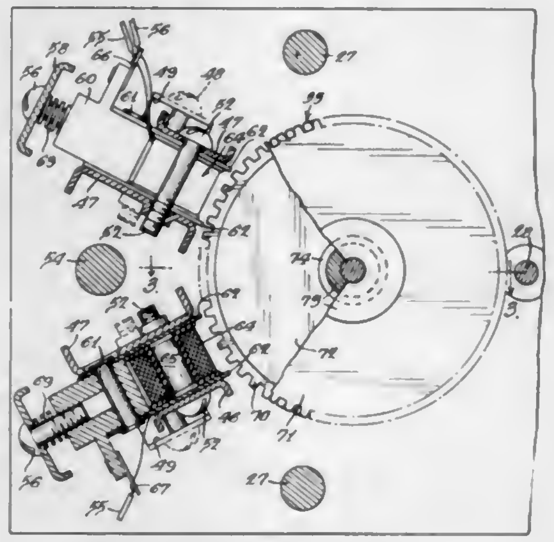
Donald S. Heidtmann, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Jan. 11, 1967, Ser. No. 608,559
Int. Cl. B65h *59/38*
U.S. Cl. 310—95 **6 Claims**



An electromagnetic clutch output speed control wherein the clutch field coil is connected in an electric supply circuit with a controlled rectifier. A tachometer generates a voltage responsive to the output speed and control the conduction of a transistor, which in turn controls the firing of the control rectifier.

3,509,395
TONE SIGNAL GENERATOR

Ray B. Schrecongost, Park Ridge, and Johan van Leer, Chicago, Ill., assignors to Hammond Corporation, Chicago, Ill., a corporation of Delaware
Filed Nov. 25, 1968, Ser. No. 778,632
Int. Cl. H02k *17/42*
U.S. Cl. 310—168 **12 Claims**

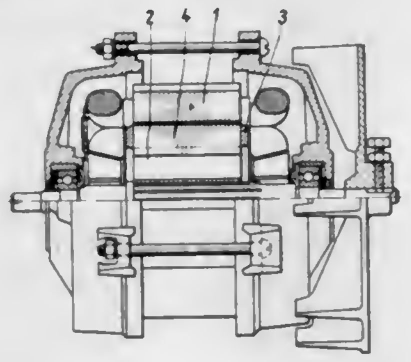


A tone signal generator for an electronic organ or similar musical instrument is disclosed. The generator develops a full octave of twelve fundamental notes employing twelve tone wheels each of similar construction, one wheel for each signal frequency. The various wheels are rotated at constant speeds and each forms part of a magnetic circuit which includes a pickup head and coil mounted stationarily adjacent to each wheel. Each wheel comprises a pair of spaced metal discs with scalloped or serrated edges and a disc-shaped plastic permanent magnet sandwiched between the discs. The edges of the metal discs of the wheel are aligned so that the serrations are staggered from one another in relation to a pair of pole pieces of the pickup head. The generator thus may develop tone signals in the pickup coils that are alternating current in nature and can be of a sufficient magnitude as to be employed without amplification in successive components of the musical instrument.

The generator is so constructed that identical pickup heads may be employed at each tone wheel despite varying numbers of serrations. Also disclosed is an alternative construction for the pickup head which has the advantage of developing higher amplitude signal outputs.

3,509,396
SINGLE PHASE MOTOR INCLUDING A CAGE WITH SPECIALLY PROFILED PARTS

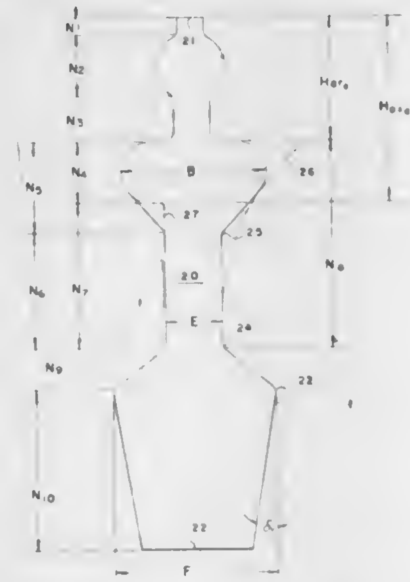
Aurel Ghile, Remus, Rumania, assignor to Ministerul Industriei Constructillor de Masini, Bucharest, Rumania, a corporation
Filed Mar. 18, 1968, Ser. No. 713,865
Claims priority, application Rumania, Mar. 18, 1967, 53,356
Int. Cl. H02k *17/16, 17/22*
U.S. Cl. 310—211 **3 Claims**



A single phase motor with screened poles and with a rotor made of a stack of laminations bearing an aluminum cage cast in the rotors slots. The cage includes bars of a cross-section of a trapezoidal shape completed by semicircles adjacent the two bases of the trapezoid. The cage is provided with frontal short-circuiting rings. The ratio between the total section area of the bars and the section area of the short-circuiting ring has a value of 22–24. The ratio between the area of the trapezoidal part of each bar and the sum of the semicircular areas is 2.7–2.3.

3,509,397
MULTISEGMENTED SQUIRREL CAGE ROTOR BARS SHAPED FOR IMPROVED MOTOR OPERATING CHARACTERISTICS

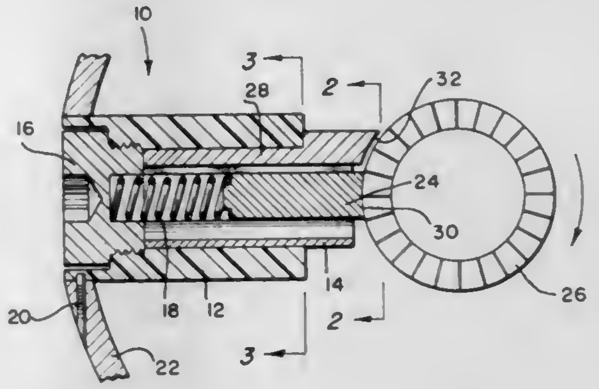
Paul Diamant, Milwaukee, Wis., assignor to The Louis Allis Company, a corporation of Delaware
Filed Apr. 8, 1969, Ser. No. 814,268
Int. Cl. H02k *3/08*
U.S. Cl. 310—212 **12 Claims**



Motor operating characteristics are controlled by rotor bar shaping. A desired balance between low locked rotor current, high acceleration torque and low running losses is achieved with controlled segmenting or shaping of multisegmented rotor bars.

3,509,398
COMMUTATING DEVICE

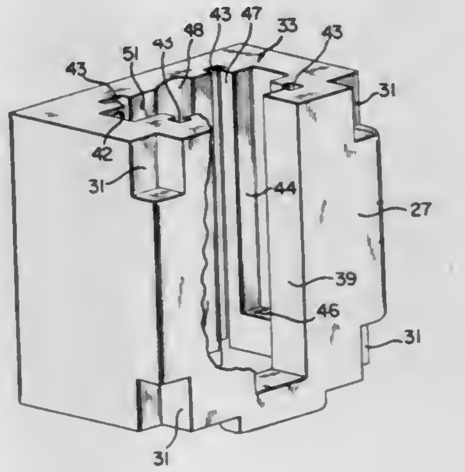
Edwin S. Treible, Jr., Ringoes, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed July 9, 1968, Ser. No. 743,431
Int. Cl. H01r *39/46*
U.S. Cl. 310—220 **9 Claims**



A brush holder for commutating a dynamo-electric machine having a plasma gap electrode for controlling arcing plasma. The electrode is electrically tied to, and carried at the trailing edge of, the brush and is spaced from the commutator; the electrode receives and maintains incipient arcing plasma at the end thereof.

3,509,399
BRUSH HOLDER CONSTRUCTION WITH DUST SLOTS

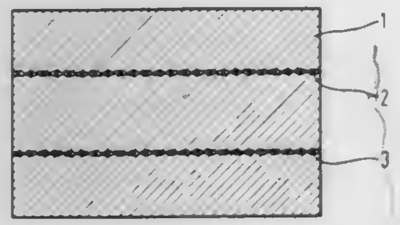
William S. Brucker, Towson, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Feb. 14, 1968, Ser. No. 705,361
Int. Cl. H01r *39/40*
U.S. Cl. 310—242 **1 Claim**



A brush holder assembly including an insulating body having an elongated passageway therethrough. A brush is slidably guided in the passageway and is biased toward one end by a spring. An electrical lead has a terminal which slides in the passageway while engaging the brush. Means in the passageway prevents the terminal from coming out of the passageway when the brush is completely worn. The insulating body has dust slots adjacent the passageway to get rid of dust in the body and prevent brush hang-up.

3,509,400
COMMUTATOR CARBON BRUSH AND METHOD OF ITS MANUFACTURE

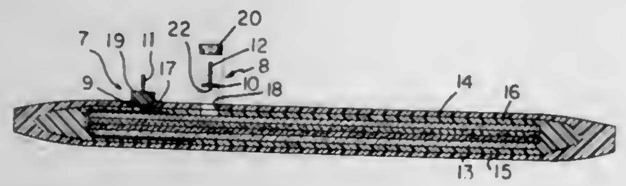
Paul Conrath, Bad Ischl, Austria, assignor to Sigri Elektrographit Gesellschaft mit beschrankter Haftung, Meitingen uber Augsburg, Germany, a corporation of Germany
Filed May 17, 1967, Ser. No. 639,221
Claims priority, application Germany, May 17, 1966, S 103,855
Int. Cl. H02k *5/14;* **H01r** *39/24*
U.S. Cl. 310—248 2 Claims



A commutator brush consists essentially of a carbon body with one or more embedded layers of mesh material extending longitudinally of the brush body. The mesh material is formed of artificial carbon and may consist of a carbonized woven fabric of animal fiber such as wool. The brush is produced by embedding one or more such webs in the green carbon mass when the brush is being molded, and thereafter carbonizing or graphitizing the embedded layers together with the green mass.

3,509,401
ENCAPSULATED ELECTROLUMINESCENT DEVICE

James A. Callely, Jr., and Wallace T. MacDonald, Beverly, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 24, 1967, Ser. No. 663,062
Int. Cl. H01j *1/62, 63/04*
U.S. Cl. 313—108 5 Claims

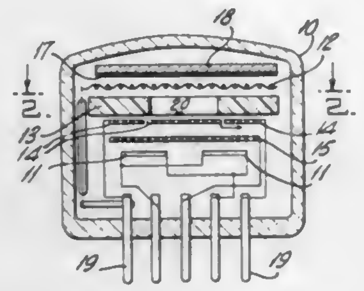


Electrical connection between an electrode and a lead-in conductor of an encapsulated electroluminescent lamp is established through an electrically conductive rubber insert maintained in compression between the electrode and conductor. The resiliency of the rubber provides uninterrupted electrical continuity when the lamp is subjected to shock and vibration or when the lead-in conductor is flexed.

3,509,402
DIGIT READOUT DEVICE

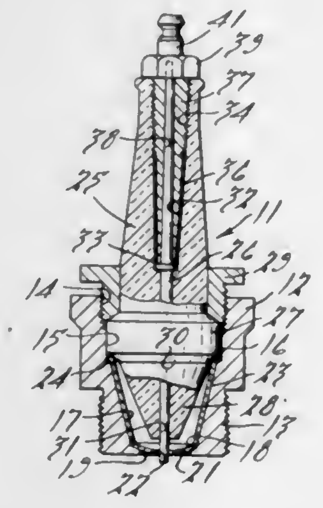
Richard Du Bois, Jr., Caldwell Township, and Rein Raago, Morristown, N.J., assignors to Wagner Electric Corporation, a corporation of Delaware
Filed July 3, 1968, Ser. No. 742,406
Int. Cl. H01j *7/42;* **H01k** *1/60*
U.S. Cl. 313—109.5 10 Claims

This invention relates to a vacuum fluorescent readout device which has a perforate anode, the anode having portions of its area covered with a fluorescent material. A mask is provided adjacent the anode which limits activation of the fluorescent material, by electrons emitted from a cathode and controlled by control grids, to selected areas of the anode which form predetermined designs on the surface of the anode. An additional electrode is mounted between the cathode and control grids to create a uniform distribution of electrons, increase the light output from the fluorescent areas, and increase the sharpness and clarity of the predetermined designs appearing on the anode.



3,509,403
SPARK PLUG HAVING A REVERSIBLE INNER ELECTRODE

Cecil J. Krow, P.O. Box 44, Ralston, Okla. 44650
Filed July 24, 1967, Ser. No. 655,627
Int. Cl. H01t *13/20, 13/22*
U.S. Cl. 313—121 11 Claims

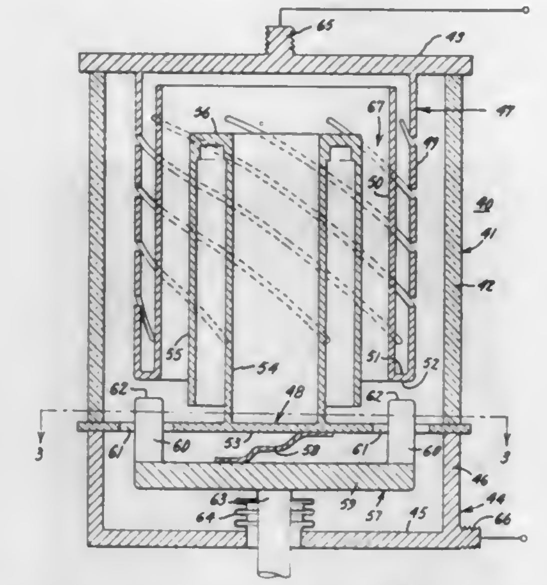


A spark plug having tapered inner and outer electrodes, the outer electrode surrounding the inner, and in which the inner, outer or both electrodes are reversible.

3,509,404
VACUUM ARC DEVICES WITH DOUBLY REENTRANT COAXIAL ARC-ELECTRODE STRUCTURE

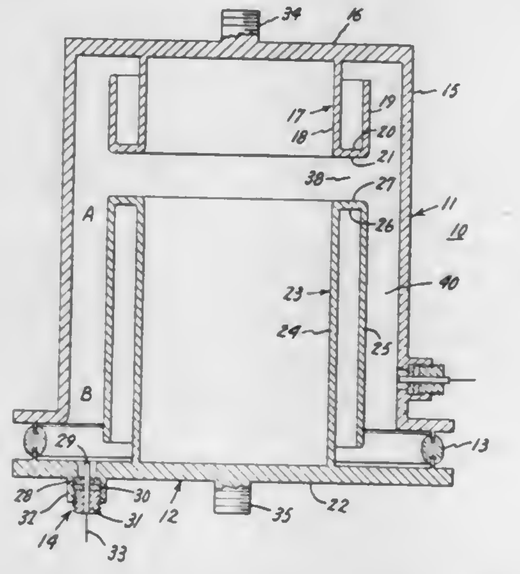
Joseph A. Rich, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1968, Ser. No. 741,480
Int. Cl. H01h *32/12;* **H01j** *17/30, 21/22*
U.S. Cl. 313—148 10 Claims

Vacuum arc devices, such as triggerable vacuum gap devices and vacuum switches, have coaxial arc-electrode assemblies which are each in the form of reentrant cylinders. Inner arc-electrode assembly is reentrant to cause cancellation of azimuthal magnetic field in arcing gap and avoid magnetic bunching of arcing current paths to prevent formation of destructive anode spots. Outer electrode assembly is reentrant to permit incorporation of integral, helical slotted current-carrying portion thereof to cause arc rotation without exposure thereof to arcing current paths.



3,509,405
COAXIAL VACUUM GAP DEVICES INCLUDING DOUBLY REENTRANT ELECTRODE ASSEMBLIES

Joseph A. Rich, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1968, Ser. No. 741,481
Int. Cl. H01j *17/04, 17/30, 21/22*
U.S. Cl. 313—155 8 Claims

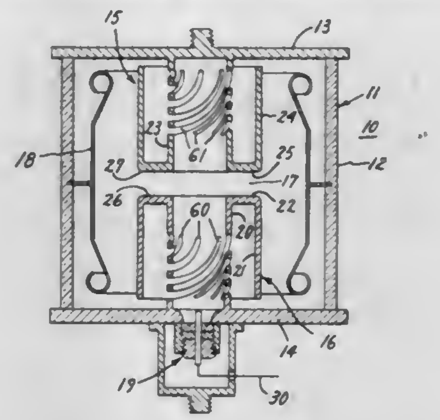


Coaxial vacuum arc devices include an outer cylindrical member comprising a first outer cylindrical arc-electrode assembly and an inner cylindrical reentrant member comprising a second arc-electrode assembly and defining with the first arc-electrode assembly a primary gap. To prevent the formation of destructive anode spots upon the end of the outer member, the outer arc-electrode assembly includes a cylindrical inwardly-depending member which is aligned with the folded ends of the reentrant inner arc-electrode assembly.

3,509,406
VACUUM ARC DEVICES UTILIZING SYMMETRICAL COAXIAL ELECTRODE STRUCTURES

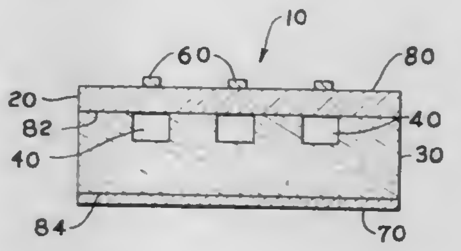
Joseph A. Rich, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1968, Ser. No. 741,482
Int. Cl. H01j *17/04, 17/30, 21/22*
U.S. Cl. 313—155 11 Claims

Vacuum arc devices such as triggerable vacuum gap devices and vacuum switches are fabricated so as to include symmetrical coaxial structures which provide relatively large surfaces available to serve as the foot points of arc current conduction paths in relation to the volume of the arc device, while still retaining electrical symmetry between anode and cathode for alternating current operation. Added features of the invention include the possible incorporation of integral structures for providing rotational magnetic forces upon arc conduction paths.



3,509,407
DISPLAY PANEL

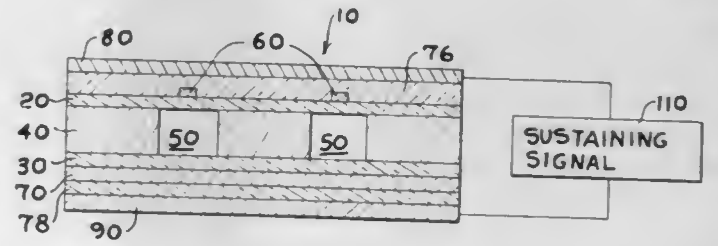
John Cullis, Jr., Basking Ridge, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 15, 1967, Ser. No. 667,971
Int. Cl. H01j *11/00*
U.S. Cl. 313—201 3 Claims



The disclosure is of a display panel including a plurality of small gas-filled cells and comprising a first solid glass plate and a second plate which includes a plurality of depressions which are filled with gas and comprise light-producing cells in the completed device. The two plates carry electrodes for operating the cells.

3,509,408
DISPLAY PANEL WITH SEPARATE SIGNAL AND SUSTAINER ELECTRODES

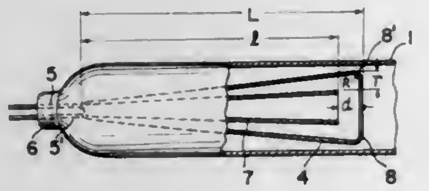
George E. Holz, North Plainfield, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 13, 1967, Ser. No. 694,019
Int. Cl. H01j *11/00*
U.S. Cl. 313—201 7 Claims



The disclosure is of a display panel including a plurality of small gas-filled cells and comprising a sandwich of top and bottom plates, between which is disposed a thin plate which carries rows and columns of apertures which, in the completed device, are filled with an ionizable gas which can glow when properly energized. The top plate carries electrodes in operative relation with rows of cells, and the bottom plate carries electrodes in operative relation with columns of cells. These row and column electrodes are used to carry information signals, and, in addition, auxiliary electrodes are provided on the top and bottom plates for carrying sustaining signals.

3,509,409
PLURAL SECTION ELECTRODE FOR COLD CATHODE ELECTRIC DISCHARGE TUBE

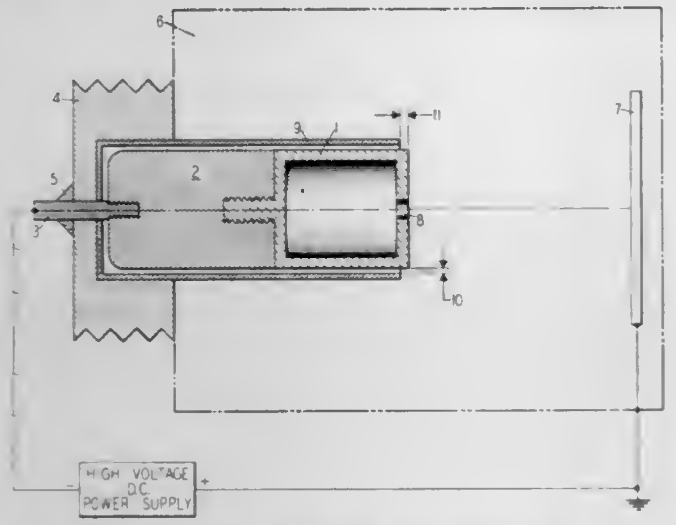
Takeo Kamegaya, Tokyo, Japan, assignor to Japan Broadcasting Corporation, Tokyo, Japan
Filed Sept. 19, 1967, Ser. No. 668,854
Claims priority, application Japan, Sept. 29, 1966, 41/63,164
Int. Cl. H01j *17/04, 61/04*
U.S. Cl. 313—205 **16 Claims**



An electrode for use in a cold cathode discharge tube and which provides excellent suppression of random and periodic noises, which tend to irradiate from the inside of the tube. The main electrode comprises a substantially closed structure having an opening therein to produce an electron flow to the opposite electrode. An additional electrode is provided inside the main electrode forming a partition in the direction of the opening and is connected electrically to the main electrode.

3,509,410
INSULATOR SHIELDED CATHODE

Conrad M. Banas, Manchester, and Clyde O. Brown, Newington, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Continuation of application Ser. No. 506,237, Nov. 3, 1965. This application Sept. 11, 1967, Ser. No. 667,010
Int. Cl. H01j *61/04, 61/10*
U.S. Cl. 313—207 **6 Claims**

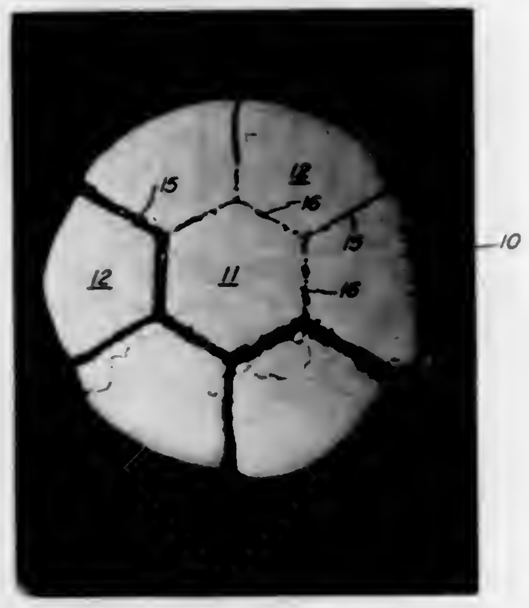


A cathode operating in a glow discharge for producing an electron beam is provided with an insulator shield for selectively suppressing the flow of electrons from those areas covered by the shield.

3,509,411
STRANDED TUNGSTEN WIRE INCANDESCENT LAMP FILAMENT

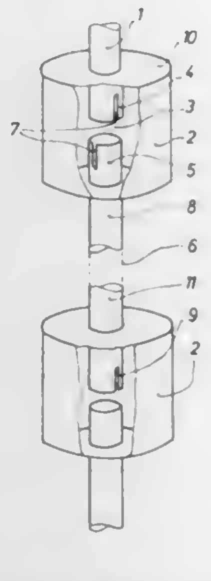
John L. Walter, Scotia, N.Y., and Kenneth S. G. Pertwee, South Euclid, Ohio, assignors to General Electric Company, a corporation of New York
Filed Aug. 5, 1966, Ser. No. 570,602
Int. Cl. H01j *1/15, 1/16*
U.S. Cl. 313—343 **4 Claims**

A tungsten wire incandescent lamp filament is disclosed which has a much greater resistance to failure than conventional filaments, particularly under repetitive shock loads. The improved filament is manufactured by spirally twisting a plurality of round tungsten wires around a round central tungsten wire and drawing through a die to reduce the effective transverse dimension of the composite to form a composite body having a circular cross-section with the central strand having a polygonal cross-section having a plurality of planar surfaces corresponding in number to the outer strands, the outer strands having corresponding planar surfaces in areal engagement with the planar surfaces of the central strand and planar surfaces in areal engagement with adjoining outer strands.



3,509,412
MULTICAVITY KLYSTRON FOR MICROWAVE AND UHF WITH INTERFERING MODE SUPPRESSION SLOTS IN THE ENDS OF THE DRIFT TUBE

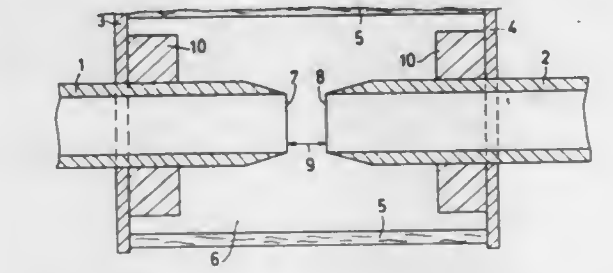
Enzio Demmel, Henstedt-Rhen, Holst, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 20, 1967, Ser. No. 692,183
Claims priority, application Germany, Dec. 24, 1966, P 41,095
Int. Cl. H01j *25/10, 23/20*
U.S. Cl. 315—5.39 **5 Claims**



A multicavity klystron for microwave and UHF with a drift tube which connects the cavities. The ends of the drift tube are provided with slots extending from the outer wall to the inner wall and which extend in an axial direction for suppressing interference modes. These slots may have positions which are shifted 90° relative to slots in the other end of the same portion of the drift tube.

3,509,413
KLYSTRON WITH ADDED INDUCTANCE IN RESONANT CAVITY

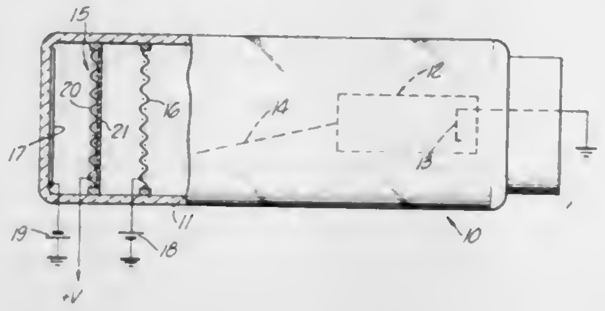
Wolfgang Schmidt, Hamburg, Othmarschen, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 8, 1967, Ser. No. 681,389
Claims priority, application Germany, Dec. 9, 1966, P 40,969
Int. Cl. H01j *23/20*
U.S. Cl. 315—5.52 **5 Claims**



A high-power klystron is provided with a resonant cavity into which extend two tubular electrodes, the ends of which are spaced apart forming a gap therebetween. A cylindrical member is positioned around at least one of the tubular electrodes without a gap between either the electrode or wall of the cavity and the member. This member operates as an inductance permitting the cavity to be tuned.

3,509,414
STORAGE TUBE WITH ELECTRON BOMBARDMENT INDUCED CONDUCTIVITY TARGET

Bernard C. Einstein, Thousand Oaks, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Aug. 2, 1967, Ser. No. 657,886
Int. Cl. H01j *31/28*
U.S. Cl. 315—11 **3 Claims**

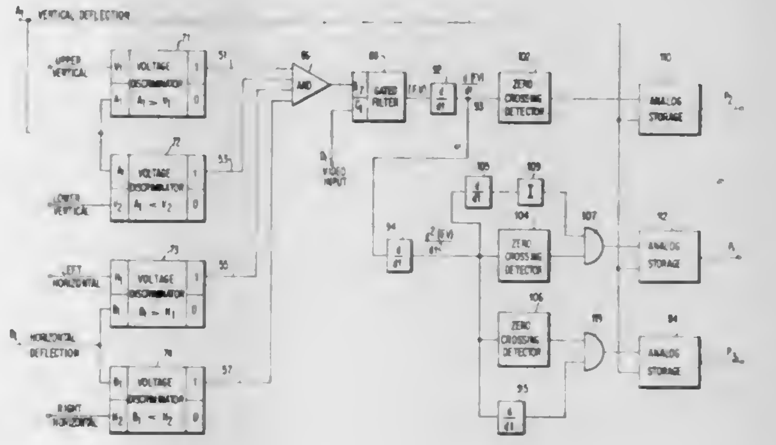


A storage tube for use as an image orthicon or vidicon or the like including an imperforate dielectric layer on only one side of a metal mesh and decreasing in density outwardly from the mesh. The layer has an electron bombardment induced conductivity characteristic. Primary electrons are directed onto the bare metal side of the mesh. A scanning beam of electrons are accelerated by a grid onto the layer on the other side. The mesh casts a shadow so that areas of the layer can be maintained at cathode potential. These areas act as a virtual suppressor grid. Partial or total loss of resolution is thereby prevented.

3,509,415
FORMAT SCHEME FOR VIDICON SCANNERS

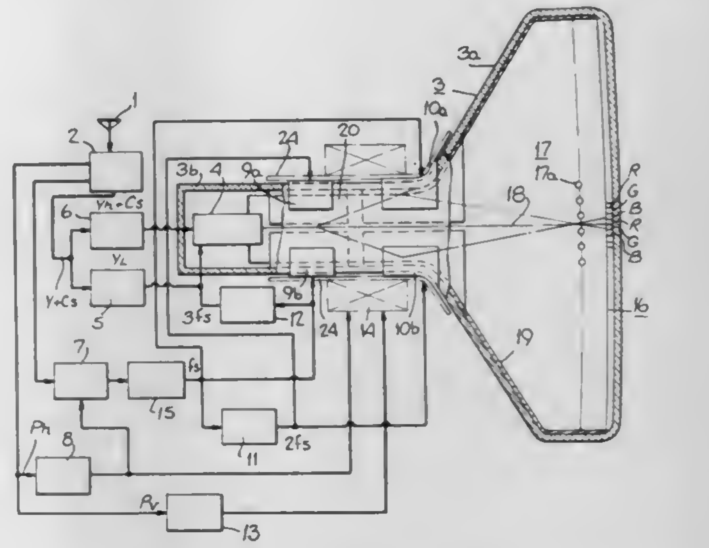
Maurice R. Bartz, Rochester, Minn., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1969, Ser. No. 790,617
Int. Cl. G06k *9/04*
U.S. Cl. 315—19 **11 Claims**

A format pre-scanning scheme which measures the center line location and average height of each line of characters within a pre-established field. As the line of characters is scanned by a series of vertically spaced horizontal scans, the interceptions of the characters cause bursts of high frequency video pulses. These pulses are applied to the input of a filter having a time constant equal to the time required to complete the series of horizontal scans of a single line of characters. The filtered video output is a single smooth pulse whose point of greatest magnitude occurs at the time of interception of the approximate center of the line of characters, and whose points of maximum rate of change of magnitude occur at the interceptions of the approximate top and bottom of the line. These three points are detected and used to trigger devices which store analog voltage representations of the positions of the top, center and bottom of the line.



3,509,416
CATHODE RAY TUBE

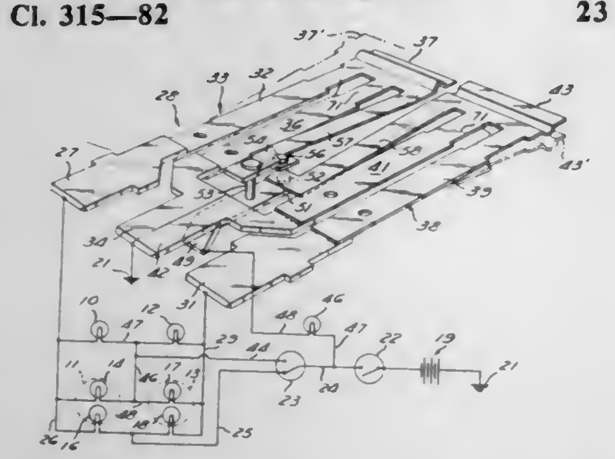
Satoshi Shimada, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Dec. 23, 1966, Ser. No. 604,469
Claims priority, application Japan, Dec. 27, 1965, 40/80,847, 40/80,848
Int. Cl. H01j *29/70*
U.S. Cl. 315—21 **3 Claims**



This invention relates to a single gun type post-acceleration and focusing tube with an improved color switching device including two pairs of outer electrodes provided on opposite outer surfaces of the neck portion of the tube and two pairs of inner electrodes made of a high resistance material and located in positions corresponding to the outer electrodes. The color switching is effected by applying switching signals to the two pairs of outer electrodes in opposite phase relationship.

3,509,417
HEADLIGHT OUTAGE SWITCH

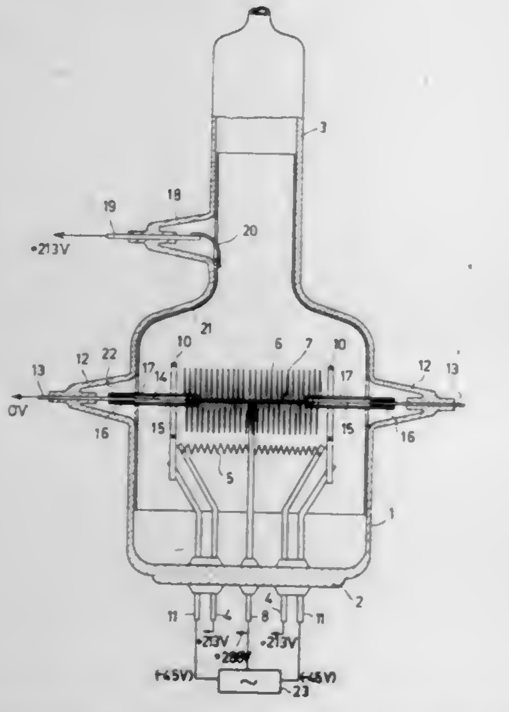
Donald J. Schmitt, Mansfield, Ohio, assignor, by mesne assignments, to Therm-O-Disc, Incorporated, a corporation of Ohio, incorporated in 1968
Filed Mar. 2, 1967, Ser. No. 620,099
Int. Cl. B60g *1/02*
U.S. Cl. 315—82 **23 Claims**



A vehicle headlight outage system and switch which operates to energize an indicator light when one of the vehicle headlights is not functioning. The switch also operates the indicator light for a short period of time when the vehicle lights are first turned on, so that a positive indication is provided that the indicator system is functioning properly. The switch includes two similar, ambient temperature compensated, bimetallic elements with one element connected in the circuit of one bank of headlights on one side of the vehicle and the other element connected in the circuit of the other bank of headlights on the other side of the vehicle. The two elements are mounted to operate in opposite directions and to sense an imbalance in the current flow through the two banks of headlights. The indicator light is connected to the switching device and is energized whenever the current imbalance exceeds a predetermined value.

3,509,418
IONIZATION MANOMETER INCLUDING MEANS FOR MODULATION OF TERMINAL GRIDS

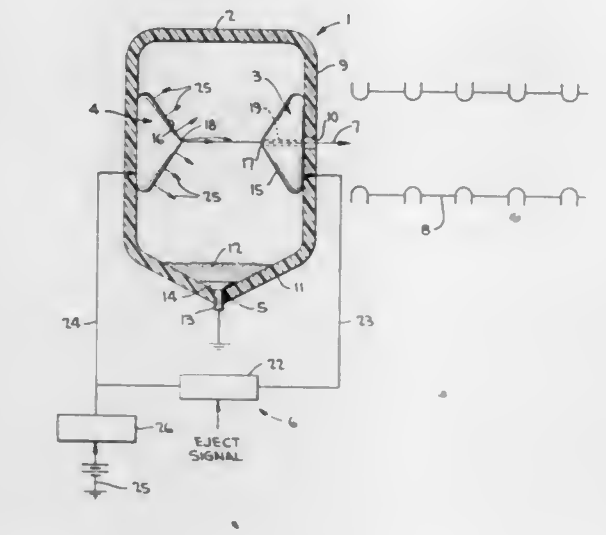
Antonius Gerardus Johannes van Oostrom, Emmasingel, Eindhoven, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed May 3, 1968, Ser. No. 718,102
Int. Cl. G01n *27/62*
U.S. Cl. 315—108 **3 Claims**



An ionization manometer for measuring low gas pressure employs a thin wire-shaped electrode stretched inside a grid-shaped anode. A filamentary cathode is positioned outside the anode and the interior of the anode is screened at the ends by terminal grids. A potential modulated with respect to the anode potential is applied to an electrode within the manometer resulting in a modulation factor approaching unity.

3,509,419
DUST PARTICLE INJECTOR FOR HYPERVELOCITY ACCELERATORS

Otto E. Berg, Forest Heights, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Aug. 31, 1967, Ser. No. 665,680
Int. Cl. H01j *29/56, 33/02*
U.S. Cl. 315—111 **7 Claims**

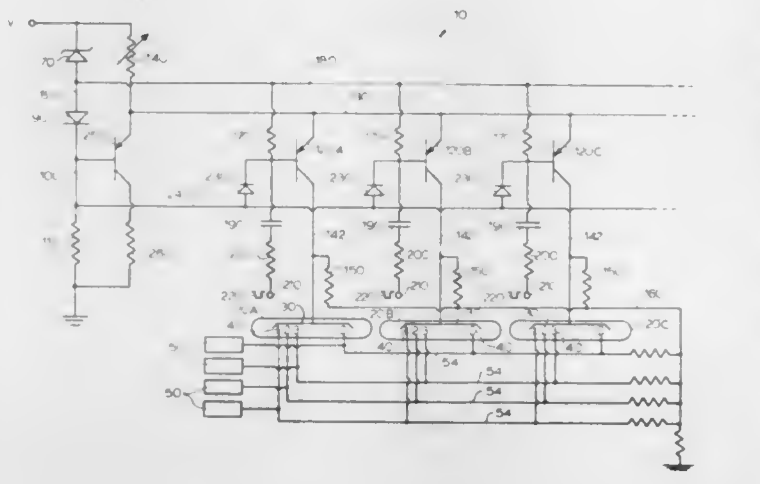


A method and apparatus for use in forming a highly collimated beam of microparticles having a high charge-to-mass ratio and injecting such beam into a electrostatic accelerating tube. The apparatus includes an insulated housing having a particle exit opening; a pair of conically shaped electrodes which are arranged within the housing with their apex portions disposed in a spaced apart facing relationship in alignment with the housing exit opening, the electrode adjacent the housing exit opening having a particle exit passageway extending through the apex portion thereof; and an electrical circuit adapted to control charging of the particles and the application of an electrical field across the electrodes. Particles arranged within the housing are electrostatically charged to distribute the particles adjacent the electrodes, whereafter voltage pulses of appropriate sign are applied to the electrodes to produce a strongly collimated beam of charged particles having a high charge-to-mass ratio; the beam being ejected from the housing through the electrode passageway and housing exit opening, and thereafter injected into an electrostatic accelerating tube.

3,509,420
DRIVER CIRCUITS FOR DISPLAY DEVICES WITH SPURIOUS GLOW ELIMINATING CIRCUIT

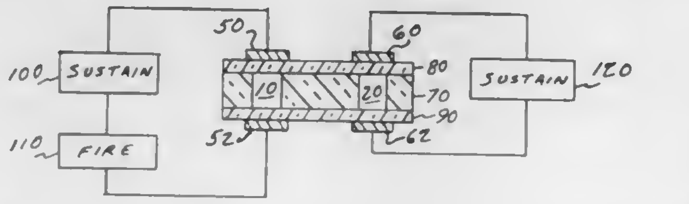
James A. Ogle, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 2, 1968, Ser. No. 726,092
Int. Cl. H01j *61/66;* **H05b** *41/392*
U.S. Cl. 315—135 **9 Claims**

The disclosure is of a circuit for operating one or more cathode glow indicator tubes and includes a separate driver, a transistor, coupled between a power supply and the anode of each indicator tube to be operated. Various diodes are coupled to the anode driver transistors for providing the necessary bias voltages, and a single common variable resistor provided in the emitter circuits of all of the transistors can be used to control and vary the current through each transistor as it operates its indicator tube. Means are also provided for holding off the transistors and their tubes as required during quiescent periods to prevent spurious cathode glow.



3,509,421
PLASMA GAS-FILLED DISPLAY DEVICE

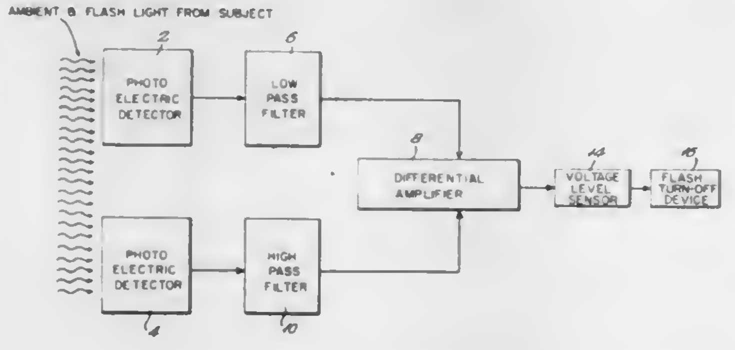
George E. Holz, North Plainfield, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 11, 1967, Ser. No. 666,828
Int. Cl. H05b *41/00*
U.S. Cl. 315—150 **6 Claims**



The disclosure is of a display device comprising a plurality of gas-filled, light-producing cells positioned so that they can react with each other by means of ultraviolet radiation generated by them when they fire.

3,509,422
AUTOMATIC PHOTOGRAPHIC FILL-IN FLASH CIRCUIT

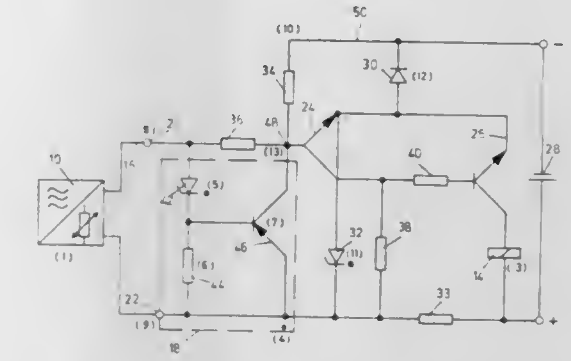
Robert A. Kilgore, Export, Pa., assignor, by mesne assignments, to Research Corporation, New York, N.Y., a nonprofit corporation of New York
Filed Oct. 31, 1967, Ser. No. 679,338
Int. Cl. H01j *39/12;* **H05b** *41/32, 41/38*
U.S. Cl. 315—151 **6 Claims**



An automatic photoflash lighting circuit to fill in shadows in subjects already illuminated by ambient light, including means to automatically compare the amount of ambient light on the illuminated portions of the subject with the light produced by a flash unit to thereby provide a flash duration necessary for the desired fill-in illumination. The circuit includes detectors for detecting and producing signals representative of both the ambient light intensity and the reflected flash illumination and means for detecting the difference between these signals to provide a signal which terminates the flash lamp when a predetermined quantity of light energy from the flash lamp has been reflected.

3,509,423
CIRCUIT SYSTEM FOR THE REMOTE TRANSMISSION AND AMPLIFICATION OF A SIGNAL

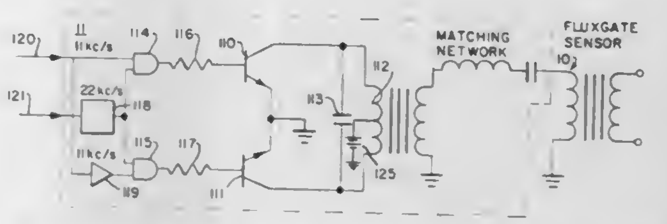
Heribert Czerny, Dusseldorf, Germany, assignor of one-half to W. H. Joens & Co. GmbH, Dusseldorf, Germany
Filed Apr. 10, 1968, Ser. No. 720,131
Claims priority, application Germany, Apr. 12, 1967, J 33,416
Int. Cl. H02h *7/00*
U.S. Cl. 317—16 **4 Claims**



A circuit system for the remote transmission and amplification of a signal with a signal generator which varies its output resistance and an amplifier with sweep characteristics, connected to a voltage divider which contains the signal generator and said amplifier being connected to said signal generator via a transmission line and adapted to assume a first condition when the signal generator has a high output resistance above a threshold value and adapted to assume a second condition when the signal generator has a low output resistance below a threshold value, characterized in that a shorting circuit normally of high resistance, is connected to the amplifier input in parallel to the signal generator and on the amplifier side of the line, said shorting circuit being adapted to assume a low resistance below the aforementioned threshold value in the event of an open circuit occurring on the line.

3,509,424
FLUXGATE MAGNETOMETER DRIVE CIRCUIT

George T. Inouye, Palos Verdes Peninsula, Calif., assignor to TRW Inc., Redondo Beach, Calif., a corporation of Ohio
Filed Jan. 25, 1968, Ser. No. 700,396
Int. Cl. G01r *33/02*
U.S. Cl. 317—148.5 **7 Claims**

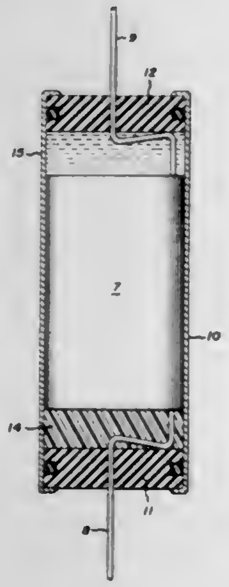


This invention relates to a drive circuit for a fluxgate magnetometer which is such that the second harmonic frequency of the drive frequency is minimized in the drive signal in order not to interfere with signal output from the magnetometer at said second harmonic frequency and which is such that current is drawn only one-half of the time, thereby conserving on the power consumption of the instrument and consequently reducing the weight of the necessary power supply. These features are achieved by deriving the drive voltage from a crystal oscillator or other stabilized frequency source which has a frequency four times that of the desired frequency and which is connected to a drive circuit through a pair of series connected divided-by-two flip-flops to develop a square wave.

3,509,425

ELECTROLYTIC CAPACITOR AND ELECTROLYTE MATERIAL THEREFOR

Alfred L. Jenny, Columbia, S.C., and James H. Curtis, Newark, N.J., assignors to General Electric Company, a corporation of New York
Filed Jan. 10, 1968, Ser. No. 696,896
Int. Cl. H01g *9/00*
U.S. Cl. 317—230 **12 Claims**

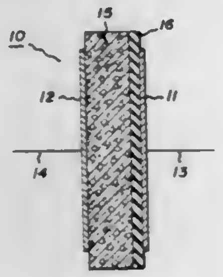


A substantially non-aqueous liquid electrolyte for electrolytic capacitors consisting of a major proportion of ethylene glycol, a minor proportion of an ionogen, preferably ammonium pentaborate, and a small but effective amount of a copolymer of maleic anhydride and methyl vinyl ether, is characterized by a high breakdown voltage and a high viscosity. The concentration of the copolymer is preferably 0.2–0.6% by weight.

3,509,426

CAPACITOR WITH IONIC CONDUCTING CERAMIC ELECTROLYTE

Oliver H. Winn, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 31, 1967, Ser. No. 657,253
Int. Cl. H01g *9/00*
U.S. Cl. 317—230 **14 Claims**

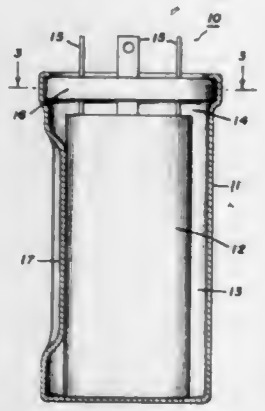


An electrical capacitor is disclosed which utilizes a ceramic dielectric in the form of an ionic conducting ceramic, for example, a modified beta alumina ceramic.

3,509,427

ELECTROLYTIC CAPACITOR CASING STRUCTURE

Ralph A. Ruscetta, Columbia, S.C., assignor to General Electric Company, a corporation of New York
Filed May 21, 1968, Ser. No. 730,740
Int. Cl. H10g *1/02*
U.S. Cl. 317—230 **13 Claims**

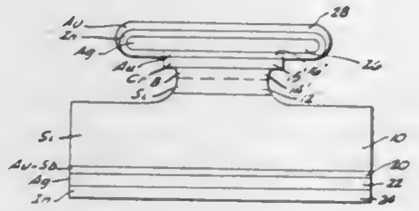


An electrolytic capacitor tubular casing incorporates one or more inwardly protruding indentations which support a capacitor section in the casing.

3,509,428

ION-IMPLANTED IMPATT DIODE

Ramzy G. Mankarious, Costa Mesa, Robert W. Bower, Palos Verdes, and Robert S. Ying, Huntington Beach, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Oct. 18, 1967, Ser. No. 676,301
Int. Cl. H01l *1/12, 1/14*
U.S. Cl. 317—234 **8 Claims**



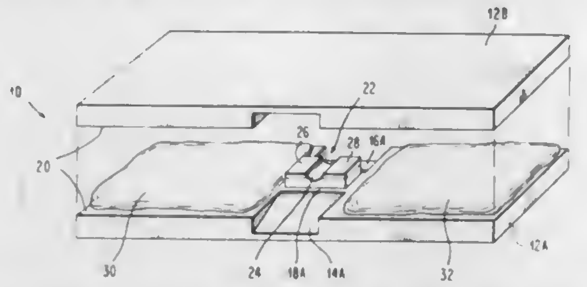
A high-frequency power diode including an ion-implanted region therein, and employing, respectively, thick (50 micron) silver pads as heat sink means at both contact surfaces, capable of being fabricated by simplified processing and providing microwave power with high-frequency stability.

3,509,429

HEAT SINK ASSEMBLY FOR SEMICONDUCTOR DEVICES

Raymond M. Craig and James W. Crowe, Yorktown Heights, and Earl L. Wilkie, Peekskill, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 15, 1968, Ser. No. 697,730
Int. Cl. H01l *5/02*
U.S. Cl. 317—234 **4 Claims**

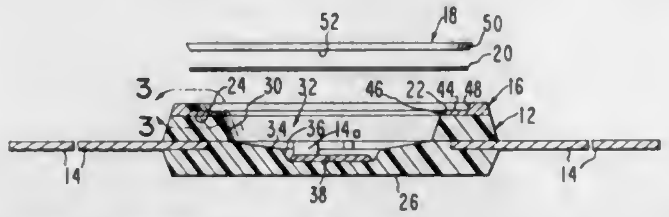
A heat sink assembly is provided for semiconductor devices having widths greater than 10 mils and which planar contact surfaces need not be precisley parallel to one another. There is provided a pair of electrically and thermally conductive members between which the semiconductor device is sandwiched. A layer of an uncured epoxy bonding material is coated on the opposed surfaces of the first member; i.e., surfaces on either side of the semiconductor device. The second member is positioned onto the upper surface of the semiconductor device by an applied force. Because of the plastic flow of the uncured epoxy bonding material the second member rotates until it precisely aligns itself with the contact surface of the semiconductor device. Once the second member is aligned as above, the epoxy bonding material is cured to effect the bonding together of the electrically and thermally conductive members. Thus the first and second members are maintained in intimate contact with the contact surfaces of the semiconductor device.



3,509,430

MOUNT FOR ELECTRONIC COMPONENT

Edward Mroz, Menlo Park, Calif., assignor to Micro Science Associates, Mountain View, Calif.
Filed Jan. 31, 1968, Ser. No. 702,004
Int. Cl. H01l *1/14*
U.S. Cl. 317—234 **8 Claims**

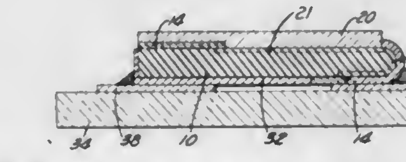


A mount for hermetically housing an electronic component, such as an integrated circuit chip, wherein the body of glass-like heat conducting material having dielectric properties and high-strength characteristics is provided with a hollow interior for receiving the component to be mounted. The body has means defining an annular, recessed flange surrounding the entrance to its hollow interior and a lid is inserted in the recess of the flange for closing the body with the component therewithin. A eutectic member between the flange and the lid is heated and caused to move upwardly by capillary action into the region between the lid and the flange-defining means to provide a hermetic seal at the outer periphery of the lid.

3,509,431

ARRAY OF PHOTOSENSITIVE SEMICONDUCTOR DEVICES

Peter Albert Iles, Arcadia, and Rafael Orlando Victoria, Los Angeles, Calif., assignors, by mesne assignments, to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Original application June 22, 1964, Ser. No. 377,013. Divided and this application May 20, 1968, Ser. No. 736,920
Int. Cl. H01l *15/00*
U.S. Cl. 317—234 **11 Claims**

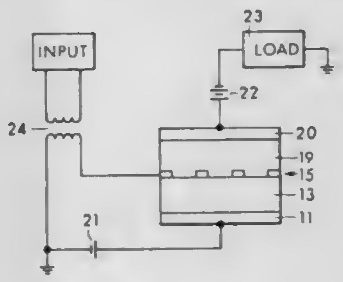


A semiconductor device having an array of separate photosensitive regions which are isolated from each other and arranged on the surface and/or edges of a silicon body so as to permit flush-mounting of collimators, covers or the like.

3,509,432

FIELD EFFECT SPACE-CHARGE-LIMITED SOLID STATE THIN-FILM DEVICE

Anthony A. Aponick, Jr., Williamsport, Pa., and James G. Gottling, Columbus, Ohio, assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed June 15, 1966, Ser. No. 557,831
Int. Cl. H01l *11/00*
U.S. Cl. 317—235 **6 Claims**

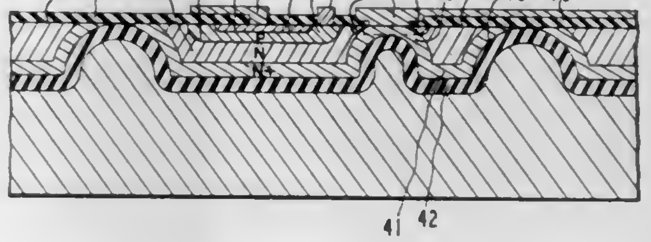


A three terminal solid state device analogous to a vacuum tube triode is described. The device has a body of material, such as cadmium sulfide, capable of supporting a space-charge-limited current provided by an emitter electrode. A collector electrode is capable of receiving current carriers from such space charge region. A control electrode is located within said body of material to control the flow of current to the collector electrode. The control electrode is a grid having apertures of approximately 3000 A. diameter.

3,509,433

CONTACTS FOR BURIED LAYER IN A DIELECTRICALLY ISOLATED SEMICONDUCTOR POCKET

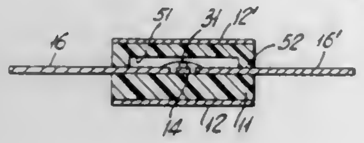
Jon M. Schroeder, Los Altos, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed May 1, 1967, Ser. No. 635,144
Int. Cl. H01l *19/00*
U.S. Cl. 317—234 **6 Claims**



Describes a structure for and method of making ohmic contact to a buried, highly conductive layer in a dielectrically isolated semiconductor pocket in order to eliminate potential failure modes and reduce signal-path resistance in the lower region of the pocket. Essentially, a raised area is formed adjacent to but separated from a side of the semiconductor pocket, the raised area comprising a portion of the buried, highly conductive layer to which contact is made from the pocket upper surface. The invention is particularly suitable for fabricating composite semiconductor devices, such as integrated circuits or arrays, in which complex integrated arrays of semiconductor elements are electrically isolated from each other and all are formed within a single unitary structure.

3,509,434
PACKAGED SEMICONDUCTOR DEVICES

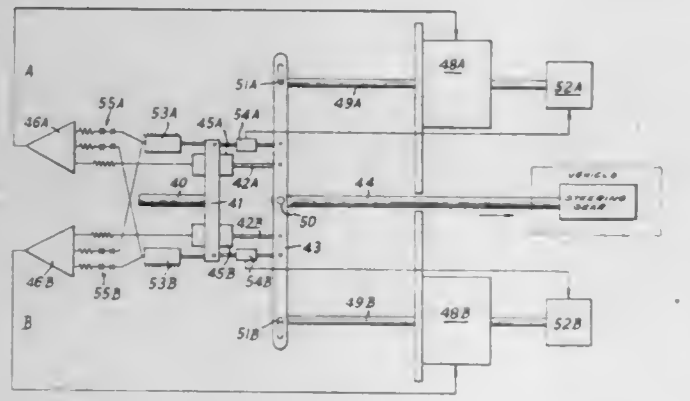
Hisayoshi Yanai, Humiko Kida, and Takayuki Yanagawa, Tokyo, Japan, and Isao Tsubaki, Chiba-ken, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan
Filed Apr. 27, 1967, Ser. No. 650,557
Claims priority, application Japan, Sept. 30, 1966, 41/64,558
Int. Cl. H01l *1/08, 1/14*
U.S. Cl. 317—235 4 Claims



A generally planar housing structure for enclosing semiconductor devices for use in high frequency applications. The structure includes a dielectric member for mounting or enclosing the semiconductor with a pair of signal conductors, a common conductor and a ground conductor, the latter conductor being on one generally planar surface of the housing.

3,509,435
MECHANICALLY CROSS-COUPLED DUAL CHANNEL ACTUATOR SYSTEM

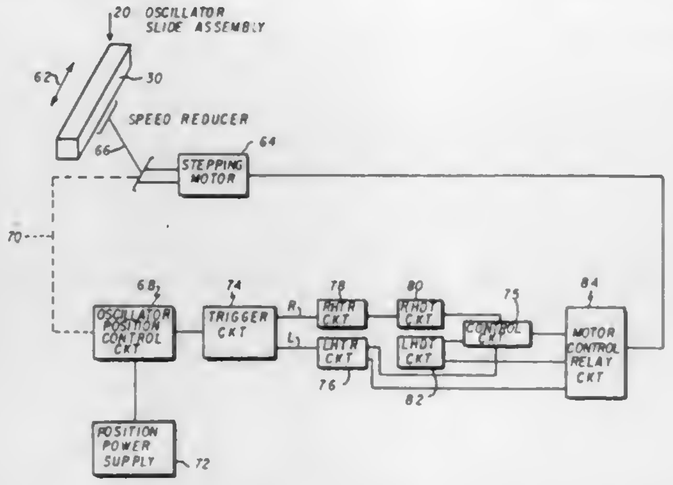
David Alan Howells, Reading, England, assignor to Sperry Rand Limited, London, England, a company of Great Britain
Filed Nov. 16, 1967, Ser. No. 683,496
Claims priority, application Great Britain, Nov. 17, 1966, 51,574/66
Int. Cl. G05b *13/02*
U.S. Cl. 318—18 9 Claims



An actuation system for controlling the steering of an omnibus or coach has a follow-up arm which imparts mechanical movement to an input shaft which is secured to a rectangular framework. Opposite links of the framework are compressible, the compression being sensed by pick-offs which operate jacks through amplifiers. The jacks in turn move the framework so as to return the compressible links to their original length. The movement of the jacks also operates the steering gear of the omnibus.

3,509,436
OSCILLATOR SLIDE ASSEMBLY AND CONTROL CIRCUIT THEREFOR

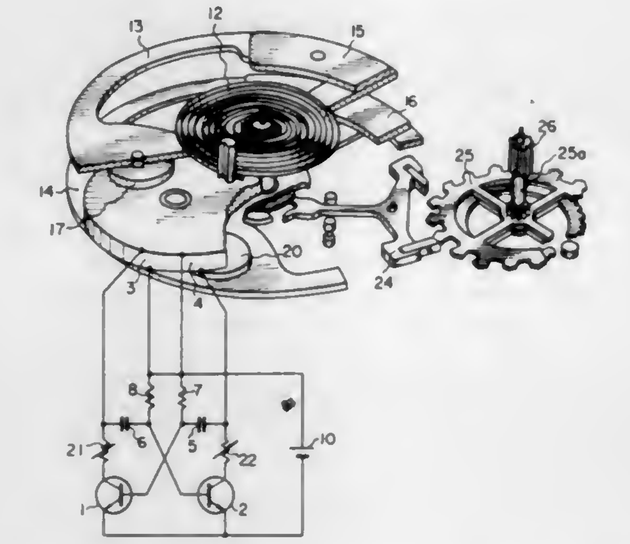
Hubert T. Hovance, Kent, Ohio, assignor to Auto Arc-Weld Mfg. Co., Cleveland, Ohio, a corporation
Filed Mar. 27, 1967, Ser. No. 626,328
Int. Cl. H02p *1/22*
U.S. Cl. 318—127 17 Claims



An oscillator slide assembly and control circuit therefor which allows the parameters of stroke width, stroke mean center position, traverse speed and dwell time to be selectively preset or altered during operation of the oscillator.

3,509,437
TIMEPIECE DRIVE

Takeshi Hashimura, Tokorozawa-shi, Japan, assignor to Citizen Tokei Kabushiki Kaisha, Tokyo, Japan
Filed Sept. 8, 1966, Ser. No. 578,029
Int. Cl. H02k *33/18*
U.S. Cl. 318—129 2 Claims

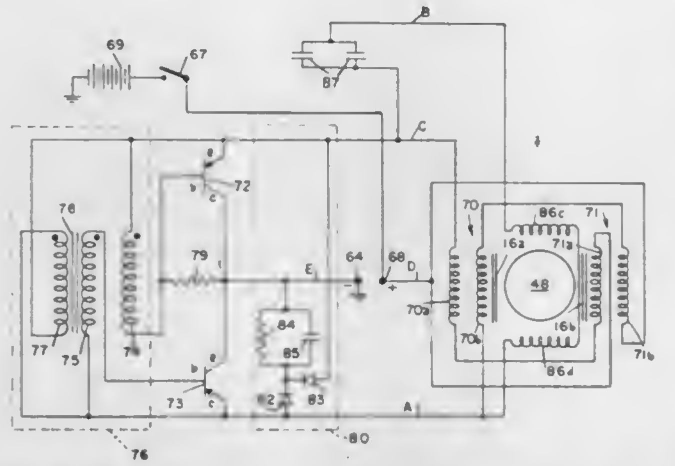


A system for driving the mechanical vibrator of a timepiece with a free-running multivibrator. The mechanical vibrator controls the frequency of the multivibrator, and the multivibrator furnishes energy to drive the mechanical vibrator. Variable resistors in the multivibrator control the magnitude of the mechanical vibrations.

3,509,438
MOTOR AND TRANSISTORIZED DRIVE CIRCUIT THEREFOR

Paul T. Kachuk, Fort Wayne, Ind., assignor to Tokheim Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed Aug. 10, 1967, Ser. No. 659,652
Int. Cl. H02k *29/00*
U.S. Cl. 318—138 7 Claims

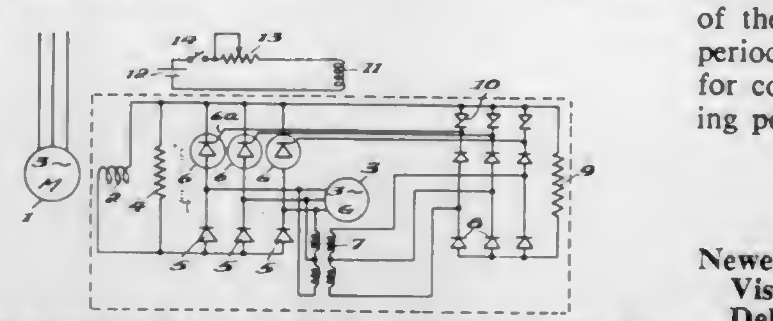
A brushless motor driven as an AC motor from a DC source by means of an oscillator circuit of which the motor forms a part. The plural poles of a substantially conventional squirrel-cage motor structure are bifilar wound with the two halves of a center-tapped winding which is connected to a pair of transistors in a push-pull arrangement. A small transformer has its primary winding in parallel with the motor winding and has bifilar secondary windings to provide feedback signals to operate the two transistors to supply drive current to the field winding.



The circuit components are compactly arranged in an assembly disposed at the top of a motor-pump unit which may be submersible in gasoline or other fuel. Sufficient resistance is incorporated in the transformer secondary windings to limit the power supplied to the motor under excessive load conditions. In combination with a positive displacement pump, this is used to limit the output of the pump and eliminate the need for a pressure by-pass valve.

3,509,439
EXCITER ARRANGEMENT FOR SYNCHRONOUS MOTORS

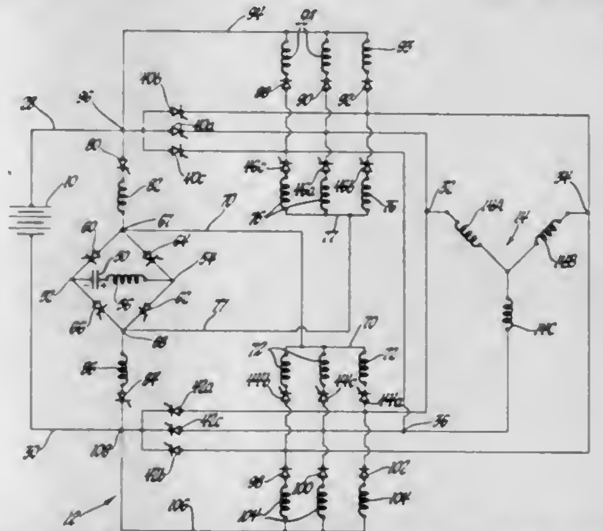
Werner Schicht, Birr, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Apr. 22, 1968, Ser. No. 723,156
Claims priority, application Switzerland, Oct. 3, 1967, 13,808/67
Int. Cl. H02p *1/50*
U.S. Cl. 318—183 7 Claims



An arrangement for controlling excitation of the field coil on the rotor of a synchronous motor during starting as well as during running at synchronous speeds includes a first rectifier circuit on the rotor including controlled and uncontrolled rectifier elements connected to supply current to the motor field coil and at least one resistance element connected in parallel therewith, an exciter alternator also on the rotor which feeds the rectifiers of the first rectifier circuit but which has a stationary field winding, an auxiliary rectifier circuit including diodes and voltage control Zener diodes also fed from the exciter alternator via an isolating transformer and which apply igniting pulses to the control electrodes of the controllable rectifiers of the first rectifier circuit, and a switching device responsive to the speed attained by the rotor of the motor for energizing the stationary field winding of the exciter alternator. During starting up, asynchronous operation of the motor, a balanced alternating current flows through the field coil of the rotor, and after a near synchronous speed has been attained, the field winding of the exciter alternator is connected in thus establishing an A.C. output from the latter which then feeds unidirectional current through the motor field coil by way of the rectifiers of the first rectifier circuit.

3,509,440
MOTOR CONTROL SYSTEM FOR AN INDUCTION MOTOR

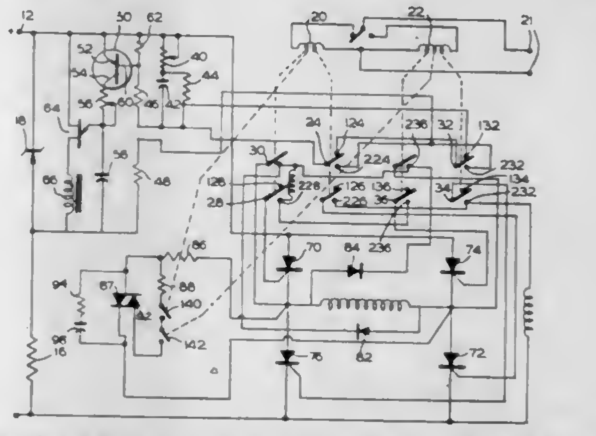
Richard W. Johnston, Troy, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 589,928, Oct. 27, 1966. This application Nov. 26, 1968, Ser. No. 779,183
Int. Cl. H02p *7/36, 7/62*
U.S. Cl. 318—227 5 Claims



A power supply system for feeding a polyphase electrical load, such as an induction motor, from a source of direct current through an inverter. The inverter is comprised of a plurality of controlled rectifiers and pairs of controlled rectifiers are gated conductive to sequentially connect pairs of phase windings of the induction motor across the source of direct current to control the frequency of the current supplied to the motor. One of the controlled rectifiers of the pair of controlled rectifiers is pulsed on and off during a given conduction period to control the voltage applied to the motor. This controlled rectifier is the one of the pair that is the last to conduct in a given conduction period to insure positive turn-off of the controlled rectifiers at the end of a conduction period. The inverter includes shut-off controlled rectifiers for connecting a commutating capacitor with a conducting power controlled rectifier to turn it off.

3,509,441
MOTOR BRAKING CIRCUIT

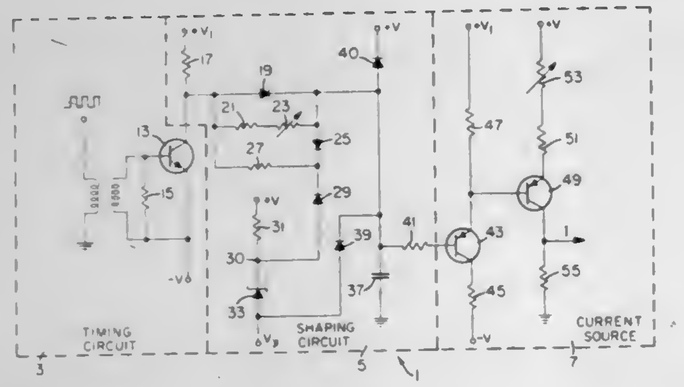
Newell G. Welch, Waynesboro, Va., assignor to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware
Filed May 11, 1967, Ser. No. 637,701
Int. Cl. H02k *27/20*
U.S. Cl. 318—261 1 Claim



A motor braking circuit including a braking resistor in series with a normally non-conducting bilateral semiconductor switching device connected across a motor armature whereby the switching device may be energized by either a positive or negative gating signal to complete the braking circuit.

3,509,442
CURRENT PULSE SHAPER INCLUDING A STORAGE MEANS HAVING A CHARGING PATH AND A PLURALITY OF DISCHARGING PATHS OF DIFFERING TIME CONSTANTS

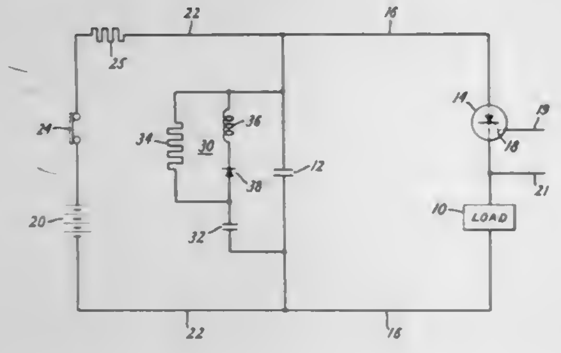
Roy H. Norman, Palos Verdes, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Feb. 19, 1968, Ser. No. 706,523
Int. Cl. H02j *1/04*
U.S. Cl. 320—1 **9 Claims**



A pulse shaping network adapted to receive a timing signal and provide responsive output pulses having a discontinuous rise time component when operating in a resistive load. The output pulse may be received by an underdamped reactance load with the resulting pulse through the inductive part of the load having a substantially linear rise time. The circuit network when associated with a mass core memory, may serve as a word current source receiving a timing pulse and providing a responsive drive pulse of continuous substantially linear rise within a desired rise time to drive lines offering an inductive load to the network in conjunction with a capacitive component resulting from the drive matrix.

3,509,443
PULSE CIRCUIT FOR SUPPLYING TWO CLOSELY SPACED ELECTRIC PULSES

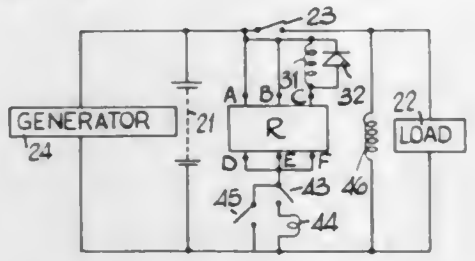
Matthew A. Dranchak, Moorestown, N.J., assignor to General Electric Company, a corporation of New York
Filed Nov. 27, 1968, Ser. No. 779,533
Int. Cl. H02j; H02m *3/06;* **H03k** *3/00*
U.S. Cl. 320—1 **7 Claims**



Discloses a pulse circuit for supplying two consecutive full-energy pulses within a very short time interval. Each pulse is derived from a main capacitor, which is charged between pulses by an auxiliary capacitor discharging into the main capacitor through a substantially undamped oscillatory circuit that is unidirectionally conducting.

3,509,444
BATTERY CHARGING SYSTEMS FOR USE IN ROAD VEHICLES

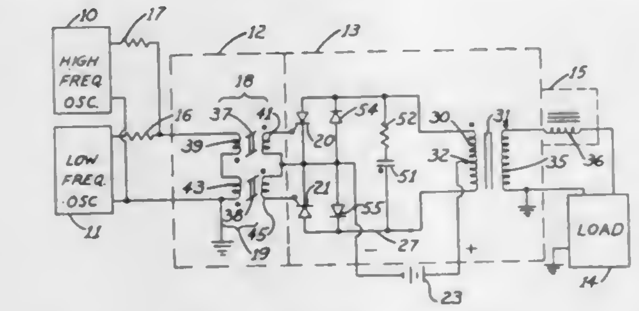
Maurice James Wright, Harborne, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed July 5, 1967, Ser. No. 651,163
Claims priority, application Great Britain, July 8, 1966, 30,721/66
Int. Cl. H02j *7/00*
U.S. Cl. 320—48 **4 Claims**



A battery charging system for a road vehicle includes a generator for charging the battery, a voltage regulator R for controlling the generator output, a resistance connected in series with the voltage regulator R across the battery, an ignition switch connected in series with electrical loads of the vehicle in parallel with the series connection of voltage regulator and resistance, a switch separate from but controlled by the ignition switch for ensuring that the voltage regulator dissipates power only when the ignition switch is closed, and means operable when the generator is producing an output for short-circuiting the resistance.

3,509,445
PULSE WIDTH MODULATED POWER AMPLIFIER

Keith M. Chirgwin, Palos Verdes Estates, Calif., Robert J. Wurm, Greendale, Wis., and Lawrence J. Stratton, Lexington, Mass., assignors to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Jan. 16, 1967, Ser. No. 609,672
Int. Cl. H02m *1/12, 7/52;* **H03f** *3/38*
U.S. Cl. 321—9 **3 Claims**

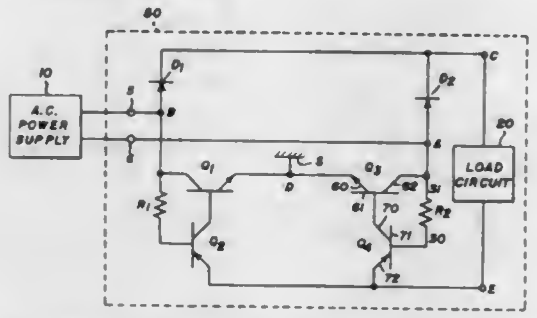


An electrical power amplifier for providing an alternating current output of a desired frequency comprising a parallel static inverter controlled by trigger pulses provided by the output of saturable core pulse transformers. The transformers are connected to and provide output pulses in accordance with a high frequency alternating current signal source whose output is amplitude modulated by a lower frequency alternating current source. The lower frequency is the desired output frequency of the power amplifier.

3,509,446
FULL-WAVE RECTIFYING MONOLITHIC INTEGRATED CIRCUIT

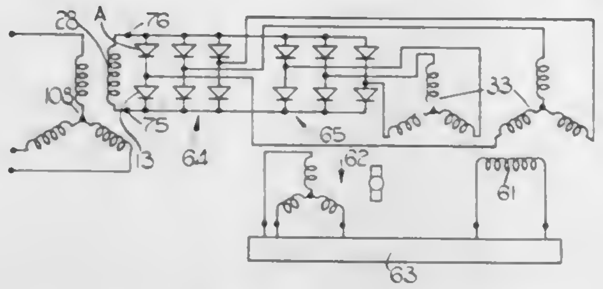
Jerome R. Mullaly, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 31, 1968, Ser. No. 733,344
Int. Cl. H02m *7/06;* **H01l** *11/00;* **H03k** *3/26*
U.S. Cl. 321—46 **4 Claims**

An improved semiconductor monolithic integrated circuit is provided that employs reverse-biased diode isolation of its substrate yet is capable of operating directly from a power supply of alternating current voltage. The direct connection of an A-C power supply to the integrated circuit without disturbance of the reverse-biased diode isolation is made possible by provision of a substrate switching circuit portion in said integrated circuit. The substrate switching circuit maintains the substrate isolation diodes in an uninterrupted reverse bias mode in spite of alternations in power supply voltage polarity by preventing sufficient voltage from developing across the P/N junctions of the substrate isolation diodes to forward-bias the isolation diodes. Thus preservation of desired substrate isolation and proper operation of the remaining portions of the monolithic integrated circuit is insured throughout the entire 360° cycle of an alternating polarity power supply.



3,509,447
DYNAMO ELECTRIC MACHINES HAVING AN EXCITER WITH PLURAL OUTPUT WINDINGS

Eddie Wharton, Beaconsfield, England, assignor to Rotax Limited, London, England, a British company
Filed Feb. 8, 1968, Ser. No. 704,112
Int. Cl. H02p *9/14, 9/22*
U.S. Cl. 322—87 **2 Claims**

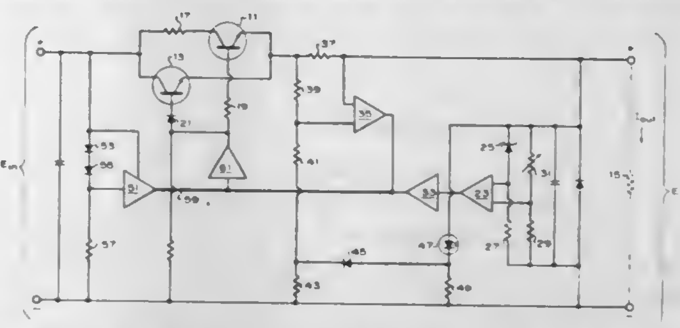


A dynamo electric machine comprising a stator structure supporting output windings, a rotor structure carrying a field winding and exciting windings, the exciting windings supplying current to the field winding by way of a pair of full wave rectifier units respectively. The exciting winding having a separate stator structure associated therewith which is magnetised from a permanent magnet alternator, the output of which is controlled and rectified to effect overall control of the output of the machine.

3,509,448
POWER SUPPLY VOLTAGE REGULATOR HAVING POWER SHARING REGULATING TRANSISTORS AND CURRENT LIMITING MEANS

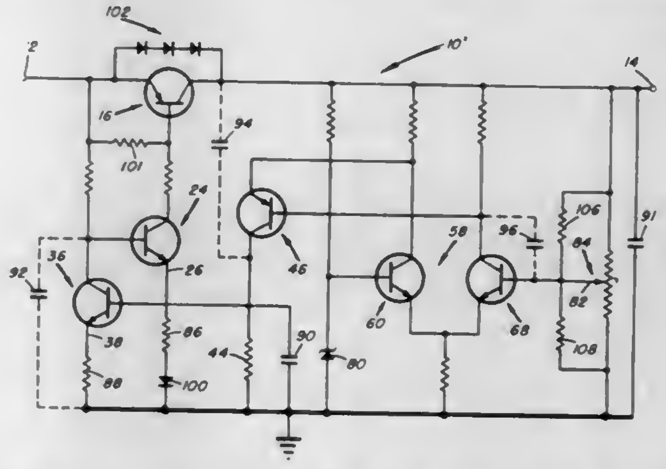
Robert J. Bland, Berkeley Heights, N.J., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed June 3, 1968, Ser. No. 733,858
Int. Cl. G05f *1/58*
U.S. Cl. 323—9 **3 Claims**

A circuit includes two shunt connected, power sharing, voltage regulating transistors which are sequentially controlled by circuitry including a constant current source and three current sinks. One of the current sinks is responsive to the load voltage. The second current sink is controllable to limit load current at normal regulated load voltages, and to cut back load current when the load resistance drops below a predetermined value. The third current sink drives the two regulating transistors in response to the current which is not diverted by the other two current sinks.



3,509,449
DISSIPATIVE VOLTAGE REGULATOR

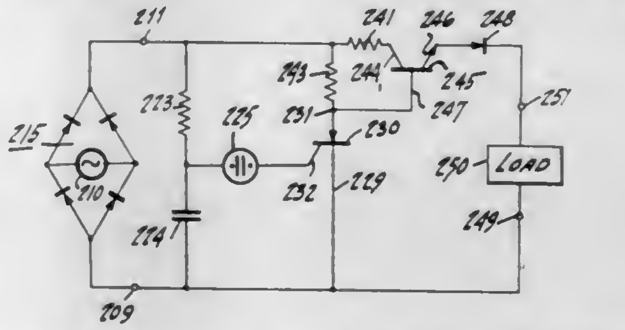
Carl F. Andren, Laurel, Md., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Oct. 13, 1967, Ser. No. 675,254
Int. Cl. G05f *1/56;* **H02m** *3/14*
U.S. Cl. 323—22 **2 Claims**



A voltage regulator circuit of the solid state variety whose output, by means of a feedback loop, is made to be self-controlling. The output of said circuit is sensed and is compared with a fixed reference voltage. The difference in voltage between the output and the fixed reference is amplified and effectively utilized to regulate the impedance of the unregulated voltage supply to provide for a regulated voltage output. A resistor network in the output sensor ensures continuous sampling of the output.

3,509,450
THYRISTOR CONTROLLED VOLTAGE REGULATING CIRCUIT

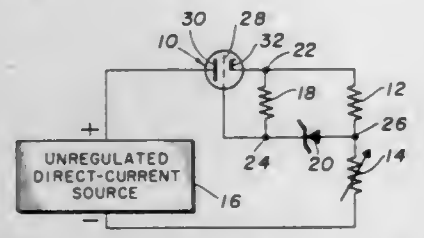
Thomas C. McNulty, Middlesex, N.J., assignor to RCA Corporation, a corporation of Delaware
Filed Mar. 22, 1968, Ser. No. 715,327
Int. Cl. G05f *1/44, 1/64*
U.S. Cl. 323—22 **7 Claims**



Disclosed is a switching circuit for supplying power to a load independent of the magnitude of the applied voltage source. The circuit comprises a thyristor element connected substantially in parallel with the load to be supplied; variable time delay means, responsive to the magnitude of the applied voltage source, for determining the conduction angle of the thyristor; and regulating means, responsive to the magnitude of the applied voltage source, for regulating the power supplied to the load when the thyristor is in a nonconducting state.

3,509,451
CURRENT LIMITING CIRCUIT

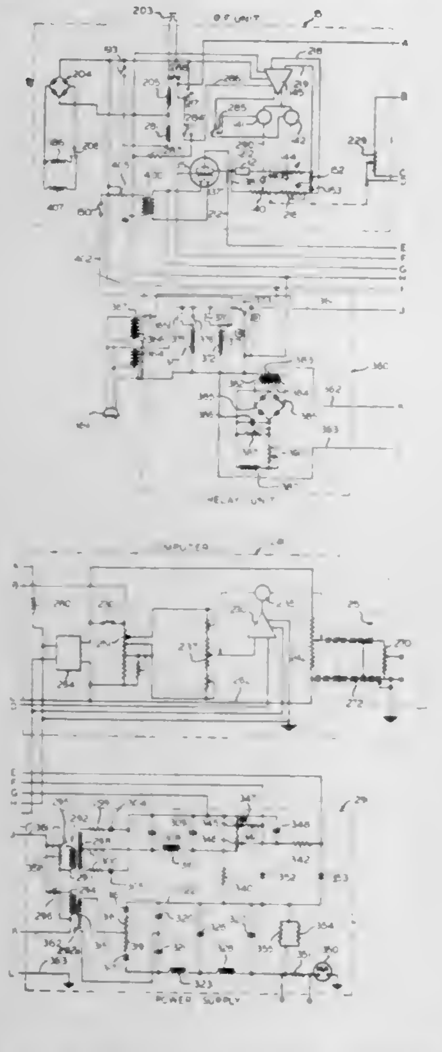
Lewis C. Garrett, Durham, and James W. Harrison, Jr., Raleigh, N.C., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed May 2, 1967, Ser. No. 635,588
Int. Cl. G05f *1/52, 1/58*
U.S. Cl. 323—4 **3 Claims**



A direct-current power supply current-limiting means comprising a series connected regulator vacuum tube, a current sensing resistor, a vaiable load, and an unregulated direct-current source in cooperation with a voltage divider comprising a resistor and a solid-state current-limiting element.

3,509,452
MICROWAVE HYGROMETER HAVING A HELICAL SURFACE WAVE TRANSMISSION LINE

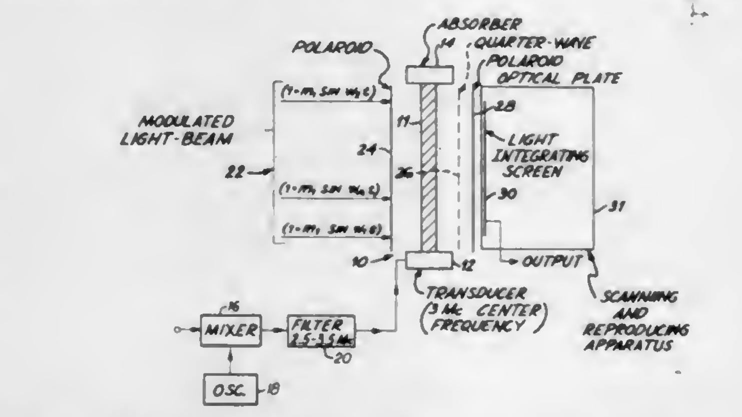
Charles W. E. Walker, San Mateo, Calif., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Continuation-in-part of application Ser. No. 260,743, Feb. 25, 1963. This application May 21, 1965, Ser. No. 457,682
Int. Cl. G01r *27/04;* **H03f** *1/36;* **H01p** *3/12*
U.S. Cl. 324—58.5 **12 Claims**



A testing apparatus for sensing moisture in material which comprises a coiled stripline test element that is placed in close proximity to a specimen to be tested and to which microwave energy is fed, is disclosed. The microwave energy is absorbed by the test specimen as a function of the square of the water content and the amount of energy absorbed is detected and supplied to an indicator to indicate the moisture in the sample.

3,509,453
LIGHT MODULATION SYSTEM FOR ANALYSIS OF INFORMATION

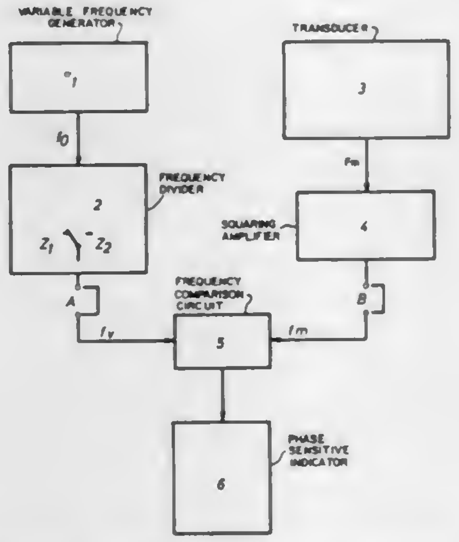
Raymond M. Wilmotte, 68 Mountain Ave., Princeton, N.J. 08540
Continuation-in-part of applications Ser. No. 734,728, May 12, 1958, and Ser. No. 835,648, Aug. 24, 1959. This application Nov. 21, 1961, Ser. No. 158,928
Int. Cl. G01r *23/16, 27/02*
U.S. Cl. 324—77 **35 Claims**



26. A system for analyzing a signal, comprising means for generating a beam of energy and for amplitude modulating it, said amplitude modulation being different at different transverse areas of said beam, means for transforming a signal into a form capable of affecting said beam of energy in accordance with a characteristic of the waveform of said signal, said amplitude modulation being related to said characteristic, means for conducting the transformed signal across said beam of energy, means for detecting the combined effect of the amplitude modulation and the transformed signal upon said beam of energy, and means for integrating the detected effect.

3,509,454
APPARATUS FOR TUNING MUSICAL INSTRUMENTS

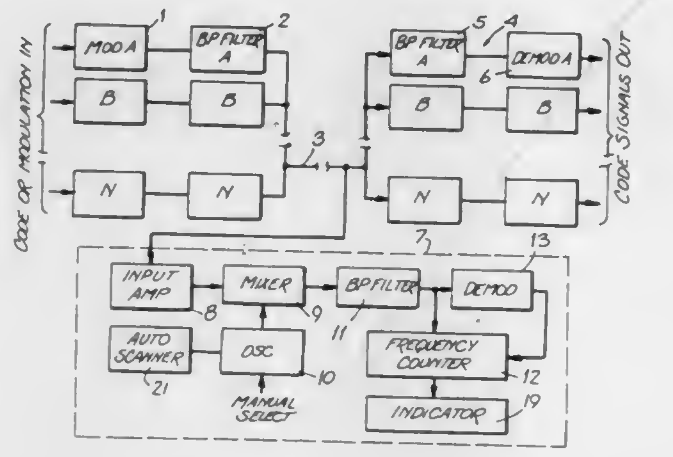
Dieter Gossel, Hamburg, Germany, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 497,846
Claims priority, application Germany, Oct. 28, 1964, P 35,370
Int. Cl. G01r *23/14*
U.S. Cl. 324—79 **4 Claims**


VARIABLE FREQUENCY GENERATOR
1
TRANSDUCER
3
f0
Fm
FREQUENCY DIVIDER
2
Z1
Z2
SQUARING AMPLIFIER
4
A
B
fr
fm
FREQUENCY COMPARISON CIRCUIT
5
PHASE SENSITIVE INDICATOR
6

Apparatus for tuning musical instruments which uses a digital divider to produce two frequencies which differ by one musical half tone. The resultant frequencies are compared in a phase sensitive comparator which optically indicates the frequency differences.

3,509,455
FSK CIRCUIT ANALYZERS

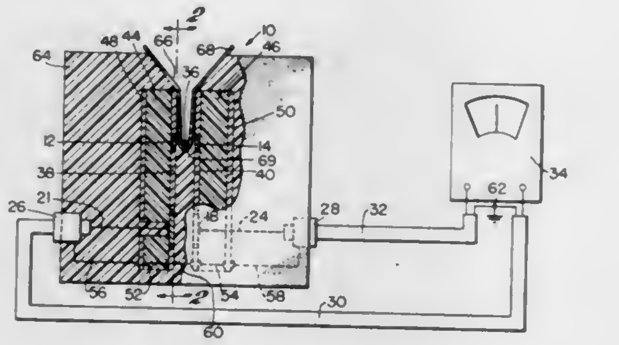
Norman E. Peterson, Ridgefield, Conn., assignor to Digitech, Inc., Ridgefield, Conn., a corporation of Connecticut
Filed May 10, 1967, Ser. No. 637,547
Int. Cl. G01r *23/14*
U.S. Cl. 324—79 **8 Claims**



A method and means for analyzing FSK communication circuits for obtaining a reading of the frequency drive of the signal frequencies from their preset frequencies. The analyzing system demodulates the signal for determining whether a mark or space frequency is being transmitted while applying the signal frequency to a frequency counter. The demodulated signal is also used to confine the frequency counting to periods spaced from the transitions of the signals between the mark and space frequencies to eliminate the inaccuracies which result from the transient conditions present during the transitions.

3,509,456
DIELECTRIC PROBE FOR LOW CONDUCTIVITY FILAMENTARY MATERIAL

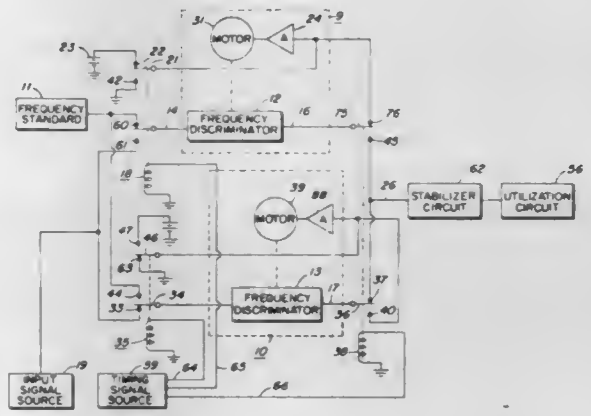
John R. Zurbrick, Nashua, N.H., assignor to Avco Corporation, Wilmington, Del., a corporation of Delaware
Filed Jan. 15, 1968, Ser. No. 697,854
Int. Cl. G01r *27/26;* **H01g** *7/00*
U.S. Cl. 324—61 **6 Claims**



The disclosure illustrates a dielectric probe for determining material properties of low conductivity filamentary material, such as elemental boron. First and second elongated plate elements are formed on the inner sides of a pair of oppositely placed parallel printed circuit boards. Grounded electrically conductive portions of the printed circuit board surround but are insulated from the probe elements on the inner sides of the boards. Grounded electrically conductive portions of the printed circuit cover the outer sides of the printed circuit boards. The printed circuit boards are rigidly maintained relative to one another by a support material such as a curable resin. A Teflon tape is folded between the circuit boards and has the crease positioned to allow filamentary material to be passed through the plate elements to determine the material effects on an electrostatic field generated between the plate elements.

3,509,457
FREQUENCY DISCRIMINATOR CIRCUIT EMPLOYING TWO SELF-CALIBRATING FREQUENCY DISCRIMINATORS

Robert W. Landee, 5107 Woodley, Encino, Calif.
Filed Dec. 20, 1962, Ser. No. 249,107
Int. Cl. G01r *23/12*
U.S. Cl. 324—82 **8 Claims**

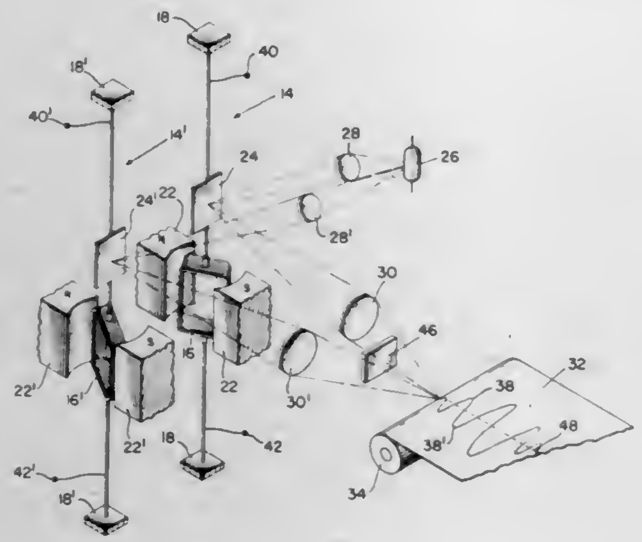


1. Continuously operable self-calibrating frequency discriminator means comprising first and second self-calibrating frequency discriminator circuits each comprising input and output terminals, a frequency discriminator, and a servo system, said servo system constructed to respond to the output signal of said frequency discriminator to tune said frequency discriminator to an applied calibrating frequency, calibrating frequency source means, input signal source means, terminal means, switching means for alternately switching said input signal source means and said calibrating frequency source means to the inputs of said first and second self-calibrating frequency discriminator circuits, first and second disabling means responsive to said switching means to disable that servo system responsive to the frequency discriminator to which said input signal is being supplied, timing means constructed to cause said switching means to alternately connect said input signal source to the first and second self-calibrating frequency discriminators, other switching means for alternately and exclusively connecting the output terminals of each of said first and second self-calibrating frequency discriminator circuits to said terminal means during the time intervals that the input signal source is connected to the corresponding one of said first and second self-calibrating frequency discriminator circuits.

3,509,458
GALVANOMETER INDICATING DEVICE HAVING THE COILS THEREOF OFFSET FOR PROVIDING A LOGARITHMIC INDICATION

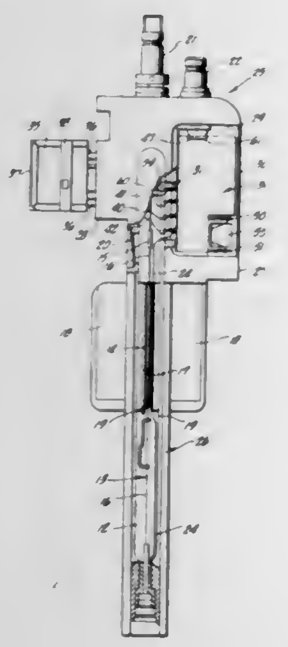
Larry J. Girard, Littleton, Colo., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 1, 1967, Ser. No. 642,747
Int. Cl. G01r *13/38*
U.S. Cl. 324—97 **2 Claims**

A nonlinear galvanometer having a coil suspended within a magnetic field and a mirror attached to the suspension system for reflecting a light beam from a light source to provide an indication of an input signal applied to the coil. The coil is offset with respect to the magnetic field so that the input signal produces a nonlinear coil deflection for providing a nonlinear indication.



3,509,459
HIGH IMPEDANCE GALVANOMETER WITH AMPLIFIER INPUT

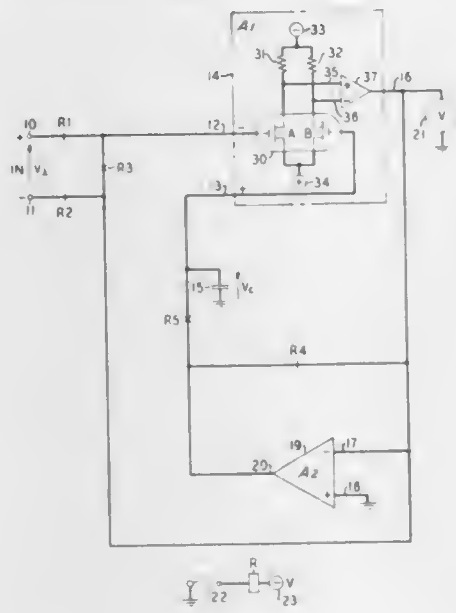
Richard M. Canzoneri and Robert L. Cheney, Arcadia, and Ernest H. Otto, Temple City, Calif., assignors, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 23, 1967, Ser. No. 677,186
Int. Cl. G01r *13/38, 1/30, 1/14*
U.S. Cl. 324—97 **28 Claims**



A galvanometer for a record oscillograph in which an amplifier is provided between galvanometer signal input terminal means and a deflection coil of a glavanometer movement located within a housing of the galvanometer. The amplifier output impendance corresponds to a desired damping impendance for the galvanometer movement. The amplifier input impendance is sufficiently high that a signal generator coupled to the galvanometer input terminal means during use of the galvanometer produces essentially a voltage signal. The amplifier produces a current proportional in value to the value of a signal applied to the input terminal means. The amplifier and galvanometer movement are matched to each other.

3,509,460
HIGH IMPEDANCE, SELF-ZEROING, DC VOLTMETER CIRCUIT

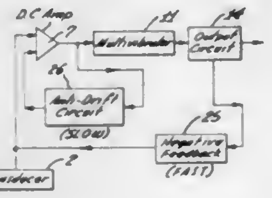
Albert Mizrahi, Mountain View, Calif., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,768
Int. Cl. G01r *1/00;* **H03f** *1/02*
U.S. Cl. 324—111 **8 Claims**



A DC voltage to be measured is applied between one input of a high input impedance, high gain differential amplifier and the amplifier output which in turn is connected through a DC meter to ground. To zero the circuit, a relay is operated whose contacts disconnect any applied input DC voltage, connect the first input directly to the output of the differential amplifier, and further connect a second high gain amplifier between the above-mentioned output and the second input of the differential amplifier. The feedback provided through this second high gain amplifier develops a zeroing potential at the second input. A high quality capacitor connected between the second input and ground maintains this zeroing potential during the measurement mode when the voltage to be measured is applied and the second high gain amplifier is removed from the circuit.

3,509,461
SIGNAL TRANSLATING SYSTEM HAVING A VOLTAGE CONTROLLED OSCILLATOR

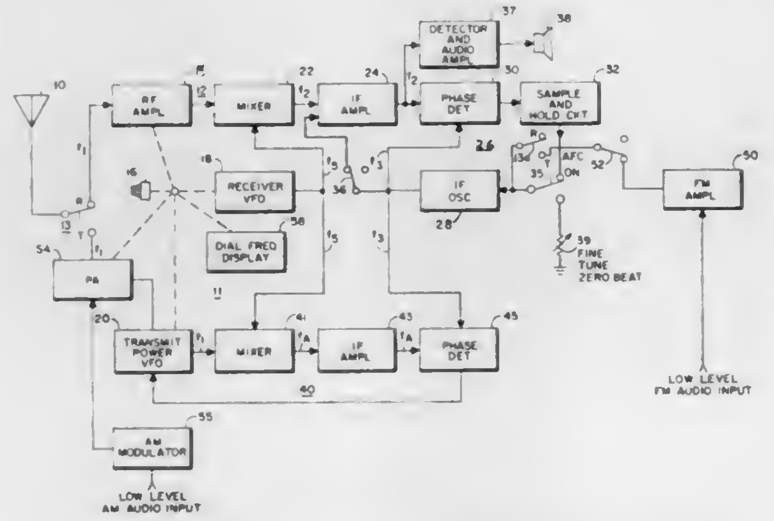
Joseph P. Gleason, Woodland Hills, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Aug. 21, 1967, Ser. No. 661,892
Int. Cl. G01r *19/26, 17/06*
U.S. Cl. 324—120 **2 Claims**



This patent application discloses an input transducer circuit in the form of a bridge, feeding a D.C. amplifier which controls the output frequency of a multivibrator. From the output circuit of the multivibrator, a fast-acting negative fedback is connected to the input bridge. Around the D.C. amplifier, a slow-acting anti-drift circuit is provided which tends to keep the multivibrator input at a selected level regardless of long-term drift tendencies, while not interfering with system operating in response to normal signal changes. The anti-drift circuit comprises a servo having a heating member to which an amplifier error current is fed, to change the temperature and hence resistance of a cathode resistor in the input tube of the D.C. amplifier, thus changing the balance of the input stage of the D.C. amplifier in the direction to tend to maintain the multivibrator input voltage at the selected level.

3,509,462
SPURIOUS-FREE PHASE-LOCKED CONTINUOUSLY TUNED TRANSCEIVER SYSTEM

Robert J. Ertman, Monroe, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed July 20, 1966, Ser. No. 566,633
Int. Cl. H04b *1/40*
U.S. Cl. 325—17 **9 Claims**

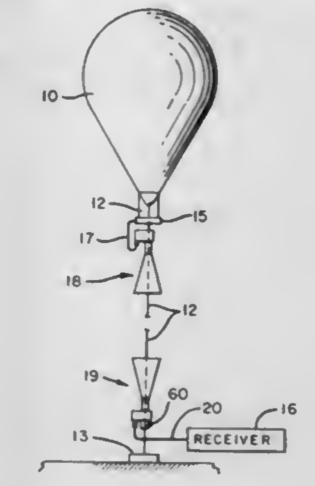


A transceiver system for transmitting on identically the same frequency as the frequency of a received signal is described. The receiver and transmitter channels have independent phase locked loops. The variable frequency oscillator in the receiver phase locked loop operates at the receiver IF frequency and applies a reference signal to the phase detector in the transmitter phase locked loop. A sample and hold circuit in the receiver phase locked loop insures that the intermediate frequency variable frequency oscillator stays on the received frequency even during transmitting operation.

3,509,463
SURFACE WAVE TRANSMISSION SYSTEM

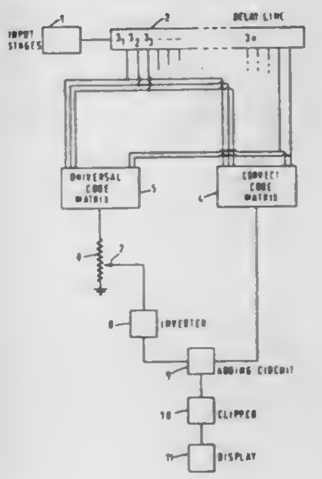
Sammy N. Watkins, Cupertino, Elmer Donald Woodward, Los Altos, and Tomio Jofuku, Mountain View, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 29, 1967, Ser. No. 694,651
Int. Cl. H04b *1/00, 3/00*
U.S. Cl. 325—26 **8 Claims**

This surface wave transmission system comprises a pair of substantially identical wave launchers located at opposite ends of a single conductor surface wave transmission line, called a Goubau line. The line and launchers are supported vertically by a balloon which is tethered to a ground station by the line. The launchers are substantially identical coaxial transmission lines and each comprises a trough-shaped conductive sleeve centered in a conductive cylinder having one end flared to form a horn. The Goubau line is clamped in the trough of the sleeve and extends through the horn. A ridged waveguide coupler electrically connected to the sleeve at the other end of the cylinder provides broadband transmission of RF signals between the Goubau line and utilization apparatus connected to the coupler. Each horn comprises two half sections adapted to be clamped to the Goubau line at any point along its length without interfering with the tethering function of the line.



3,509,464
CORRELATION CODE PULSE RECEIVER

Dennis H. Covill, Hacketts Cove, Nova Scotia, Canada, assignor to E.M.I.-Cossor Electronics Limited, Halifax County, Nova Scotia, Canada, a company of Canada
Filed Nov. 30, 1966, Ser. No. 597,994
Claims priority, application Great Britain, June 4, 1966, 24,992
Int. Cl. H04l *27/10, 15/26*
U.S. Cl. 325—321 **10 Claims**

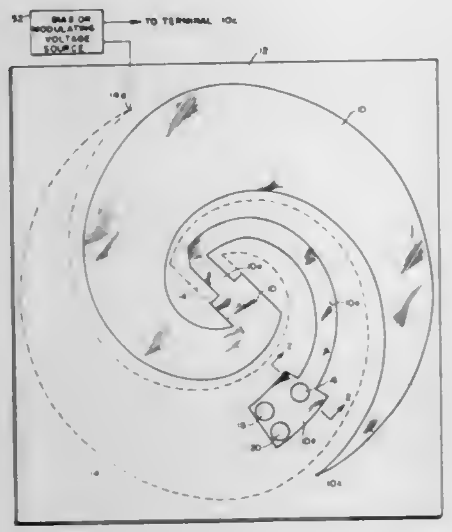


A radio receiver for the reception of pulse coded signals comprises means for simultaneously applying a received sequence of pulses to a correlation network and a universal code matrix. The amplitude of the correlation signal output from the correlation network is a function of the correlation of said sequence of pulses with a particular code sequence, whereas the amplitude of the signal derived from said universal code matrix is arranged to be a function of the mean energy of the received sequence of pulses irrespective of their coding or some other function of the amplitude of at least one pulse of said received sequence of pulses, before any limiting of said pulses occurs. Said correlation signal and the output signal applied from the universal code matrix are applied with opposite polarities to a combining network, and the combined signal is applied to a clipping circuit arranged to produce an output signal only to the extent that said correlation signal exceeds the output of the universal code matrix.

3,509,465

PRINTED CIRCUIT SPIRAL ANTENNA HAVING AMPLIFIER AND BIAS FEED CIRCUITS INTEGRATED THEREIN

Stephen N. Andre, Tonawanda, and Edison M. Davis, Buffalo, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,144
Int. Cl. H04b *1/18*
U.S. Cl. 325—373 **14 Claims**

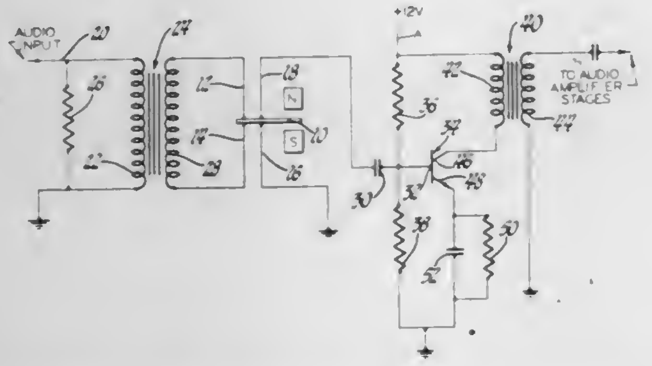


A tunnel diode amplifier integrated into a printed circuit equiangular spiral antenna in which the antenna elements are used as a portion of the amplifier transmission line and to provide bias source isolation.

3,509,466

RADIO RECEIVER VOLUME CONTROL UTILIZING HALL EFFECT UNIT

William T. Lemen, Frankfurt, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 19, 1967, Ser. No. 639,722
Int. Cl. H01c *7/16;* **H01p** *1/22*
U.S. Cl. 325—397 **1 Claim**



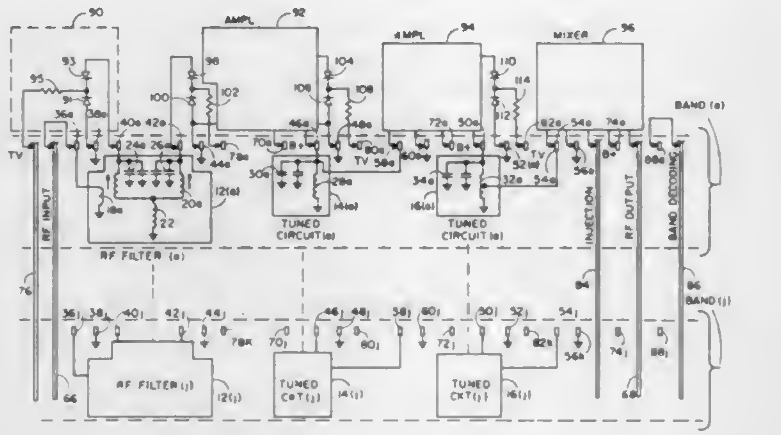
A volume control device for a radio receiver which utilizes a movable Hall effect member which is passed through a magnetic field to change the output for varying the volume of a radio receiver.

3,509,467

MULTIBAND ELECTRONIC TUNER

Robert L. Cole, Macedon, N.Y., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Sept. 20, 1967, Ser. No. 669,117
Int. Cl. H04b *1/16*
U.S. Cl. 325—452 **9 Claims**

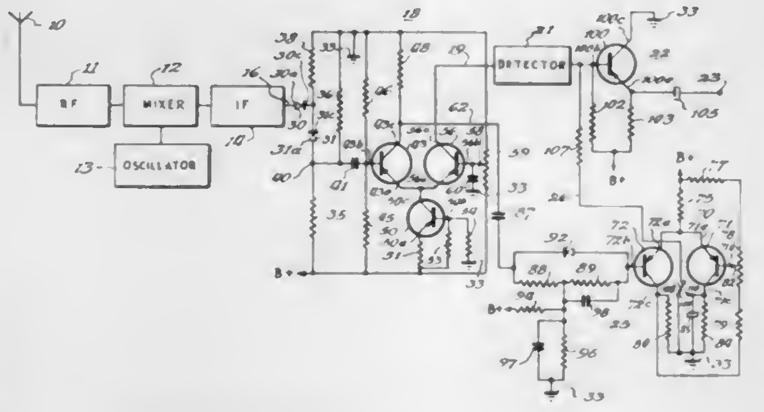
An improved electronic tuner is disclosed herein which includes a frame on which is fixedly mounted a printed circuit board. The capacitors and inductors which provide the tuned circuits in each band are located in separate rows which extend laterally across the board. Each row occupies a successive region from the forward to the rear end of the board. The circuitry for each band is also separately located on the board within the region allocated thereto. A carriage is mounted within the frame on lead screws which are disposed along opposite edges of the frame. An active circuit board is carried underneath the carriage and is contained within the frame. Active circuits are amplifiers and oscillators which, when connected to the passive circuits for each band, are tuned to the frequency of that band. Contact elements extending from the active board make contact with cooperating contact elements on the fixed board so as to provide the requisite connections. Contacts, in addition, are provided in each band region which cooperate with a motor which drives the lead screws so as to move the carriage to the desired position for selecting the desired band.



3,509,468

TRANSISTORIZED SQUELCH CIRCUIT FOR AN FM RECEIVER

Per T. Overlie, Chicago, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed May 22, 1967, Ser. No. 639,976
Int. Cl. H04b *15/04*
U.S. Cl. 325—478 **4 Claims**

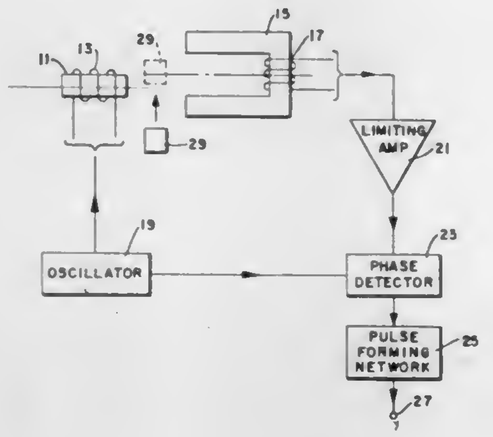


A squelch circuit is produced for an FM receiver having a biased diode limiter circuit connected to an isolating circuit, said isolating circuit comprising a pair of emitter coupled transistor amplifiers supplied by a constant current source. The isolating circuit has two separate outputs, one which passes the clipped IF signal to a detector and an emitter follower audio amplifier; and a second output which passes a similar signal that controls a fast acting squelch circuit which includes a Schmitt trigger, the conduction state of which controls the biasing of the emitter follower audio amplifier.

3,509,469

POSITION SENSING DEVICE EMPLOYING MISALIGNED MAGNETIC FIELD GENERATING AND DETECTING APPARATUS

Maxwell G. Strange, Fulton, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed May 17, 1967, Ser. No. 640,453
Int. Cl. G01n *27/00*
U.S. Cl. 328—1 **6 Claims**

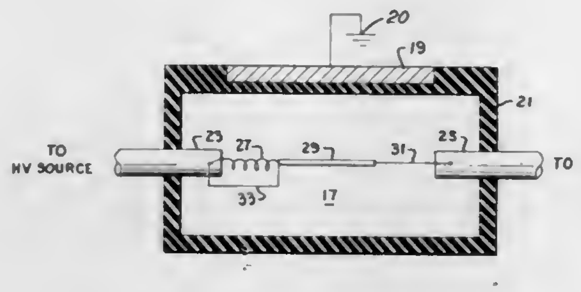


This invention is a position sensing device for sensing the position of a magnetic element. The magnetic element moves between a pair of fixed electromagnets—one a bar magnet connected to an oscillator and the other a horseshoe magnet connected to a phase detector through a limitig amplifier. The oscillator is also connected to the phase detector. The bar magnet is misaligned with the ends of the horseshoe magnet to create a bias voltage on the horseshoe magnet's output. When the magnetic element moves between the bar and horseshoe magnets it creates a phase shift in the output of the horseshoe magnet. This phase shift rapidly passes through zero at a well defined point. This point is detected by a phase detector and a pulse-forming network creates an output pulse.

3,509,470

ELECTROSTATIC PROTECTION DEVICE

Cyril Droppa and Ralph E. Neuber, Emporium, Pa., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 27, 1968, Ser. No. 716,610
Int. Cl. H02h *7/20*
U.S. Cl. 328—8 **6 Claims**

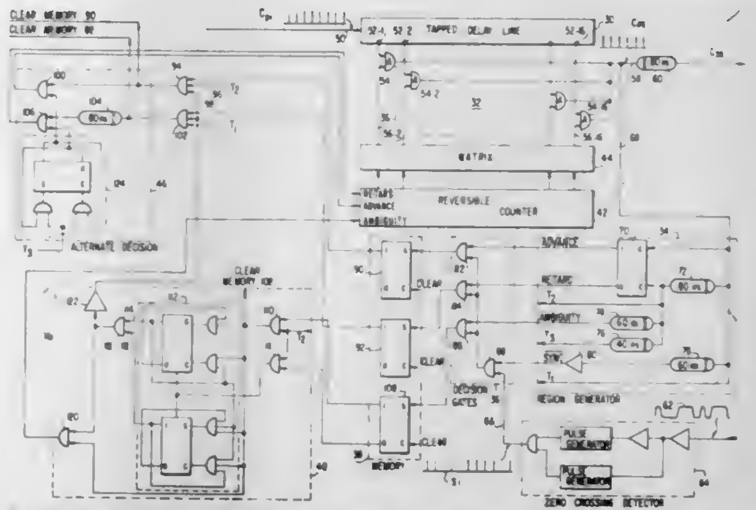


A high voltage protection device for electrical apparatus having a high voltage source and a cathode ray tube with a high voltage electrode includes a first and second spaced electrically conductive electrodes coupled to the high voltage source and high voltage electrode and to a voltage reference level respectively and electrostatically charge responsive to increased high voltage for movement toward one another to cause interruption of the application of a high voltage potential to the high voltage electrode of the cathode ray tube.

3,509,471

DIGITAL PHASE LOCK LOOP FOR BIT TIMING RECOVERY

John G. Puente, Rockville, Md., assignor to Communications Satellite Corporation, a corporation of the District of Columbia
Filed Nov. 16, 1966, Ser. No. 594,829
Int. Cl. H03k *5/159, 17/26*
U.S. Cl. 328—55 **10 Claims**

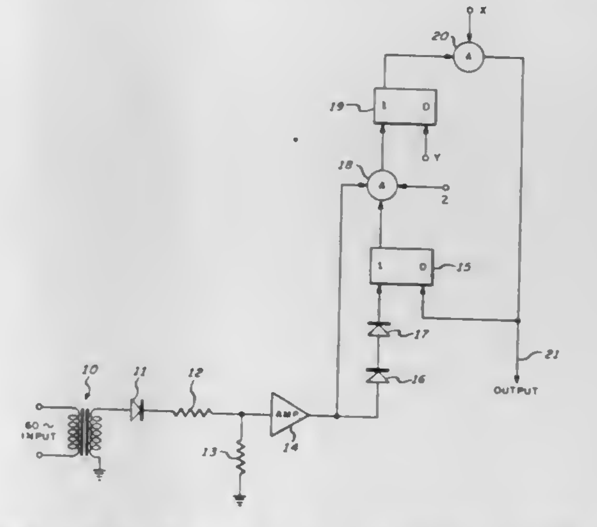


A digital phase locking circuit for recovering the timing of bits received in bursts from a communication channel. Clock pulses from a local clock generator are applied to a tapped delay line each of whose outputs is connected to one gate in a gate network. A clock pulse passes through only the gate which is enabled by the count in a reversible counter. A digital phase comparing circuit compares the phase of the clock pulses from the gate network with the phase of the transitions of the bits from the channel. The reversible counter is incrementally stepped to open the appropriate adjacent gate which will produce a gate signal delayed or advanced by one time increment to reduce the phase difference between the clock and bit pulses. An ambiguity signal is produced when a bit transition occurs within a region approximately 180° out of phase with a clock pulse. When a predetermined number of consecutive ambiguity signals is produced, an ambiguity circuit automatically shifts the counter to a count corresponding to one-half a clock period, thereby placing the clock and bit pulse trains in synchronism in one step. Another circuit may be included to permit the phase correction to be made only on alternate clock pulses.

3,509,472

LOW FREQUENCY PULSE GENERATOR

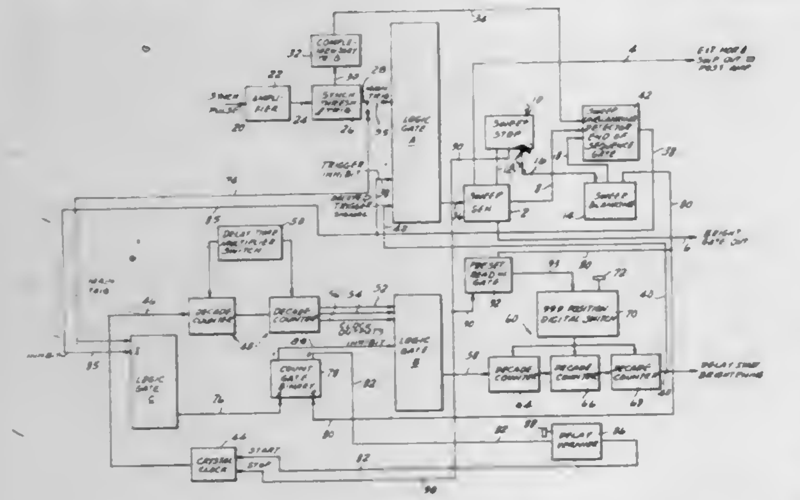
David Arlen, Jericho, N.Y., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Nov. 16, 1967, Ser. No. 683,540
Int. Cl. H03k *3/78, 17/26*
U.S. Cl. 328—63 **5 Claims**



Apparatus for generating a low frequency pulse train whose pulses occur synchronously with the pulses of a high frequency clock pulse source wherein only one pulse occurs for each cycle of a low frequency reference sinusoid.

3,509,473
TIME MEASURING SYSTEM

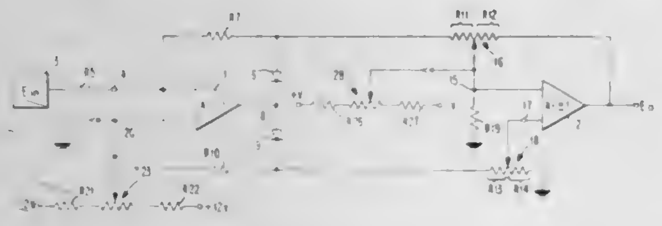
John J. La Porta, Allendale, N.J., assignor, by mesne assignments, to Specdor Electronics, Inc.
Filed Aug. 2, 1965, Ser. No. 476,594
Int. Cl. H03k *17/26, 17/28, 17/00*
U.S. Cl. 328—72 **13 Claims**



A system for measuring a time interval between a starting signal and an output signal, the output signal initiating a work operation which occurs cyclically, in which the timing is accomplished by an oscillator clock which is started by the starting signal and which is stopped after the output signal has been produced and while the work operation is taking place, the clock again being started after the work operation has finished a given cycle and the next starting signal is received, thereby to eliminate the possibility of time measurement error arising from the reception of a starting signal during the discrete period of time that a given timing pulse exists from the oscillator clock.

3,509,474
ABSOLUTE VALUE FUNCTION GENERATOR

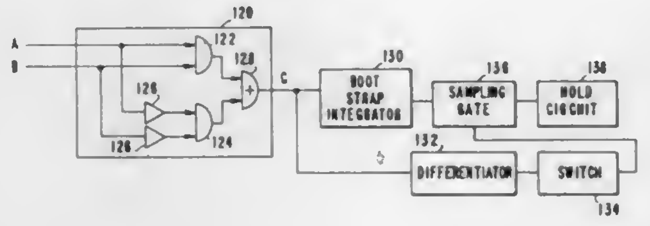
Robert W. Arnold, Endicott, and James C. Greeson, Jr., Woodstock, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 9, 1967, Ser. No. 681,631
Int. Cl. H03k *5/20*
U.S. Cl. 328—118 **8 Claims**



Bipolar signals are applied to one input of a first operational amplifier of the differential amplifying type. The negative feedback loop of the amplifier includes two paths having oppositely poled diodes and feedback resistors. The positive and negative voltages obtained at the diode-resistor junctions are applied respectively to noninverting and inverting inputs of a second operational amplifier to produce at the output of the latter amplifier an absolute value signal corresponding to the bipolar input signal. The input resistances to the second operational amplifier and its negative feedback resistance are adjusted so that the gain of the second amplifier is plus one (e.g. unity) when the input is positive and is minus one when the input is negative.

3,509,475
HIGH SPEED PHASE DETECTOR

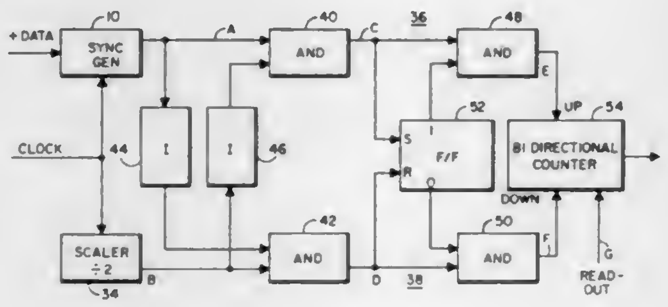
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Gary L. Parker, Los Angeles, Calif.
Original application Feb. 7, 1964, Ser. No. 343,426, now Patent No. 3,364,311, dated Jan. 16, 1968. Divided and this application Sept. 26, 1967, Ser. No. 684,083
Int. Cl. H03b *3/04;* **H03d** *13/00*
U.S. Cl. 328—133 **2 Claims**



A high speed phase detector comprising an Exclusive OR input unit to which two square wave signals are applied as input signals. The positive state of the output signal of the input unit is a function of the phase relationship between the two input signals. A bootstrap integrator, to which the output signal of the input unit is supplied, provides a linear ramp voltage output signal which is initiated and terminated by the beginning and end, respectively of the positive state of the output signal of the input unit. A hold circuit is supplied with samples of the voltage provided by the integrator when the output signal of the input unit changes from a positive to a negative state.

3,509,476
DIGITAL FREQUENCY AND/OR PHASE MEASURING SYSTEM HAVING WIDE DYNAMIC RANGE

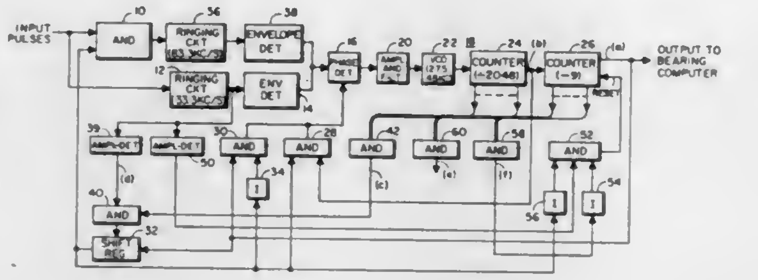
Albert Roth, San Diego, Calif., assignor to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 12, 1965, Ser. No. 495,066
Int. Cl. H03b *3/04*
U.S. Cl. 328—134 **13 Claims**



A system for digitizing the frequency of a data signal is described. A synchronous generator responsive to a clock signal and the data signal produces a data pulse train which is synchronous with the clock signal and has a frequency equal to the frequency of the data signal. A reference pulse train also synchronous with the clock signal is produced having a reference frequency. Logic circuits are provided in each of a data and reference channel which are mutually responsive to the data and reference pulse trains so as to effect cancellation of different pulses in the respective trains in accordance with their sequence of occurrence so as to produce a third pulse train which has a frequency which is equal to the difference between the frequency of the data and reference pulses. This third pulse train appears at the output of different ones of the channels in accordance with the sense of the frequency difference.

3,509,477
TACAN REFERENCE BURST DECODER

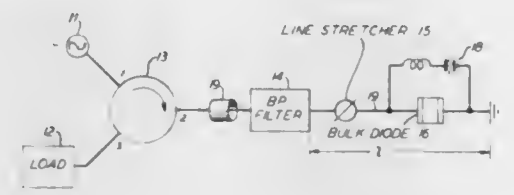
James R. Verwey and Dwight T. Howard, Monroe, N.Y., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Nov. 18, 1966, Ser. No. 595,491
Int. Cl. G01s *1/44;* **H03k** *5/18*
U.S. Cl. 328—155 **8 Claims**



A tacan reference burst decoder is described which synthesizes reference pulses which are synchronized with both the tacan reference and auxiliary pulse groups. A phase locked loop which responds to the received reference and auxiliary pulse groups includes counters which provide the synthesized reference pulses. The counters also generate gates which enable the storage of bits corresponding to the received reference pulse groups in a register. Logic responsive to the number of bits stored in the register conditions the decoder either into its acquisition or lock-on modes of operation.

3,509,478
TWO-VALLEY SEMICONDUCTOR AMPLIFIER

Hartwig W. Thim, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, Murray Hill, N.J., a corporation of New York
Filed Dec. 29, 1966, Ser. No. 605,644
Int. Cl. H03f *3/10;* **H03b** *7/14*
U.S. Cl. 330—5 **9 Claims**

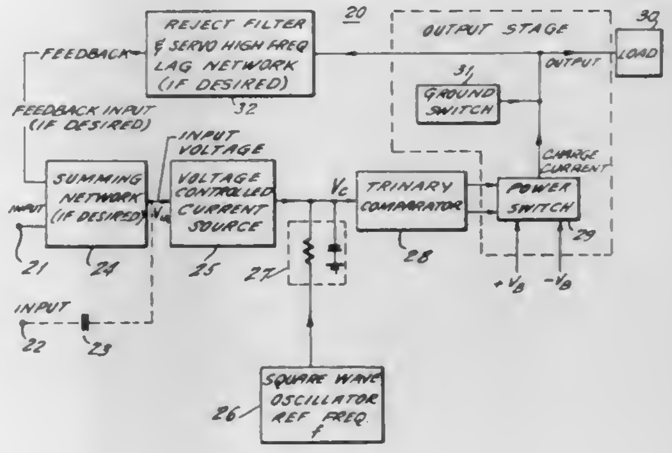


An oscillating two-valley semiconductor diode is used as a microwave amplifier. In one embodiment, the diode is connected to a circulator and a tunable waveguide resonator. The resonator in an appropriate bias voltage establishes a negative resistance and Gunn-effect oscillations. With a proper selection of circuit and device parameters, signal energy reflected from the diode will be amplified with a reasonably low noise figure. An oscillator embodiment is also disclosed.

3,509,479
SIMPLIFIED PULSE WIDTH MODULATED AMPLIFIER

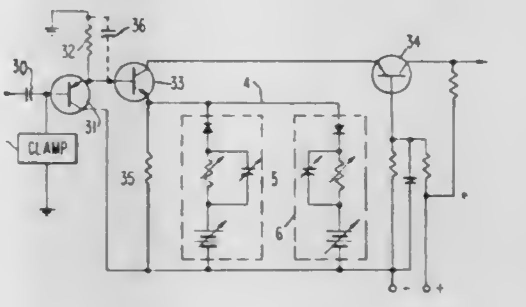
George C. Gucker, Howard Beach, and Paul H. Daitch, Elmhurst, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division
Filed Nov. 29, 1966, Ser. No. 597,666
Int. Cl. H03f *21/00*
U.S. Cl. 330—10 **5 Claims**

A power supply circuit for driving a load and including a power source coupled to the load through a power switch. Incoming signals for application to the load are summed with a varying waveform signal preferably of the saw-tooth variety, which signal is at a substantially higher frequency than the incoming signal. A threshold circuit normally disables the power switch thereby disconnecting source from load when the output of the summing circuit is less than a positive threshold level and greater than a negative threshold level. The power source is selectively connected to the load through the power switch which is enabled when the positive threshold level is exceeded or when the output of the summing circuit is less than negative threshold level. The polarity of the current supplied to the load is dependent upon whether the output of the summing circuit is either greater than the positive threshold level or less than the negative threshold level.


REJECT FILTER & SERVO HIGH FREQ LAG NETWORK (IF DESIRED)
20
OUTPUT STAGE
30
LOAD
FEEDBACK
OUTPUT
31
GROUND SWITCH
32
FEEDBACK INPUT (IF DESIRED)
INPUT VOLTAGE
CHARGE CURRENT
SUMMING NETWORK (IF DESIRED)
INPUT
VOLTAGE CONTROLLED CURRENT SOURCE
Vc
TRINARY COMPARATOR
POWER SWITCH
21
24
25
27
28
29
+VB
-VB
INPUT
22
23
SQUARE WAVE OSCILLATOR REF FREQ f
26

3,509,480
REDUCTION OF DIFFERENTIAL PHASE DISTORTION IN A SYSTEM FOR CORRECTION OF A VIDEO SIGNAL

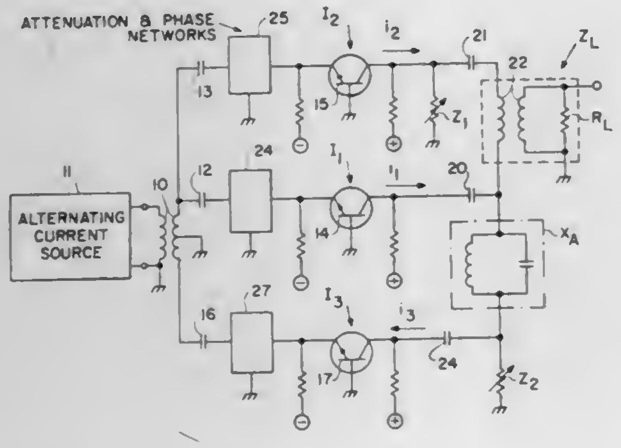
Terry J. Hickman, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 3, 1968, Ser. No. 764,855
Int. Cl. H03g *3/30;* **H04n** *5/18, 5/20*
U.S. Cl. 330—20 **4 Claims**



An improved circuit for correcting the non-linear distortions introduced into color television signals by an active element having a non-linear transfer characteristic. Specifically, the circuit corrects for the distortion introduced by the modulated stage of a television transmitter, the distortion being in the form of compression of the sync and white regions of the signals. The improved circuit includes a low impedance emitter follower driver stage coupled to a video transistor-amplifier stage which in turn is connected in cascode with an output transistor amplifier stage. Such a circuit maintains differential phase distortion at a minimum by eliminating the effect of reactive components associated with the video amplifier stage and by eliminating the Miller effect of collector-to-base capacitance multiplication of the video amplifier stage.

3,509,481
ACTIVE DELAY EQUALIZER CIRCUIT

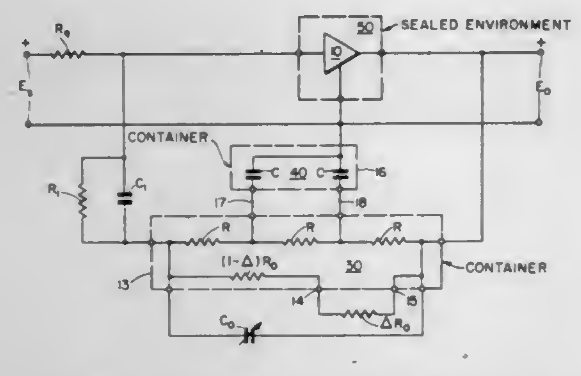
Frederick T. Halsey, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada
Filed Oct. 7, 1968, Ser. No. 765,311
Int. Cl. H03f *3/68;* **H03h** *5/00*
U.S. Cl. 330—30 **6 Claims**



An active delay equalizer circuit in which the phase delay may be varied by adjusting a single resistor with virtually no affect on the all-pass amplitude response.

3,509,482
ACTIVE FILTER NETWORKS

Ernst A. Guillemin, Wellesley, Mass., assignor, by mesne assignments, to EG & G, Inc., Bedford, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 545,631, Apr. 27, 1966. This application Jan. 21, 1969, Ser. No. 796,290
Int. Cl. H03f *1/36*
U.S. Cl. 330—107 **23 Claims**

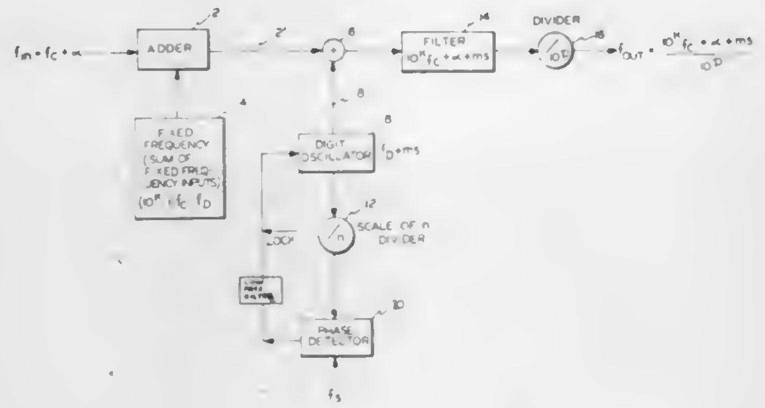


An active filter network is provided including an operational amplifier having a feedback circuit including a resistance-capacitance ladder network having a transfer function whose real part has a negative minimum at a particular frequency and a non-zero imaginary part at the particular frequency and a separate resistance-capacitance circuit couplied to the network for raising the negative minimum to zero and cancelling the imaginary part to zero.

3,509,483
FREQUENCY SYNTHESIZER APPARATUS

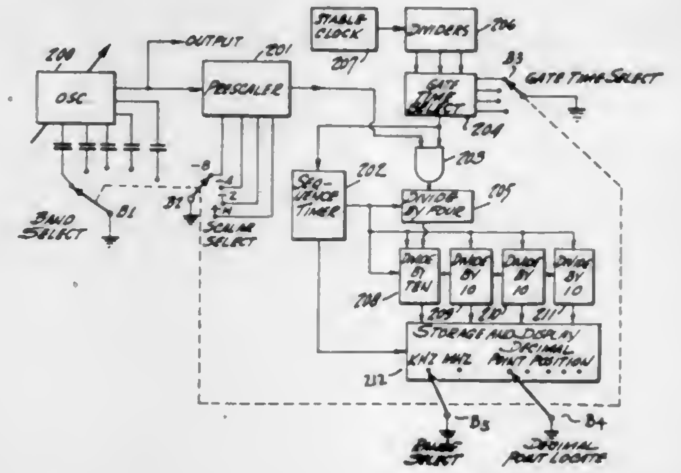
Atherton Noyes, Jr., Concord, Mass., assignor to General Radio Company, West Concord, Mass., a corporation of Massachusetts
Filed May 31, 1968, Ser. No. 733,592
Int. Cl. H03b *3/04*
U.S. Cl. 331—22 **10 Claims**

This disclosure relates to frequency synthesizing apparatus having capability of essentially infinitely fine frequency resolution in which an input signal, a fixed frequency and a digit-selecting frequency are added to produce a sum frequency for further processing so as to produce a desired output frequency, and wherein the control of the digit-selecting frequency is effected with the aid of a scale-of-*n* preset divider and phase comparator for selectively locking the digit-selecting frequency.



3,509,484
DIGITAL FREQUENCY COUNTING AND DISPLAY APPARATUS FOR TUNABLE WIDE BAND SIGNAL GENERATORS

Philip Basse, Freeport, N.Y., assignor to Slant-Fin Corp., a corporation of New York
Filed Mar. 25, 1968, Ser. No. 715,915
Int. Cl. G01r *23/10;* **H03b** *3/04;* **H03k** *21/18*
U.S. Cl. 331—44 **11 Claims**

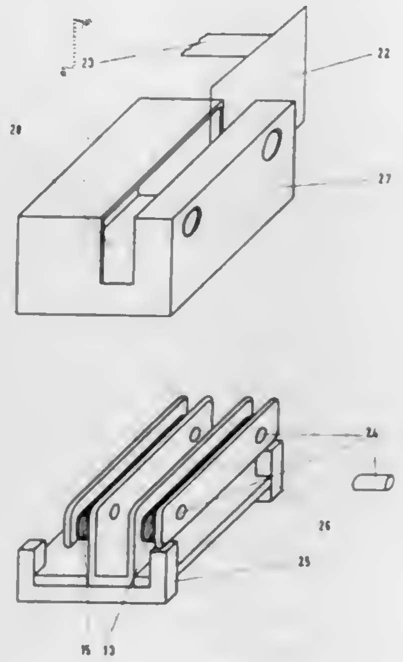


A signal generator employs an oscillator which is continuously tuneable over a wide band of frequencies. Tuning is accomplished by means of a band switch serving to distribute said wide band of frequency into a plurality of narrow bands. Digital logic circuitry coupled to the oscillator and controlled in operation by the above band select switch converts the oscillator frequency into a number of pulses always having a fixed number of significant digits representative of the oscillator's frequency.

3,509,485
VANE CONTROLLED OSCILLATOR LINEAR INDUCTIVE TRANSDUCER

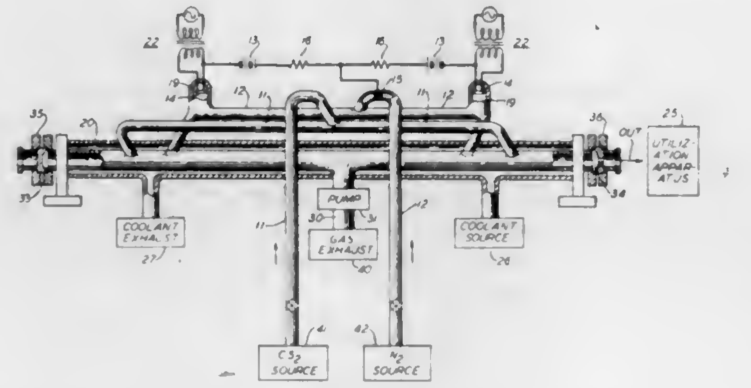
Heribert Czerny, Dusseldorf-Nord, Germany, assignor to W. H. Joens & Co. G.m.b.H., Dusseldorf, Germany
Filed Nov. 21, 1967, Ser. No. 684,851
Claims priority, application Germany, Nov. 23, 1966, J 32,319
Int. Cl. H01f *21/10;* **H03b** *5/12*
U.S. Cl. 331—65 **7 Claims**

The two inductors of an oscillator for an inductive transducer comprise two coils separated by a narrow air gap, the said coils being elongated in the direction of movement of a control vane arranged to dip into the gap for damping the oscillations and the coils being provided at their ends with field concentrating inserts so that the relationship between travel of the control vane and the output signal of the oscillator is linear over a relatively wide range.



3,509,486
GAS LASER EMPLOYING CARBON DISULFIDE AND NITROGEN

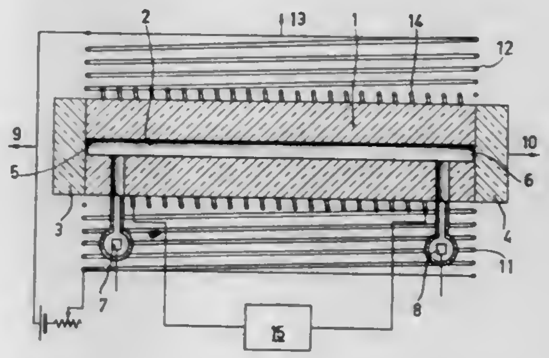
Chandra K. N. Patel, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 28, 1965, Ser. No. 505,566
Int. Cl. H01s *3/22*
U.S. Cl. 331—94.5 **7 Claims**



This application describes arrangements for obtaining continuous-wave laser oscilaltions at 10 wavelengths between 11.48μ and 11.55μ. In accordance with one embodiment of the invention, a gas mixture of nitrogen and carbon disulfide is made to continuously flow through the interaction region of an apparatus adapted for the stimulated emission of radiation. The mixture is then suitably pumped to produce a substantial unreversed dissociation of the gases. The pumping further produces a population inversion between a pair of rotational energy states of different vibrational energy levels in a component of the gas mixture. The radiation corresponding to the energy levels is then extracted for utilization.

3,509,487
GAS LASER WITH TRANSVERSE MAGNETIC FIELD

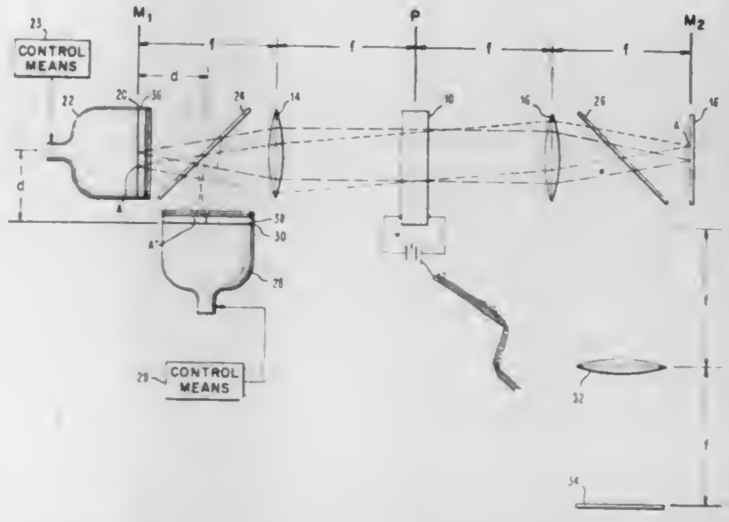
Gijsbertus Bouwhuis and Hendrik de Lang, Eindhoven, Netherlands, assignors, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 24, 1966, Ser. No. 574,749
Claims priority, application Netherlands, Sept. 9, 1965, 6511750
Int. Cl. H01s *3/10*
U.S. Cl. 331—94.5 **3 Claims**



A gas laser in which a change jn the polarization direction of the emitted laser beams is employed for modulation purposes. By inducing into the laser medium an optical anisotropy by the application of a transverse magnetic field, the two resulting stable directions of polarization are at angles of 30° to 100° of each other depending upon the strength of the applied field. The choice between the two stable positions is made by an axial magnetic field pulse of low strength.

3,509,488
MULTIPATH CONJUGATE LASER

Robert A. Myers, New York, and Carl G. Powell, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Jan. 13, 1967, Ser. No. 609,170
Int. Cl. H01s *3/00;* **G02q** *1/28*
U.S. Cl. 331—94.5 **9 Claims**



A conjugate laser cavity of the type having two end mirrors wherein each point on one end mirror has a conjugate point on the other mirror. The cavity includes additional optical paths coupled to the original cavity path in order to create additional mirror planes or equivalent object planes. The additional optical paths are produced by beam splitters located within the original cavity and permit the carrying out of functions such as binary logic, spatial filtering and multiple output coupling.

3,509,489

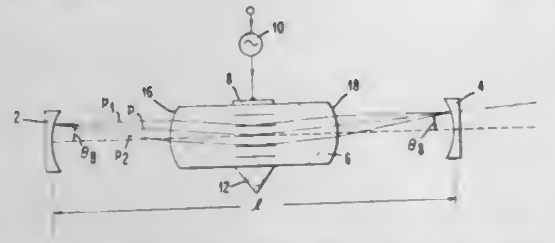
LASER DEFLECTION

Gerald Burns, Yorktown Heights, and Archibald W. Smith, Briarcliff Manor, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 13, 1967, Ser. No. 630,649

Int. Cl. H01s *3/00;* **G02f** *1/32*

U.S. Cl. 331—94.5 **5 Claims**



A system is disclosed for deflecting a laser beam within a laser cavity employing the Bragg-angle diffraction effect. The diffraction of the lasing light occurs when an ultrasonic wave is made to traverse a piezoelectric crystal or cell and the lasing light passes through the cell at the Bragg angle with respect to the traveling ultrasonic waves. However, changes of frequency, especially at very high frequencies, of such ultrasonic wave will cause a shift in frequency of the light being diffracted by such traveling ultrasonic wave, causing light to leave the laser cavity modes. A folded cavity arrangement is also provided to avoid such optical frequency shift.

3,509,490

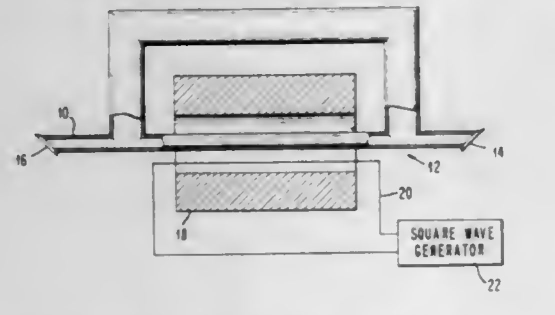
INDUCTIVE EXCITATION SYSTEM FOR PLASMA

Charles B. Zarowin, University Heights, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Apr. 26, 1967, Ser. No. 633,964

Int. Cl. H01s *3/00*

U.S. Cl. 331—94.5 **7 Claims**



An inductively excited ion gas laser is described including a plasma tube containing a gas. Inductive excitation means including a cylindrical core envelopes a portion of the plasma tube. A primary winding is wound on the core and is connected to a source of low frequency square wave signal. The primary winding, the core, and the plasma tube essentially form a transformer. The square wave signal whose frequency is below the upper cut-off frequency of the transformer passband is applied to the primary winding to excite the gas in the plasma tubes.

3,509,491

VOLTAGE-TUNABLE GUNN-TYPE MICROWAVE GENERATOR

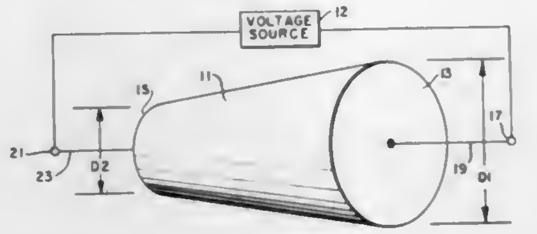
Wilhelm Rindner, Lexington, and Harold Roth, Needham, Mass., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed June 2, 1967, Ser. No. 644,444

Int. Cl. H03b *7/14, 11/10, 15/00*

U.S. Cl. 331—107 **6 Claims**

In one embodiment, a Gunn-effect semiconductor chip having a varying cross-sectional area is mounted between a pair of contacts. An electric field gradient exists along the current axis of the chip when a voltage is applied to the contacts. This electric field in combination with the variation in cross-sectional area causes the generated frequency to vary in accordane with the applied voltage when the voltage is above the critical Gunn level for a portion of the current axis. That is, a variation in the applied voltage varies the length of the portion of the field above the threshold level to vary the frequency of the output signal. In an alternate embodiment, the electric field gradient is created by non-uniform doping of the semiconductor block.



3,509,492

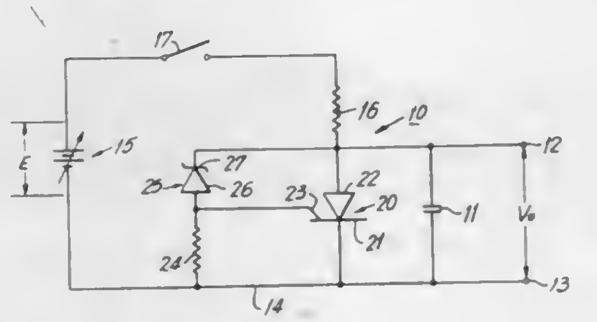
VOLTAGE CONTROLLED OSCILLATOR

Gim Yee Pong, Uniondale, and Leon Rettig, Wantagh, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Division, Long Island City, N.Y., a corporation of Delaware

Filed Feb. 20, 1968, Ser. No. 706,872

Int. Cl. H03k *4/52*

U.S. Cl. 331—111 **8 Claims**



An oscillator having a constant amplitude output and a frequency that is adjustable over a wide range is constructed by utilizing a capacitor that is charged from an adjustable voltage source to a voltage that is regulated by the breakdown voltage of a reverse connected Zener diode. When the charge on the capacitor reaches the regulated value, the capacitor discharges through a normally blocking silicon controlled rectifier whose control electrode is connected to the Zener diode so that the SCR is rendered conductive at the time the charge on the capacitor reaches the regulated value.

3,509,493

LOW LOSS STARTING DEVICE FOR INVERTERS

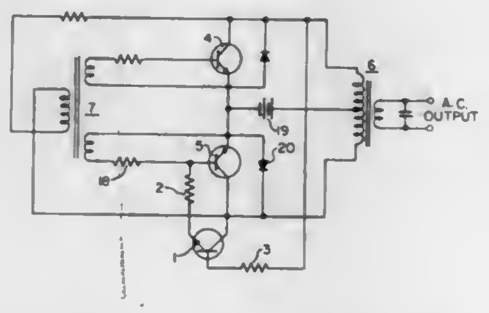
Vittorio Giudici, Milan, Italy, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed July 17, 1968, Ser. No. 745,424

Int. Cl. H02m *3/32*

U.S. Cl. 331—113 **3 Claims**

A transistor and two resistors comprise a low-loss starting circuit in an inverter of the multivibratory type. The multivibrator may use two transistors, or it may use four transistors in a bridge arrangement. In either arrangement, the collector-emitter circuit of the transistor in the starting circuit conducts base-to-emitter current for one of the transistors of the multivibrator to start oscillation. The base and the collector of the transistor in the starting circuit are connected to different collector circuits of the inverter such that after oscillation has started, circuits originally applying voltage to the base and the collector of the starting transistor are alternately shunted by low-impedance switching circuits provided by the transistors of the inverters. The voltage is therefore normally removed from either the base or the collector of the transistor in the starting circuit so that its collector-to-emitter circuit is nonconductive after oscillation starts.



In inverters of the bridge type, an additional transistor circuit is required. The collector-emitter circuit of this transistor connects the source of power to a center tap especially provided on an output transformer for use only during the starting interval. The additional transistor is conductive only during the starting period to complete a current path in the starting circuit.

3,509,494

WAVEGUIDE DEVICE HAVING THE ACTION OF A MAGIC TEE

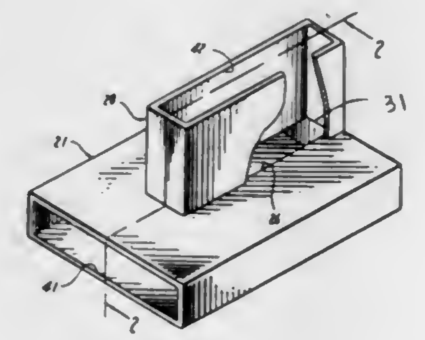
Takeshi Kawahashi and Susumu Kitazume, Tokyo, Japan, assignors to Nippon Electric Company, Limited, Tokyo, Japan

Filed Aug. 10, 1966, Ser. No. 571,605

Claims priority, application Japan, Aug. 11, 1965, 40/48,894

Int. Cl. H01p *5/12*

U.S. Cl. 333—11 **20 Claims**



Waveguide apparatus having the action of a magic tee is provided wherein such apparatus may be utilized in accordance with the various teachings and embodiments of this invention as a magic tee, a frequency converter, a frequency discriminator, or a detector for transmitting high frequency, electromagnetic waves. The waveguide apparatus according to this invention comprises a tube which is formed at least at its inside surface of electrically conductive material and is provided with an opening in at least one side wall thereof so as to preclude electromagnetic coupling between said waveguide and opening. Such apparatus has been found to be highly advantageous in use because its unique structure reduces the length of the electrically equivalent arms to zero thereby allowing the load elements, the crystal detectors or other non-linear elements used in the various embodiments hereof to reside within the tube itself whereby the resulting waveguide apparatus is small in size, simple in shape and highly compact.

3,509,495

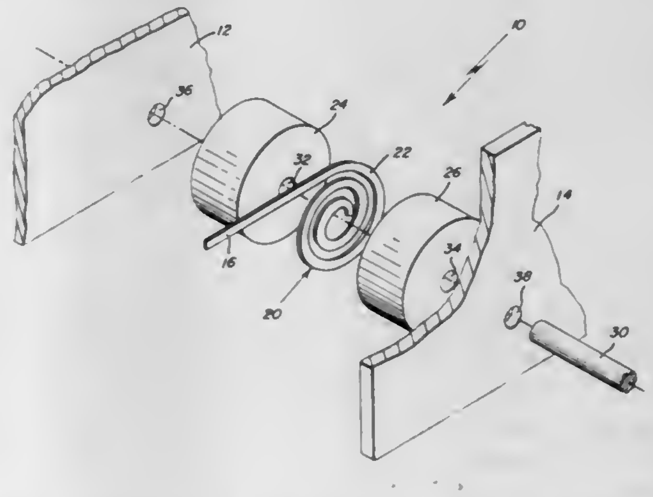
STRIP TRANSMISSION LINE TERMINATION DEVICE

Robert W. Morton, Lewiston, Maine, assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Dec. 1, 1966, Ser. No. 598,293

Int. Cl. H01p *1/26, 1/22*

U.S. Cl. 333—22 **3 Claims**



A strip transmission line termination load device comprising a conductor defining a spiral path of reducing dimensions about a fixed reference plane with energy absorbing means disposed in contact with the conductor to expose progressively increasing amounts of the absorbing means to the energy propagated along the conductor. The spiral conductor may be of a uniform cross section or gradually tapered to meet the required electrical characteristics.

3,509,496

LIQUID POWER-ABSORBING LOADS

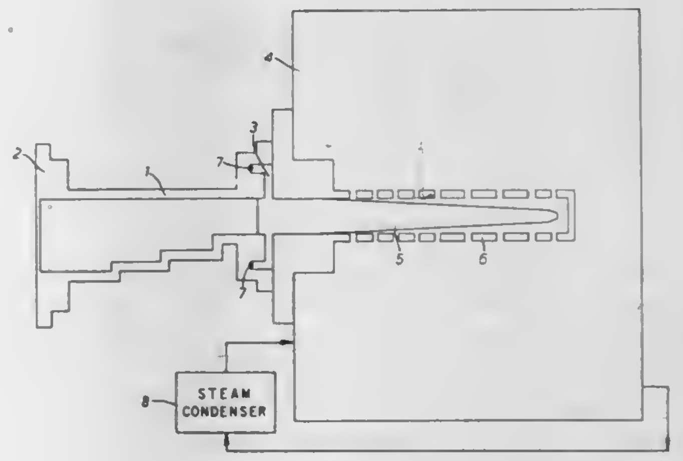
Paul Stanley Griffin and David Roy Hill, Essex, England, assignors to The Marconi Company Limited, London, England, a British company

Filed July 8, 1968, Ser. No. 743,211

Claims priority, application Great Britain, July 10, 1967, 31,686/67

Int. Cl. H01p *1/26, 1/00*

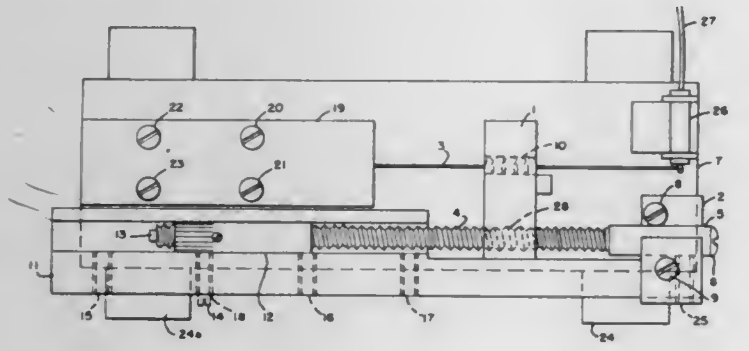
U.S. Cl. 333—22 **5 Claims**



A light power absorbing load consists of a low loss dielectric insulating insert in a tank. The tank is larger than the insert so that liquid in the tank has access to the surface of the insert. The insert thus serves to guide radio frequency power to the liquid in the tank.

3,509,497
TEMPERATURE COMPENSATION METHOD AND MEANS FOR ACOUSTICAL DELAY LINES

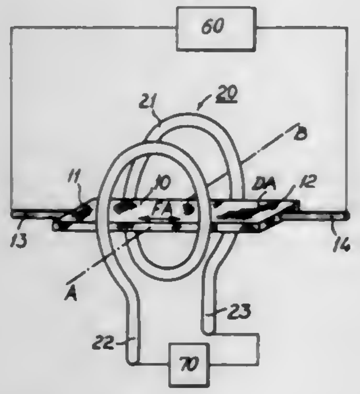
W. John Harwood, Huntington, and Robert E. Lindemann, Farmingdale, N.Y., assignors to Digital Devices, Inc., Syosset, N.Y., a corporation of New York
Filed Apr. 21, 1967, Ser. No. 632,586
Int. Cl. H03h *7/36*
U.S. Cl. 333—30 **10 Claims**



An acoustic delay line is one which uses magnetostrictive excitation to provide longitudinal or torsional acoustic waves in a wire line. Such lines are useful in handling digital information in the computer field. Input transducers at one end of the line apply the input waves and output transducers at the remote end of the line or at an intermediate point receive the delayed waves or signals. The delay time between input and output is a function of the material of which the line is composed and the length of the line between the input and output transducers.

3,509,498
DEVICE FOR CHANGING THE SELF-INDUCTANCE OF AN ELECTRIC CIRCUIT

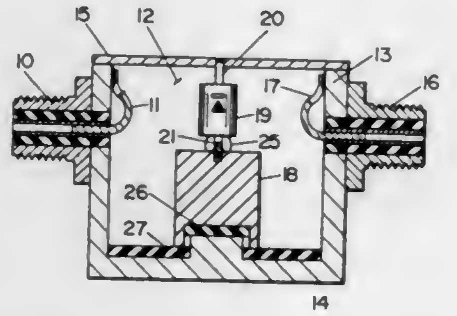
Victor M. Chaptal de Chanteloup, Paris, France, assignor to Société Industrielle Bull-General Electric (Société Anonyme), Paris, France
Filed Jan. 18, 1965, Ser. No. 426,092
Claims priority, application France, Feb. 6, 1964, 962,807
The portion of the term of the patent subsequent to Jan. 30, 1985, has been disclaimed
Int. Cl. H03h *7/30;* **H01t** *21/08*
U.S. Cl. 333—31 **6 Claims**



The invention provides devices useful as gates and delay lines which make use of certain properties exhibited by a thin magnetic film possessing uniaxial magnetic anisotropy and conducting electricity. When such a film is placed in a magnetic field, its magnetic permeability along the direction of difficult magnetization takes one or the other of two largely different values according to whether or not said magnetic field exceeds a given value. Use of this property together with the conducting property of such a thin magnetic field makes it possible to control the self-inductance of an electric circuit magnetically coupled to this film by passing a control electric current through the latter.

3,509,499
VARACTOR TUNED CAVITY

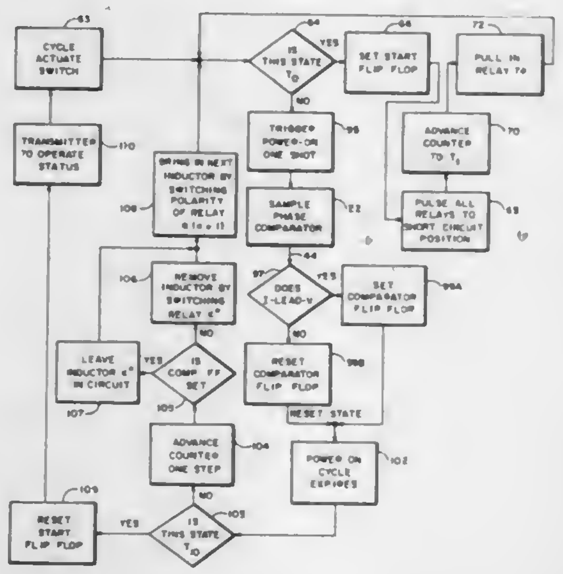
Gerald Schaffner, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 9, 1967, Ser. No. 659,387
Int. Cl. H01p *7/06*
U.S. Cl. 333—83 **7 Claims**



Varactor tuned cavity having input and output connection loops on opposite sides of the cavity. A coaxial member extends upwardly from one end of the cavity and is connected to the other end through a varactor diode coaxially disposed inside the cavity. The varactor diode is selected such that its effective capacitance at the midfrequency point is series resonant with the inductance of its leads. Bias means are connected to the coaxial member by an RF isolation means extending perpendicular to the varactor diode. A capacitance is formed between the coaxial member and the cavity shell at the one end such that the coaxial member is electrically floating with respect to the cavity shell.

3,509,500
AUTOMATIC DIGITAL TUNING APPARATUS

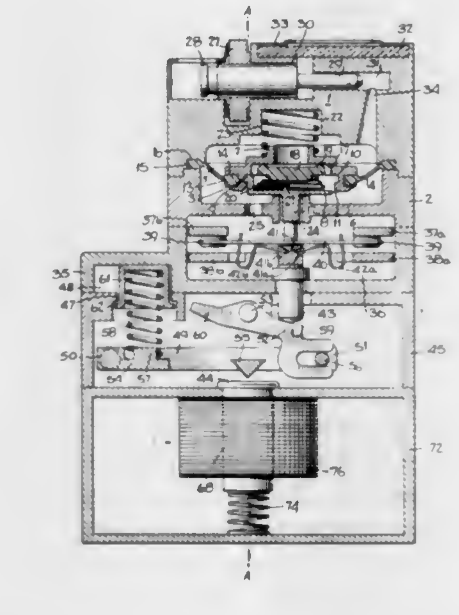
Robert J. McNair, George Bruck, and Sheldon Hoffman, Cincinnati, Ohio, assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Dec. 5, 1966, Ser. No. 599,096
Int. Cl. H03j *5/00*
U.S. Cl. 334—47 **12 Claims**



The present invention relates to means for tuning the output of a transmitter power amplifier, more specifically to an automatic digital tuning apparatus. The tuning function is accomplished by selecting one tuning parameter such as a capacitance and successively inserting inductors in order of decreasing magnitude in a sequence of steps and monitoring the relative phase of voltage and current entering the tuning network to determine if the inserted inductor is to remain or to be removed from the tuning circuit.

3,509,501
TIME DELAY MECHANISM

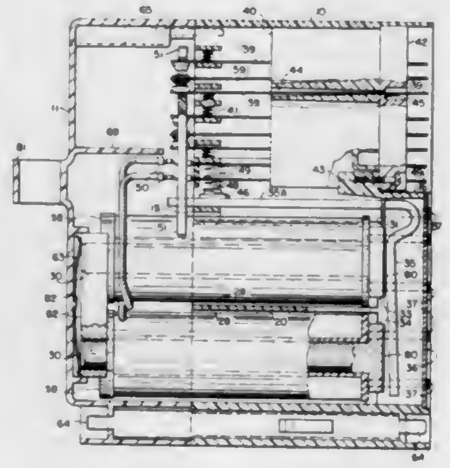
Antonio Brovedan, Milan, Italy, assignor to Pirelli, S.p.A., Milan, Italy, a corporation of Italy
Filed Sept. 26, 1967, Ser. No. 670,601
Claims priority, application Italy, Oct. 17, 1966, 28,918/66
Int. Cl. H01h *7/03*
U.S. Cl. 335—61 **10 Claims**



A time delay mechanism for controlling delays initiated either by energization or de-energization of a relay and including a cavity with a flexible diaphragm and a one way valve and a controllable time delay valve along with a kinematic device for mounting in two positions on a housing containing the cavity, the kinematic device having a lever positioned and arranged to act upon the flexible diaphragm on either side of its fulcrum depending upon the positioning of the kinematic device.

3,509,502
ELECTROMAGNETIC RELAY STRUCTURE

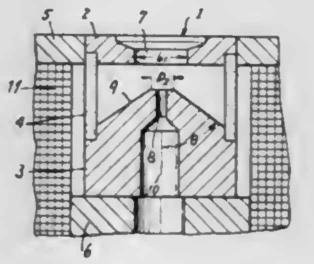
Wheeler D. Maynard, Mendon, and Edward A. Belanger, Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York
Filed Nov. 7, 1967, Ser. No. 681,209
Int. Cl. H01h *50/58, 50/64*
U.S. Cl. 335—129 **11 Claims**



This electromagnetic relay is of the safety type as used by railroads. It has parts molded of black fiber glass plastic material and has other parts formed of metal and constructed to be assembled in such a way as to provide a composite structure requiring no adjustment after initial assembly. The armature is mounted on a knife edge bearing with the working airgap at the rear of the relay and the contact operator at the front of the relay. The plastic cover holds a magnetic back yoke in place for connecting the two magnetic core members, which back yoke is directly removable when the cover is removed so as to be able to replace the coils without further disassembly. The coils have quick detachable connectors which connect to the coil lead fingers at the front of the relay. The contact fingers are pushed into position from the front of the relay with the cover removed and a guide block is permanently provided for assisting the entry of the contact fingers into the rear mounting block into which such fingers automatically lock when they are placed in position.

3,509,503
OBJECTIVE LENS POLE PIECES

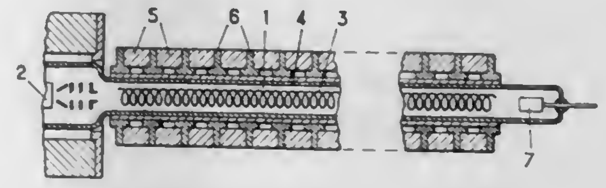
Takashi Yanaka and Kohei Shirota, Tokyo, Japan, assignors to Nihon Denshi Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Aug. 28, 1967, Ser. No. 663,678
Claims priority, application Japan, Feb. 27, 1967, 42/12,706
Int. Cl. H01h *7/00*
U.S. Cl. 335—210 **8 Claims**



Objective lens pole pieces in which the upper pole piece has an aperture having a diameter greater than the diameter of the face of the lower pole piece and in which the lower pole piece has at least one frusto-conically tapered side wall.

3,509,504
MAGNETIC FOCUSING SYSTEM

Roger E. Joannais and Raymond Defain, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed Mar. 7, 1968, Ser. No. 711,448
Claims priority, application France, Mar. 14, 1967, 98,694
Int. Cl. H01t *3/12*
U.S. Cl. 335—211 **4 Claims**



A magnetic focusing system for travelling wave tubes comprises an assembly of annular ferrites disposed around a cylindrical sleeve of magnetic material which surrounds the tube. The ferrites have alternating polarities. The cylindrical sleeve is made of a material of which the induction at saturation exhibits rapid variations as a function of temperature. This material comprises, for example, 25 to 35% of nickel and 75 to 65% of iron.

3,509,505
SOLENOIDS FOR USE IN ENGINE STARTING MECHANISMS

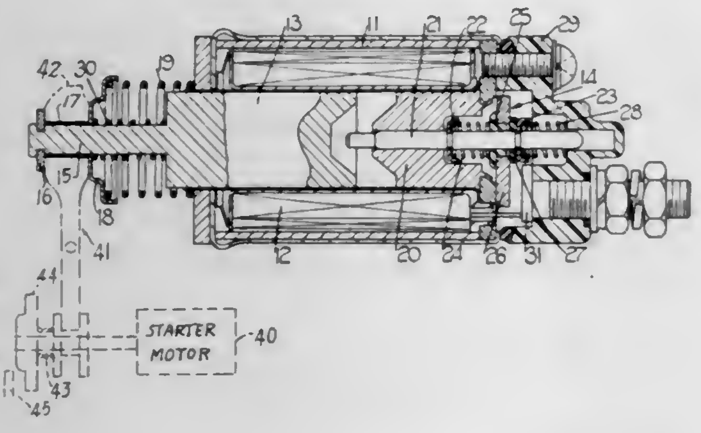
Mieczyslaw Zagrzjewski, Kings Heath, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Aug. 24, 1967, Ser. No. 662,927

Claims priority, application Great Britain, Sept. 9, 1966, 40,309/66

Int. Cl. H01f *7/13*

U.S. Cl. 335—274 1 Claim



A solenoid for use in an engine starting mechanism has a plunger which when the solenoid is energised is attracted and acts through a pivoted lever to move a pinion on the drive shaft of the starter motor into engagement with a toothed wheel on the engine. When the solenoid is de-energised, the plunger moves back to its rest position and breaks the circuit to the starter motor. The end of the pivoted lever is trapped between the plunger and a part which is normally caused to move with the plunger by a spring, but in the event of the solenoid being de-energized while the toothed wheel and pinion are still engaged, so that the lever cannot move, then the plunge. still moves, compressing the spring, so that the circuit to the starter motor is broken.

3,509,506
SOLENOIDS FOR USE IN ENGINE STARTING MECHANISMS

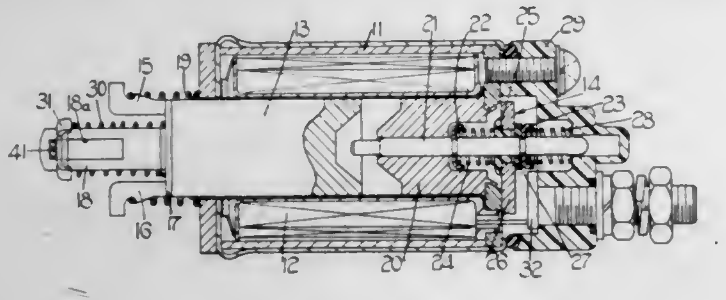
Edmund John Bird, Great Barr, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Aug. 24, 1967, Ser. No. 662,924

Claims priority, application Great Britain, Sept. 9, 1966, 40,311/66

Int. Cl. H01f *7/13*

U.S. Cl. 335—274 1 Claim



A solenoid, particularly for use in engine starting mechanisms, includes a body, a plunger slidable within the body, a spring acting between the body and plunger for urging the plunger to a rest position, and a winding for moving the plunger against the action of the spring, the plunger including a main body and an axially extending plate secured to one end of the body, said plate incorporating at least two radially extending fingers defining a bearing surface for the spring.

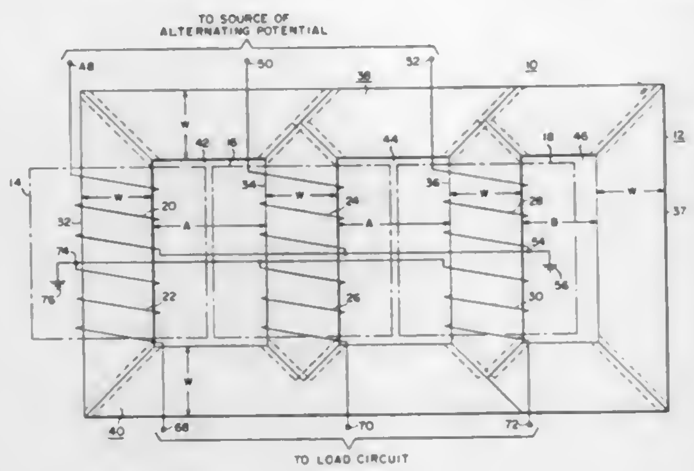
3,509,507
GROUNDED Y—Y THREE-PHASE TRANSFORMER

Theodore R. Specht, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 30, 1968, Ser. No. 787,863

Int. Cl. H01f *33/00*

U.S. Cl. 336—12 4 Claims



A three-phase transformer of the core-form type including Y—Y connected primary and secondary windings having grounded neutrals, and having a new and improved four-legged magnetic core. Three of the legs of the magnetic core are winding legs for receiving the primary and secondary phase windings of the three electrical phases, and the remaining leg, which has no windings, functions during unbalanced load conditions to provide a path for zero sequence fluxes.

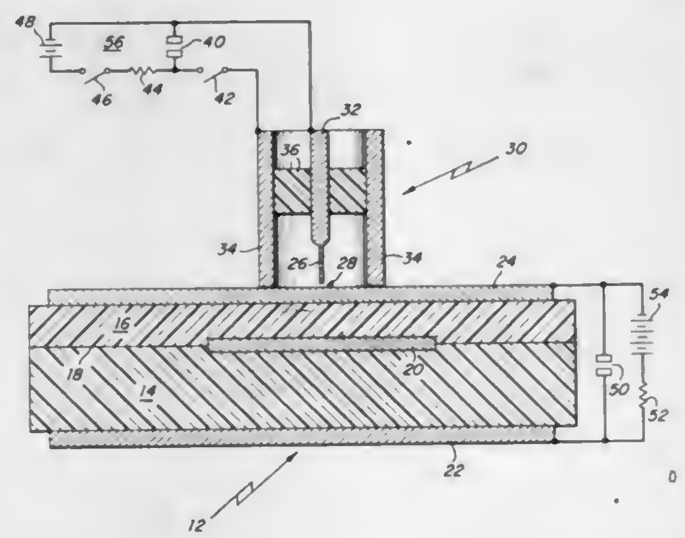
3,509,508
SWITCH TRIGGER

John H. Kraemer, Needham, and James A. Rome, Brighton, Mass., and Walter F. J. Crewson, La Jolla, Calif., assignors to EG & G, Inc., Bedford, Mass., a corporation of Massachusetts

Filed Oct. 8, 1968, Ser. No. 765,884

Int. Cl. H01h *35/00*

U.S. Cl. 337—19 6 Claims



A device and method for triggering an electrical switch wherein the switch has a trigger foil positioned between a pair of sheets of solid dielectric material and the dielectric-trigger foil combination is sandwiched between a pair of electrodes. The novel switch triggering means is placed on one of the pair of electrodes to explode or vaporize a section of the electrode so that breakdown occurs in the immediately adjacent portion of the dielectric. The breakdown is brought about by means of either a heavy current surge or by a high voltage arc which initiates the required shock wave and thus produces the triggering action.

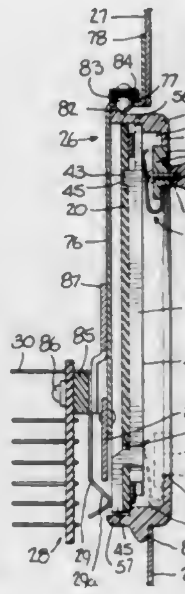
3,509,509
APPARATUS FOR PROVIDING A PLURALITY OF INDEPENDENT CONTROL SIGNALS

Alexander F. Rapisarda, Mount Vernon, N.Y., assignor to Ward Leonard Electric Co., Mount Vernon, N.Y., a corporation of New York

Filed Dec. 5, 1967, Ser. No. 688,158

Int. Cl. H01c *5/02*

U.S. Cl. 338—128 2 Claims



A preset card comprises a mounting board and cover. The mounting board has spaced parallel potentiometers extending between electrically conductive buses at adjacent opposite edges of the mounting board. The potentiometers have movable contacts mounted on the cover for tapping a given voltage. The potentiometers comprise a wire wound resistor extending between the buses and electrically connected thereto and rails parallel to the resistors and connected to the resistors by the movable contacts. The rails project through the mounting board for contacting the terminals of a controlled apparatus. The preset card is removably mounted in a panel having individual terminals for engaging a respective rail for applying the selected voltage to a controlled apparatus.

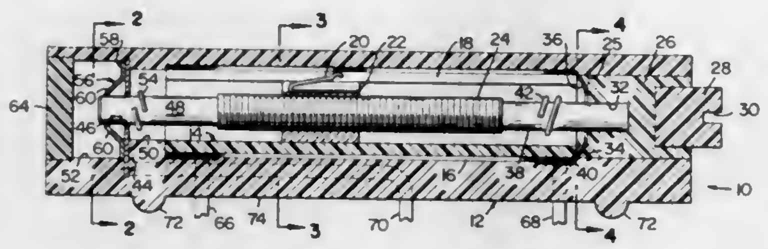
3,509,510
POTENTIOMETERS

Raymond G. Donley, Jr., Mountain View, Calif., assignor, by mesne assignments, to Nutron Electronics Company, Mountain View, Calif., a corporation of California

Filed Jan. 8, 1968, Ser. No. 696,203

Int. Cl. H01c *5/02*

U.S. Cl. 338—180 5 Claims



A potentiometer having a tubular core within an open end tubular housing and provided with a rotatable screw within the core and carrying a wiper which engages electrical resistance means on the core. The screw is inserted into the core through one end of the housing and is rotatably supported at its ends by a pair of bearing members, one of which is rotatable relative to the housing and carried at said one end thereof. The other bearing member is coupled to the screw after it is in place within the core and prevents the screw from being removed from the core through said one end of the housing. The housing is formed from a moldable material and is molded into the core.

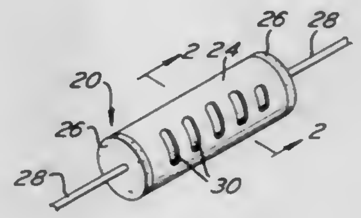
3,509,511
ELECTRICAL RESISTOR

Steven Soroka, Willow Grove, Pa., assignor to TRW Inc., Philadelphia, Pa., a corporation of Ohio

Filed Aug. 20, 1968, Ser. No. 753,969

Int. Cl. H01c *7/00*

U.S. Cl. 338—308 7 Claims



An electrical resistor comprising a cylindrical substrate of an electrical insulating material, a film of an electrical resistance material coated on the cylindrical surface of the substrate and terminals connected to the ends of the substrate and the resistance film. The resistance value of the resistor being adjusted to a desired resistance value by small increments by a plurality of narrow grooves in the resistance film. The narrow grooves being arranged along a line which extends helically around and along the cylindrical surface of the substrate with the grooves being spaced apart along said helically extending line.

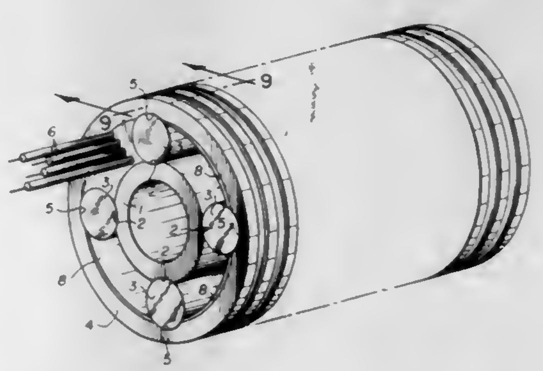
3,509,512
SLIP RING ASSEMBLY

Silvio Rizzolo, Nutley, N.J., assignor to Engelhard Minerals & Chemicals Corporation, Newark, N.J., a corporation of Delaware

Filed Oct. 24, 1968, Ser. No. 770,253

Int. Cl. H01r *39/08*

U.S. Cl. 339—8 5 Claims



A slip ring assembly comprising an elongated cylindrical core, an elongated cylindrical sleeve coaxially spaced from and encompassing the core, the sleeve being composed of a series of electrically conductive metal rings bonded to a series of in situ molded insulation rings, the metal rings and insulation rings axially alternating with each other and forming the sleeve, and a plurality of electrical conductor wires located longitudinally between the core and sleeve with each wire connected to a conductor ring and extending outwardly of an end of the core and sleeve assembly.

3,509,513

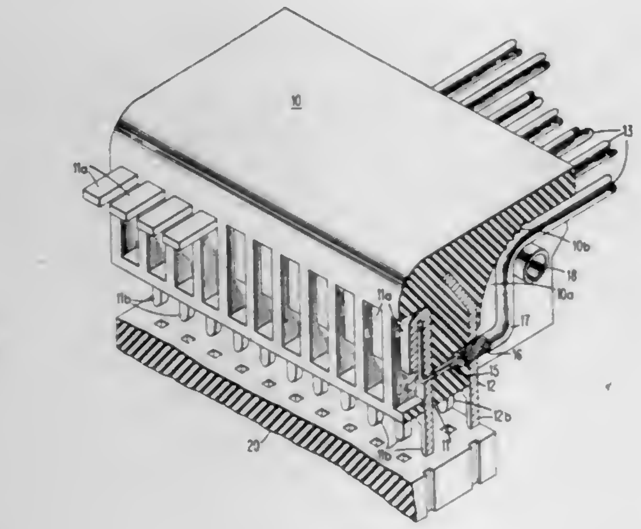
CABLES CONNECTING ASSEMBLY

Andrew Russin, Binghamton, N.Y., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Filed Mar. 27, 1968, Ser. No. 716,457

Int. Cl. H01r *3/06, 13/58*

U.S. Cl. 339—14 **1 Claim**



An electrical connector for cables of the shielded signal wire transmission line type having a central conductor and an outer conductor of the like. The connector device is particularly adapted to accommodate a plurality of coaxial cables and to provide connection with printed circuit cards, boards and the like. The connector device comprises a plastic housing of dielectric material holding a common ground conductor element and a plurality of signal conductor elements. There is provision for enabling the connection of the cables outer shield wire conductor with the common ground element and the cables central conductor signal wires with the signal conductor elements. The connector device is equipped with cables strain relief means.

3,509,514

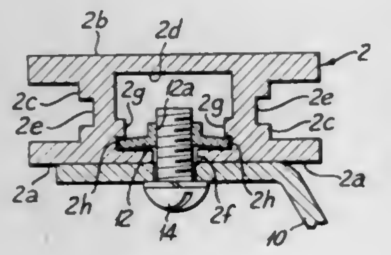
CONNECTION MEANS FOR ELECTRICAL BUS BARS

Paul M. Christensen, West Orange, N.J., and Martin F. Koenig, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Mar. 26, 1968, Ser. No. 716,074

Int. Cl. H01r *3/04*

U.S. Cl. 339—22 **5 Claims**



An extruded aluminum bus bar having a longitudinal groove for trapping an elongated steel strap having a multiplicity of regularly spaced tapped holes therein. The tapped holes are exposed through a slot in the front surface of the bus bar to receive the individual bolts of various connector assemblies to effect a clamping connection to the bus. The strap has an arcuate transverse cross-section to provide a spring washer effect for the individual connection points.

3,509,515

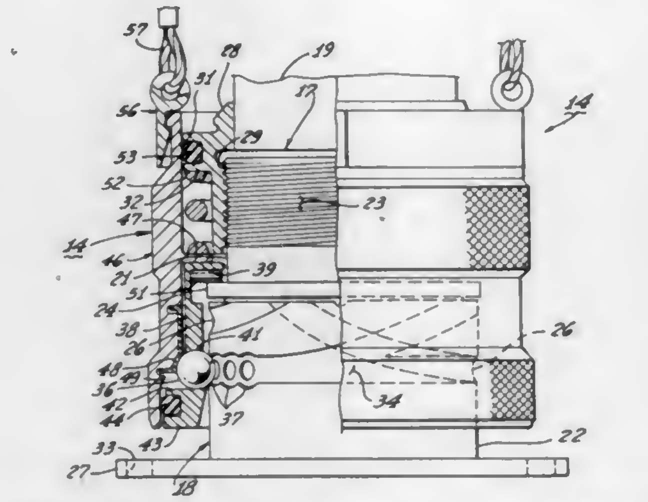
ELECTRICAL CONNECTOR

Jerry E. Acord, Lakewood, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Dec. 27, 1967, Ser. No. 693,822

Int. Cl. H01r *23/62, 13/16, 13/04, 13/64*

U.S. Cl. 339—45 **3 Claims**



An electrical connector adapted to complete a plurality of individual electric circuits between the aircraft or the like and a bomb or similar device suspended from the aircraft. The connector includes novel locking and release means insuring smooth, even and non-binding action between the individual pins and receptacles during assembly and separation of the connector. The connector also includes means providing an audible signal insuring an operator that components of the connector is properly assembled and in full engagement.

3,509,516

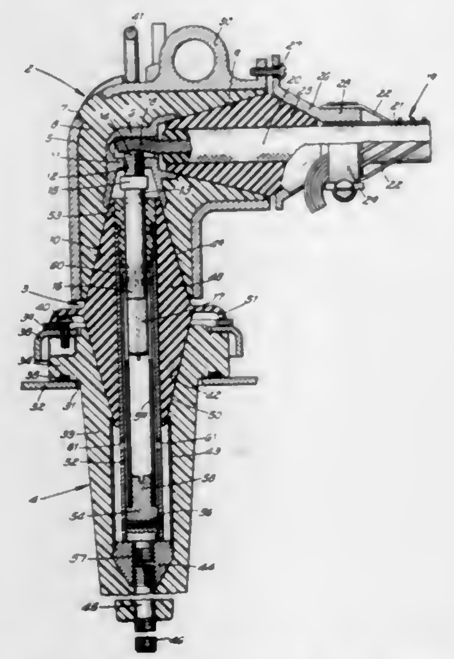
HIGH VOLTAGE CONNECTOR AND ENTRANCE BUSHING ASSEMBLY

Davis M. Phillips, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Feb. 1, 1968, Ser. No. 702,309

Int. Cl. H01r *31/06, 13/52*

U.S. Cl. 339—94 **17 Claims**



An electrical entrance bushing and cable connection assembly including a recessed entrance bushing for an enclosed device such as a transformer, a terminally recessed cable connector having a central conductor portion, and an interposed adapter closely fitting the recessed portions of the bushing and connector. The adapter further includes enclosed arc extinguishing means associated with the central conductor.

3,509,517

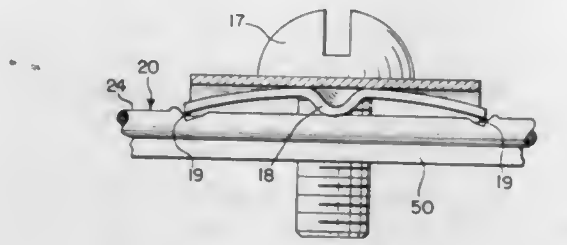
SELF-STRIPPING TERMINAL CLAMP

Charles Edward Gutshall, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Feb. 15, 1968, Ser. No. 705,674

Int. Cl. H01r *9/08*

U.S. Cl. 339—98 **2 Claims**



This invention relates to an electrical connector including a screw element adapted to coact with the workpart, a U-shaped saddle clip, and a novel form of clamping element associated with the clip and adapted to cooperate with the aforementioned screw to both scrapingly and bitingly engage a conductor with which it is associated to assure a self-stripping of the insulation or oxide coating which may be initially associated with the conductor.

3,509,518

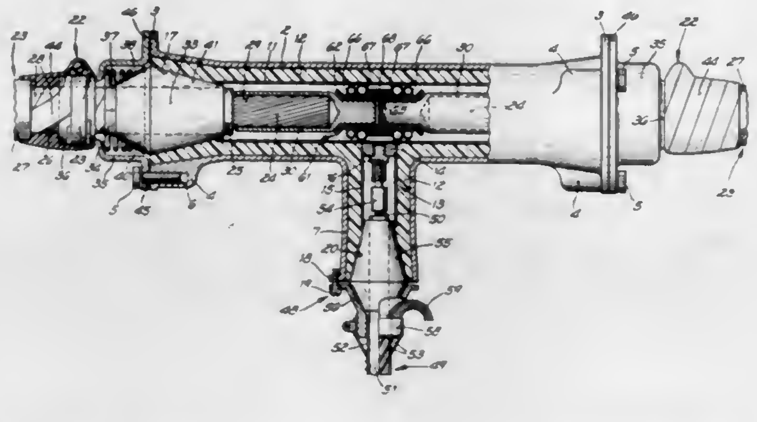
HIGH VOLTAGE CABLE CONNECTORS

Davis M. Phillips, South Milwaukee, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Mar. 11, 1968, Ser. No. 712,292

Int. Cl. H01r *13/58, 17/08*

U.S. Cl. 339—103 **4 Claims**



A high voltage connector assembly for joining the ends of high voltage shielded electrical cables. The assembly comprises a generally tubular metallic housing with internal insulation. The cable ends are connected by tulip type contacts. Internal voids are shielded by shielding means including current carrying springs. Removable sealing and electrical stress relieving cap structures surround the cables and close the ends of the assembly.

3,509,519

FEMALE CONNECTORS

René Leon Meylemans, Mechelen, François Jeanne Charles Leyssens, Borgerhout, and René Florent Nys, Hove, Belgium, assignors to International Standard Electric Corporation, New York

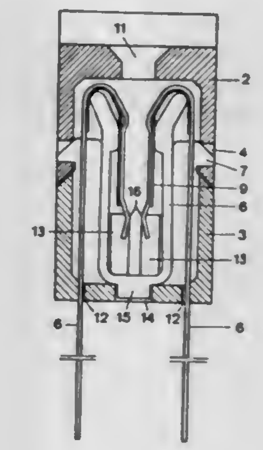
Filed Jan. 10, 1968, Ser. No. 696,831

Claims priority, application Belgium, Jan. 13, 1967, 692,553

Int. Cl. H01r *13/18, 33/76*

U.S. Cl. 339—176 **9 Claims**

An electrical connector including a plurality of plug-in contacts arranged in pairs side by side in an insulating housing constituted by a contact support and a cap. Each pair of contacts is associated with a corresponding contact pressure determining spring, while two insulating ribbons extending through the length of the two parallel contact rows ensure the insulation of the contacts from their associated pressure springs. The contacts are locked in the housing by means of the above cap clipped on the contact support.



3,509,520

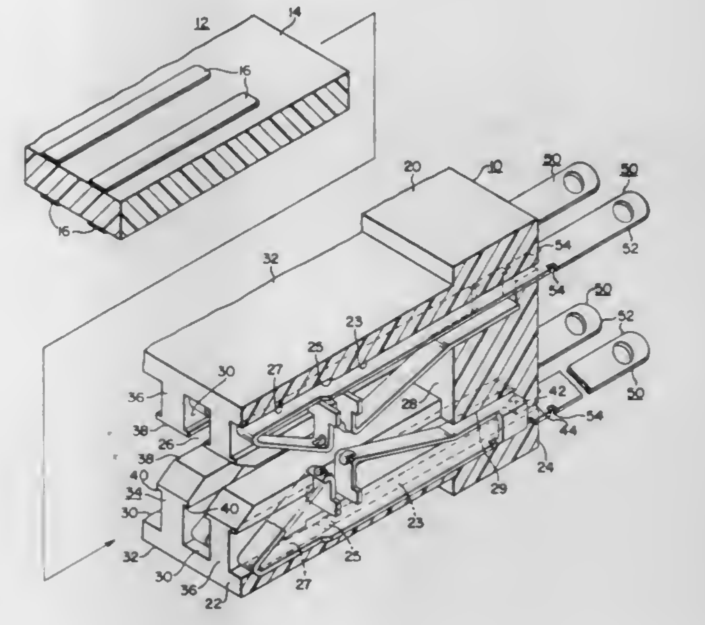
ELECTRICAL CONNECTOR

Robert F. Cobban and Herman B. Gordon, Monroeville, Pitcairn, Pa., assignors, by mesne assignments, to Rogers Corporation, a corporation of Massachusetts

Filed Mar. 7, 1966, Ser. No. 532,209

Int. Cl. H01r *13/50*

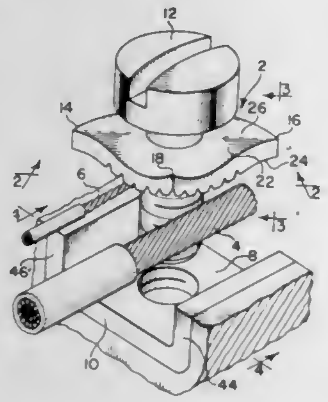
U.S. Cl. 339—176 **5 Claims**



A receptacle comprising an insulating body having an opening in the front face thereof, a terminal member mounted within said opening and providing a first and second contact members extending in the same direction and connected together by a bridging member, said first member extending forwardly toward the front face of said body for a first distance from said bridging member to form a first resilient contact element, said second member extending forwardly from said bridging member for a greater distance than said first member and bent backwardly toward said first member to form a second resilient contact element, forward of said first contact element and in alignment therewith and adapted to resiliently engage one side of a printed circuit board inserted into said opening.

3,509,521
TEETER TERMINAL CLAMP

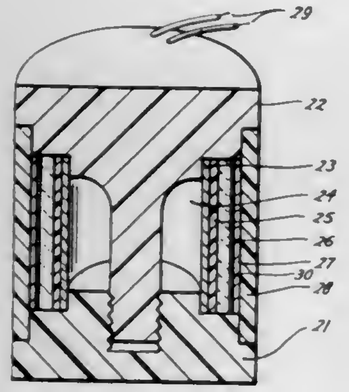
Charles E. Gutshall, Roselle, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 3, 1968, Ser. No. 764,695
Int. Cl. H01r *7/24*
U.S. Cl. 339—246 **7 Claims**



Teeter type terminal clamp is formed by bending a generally square apertured sheet metal stamping along a line connecting a first pair of diagonal corners thereof so as to form an upper ridge portion upon which the clamp can pivot to enable it to apply equal clamping force to a pair of conductors of widely varying sizes which are clamped by serrated surfaces on the bottom surface of the clamping plate. The work engaging portions of the device have a convex cross section as viewed along a line parallel to the ridge line and extend upwardly toward the remaining pair of diagonal corners. The curved shape of the clamping face insures that a large variation in wire sizes can be accommodated without the possibility of sharp edges severing them.

3,509,522
SHATTERPROOF HYDROPHONE

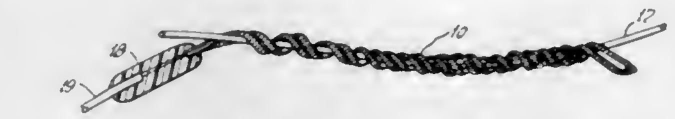
William A. Whitfill, Jr., Houston, Tex., assignor to Schlumberger Technology Corporation, New York, N.Y., a corporation of Texas
Filed May 3, 1968, Ser. No. 726,373
Int. Cl. H01r *17/00;* **H01v** *7/00*
U.S. Cl. 340—10 **6 Claims**



Disclosed is a new type of marine seismic transducer designed to continue efficient operation even if the sensing element is fractured. A series of coaxially aligned cylindrical elements comprise the transducer as follows: an inner conducting electrode; a bonding layer of conducting material; a seismic wave sensing element; and outer electrode of conducting metal; and appropriate housing means for the above.

3,509,523
HELICAL-WOUND MAGNETOSTRICTIVE LINE HYDROPHONE

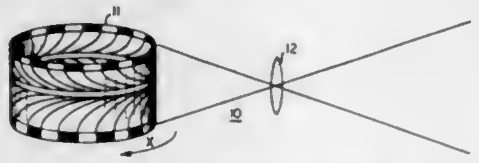
David E. Parker, Pawcatuck, and Winslow W. Prentice, Waterford, Conn., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 19, 1969, Ser. No. 808,575
Int. Cl. H04r *15/00*
U.S. Cl. 340—11 **7 Claims**



An acoustic free flooding hydrophone of a thin magnetostrictive strip formed into a closed loop and having a pressure release material against one surface thereof. An electrically conducting wire is continuously toroidally wound about said loop transversely and the entire loop structure is formed into a longitudinal double helix.

3,509,524
INTENSITY-SEQUENCED OPTICAL GUIDANCE SYSTEM FOR VEHICLES

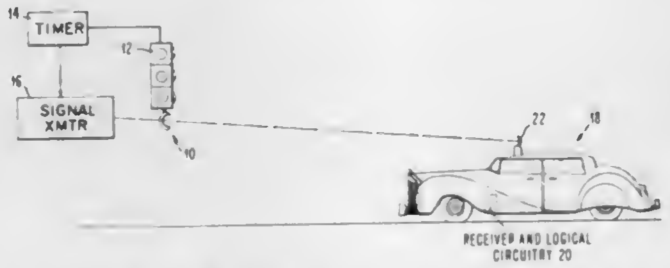
Henry P. Birmingham, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 6, 1966, Ser. No. 599,998
Int. Cl. G08g *5/00;* **G08b** *5/00*
U.S. Cl. 340—25 **10 Claims**



An optical guidance system wherein vehicle position information and vehicle motion error is optically coded by means of an intensity-sequenced color which is projected to the vehicle to be guided.

3,509,525
TRAFFIC PACING SYSTEM

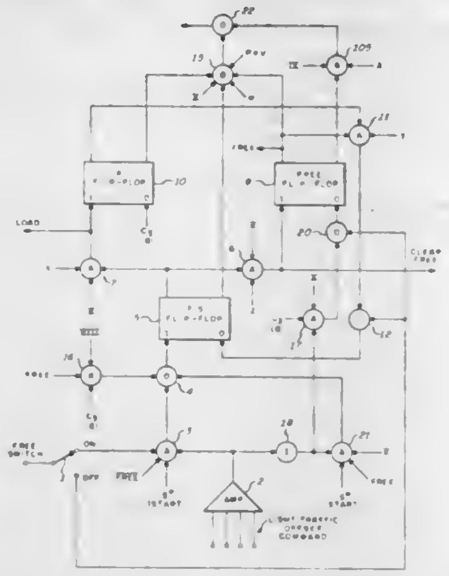
Wilbur J. Levine, Poughkeepsie, and Frank P. Palermo, Chappaqua, N.Y., assignors to International Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed July 12, 1967, Ser. No. 652,928
Int. Cl. G08g *1/09*
U.S. Cl. 340—32 **14 Claims**



A system for allowing vehicular traffic to have its speed regulated by speed monitoring means whereby a minimum amount of stopping of vehicles in a traffic stream will be necessitated. The system includes means located adjacent to a traffic signal for transmitting information relative to the cycle time of said signal and also information enabling an approaching vehicle to determine automatically its distance from said light. Apparatus in the vehicle is adapted to receive information from said transmitting means which is capable of analyzing said information in relation to the current velocity of said vehicle. Said apparatus further includes means for indicating to a driver of said vehicle as to whether said vehicle should maintain its current speed, speed up, or slow down in order to reach the traffic signal during a green cycle and otherwise help maintain optimum traffic flow.

3,509,526
APPARATUS FOR VEHICULAR TRAFFIC INTERSECTION CONTROLLERS

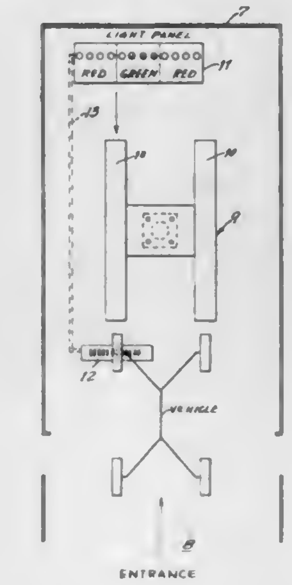
David Arlen and John J. King, Jericho, N.Y., assignors to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 23, 1967, Ser. No. 677,465
Int. Cl. G08g *1/08*
U.S. Cl. 340—36 **5 Claims**



Apparatus for traffic intersection controllers when the controller transfers to, operates in, or transfers from a non-coordinated or free mode of operation which assures that the major traffic phase is accorded with a minimum right-of-way interval for each non-coordinated cycle as well as during the transition period.

3,509,527
GUIDANCE SYSTEMS FOR DIRECTING THE DRIVER OF A CAR ALONG A PRESCRIBED PATHWAY

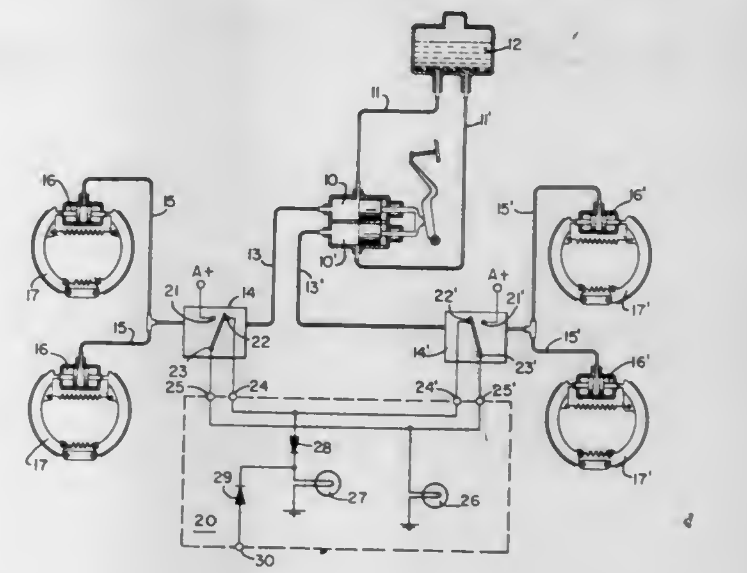
William S. Oakes, 23 Terseyville Ave., Freehold, N.J. 07728, and Francis J. Oakes, Rte. 2, Box 123, Farmingdale, N.J. 07727
Filed Oct. 12, 1965, Ser. No. 495,070
Int. Cl. G08g *1/14*
U.S. Cl. 340—51 **4 Claims**



A row of visual signals are connected in a circuit to a series of floor switches said visual signals being actuated by contact of the wheels of a vehicle with said series of floor switches to show the operator of a vehicle the direction the vehicle is headed.

3,509,528
WARNING DEVICE FOR A DUAL BRAKE SYSTEM

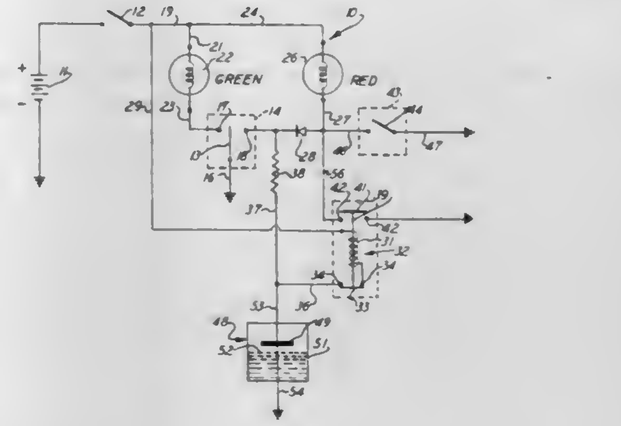
Daryl D. Wiley, Elmhurst, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 8, 1966, Ser. No. 570,848
Int. Cl. B60q *1/00;* **B60t** *17/22*
U.S. Cl. 340—52 **3 Claims**



An electrical warning apparatus installed in the brake lines of a vehicle employing a dual chambered master pressure cylinder. When the brake is applied, if pressure fails to develop in the brake lines associated with either chamber the warning device is activated.

3,509,529
WARNING CIRCUIT

Raymond E. Utter, Westland, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 14, 1966, Ser. No. 594,070
Int. Cl. G08b *19/00, 7/00*
U.S. Cl. 340—52 **6 Claims**

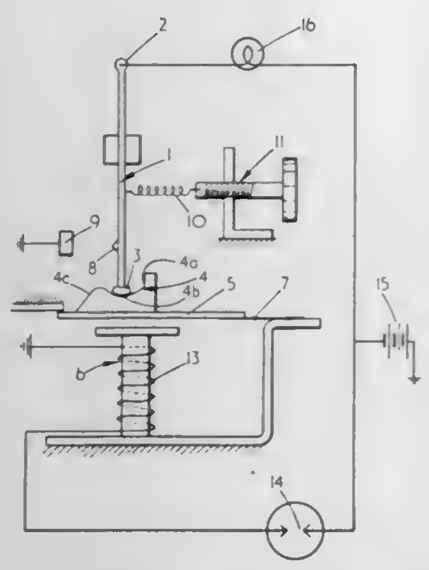


This disclosure specifically relates to a warning circuit for indicating to the operator of a motor vehicle the occurrence of a low, a normal or a high coolant temperature, a low oil pressure and a low fuel supply. The circuit utilizes first and second indicator lights and a buzzer. Sensing elements are provided in the coolant supply system, in the motor oil supply system and in the motor fuel supply system of the vehicle. When a low temperature of the coolant is detected, the first indicator light is continuously lit. When a normal coolant temperature is detected, no lights in the system are lit. When a high coolant temperature is detected, the second indicator light is continuously lit and the buzzer is actuated.

When a low oil pressure in the vehicle is detected, the second light is continuously lit. When a low fuel supply is detected, the second light is intermittently lit and the buzzer is actuated.

3,509,530
ACCELERATION SWITCHES

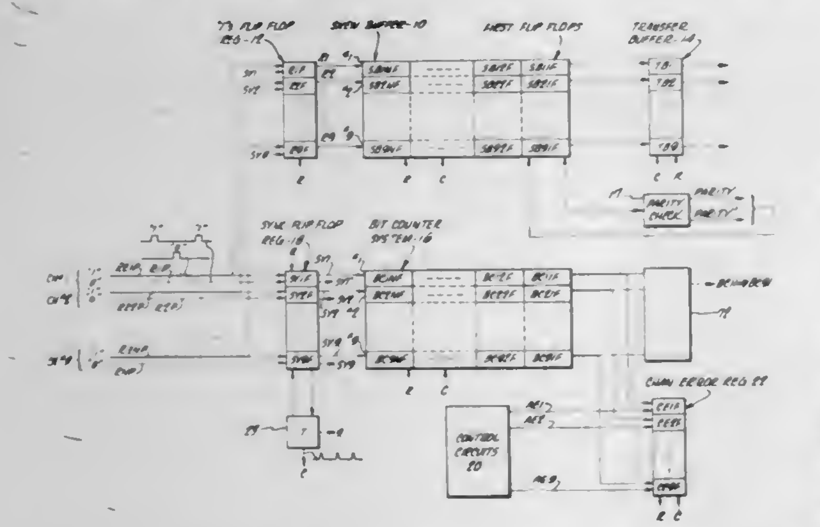
Eric Bernard Parkes, Selly Oak, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England, a British company
Filed June 13, 1967, Ser. No. 645,660
Claims priority, application Great Britain, July 15, 1966, 31,877/66
Int. Cl. B60q *1/50;* **H01h** *35/14*
U.S. Cl. 340—71 1 Claim



An acceleration switch, particularly for indicating when a road vehicle is decelerating, comprising a pendulum 1 movable from a rest position in response to acceleration of the switch, a first contact carried by the pendulum, a second contact engageable by the first contact upon movement of the pendulum as a result of acceleration of the switch to complete an electrical circuit, and releasable latch means co-operating with the pendulum and operable as the contacts close to retain the pendulum in a position in which the contacts are closed.

3,509,531
SIGNAL ALIGNMENT SYSTEM

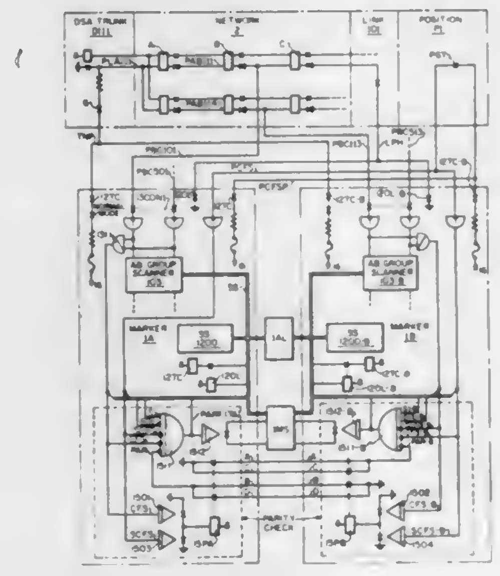
Gregory Wilkinson, San Gabriel, and Lewis B. Coon, Jr., Pasadena, Calif., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 24, 1967, Ser. No. 662,947
Int. Cl. H04l *1/00*
U.S. Cl. 340—146.1 7 Claims



A plurality of information registers, one register for each of a plurality of channels of data. Each information register has a plurality of stages for receiving and storing bits of data appearing in the channels. There is an individual indicator register for each of the information registers for indicating when a stage of the information register is full. A shift control circuit causes the content of the registers to be shifted in the registers causing information to be read out thereof in parallel. A parity check circuit detects the lack of parity in signals which are being read out and a gating circuit is provided for correcting parity of the information in the information registers.

3,509,532
INEQUALITY TEST CIRCUIT FOR DUPLICATED CONTROL UNITS

John R. Vande Wege, Glen Ellyn, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Original application Dec. 29, 1965, Ser. No. 517,226, now Patent No. 3,452,159. Divided and this application Nov. 29, 1968, Ser. No. 780,125
Int. Cl. H04l *1/00*
U.S. Cl. 340—146.1 7 Claims

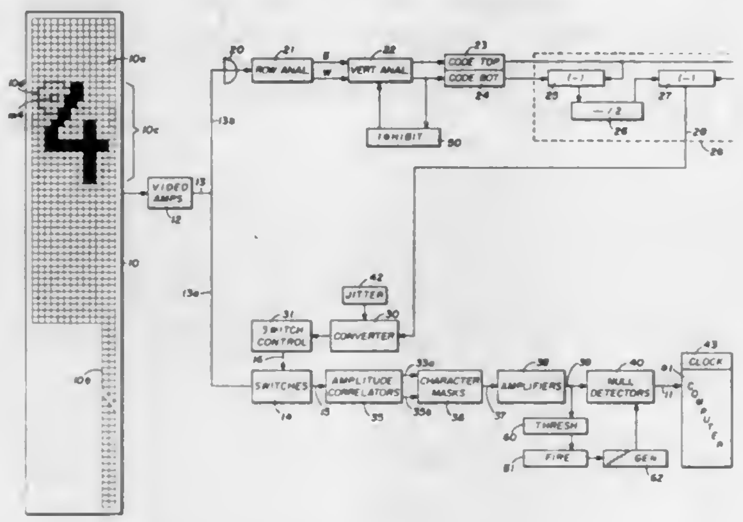


The marker of a communication switching network is duplicated for reliability, and they are alternately actively on line. Each marker has an inequality test circuit which includes a relay to check that a given signal is received by both. A mismatch signal is generated via contacts of the two relays connected in such a manner that even though there is a failure in one inequality test circuit, the mismatch signal is detected by at least one marker at the time it is on-line.

3,509,533
DIGITAL-ANALOG OPTICAL CHARACTER RECOGNITION

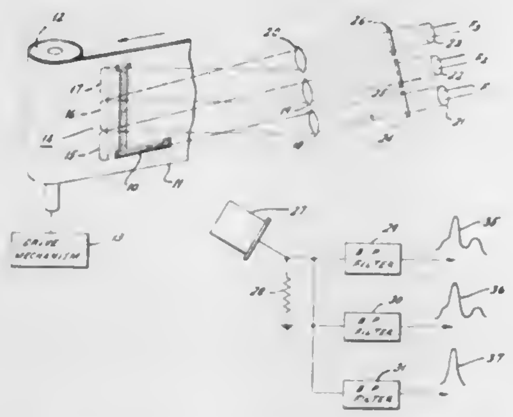
Albert H. Bieser, Garland, and Leonard J. Nunley and Israel Sheinberg, Dallas, Tex., assignors to Recognition Equipment, Incorporated, a corporation of Delaware
Filed June 7, 1965, Ser. No. 461,720
Int. Cl. G06k *9/12*
U.S. Cl. 340—146.3 12 Claims

A character recognition system wherein the images of successive characters are projected from printed material onto a retina made up of a two-dimensional array of photocells. Output signals from each of the photocells over the entire height of the retina are continuously analyzed to produce a center signal representative of the center of any given image on the retina. The recognition process for each of the successive characters, as they move across the face of the retina, includes the production of image orientation information for connecting a plurality of conditioning channels, in number less than the photocells of said retina, to a mosaic of cells symmetrical to the image center.



3,509,534
CHARACTER RECOGNITION APPARATUS

Melvin E. Partin, Montgomeryville, Pa., assignor to Philco-Ford Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 488,659
Int. Cl. G06k *9/10*
U.S. Cl. 340—146.3 3 Claims

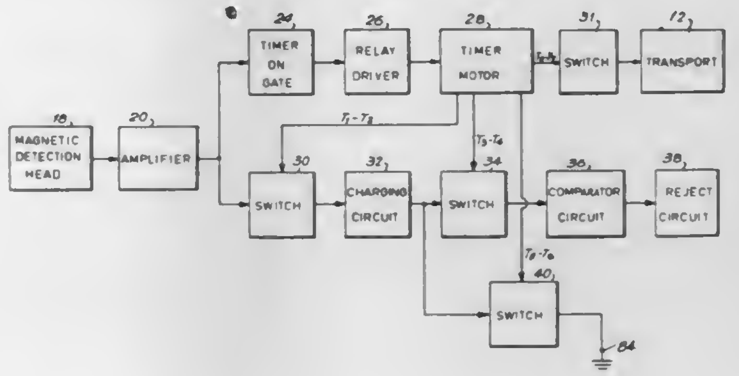


Character recognition apparatus utilizing character scansion with an elongate light image composed of a plurality of serially-arranged light images, each modulated differently from the others. A single photocell receives reflected light from all three images and produces an electrical signal which is supplied to a plurality of filters having differently-shaped passbands. The output of each filter is differentiated and then rectified to produce pulses which are counted to determine the identity of the scanned character.

3,509,535
FERROMAGNETIC RECOGNIZER OF DOCUMENTS

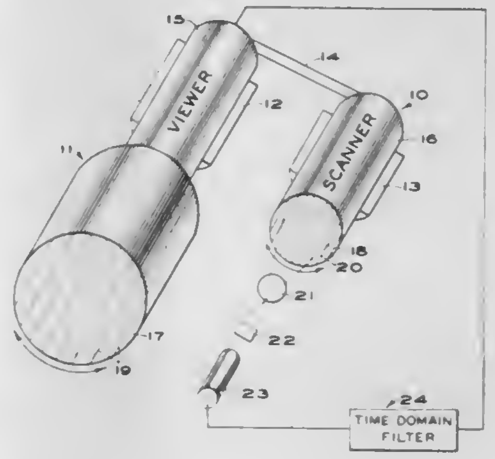
Arthur A. Berube, Nyack, N.Y., assignor to Arcs Industries, Inc., Bronx, N.Y., a corporation of New York
Filed June 9, 1966, Ser. No. 556,320
Int. Cl. H04q *3/00*
U.S. Cl. 340—149 6 Claims

A ferromagnetic recognizer wherein a ferromagnetic inked surface is transported past a magnetic source and a ferromagnetic detection means, said ferromagnetic detection means being operative to detect the ferromagnetic content of said inked surface and to provide a series of electrical signals, corresponding to said detected ferromagnetic content. A charging means accumulates said signals after amplification thereof to produce a sum signal, said sum signal being passed through a comparator means for determining whether the magnitude of said sum signal lies within preselected limits to produce a recognition signal.



3,509,536
ELECTRO-OPTICAL SCANNER AND METHOD FOR INTERPRETING TRACE-DATA SECTIONS

Robert R. Pittman, 3929 Amherst St., Dallas, Tex. 75225
Filed Feb. 2, 1968, Ser. No. 702,616
Int. Cl. G01v *1/16*
U.S. Cl. 340—15.5 14 Claims

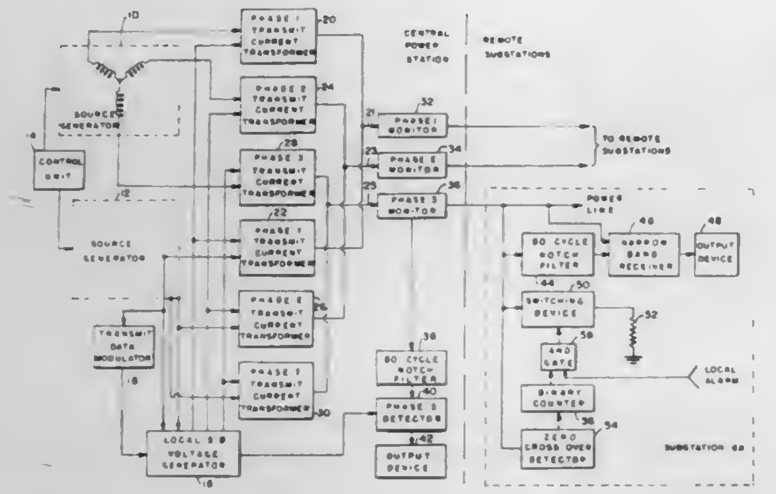


A data scanner, particularly adapted for the interpretive analysis of the data traces as they have been recorded on a seismic section, utilizes a scan drive across a data bearing transparency from a flying spot cathode ray scanner rotatably coupled to a cathode ray viewer, along with time domain filtering applied on a conventional trace by trace basis, enabling time calibration of the filter via timing marks on the section, summation and filtering of adjacent traces at scanning angles other than vertical, and instant visual comparison of the filtered data with the same data on a time invariant basis, all while the section is continuously displayed in upright position.

3,509,537
DIGITAL COMMUNICATION APPARATUS FOR A POWER DISTRIBUTION LINE

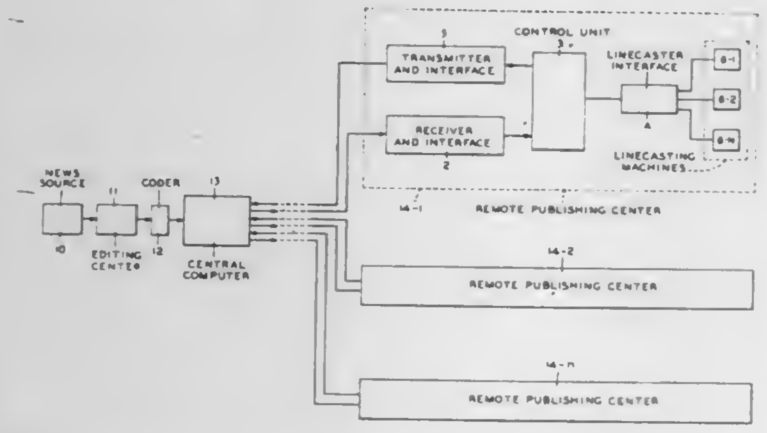
Charles F. Haberly, Cedar Rapids, Iowa, assignor to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Oct. 31, 1966, Ser. No. 590,828
Int. Cl. H04q *9/00*
U.S. Cl. 340—163 10 Claims

Digital communication apparatus for a power distribution system includes means for superimposing a modulating signal on a power distribution line in communicating from the source to a substation and switching means at the substation to generate a current signal of predetermined frequency in communicating from the substation to the power station.



3,509,538
COMPOSING MACHINE COMPUTER CONTROL SYSTEM

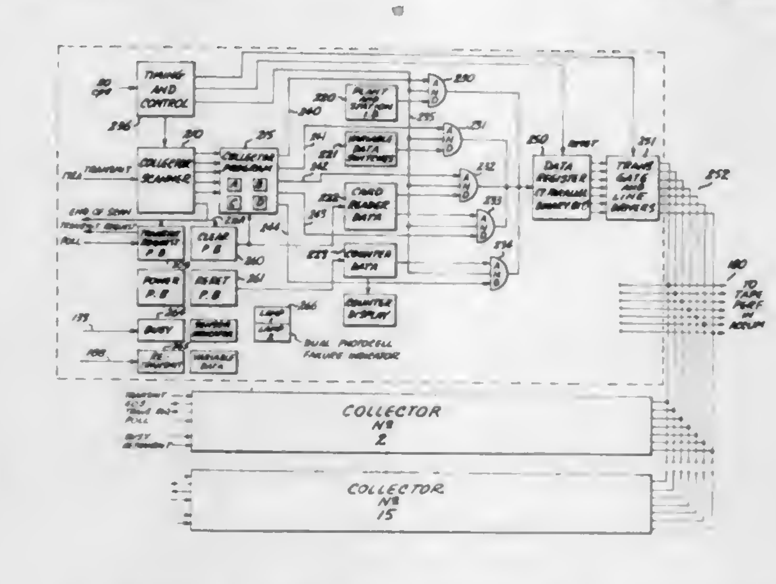
Gean W. Holden, Trenton, and Paul Sternberger, Parlin, N.J., assignors to Dow Jones & Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 11, 1967, Ser. No. 652,562
Int. Cl. H04q *5/00*
U.S. Cl. 340—163 **10 Claims**



A publishing system employing a central station and a number of remote or satellite stations, in which each remote station has a number of composing machines to be simultaneously operated for composing different articles or stories supplied from the central station. Each satellite station is provided with a control unit including a relatively small capacity memory for storing coded signals representing characters of a selected portion of each such article. There is also provided at each satellite station an interface circuit between the composing machines and the control unit which operates to inform the control unit that a composing machine is ready to compose a character, and to convey from the control unit to the ready composing machine coded signals representing the next character to be composed. While coded signals are being supplied by the control unit to the composing machines, the control unit requests from the central station additional coded character signals representing subsequent portions of the articles being composed, the coded character signals representing the entire article being stored at the central station along with those of a number of different articles.

3,509,539
MANUFACTURING PLANT DATA ACQUISITION SYSTEM

James P. Fichten, Elmhurst, and Jack R. Gallet, Hickory Hills, Ill., assignors to Weyerhaeuser Company, Tacoma, Wash., a company of Washington
Filed Dec. 18, 1967, Ser. No. 691,601
Int. Cl. G06f *9/00*
U.S. Cl. 340—172.5 **15 Claims**



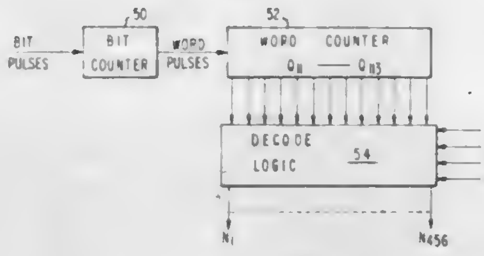
An improved system is disclosed for accumulating manufacturing data regarding multiple stations throughout one or more manufacturing plants through the use of a central data recorder or accumulator. The system makes use of a plurality of data acquisition or collector stations located throughout the plant or plants which are to be monitored. Each collector station is provided with the necessary input devices to provide to the central accumulator the fixed, semivariable, and variable data needed for proper management and operation of the given plant or plants. When the operator at the collector station presses a transmission request switch a scan operation is initiated at the central accumulator with the accumulator station going through a search mode of operation to locate the collector station having data to be transferred to the central accumulator. Once the collector station has been so located, the central accumulator locks onto that collector and by way of a control signal initiates the transmission of data from the collector station. The collector station itself includes a program control which permits a number of selected sequencies of desired data to be transmitted to the central accumulator. Through the use of a unique interrelationship of program scanning devices in the transmitting and collecting stations, the number of lines required for a central accumulator to control and receive data from a large number of data collection stations is minimized. The system also includes an automatic poll control whereby the central accumulator serves to periodically poll all collector stations in a predetermined sequence. Thus management can be assured of having available plant data on an updated basis of selected periodicity.

3,509,540
MULTIPLE FORMAT GENERATOR

Robert H. Hardin, Littleton, Colo., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Jan. 17, 1967, Ser. No. 609,866
Int. Cl. G06m *3/02*
U.S. Cl. 340—172.5 **22 Claims**

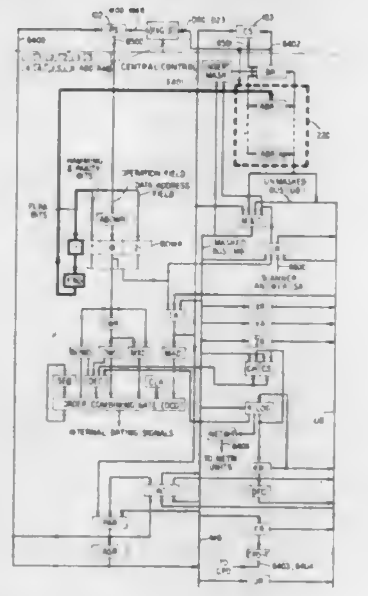
A format generator which produces gating or sampling impulses on multiple lines for the purpose of sampling multiple data units respectively or which produces multiple addresses on a single line for the purpose of sampling multiple data units respectively. The total generator output, referred to as the format, is capable of sampling individual data sources at different rates. A

word counter advances one count for each word pulse input and the word counter stage outputs are applied to decode logic circuitry which energizes the correct line or applies the correct address over the single line. Control inputs to the decode logic circuit enable the generator to produce a number of different formats.



3,509,541
PROGRAM TESTING SYSTEM

Mary E. Gordon, Nagoya, Japan, assignor to Bell Telephone Laboratories, Incorporated, Murray Hill and Berkeley Heights, N.J., a corporation of New York
Filed Apr. 4, 1967, Ser. No. 628,327
Int. Cl. G06f *1/00*
U.S. Cl. 340—172.5 **4 Claims**

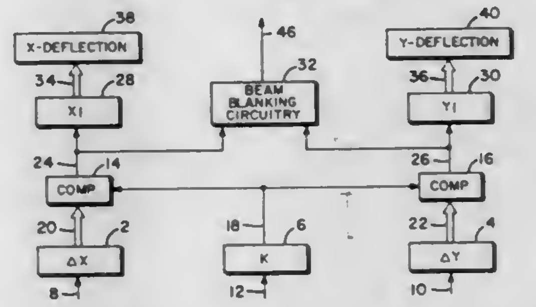


A stored program controlled data processing system is disclosed having a writeable program store together with an interrupt mechanism selectively operated by the appearance of flag bits in certain instructions, particularly register load and memory storing instructions. During interrupt, certain types of program tests are performed to ascertain the utility of the flagged instruction.

3,509,542
DIGITAL VECTOR GENERATOR

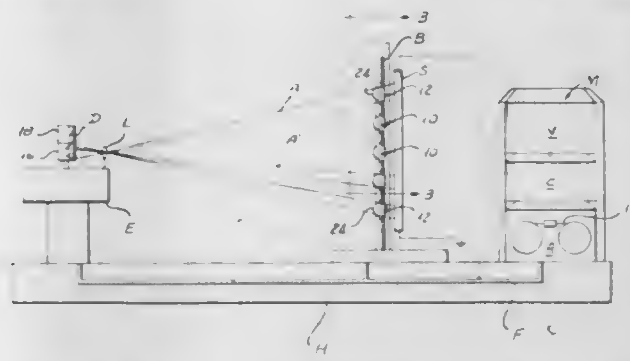
Carl W. Ehrman, Minneapolis, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 15, 1967, Ser. No. 660,772
Int. Cl. G06f *7/02*
U.S. Cl. 340—172.5 **4 Claims**

Method and apparatus for approximating a linear function of any slope by a series of digitally generated incremental segments of 0°, 45°, and 90°. The present position of the beam is stored in digital form in first and second registers. The increments to be added along both the X and Y axes are stored in digital form in third and fourth registers respectively. A counter, initially set to a predetermined value, is started counting. Each time the counter is incremented by one unit, it is scanned beginning with the least significant bit. The first counter bit found that is a "1" is compared with the corresponding most significant bit in the third and fourth registers. Thus, if at any count, the first "1" found in the counter is in the second least significant bit position, it is compared with the second most significant bit in the third and fourth registers. If only the third register has a "1" in that position, the beam is moved one unit along the X axis. If only the fourth register has a "1" in that position, the beam is moved one unit along the Y axis. If both the third and fourth registers have a "1" in that position, the beam is moved at an angle of 45° for one increment or unit as measured along either the X or Y axis. Thus, the linear function is approximated.



3,509,543
OPTICAL MEMORY SYSTEM

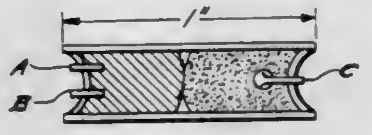
Walter W. Lee, Allendale, Thomas J. Meloro, Jersey City, Bernard Spieker, New Milford, and Israel L. Fischer, Harrington Park, N.J., and Enoch C. Ashenberg, Congers, N.Y., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Apr. 28, 1964, Ser. No. 363,085
Int. Cl. G11c *13/04*
U.S. Cl. 340—173 **6 Claims**



A method and means for translating information stored on function tapes to an optical drum such that the information on the tape appears on a different circumferential track of the drum, and the information on each circumferential track is aligned with the information in each other circumferential track.

3,509,544
ELECTROCHEMICAL ANALOG RANDOM ACCESS MEMORY

John P. Choisser, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Continuation of application Ser. No. 379,769, July 1, 1964. This application Sept. 23, 1968, Ser. No. 764,030
Int. Cl. G11c *13/02, 11/54*
U.S. Cl. 340—173 **2 Claims**

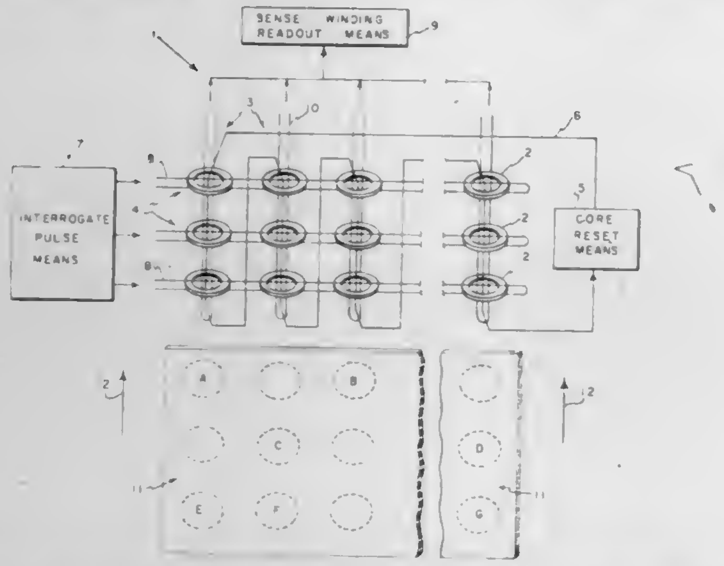


An apparatus providing a random access addressable analog memory, utilizing a chemical neuron to provide a computer memory cell for storing and retrieving analog voltages in a random-access fashion by selectively energizing the desired location.

3,509,545
METHOD TO EFFECT MAGNETIC READ-ONLY IN A MEMORY

Anthony M. Apicella, Jr., Massillon, and Bengt Harry Hellman, Cuyahoga Falls, Ohio, assignors to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware

Filed July 25, 1966, Ser. No. 567,552
Int. Cl. G11c *17/00*
U.S. Cl. 340—174 4 Claims

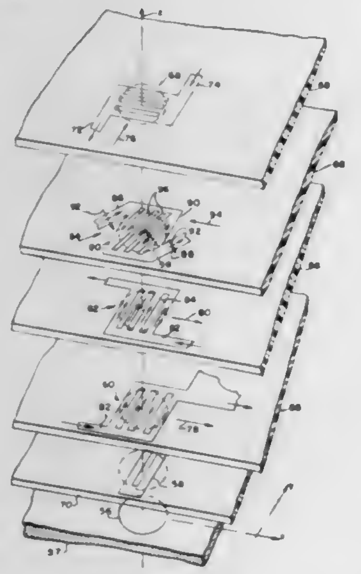


The invention relates to a method to effect magnetic read-only in a memory. A conventional toroidal memory unit is associated with selectively magnetized plates. Every core in the memory unit is set in the same magnetic direction. The external magnetic fields enhance interrogation so that readout is non-destructively accomplished for only the selectively magnetized areas of the magnetic plates. The magnetic plates can be selectively introduced as different programming operations are desired or deemed necessary by the memory unit. The method operates with extremely high signal to noise ratios, low power requirements, and shortened response times.

3,509,546
MAGNETIC STORAGE DEVICE

Arthur V. Pohm, Ames, Iowa, and Sidney M. Rubens, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Application Mar. 20, 1964, Ser. No. 353,623, which is a continuation of application Ser. No. 20,195, Apr. 5, 1960, which in turn is a division of application Ser. No. 626,945, Dec. 7, 1956, now Patent No. 3,030,612. Divided and this application Apr. 2, 1965, Ser. No. 445,005
Int. Cl. G11c *5/02, 5/06, 11/14*
U.S. Cl. 340—174 20 Claims

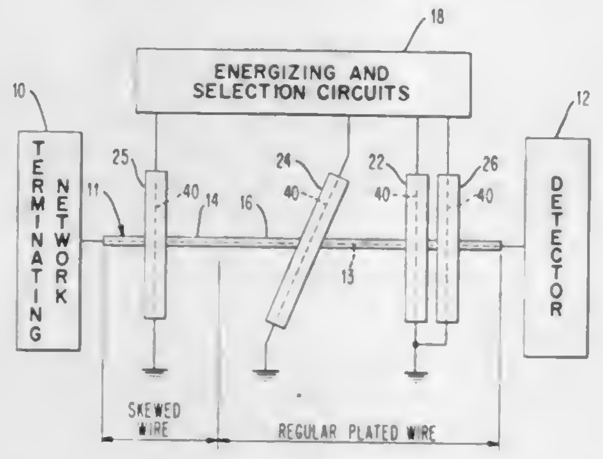


A magnetic storage device including a thin layer of magnetic material and first, second and third conductors which are inductively coupled to the layer. The first and second conductors intersect at parallel portions which define a memory area in the plane of the layer while the third conductor picks up signals induced therein by a change of magnetization of the memory area when it is affected by the first and second conductors.

3,509,547
PERMANENT MAGNETIC RECORDING

Alexander Turczyn, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed May 2, 1966, Ser. No. 546,631
Int. Cl. G11c *11/14, 7/00, 5/02*
U.S. Cl. 340—174 11 Claims

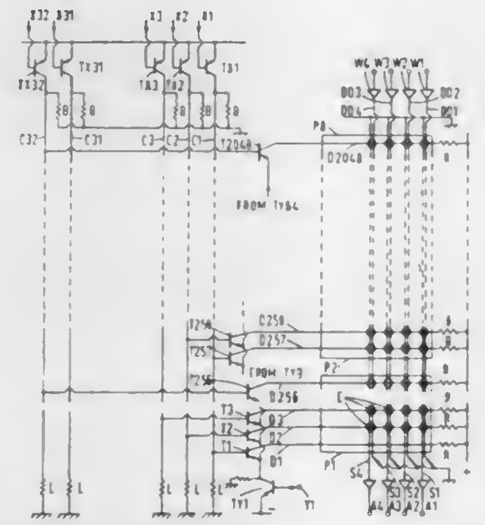


A technique is disclosed for permanently recording information by skewing the easy and hard axis of a memory element with respect to the geometric axis of the drive line.

3,509,548
MATRIX STORE WITH DELAY MEANS IN THE INTERROGATION CIRCUIT

Kenneth Harry Sinden, Richmond, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain

Filed May 3, 1966, Ser. No. 547,297
Claims priority, application Great Britain, May 11, 1965, 19,765/65
Int. Cl. G11c *9/00, 11/02*
U.S. Cl. 340—174 6 Claims

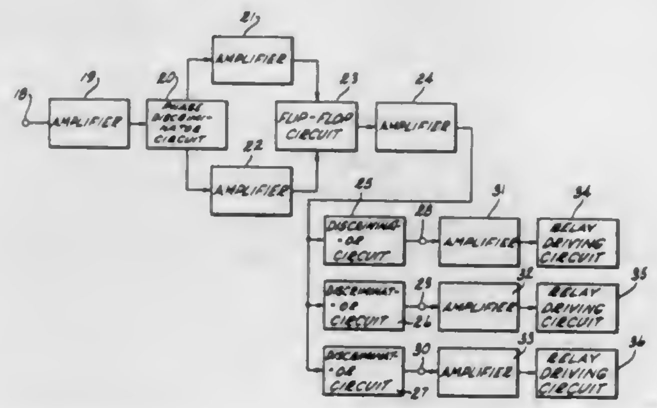


A matrix store is disclosed which comprises an array of storage elements made up of a plurality of groups of storage elements, interrogating means for applying an interrogating signal to a respective group, a plurality of sense conductors for obtaining signals representing data from an interrogated group, a read amplifier connected to each sense conductor, the data signals appearing at the read amplifiers after a first time interval dependent on the length of the sense conductors from the respective group to the read amplifiers, said first time interval being different for different groups, the selection means including delay means for delaying the application of the interrogating signal for a second time interval complementary to said first so that the sum of said time intervals is substantially constant whichever group is interrogated.

3,509,549
MAGNETIC RECORDING AND REPRODUCING OF CUE SIGNALS, INCLUDING PULSE WIDTH DISCRIMINATION FOR CUE SIGNAL SELECTION

Yoshihiko Ohta and Yuzuru Inoue, Tokyo, Japan, assignors to Victor Company of Japan, Limited, Kanagawa-ku, Yokohama, Japan, a corporation of Japan

Filed Aug. 30, 1966, Ser. No. 576,028
Claims priority, application Japan, Sept. 3, 1965, 40/54,077; June 4, 1966, 41/35,976
Int. Cl. G11b *5/06, 15/52;* **H03k** *5/20*
U.S. Cl. 340—174.1 10 Claims

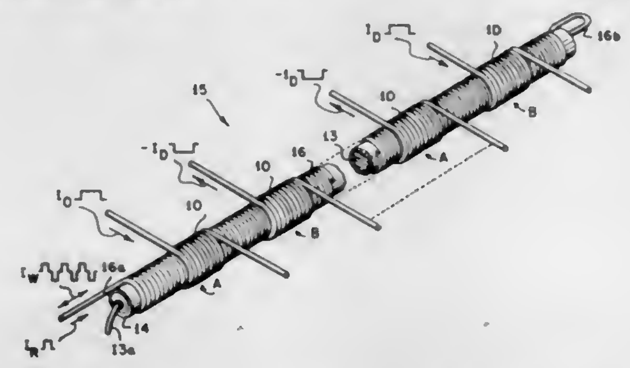


A generally rectangular wave form signal is recorded with a substantially constant repetition rate and a substantially constant amplitude. The effective pulse width of the rectangular wave form corresponds to an operation to be performed. After reproduction, the signal is applied to a discriminator which responds to the mean value of the pulse width, to produce an output signal for controlling the operation to be performed. With this comparatively simple arrangement, a highly reliable and accurate operation is obtained.

3,509,550
NDRO THIN FILM MEMORY

Donal A. Meier, Inglewood, Calif., assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Nov. 14, 1966, Ser. No. 594,089
Int. Cl. G11c *11/04, 7/00*
U.S. Cl. 340—174 6 Claims

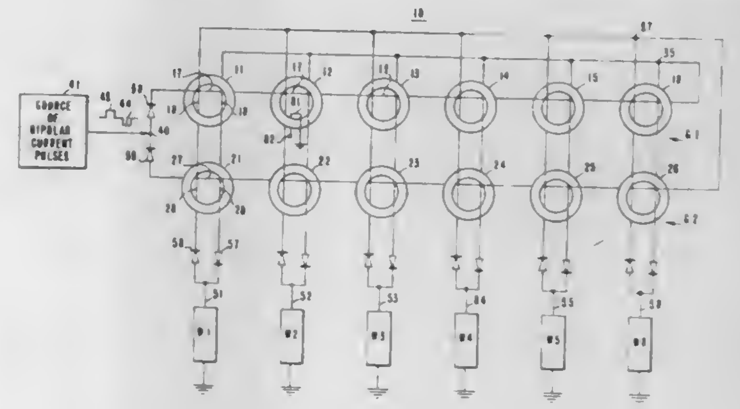


A magnetic memory system having a plurality of bistable thin film magnetic rod elements, each switchable from one bistable state to the other along the axis thereof. The reading means for the system provides for applying an axial non-destructive magnetic field to selected ones of the rod elements and sensing means for detecting the states of the selected elements based on their response to the axial non-destructive magnetic field. The writing means for the system provides for applying a bipolar multi-pulse magnetic field in the axial direction to selected elements, and concurrently applying a substantially constant axial magnetic field in either of two opposite directions to said selected elements. The amplitude of the bipolar multi-pulse magnetic field and the constant magnetic field is chosen so that neither by itself is sufficient to change the state of an element. However, when the axial fields coincide on a selected element that is residing in a state opposite to the resultant axial switching direction of the coincident magnetic fields, the selected element is switched from one bistable state to the other in a plurality of discrete steps, one step for each switching pulse of the resultant applied axial magnetic field.

3,509,551
MAGNETIC CORE CURRENT STEERING COMMUTATOR

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Lawrence J. Zottarelli, Los Angeles, Calif.

Filed Dec. 19, 1967, Ser. No. 691,738
Int. Cl. G11c *7/00, 19/00;* **H04q** *1/52*
U.S. Cl. 340—174 8 Claims



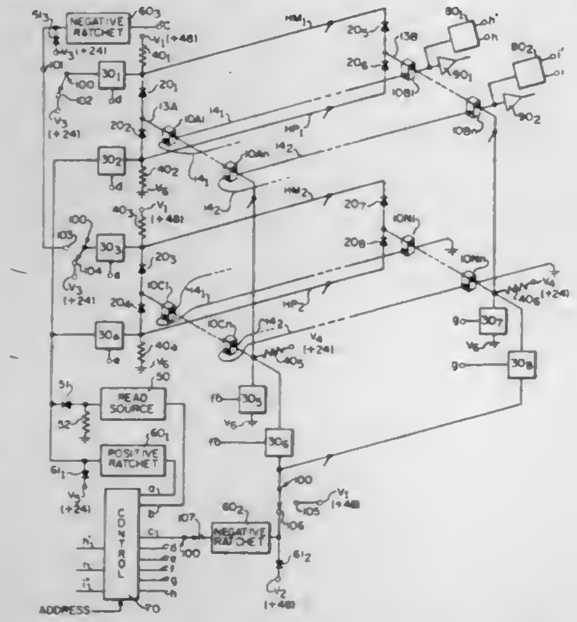
A switch for steering bipolar current pulses to any one of a plurality of current-utilizing memory words. Each word is associated with a pair of magnetic cores, each core within the pair is from a different core group. Initially, all the cores except one in the first group are reset. The cores are inductively coupled together with diodes so that a positive current pulse resets the previously set core of the first group. The reset core forward biases a diode, causing the current pulse to be steered to a word coupled to the particular reset core. Also the steered current sets a core of the second group. Then, when a negative pulse is supplied the last set core in the second group is reset by the negative pulse, forward biasing a diode which causes the negative pulse to be steered through a word associated with the core of the second group. Also, a core in the first group is set to respond to a subsequently supplied positive pulse.

3,509,552
MAGNETIC MEMORY SYSTEM HAVING COMBINED READING AND HIGH-SPEED WRITING APPARATUS

James M. Donnelly, Carol Stream, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Feb. 21, 1968, Ser. No. 707,126
Int. Cl. G11c *5/02, 11/08, 7/00*
U.S. Cl. 340—174 9 Claims

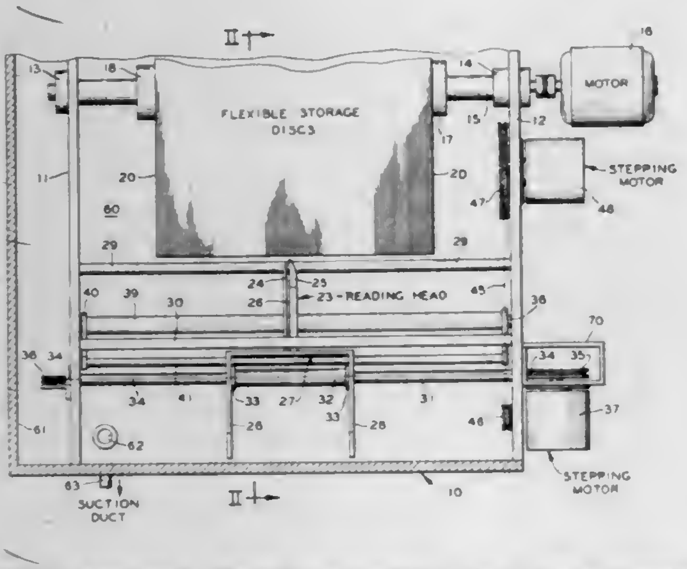
High-speed switching capability for a great number of magnetic storage elements along a drive line is provided by apparatus for controlling the switching of elements in a matrix by voltage-controlled ratchet switching techniques and a matrix bias scale which maintains all unselected matrix isolation diodes nonconductive. Circuit economies are achieved by combining parts of the reading and writing circuits. Ratchet pulse width is chosen to be greater than the switching time in order to obtain the largest possible output signals an element is capable of producing.



3,509,553
RANDOM ACCESS STORAGE DEVICE UTILIZING FLEXIBLE MAGNETIC DISC RECORDS

Johannes M. N. Krijnen, Rijswijk, South Holland, Netherlands, assignor, by mesne assignments, to U.S. Philips Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 28, 1966, Ser. No. 537,986
Claims priority, application Austria, Mar. 30, 1965, A 2,891/65; Apr. 5, 1965, A 3,077/65
Int. Cl. G11b *5/60, 17/22, 21/08*
U.S. Cl. 340—174.1 **4 Claims**



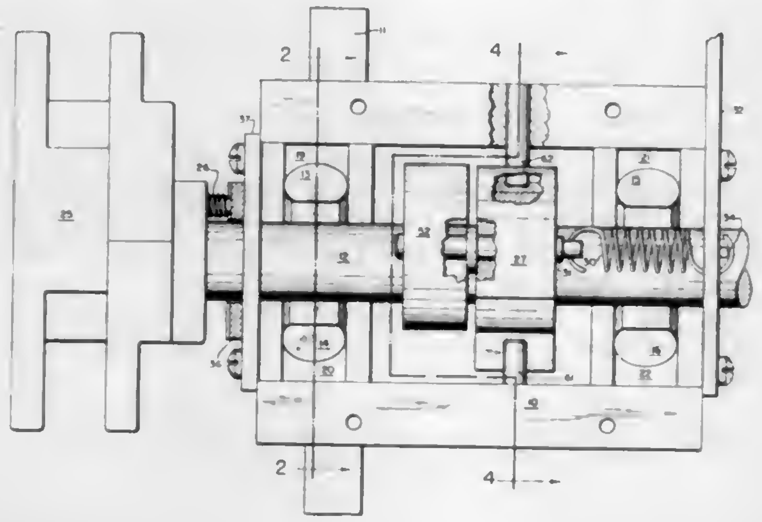
Axially mounted, flexible recording discs are arranged so that the distance between any two discs is less than the thickness of the transducer. The flexibility of the discs enables the discs to adapt themselves to the position of the transducer thereby decreasing the need for precise positioning mechanisms.

3,509,554
ROTATABLE HEAD POSITIONER WITH V-BLOCK BEARINGS

Harold P. Jensen, Chelmsford, Mass., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 16, 1968, Ser. No. 721,846
Int. Cl. G11b *5/42, 5/54, 21/14*
U.S. Cl. 340—174.1 **10 Claims**

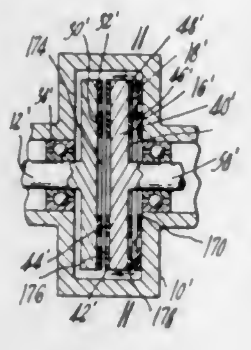
A mounting assembly for a magnetic tape recording head is described which permits the head to be rotated out of position for threading tape or cleaning. A cylindrical shaft is mounted in self-aligning V-block bearings and the remaining assembly surfaces critical to head alignment are then machined relative to the shaft. A toggling arrangement spring loads the shaft rotation in either of two fixed positions.



3,509,555
POSITION ENCODING APPARATUS

Bruce J. Loughlin, South Acton, Ervin J. Rachwal, Holbrook, and Murray M. Schiffman, Newton, Mass., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Oak Brook, Ill.

Original application Feb. 16, 1961, Ser. No. 89,793, now Patent No. 3,278,928, dated Oct. 11, 1966. Divided and this application Mar. 17, 1966, Ser. No. 535,060
Int. Cl. G08c *9/02, 9/04*
U.S. Cl. 340—347 **12 Claims**



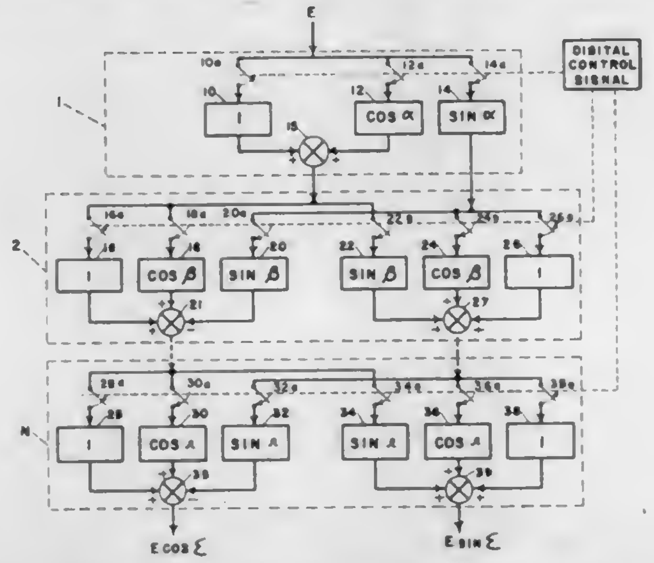
A shaft position encoder includes two sets of discs which have spaced capacitor plate elements on them. A first disc is connected to a stator element and a second disc is connected to an input shaft whose position is to be encoded. A cooperating rotor disc is positioned between the two discs and has corresponding sets of capacitor plates secured to it. Output signals from this encoder are applied through coincidence and counting circuitry to provide gross and vernier signals which indicate the position of the monitored shaft.

3,509,556
DIGITAL TO ANALOG CONVERTER

Vernon E. Schmidt, Akron, Ohio, assignor to Goodyear Aerospace Corporation, Summit, Ohio, a corporation of Delaware

Filed July 10, 1967, Ser. No. 652,341
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 **6 Claims**

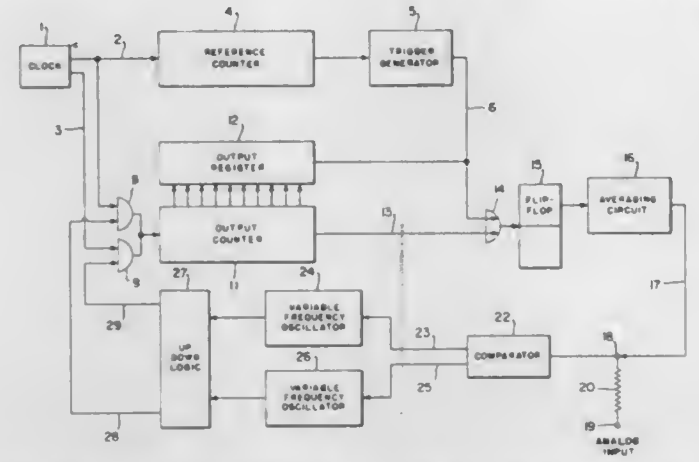
A network capable of being adjusted by digitized angular information in such a way that it will operate on an analog voltage input with gains that produce two outputs proportional to the sine and cosine of the digital angle. This is accomplished by utilizing a plurality of modules, each associated with the one digit of the digital angular information whereby the modules are serially arranged and sequentially add or provide a gain representing the angular information of their particular digit to the analog input voltage, if they are energized, whereby the sum resultant is equal to the angular digital signal in analog form.



3,509,557
ELECTRICAL APPARATUS

William H. Groth, Douglasville, Pa., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Oct. 18, 1965, Ser. No. 496,969
Int. Cl. H03k *13/17*
U.S. Cl. 340—347 **3 Claims**



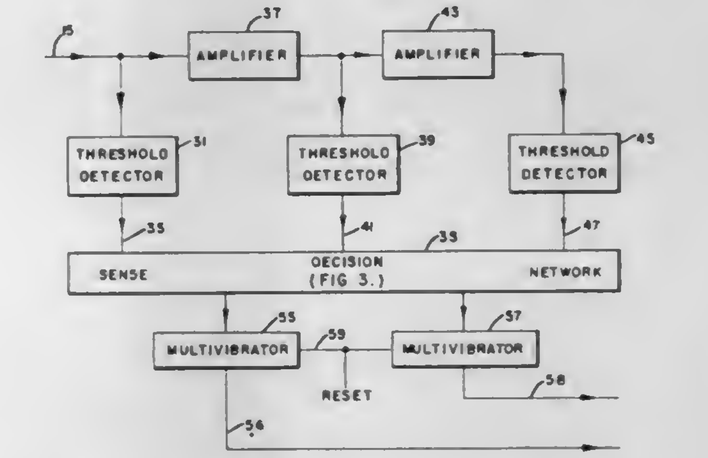
There is provided an analog to digital signal converter which produces a continuous digital output signal, which is representative of an analog input signal, by comparing a reference digital count with an unknown digital count representative of the analog signal, using the difference between the reference and unknown counts to produce a reference analog signal which is compared with the input analog signal, and using the difference between the reference and the input analog signals to control the unknown count until a balance of the counts is achieved to effect a balance of the analog signals.

3,509,558
WIDE RANGE DATA COMPRESSION SYSTEM

Ciro A. Cancro, Silver Spring, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Oct. 22, 1965, Ser. No. 502,743
Int. Cl. H03b *3/02*
U.S. Cl. 340—347 **7 Claims**

There is disclosed an analog data compression system. The data signal to be compressed is applied to both arms of a parallel system, in one portion of the system the signal being delayed while in the other portion, the magnitude of the signal is measured. The output from a range detector, which measures signal magnitude, is fed to an attenuator control network which in turn controls the level of attenuation applied on the delayed input signal.

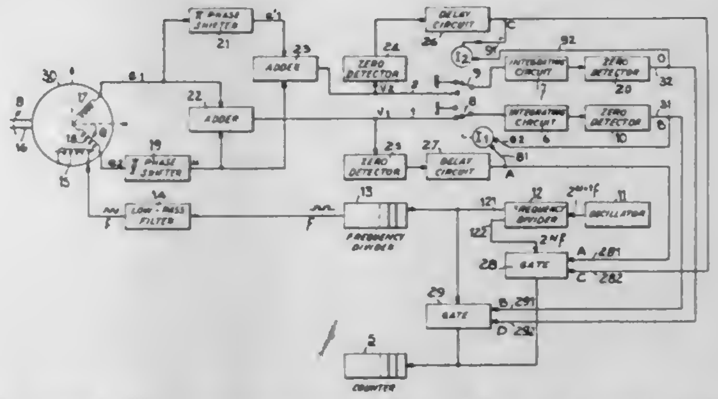


The output of the system is fed typically to an analog-to-digital converter and also, the output of the range detector is also read out. The combined digital signal yields complete transmission of the information contained in the input analog signal.

3,509,559
PHASE SHIFT CODING SYSTEM

Guy Leconte, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed June 24, 1966, Ser. No. 560,253
Claims priority, application France, June 29, 1965, 22,671
Int. Cl. H03k *13/02*
U.S. Cl. 340—347 **8 Claims**



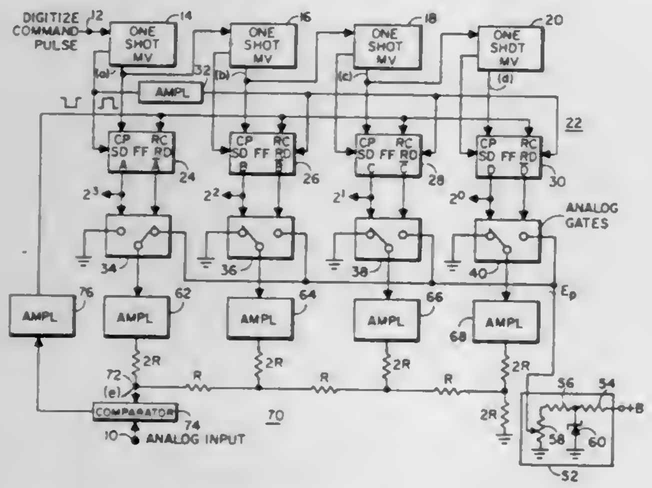
A phase shift coding system for coding the phase shift between two alternating voltages of the same frequency comprising circuit means for determining by integration two intervals of time equally extending on both sides respectively of the corresponding passages through zero of these voltages and for generating pulses respectively bounding these time intervals. A counter is connected to a clock by means of gates controlled by these pulses for said counter to count clock pulses, on one hand, between the beginnings of these time intervals and, on the other hand, between the ends of these time intervals.

3,509,560
ANALOG-TO-DIGITAL CONVERTER

John O. Bowers, Jr., Jon Philip Ray, and Philip A. Toney, Maitland, Fla., assignors to General Dynamics Corporation, a corporation of Delaware

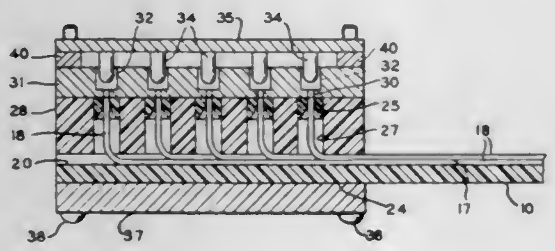
Filed Feb. 2, 1967, Ser. No. 613,576
Int. Cl. H03k *13/17*
U.S. Cl. 340—347 **5 Claims**

A successive approximation converter is disclosed wherein a resistive ladder network to which a precision reference voltage is applied by way of analog switches is used to generate binary-weighted voltages. An impedance translating device, such as a buffer amplifier which presents a high impedance to the source of precision reference voltage is included and facilitates the use of analog switches and a precision power supply which need handle only low currents. The reference source may be regulated to the necessary precision by relatively simple means, such as a Zener-diode circuit. The switches are controlled by stages of a register each of which corresponds to a different bit of the digital code into which the analog input is to be converted. A group of tandem connected one-shot multivibrators operate the stages of the register so that the generated binary weighted voltages have durations which are functions of the significance of the bit of the code to which they correspond. The analog input is compared with the binary-weighted voltages to produce outputs which represent the sense of the difference therebetween and also the binary values of the bits of the code. These outputs are applied to the stages of the register at the end of the duration of the weighted voltages for the bits to which they correspond, and the value of the bits are stored in these corresponding register stages. The register may be read out in order to derive the digital information.



3,509,561
INDICATING MEANS FOR INFORMATION INPUT

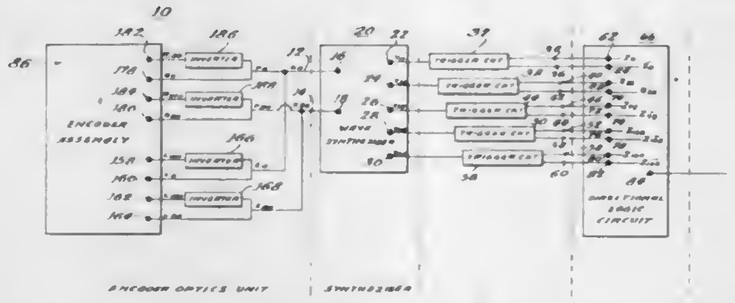
William C. Moore, Skaneateles, and William S. Pilgrim, Port Byron, N.Y., assignors to Welch Allyn, Inc., Skaneateles Falls, N.Y., a corporation of New York
Filed Oct. 12, 1966, Ser. No. 586,073
Int. Cl. G08b *5/36*
U.S. Cl. 340—380 **2 Claims**



A device for causing information to be entered into data processing apparatus at another location, and for indicating to the opreator that the apparatus has received the correct signl. The device includes an indicator panel having a plurality of information representations and switching means for each representation actuable to cause that information to be fed into the processing apparatus. Each information representation also has an associated fiber optic indicator assembly that is arranged to give the operator visual indication that the information signal has been received.

3,509,562
ANALOG TO DIGITAL ENCODER

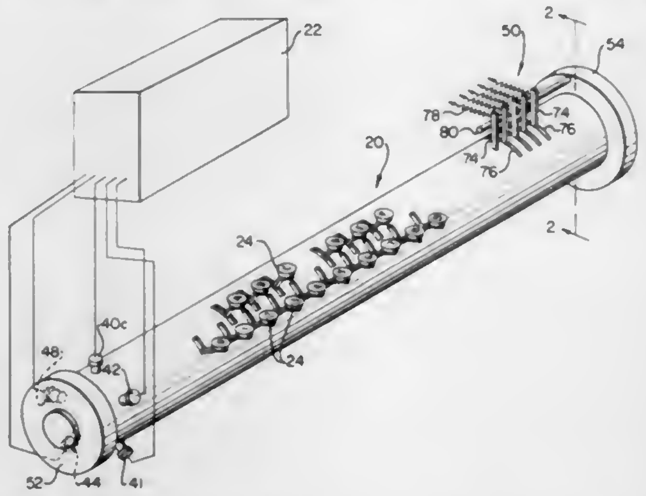
Ralph Hafle, North Little Rock, Ark., assignor to The D. H. Baldwin Company, Cincinnati, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 385,173, July 27, 1964. This application July 25, 1966, Ser. No. 584,636
Int. Cl. G08c *9/06;* **H03k** *13/02*
U.S. Cl. 340—347 **20 Claims**



An analog to digital encoder is disclosed employing a photoelectric transducer in the form of a code disc, light source and two sets of four photocells for producing two electrical waves varying sinusoidally at the same frequency responsive to rotation of the code disc and differing in phase by 90 electrical degrees. The electrical outputs of the transducer are then utilized to synthesize five sinusoidal waves differing in phase by increments of 36 electrical degrees, and these five waves are then converted into square waves and combined to form a train of pulses equally spaced in time and with a repetition rate equal to five times the frequency of the output of the transducer.

3,509,563
CODE SELECTING DEVICE USING CONCENTRIC TUBES

James L. Boggs, Covington, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed May 8, 1967, Ser. No. 636,875
Int. Cl. H03k *13/18*
U.S. Cl. 340—347 **9 Claims**

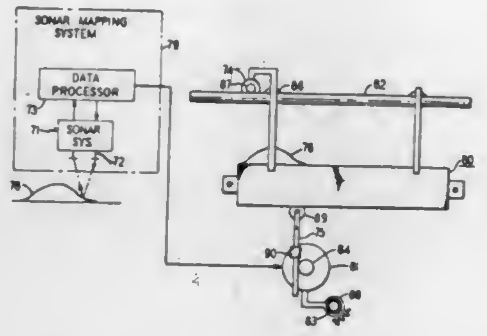


A device for converting information from one form to another using a plurality of concentric tubes and light responsive means. The tubes are aligned to energize selected ones of the light-responsive means according to a predetermined code by actuator means which include manually operated keys and dial means.

3,509,564
IMAGE STORAGE DEVICE

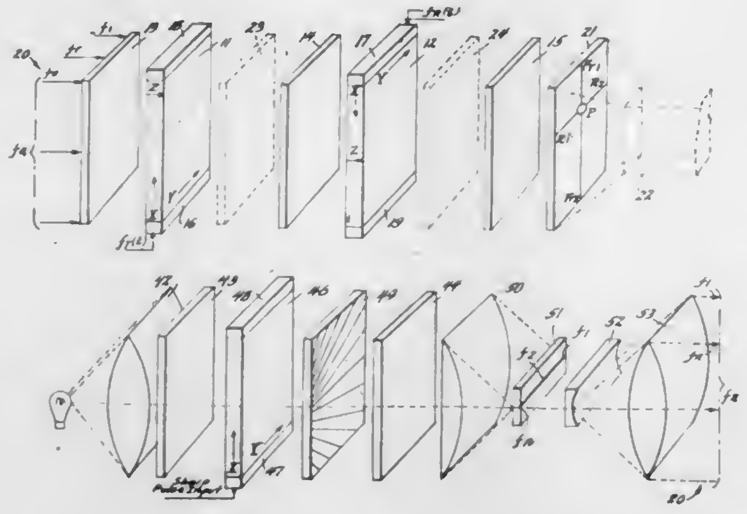
Robert M. Miller, Convent Station, N.J. 07961
Filed Mar. 4, 1968, Ser. No. 710,337
Int. Cl. G01s *7/20*
U.S. Cl. 343—7.9 **4 Claims**

A device for, and methods of, producing three dimensional images or replicas of physical objects are disclosed. A plurality of strands are held together, by a retaining sleeve, under a selected pressure which allows the strands to be displaced along an axis parallel to the retaining sleeve wall when the strand cross sections come into contact with the surface of an object.



3,509,565
METHOD AND APPARATUS FOR OPTICALLY PROCESSING INFORMATION

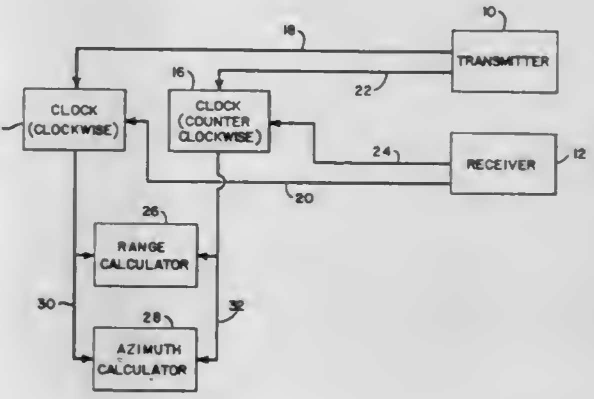
Raymond M. Wilmotte, 64 Newlin Road, Princeton, N.J. 08540
Filed June 19, 1961, Ser. No. 118,041
Int. Cl. G01s *9/44*
U.S. Cl. 343—9 **13 Claims**



1. A system for processing radar information to obtain an indication of the range and velocity of a target, comprising means for transforming the transmitted radar signal into a form capable of affecting a beam of light in accordance with the waveform of the transmitted signal, means for transforming the received radar echo signal into a form capable of affecting a beam of light in accordance with the waveform of the received signal, means for conducting said transformed signals past each other along a first line, means for directing a modulated beam of light serially through said last-mentioned means, the modulation of said beam of light being an intensity modulation pattern spanning a band of intensity modulation frequencies corresponding to expected Doppler frequencies in the echo signal, said pattern of frequencies providing a number of different frequencies at different points extending along a line transverse to said first line, means for detecting the combined effect of the two transformed signals upon said beam of light, and means for integrating the detected light pattern, whereby the location of maximum light along said first line is a measure of target range and the location of maximum light along said second line is a measure of the Doppler frequency of the echo signal.

3,509,566
METHOD AND APPARATUS FOR OBTAINING AZIMUTH AND RANGE FROM A SCANNING CONTINUOUS WAVE RADAR

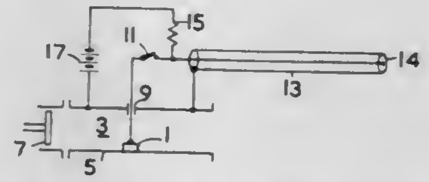
Gilbert C. Vorie, Elma, N.Y., assignor to Cornell Aeronautical Laboratory, Inc., Buffalo, N.Y., a corporation of New York
Filed Nov. 1, 1967, Ser. No. 679,776
Int. Cl. G01s *9/02*
U.S. Cl. 343—10 **4 Claims**



Method and apparatus for locating a single target employing a narrow beam of electromagnetic radiation that is caused to scan an area first in a clockwise direction then in a counterclockwise direction, and noting the respective elapsed times from the start of the respective scans to the times of reception of the respective reflections from a target within a scanned area; the beam being continuously emitted during each scan cycle.

3,509,567
SOLID STATE RADAR

Peter Joseph Bulman, Crowle, Worcester, England, assignor to National Research Development Corporation, London, England
Filed Aug. 23, 1968, Ser. No. 754,780
Claims priority, application Great Britain, Aug. 25, 1967, 39,181/67
Int. Cl. G01s *7/28;* **H03b** *7/06*
U.S. Cl. 343—17.1 **8 Claims**

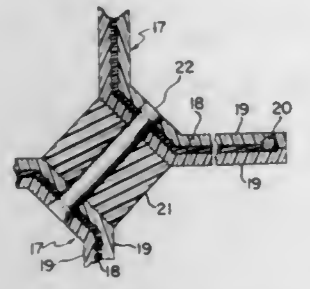


A pulse radar includes a solid state microwave source, a power supply and means for applying the power supply to the microwave source for a short duration. The means for applying the power supply to the microwave source for a short duration may include a pulse forming network. The microwave source may be a Gunn diode and in that case the power applied to it may be higher than necessary for it to operate in the normal mode so that it operates in the avalanche mode, whereby a pulse of microwave energy that is shorter than the period of time for which power is applied to the Gunn diode is generated.

3,509,568
INLET ATTENUATOR ASSEMBLY

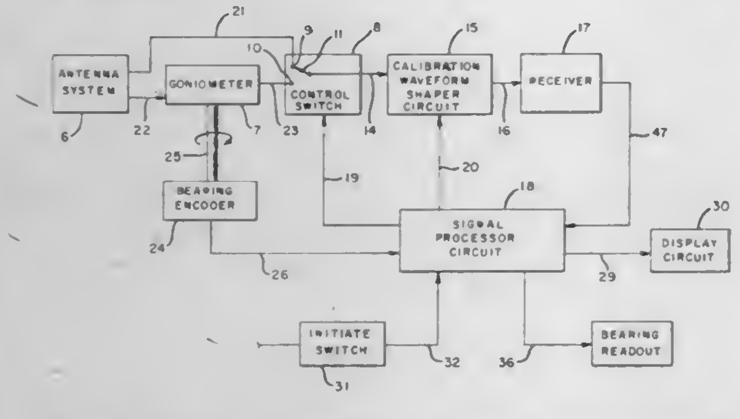
William P. Manning, John L. Seufert, and Robert D. Strattan, Tulsa, Okla., assignors to North American Rockwell Corporation
Filed July 8, 1968, Ser. No. 743,259
Int. Cl. G01s *7/42;* **H01q** *15/18, 17/00*
U.S. Cl. 343—18 **3 Claims**

An assembly for combination with an engine air inlet duct, such as a turbo-jet engine or ram-jet engine air inlet duct, to significantly attenuate electromagnetic energy entering at small frontal aspect angles relative to the engine face. The assembly incorporates a lattice arrangement of attenuator sheets of particular configuration to efficiently effect attenuator anti-icing with minimum adverse effect on electromagnet energy attenuation properties.



3,509,569
DIRECTION FINDING SYSTEM

Ronald J. Boddy, Monte Sereno, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 1, 1968, Ser. No. 741,744
Int. Cl. G01s *3/54*
U.S. Cl. 343—113 **8 Claims**

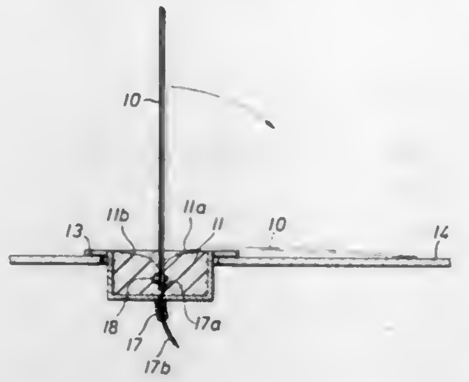


A DF system producing a rotating directional beam for receiving electromagnetic signals is operable in a DF mode and a calibration mode. In the DF mode, a receiver converts received signals to IF signals which are coupled to a processor. An indication of the beam bearing is also coupled to the processor. When a received signal is detected, an indication of the beam bearing corresponding to alignment of the beam and the emitter of the received signal is stored and the system is caused to operate in the calibration mode. The received signal is then shaped in time synchronism with rotation of the beam into a calibration wave which has substantially the same Fourier spectral components as the received signal and is applied to the receiver. The relative time of occurrence of the calibration wave in the receiver output is measured by the processor and is indicative of the receiver envelope delay. This delay is subtracted from the stored beam bearing to give a corrected indication of the emitter bearing.

3,509,570
FLEXIBLE BLADE ANTENNA

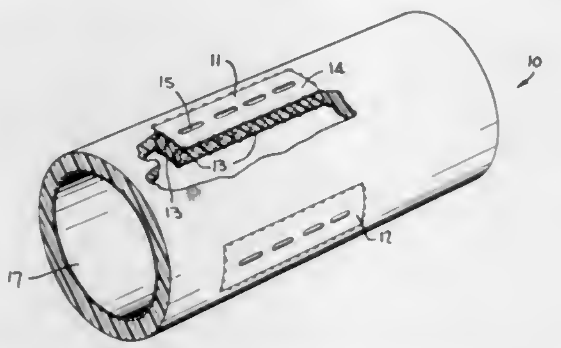
Jefferson F. Lindsey III, and Gareth H. Nason, Houston, Tex., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 30, 1968, Ser. No. 763,705
Int. Cl. H01q *1/12*
U.S. Cl. 343—718 **10 Claims**

A flexible, resilient metallic blade is perpendicularly mounted from the surface of a solid dielectric material held in a metallic cup with the cup in turn being mounted in a flat metallic plate. A metallic shielded electrical conductor extends into the cup and through the dielectric material with the central conductor being electrically connected to the blade and the shield being electrically connected to the cup. The surface of the dielectric material is depressed to permit the blade to be bent flat and the blade is curved laterally to prevent it from kinking when bent and to increase its rigidity when erect.



3,509,571
RADOME ANTENNA

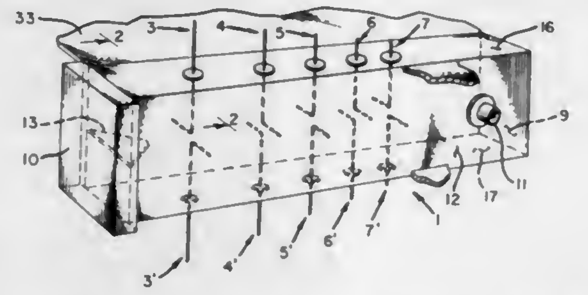
Howard S. Jones, Jr., Washington, D.C., and Vernon L. Mix, Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed June 16, 1967, Ser. No. 647,297
Int. Cl. H01q *13/10*
U.S. Cl. 343—771 **4 Claims**



An integrated radome antenna structure fully utilizing the dielectric material from which a radome is fabricated. The elemental antenna is a slotted array designed from metallic-plated, dielectric-loaded, wave-guide which is an integral part of the radome. The wave-guide is formed on the radome by copper plating the inner and outer surfaces of the radome to form the flat longitudinal surfaces of the wave-guide. The edges of the wave-guide are formed by interlacing a mesh wire partition transverse to the surface of the radome. The result is a completely enclosed dielectric filled cavity for use as an antenna radiator, when slots are placed therein.

3,509,572
WAVEGUIDE FED FREQUENCY INDEPENDENT ANTENNA

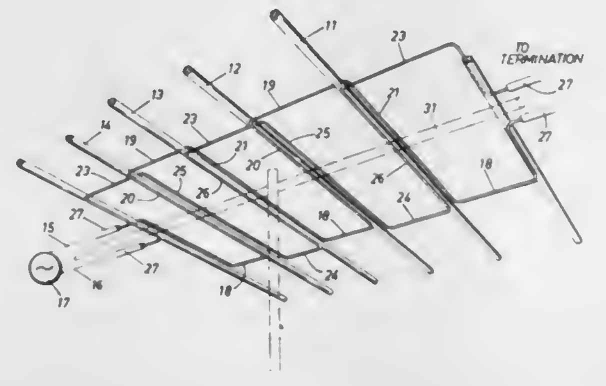
Normand Barbano, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 8, 1966, Ser. No. 600,144
Int. Cl. H01q *11/10*
U.S. Cl. 343—792.5 **10 Claims**



The elements of a log periodic antenna are fed by a waveguide. In one antenna, elements located in the narrow wall of a rectangular waveguide are electrically insulated therefrom. The elements have probe sections inside the waveguide parallel the electric field. Adjacent probes extend in opposite directions so that currents induced in adjacent elements are 180° out-of-phase.

3,509,573
ANTENNAS WITH LOOP COUPLED FEED SYSTEM

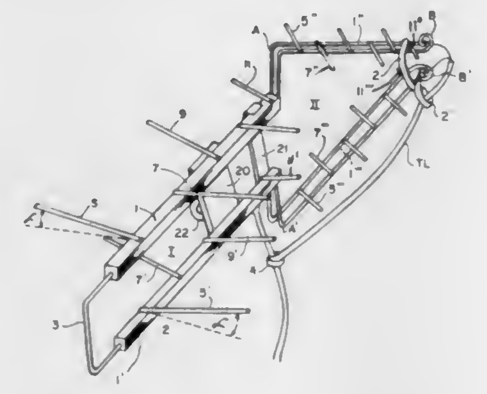
Keith George Balmain, Toronto, Ontario, Canada, assignor to The Governors of The University of Toronto, Toronto, Ontario, Canada
Filed June 16, 1967, Ser. No. 646,675
Int. Cl. H01q *11/10, 21/12, 9/16*
U.S. Cl. 343—792.5 **16 Claims**



An antenna array comprising substantially coplanar and parallel unitary elements arranged in side by side relation and a feed or collector system therefor extending longitudinally of the array comprising a pair of conductors disposed to form in combination loops extending between and electrically insulated from adjacent elements; each of the loops being comprised of a portion of each of the conductors extending longitudinally of and contiguous each of the respective adjacent elements with the directions of such portions of each conductor being reversed at adjacent elements and with the direction of such portion of one conductor being opposite to the direction of such portion of the other conductor at each element when tracing the directions of such conductors from one end of the array.

3,509,574
COMBINED VHF-UHF DIPOLE ANTENNA

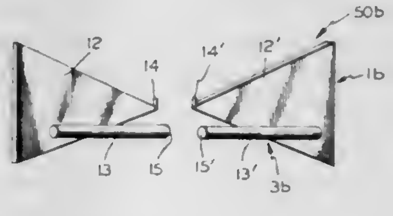
Isaac S. Blonder, West Orange, N.J., assignor to Blonder-Tongue Electronics, Newark, N.J., a corporation of New Jersey
Continuation of application Ser. No. 468,221, June 30, 1965. This application Oct. 1, 1968, Ser. No. 814,469
Int. Cl. H01q *11/10*
U.S. Cl. 343—792.5 **13 Claims**



This disclosure deals with a combined VHF and UHF antenna structure employing vertically spaced longitudinal conductor members supporting sets of dipole elements of successively increasing length, the conductor members of the UHF section converging to a feed-point at one end thereof and also feeding the conductor members of the VHF section.

3,509,575
BROADBAND UHF DIPOLE ANTENNA

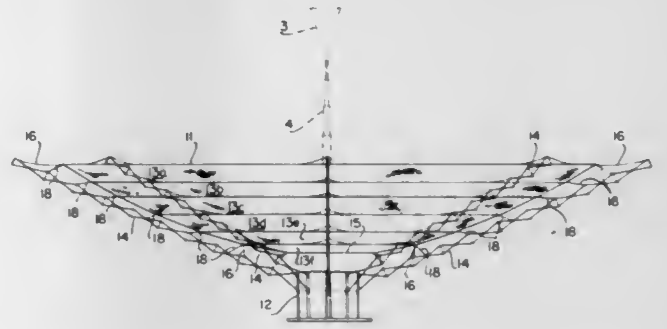
Noriyuki Kawamoto, Hirakata-shi, Osaka-fu, Kenji Katayama, Kadoma-shi, Osaka-fu, and Takeshi Miyata, Hirakata-shi, Osaka-fu, Japan, assignors to Matsushita Electric Industrial Co. Ltd., Kadoma, Osaka, Japan
Filed May 9, 1968, Ser. No. 727,847
Claims priority, application Japan, May 18, 1967, 42/31,958
Int. Cl. H01q *9/28*
U.S. Cl. 343—795 **6 Claims**



A broad band antenna comprising two groups of antenna elements, each of which consists of at least one pair of antenna elements. One of the groups of antenna elements has a second-resonance at an approximate center frequency of a desired frequency band. The other group of antenna elements has a second-resonance at a frequency higher by 1.1 to 1.8 times that of said approximate center frequency. The two groups of antenna elements are closely positioned in parallel with each other so that the space between them is less than 0.2 of a wave-length at the center frequency. One of the groups of antenna elements has two terminals and supplies a signal to a receiver from the antenna at the inner ends thereof, and the other group of antenna elements is open circuited at the inner ends thereof.

3,509,576
COLLAPSIBLE PARABOLIC ANTENNA FORMED OF A SERIES OF TRUNCATED FABRIC CONES

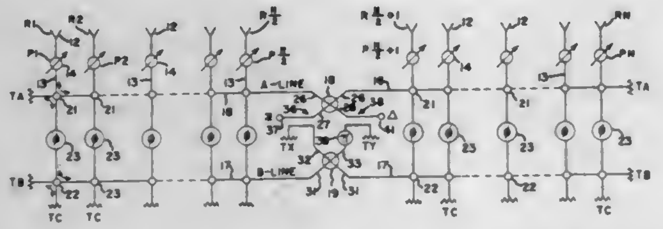
George E. McLain, San Jose, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Dec. 4, 1967, Ser. No. 687,758
Int. Cl. H01q *19/12*
U.S. Cl. 343—840 **2 Claims**



The approximation of a parabolic electromagnetic reflector for space application is made from a series of interconnected truncated cones of an electromagnetic reflecting material supported by extendable members to provide a high gain, extendable antenna having a high degree of reflectance.

3,509,577
TANDEM SERIES-FEED SYSTEM FOR ARRAY ANTENNAS

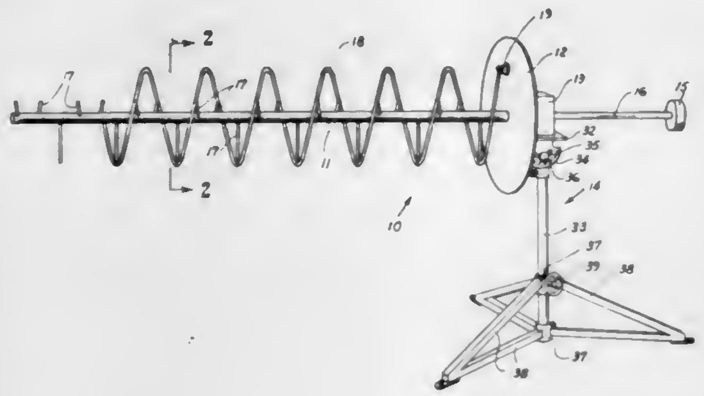
Richard R. Kinsey, De Witt, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 14, 1968, Ser. No. 775,891
Int. Cl. H01q *3/26*
U.S. Cl. 343—854 **6 Claims**



An array antenna system is disclosed, of the center-fed type, in which each row of radiation elements is fed by a pair of series-feed lines in tandem. These tandem series feed lines, for each row, are coupled at the center of the row by an assembly of hybrid couplers and directional couplers in a configuration which achieves sum-and-difference monopulse transmission and reception of signals via utilization of both of the tandem feed lines. A principal advantage provided by the disclosed arrangement, is an improvement in the independence of excitation of the sum and difference modes of operation, which permits high gain and angular sensitivity as well as improved suppression of undesired sidelobes and a wider bandwidth of operating frequency. A tilted-line embodiment also is disclosed.

3,509,578
WEATHERPROOF HELIX ANTENNA

Herbert E. Cribb, Satellite Beach, Fla., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed June 21, 1967, Ser. No. 649,078
Int. Cl. H01q *1/36*
U.S. Cl. 343—873 **3 Claims**



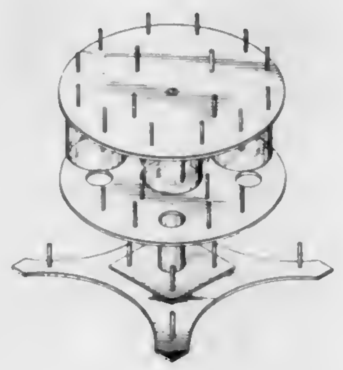
A helical antenna constructed of a flexible weatherproof cable which is flexible enough to be bent into the shape of a helix about standoff insulators, yet substantially rigid enough to retain such shape after so bending. The weatherproof helical antenna is movably mounted on a stand for appropriate orientation in any direction.

DESIGNS

APRIL 28, 1970

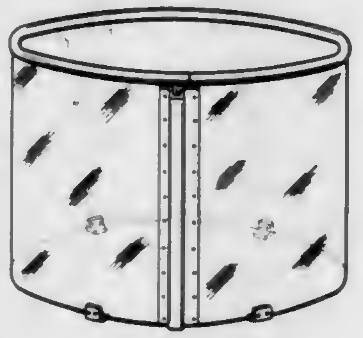
217,321
REVOLVING SEWING STAND OR SIMILAR ARTICLE

Fred A. Willner, 9518 E. Broadway, Spokane, Wash. 99206
Filed July 16, 1969, Ser. No. 18,234
Term of patent 14 years
Int. Cl. D6—*99*
U.S. Cl. D3—19



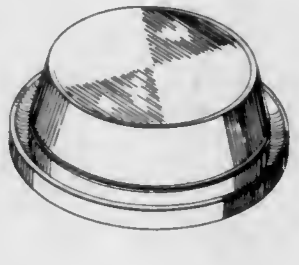
217,322
PLAYPEN

Thore Eriksson, Malins Hill, and Eric Nilsson, Lekarydsvagen 68, both of Alvesta, Sweden
Filed Feb. 27, 1968, Ser. No. 10,745
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D5—5



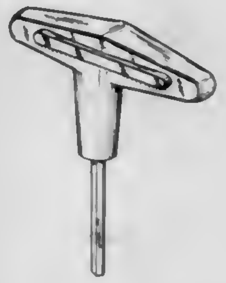
217,323
CASTER

Wayne L. Aderman, Rochester, N.Y., assignor to Intenational Business Machines Corporation, Armonk, N.Y., a corporation of New York
Filed Nov. 5, 1968, Ser. No. 14,321
Term of patent 14 years
Int. Cl. D8—*03*
U.S. Cl. D8—226



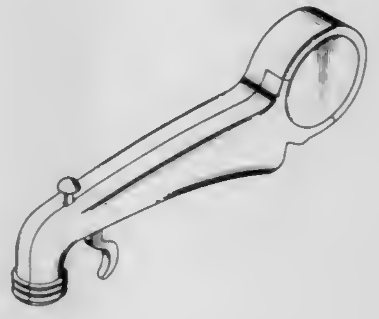
217,324
WRENCH

Lyle R. Michels, 2258 Sunnyside Circle, Cedar Falls, Iowa 50613
Filed July 29, 1969, Ser. No. 18,455
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—29



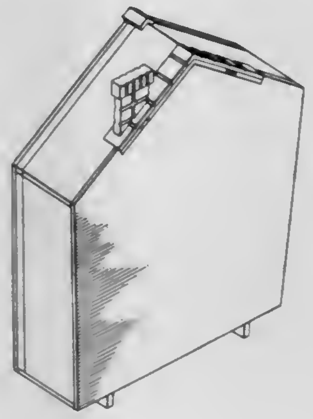
217,325
WELDING TORCH

Allen A. Fogelstrom, Sun Valley, Calif., assignor to SSP Industries, Burbank, Calif., a corporation of California
Filed July 30, 1969, Ser. No. 18,474
Term of patent 14 years
Int. Cl. D8—*02*
U.S. Cl. D8—30



217,326
COMBINED DOLLHOUSE AND PACKAGE

Reuben B. Klamer, 245 S. Barrington, Los Angeles, Calif. 90049
Filed Apr. 14, 1967, Ser. No. 6,697
Term of patent 14 years
Int. Cl. D9—*04*
U.S. Cl. D9—197



217,327

COVER FOR CONDIMENT CONTAINERS OR THE LIKE

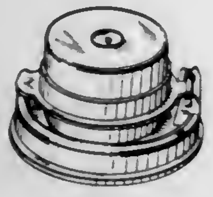
James Baldwin Swett, Barrington, R.I., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

Filed July 3, 1968, Ser. No. 12,623

Term of patent 14 years

Int. Cl. D9—*02*

U.S. Cl. D9—275



217,328

PRODUCE PACKAGE

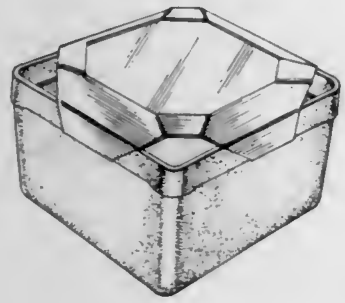
Kenneth D. Bixler, Huntington, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1968, Ser. No. 13,245

Term of patent 14 years

Int. Cl. D9—*05*

U.S. Cl. D9—219



217,329

PRODUCE PACKAGE

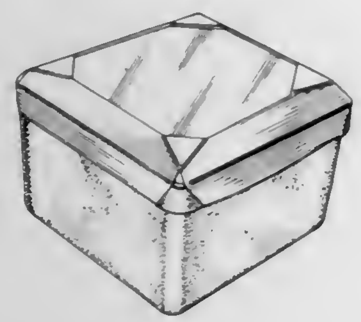
Kenneth D. Bixler, Huntington, and Robert E. Ralphs, Katonah, N.Y., assignors to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1968, Ser. No. 13,246

Term of patent 14 years

Int. Cl. D9—*05*

U.S. Cl. D9—219



217,330

POURING ATTACHMENT FOR A BOTTLE OR THE LIKE

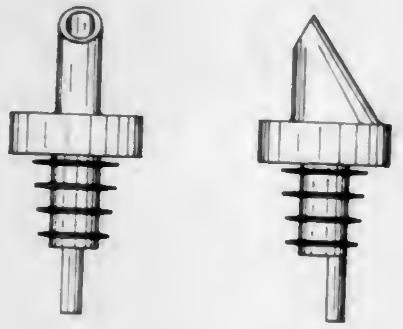
Charles R. Conry, 540 N. Prior Ave., St. Paul, Minn. 55104

Filed Oct. 28, 1968, Ser. No. 14,202

Term of patent 14 years

Int. Cl. D9—*99*

U.S. Cl. D9—277



217,331

BOTTLE

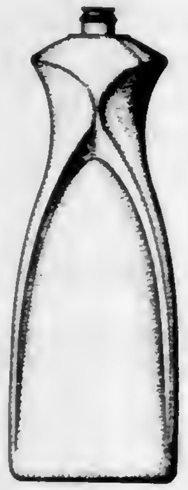
Robert F. Bernhard, 4 Stanford Court, Larkspur, Calif. 94939

Filed Nov. 7, 1968, Ser. No. 14,347

Term of patent 14 years

Int. Cl. D9—*01*

U.S. Cl. D9—115



217,332

COMBINED BOTTLE AND OVERCAP THEREFOR

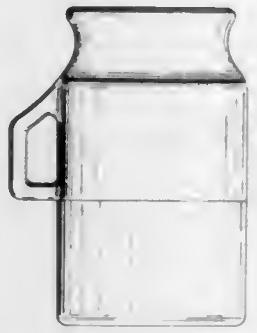
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Jan. 14, 1969, Ser. No. 15,340

Term of patent 14 years

Int. Cl. D9—*01*

U.S. Cl. D9—39



217,333

COMBINED BOTTLE AND OVERCAP THEREFOR

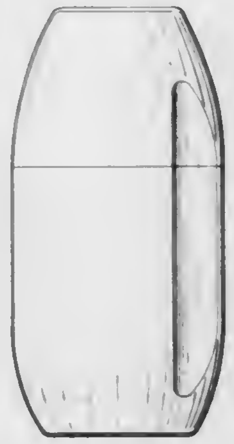
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Feb. 19, 1969, Ser. No. 15,831

Term of patent 14 years

Int. Cl. D9—*01*

U.S. Cl. D9—44



217,334

COMBINED BOTTLE AND OVERCAP THEREFOR

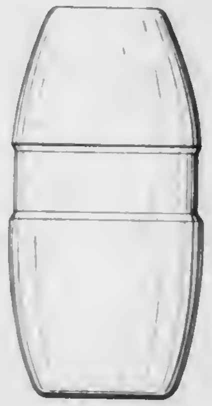
Richard L. Weckman, Perrysburg, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed Feb. 19, 1969, Ser. No. 15,846

Term of patent 14 years

Int. Cl. D9—*01*

U.S. Cl. D9—117



217,335

SHOPPING BAG HANDLE

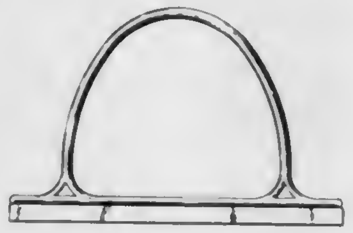
Irving A. Singer, Beechurst, N.Y., assignor to Standard International Corporation, Andover, Mass., a corporation of Ohio

Filed Mar. 21, 1969, Ser. No. 16,382

Term of patent 14 years

Int. Cl. D9—*99*

U.S. Cl. D9—192



217,336

JAR OR SIMILAR ARTICLE

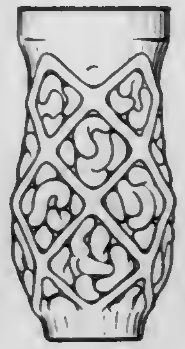
Willard F. Meyers, Toledo, Ohio, assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Continuation-in-part of design application Ser. No. 12,241, June 6, 1968. This application Apr. 16, 1969, Ser. No. 16,783

Term of patent 14 years

Int. Cl. D9—*01*

U.S. Cl. D9—107



217,337

PILL CASE

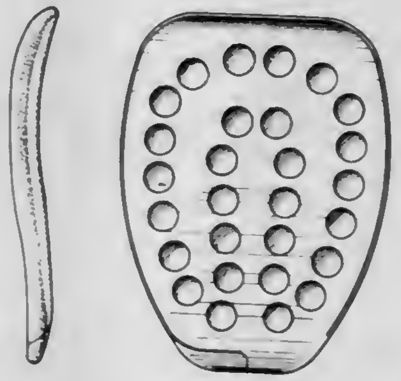
Ray E. Daw, Bernardsville, N.J., assignor to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

Filed May 26, 1969, Ser. No. 17,337

Term of patent 14 years

Int. Cl. D9—*04*

U.S. Cl. D9—188



217,338

FOOD TRAY OR THE LIKE

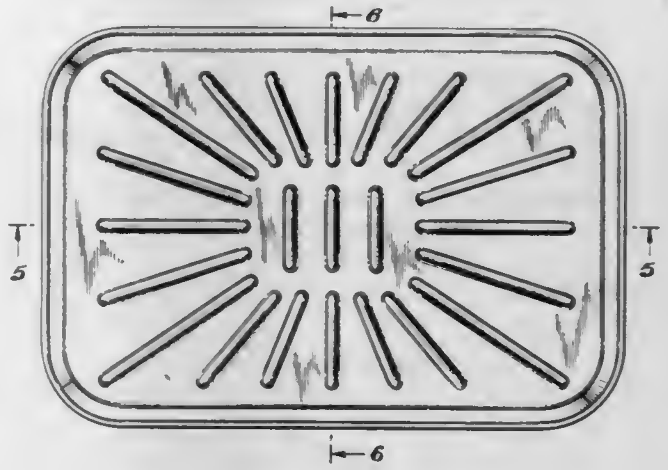
Thomas M. Britt, Red Bank, N.J., assignor to Owens-Illinois, Inc., Toledo, Ohio, a corporation of Ohio

Filed June 6, 1969, Ser. No. 17,560

Term of patent 14 years

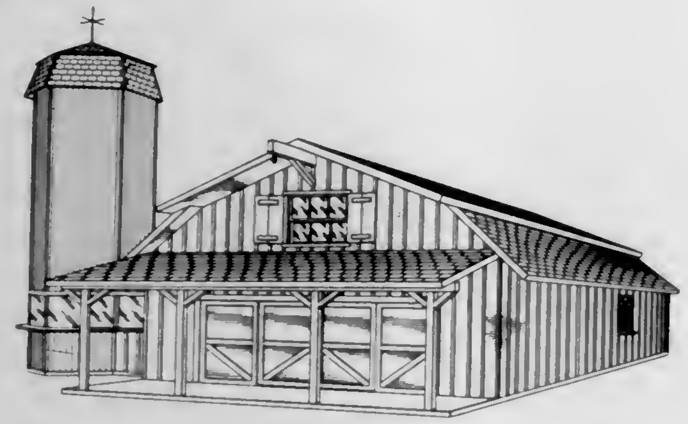
Int. Cl. D9—*04*

U.S. Cl. D9—219



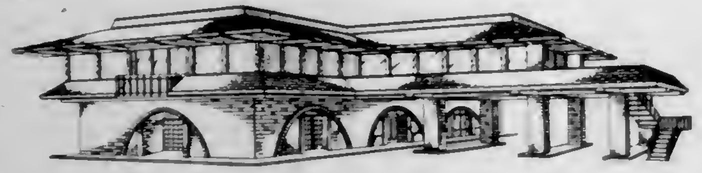
217,339
BUILDING

Bradley V. Sims, Laguna Niguel, Calif., assignor to Country Boys Market Corporation, Laguna Beach, Calif., a corporation of California
Filed Oct. 14, 1968, Ser. No. 13,993
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



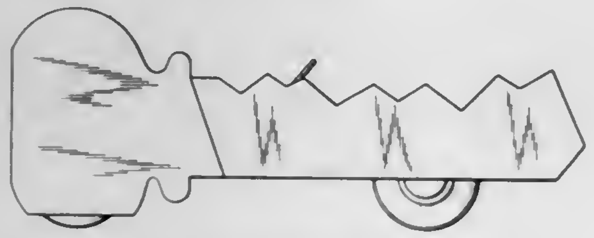
217,340
BUILDING

Bruce E. De Mers, Newport Beach, Calif., assignor to Colony Kitchens, Inc.
Filed Apr. 14, 1969, Ser. No. 16,742
Term of patent 14 years
Int. Cl. D25—*04*
U.S. Cl. D13—1



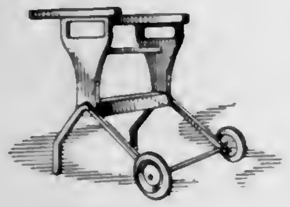
217,341
MOTOR VEHICLE

Thomas King, 506 Prospect Ave., Brooklyn, N.Y. 11215
Filed Dec. 17, 1968, Ser. No. 15,016
Term of patent 14 years
Int. Cl. D12—*08*
U.S. Cl. D14—3



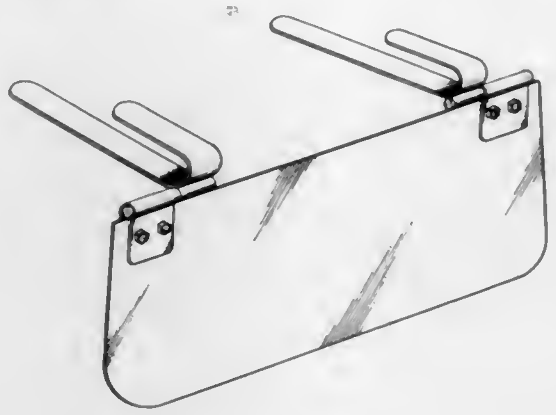
217,342
BARBECUE GRILLE CART

Blond E. Swadley, Wichita, Kans., assignor to The Coleman Company, Inc., Wichita, Kans., a corporation of Kansas
Filed Sept. 10, 1969, Ser. No. 19,082
Term of patent 14 years
Int. Cl. D12—*02*
U.S. Cl. D14—3



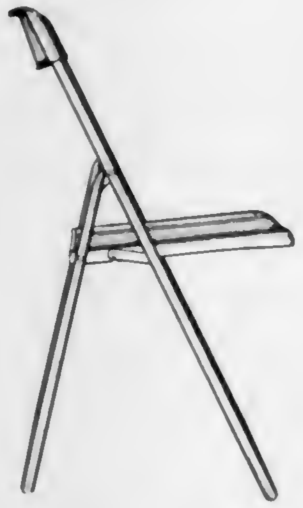
217,343
AUXILIARY SUN VISOR

Albert A. Seida, P.O. Box 579, Canby, Oreg. 97013
Filed Mar. 27, 1969, Ser. No. 16,491
Term of patent 14 years
Int. Cl. D12—*14*
U.S. Cl. D14—6



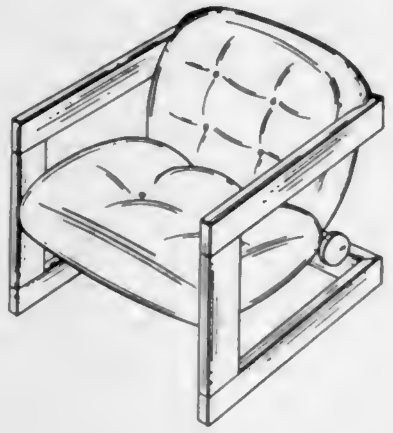
217,344
FOLDABLE CHAIR

Hans Lindfors, Tranas, Sweden, assignor to Scancenter H. Lindfors Aktiebolag, Tranas, Sweden, a stock corporation of Sweden
Filed May 7, 1968, Ser. No. 11,825
Claims priority, application Sweden Nov. 9, 1967
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



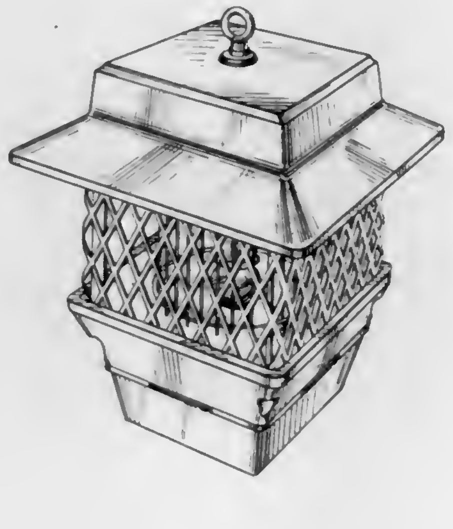
217,345
CHAIR

Brian Pitt, 990 Riviera Crescent, Winnipeg 19, Manitoba, Canada
Filed May 8, 1969, Ser. No. 17,079
Term of patent 14 years
Int. Cl. D6—*01*
U.S. Cl. D15—1



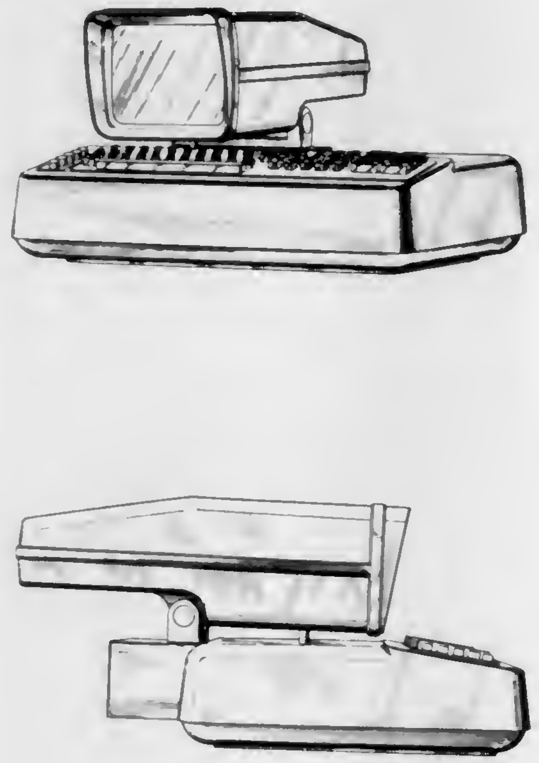
217,346
ELECTRONIC INSECT LAMP

Dan M. Andre, 8843 Kastner Terrace, Skokie, Ill. 60076
Filed May 27, 1969, Ser. No. 17,378
Term of patent 14 years
Int. Cl. D22—*09;* D26—*03*
U.S. Cl. D22—19



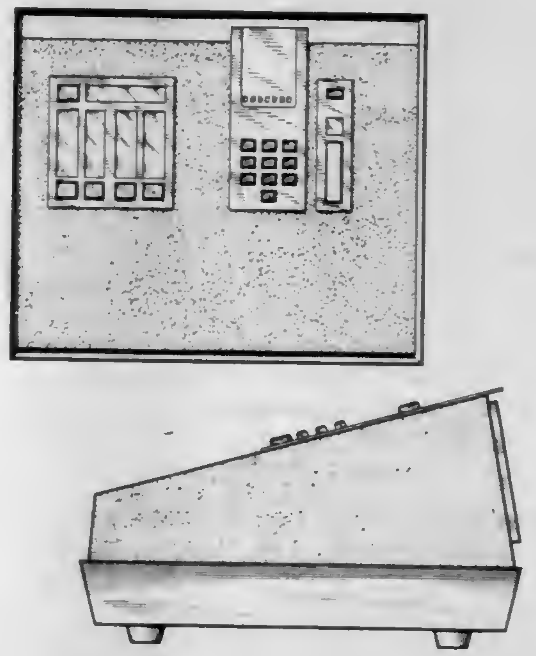
217,347
COMBINED INPUT/OUTPUT AND VISUAL DISPLAY UNIT FOR A COMPUTER

Mario Bellini, Milan, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Turin, Italy, a corporation of Italy
Filed Oct. 4, 1968, Ser. No. 13,843
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



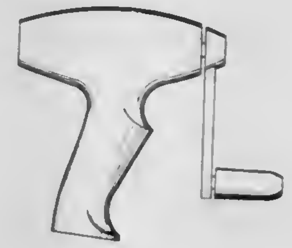
217,348
DATA RECORDER UNIT

Gunther W. Newman, Old Route 28, Phoenecia, N.Y. 12464, and William A. Seabury III, Highland Road, Ulster Park, N.Y. 12487
Filed Jan. 7, 1969, Ser. No. 15,244
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5

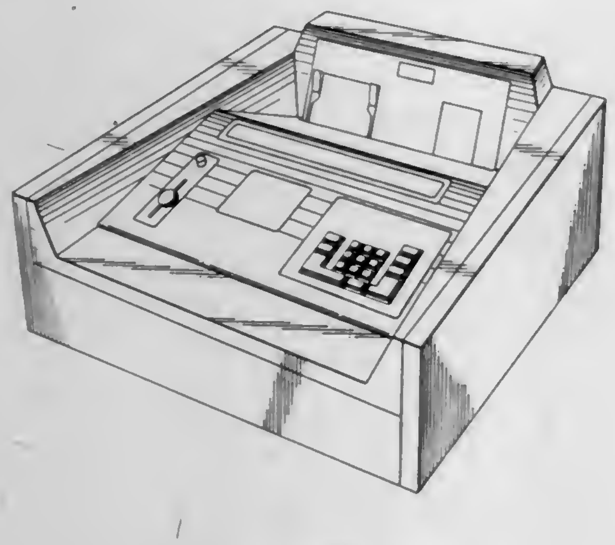


217,349
MANUALLY OPERATED GENERATOR

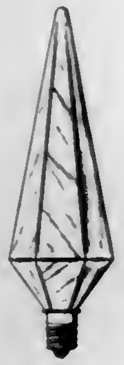
Takaichi Mabuchi, Tokyo, Japan, assignor to Tokyo Kagaku Kabushiki Kaisha, Tokyo, Japan
Filed Oct. 30, 1968, Ser. No. 14,235
Claims priority, application Japan Aug. 14, 1968
Term of patent 14 years
Int. Cl. D13—*01*
U.S. Cl. D26—5



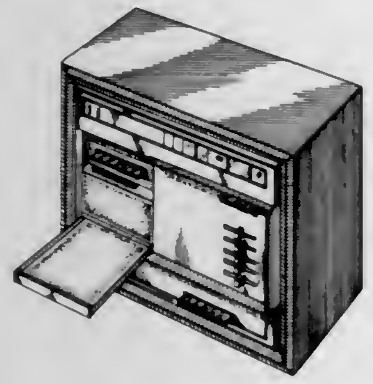
217,350
DATA HANDLING TERMINAL OR SIMILAR ARTICLE
Pierre L. Crease, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Feb. 28, 1969, Ser. No. 15,973
Term of patent 14 years
Int. Cl. D14—*02*
U.S. Cl. D26—5



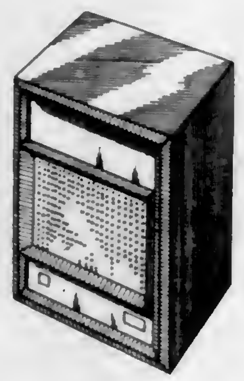
217,351
LAMP
Sadao Kanazawa, Tokyo, Japan, assignor to Jowa Electric Industry Co., Ltd., Tokyo, Japan
Filed May 5, 1969, Ser. No. 17,018
Term of patent 14 years
Int. Cl. D26—*01*
U.S. Cl. D26—8



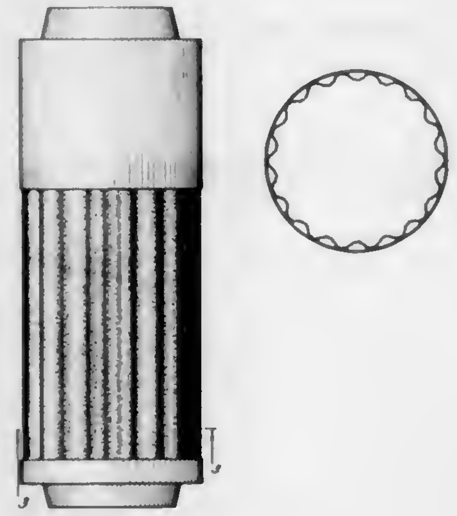
217,352
COMBINED TAPE RECORDER-AMPLIFIER UNIT OR SIMILAR ARTICLE
Benito Mishiro, Sakai-shi, and Minoru Ohwada, Suita-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan, a corporation of Japan
Filed Nov. 1, 1968, Ser. No. 14,263
Claims priority, application Japan June 11, 1968
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



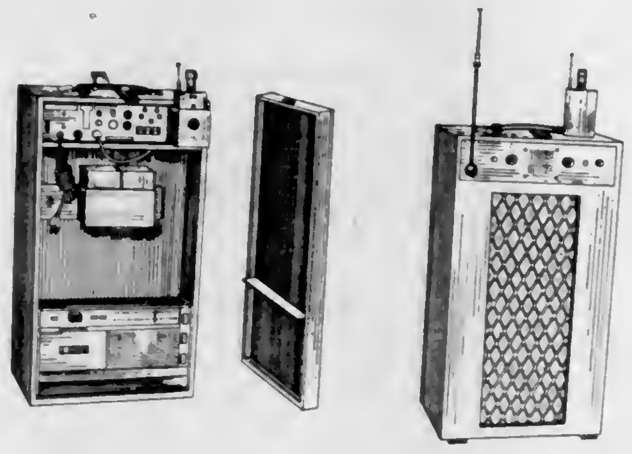
217,353
SPEAKER ENCLOSURE
Benito Mishiro, Sakai-shi, and Minoru Ohwada, Suita-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan, a corporation of Japan
Filed Nov. 1, 1968, Ser. No. 14,274
Claims priority, application Japan June 11, 1968
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



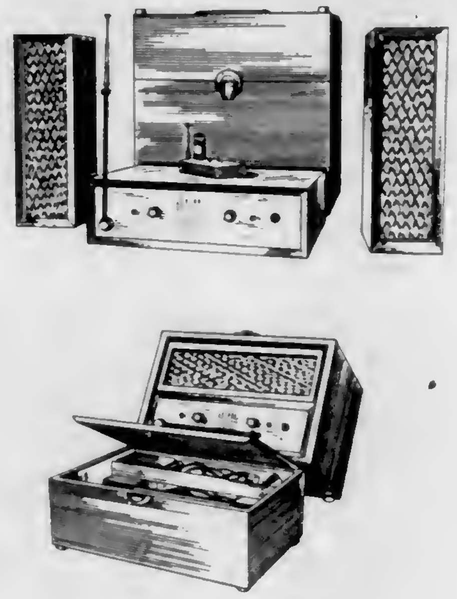
217,354
LOUDSPEAKER CABINET
Thomas Lane, Worth, Ill., assignor to The Muter Company, Bedford Park, Ill., a corporation of Illinois
Filed Feb. 11, 1969, Ser. No. 15,741
Term of patent 14 years
Int. Cl. D14—*01*
U.S. Cl. D26—14



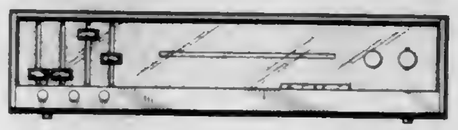
217,355
COMBINED RECEIVER, AMPLIFIER, SPEAKER, TAPE RECORDER AND MICROPHONE THEREFOR
Henry W. Shaw and Milton N. Lanford, Morrilton, Ark., assignors to Sound-Craft Systems, Inc., Morrilton, Ark.
Filed Mar. 7, 1969, Ser. No. 16,122
Term of patent 14 years
Int. Cl. D14—*01, 04*
U.S. Cl. D26—14



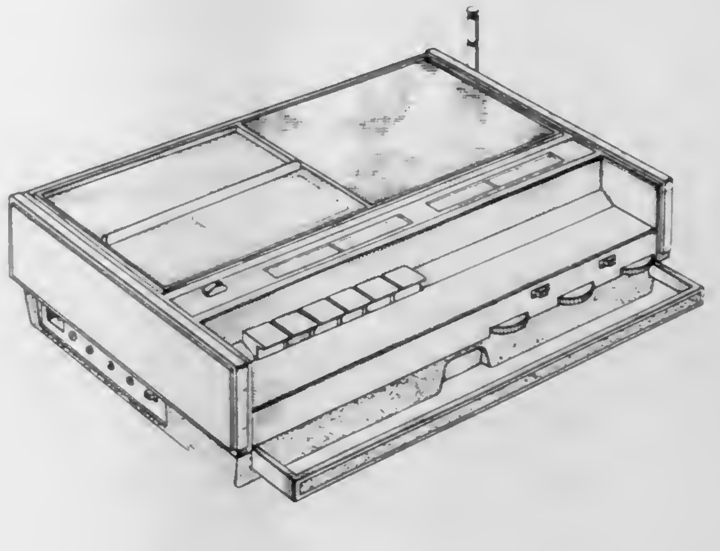
217,356
COMBINED AMPLIFIER, MICROPHONE COLUMN SPEAKERS HAVING A CARRYING CASE THEREFOR
Henry W. Shaw and Milton N. Lanford, Morrilton, Ark., assignors to Sound-Craft Systems, Inc., Morrilton, Ark.
Filed Mar. 7, 1969, Ser. No. 16,123
Term of patent 14 years
Int. Cl. D14—*04;* D17—*99*
U.S. Cl. D26—14



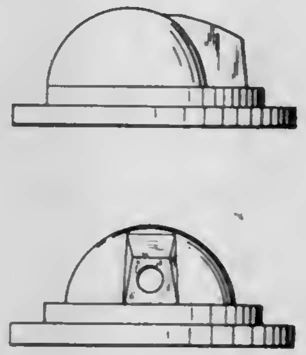
217,357
AMPLIFIER
Katsuhiko Makino, Moriguchi, Osaka, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan, a corporation of Japan
Filed Apr. 16, 1969, Ser. No. 16,779
Claims priority, application Japan Oct. 23, 1968
Term of patent 14 years
Int. Cl. D14—*04*
U.S. Cl. D26—14



217,358
CASSETTE TAPE RECORDER, FM/AM RADIO COMBINATION UNIT
Melvin H. Boldt, Glenview, and David P. Chuboff, North Barrington, Ill., assignors to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 27, 1969, Ser. No. 18,878
Term of patent 14 years
Int. Cl. D14—*01, 03*
U.S. Cl. D26—14



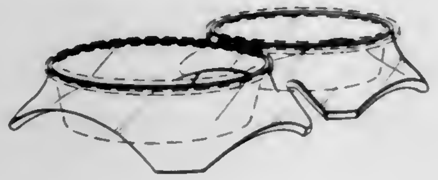
217,359
COVER FOR FISH BOWL LAMP
Homer Drake, 1298 E. Oakland Park Blvd., Fort Lauderdale, Fla. 33308
Filed Apr. 11, 1969, Ser. No. 16,688
Term of patent 14 years
Int. Cl. D30—*01;* D26—*02*
U.S. Cl. D30—12



217,360
HOLDER FOR FOOD BOWLS FOR PETS

Tony Robert, 5701 Southwest Freeway,
Houston, Tex. 77027
Filed June 23, 1969, Ser. No. 17,804
Term of patent 14 years
Int. Cl. D30—*02*

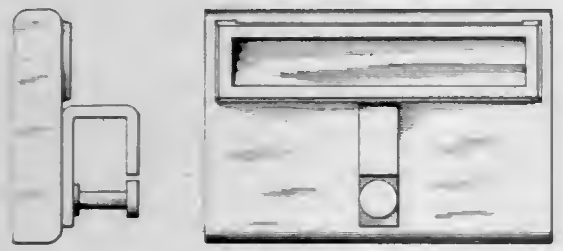
U.S. Cl. D30—13



217,361
FACE PANEL FOR A CARD CATALOG DRAWER

Stephen F. McKeon, Parkersburg, W. Va., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1969, Ser. No. 16,078
Term of patent 14 years
Int. Cl. D6—*01*

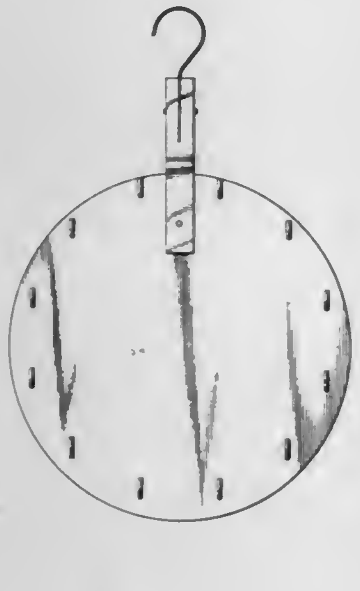
U.S. Cl. D33—1



217,362
BELT RACK

Ida Weinman, 67—74 Saunders St.,
Rego Park, N.Y. 11374
Filed Apr. 11, 1968, Ser. No. 11,415
Term of patent 14 years
Int. Cl. D6—*99*

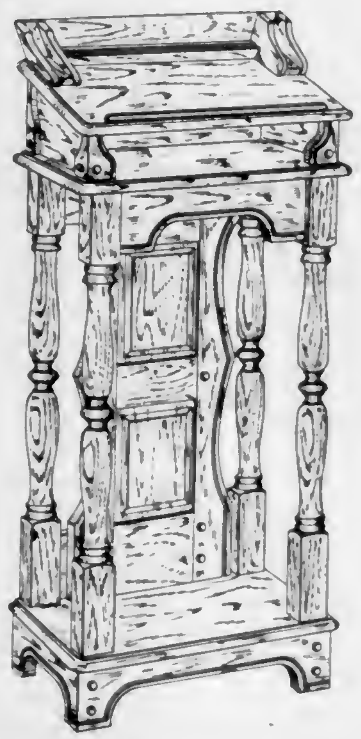
U.S. Cl. D33—3



217,363
LECTERN

Ralph H. Ellsworth, Willoughby, Ohio, assignor to Superior Funeral Supply Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 16, 1969, Ser. No. 15,371
Term of patent 14 years
Int. Cl. D6—*01*

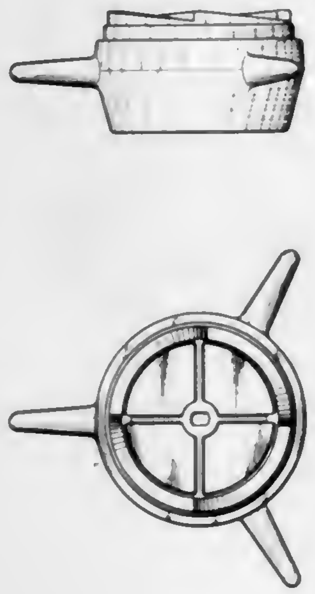
U.S. Cl. D33—10



217,364
COMBINED HANDLE AND DISPENSING HEAD FOR A SOAP DISPENSER

August Belz, Mottelistrasse 1,
Friedrichshafen, Germany
Filed June 14, 1968, Ser. No. 12,371
Term of patent 14 years
Int. Cl. D6—*01*; D23—*01*

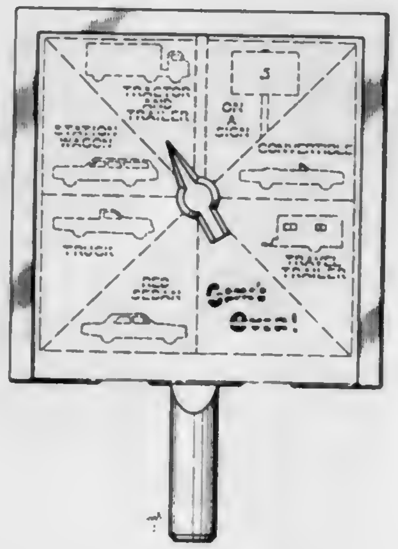
U.S. Cl. D33—30



217,365
PLAYING CARD HOLDER

David A. Edman, Rochester, N.Y.
(26 Browns Ave., Scottsville, N.Y. 14546)
Filed July 22, 1968, Ser. No. 12,841
Term of patent 14 years
Int. Cl. D21—*01*

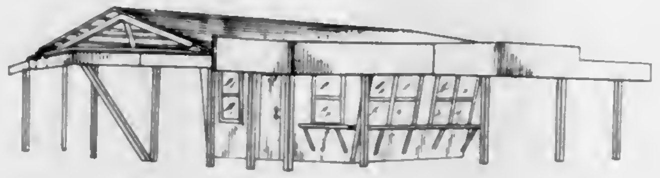
U.S. Cl. D34—13



217,366
ROADSIDE FARMERS' MARKET EDUCATIONAL TOY

Geraline Rodio, North Egg Harbor Road,
Hammonton, N.J. 08037
Filed Sept. 27, 1968, Ser. No. 13,752
Term of patent 14 years
Int. Cl. D25—*04*; D21—*02*

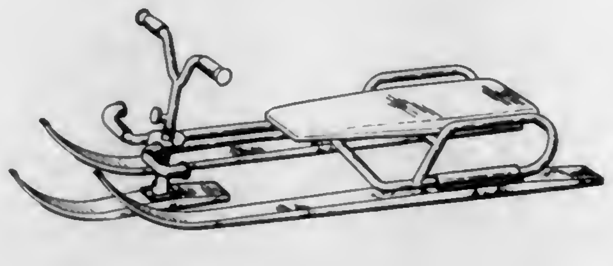
U.S. Cl. D34—15



217,367
SNOW SLED

Tsugio Ogata, Tokyo, Japan, assignor to Kabushiki Kaisha Tokyo Gurafikku Dezainazu, Tokyo, Japan
Filed Oct. 23, 1968, Ser. No. 14,119
Claims priority, application Japan July 29, 1968
Term of patent 14 years
Int. Cl. D21—*02*

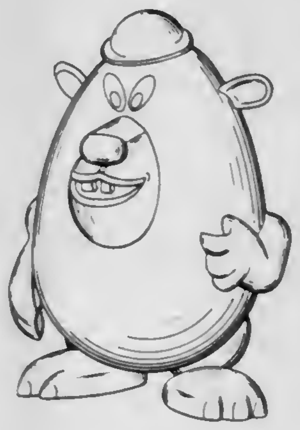
U.S. Cl. D34—15



217,368
EGG-SHAPED TOY

Reuben B. Klamer, Los Angeles, Calif. (9460 Wilshire Blvd., Suite 806, Beverly Hills, Calif. 90212)
Continuation-in-part of design application Ser. No. 8,097, Aug. 2, 1967. This application Aug. 15, 1968, Ser. No. 16,074
Term of patent 14 years
Int. Cl. D21—*02*

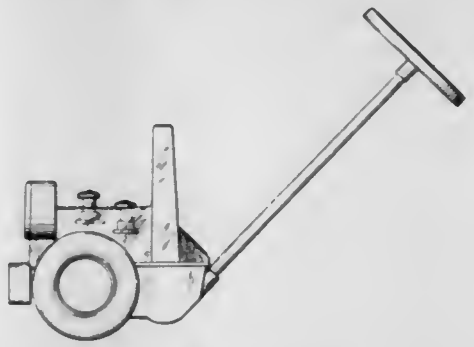
U.S. Cl. D34—2



217,369
PUSH TOY

William R. McLain and Charles H. Hardin, Nashville, Tenn., assignors to Kusan, Inc., Nashville, Tenn., a corporation of Kentucky
Filed Mar. 10, 1969, Ser. No. 16,155
Term of patent 14 years
Int. Cl. D21—*02*

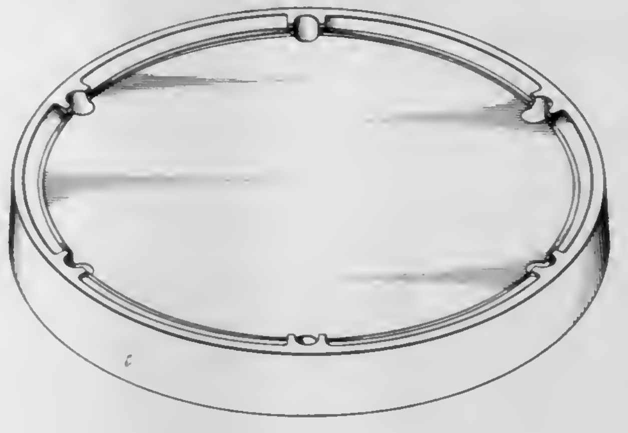
U.S. Cl. D34—15



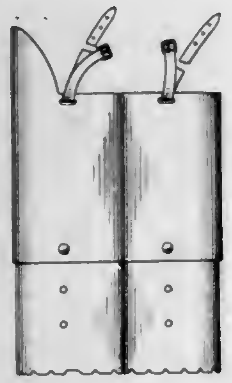
217,370
POOL GAME TABLETOP

Donald B. Kooker, Doylestown, Pa., assignor, by mesne assignments, to Cayuga Concrete Pipe Company, Inc.
Filed Mar. 21, 1969, Ser. No. 16,365
Term of patent 14 years
Int. Cl. D21—*01*

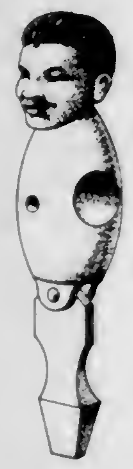
U.S. Cl. D34—3



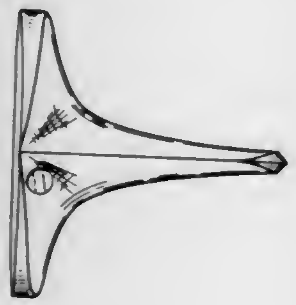
217,371
STILT DEVICE
Robert G. Clark, Lake County, Ind.
(12305 Hayes St., Crown Point, Ind. 46307)
Filed Mar. 24, 1969, Ser. No. 16,408
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—14



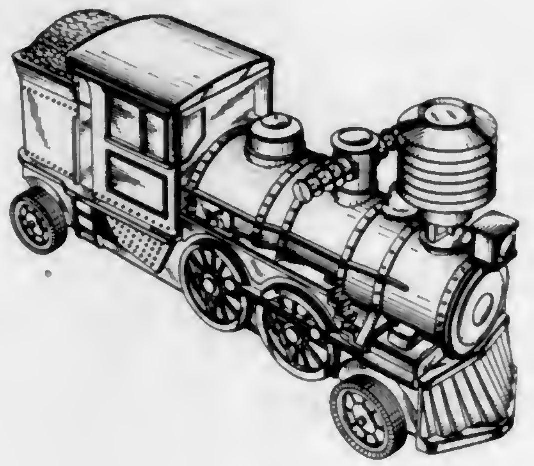
217,372
MOUNTED GAME PIECE FOR A GAME BOARD
Diessla Patterson, Cincinnati, Ohio, assignor to Patterson International Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed May 15, 1969, Ser. No. 17,162
Term of patent 14 years
Int. Cl. D21—*01*
U.S. Cl. D34—5



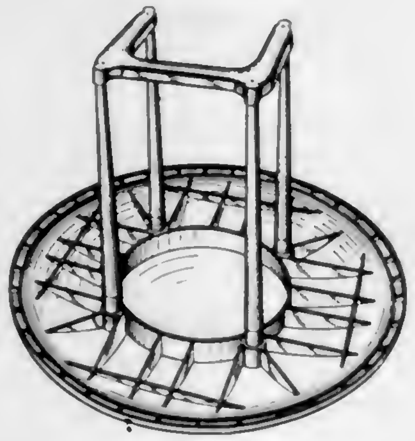
217,373
GOLF PUTTER HEAD
Henry D. Zitko, 1671 W. King Edward Ave., Vancouver, British Columbia, Canada
Filed May 16, 1969, Ser. No. 17,178
Term of patent 14 years
Int. Cl. D21—*03*
U.S. Cl. D34—5



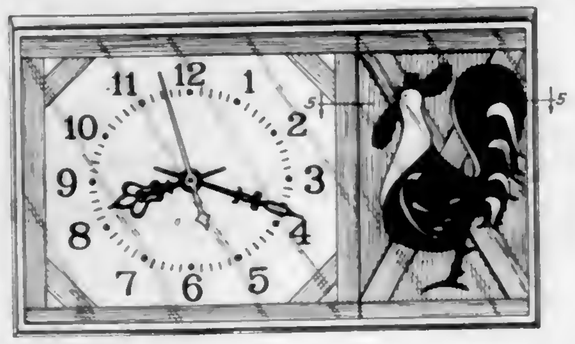
217,374
CHILD'S RIDING TOY
Walter Hubiak, Erie, Pa., assignor to Louis Marx & Co., Inc.
Filed June 20, 1969, Ser. No. 17,797
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—15



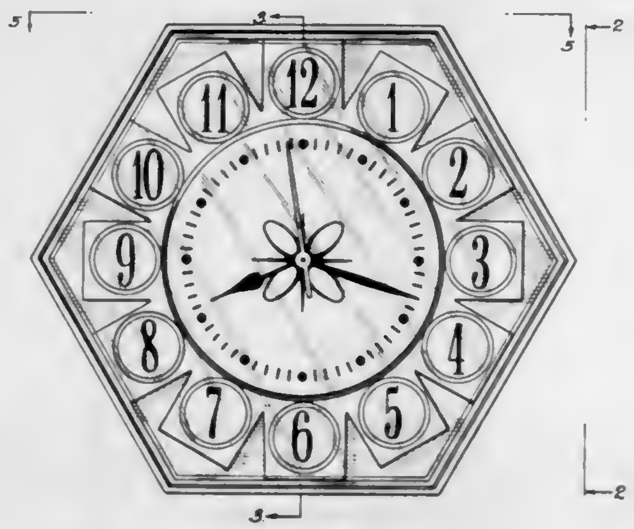
217,375
ROCKING TOY
Raymond J. Lohr and Charles M. Kienholz, Erie, Pa., assignors to Louis Marx & Co., Inc.
Filed June 20, 1969, Ser. No. 17,798
Term of patent 14 years
Int. Cl. D21—*02*
U.S. Cl. D34—5



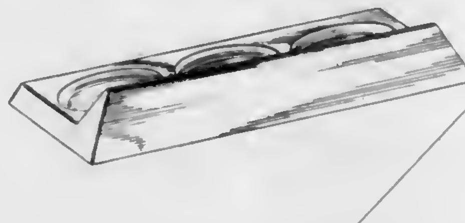
217,376
CLOCK
Robert O. Ernest, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 30, 1969, Ser. No. 17,965
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



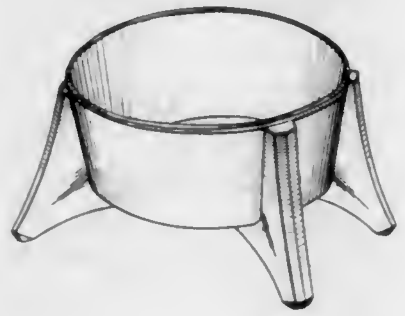
217,377
CLOCK
Robert O. Ernest, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 3, 1969, Ser. No. 16,008
Term of patent 14 years
Int. Cl. D10—*01*
U.S. Cl. D42—7



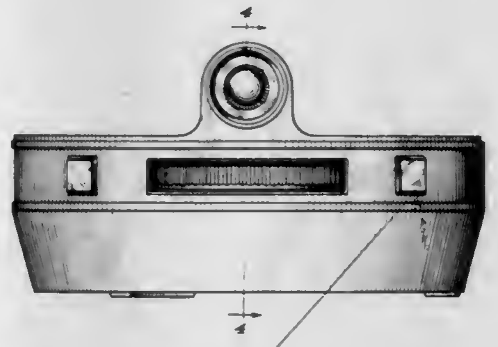
217,378
SUPPORT TRAY FOR SALAD DRESSING DISPENSERS
Robert A. Brachman, 2730 W. Silver Spring Drive, Milwaukee, Wis. 53209
Filed Mar. 12, 1969, Ser. No. 16,200
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—10



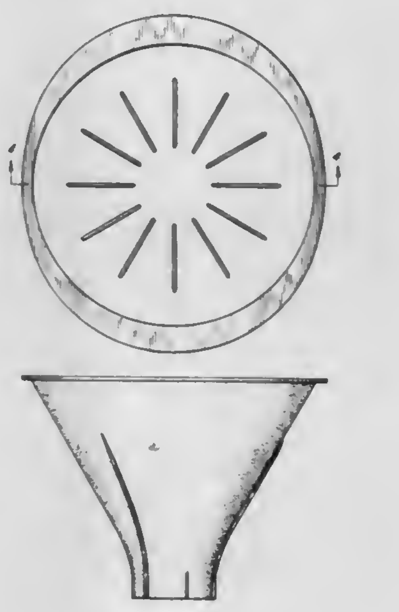
217,379
COFFEEMAKER BASE
Robert O. Ernest, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 26, 1969, Ser. No. 16,438
Term of patent 14 years
Int. Cl. D7—*04*
U.S. Cl. D44—26



217,380
COFFEEMAKER BASE
Gene Schugart, Chicago, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 19, 1969, Ser. No. 15,834
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—26



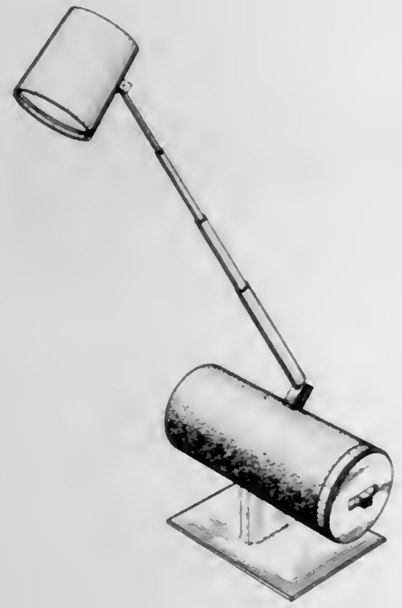
217,381
SUPPORT FOR A COFFEE FILTER OR THE LIKE
David Douglas, 1150 Lake Shore Drive, Chicago, Ill. 60611
Filed Nov. 12, 1968, Ser. No. 14,400
Term of patent 14 years
Int. Cl. D7—*99*
U.S. Cl. D44—26



217,382
DESK LAMP

Shoji Ishikawa, Nara, Japan, assignor to Matsushita Electric Industrial Co., Ltd., Kadoma, Osaka, Japan, a corporation of Japan
Filed Mar. 18, 1969, Ser. No. 16,310
Claims priority, application Japan Sept. 18, 1968
Term of patent 14 years
Int. Cl. D26—*02*

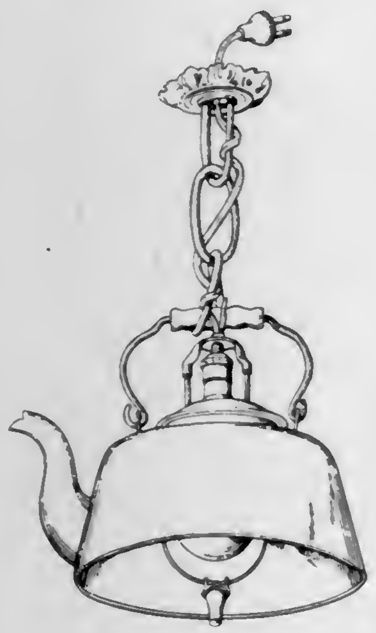
U.S. Cl. D48—20



217,383
LAMP

Ernestine D. Benedetto, Box 27,
Red Rock, Ariz. 85245
Filed Apr. 28, 1969, Ser. No. 16,913
Term of patent 14 years
Int. Cl. D26—*02*

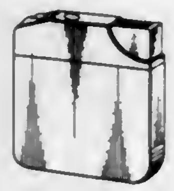
U.S. Cl. D48—20



217,384
CIGARETTE LIGHTER, OR SIMILAR ARTICLE

Dieter Rams, Konigstein, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 6, 1968, Ser. No. 14,834
Claims priority, application Germany June 6, 1968
Term of patent 7 years
Int. Cl. D27—*05*

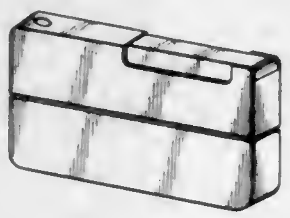
U.S. Cl. D48—27



217,385
POCKET LIGHTER, OR SIMILAR ARTICLE

Dieter Rams, Konigstein, Taunus, Germany, assignor to Braun Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Dec. 19, 1968, Ser. No. 15,062
Claims priority, application Germany July 4, 1968
Term of patent 14 years
Int. Cl. D27—*05*

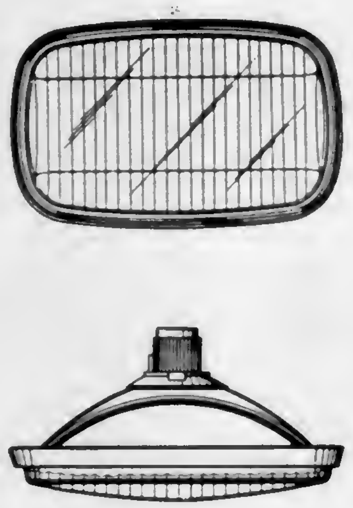
U.S. Cl. D48—27



217,386
VEHICLE LAMP

Takahiro Muneoka, Tokyo, Japan, assignor to Stanley Electric Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Apr. 29, 1969, Ser. No. 16,936
Claims priority, application Japan Jan. 21, 1969
Term of patent 14 years
Int. Cl. D12—*99*

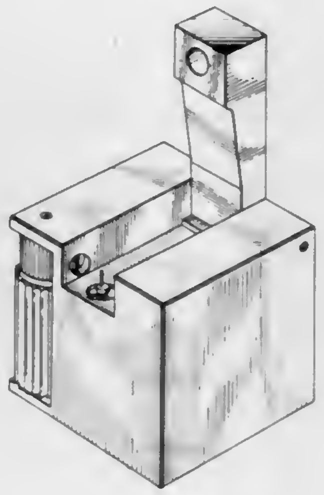
U.S. Cl. D48—32



217,387
CIGARETTE LIGHTER

Takeshi Mizutani, Tokyo, Japan, assignor to Kanamaru Shoten, Ltd., Tokyo, Japan
Filed June 16, 1969, Ser. No. 17,706
Term of patent 14 years
Int. Cl. D27—*05*

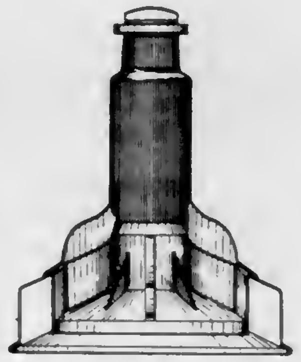
U.S. Cl. D48—27



217,388
LAUNDRY AGITATOR

Raymond M. Goodman, St. Joseph, and Robert S. Trembath, Benton Harbor, Mich., assignors to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Filed June 19, 1969, Ser. No. 17,775
Term of patent 14 years
Int. Cl. D15—*07*

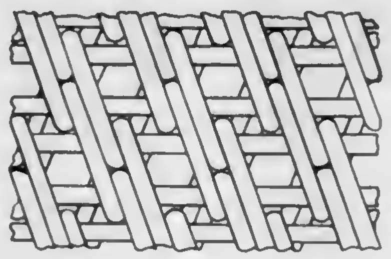
U.S. Cl. D49—1



217,389
WOVEN WIRE FABRIC

Ronald G. Daringer, Cambridge, Md., assignor to Cambridge Wire Cloth Company, Cambridge, Md., a corporation of Maryland
Filed Mar. 20, 1969, Ser. No. 16,347
Term of patent 14 years
Int. Cl. D25—*01*

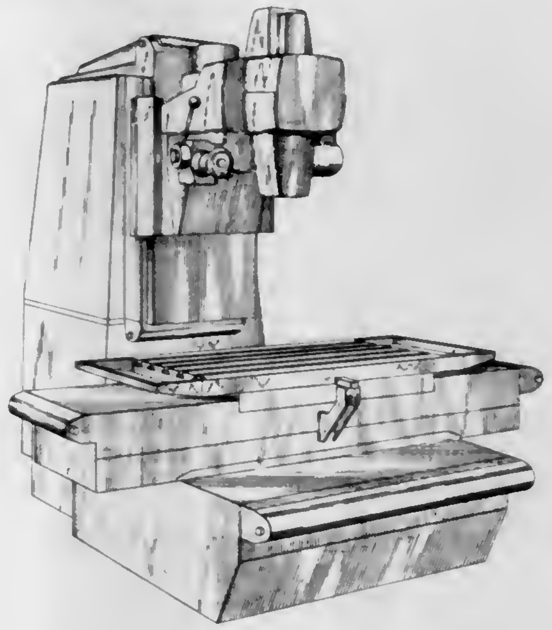
U.S. Cl. D54—2



217,390
METAL WORKING MACHINE

Charles A. Larsen, Union Grove, Wis., assignor to Gorton Machine Corporation, Racine, Wis., a corporation of Wisconsin
Filed Apr. 11, 1969, Ser. No. 16,691
Term of patent 14 years
Int. Cl. D15—*05*

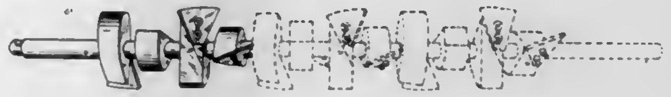
U.S. Cl. D54—14



217,391
MULLING ARM MADE UP OF IDENTICAL INDIVIDUAL BLADES

William R. Kloster, Muscatine, Iowa, assignor to Carver Foundry Products, Muscatine, Iowa, a corporation of Iowa
Filed Sept. 3, 1968, Ser. No. 13,366
Term of patent 14 years
Int. Cl. D15—*99*

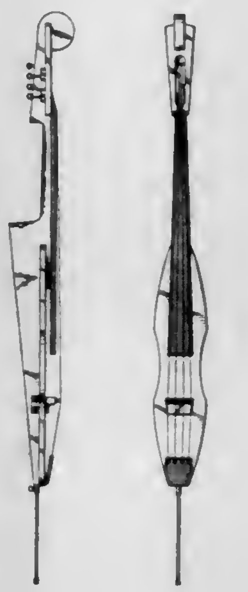
U.S. Cl. D55—1



217,392
BASS VIOL FOR USE WITH AN ELECTRIC AMPLIFIER

George Murphy, 170 University Ave.,
Toronto 1A, Ontario, Canada
Filed Oct. 7, 1968, Ser. No. 13,866
Claims priority, application Canada Apr. 13, 1968
Term of patent 14 years
Int. Cl. D17—*03*

U.S. Cl. D56—1

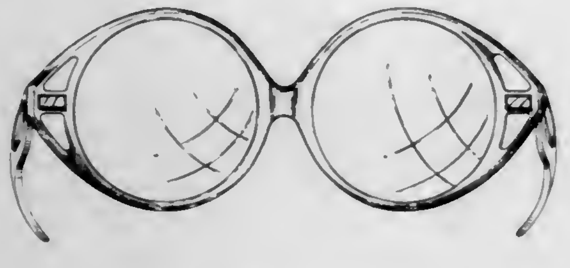


217,393
PAIR OF SUNGLASSES

Jean R. Simon, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed July 2, 1969, Ser. No. 18,022
Term of patent 14 years
Int. Cl. D16—*08*

U.S. Cl. D57—1

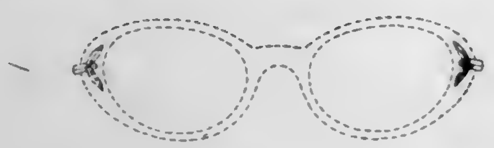


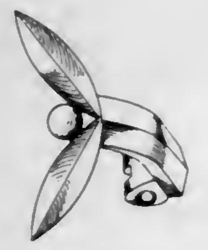
217,394
DECORATIVE SPECTACLE HINGE ELEMENT

Richard L. Huggins, Lima, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Apr. 1, 1969, Ser. No. 16,526
Term of patent 14 years
Int. Cl. D16—*08*

U.S. Cl. D57—1



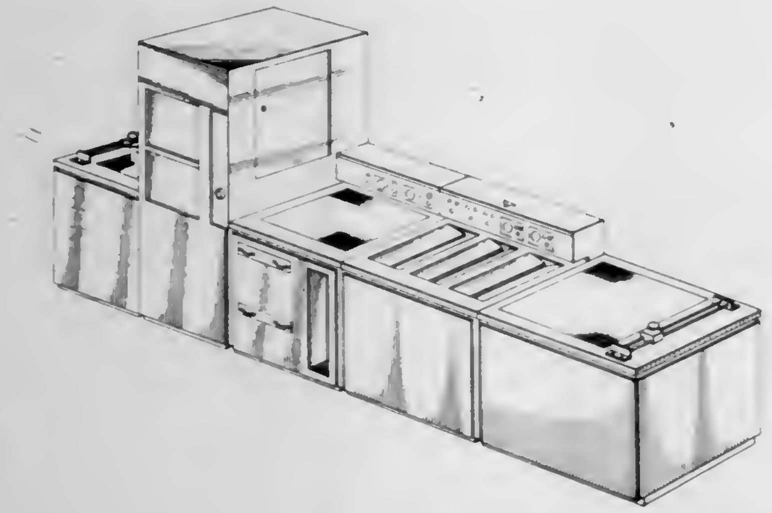


217,395
PRINTING PLATE PROCESSING MACHINE

Hugh T. Greenlee, Gates Mills, Ohio, and Wesley W. Miller, Wyncote, Gerold Litschi, Lansdale, and Charles D. Hagerty, Philadelphia, Pa., assignors, by mesne assignments, to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Feb. 6, 1969, Ser. No. 15,667
Term of patent 14 years
Int. Cl. D18—*03*

U.S. Cl. D61—1

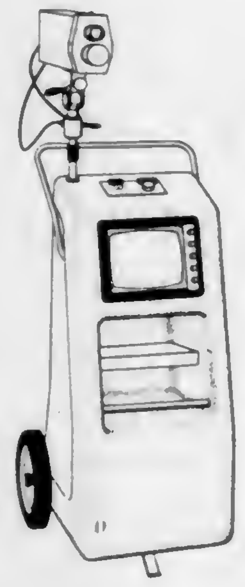


217,396
MOBILE VIDEO RECORDING MACHINE OR THE LIKE

Joseph A. Gentile and Wilmer E. Walker, Sunnyvale, Calif., assignors to Newell Industries, Inc., Sunnyvale, Calif., a corporation of California

Filed Apr. 29, 1969, Ser. No. 16,930
Term of patent 14 years
Int. Cl. D14—*01*

U.S. Cl. D61—1

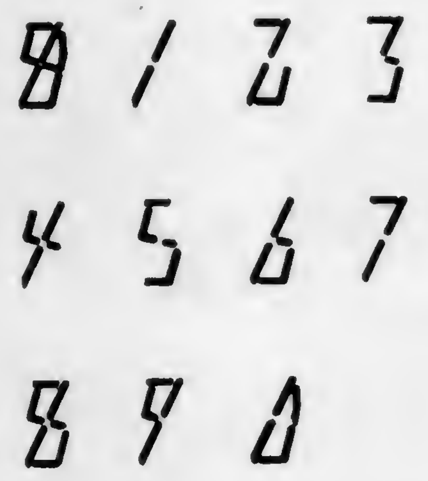


217,397
FONT OF ELECTROLUMINESCENT CHARACTERS

Mititaka, Yamamoto, Otokuni-gun, Japan, assignor to Omron Tateisi Electronics Co. (Takeisi Denki Kabushiki Kaisha, Kyoto-shi, Kyoto-fu, Japan, a corporation of Japan

Filed Jan. 17, 1969, Ser. No. 15,397
Claims priority, application Japan July 19, 1968
Term of patent 14 years
Int. Cl. D18—*04*

U.S. Cl. D64—12

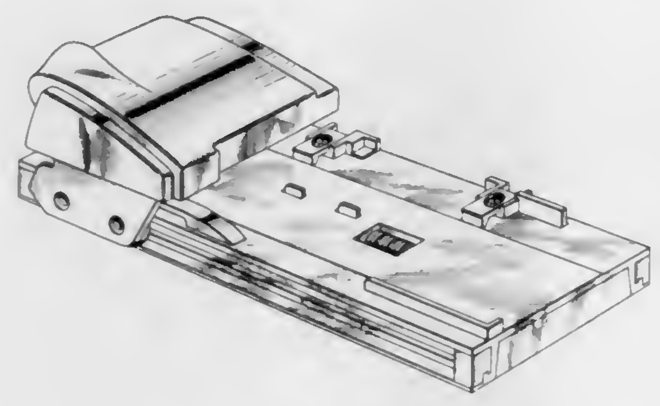


217,398
IMPRINTER

William P. Barbour, Alexandria, Va., assignor to Control Data Corporation, Washington, D.C., a corporation of Delaware

Filed Apr. 22, 1969, Ser. No. 16,845
Term of patent 14 years
Int. Cl. D18—*02*

U.S. Cl. D64—11

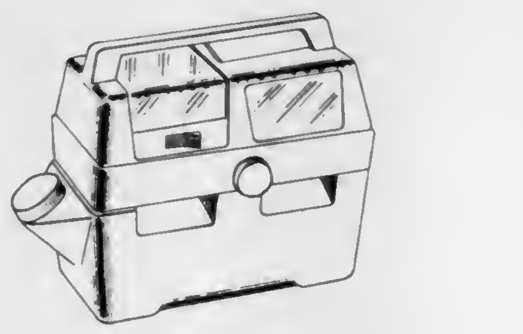


217,399
PUMP HOUSING

John K. Whitney, Orchard Park, N.Y., assignor to Gaymar Industries Inc., a corporation of New York

Filed Jan. 22, 1969, Ser. No. 15,445
Term of patent 7 years
Int. Cl. D15—*02*

U.S. Cl. D65—1

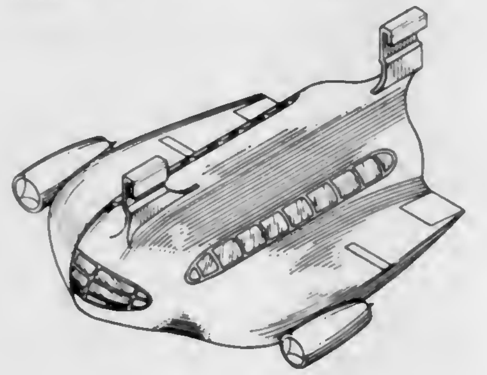


217,400
SUSPENDED RAIL GUIDED VEHICLE

Elvest L. Lehl, 2450 Newell,
Wichita, Kans. 67203

Filed Mar. 6, 1969, Ser. No. 16,099
Term of patent 14 years
Int. Cl. D12—*03*

U.S. Cl. D66—1

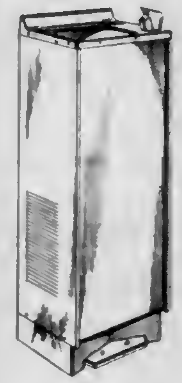


217,401
WATER COOLER

Stephen Lazzo III, and Franklin Ribble, Park Forest, Ill., assignors to General Electric Company, a corporation of New York

Filed Apr. 16, 1969, Ser. No. 16,764
Term of patent 14 years
Int. Cl. D23—*01*

U.S. Cl. D67—4

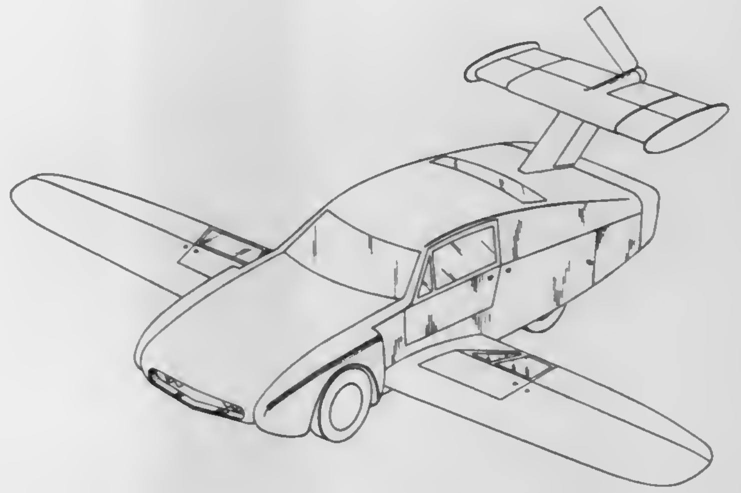


217,402
CONVERTIBLE AEROPLANE AND AUTOMOBILE

Harvey R. Miller, 3655 E. Amazon Drive,
Eugene, Oreg. 97405

Filed Mar. 28, 1969, Ser. No. 16,509
Term of patent 14 years
Int. Cl. D12—*13*

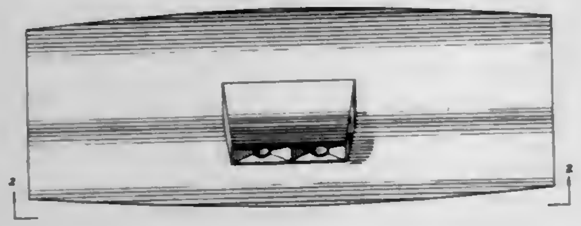
U.S. Cl. D71—1



217,403
PEN DESK SET BASE

Nolan K. Rhoades, Beloit, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed Mar. 13, 1969, Ser. No. 16,230
Term of patent 14 years
Int. Cl. D19—*02*

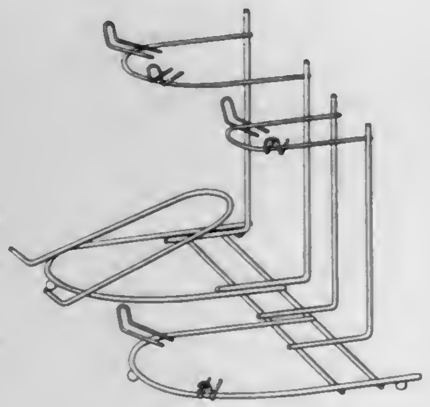
U.S. Cl. D74—5



217,404
COOKWARE DISPLAY RACK OR SIMILAR ARTICLE

Elmer L. Reibold, Park Ridge, William W. Timpe, Prospect Heights, Spartaco Trivellini, Roselle, and Kasimer F. Panek, Broadview, Ill., assignors to Market Masters, Inc., Elk Grove Village, Ill., a corporation of Illinois
Filed Mar. 26, 1969, Ser. No. 16,442
Term of patent 14 years
Int. Cl. D6—*01*

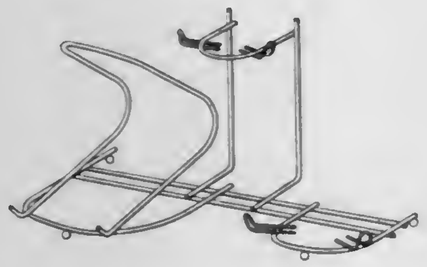
U.S. Cl. D80—10



217,405
COOKWARE DISPLAY RACK OR SIMILAR ARTICLE

Elmer L. Reibold, Park Ridge, William W. Timpe, Prospect Heights, Spartaco Trivellini, Roselle, and Kasimer F. Panek, Broadview, Ill., assignors to Market Masters, Inc., Elk Grove Village, Ill., a corporation of Illinois
Filed Mar. 26, 1969, Ser. No. 16,443
Term of patent 14 years
Int. Cl. D6—*01*

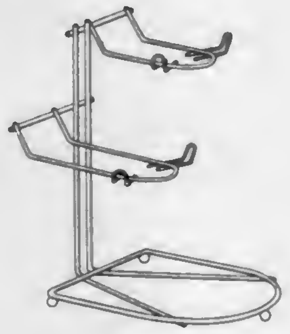
U.S. Cl. D80—10



217,406
COOKWARE DISPLAY RACK OR SIMILAR ARTICLE

Elmer L. Reibold, Park Ridge, William W. Timpe, Prospect Heights, Spartaco Trivellini, Roselle, and Kasimer F. Panek, Broadview, Ill., assignors to Market Masters, Inc., Elk Grove Village, Ill., a corporation of Illinois
Filed Mar. 26, 1969, Ser. No. 16,444
Term of patent 14 years
Int. Cl. D6—*01*

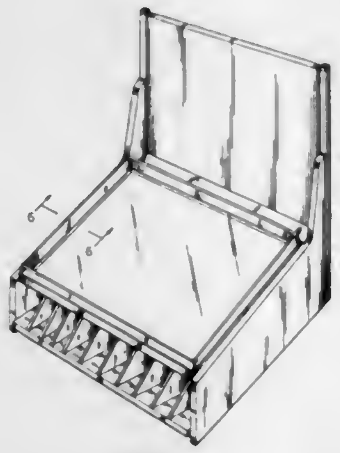
U.S. Cl. D80—10



217,407
FLATWARE DISPLAY STAND OR SIMILAR ARTICLE

Elmer L. Reibold, Park Ridge, William W. Timpe, Prospect Heights, and Spartaco Trivellini, Roselle, Ill., assignors to Market Masters, Inc., Elk Grove Village, Ill., a corporation of Illinois
Continuation-in-part of design application Ser. No. 12,990, Aug. 1, 1968. This application July 7, 1969, Ser. No. 18,073
Term of patent 14 years
Int. Cl. D6—*01*

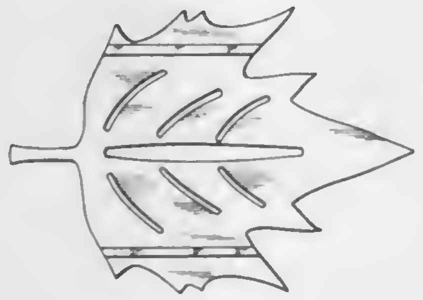
U.S. Cl. D80—11



217,408
GAS FLAME COMBINED COVER PLATE AND SIMMERER

Lena L. Troutman, 418 W. Monroe St., Salisbury, N.C. 28144
Filed Aug. 16, 1968, Ser. No. 13,161
Term of patent 14 years
Int. Cl. D7—*04*

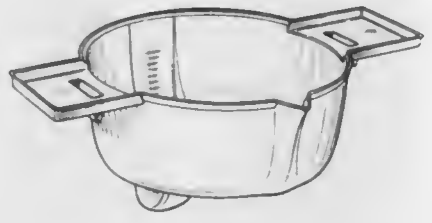
U.S. Cl. D81—25

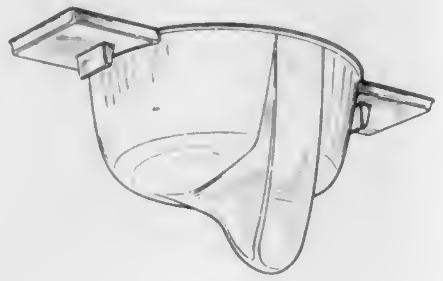


217,409
SPECIMEN COLLECTOR

Frank J. Ott, 76 Old Gainsborough Drive, Hamilton, Ontario, Canada
Filed Mar. 19, 1969, Ser. No. 16,323
Term of patent 14 years
Int. Cl. D24—*02*

U.S. Cl. D83—1

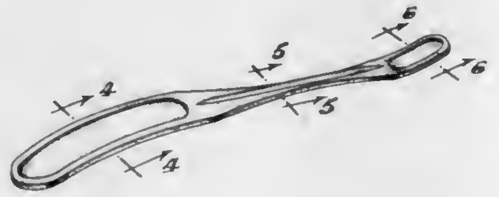


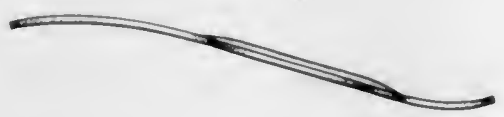


217,410
TONGUE DEPRESSOR

Sidney Greatman, Canoga Park, Calif., assignor to A & E Plastik Pak Co., Inc., Industry, Calif., a corporation of California
Filed Sept. 15, 1969, Ser. No. 19,155
Term of patent 14 years
Int. Cl. D24—*02*

U.S. Cl. D83—12

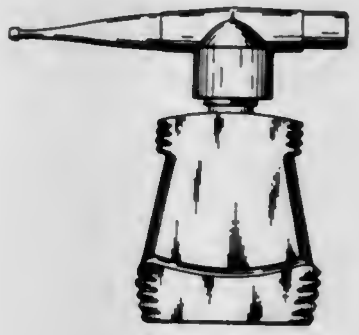




217,411
SMOKING APPLIANCE

Charles E. Stokes, 11580 La Maida St., North Hollywood, Calif. 91601
Filed June 30, 1969, Ser. No. 17,982
Term of patent 14 years
Int. Cl. D27—*02*

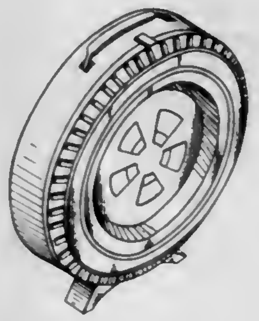
U.S. Cl. D85—8



217,412
CARRYING CASE FOR TOY CARS

Leonard R. Moquin, Los Angeles, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of Delaware
Continuation-in-part of design application Ser. No. 11,084, Mar. 21, 1968. This application Dec. 11, 1968, Ser. No. 14,896
Term of patent 14 years
Int. Cl. D3—*99*

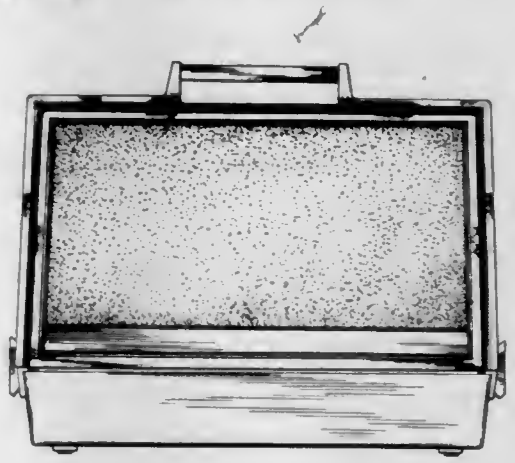
U.S. Cl. D87—1



217,413
CARRYING CASE FOR PORTABLE SEWING MACHINES OR SIMILAR ARTICLE

Madeleine Aghababian, Fort Lee, N.J., assignor to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 28, 1969, Ser. No. 18,896
Term of patent 7 years
Int. Cl. D3—*99*

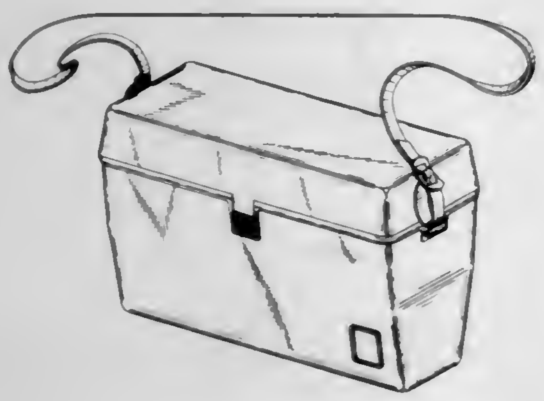
U.S. Cl. D87—1



217,414
CARRYING CASE FOR A CAMERA OR SIMILAR ARTICLE

Vincent F. Lang, Greece, and Edward Emison, Ontario, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 12, 1969, Ser. No. 15,746
Term of patent 14 years
Int. Cl. D3—*99*

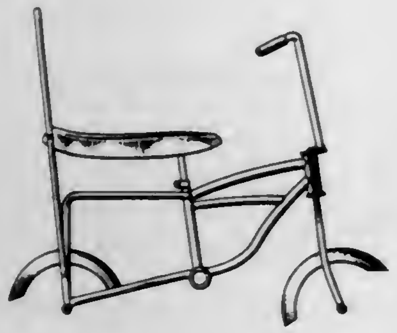
U.S. Cl. D87—5



217,415
BICYCLE FRAME

Donald A. Menning, 14523 Cabrillo Ave., Norwalk, Calif. 90650
Filed June 16, 1969, Ser. No. 17,727
Term of patent 14 years
Int. Cl. D12—*11*

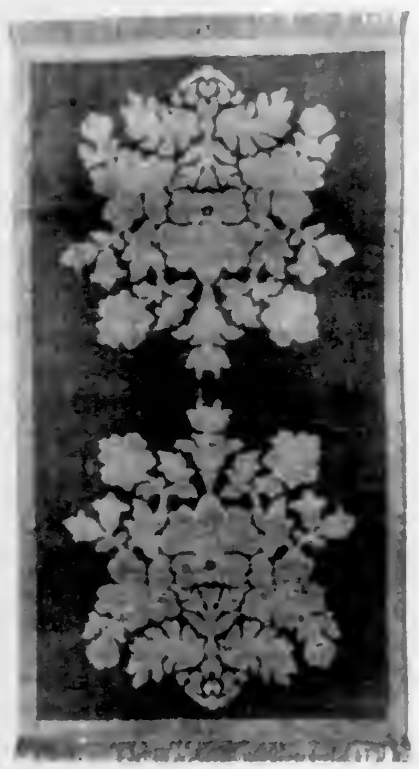
U.S. Cl. D90—8



217,416
TOWEL OR SIMILAR ARTICLE

Nancy Ann Scherer, Plainfield, N.J., assignor to Cannon Mills Company, Kannapolis, N.C., a corporation of North Carolina
Filed June 2, 1969, Ser. No. 17,427
Term of patent 14 years
Int. Cl. D6—*09*

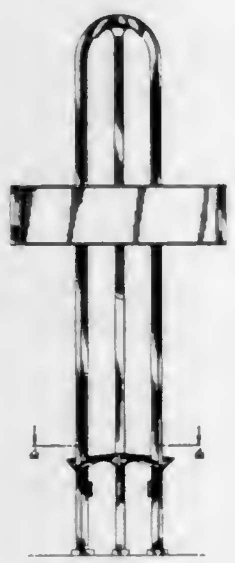
U.S. Cl. D92—26



217,417
COMBINED SIGN AND SUPPORT TOWER

Andrew W. Trucksess, Palmyra, N.J., assignor to Federated Department Stores, Inc., Cincinnati, Ohio, a corporation of Delaware
Filed Aug. 13, 1968, Ser. No. 13,123
Term of patent 14 years
Int. Cl. D20—*03*

U.S. Cl. D96—12



LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF APRIL, 1970

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A & W Enterprises, Incorporated: *See*—
  Wood, William M., 3,508,321.
Aas, Herbert G., to United Aircraft Corporation. Flexure mode transducer for optical beam scanning. 3,508,814, Cl. 350-285.
Abele, Werner: *See*—
  Agahd, Konrad, Bauer, Max, Dietrich, Volker, Hildenbrand, Adolf, and Abele, Werner 3,508,859.
Abrams, Louis. Grinding wheel dresser and method. 3,508,533, Cl. 125-011.
Accountius, Oliver E., to North American Rockwell Corporation. Multi-layered pyrolized para-polyphenylene structures and method of making same. 3,509,017, Cl. 161-206.
Accurate Optics, Inc.: *See*—
  Schroeder, Richard L., 3,508,832.
ACF Industries, Incorporated: *See*—
  Atkinson, Eulas R., and Stewart, Joseph T., Jr., 3,508,738.
Acme Visible Records, Inc.: *See*—
  Shaw, John S., Dostel, John J., White, Donald K., Elste, Edwin S., Kellogg, John F., and O'Neale, John D., 3,509,324.
  Welch, Newell G., 3,509,441.
Acord, Jerry E., to Northrop Corporation. Electrical connector. 3,509,515, Cl. 339-045.
Adams, Clark E., and House, William T., to Esso Research and Engineering Company. Hydrodesulfurization of petroleum residuum. 3,509,044, Cl. 208-216.
Adams, Frederick Lee: *See*—
  Crow, Morgan L., and Adams, Frederick Lee 3,508,759.
Adamson, Thomas E.: *See*—
  Bagnall, Harry R., Moore, Maurice S., Jr., Adamson, Thomas E., and Wiggins, Forrest S. 3,508,390.
Addis, Gilbert I., and Kelly, Theodore H., to Union Carbide Corporation. Hydraulic method and apparatus for metering molten alkali metals. 3,508,846, Cl. 103-165.
Addressograph-Multigraph Corporation: *See*—
  Maul, John A., Zofchak, James T., and Anderson, David D., 3,508,488.
  Scranton, Robert J., 3,508,705.
Adomshick, George John, and Quinn, Robert Gerard, to Johns-Manville Corporation. Decorative non-combustible ceiling tile. 3,509,008, Cl. 161-130.
Agahd, Gerlinde: *See*—
  Agahd, Konrad, Bauer, Max, Dietrich, Volker, Hildenbrand, Adolf, and Abele, Werner 3,508,859.
Agahd, Konrad, deceased (by Agahd, Gerlinde, heiress), Bauer, Max, Dietrich, Volker, Hildenbrand, Adolf, and Abele, Werner, to Lever Brothers Company. Manufacture of vegetable parchment paper. 3,508,859, Cl. 008-119.
Agfa-Gevaert Aktiengesellschaft: *See*—
  Seibert, Heinrich, and Krafft, Werner, 3,508,492.
Ahern, Douglas K., to Eastman Kodak Company. Automatic degating of injection molded articles. 3,508,299, Cl. 018-030.
Air Products and Chemicals, Inc.: *See*—
  Pryor, John A., 3,508,413.
Air Reduction Company, Incorporated: *See*—
  Kirk, James A., and Helck, Jerry P., 3,508,567.
Akfirat, John C., to Ford Motor Company. Apparatus and process for sweep quenching glass. 3,508,898, Cl. 065-114.
Aktiebolaget Astra: *See*—
  Jurgens, Jorg H., Eriksson, Axel Fredrik Valdemar, and Svard, Per Olof, 3,509,024.
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  Sundstrom, Erik Wilhelm, 3,508,335.
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  Breuer, Erich, and Kielhorn, Werner, 3,509,315.
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Alburn, Harvey E., Grant, Norman H., and Clark, Donald E., to American Home Products Corporation. Arylacyl-τ-aminocarboxylic acids. 3,509,208, Cl. 260-518.
Alcan Research and Development Limited: *See*—
  Gooding, Matthew Ernest, 3,509,030.
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Alexandre & Cie: *See*—
  Hainault, Marcel, 3,508,552.
Alger, Robert P., to Schlumberger Technology Corporation. Combination sidewall neutron porosity and sonic tool. 3,508,439, Cl. 073-152.
Alger, Robert P., and Tixier, Maurice P., to Schlumberger Technology Corporation. Well logging apparatus and method. 3,508,438, Cl. 073-152.
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  Moore, William H., and Alioto, Vito J. 3,509,277.
Allard, Harrie Martin, and Parker, Henry Randall, to Improved Machinery Inc. Enclosed adjustable clamping mechanism with lubricating system. 3,508,300, Cl. 018-030.
Allen, Christina L.: *See*—
  Allen, James Forrest, and Latourette, Harold K. 3,509,218.
Allen, James Forrest, deceased (by Allen, Christina L., executrix), and Latourette, Harold K., to FMC Corporation. 2-Vinylsulfonylethanol. 3,509,218, Cl. 260-607.
Allen, Linus S., Jr.: *See*—
  Mills, William R., Jr., and Allen, Linus S., Jr. 3,509,346.
Allgeier, Robert K., Jr., to United States of America, National Aeronautics and Space Administration. Metal valve pintle with encapsulated elastomeric body. 3,508,739, Cl. 251-358.
Allied Chemical Company: *See*—
  Bagnall, Harry R., Moore, Maurice S., Jr., Adamson, Thomas E., and Wiggins, Forrest S., 3,508,390.
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  Bement, Elmore L., and Boye, Frederick C., 3,509,202.
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  Kaminski, Tony L., 3,508,556.
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  Matson, James Edward, 3,508,428.
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  Austing, August Theodore Lester, 3,508,507.
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  Sullivan, Frank Aloysius Vincent, and Dejneka, Tamara, 3,509,181.
  Van Loo, William Julius, Jr., and O'Brien, Samuel James, 3,508,860.
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  Wright, William Blythe, Jr., and Brabander, Herbert Joseph, 3,509,166.
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  Alburn, Harvey E., Grant, Norman H., and Clark, Donald E., 3,509,208.
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  Bertolasi, Robert B., 3,509,305.

  - Radwill, Robert P., 3,508,352.
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- Anaconda Wire and Cable Company: *See—*
  - Perrone, Rosario J., and Wade, Robert M., 3,509,247.
- Anchor Hocking Glass Corporation: *See—*
  - Duggan, David C., 3,508,893.
- Anderson, Charles A. Camper body structure. 3,508,781, Cl. 296-023.
- Anderson, David D.: *See—*
  - Maul, John A., Zofchak, James T., and Anderson, David D. 3,508,488.
- Anderson, George A.: *See—*
  - Blanchard, John H., and Anderson, George A. 3,508,606.
- Anderson, Jack I.: *See—*
  - Hagenauer, Richard G., Anderson, Jack I., Fuller, Marvin A., and Reiter, Alexander L. 3,508,881.
- Anderson, James: *See—*
  - Gaudry, Paul E., Gaudry, Edouard, Descarries, Raymond, and Anderson, James 3,508,721.
- Anderson, James J., to Mobil Oil Corporation. Polymers and process for making same. 3,509,076, Cl. 260-002.5
- Andre, Stephen N., and Davis, Edison M., to Sylvania Electric Products, Inc. Printed circuit spiral antenna having amplifier and bias feed circuits integrated therein. 3,509,465, Cl. 325-373.
- Andreas Hofer Hochdruck-Apparatebau G.m.b.H.: *See—*
  - Strassburger, Friedhelm, 3,508,845.
- Andren, Carl F., to United States of America, Navy, mesne. Dissipative voltage regulator. 3,509,449, Cl. 323-022.
- Andrews, Peter: *See—*
  - Paul, Frank W., Jr., Andrews, Peter, and Niedzielski, George 3,508,718.
- Angiolini, John T.: *See—*
  - Wood, Thomas F., and Angiolini, John T. 3,509,215.
- Annand, Robert R., Redmore, Derek, and Rushton, Brian M., to Petrolite Corporation. Use of heterocyclic polymers as water clarifiers. 3,509,046, Cl. 210-054.
- Anspon, Harry D., and Clampitt, Bert H., to Gulf Research & Development Company. Ion exchange process. 3,509,084, Cl. 260-029.6
- Apicella, Anthony M., Jr., and Hellman, Bengt Harry, to Goodyear Aerospace Corporation. Method to effect magnetic read-only in a memory. 3,509,545, Cl. 340-174.
- Aplin, Neville Frederick, to Lucas, Joseph, (Industries) Limited. Hydraulic transmission mechanism. 3,508,401, Cl. 060-053.
- Aponick, Anthony A., Jr., and Gottling, James G., to Massachusetts Institute of Technology. Field-effect space-charge-limited solid state thin-film device. 3,509,432, Cl. 317-235.
- Arcs Industries, Inc.: *See—*
  - Berube, Arthur A., 3,509,535.
- ARDAC/USA Incorporated: *See—*
  - Bayha, Jack E., 3,508,635.
- Ardco, Inc.: *See—*
  - Ryder, James Paul, 3,508,361.
- Arlen, David, to Sperry Rand Corporation. Low frequency pulse generator. 3,509,472, Cl. 328-063.
- Arlen, David, and King, John J., to Sperry Rand Corporation. Apparatus for vehicular traffic intersection controllers. 3,509,526, Cl. 340-036.
- Armco Steel Corporation: *See—*
  - Fisher, Christopher L., 3,508,406.
  - Leach, Donald J., Moore, William N., and Snyder, Billy J., 3,508,671.
- Armor Elevator Co., Inc.: *See—*
  - Walter, George, 3,508,468.
- Armstrong, Maclay M. Formable orthodontic hook. 3,508,332, Cl. 032-014.
- Arneklev, Duane R.: *See—*
  - Brokke, Mervin E., Lukes, George E., and Arneklev, Duane R. 3,508,905.
- Arnold, Robert W., and Greeson, James C., Jr., to International Business Machines Corporation. Absolute value function generator. 3,509,474, Cl. 328-118.
- Arnstein, Walter, to Bell Telephone Laboratories, Incorporated. Code conversion. 3,509,328, Cl. 235-155.
- Arvin Industries, Inc.: *See—*
  - Scheitlin, George E., and Julbert, William W., 3,508,815.
- Asano, Taisuke, and Kanetaka, Junichi, to Mitsubishi Petrochemical Co., Ltd. Process for the catalytic hydrogenation of aromatic compounds. 3,509,227, Cl. 260-667.
- Ashcraft, Robert M.: *See—*
  - Fehr, Isaac N., Cannon, Sidney E., Sutherland, Dan, Goodman, William D., Ashcraft, Robert M., and Shelby,. Frank S. 3,508,378.
  - Goodman, William D., Ashcraft, Robert M., Shelby, Frank S., and Freyermuth, Harlan B. 3,509,217.
- Ashenberg, Enoch C.: *See—*
  - Lee, Walter W., Meloro, Thomas J., Spieker, Bernard, Fischer, Israel L., and Ashenberg, Enoch C. 3,509,543.
- Ashworth, William J. Sound system. 3,509,282, Cl. 179-001.
- Associated Electrical Industries Limited: *See—*
  - Deeley, Edward M., Curling, Claude D., and Temple, John A., 3,509,275.
- Astheimer, Robert W., to Barnes Engineering Company. Light modulation means for an infrared thermograph. 3,509,345, Cl. 250-083.3
- Atkinson, Eulas R., and Stewart, Joseph T., Jr., to ACF Industries, Incorporated. Valve. 3,508,738, Cl. 251-315.
- Atomic Energy of Canada Limited: *See—*
  - Hatcher, Stanley R., and Boulton, John, 3,508,861.
- Atwell, William H., to Dow Corning Corporation. Silacyclopentenes and a method for making same. 3,509,191, Cl. 260-448.2
- Aubel, Pierre: *See—*
  - Desrayaud, Andre, and Aubel, Pierre 3,508,512.
- Aubrey, Norman E., to Monsanto Company. ABS graft polyblends containing two graft polymers having different particle sizes. 3,509,237, Cl. 260-876.
- Aubrey, Norman E., and Jastrzebski, Michael B., to Monsanto Company. ABS graft polyblends containing two graft polymers with different degrees of grafting. 3,509,238, Cl. 260-876.
- Audouze, Bernard: *See—*
  - Ourgaud, Janine, and Audouze, Bernard 3,509,219.
- Aulicono, Orlando T. Mouth-to-mouth and nose resuscitation device. 3,508,543, Cl. 128-145.5
- Aulisa, Gerard D., to Sun Oil Company. Selective coupling apparatus. 3,508,582, Cl. 137-625.11
- Austing, August Theodore Lester, to American Can Company. Container bodymaker. 3,508,507, Cl. 113-012.
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- Browning, Robert D., to RCA Corporation. Magnetic tape reel. 3,508,719, Cl. 242-071.8
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Finnerty, Robert G., Jr., W. R. Hager, and S. B. Levy, to E. I. du Pont de Nemours and Co. Photochemical reactor. 873,015, 4–28–70, Cl. 250—43.
Gilkey, Russell, and J. R. Caldwell. Extraction of deleterious residues from polycarbonate of 2,2,4,4-tetramethyl-1,3-cyclobutanediol. 873,016, 4–28–70, Cl. 260—77.5.
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Weaver, Max A., and C. A. Coates, Jr. 1-arylamino-4-arylsulfonamidoanthraquinone compounds. 873,014, 4–28–70, Cl. 260—473.

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ISSUED APRIL 28, 1970

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198– 7	3,508,638
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175	3,508,641
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200– 5	3,509,293
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38	3,509,295
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51	3,509,297
61.45	3,509,298
.53	3,509,299
167	3,509,300
177	3,509,301
202–108	3,509,027
203– 14	3,509,028
204– 38	3,509,029
67	3,509,030
98	3,509,031
158	3,509,032
181	3,509,033
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299	3,509,035
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206– 5	3,508,643
52	3,508,644
208– 11	3,509,037
22	3,509,038
31	3,509,039
59	3,509,040
110	3,509,041
120	3,509,042
213	3,509,043
216	3,509,044
225	3,509,045
209– 2	3,508,645
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73	3,508,647
74	3,508,648
323	3,508,649
399	3,508,650
210– 54	3,509,046
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169	3,508,661
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150	3,508,665
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212– 58	3,508,667
214– 14	3,508,668
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219– 60	3,509,302
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131	3,509,314
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396	3,509,318
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221–258	3,508,680
222– 30	3,508,681
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93	3,508,684
94	3,508,685
135	3,508,686
162	3,508,687
326	3,508,688
402.24	3,508,689
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40	3,508,699
53	3,508,700
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71	3,508,702
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233– 20	3,508,704
234– 51	3,508,705
100	3,508,706
235– 61.1	3,509,323
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92	3,509,325
145	3,508,707
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155	3,509,328
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175	3,509,330
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196	3,509,332
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562	3,508,711
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81	3,509,334
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71.8	3,508,719
107.4	3,508,720
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131.1	3,508,722
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31	3,508,724
32	3,508,725
42	3,508,726
140	3,508,727
151	3,508,728
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415	3,508,733
459	3,508,734
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68	3,509,340
71.5	3,509,341
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315	3,508,738
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62.56	3,509,057
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135	3,509,059
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171	3,509,061
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431	3,509,067
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211.5	3,509,128
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244	3,509,140
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306.7	3,509,168
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351	3,509,184
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219	3,509,250
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273– 25	3,508,747
26	3,508,748
41	3,508,749
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131	3,508,753
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76	3,508,785
99	3,508,786
100	3,508,787
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303– 6	3,508,792
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305– 38	3,508,796
307– 25	3,509,377
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106	3,509,358
117	3,509,359
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141	3,509,361
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252	3,509,376
269	3,509,378
279	3,509,379
289	3,509,380
292	3,509,381
305	3,509,382
308	3,509,383
312	3,509,384
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122	3,508,799
152	3,508,800
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9.1	3,509,389
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17	3,509,391
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168	3,509,395
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201	3,509,407
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315– 5.39	3,509,412
.52	3,509,413
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19	3,509,415
21	3,509,416
82	3,509,417
108	3,509,418
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151	3,509,422
317– 16	3,509,423
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235	3,509,432
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318– 18	3,509,435
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129	3,509,437
138	3,509,438
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111	3,509,460
120	3,509,461
325– 17	3,509,462
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373	3,509,465
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452	3,509,467
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328– 1	3,509,469
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55	3,509,471
63	3,509,472
72	3,509,473
118	3,509,474
133	3,509,475
134	3,509,476
155	3,509,477
330– 5	3,509,478
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30	3,509,481
107	3,509,482
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22	3,509,514
45	3,509,515
94	3,509,516
98	3,509,517
103	3,509,518
176	3,509,519
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246	3,509,521
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32	3,509,525
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340– 51	3,509,527
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71	3,509,530
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172.5	3,509,539
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173	3,509,543
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174	3,509,545
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340–174	3,509,551
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347	3,509,555
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380	3,509,561
343– 7.9	3,509,564
9	3,509,565
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17.1	3,509,567
18	3,509,568
113	3,509,569
718	3,509,570
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792.5	3,509,572
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795	3,509,575
840	3,509,576
854	3,509,577
873	3,509,578
350– 19	3,508,804
46	3,508,805
90	3,508,806
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160	3,508,810
189	3,508,811
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285	3,508,814
288	3,508,815
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199	3,508,819
235	3,508,820
353– 10	3,508,821
69	3,508,822
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11	3,508,825
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124	3,508,827
356– 5	3,508,828
87	3,508,829
103	3,508,830
106	3,508,831
138	3,508,832
152	3,508,833
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170	3,508,835
246	3,508,836
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415– 19	3,508,838
149	3,508,839
416– 1	3,508,840
40	3,508,841
93	3,508,842
144	3,508,843
221	3,508,844
417– 32	3,508,845
65	3,508,846
218	3,508,847
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454	3,508,849
424– 47	3,509,253
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123	3,509,255
200	3,509,256
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50	217,364
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Indiana	18	North Dakota	38	U.S. Army	58
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(Notice of Dec. 16, 1969, 869 O.G. 687)

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A UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION

U.S. DEPARTMENT OF COMMERCE
Official Gazette of the United States Patent Office
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TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 375,091 (LYDIAN), American Type Founders Co., Inc., Printer's type; **Reg. No. 638,952** (MURRAY HILL), same; **Reg. No. 703,662** (CRAW CLARENDON), same, Type faces; **Reg. No. 795,453** (CENTURY NOVA), same, **filed** June 17, 1968, D.C., S.D.N.Y., Doc. 68–C–2460, *American Type Founders Co., Inc.* v. *Prestype Inc.* Action dismissed, Dec. 29, 1969.

Reg. No. 600,018 (PLAYBOY), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 610,968** ("PLA-BOY"), Guy Barnette & Company, Inc., Boats and boat transporting trailers; **Reg. No. 643,926** (DESIGN OF RABBIT'S HEAD), HMH Publishing Co., Inc., Monthly magazine; **Reg. No. 645,386** (PLAYBOY), same, Cuff links; **Reg. No. 652,412**, same, Mechanically grooved phonograph records; **Reg. No. 676,726**, same, Compilations of stories issued annually, and calendars; **Reg. No. 711,035** (PLAYBOY'S PENTHOUSE), same, Title of a television program; **Reg. No. 719,088** (PLAYBOY LIQUOR CADDY), same, Bottle holder; **Reg. No. 737,313** (PLAYBOY TOURS), same, Arranging and conducting travel tours and arranging hotel accommodations and entertainment for tourists; **Reg. No. 743,134** (REPRESENTATION OF RABBIT'S HEAD AND DESIGN), same, Operating private social clubs which feature food, drinks, and entertainment; **Reg. No. 744,930** (PLAYBOY), Leaf Brands, Inc., Candy; **Reg. No. 746,367** (PLAYBOY CLUB), HMH Publishing Co., Inc., Operating private social clubs which feature food, drinks, and entertainment; **Reg. No. 755,301** (PLAYBOY), same, Cigarette lighters; **Reg. No. 762,884** (BUNNY COSTUME DESIGN), same, Operating establishments which feature food, drink and entertainment; **Reg. No. 764,820** (PLAYBOY), same, Perfume; **Reg. No. 769,702**, same, Operation of establishments which feature food, drink and entertainment; **Reg. No. 772,131**, same, Cigarettes; **Reg. No. 773,132**, same, Puppets; **Reg. No. 791,734**, same, Playing cards, **filed** Oct. 28, 1966, D.C., E.D. Mich. (Detroit), Doc. 29134, *HMH Publishing Co., Inc., Playboy Clubs International* v. *Nicholas G. Kitchak, Jr., doing business as Nick's Playboy Signs.* Consent judgment and decree for permanent injunction, Dec. 12, 1969.

Reg. No. 610,968. (See Reg. No. 600,018.)

Reg. No. 638,952. (See Reg. No. 375,091.)

Reg. No. 643,926. (See Reg. No. 600,018.)

Reg. No. 645,386. (See Reg. No. 600,018.)

Reg. No. 652,412. (See Reg. No. 600,018.)

Reg. No. 676,726. (See Reg. No. 600,018.)

Reg. No. 703,662. (See Reg. No. 375,091.)

CONDITION OF TRADEMARK APPLICATIONS AS OF MARCH 31, 1970

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	21, 090
Date of oldest new application	January 24, 1969
Date of oldest amended application (filing date)	February 21, 1966

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF, Classes 2, 3, 4, 5, 7, 9, 10, 11, 27, 28, 30, 32, 33, 37, 38, 39, 40, 41, 42, 43, 50; Certification Marks, Classes A and B	4–4–69	11–9–67
(II) F. H. WETHERBEE, Classes 1, 6, 15, 18, 45, 46, 47, 48, 49, 51, 52; Collective Membership Mark, Class 200	1–24–69	10–20–66
(III) C. R. FOWLER, Classes 19, 21, 23, 26, 31, 34, 35, 36	9–4–69	2–21–66
(IV) M. E. ABRAMSON, Classes 8, 12, 13, 14, 16, 17, 20, 22, 24, 25, 29, 44; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, and 107	3–21–69	11–15–66
Renewals (All Classes)	2–5–70	---------
Sec. 12(c) Publications (All Classes)	2–12–70	---------

Applications filed during the month of March 1970—2,908

Registrations Issued	401—No. 889,904 to No. 890,304
Renewals Issued	120

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $20.50 per annum, foreign mailing $5.75 additional; single copies, 40 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C. 20231.

Reg. No. 711,035. (See Reg. No. 600,018.)
Reg. No. 719,088. (See Reg. No. 600,018.)
Reg. No. 737,313. (See Reg. No. 600,018.)
Reg. No. 743,134. (See Reg. No. 600,018.)
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Reg. No. 772,131. (See Reg. No. 600,018.)
Reg. No. 773,132. (See Reg. No. 600,018.)
Reg. No. 791,734. (See Reg. No. 600,018.)
Reg. No. 795,453. (See Reg. No. 375,091.)

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 22[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-proprietary Names for Pharmaceutical Substances,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Cronicle.*

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acedapsonum acedapsone	4′,4‴-sulfonylbis[acetanilide] $C_{16}H_{16}N_2O_4S$
acequinolinum acequinoline	7-methoxy-2,4-dimethyl-3-quinolyl methyl ketone $C_{14}H_{15}NO_2$
acidum bensuldazicum bensuldazic acid	5-benzyldihydro-6-thioxo-2*H*-1,3,5-thiadiazine-3(4*H*)-acetic acid $C_{12}H_{14}N_2O_2S_2$
acidum etidronicum etidronic acid	(1-hydroxyethylidene)diphosphonic acid $C_2H_8O_7P_2$
acidum fenafticum fenaftic acid	1-(diethylcarbamoyl)-1,2,3,4,5,6,7,8-octahydro-6,6-dimethyl-8-oxo-3-phenyl-2-naphthoic acid $C_{24}H_{31}NO_4$
acidum fenclozicum fenclozic acid	2-(*p*-chlorophenyl)-4-thiazoleacetic acid $C_{11}H_8ClNO_2S$
acidum flavodicum flavodic acid	[(4-oxo-2-phenyl-4*H*-1-benzopyran-5,7-diyl)dioxy]diacetic acid $C_{19}H_{14}O_8$
acidum hopantenicum hopantenic acid	D-(+)-4-(2,4-dihydroxy-3,3-dimethylbutyramido)butyric acid $C_{10}H_{19}NO_5$
acidum iocarmicum iocarmic acid	5,5′-(adipolydiimino)bis[2,4,6-triiodo-*N*-methylisophthalamic acid] $C_{24}H_{20}I_6N_4O_8$
acidum iotrizoicum iotrizoic acid	2,4,6-triiodo-3-[2-[2-[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]ethoxy]acetamido] benzoic acid $C_{18}H_{24}I_3NO_8$
acidum ioxitalamicum ioxitalamic acid	5-acetamido-*N*-(2-hydroxyethyl)-2,4,6-triiodoisophthalamic acid $C_{12}H_{11}I_3N_2O_5$
acidum oxiniacicum oxiniacic acid	nicotinic acid 1-oxide $C_6H_5NO_3$
acroninum acronine	3,12-dihydro-6-methoxy-3,3,12-trimethyl-7*H*-pyrano[2,3-*c*]acridin-7-one $C_{20}H_{19}NO_3$
alufibratum alufibrate	bis[2-(*p*-chlorophenoxy)-2-methylpropionato]hydroxyaluminum $C_{20}H_{21}AlCl_2O_7$
aminoquinolum aminoquinol	7-chloro-2-(*o*-chlorostyryl)-4-[[4-(diethylamino)-1-methylbutyl]amino]quinoline $C_{26}H_{31}Cl_2N_3$
amoproxanum amoproxan	α-(isopentyloxymethyl)-4-morpholineethanol 3,4,5-trimethoxybenzoate (ester) $C_{22}H_{35}NO_7$
bendazacum bendazac	[(1-benzyl-1*H*-indazol-3-yl)oxy]acetic acid $C_{16}H_{14}N_2O_3$
benoxafosum benoxafos	*S*-[(5,7-dichlorobenzoxazol-2-yl)methyl]*O,O*-diethyl phosphorodithioate $C_{12}H_{14}Cl_2NO_3PS_2$
brinasum brinase	fibrinolytic enzyme derived from *Aspergillus oryzae*
bromazepamum bromazepam	7-bromo-1,3-dihydro-5-(2-pyridyl)-2*H*-1,4-benzodiazepin-2-one $C_{14}H_{10}BrN_3O$
bucrilatum bucrilate	isobutyl 2-cyanoacrylate $C_8H_{11}NO_2$
bunololum bunolol	(+)-5-[3-(*tert*-butylamino)-2-hydroxypropoxy]-3,4-dihydro-1(2*H*)-naphthalenone $C_{17}H_{25}NO_3$
butamiratum butamirate	2-[2-(diethylamino)ethoxy]ethyl 2-phenylbutyrate $C_{18}H_{29}NO_3$
chromocarbum chromocarb	4-oxo-4*H*-1-benzopyran-2-carboxylic acid $C_{10}H_6O_4$
ciclacillinum ciclacillin	6-(1-aminocyclohexanecarboxamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0] heptane-2-carboxylic acid $C_{15}H_{23}N_3O_4S$
cinoxatum cinoxate	2-ethoxyethyl *p*-methoxycinnamate $C_{14}H_{18}O_4$
ciproquinatum ciproquinate	ethyl 6,7-bis(cyclopropylmethoxy)-4-hydroxy-3-quinolinecarboxylate $C_{20}H_{23}NO_5$
clonazepamum clonazepam	5-(*o*-chlorophenyl)-1,3-dihydro-7-nitro-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{10}ClN_3O_3$
clonixerilum clonixeril	2,3-dihydroxypropyl 2-(3-chloro-*o*-toluidino)nicotinate $C_{16}H_{17}ClN_2O_4$

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[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446; 1966, *20*, 216; 1967, *21*, 70, 478; 1968, *22*, 112, 407; 1969, *23*, 183.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249; 1966, *20*, 421; 1967, *21*, 538; 1968, *22*, 463.

[2] *Off. Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7); 173, 10 (resolution EB43.R9).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clonixinum clonixin	2-(3-chloro-*o*-toluidino)nicotinic acid $C_{13}H_{11}ClN_2O_2$
clorterminum clortermine	*o*-chloro-α,α-dimethylphenethylamine $C_{10}H_{14}ClN$
closiraminum closiramine	8-chloro-11-[2-dimethylamino)ethyl]-6,11-dihydro-5*H*-benzo[5,6]cyclohepta[1,2-*b*]pyridine $C_{18}H_{21}ClN_2$
clostebolum clostebol	4-chloro-17β-hydroxyandrost-4-en-3-one $C_{19}H_{27}ClO_2$
clozapinum clozapine	8-chloro-11-(4-methyl-1-piperazinyl)-5*H*-dibenzo[*b,e*][1,4]diazepine $C_{18}H_{19}ClN_4$
cofisatinum cofisatin	3,3-bis(*p*-hydroxyphenyl)-2-indolinone 3,7,12-trioxo-5β-cholan-24-oic acid diester $C_{68}H_{79}NO_{11}$
colestipolum colestipol	tetraethylenepentamine polymer with 1-chloro-2,3-epoxypropane
demoxytocinum demoxytocin	1-(3-mercaptopropionic acid)-oxytocin $C_{43}H_{65}N_{11}O_{12}S_2$
dexbenzetimidum dexbenzetimide	(+)-2-(1-benzyl-4-piperidyl)-2-phenylglutarimide $C_{23}H_{26}N_2O_2$
diamocainum diamocaine	1-(2-anilinoethyl)-4-[2-(diethylamino)ethoxy]-4-phenylpiperidine $C_{25}H_{37}N_3O$
dietifenum dietifen	4-[2-(diethylamino)ethoxy]phenyl phenethyl ketone $C_{21}H_{27}NO_2$
dilazepum dilazep	tetrahydro-1*H*-1,4-diazepine-1,4(5*H*)-dipropanol 3,4,5-trimethoxybenzoate (diester) $C_{31}H_{44}N_2O_{10}$
diproqualonum diproqualone	3-(2,3-dihydroxypropyl)-2-methyl-4(3*H*)-quinazolinone $C_{12}H_{14}N_2O_3$
ecinaminum ecinamine	2-(diphenylmethylene)butylamine $C_{17}H_{19}N$
edogestronum edogestrone	17-hydroxy-6-methyl-pregn-5-ene-3,20-dione cyclic 3-(ethylene acetal) acetate $C_{26}H_{38}O_5$
enestebolum enestebol	4,17β-dihydroxy-17-methylandrosta-1,4-dien-3-one $C_{20}H_{28}O_3$
epimestrolum epimestrol	3-methoxyestra-1,3,5(10)-triene-16α,17α-diol $C_{19}H_{26}O_3$
eprozinolum eprozinol	4-(β-methoxyphenethyl)-α-phenyl-1-piperazinepropanol $C_{22}H_{30}N_2O_2$
esculaminum esculamine	8[[bis(2-hydroxyethyl)amino]methyl]-6,7-dihydroxy-4-methylcoumarin $C_{15}H_{19}NO_6$
etipirii iodidum etipirium iodide	1-(2-hydroxyethyl)-1-methylpyrrolidinium iodide benzilate (ester) $C_{21}H_{26}INO_3$
etoprindolum etoprindole	1-[2-dimethylamino)ethyl]indol-3-yl ethyl ketone oxime $C_{15}H_{21}N_3O$
euprocinum euprocin	$O^{6'}$-isopentylhydrocupreine $C_{24}H_{34}N_2O_2$
fluclorononi acetonidum fluclorolone acetonide	9,11β-dichloro-6α-fluoro-16α,17,21-trihydroxypregna-1,4-diene-3,20-dione cyclic 16,17-acetal with acetone $C_{24}H_{29}Cl_2FO_5$
flucytosinum flucytosine	5-fluorocytosine $C_4H_4FN_3O$
flufenisalum flufenisal	4′-fluoro-4-hydroxy-3-biphenylcarboxylic acid acetate $C_{15}H_{11}FO_4$
flunarizinum flunarizine	1-cinnamyl-4-[bis(*p*-fluorophenyl)methyl]piperazine $C_{26}H_{26}F_2N_2$
flutiazinum flutiazin	8-(trifluoromethyl)phenothiazine-1-carboxylic acid $C_{14}H_8F_3NO_2S$
ftormetazinum ftormetazine	10-[3-(4-methyl-1-piperazinyl)propionyl]-2-(trifluoromethyl) phenothiazine $C_{21}H_{22}F_3N_3OS$
ftorpropazinum ftorpropazine	10-[3-[4-(2-hydroxyethyl)-1-piperazinyl]propionyl]-2-(trifluoromethyl)phenothiazine $C_{22}H_{24}F_3N_3O_2S$
gestadienolum gestadienol	17-hydroxy-19-norpregna-4,6-diene-3,20-dione $C_{20}H_{26}O_3$
glibornuridum glibornuride	1-(2-*endo*-hydroxy-3-*endo*-bornyl)-3-(*p*-tolylsulfonyl)urea $C_{18}H_{26}N_2O_4S$
guamecyclinum guamecycline	*N*-[[4-(amidinoamidino)-1-piperazinyl]methyl]-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{29}H_{38}N_8O_8$
hepronicatum hepronicate	2-hexyl-2-(hydroxymethyl)-1,3-propanediol trinicotinate $C_{28}H_{31}N_3O_6$
kallidinogenasum kallidinogenase	an enzyme isolated from the pancreas or urine of mammals
ketoxalum ketoxal	3-ethoxy-1,1-dihydroxy-2-butanone $C_6H_{12}O_4$
laramycinum laramycin	an antibiotic obtained from cultures of *Streptomyces bikiniensis* var. *laranensis*, or the same substance obtained by any other means
loxapinum loxapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenz[*b,f*][1,4]-oxazepine $C_{18}H_{18}ClN_3O$
mecrilatum mecrilate	methyl 2-cyanoacrylate $C_5H_5NO_2$
meglucyclinum meglucycline	2-deoxy-2-[[[4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacene carboxamido]methyl]amino]-β-D-glucopyranose $C_{29}H_{37}N_3O_{13}$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
memotinum memotine	3,4-dihydro-1-[(*p*-methoxyphenoxy)methyl]isoquinoline $C_{17}H_{17}NO_2$
menitrazepamum menitrazepam	5-(1-cyclohexen-1-yl)-1,3-dihydro-1-methyl-7-nitro-2*H*-1,4-benzodiazepin-2-one $C_{16}H_{17}N_3O_3$
mepiroxolum mepiroxol	3-pyridinemethanol 1-oxide $C_6H_7NO_2$
metacetamolum metacetamol	3′-hydroxyacetanilide $C_8H_9NO_2$
metiapinum metiapine	2-methyl-11-(4-methyl-1-piperazinyl)dibenzo[*b,f*][1,4]-thiazepine $C_{19}H_{21}N_3S$
mezepinum mezepine	5,6-dihydro-5-[3-(methylamino)propyl]-11*H*-dibenz[*b,e*]azepine $C_{18}H_{22}N_2$
miconazolum miconazole	1-[2,4-dichloro-β-[(2,4-dichlorobenzyl)oxy]phenethyl]-imidazole $C_{18}H_{14}Cl_4N_2O$
morantelum morantel	*trans*-1,4,5,6-tetrahydro-1-methyl-2-[2-(3-methyl-2-thienyl)-vinyl]pyrimidine $C_{12}H_{16}N_2S$
nequinatum nequinate	methyl 7-(benzyloxy)-6-butyl-1,4-dihydro-4-oxo-3-quinolinecarboxylate $C_{22}H_{23}NO_4$
nifenalolum nifenalol	α[(isopropylamino)methyl]-*p*-nitrobenzyl alcohol $C_{11}H_{16}N_2O_3$
nifurizonum nifurizone	1-(methylcarbamoyl)-3-[[3-(5-nitro-2-furyl)allylidene]-amino]-2-imidazolidinone $C_{12}H_{13}N_5O_5$
nifurmazolum nifurmazole	3-(hydroxymethyl)-1-[[3-(5-nitro-2-furyl)allylidene]amino]-hydantoin $C_{11}H_{10}N_4O_6$
nifurpirinolum nifurpirinol	6-[2-(5-nitro-2-furyl)vinyl]-2-pyridinemethanol $C_{12}H_{10}N_2O_4$
nimorazolum nimorazole	4-[2-(5-nitroimidazol-1-yl)ethyl]morpholine $C_9H_{14}N_4O_3$
norclostebolum norclostebol	4-chloro-17β-hydroxyestr-4-en-3-one $C_{18}H_{25}ClO_2$
ocrilatum ocrilate	octyl 2-cyanoacrylate $C_{12}H_{19}NO_2$
oxibetainum oxibetaine	(carboxymethyl)dimethyl(2-hydroxyethyl)ammonium hydroxide inner salt $C_6H_{13}NO_3$
penimocyclinum penimocycline	6-[2-[[[4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamido]methyl]amino]-2-phenylacetamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{38}H_{43}N_5O_{12}S$
pexantelum pexantel	1-(cyclohexylcarbonyl)-4-methylpiperazine $C_{12}H_{22}N_2O$
piclopastinum piclopastine	2-[2-[4-(*p*-chloro-α-2-pyridylbenzyl)-1-piperazinyl]ethoxy]ethanol $C_{20}H_{26}ClN_3O_2$
piracetamum piracetam	2-oxo-1-pyrrolidineacetamide $C_6H_{10}N_2O_2$
pizotifenum pizotifen	4-(9,10-dihydro-4*H*-benzo[4,5]cyclohepta[1,2-*b*]thien-4-ylidene)-1-methylpiperidine $C_{19}H_{21}NS$
podilfenum podilfen	1-[α-methyl-3,4-(methylenedioxy)phenethyl]-4-(4-methyl-2-thiazolyl)piperazine $C_{18}H_{23}N_3O_2S$
poligeenanum poligeenan	3,6-anhydro-4-*O*-β-D-galactopyranosyl-α-D-galactopyranose-2,4′-bis(potassium/sodium sulfate)(1→3′)-polysaccharide $(C_{12}H_{16}M_2O_{15}S_2)_n$
politefum politef	poly(tetrafluoroethylene) $(C_2F_4)_n$
prazosinum prazosin	1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furoyl)-piperazine $C_{19}H_{21}N_5O_4$
prednazolinum prednazoline	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-(di-H phosphate) compound with 2-[(2-isopropylphenoxy)methyl]-2-imidazoline or prednisolone phosphate compound with fenoxazoline $C_{34}H_{47}N_2O_9P$
prindololum prindolol	1-(indol-4-yloxy)-3-(isopropylamino)-2-propanol $C_{14}H_{20}N_2O_2$
prospidii chloridum prospidium chloride	3,12-bis(3-chloro-2-hydroxypropyl)-3,12-diaza-6,9-diazoniadispiro[5.2.5.2]hexadecane dichloride $C_{18}H_{36}Cl_4N_4O_2$
ritodrinum ritodrine	*p*-hydroxy-α-[1-[(*p*-hydroxyphenethyl)amino]ethyl]benzyl alcohol $C_{17}H_{21}NO_3$
rizolipasum rizolipase	lipase of *Rhizopus arrhizus* var. Delemar
salazodinum salazodine	5-[[*p*-[(6-methoxy-3-pyridazinyl)sulfamoyl]phenyl]azo]-salicylic acid $C_{18}H_{15}N_5O_6S$
simfibratum simfibrate	2-(*p*-chlorophenoxy)-2-methylpropionic acid trimethylene ester $C_{23}H_{26}Cl_2O_6$
sucralfatum sucralfate	sucrose hydrogen sulfate basic aluminum salt
temazepamum temazepam	7-chloro-1,3-dihydro-3-hydroxy-1-methyl-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{16}H_{13}ClN_2O_2$
terbutalinum terbutaline	α-[(*tert*-butylamino)methyl]-3,5-dihydroxybenzyl alcohol $C_{12}H_{19}NO_3$
tibolonum tibolone	17-hydroxy-7α-methyl-19-nor-17α-pregn-5(10)-en-20-yn-3-one $C_{21}H_{28}O_2$
tiforminum tiformin	4-guanidinobutyramide $C_5H_{12}N_4O$
tipindolum tipindole	2-(dimethylamino)ethyl 1,3,4,5-tetrahydrothiopyrano[4,3-*b*]-indole-8-carboxylate $C_{16}H_{20}N_2O_2S$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
tramadolum tramadol	(±)-*trans*-2-[(dimethylamino)methyl]-1-(*m*-methoxyphenyl)-cyclohexanol $C_{16}H_{25}NO_2$
trengestonum trengestone	6-chloro-9β,10α-pregna-1,4,6-triene-3,20-dione $C_{21}H_{25}ClO_2$
trimebutinum trimebutine	β-(dimethylamino)-β-ethylphenethyl alcohol 3,4,5-trimethoxy-benzoate (ester) $C_{22}H_{29}NO_5$
truxicurii iodidum truxicurium iodide	diethyl(3-hydroxypropyl)methylammonium iodide α-2,4-diphenyl-1,3-cyclobutanedicarboxylate $C_{34}H_{52}I_2N_2O_4$
truxipicurii iodidum truxipicurium iodide	1-ethyl-1-(3-hydroxypropyl)piperidinium iodide α-2,4-diphenyl-1,3-cyclobutanedicarboxylate $C_{38}H_{56}I_2N_2O_4$
vincaminum vincamine	vincamine, an alkaloid obtained from *Vinca minor* $C_{21}H_{26}N_2O_3$
xibornolum xibornol	6-isobornyl-3,4-xylenol $C_{18}H_{26}O$
xipamidum xipamide	4-chloro-5-sulfamoyl-2′,6′-salicylo-xylidide $C_{15}H_{15}ClN_2O_4S$
xipranololum xipranolol	1-(dl-2,6-xylylmethoxy)-3-(isopropylamino)-2-propanol $C_{23}H_{33}NO_2$

NAMES FOR RADICALS AND GROUPS

Some preparations for which a proposed international non-proprietary name has been established may be used in the form of salts or esters. The radicals or groups involved may be of complex composition and it is then inconvenient to refer to them in systematic chemical nomenclature. The following shorter non-proprietary names for some such radicals and groups have been devised or selected, and they are suggested for use with proposed international non-proprietary names.

N-acetylglycinate	aceturate
benzenesulfonate	besilate
6,7-dihydroxycoumarin-4-methanesulfonate	cromesilate
[(6-hydroxy-4-methyl-2-oxo-2*H*-1-benzopyran-7-yl)oxy]acetate	cromacate
diethanolamine	diolamine
ethanolamine	olamine
2-oxoglutarate	oxoglurate
tertiary butyl acetate	tebutate
triethanolamine	triolamine

NOTE

WHO Chronicle, Vol. 21, No. 11

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (Prop. I.N.N.) : LIST 18

p. 480 :	*delete* benazolinum benazoline	*insert* metizolinum metizoline

WHO Chronicle, Vol. 22, No. 9

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (Prop. I.N.N.) : LIST 20

p. 421 :	*delete* orpressinum orpressin	*insert* ornipressinum ornipressin

INTERNATIONAL NON-PROPRIETARY NAMES FOR PHARMACEUTICAL PREPARATIONS CUMULATIVE LIST No. 2, 1967

p. 10 :	*delete* alfasonum alfasone	*insert* algestonum algestone
p. 41 :	*delete* etomidatum etomidate	(±)-ethyl 1-(α-methylbenzyl)imidazole-5-carboxylate $C_{14}H_{16}N_2O_2$
	insert etomidatum etomidate	(+)-ethyl 1-(α-methylbenzyl)imidazole-5-carboxylate $C_{14}H_{16}N_2O_2$
p. 41 :	*delete* etymidum etymide	*insert* carbifenum carbifene
p. 45 :	*delete* gentamycinum gentamycin	*insert* gentamicinum gentamicin
p. 53 :	*delete* leucovorinum leucovorin	*insert* calcii folinas calcium folinate
p. 56 :	*delete* meclastinum meclastine	*insert* clemastinum clemastine
p. 68 :	*delete* nortestosteroni cypionas nortestosterone cypionate	17β-hydroxyestr-4-en-3-one cyclopentanepropionate $C_{26}H_{38}O_3$
	insert nandrolonum nandrolone	17β-hydroxyestr-4-en-3-one $C_{18}H_{26}O$
p. 80 :	*delete* propoxyphenum propoxyphene	4-dimethylamino-3-methyl-1,2-diphenyl-2-butanol propionate ester $C_{22}H_{29}NO_2$

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[**NOTE:** For publication of marks presented in applications for registration in one class, see section 2.]

SN 260,395. American Hospital Supply Corporation, Evanston, Ill. Filed Dec. 9, 1966.

TOMAC

Owner of Reg. Nos. 326,450, 732,775, and 836,601.

Class 6—Chemicals and Chemical Compositions

For Deodorants for Rooms and Articles (Int. Cl. 5).
First use on or before Dec. 1, 1960.

Class 40—Fancy Goods, Furnishings, and Notions

For Safety Pins (Int. Cl. 26).
First use on or before Dec. 31, 1937.

Class 50—Merchandise Not Otherwise Classified

For Sign and Bed Card Holders (Int. Cl. 20).
First use on or before Dec. 31, 1964.

SN 294,104. Philip G. Whitman, Inc., New York, N.Y. Filed Mar. 25, 1968.

KINOID

Class 1—Raw or Partly Prepared Materials

For Heavy Duty Woven Fabrics Impregnated With Plastic and Simulated Leather (Int. Cl. 18).

Class 37—Paper and Stationery

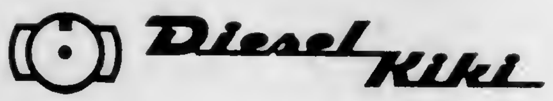
For Paper and Paperboard Backing for Use as Backing Material and Vinyl Film for Use as a Wrapping Material (Int. Cl. 16).

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Non-Woven, Fibrous Backing Material and Lightweight Fabrics Impregnated With Plastic (Int. Cl. 24).

First use Sept. 15, 1967.

SN 294,430. Diesel Kiki Kabushiki Kaisha, Shibuya-ku, Tokyo, Japan. Filed Mar. 29, 1968.



No claim is made to the exclusive use of the word "Diesel" separately and apart from the mark.

Class 19—Vehicles

For Automobiles and Parts Thereof; Car and Bus Coolers and Heaters; and Automobile Air Conditioners (Int. Cls. 7 and 11).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Diesel Engines and Parts Thereof; Grease Guns; Fan Clutches; Air Compressors and Fuel Injection Equipment for Combustion Engines (Int. Cl. 7).

First use July 17, 1939; in commerce Apr. 1, 1964.

SN 300,390. Eastman Kodak Company, Rochester, N.Y. Filed June 14, 1968.

VERILITH

Class 6—Chemicals and Chemical Compositions

For Photographic Processing Chemicals (Int. Cl. 1).

Class 26—Measuring and Scientific Appliances

For Photographic Apparatus Used in the Production of Offset Printing Plates—Namely, Photographic Copiers and Processors (Int. Cl. 9).

First use Jan. 31, 1964.

SN 302,662. Tanabe Seiyaku Co., Ltd., Higashi-ku, Osaka, Japan. Filed July 15, 1968.

TANABE

Class 6—Chemicals and Chemical Compositions

For Amino Acids—Namely, Alanine, Arginine, Aspartic Acid, Cysteine, Cystine, Histidine, Isoleucine, Leucine, Methionine, Ornithine, Phenylalanine, Threonine, Tryptophan, Tyrosine, Valine, Potassium Aspartate, Magnesium Aspartate and d,l and dl Forms Thereof; Thiamine, Thiamine Mononitrate, Thiamine Dicetylysulfate, Pyridoxine, Folic Acid, Pantothenates, Carnitine, Orotic Acid, Methylephedrine, Iodochlorohydroxyquinoline, Rutin, Hesperidine, Isonicotinic Acid Hydrazid, Calcium Amino-Salicylate, Sodium Para-Aminosalicylate, Calcium Cyclamate, Sodium Cyclamate, Berberine, Diastase, Diethylcarbamazine Citrate, Diphen-Hydramine, Diphenhydramine Tannate, Inositol, Pantothenyl Alcohol, Calcium Para-Aminosalicylate, Thioctic Acid, Thioctamide, Para Acetylamino-Benzen-Sulfonyl Chloride, Benzocaine, Sorbic Acid, Potassium Sorbate Disinfectant, and Sodium Succinate (Int. Cl. 1).

Class 18—Medicines and Pharmaceutical Preparations

For Medicinal and Pharmaceutical Preparations for Human and Veterinary Use (Int. Cl. 5).

Class 46—Foods and Ingredients of Foods

For Food Preservatives—Namely, Sorbic Acid and Salts Thereof (Int. Cl. 1).

First use Jan. 1, 1958; in commerce Jan. 1, 1958.

SN 309,674. Firma Woerner Oeler- und Fetterfabrik Eugen Woerner, Wertheim (Main), Germany. Filed Oct. 15, 1968.

WOERNER OL-SCHMIERUNG

Priority claimed under Sec. 44(d) on German application filed July 12, 1968; Reg. No. 854,216, dated Jan. 30, 1969.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pipelines, Pipe Fittings, and Pipe Connectors (Int. Cl. 6).

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Centralized Lubricating Systems for Machine Tools, Lubricating Pumps, and Parts Thereof (Int. Cl. 7).

SN 319,014. Auto-Dine Corporation, d.b.a. Auto-Dine, Bismarck, N. Dak. Filed Feb. 13, 1969.

AUTO-DINE

Applicant claims use for the area comprising the entire United States except Sioux Center, Iowa.

Class 46—Foods and Ingredients of Foods

For Hamburger Sandwiches, Cheeseburger Sandwiches, Fish Sandwiches, Cheese Sandwiches, Roast Beef Sandwiches, Steak Sandwiches, and Other Sandwiches, Cooked Shrimp, Cooked Chicken, Onion Rings, French Fried Potatoes, Cooked Frankfurters, Milk Shakes, Cole Slaw, and Hot and Cold Food Beverages (Int. Cls. 29, 30, and 31).

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).

First use Jan. 28, 1964.
Subj. to Con. Use Proc. with Auto-Dine, Sioux Center, Iowa.

SN 321,856. Little Red Hen Country Chicken, Inc., Chicago, Ill., assignee, by mesne assignment, of Little Red Hen Country Chicken, Inc., Northbrook, Ill. Filed Mar. 17, 1969.

LITTLE RED HEN

Owner of Reg. No. 845,174.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Pressure Cookers for Commercial Use (Int. Cl. 11).
First use at least as early as January 1965.

Class 46—Foods and Ingredients of Foods

For Fried Chicken; Seasoning Mixes for Barbeque Chicken, and Ribs; Honey; Salt; Sugar; and Barbeque Sauce (Int. Cls. 29 and 30).
First use at least as early as April 1964.

Class 100—Miscellaneous

For Restaurant Services (Int. Cl. 42).
First use at least as early as November 1963.

Class 101—Advertising and Business

For Consulting, Planning, Designing, and Management Services in Connection With Establishing and Operating Food Service Businesses (Int. Cl. 35).
First use prior to Mar. 29, 1965.

SN 322,484. Ronald Jewelers of Minneapolis, Inc., Minneapolis, Minn. Filed Mar. 21, 1969.

RONALD ORIGINALS

Applicant disclaims the term "Originals" apart from the mark as shown.

Class 27—Horological Instruments

For Watches and Parts Thereof (Int. Cl. 14).

Class 28—Jewelry and Precious-Metal Ware

For Jewelry and Precious Stones (Int. Cl. 14).

First use September 1968.

SN 322,617. Pioneer Magnetics Incorporated, Santa Monica, Calif. Filed Mar. 24, 1969.

MAGACYCLER

Owner of Reg. No. 729,670.

Class 21—Electrical Apparatus, Machines, and Supplies

For Frequency and Pulse Rate Converter (Int. Cl. 9).

Class 26—Measuring and Scientific Appliances

For Frequency and Pulse Rate Comparator, Frequency and Pulse Rate Meter, and Frequency and Pulse Rate Transducer (Int. Cl. 9).

First use June 5, 1958.

SN 324,076. Marks Specialties, Inc., Norwood, Mass. Filed Apr. 9, 1969.

MARKS

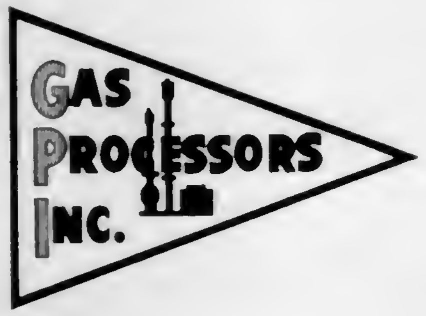
Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Scissors and Shears (Int. Cl. 8).
First use April 1953.

Class 44—Dental, Medical, and Surgical Appliances

For Manicure Sets (Int. Cl. 8).
First use Oct. 1, 1955.

SN 324,133. Gas Processors, Inc., Brea, Calif. Filed Apr. 10, 1969.



For the purposes of registration only, no claim is made to the words "Gas," "Processors," or "Inc." apart from the mark as shown, but applicant waives none of its common-law rights therein. The drawing is lined for the color red.

Class 100—Miscellaneous

For Engineering and Designing of Equipment for Natural Gas Processing, Steam Generation, and Industrial Air Purification (Int. Cl. 42).

Class 103—Construction and Repair

For Custom Fabrication of Equipment for Natural Gas Processing, Steam Generation, and Industrial Air Purification (Int. Cl. 37).

First use at least as early as 1960.

SN 326,337. Black Gold Compost Company, Tampa, Fla. Filed May 5, 1969.

BLACK KOW

Class 1—Raw or Partly Prepared Materials

For Potting Soil (Int. Cl. 1).

Class 10—Fertilizers

For Fertilizer (Int. Cl. 1).

First use on or about Mar. 24, 1969.

SN 326,338. Black Gold Compost Company, Tampa, Fla. Filed May 5, 1969.

BLACK VELVET

Class 1—Raw or Partly Prepared Materials

For Potting Soil (Int. Cl. 1).

Class 10—Fertilizers

For Fertilizer (Int. Cl. 1).

First use on or about Mar. 24, 1969.

SN 326,339. Black Gold Compost Company, Tampa, Fla. Filed May 5, 1969.

BLACK SHEEP

Class 1—Raw or Partly Prepared Materials

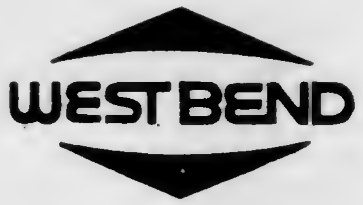
For Potting Soil (Int. Cl. 1).

Class 10—Fertilizers

For Fertilizer (Int. Cl. 1).

First use on or about Mar. 24, 1969.

SN 339,269. Dart Industries Inc., d.b.a. The West Bend Company, Los Angeles, Calif. Filed Sept. 30, 1969.



Owner of Reg. Nos. 595,084, 840,293, and others.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Aluminum, Copper and Steel Cooking Utensils—Namely, Pots, Pans, Kettles, Skillets, Roasters, Broilers, Griddles, Coffee Makers, Tea Kettles, Egg Poachers, French Fryers, Dutch Ovens, Serving Humidors for Keeping Sandwiches, Cake and Similar Foods Fresh, Pitchers, Tumblers, Corn Poppers, Trays, Bowls, Canisters, and Bakeware (Int. Cl. 21).

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Cooking Utensils—Namely, Electric Roasters, Electric Skillets, Electric Coffee Makers, Electric Toasters, Electric Corn Poppers, Electric Broilers, Electric Rotisseries, Electric Table Ranges, and Electric Griddles (Int. Cl. 11).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Humidifiers (Int. Cl. 11).

First use September 1969.

SN 339,647. Avon Products, Inc., New York, N.Y. Filed Oct. 3, 1969.

LATITUDE

Class 51—Cosmetics and Toilet Preparations

For Talcum Powder and After Shave Lotion (Int. Cl. 3).

Class 52—Detergents and Soaps

For Toilet Soap (Int. Cl. 3).

First use June 17, 1969.
Subj. to Intf. with SN 330,665.

SN 339,781. Turner Corporation, Sycamore, Ill. Filed Oct. 6, 1969.

TURNER TORNADO

Owner of Reg. Nos. 633,186, 694,246, and others.

Class 15—Oils and Greases

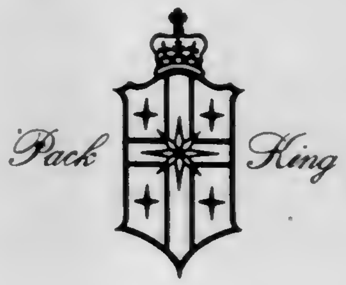
For Propane Fuel (Int. Cl. 4).

Class 34—Heating, Lighting, and Ventilating Apparatus

For Propane Torches, Heaters, Lanterns, Stoves, and Parts Thereof (Int. Cl. 11).

First use Aug. 21, 1969.

SN 342,347. Packing Materials Corporation, Chicago, Ill. Filed Nov. 3, 1969.



Owner of Reg. No. 853,907.

Class 5—Adhesives

For Adhesives, Adhesive Tapes—Namely, Pressure Sensitive, Gummed and Reinforced Tape, and Cellophane and Masking Tape (Int. Cls. 1 and 17).

Class 37—Paper and Stationery

For Wrapping Paper, Vapor Phase Inhibitor Paper, Water-Proof Paper and Scratch Paper (Int. Cl. 16).

First use March 1962.

SECTION 2

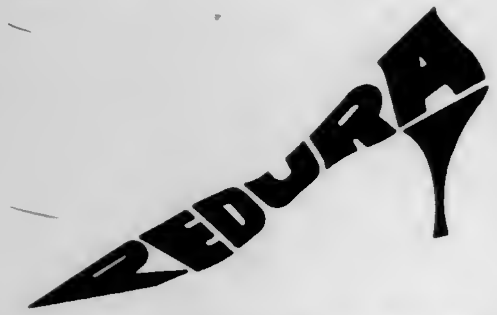
The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

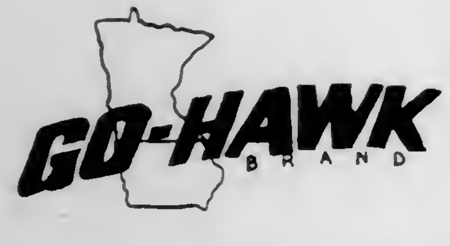
Class 1 — Raw or Partly Prepared Materials

SN 310,626. Armstrong Cork Company, Lancaster, Pa. Filed Oct. 28, 1968.



For Bonded Leather Fibers in the Form of Sheets (Int. Cl. 18).
First use May 10, 1966.
Subj. to Intf. with SN 299,528.

SN 310,696. Ratcliff Seed Co., Austin, Minn. Filed Oct. 28, 1968.



Applicant disclaims the word "Brand" and the geographical outlines of the states of Minnesota and Iowa.
For Soybean Seed, Alfalfa Seed, Oat Seed and Corn Seed (Int. Cl. 31).
First use Oct. 16, 1967.

SN 330,217. Tombigbee Lightweight Aggregate Corporation, Livingston, Ala. Filed June 16, 1969.

LIV-LITE

For Clay Aggregate for Use as a Material in the Manufacture of Concrete Blocks, Structural Concrete, Asphalt Paving and a Neutral Filler for Fertilizers, Paints and Abrasives (Int. Cl. 19).
First use on or about Apr. 1, 1969.

SN 330,689. Armour and Company, Chicago, Ill. Filed June 23, 1969.

ANILWAX

For Leather (Int. Cl. 18).
First use on of prior to Mar. 29, 1962.

SN 331,167. Dart Industries Inc., d.b.a. Fiberfil, Los Angeles, Calif. Filed June 27, 1969.

PROPYLSAR

For Fiberglass Reinforced Thermoplastic Molding Resins (Int. Cl. 1).
First use June 4, 1969.

SN 331,191. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed June 27, 1969.

PLIOTUF

Owner of Reg. Nos. 560,524 and 593,455.
For Thermoplastic Rubber-Resin Compounds for Use in Manufacture (Int. Cl. 1).
First use Apr. 17, 1968.

SN 331,208. John's Inc., Apopka, Fla. Filed June 27, 1969.

LIVING GIFTS

For Decorative Foliage and Flowering Plants (Int. Cl. 31).
First use prior to July 1965.

SN 331,491. Wm. T. Burnett & Co., Incorporated, Baltimore, Md. Filed July 1, 1969.

unifoam

Owner of Reg. No. 652,221.
For Polyurethane Flexible Cellular Plastic Foam in Sheet and Bulk Form (Int. Cl. 17).
First use no later than 1959; Feb. 12, 1955, as to "Unifoam."

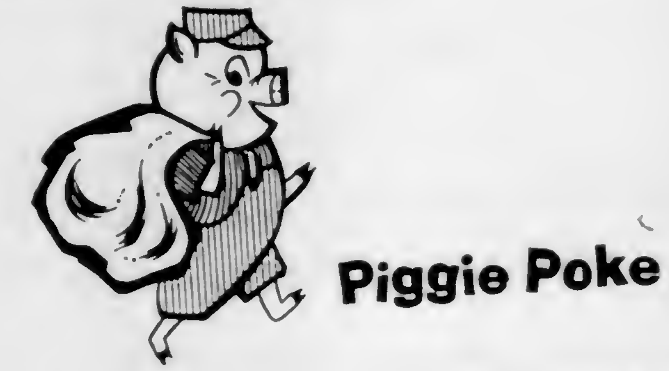
Class 2 — Receptacles

SN 305,038. Paul J. Daniels, d.b.a. D and G Company, Park Ridge, Ill. Filed Aug. 13, 1968.

TAK-A-PAT

For Butter Dispensing Cartons (Int. Cl. 16).
First use Oct. 18, 1967.

SN 324,746. Phillips Petroleum Company, Bartlesville, Okla. Filed Apr. 16, 1969.



The term "Poke" and the representation thereof are disclaimed apart from the mark as shown. The drawing is lined for the color red, no claim is made for a specific color.
For Plastic Bags (Int. Cl. 20).
First use Mar. 6, 1969.

SN 336,643. Fedtro, Inc., Rockville Centre, N.Y. Filed Aug. 29, 1969.

MAGNET-O-MATIC

For Magnetized Containers for Holding Keys (Int. Cl. 6).
First use June 2, 1969.

SN 339,538. Boonton Molding Company, Inc., Boonton, N.J. Filed Oct. 2, 1969.

WRAP-O-MATIC

For Coin Holder (Int. Cl. 20).
First use Sept. 15, 1969.

SN 342,779. Agway, Inc., Dewitt, N.Y. Filed Nov. 3, 1969.
For Silos (Int. Cl. 19).

TOWER-MATIC

First use June 23, 1969.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 322,881. Lumured Plastics Corp., Woodbridge, N.J. Filed Mar. 26, 1969.

Cordé Bead

Owner of Reg No. 776,832.
For Beaded Handbags (Int. Cl. 18).
First use Mar. 1, 1954.

Class 5 — Adhesives

SN 318,960. Industrial Rubber Cement Co., City of Industry, Calif. Filed Feb. 12, 1969.

LOCK BOND
L

Applicant disclaims the word "Bond" apart from the mark as shown.
For Rubber-Resin Adhesives (Int. Cl. 1).
First use Dec. 18, 1968.

SN 327,548. Inmont Corporation, New York, N.Y. Filed May 19, 1969.

INMONT

For Rubber, Asphaltic, Resin and Plastic Adhesives, Adhesive Felt Tape (Int. Cls. 1 and 17).
First use on or about Apr. 11, 1969.

Class 6 — Chemicals and Chemical Compositions

SN 307,049. Service Industries, Philadelphia, Pa. Filed Sept. 10, 1968.

SML-Z-GUD

For Disinfectant-Deodorant (Int. Cl. 5).
First use Mar. 24, 1959.

SN 311,481. Givaudan Corporation, Clifton, N.J. Filed Nov. 6, 1968.

GIVAUDAN

Owner of Reg. Nos. 391,676 and 504,203.
For Natural, Artificial and Synthetic Essential Oils; Organic Odoriferous and Flavor-Imparting Chemicals and Compositions; and Anti-Skinning, Antioxidant, Bactericidal, Fungicidal, Insecticidal and Preservative Chemicals and Compositions (Int. Cls. 1, 3, and 5).
First use June 28, 1940.

SN 315,406. Gidley Laboratories, Inc., Fairhaven, Mass. Filed Dec. 30, 1968.

P-12

For Peptizers (Specialty Chemicals for Use in Rubber Products Manufacturing) (Int. Cl. 1).
First use in or about August 1945.

SN 316,144. E. R. Squibb & Sons, Inc., New York, N.Y. Filed Jan. 8, 1969.

TETRATOPE

Owner of Reg. Nos. 696,667, 808,368, and others.
For Thyroxine I–125 Used for in Vitro Diagnostic Measuring of Serum Thyroxine (Int. Cl. 1).
First use Aug. 15, 1968.

SN 316,906. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Jan. 17, 1969.

RED SEAL

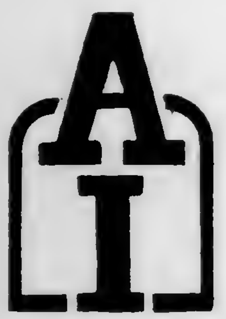
Owner of Reg. Nos. 207,505 and 252,553.
For Lye (Int. Cl. 3).
First use Jan. 1, 1883.

SN 320,402. Organon Inc., West Orange, N.J. Filed Mar. 3, 1969.

ACCUSPHERE

For Reagents and Chemicals in Solid Quantitative Forms for Laboratory, Clinical and Other Diagnostic Testing, Including the Detection of Pregnancy (Int. Cl. 1).
First use Feb. 14, 1969.

SN 323,048. Apter Industries, Inc., McKeesport, Pa. Filed Mar. 28, 1969.



For Chemical Solutions for Use in Making Tests on Shortening (Int. Cl. 1).
First use Jan. 13, 1969.

SN 323,119. Northern Petrochemical Company, Des Plaines, Ill. Filed Mar. 28, 1969.

EXTRAXOL

For Solvent for Extracting Impurities or Selected Components From Gas Streams (Int. Cl. 1).
First use Oct. 15, 1968.

SN 323,260. Clin-Tech Limited, Sidcup, Kent, England. Filed Apr. 1, 1969.

TECHNIPLASTIN

Owner of British Reg. No. 923,521, dated Apr. 8, 1968.
For Diagnostic Thromboplastin for Laboratory Use in Determining Blood Characteristics (Int. Cl. 1).

SN 323,435. The Diversey Corporation, Chicago, Ill. Filed Apr. 2, 1969.

MASTIMIN

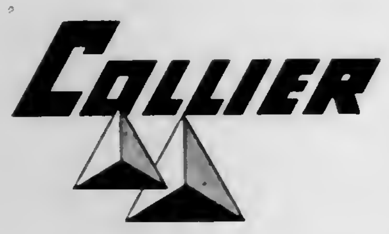
For Iodophor Teat Dip and Udder Wash (Int. Cl. 5).
First use Mar. 21, 1969.

SN 324,389. Anderson Chemical Company, Litchfield, Minn. Filed Apr. 14, 1969.

REG 13

Owner of Reg. No. 808,995.
For Liquid Chlorine and Disinfectant for the Dairy Farmer (Int. Cl. 5).
First use May 16, 1963.

SN 324,411. Collier Carbon and Chemical Corporation, Los Angeles, Calif. Filed Apr. 16, 1969.



Owner of Reg. No. 762,154.
For Sulfuric Acid, Nitric Acid, Phosphoric Acid, Liquid and Solid Carbon Dioxide, Sulfur, Gypsum, Urea, Anhydrous and Aqueous Ammonia, Ammonium Nitrate, Naphthalene, and Aromatic Hydrocarbon Solvents (Int. Cl. 1).
First use Nov. 7, 1957.

SN 326,570. Dril de Mexico, S.A., Mexico City, Mexico. Filed Feb. 20, 1969.

TRILEX

For Drilling Mud Additive—Namely, Inverted Emulsion Muds Used in the Drilling of Oil Wells (Int. Cl. 1).
First use Sept. 15, 1968; in commerce Sept. 15, 1968.

SN 326,571. Dril de Mexico, S.A., Mexico City, Mexico. Filed Feb. 20, 1969.

TRIL-OX

For Drilling Mud Additive—Namely, Inverted Emulsion Muds Used in the Drilling of Oil Wells (Int. Cl. 1).
First use Sept. 15, 1968; in commerce Sept. 15, 1968.

SN 329,675. Allied Chemical Corporation, New York, N.Y. Filed June 11, 1969.

ACCURE C

For Catalyst for Production of Urethane Polymers (Int. Cl. 1).
First use May 16, 1969.

SN 329,709. GAF Corporation, New York, N.Y. Filed June 11, 1969.

ALKAPEN

For Textile Surface Active Agents (Int. Cl. 1).
First use at least as early as 1951.

SN 329,859. Hercules Incorporated, Wilmington, Del. Filed June 12, 1969.

RAMPART

For Chemical Color Pigments (Int. Cl. 2).
First use May 28, 1969.

SN 329,900. Thiokol Chemical Corporation, Bristol, Pa. Filed June 12, 1969.

PLASTISCAT

For Burning Rate Catalysts for Solid Propellants for Rocket Motors (Int. Cl. 1).
First use on or about Mar. 31, 1963.

SN 330,078. Abbott Laboratories, North Chicago, Ill. Filed June 16, 1969.

MAIN

For Corrosion Inhibitor (Int. Cl. 2).
First use Oct. 31, 1968.

SN 335,643. The Dow Chemical Company, Midland, Mich. Filed Aug. 19, 1969.

TAVRON

For Herbicide (Int. Cl. 5).
First use Aug. 7, 1969.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 330,982. Jack R. Kirk, d.b.a. Smoker's World, Tallahassee, Fla. Filed June 25, 1969.

PETER KENT

"Peter Kent" is not a known living person.
For Pipes for Smoking Tobacco (Int. Cl. 34).
First use Dec. 15, 1968.

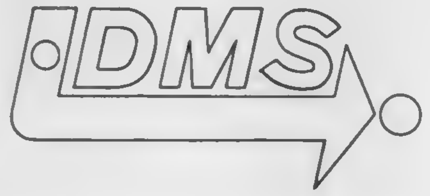
Class 11 — Inks and Inking Materials

SN 332,229. Gotham Ink & Color Co., Inc., Long Island City, N.Y. Filed July 10, 1969.

EXALIN

For Flexographic Inks for Use on Printing Equipment in the Graphic Arts; Coatings and Varnishes for Flexographic Application; and Varnishes, Vehicles and Thinners for Flexographic Inks and Flexographic Coatings (Int. Cl. 2).
First use Dec. 18, 1963.

SN 345,780. American Cyanamid Company, Wayne, N.J. Filed Dec. 10, 1969.



For Luminescent Marking Ink (Int. Cl. 16).
First use Jan. 13, 1969.

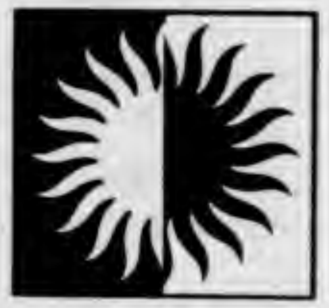
Class 12 — Construction Materials

SN 265,325. Palmer Products Incorporated, Worcester, Pa. Filed Feb. 23, 1967.

EPOXIT

For Resinous Coating Composition for Imparting Anti-Skid Properties to Surfaces Coated Therewith (Int. Cl. 4).
First use September 1957.

SN 308,095. Comfort Glass Corporation, Miami, Fla. Filed Sept. 24, 1968.



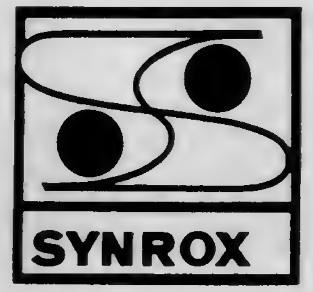
Heat Reflective Type of Film Product Which Can Be Applied to Glass and Other Surfaces (Int. Cl. 17).
First use Apr. 29, 1968.

SN 308,914. Oatey Co., Cleveland, Ohio, Filed Oct. 4, 1968.

NO-CALK

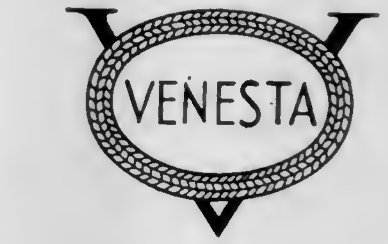
For Roof Flashings for Vent Pipes and the Like (Int. Cl. 6).
First use at least as early as Sept. 14, 1964.

SN 313,035. Synrox, Inc., Crystal Lake, Ill. Filed Nov. 25, 1968.



For Ceramic Refractory Products in the Form of Tubes and Other Shapes, Cements, Tube Glazes and Mold Coatings Used for Conveying Molten Ferrous Materials (Int. Cl. 19).
First use July 17, 1963.

SN 320,298. Venesta Limited, London, England. Filed Feb. 27, 1969.



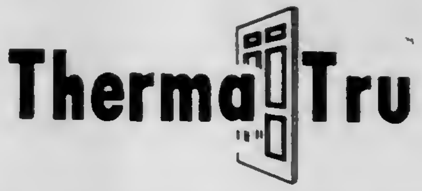
For Plywood (Int. Cl. 19).
First use July 1949; in commerce December 1950.

SN 320,884. William A. Walters, d.b.a. A. & W. Fastener Industries, Riverside, Ill. Filed Mar. 5, 1969.

INSERNAIL

For Concrete Inserts for Reception of Threaded Members (Int. Cl. 19).
First use on or before Feb. 10, 1969.

SN 324,922. Lake Shore Industries, Inc., Toledo, Ohio. Filed Apr. 18, 1969.



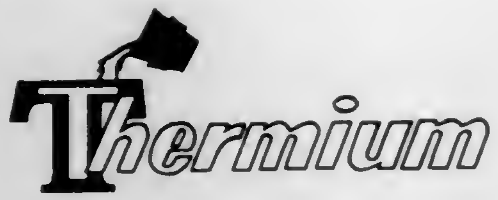
No registration rights are claimed for the representation of the door apart from the mark shown, but applicant waives none of its common law rights in the mark or any feature thereof.
For Metal Faced Doors (Int. Cl. 6).
First use Aug. 5, 1968.

SN 325,446. Air-Tech. Industries, Inc., Clifton, N.J. Filed Apr. 24, 1969.

AIR BEAM HUT

Applicant disclaims the word "Hut" apart from the mark as shown.
For Air Inflated Tube Structure for Supporting a Shell of Fabric (Int. Cl. 19).
First use on or about Mar. 26, 1969.

SN 327,425. Thermium, Inc., Highland, Ind. Filed May 15, 1969.



For Refractory Coatings for the Metal Pouring Industry (Int. Cl. 19).
First use Dec. 16, 1968.

SN 327,465. American Accordian-Fold Doors, Inc., Jamaica, N.Y. Filed May 16, 1969.

WOVYNFOLD

For Folding Doors and Room Dividers (Int. Cl. 19).
First use 1954.

SN 330,672. Masco-Eagle Corporation, Brazil, Ind. Filed June 23, 1969.

KING SAXON

For Ceramic Building Blocks (Int. Cl. 19).
First use Nov. 15, 1968.

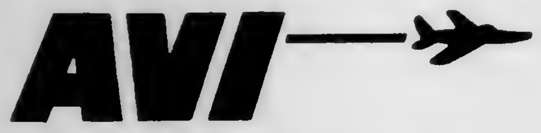
SN 330,763. Nicolet Industries, Inc., Norristown, Pa. Filed June 23, 1969.

TUFBESTOS

For Asbestos Pipe Line Felt (Int. Cl. 17).
First use about March 1954.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 316,403. Auto-Valve, Inc., Dayton, Ohio. Filed Jan. 13, 1969.



For Valves, Particularly Aircraft Valves (Int. Cl. 7).
First use Sept. 20, 1968.

SN 316,470. James C. Roberts, d.b.a. Roberts Irrigation Company, Pauma Valley, Calif. Filed Jan. 13, 1969.

RAIN-AWAY

For Water Sprinkler Heads (Int. Cl. 11).
First use Aug. 2, 1968.

SN 316,701. Vita Craft Corporation, Shawnee, Kans. Filed Jan. 15, 1969.

CALOR

For Metal Cookware (Int. Cl. 21).
First use Oct. 9, 1967.

SN 333,051. Hansen Machine Co., Garden Grove, Calif. Filed July 22, 1969.

WATERMATIC

For Valve Mechanism for Automatically Maintaining a Substantially Constant Liquid Level in Swimming Pools, Fountains, and Troughs (Int. Cl. 6).
First use June 6, 1969.

SN 335,016. Hawkins-Hawkins Co., Inc., Berkeley, Calif. Filed Aug. 11, 1969.

STA-BAND

For Steel Strapping (Int. Cl. 6).
First use July 1968.

SN 337,949. G. C. Murphy Company, McKeesport, Pa. Filed Sept. 15, 1969.

TRIPLE CHECK

Owner of Reg. Nos. 386,707, 795,844, and others.
For Bath Mats, Sink Strainers, Dish Drainers, Stove-Table Mats, Sink Bottom Mats, Drainboard Mats, and Drainboard Trays (Int. Cls. 21 and 27).
First use Sept. 5, 1969.

Class 14 — Metals and Metal Castings and Forgings

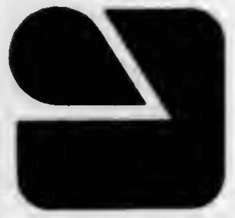
SN 316,222. Meadowbrook Inventions, Inc., Bernardsville, N.J. Filed Jan. 9, 1969.

METALLIC JEWELS

The word "Metallic" is disclaimed apart from the mark as shown.
For Cut-Foil Particles (Int. Cl. 6).
First use Sept. 19, 1966.

Class 15 — Oils and Greases

SN 312,171. Acheson Industries, Inc., Port Huron, Mich. Filed Nov. 14, 1968.



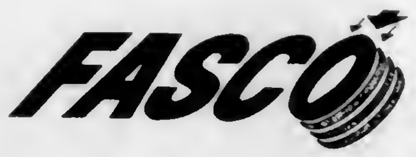
For Lubricating Oils, Mineral Oils, Lubricating Greases, and Mold Release Agents (Int. Cl. 4).
First use Sept. 23, 1968.

SN 324,895. Deere & Company, Moline, Ill. Filed Apr. 18, 1969.

TORQ-GARD

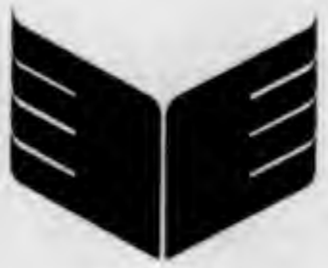
For Motor Oil (Int. Cl. 4).
First use Mar. 31, 1969.

SN 325,965. Robert D. Fagan, Odessa, Tex. Filed Apr. 30, 1969.



For General Purpose Lubricant and Sealant (Int. Cl. 4).
First use Nov. 7, 1967.

SN 330,966. Union Oil Company of California, Los Angeles, Calif. Filed June 25, 1969.



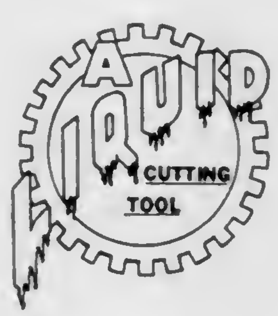
For Lubricating Oils (Int. Cl. 4).
First use May 19, 1969.

SN 332,057. Timex Oil Co., Los Angeles, Calif. Filed July 8, 1969.

SAV O MATIC

For Gasoline (Int. Cl. 4).
First use on or about May 15, 1968.

SN 335,607. Jasper Pizzitola, d.b.a. The Orbit Chemical Research & Developing Company, Houston, Tex. Filed Aug. 18, 1969.



For Cutting Oil Used on Conventional, Horizontal, Vertical Mills, Jig-Borers, Planers, Shapers, Lathes, Drill Presses, Automatic Tapping Heads and Grinding Machines, and on All Common and Exotic Metals (Int. Cl. 4).
First use Oct. 29, 1968.

SN 345,905. Suni Candle Corporation, Redwood City, Calif. Filed Dec. 11, 1969.

SUNI

For Candles (Int. Cl. 4).
First use Nov. 12, 1969.

SN 345,976. Phillips Petroleum Company, Bartlesville, Okla. Filed Dec. 11, 1969.

IGLOO

For Lubricating Oils (Int. Cl. 4).
First use Nov. 4, 1969.

SN 346,780. Standard Oil Company of California, San Francisco, Calif. Filed Dec. 19, 1969.

F-310

For Gasoline Additive (Int. Cl. 1).
First use Nov. 28, 1969.

Class 16 — Protective and Decorative Coatings

SN 324,900. Economics Laboratory, Inc., St. Paul, Minn. Filed Apr. 18, 1969.

MAGNUS

Owner of Reg. No. 793,212.
For Protective and Decorative Coatings in the Nature of Organic Preparations—Namely, Paints, Primers, Varnishes, and Clear Protective Coatings (Int. Cl. 2).
First use Nov. 21, 1952.

SN 325,978. Kurfees Paint Co., Louisville, Ky. Filed Apr. 30, 1969.

SUN-BAR

Owner of Reg. No. 512,011.
For Asphalt Roof Paint (Int. Cl. 2).
First use June 25, 1947.

SN 333,810. California Products Corporation, Cambridge, Mass. Filed July 29, 1969.

PLEXI-PAVE

For Acrylic Color Coating Filler for Asphalt and Concrete (Int. Cl. 2).
First use Feb. 28, 1961.

SN 333,811. California Products Corporation, Cambridge, Mass. Filed July 29, 1969.

RUST-PLEX

For Acrylic Latex Coating for Iron, Steel, Aluminum, Copper, Concrete, Galvanized Iron, Unpolished Metals, Wood, Brass, and Masonry (Int. Cl. 2).
First use May 17, 1965.

SN 333,813. California Products Corporation, Cambridge, Mass. Filed July 29, 1969.

ALLFLOR

For Epoxy Acrylic Latex Enamel for Concrete, Wood, and Masonry (Int. Cl. 2).
First use Apr. 15, 1964.

SN 345,749. The Dampney Company, Boston, Mass. Filed Dec. 10, 1969.

PACKARD

Owner of Reg. No. 609,741.
For Dry, Paste and Ready Mixed Paints, Ready Mixed Stains and Paint Enamels (Int. Cl. 2).
First use April 1931.

Class 17—Tobacco Products

SN 304,382. Philip Morris Incorporated, New York, N.Y. Filed Aug. 5, 1968.

VIRGINIA SLIMS

For Cigarettes (Int. Cl. 34).
First use July 24, 1968.

SN 318,585. J. P. Schmidt Jun. A/S, Fredericia, Jutland, Denmark. Filed Feb. 6, 1969.

CIGILL

Owner of Danish Reg. No. 1996–1967, dated July 7, 1967.
For Tobacco Products—Namely, Cigars, Cheroots, Cigarillos, Cigarettes, and Pipe Tobacco (Int. Cl. 34).

SN 318,586. J. P. Schmidt Jun. A/S, Fredericia, Jutland, Denmark. Filed Feb. 6, 1969.

MANNE

Owner of Danish Reg. No. 827–1945, dated Nov. 17, 1945.
For Tobacco Products—Namely, Cigars, Cheroots, Cigarillos, Cigarettes, and Pipe Tobacco (Int. Cl. 34).

SN 318,602. Universal Cigar Corporation, New York, N.Y. Filed Feb. 6, 1969.

FAIRWAY

For Cigars (Int. Cl. 34).
First use at least as early as 1948.

SN 324,597. Liggett & Myers Incorporated, New York, N.Y. Filed Apr. 15, 1969.

EVERY DAY CHEW

For Chewing Tobacco (Int. Cl. 34).
First use Feb. 27, 1969.

Class 18—Medicines and Pharmaceutical Preparations

SN 315,794. Societe Francaise de Recherches Biochimiques, Paris, France. Filed Jan. 3, 1969.

PANCLAR

Owner of French Reg. No. 532,575, dated June 11, 1965 (Paris); Natl. Inst. No. 251,483.
For Pharmaceutical Preparation for Use in the Treatment of Depression, Anxiety, Strain and Tiredness Due to Overwork, Senile Mental Asthenia and Cerebral Problems Associated With Alcohol and Drug Abuse, and for Use in Convalescence Therefrom (Int. Cl. 5).

SN 319,262. Beecham Inc., Clifton, N.J. Filed Feb. 17, 1969.

ENOS

Owner of Reg. Nos. 51,934, 148,010, and 212,878.
For Antacid Tablets (Int. Cl. 5).
First use Jan. 16, 1969.

SN 319,316. Johnson & Johnson, New Brunswick, N.J. Filed Feb. 17, 1968.

TRUCE

For Analgesic Preparations (Int. Cl. 5).
First use Jan. 10, 1969.

SN 322,481. Richardson-Merrell Inc., New York, N.Y. Filed Mar. 21, 1969.

ELECTROFERM

For Veterinary Toxoid (Int. Cl. 5).
First use May 29, 1968.

SN 326,289. Cary Corporation, Westport, Conn. Filed May 5, 1969.

CHASER

For Analgesic Antacid (Int. Cl. 5).
First use Apr. 18, 1969.

SN 328,861. Kali-Chemie Aktiengesellschaft, Hannover, Germany. Filed June 2, 1969.

CEOLAT

Owner of German Reg. No. 160,792, dated Mar. 12, 1912.
For Pharmaceutical Preparations Against Meteorism (Int. Cl. 5).

SN 330,250. Bristol-Myers Company, New York, N.Y. Filed June 17, 1969.

CAMECON

For Pharmaceutical Preparation for Prevention of Conception and for Treatment of the Female Reproductive System (Int. Cl. 5).
First use June 21, 1968.

SN 330,252. Bristol-Myers Company, New York, N.Y. Filed June 17, 1969.

KOLEREST

For Anti-Hyperlipidemic Agent (Int. Cl. 5).
First use July 5, 1968.

SN 330,253. Bristol-Myers Company, New York, N.Y. Filed June 17, 1969.

PHYSEQUEN

For Pharmaceutical Preparation for Prevention of Conception and for Treatment of the Female Reproductive System (Int. Cl. 5).
First use June 21, 1968.

SN 330,306. Sterling Drug Inc., New York, N.Y. Filed June 17, 1969.

MARCAINE

Owner of Reg. No. 706,908.
For Anesthetics (Int. Cl. 5).
First use May 28, 1969.

SN 330,617. Norden Laboratories, Inc., Wilmington, Del. Filed June 20, 1969.

RESBOVAC

For Bovine Rhinotracheitis-Parainfluenza 3 Vaccine Used in Veterinary Medicine (Int. Cl. 5).
First use May 15, 1969.

SN 330,855. Smith, Miller & Patch, Inc., New York, N.Y. Filed June 24, 1969.

SYNTACLO

For Ointment for the Treatment of Eczema (Int. Cl. 5).
First use September 1946.

SN 331,068. The Purdue Frederick Company, Yonkers, N.Y. Filed June 26, 1969.

SENOGUAR

For Laxative Preparation (Int. Cl. 5).
First use June 18, 1969.

SN 331,076. Smith, Miller & Patch, Inc., New York, N.Y. Filed June 26, 1969.

MILESTROL

For Diethylstilbestrol (Int. Cl. 5).
First use June 16, 1947.

SN 331,118. The Herman Nagel Co., Chicago, Ill. Filed June 27, 1969.

FORMULA B

No claim is made to the word "Formula" apart from its use with the mark.
For Mineral Concentrate as a Dietary Supplement Used for Consumption by Domestic Animals When Mixed With Regular Grain Rations and for Consumption in Tablet Form by Human Beings (Int. Cl. 5).
First use Jan. 10, 1940.

SN 331,364. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 30, 1969.

FABROL

Owner of Reg. No. 687,824.
For Anti-Inflammatory Preparation (Int. Cl. 5).
First use June 16, 1969.

SN 331,365. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 30, 1969.

ENFITEN

For Anti-Infective Skin Preparation Applied Externally (Int. Cl. 5).
First use June 16, 1969.

SN 346,172. The Good Life, North Hollywood, Calif. Filed Dec. 15, 1969.

NUTRI-CYCLE

For Multiple Vitamin and Mineral Food Supplement (Int. Cl. 5).
First use May 1960.

SN 346,577. Parke, Davis & Company, Detroit, Mich. Filed Dec. 18, 1969.

INTRIBEC

Owner of Reg. No. 601,271.
For Antianemic Preparation (Int. Cl. 5).
First use on or before June 1, 1960.

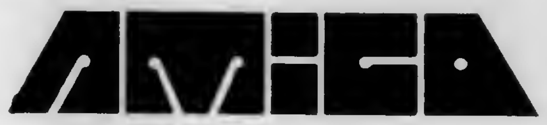
SN 346,581. Smith Kline & French Laboratories, Philadelphia, Pa. Filed Dec. 18, 1969.

ORNAL

For Sinus Headache Preparation (Int. Cl. 5).
First use Nov. 17, 1969.

Class 19—Vehicles

SN 321,619. Amigo Sales, Inc., Bridgeport, Mich. Filed Mar. 13, 1969.



The Spanish word "Amigo" is translated in English as "Friend."
For Electrically Powered Scooter Vehicles (Int. Cl. 12).
First use Jan. 30, 1969.

SN 322,272. Cushionflight Corporation, Sunnymead, Calif. Filed Mar. 20, 1969.

CUSHIONFLIGHT

For Air Driven Vehicles Designed To Move on a Cushion of Air Over Land and Water, and Parts Thereof (Int. Cl. 12).
First use Dec. 15, 1966.

SN 329,888. Rebikoff Underwater Products, Inc., Fort Lauderdale, Fla. Filed June 12, 1969.

PEGASUS

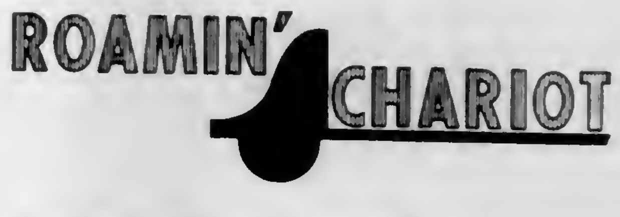
For Self Propelled Vehicle for Transporting Scuba Divers Underwater (Int. Cl. 12).
First use Mar. 10, 1956.

SN 332,801. Custer E. Capadalis, Dallas, Tex. Filed July 17, 1969.

CURB JUMPER

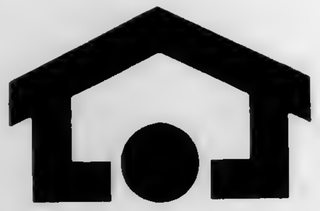
For Hand Trucks (Int. Cl. 12).
First use at least as early as Nov. 1, 1968.

SN 333,374. Jimmy Neal Christian, d.b.a. Christian Trailer Finishing, Spokane, Wash. Filed July 24, 1969.



The drawing is lined for the color red.
For Camping Trailers, House Trailers, Travel Trailers, Boat Trailers, Pick-Up Campers, Mobile Homes and Motored Homes (Int. Cl. 12).
First use Jan. 2, 1968.

SN 335,981. Henslee Mobile Homes, Inc., Arlington, Tex. Filed Aug. 22, 1969.



For Mobile Homes (Int. Cl. 12).
First use on or about May 15, 1969.

SN 336,757. B & M Industries, Inc., Van Nuys, Calif. Filed Sept. 2, 1969.

CHEVALLERO

For Recreation Vehicles—Namely, Motor Homes (Int. Cl. 12).
First use July 18, 1969.

SN 338,495. Silverline, Inc., Moorhead, Minn. Filed Sept. 22, 1969.

SILVERLINE

Owner of Reg. No. 821,495.
For Pleasure Boats (Int. Cl. 12).
First use July 7, 1969.

Class 20 — Linoleum and Oiled Cloth

SN 329,961. L. L. Carpenter & Company, Wharton, N.J. Filed June 13, 1969.

STONEHENGE

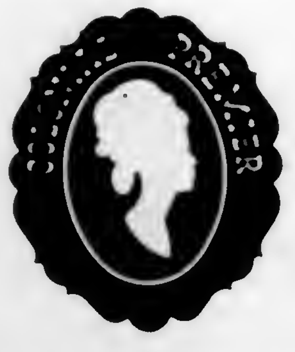
For Vinyl Wall Coverings (Int. Cl. 27).
First use on or about May 27, 1967.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 246,443. Certified Chemical and Equipment Company, Cleveland, Ohio. Filed May 24, 1966.

For Portable Electrically Operated Equipment for Cleaning Rugs and Textiles for Home and Industry (Int. Cl. 7).
First use March 1962; January 1937 as to "Certified"; 1950 in a different form.

SN 292,711. The Scott & Fetzer Company, Chicago, Ill. Filed Mar. 7, 1968.



The words "Lamps of Distinction" are desclaimed apart from the mark as shown.
Owner of Reg. Nos. 709,633, 712,073, and 735,662.
For Electric Floor Lamps and Table Lamps and Wall Lamps and Lamp Shades Primarily Intended Therefor and Torchieres and Table-and-Lamp Combinations, With and Without Shades, Wired To Receive Electric Light Bulbs, and Parts for Same (Int. Cl. 11).
First use Jan. 8, 1968.

SN 295,293. Amax Industries, Inc., Elgin, Ill. Filed Apr. 10, 1968.

WINKER LITES

Applicant disclaims the word "Lites" apart from the mark as a whole.
For Electrical Turn Signal Indicator Device for Installation Upon Fenders or Hood of Automobiles and Adapted for Operable Coupling to the Electrical System of such Automobile, Said Device Being Sold in Kit Form (Int. Cl. 11).
First use on about Dec. 21, 1967.

SN 306,554. FPC Electronics Corporation, Timonium, Md. Filed Sept. 4, 1968.

COLORAMIC

For Indoor Television Antennas (Int. Cl. 9).
First use Apr. 23, 1968.

SN 311,247. Fedders Corporation, Edison, N.J. Filed Nov. 4, 1968.

medicAIR

For Electrostatic Air Cleaner (Int. Cl. 11).
First use on or about July 2, 1968.

SN 316,482. Trans-Aire Electronics, Inc., New Hyde Park, N.Y. Filed Jan. 13, 1969.

PAN-AIRE

For Radios, Transistor Radios, Clock Radios and Travel Clock Radios (Int. Cl. 9).
First use February 1968.

SN 317,988. Stewart-Warner Corporation, Chicago, Ill. Filed Jan. 31, 1969.

EVER-FLASH

For Electromechanical Control for Flashing Signals and Particularly Vehicle Lamps (Int. Cl. 9).
First use Dec. 30, 1968.

SN 318,577. The Pyle-National Company, d.b.a. Steber Manufacturing Company, Chicago, Ill. Filed Feb. 6, 1969.

SPACELITER

For Floodlights for Indoor and Outdoor Use and Parts Thereof (Int. Cl. 11).
First use September 1951.

SN 328,168. Fedtro, Inc., Rockville Centre, N.Y. Filed May 23, 1969.

CHROME-FLEX

For Battery-Powered Adjustable Lights Operated Through the Cigarette Lighter of an Automobile (Int. Cl. 11).
First use on or prior to Sept. 16, 1968.

SN 330,732. Gardner Manufacturing Company, Horicon, Wis. Filed June 23, 1969.

ZAP

For Insect Electrocutors (Int. Cl. 9).
First use Jan. 15, 1969.

SN 336,340. Lorival Limited, Little Lever, near Bolton, England. Filed Aug. 26, 1969.

FORTEX

Priority claimed under Sec. 44(d) on British Reg. No. 938,938, dated Feb. 28, 1969.
For Electric Storage Batteries (Int. Cl. 9).

SN 336,476. Sonotone Corporation, Elmsford, N.Y. Filed Aug. 27, 1969.

FASTBACK

For Quick-Charge Nickel-Cadmium Battery Cells (Int. Cl. 9).
First use June 23, 1969.

SN 340,205. Thyrocon Controls Corporation, Chalfont, Pa. Filed Oct. 8, 1969.

MOOD MASTER

For Adjustable Electrical Switches (Int. Cl. 9).
First use July 15, 1969.

SN 340,235. Bestran Corporation, Monrovia, Calif. Filed Oct. 9, 1969.

HYBRIDISC

For Capacitor (Int. Cl. 9).
First use Sept. 3, 1969.

SN 340,345. The Louis Allis Company, Milwaukee, Wis. Filed Oct. 10, 1969.

SABER

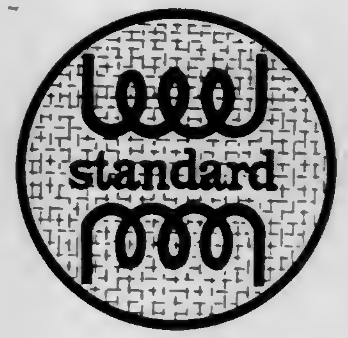
For Static DC Drives, Power Supplies, DC Motor Controls, Adjustable Speed Drives and Static Controlled Rectifiers (Int. Cl. 9).
First use July 19, 1967.

SN 340,384. Fansteel Inc., North Chicago, Ill. Filed Oct. 10, 1969.

FANWELD

For Electrical Contacts (Int. Cl. 9).
First use on or about Dec. 16, 1938.

SN 342,810. American Gage & Machine Company, Elgin, Ill. Filed Nov. 6, 1969.



The drawing is lined for the color yellow, but the mark is not limited to any color. Owner of Reg. No. 795,091.
For Electric Transformers and Parts Thereof (Int. Cl. 9).
First use Dec. 1, 1962.

SN 343,540. Gardco Manufacturing Inc., San Leandro, Calif. Filed Nov. 14, 1969.

GARDCO

For Lighting Fixtures (Int. Cl. 11).
First use June 11, 1969.

SN 344,033. Thomas Industries Inc., Louisville, Ky. Filed Nov. 19, 1969.

MAGNUM

For Electric Lighting Fixtures (Int. Cl. 11).
First use on or about July 23, 1969.

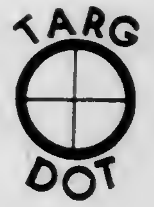
SN 346,691. Baudinet International Corporation of America, New York, N.Y. Filed Dec. 19, 1969.

TYNA MITE

For Flashlights (Int. Cl. 11).
First use July 1969.

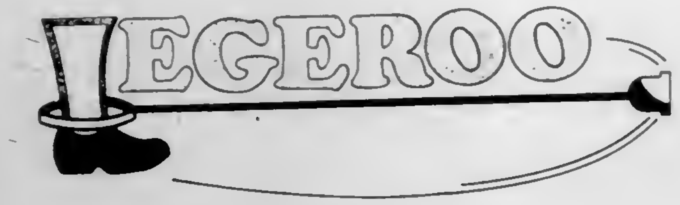
Class 22 — Games, Toys, and Sporting Goods

SN 296,573. Eugene G. Peterson, d.b.a. Peterson's Labels, Basking Ridge, N.J. Filed Apr. 25, 1968.



For Pressure Sensitive Fluorescent Markers Used as Target Aiming Points (Int. Cl. 28).
First use Dec. 17, 1967.

SN 307,499. Newman-Dell Company, Brooklyn, N.Y. Filed Sept. 16, 1968.



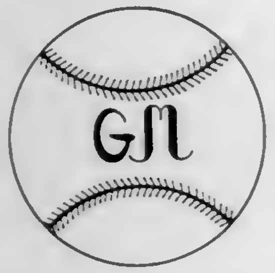
Applicant claims no exclusive right in the representation of goods shown in the drawing.
For Musical Toy Adapted for Encircling a Person's Arm or Leg and Being Swung in an Arc Thereabout (Int. Cl. 28).
First use at least as early as July 30, 1968.

SN 309,540. Bandai Co., Ltd., Daito-ku, Tokyo, Japan. Filed Oct. 14, 1968.

BANDAI

For Friction-Drive Toy Cars and Trucks; Battery Operated Toy Cars and Trucks; Battery Operated Animated Toys; Friction-Drive Toy Air Craft; Battery Operated Toy Air Craft; Stuffed Animals; Inflatable Plastic Toys; Battery Operated Space Toys; Remote-Controlled Toy Cars and Trucks (Int. Cl. 28).
First use July 5, 1950; in commerce April 1958.

SN 309,600. Glenn Mickens, d.b.a. Scott & Co., Reseda, Calif. Filed Oct. 14, 1968.



Applicant disclaims the pictorial representation of a baseball apart from the mark as shown.
For Baseballs (Int. Cl. 28).
First use Jan. 1, 1963.

SN 310,497. "Automatic" Sprinkler Corporation of America, Cleveland, Ohio, assignee of Rawlings Sporting Goods Company, St. Louis, Mo. Filed Oct. 24, 1968.

HOLDSTER

For Baseball Gloves and Mitts (Int. Cl. 28).
First use September 1967.

SN 311,947. Jonathan C. Stimson, d.b.a. Clever Games Company, Evanston, Ill. Filed Nov. 12, 1968.

BEAT THE MARKET

The words "The Market" are disclaimed separate and apart from the mark.
For Equipment Sold as a Unit for Playing a Competitive Stock Market Type Board Game (Int. Cl. 28).
First use October 1968.

SN 313,896. Brunswick Corporation, Chicago, Ill. Filed Dec. 9, 1968.

THE WORKING BALL

Applicant disclaims the exclusive right to the word "Ball" apart from the mark as a whole.
For Bowling Balls (Int. Cl. 28).
First use August 1968.

SN 314,521. Bombardier Limited, Valcourt, Quebec, Canada. Filed Dec. 16, 1968.

NORDIC

Priority claimed under Sec. 44(d) on Canadian application, filed Oct. 31, 1968; Reg. No. 166,241, dated Nov. 14, 1969.
For Toy Snowmobiles (Int. Cl. 28).

SN 317,077. Bernhard Markwitz, Hamburg, Germany. Filed Jan. 21, 1969.

BEMA

Owner of German Reg. No. 829,481, dated Oct. 10, 1966.
For Toys and Sporting Goods Made of Rubber or Rubber Substitutes, Flotation-Swimming Aids and Life Saving Equipment (Int. Cls. 9 and 28).

SN 318,240. Stig Ravn A/S, Farum, Denmark. Filed Feb. 3, 1969.

HOPPY LUCKY

For Hopscotch Blocks (Int. Cl. 28).
First use July 1968.

SN 319,325. Louis Levy, Long Branch, N.J. Filed Feb. 17, 1968.

COUNT OFF

For Equipment Sold as a Unit for Playing Games Such as Table Type (Int. Cl. 28).
First use Jan. 10, 1969.

SN 320,505. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

SPACE EXPLORERS

For Equipment or Apparatus for Playing a Game (Int. Cl. 28).
First use Feb. 27, 1969.

SN 321,031. "Automatic" Sprinkler Corporation of America, St. Louis, Mo. Filed Mar. 7, 1969.

Armor-FLEX

For Protective Athletic Pads—Namely, Football Shoulder Pads and Parts Thereof (Int. Cl. 28).
First use Apr. 25, 1968.

SN 321,085. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 7, 1969.

MOON-PROBE

For Equipment Sold as a Unit for Playing a Balancing Ball-Type Game of Skill (Int. Cl. 28).
First use Feb. 3, 1969.

SN 322,261. Milton Bradley Company, Springfield, Mass. Filed Mar. 20, 1969.

MOTHER'S HELPER

For Equipment Sold as a Unit for Playing a Toy Parlor Game (Int. Cl. 28).
First use Dec. 15, 1968.

SN 322,489. Skor-Mor Corporation, Anaheim, Calif. Filed Mar. 21, 1969.

ASTRO-SKITTLES

For Equipment Sold as a Unit for Playing a Game of the Skittles Type (Int. Cl. 28).
First use Feb. 18, 1969.

SN 322,316. Miner Industries, Inc., New York, N.Y. Filed Mar. 20, 1969.

THE MADNESS MACHINE

No claim of exclusive right is made to the word "Machine" for the goods recited apart from the mark as shown.
For Viewing Toy That Inverts Objects Viewed Therethrough (Int. Cl. 28).
First use Mar. 17, 1969.

SN 322,321. Miner Industries, Inc., New York, N.Y. Filed Mar. 20, 1969.

GLOW SHOW

No claim is made to the word "Glow" apart from the mark as shown.
For Picture Making Toy Having a Phosphorescent Playboard (Int. Cl. 28).
First use Mar. 17, 1969.

SN 323,232. Milton Bradley Company, Springfield, Mass. Filed Apr. 1, 1969.

CROSS UP POKER

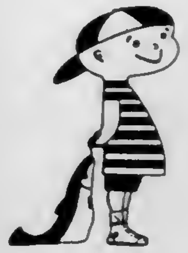
The word "Poker" is disclaimed apart from the mark as shown.
For Equipment Sold as a Unit for Playing a Card Type Parlor Game (Int. Cl. 28).
First use Dec. 15, 1968.

SN 323,309. Kenner Products Company, Cincinnati, Ohio. Filed Apr. 1, 1969.

POWER-SUB

For Toy Submarine-Type Boats (Int. Cl. 28).
First use on or about June 8, 1965.

SN 323,728. M. Edward Pope, d.b.a. Eddie Pope & Company, Altadena, Calif. Filed Apr. 4, 1969.



For Fishing Lures, Spinners and Trolls, Trolling Attractors and Dodgers, Trolling Rudders and Rod Holders (Int. Cl. 28).
First use January 1956 on fishing lures and trolling rudders.

SN 333,306. Shakespeare Company, Kalamazoo, Mich. Filed July 23, 1969.

JET SET

For Fishing Rods (Int. Cl. 28).
First use Aug. 1, 1968.

SN 333,578. K-2 Ski Company, Vashon, Wash. Filed July 25, 1969.

TORSION TRACK

For Snow Skis (Int. Cl. 28).
First use May 3, 1969.

SN 334,524. Mattel, Inc., Hawthorne, Calif. Filed Aug. 6, 1969.

PLINKY PLUNKER

For Toy Piano (Int. Cl. 28).
First use July 8, 1969.

SN 339,093. Mattel, Inc., Hawthorne, Calif. Filed Sept. 29, 1969.

HAPPIDICULOUS

For Dolls, Doll Clothing and Doll Accessories (Int. Cl. 28).
First use July 30, 1969.

SN 345,248. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

DYNO-METER

For Toy Device for Measuring the Drift and Drag on Miniature Automobiles (Int. Cl. 28).
First use Oct. 30, 1969.

SN 345,250. Mattel, Inc., Hawthorne, Calif. Filed Dec. 4, 1969.

SPELLFINDER'S SECRETS

For Toy Equipment for Performing Magical Effects (Int. Cl. 28).
First use Oct. 30, 1969.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 291,384. The Grant Company, Chicago, Ill. Filed Feb. 19, 1968.

HAIR WIZ

Without waiving any common law rights, applicant disclaims exclusive rights to the use of the term "Hair," apart from the mark as shown.
For Hair Trimmers (Int. Cl. 8).
First use Mar. 23, 1966.

SN 300,452. Jarvis Corporation, Hartford, Conn. Filed June 14, 1968.

NuCon/77

For Drill Bits, Taps, End Mills, Reamers, Rotary Files, Boring Bits, Countersinks and Key Seat Cutters (Int. Cl. 7).
First use on or before Feb. 1, 1967.

SN 301,692. Barber-Greene Company, Aurora, Ill. Filed July 1, 1968.

VIBRA-SPRING

For Mechanically-Operated Screen for Sand and Gravel Screening Plant (Int. Cl. 7).
First use June 14, 1968.

SN 318,399. The Colson Corporation, Chicago, Ill. Filed Feb. 5, 1969.

Lifton

For Pallet Trucks (Int. Cl. 12).
First use Sept. 5, 1967.

SN 320,377. Ransburg Electro-Coating Corp., Inc., Indianapolis, Ind. Filed Feb. 28, 1969.

SPLAT-R-KOTE

For Coating Apparatus and Parts Thereof and Attachments and Accessories for Use Therewith—Namely, Coating Apparatus for Spray Depositing Plastics Such as Polyester Resins and the Like (Int. Cl. 7).
First use on or about July 21, 1967.

SN 320,803. Dri Mark Products, Inc., Mount Vernon, N.Y. Filed Mar. 5, 1969.

dm

Owner of Reg. Nos. 729,143, 770,823, and others.
For Price Markers—Namely, Hand-Operated Price Markers (Int. Cl. 8).
First use December 1965.

SN 324,091. Pemar Engineering, Inc., Hialeah, Fla. Filed Apr. 9, 1969.

PEMAR

For Grain Dryers, Grain Conveying Apparatus (Bucket Grain Conveyors), Grain Cleaning Machines, Grain Grading Machines and Grain Milling Machines (Int. Cl. 7).
First use 1964.

SN 325,237. Thomas Equipment Limited, Centreville, New Brunswick, Canada. Filed Apr. 22, 1969.

AIR VAC

For Potato Harvesters (Int. Cl. 7).
First use February 1968; in commerce February 1968.

SN 325,592. FMC Corporation, San Jose, Calif. Filed Apr. 25, 1969.

FLEX-WING

For Rotary Cutters and Shredders for Mowing and Shredding Crop Residue and the Like (Int. Cl. 7).
First use Mar. 31, 1969.

SN 325,706. Bell Aerospace Corporation, Pacoima, Calif. Filed Apr. 28, 1969.

HYDROTAND

For Hydraulic Operators for Fluid Valves (Int. Cl. 7).
First use or about Apr. 8, 1968.

SN 325,995. Ransburg Electro-Coating Corp., Indianapolis, Ind. Filed Apr. 30, 1969.

GLAS-MATE

Owner of Reg. No. 711,197.
For Coating Systems for Applying Plural Component Materials and Component Parts Thereof and Attachments and Accessories for Use Therewith—Namely, Air and/or Airless Atomizing Guns or Sprayers; Air and/or Hydraulic Power Supply Units; Pressure Pots; Air Operated Pumps; and Air Operated Fiber Choppers (Int. Cl. 7).
First use on or about Apr. 21, 1969.

SN 327,665. Our Own Hardware Company, Minneapolis, Minn. Filed May 19, 1969.

OUR OWN Super Mo

For Lawn Mowers (Int. Cl. 7).
First use Feb. 20, 1969.

SN 329,019. Vulcan Steel Corporation, Birmingham, Ala. Filed June 3, 1969.

ASTRALLOY

Owner of Reg. No. 864,840.
For Machinery Parts and Cutlery Made of Steel—Namely, Spline Gears, Bevel Gears, Piston Rods, Wrist Pins, Drive Shafts, Forge Pistons, Forge Hammers, Crushing Hammers, Hammer Mill Pins, Mill Rolls, Trunnion Rolls, Conveyor Chains, Digester Nozzles, Centrifugal Pipe-Casting Machine Molds, Cutter Edges for Dredges, Lawn Mower Blades, Scraping and Earthworking Machine Blades, and Blades for Power Shears (Int. Cl. 7).
First use Apr. 28, 1969.

SN 329,377. Nicholson File Company, Providence, R.I. Filed June 6, 1969.

SPLIT-LOCK

Circular Cutoff Saws and Parts Thereof (Int. Cl. 7).
First use May 7, 1969.

SN 329,890. Rockland, Inc., Winter Garden, Fla. Filed June 12, 1969.

R

Owner of Reg. No. 870,448.
For Bulk Material Spreading Machines (Int. Cl. 7).
First use Apr. 4, 1969.

SN 330,623. Phillips Petroleum Company, Bartlesville, Okla. Filed June 20, 1969.

CONVOCAN

Owner of Reg. No. 874,510.
For Merchandise Packaging Machines (Int. Cl. 7).
First use as early as Feb. 16, 1968.

SN 330,776. The W. E. Bassett Company, Derby, Conn., assignee of Reed Tool-Die & Manufacturing Corporation, Kokomo, Ind. Filed June 23, 1969.

GOLF-AID

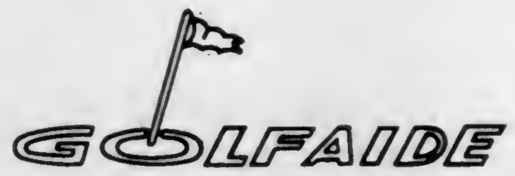
For Golfer's Pocket Tool, Including a Ball Marker, and a Divot Fixer and Shoe-Cleat Cleaner, Combined in a Case (Int. Cl. 8).
First use Feb. 12, 1968.

SN 331,994. Carpco Research & Engineering, Inc., Jacksonville, Fla. Filed July 8, 1969.

LAMFLO

For Sluice Concentrators for Beneficiating Minerals (Int. Cl. 7).
First use May 9, 1969.

SN 333,244. The W. E. Bassett Company, Derby, Conn. Filed July 23, 1969.



For Pocket Tool Including a Wrench for Adjusting the Cleats of Golf Shoes, Combined With a Divot Fixer and Cleat Cleaner (Int. Cl. 8).
First use May 29, 1969.

SN 339,036. Oneida Ltd., Oneida, N.Y. Filed Sept. 26, 1969.

WOODFROST

Owner of Reg. Nos. 797,196, 857,866, and others.
For Flatware Made of Non-Precious Metal (Int. Cl. 8).
First use Aug. 25, 1969.

SN 339,584. Milwaukee Electric Tool Corporation, Brookfield, Wis. Filed Oct. 2, 1969.

SAWZALL

For Portable Reciprocating Power Saw (Int. Cl. 7).
First use June 26, 1952.

SN 339,905. J. Frank Mack, d.b.a. Mack Company, Flagstaff, Ariz. Filed Oct. 6, 1969.

LO-PRO

For Pneumatic and Hydraulic Cylinders (Int. Cl. 7).
First use June 2, 1969.

SN 340,022. International Harvester Company, Chicago, Ill. Filed Oct. 7, 1969.

HI-CLEAR

For Tractors (Int. Cl. 12).
First use March 1956.

SN 340,053. Turner Machine Co., Inc., Danbury, Conn. Filed Oct. 7, 1969.

RAMPARTS

For Repair and Maintenance Parts for Pumps—Namely, Casings, Covers, Frames, Shafts, Thrust Yokes, and Shaft Sleeves (Int. Cl. 7).
First use May 6, 1969.

SN 340,653. Clipper Manufacturing Company, Inc., Grandview, Mo. Filed Oct. 14, 1969.

DIA-SET

For Bits for Core Drills (Int. Cl. 7).
First use Oct. 8, 1969.

SN 341,183. McGraw-Edison Company, Elgin, Ill. Filed Oct. 20, 1969.

VILLAGE BLACKSMITH

Owner of Reg. Nos. 517,413 and 615,702.
For Shears, Hand Scythes and Sickles, Powered Augers (Earth and Ice), Electric Thermal Foggers, Portable Gas Engine Thermal Foggers, Electric Edgers and Lawn Trimmers, Cultivators, Electric Hedge Trimmers, Pole Pruners and Saws, Electric Tree Pruning Saws, Camping and Pruning Saws, Curved and Double-Edge Saws, and Bow Saws (Int. Cls. 7 and 8).
First use as early as July 1906.

SN 341,293. Tos Kurim, Narodny Podnik, Kurim, Czechoslovakia. Filed Oct. 21, 1969.

FINESA

Owner of Czechoslovak Reg. No. 157,695, dated Oct. 30, 1967.
For Tool Room Knee-Type Milling Machines (Int. Cl. 7).

SN 341,294. Tos Kurim, Narodny Podnik, Kurim, Czechoslovakia. Filed Oct. 21, 1969.

MILLSTAR

Owner of Czechoslovak Reg. No. 157,469, dated Aug. 2, 1967.
For Bed-Type Milling Machines (Int. Cl. 7).

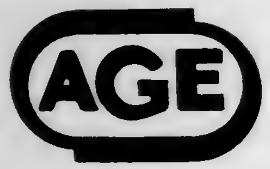
SN 346,700. Precision Industries, Inc., Providence, R.I. Filed Dec. 19, 1969.

MARWA

For Countersink and Chamfering Tools (Int. Cl. 7).
First use May 1961.

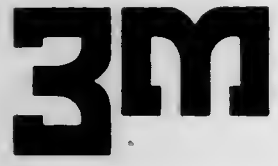
Class 25 — Locks and Safes

SN 340,832. Sherman Selecraft Corporation, Las Vegas, Nev. Filed Oct. 15, 1969.



For Locking Mechanisms for Doors (Int. Cl. 6).
First use Jan. 1, 1968.

SN 345,257. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 4, 1969.



For House and Building Locks (Int. Cl. 6).
First use Jan. 6, 1969.

Class 26 — Measuring and Scientific Appliances

SN 317,388. Scintrex Limited, Downsview, Ontario, Canada. Filed Jan. 23, 1969.

SCINTREX

For Geophysical Instruments—Namely, Gravity Meters, Induced Polarization Equipment, Electromagnetic Units, Magnetometers, Self-Potential Units, Radio Activity Detection Apparatus and Resistivity Equipment (Int. Cl. 9).
First use August 1967; in commerce December 1967.

SN 317,478. Visual Graphics Corp., New York, N.Y. Filed Jan. 24, 1969.

MICROSTAT

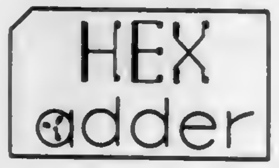
For Desk-Top Copier for Photographically Reducing the Size of Copy for Economy of Storage and Thereafter Enlarging the Reduced Copy to Its Original Size (Int. Cl. 9).
First use July 10, 1968.

SN 318,099. Quindar Electronics, Inc., Springfield, N.J. Filed Jan. 31, 1969.

QUINDALARM

For Telemetering Systems and Components—Namely, Supervisory Control Systems and Components (Int. Cl. 9).
First use June 1963.

SN 318,307. Hexco, Inc., Houston, Tex. Filed Feb. 4, 1969.



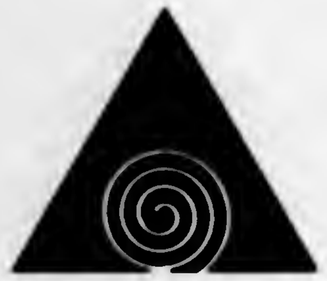
The word "Adder" is disclaimed apart from the mark as a whole.
For Calculators for Adding and Subtracting in Hexadecimal Arithmetic (Int. Cl. 9).
First use on or about Mar. 19, 1968.

SN 320,358. MPO Sales and Training Programs, Inc., New York, N.Y. Filed Feb. 28, 1969.

VIDEOTRONIC SUPER 8

Applicant disclaims the words "Super 8" apart from the mark as shown. Owner of Reg. No. 757,280.
For Motion Picture Projectors and Film Magazines Therefor (Int. Cl. 9).
First use June 1967.

SN 320,452. Defiance-Azon Corporation, Johnson City, N.Y. Filed Mar. 3, 1969.



For Diazotype Whiteprint Material, Such as Sensitized Copying Paper, Intermediate Paper, and Foils (Int. Cl. 1).
First use Aug. 30, 1966.

SN 320,462. Dynatech Corporation, Cambridge, Mass. Filed Mar. 3, 1969.

CRYODE

For Precision Low Temperature Control Units for Surgical Applications (Int. Cl. 9).
First use March 1968.

SN 320,954. Honeywell Inc., Minneapolis, Minn. Filed Mar. 6, 1969.

REPRONAR

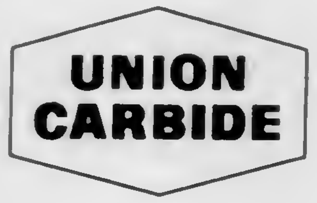
For Photographic Transparency Copiers Which Duplicate, Crop, Enlarge, Reduce, Correct Color Balance and Over and Under Exposure, Frame, Dodge, and Montage (Int. Cl. 9).
First use at least as early as 1957.

SN 323,394. Hilton J. Wachholz, d.b.a. Wacho Products Co., Columbus, Ohio. Filed Apr. 1, 1969.

WACHO

For Weighing Device for Checking the Weight of Individual Wheels on Racing Cars (Int. Cl. 9).
First use Aug. 31, 1968.

SN 324,543. Union Carbide Corporation, New York, N.Y. Filed Apr. 14, 1969.



Owner of Reg. Nos. 681,820, 799,845, and others.
For Instruments for Analysis and/or Control—Namely, Dissolved Oxygen Analyzer, Melt Volume Flow Meter, Total Carbon Analyzer, and Water Quality Monitor (Int. Cl. 9).
First use on or about Oct. 27, 1967.

SN 325,451. American Photocopy Equipment Company (Delaware corporation), Evanston, Ill., assignee of American Photocopy Equipment Company (Illinois corporation), Evanston, Ill. Filed Apr. 24, 1969.

ROLL·O·MATIC

For Photocopy Machines (Int. Cl. 9).
First use May 7, 1969.

SN 329,362. KMS Industries, Inc., Ann Arbor, Mich. Filed June 6, 1969.

UNIWHEEL

For Filter Set for Photographic Enlargement Apparatus (Int. Cl. 9).
First use Mar. 24, 1969.

SN 330,766. Optomechanisms, Inc., Plainview, N.Y. Filed June 23, 1969.

LASERTROL

For Laser Interferometers (Int. Cl. 9).
First use May 29, 1969.

SN 337,328. Kratos, Pasadena, Calif. Filed Sept. 8, 1969.

DIPLEN

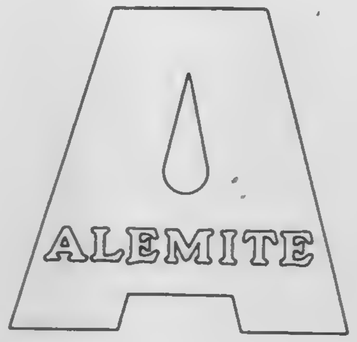
For Bourdon Tubes (Int. Cl. 9).
First use at least as early as Aug. 20, 1969.

SN 337,335. Linear Motion Technology, Inc., Farmingdale, N.Y. Filed Sept. 8, 1969.

DIGI-TRAVEL

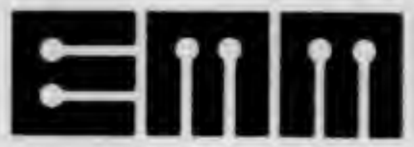
For Position Sensing and Display Device for Attachment to and Use With Any Apparatus, the Structures of Which Have Linear Motion, To Enable the Determination and Readout of the Linear Positions of Such Structures (Int. Cl. 9).
First use Aug. 18, 1969.

SN 337,367. Stewart-Warner Corporation, Chicago, Ill. Filed Sept. 8, 1969.



Owner of Reg. Nos. 418,904, 838,725, and others.
For Wheel Alignment Apparatus, and Apparatus for Indicating Conditions of Balance or Unbalance in Automotive Wheels and for Detecting Specific Points and Degrees of Such Unbalance (Int. Cl. 9).
First use Feb. 1, 1969.

SN 337,645. Electronic Memories and Magnetics Corporation, Hawthorne, Calif. Filed Sept. 11, 1969.



For Magnetic Memories (Int. Cl. 9).
First use Aug. 20, 1969.

SN 337,778. Cesco Safety Products, Inc., Chicago, Ill. Filed Sept. 12, 1969.

CESCOWELD

Owner of Reg. Nos. 518,642, 615,722, and others.
For Welders Helmets, Welders Goggles, and Lenses Therefor (Int. Cl. 9).
First use during 1938.

SN 338,630. Vexilar Engineering Incorporated, Minneapolis, Minn. Filed Sept. 22, 1969.

ZONAR

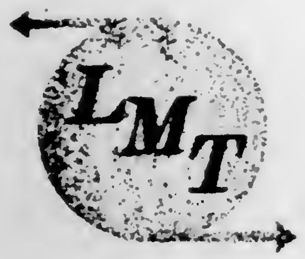
For Electronic Thermometers Used Primarily for Determining Water Temperature for Sport Fishing (Int. Cl. 9).
First use Feb. 2, 1969.

SN 338,635. Yankee Photo Products, Inc., Gardena, Calif. Filed Sept. 22, 1969.

YANKEE

Owner of Reg. No. 517,249.
For Rotary Slide Trays (Int. Cl. 9).
First use prior to Jan. 1, 1966.

SN 338,916. Linear Motion Technology, Inc., Farmingdale, N.Y. Filed Sept. 25, 1969.



For Position Sensing and Display Device for Attachment to and Use With Any Apparatus, the Structures of Which Have Linear Motion, To Enable the Determination and Readout of the Linear Positions of Such Structures, Linear Motion Devices and Parts Therefor as Carriages, Shafts, Shaft Hangers, and Brackets (Int. Cl. 9).
First use May 29, 1969.

SN 339,861. Data General Corporation, Southboro, Mass. Filed Oct. 6, 1969.

SUPERNOVA

For Computers and Parts Therefor (Int. Cl. 9).
First use Sept. 4, 1969.

SN 340,204. Tensitron, Inc., Harvard, Mass. Filed Oct. 8, 1969.

GALVO/CORDA

For Strip Chart Recorders (Int. Cl. 9).
First use Aug. 4, 1969.

SN 340,391. Glendale Optical Co., Inc., Woodbury, N.Y. Filed Oct. 10, 1969.

GLENWELD

For Safety Shields, Lenses for Use in Spectacles, Goggles, and Helmets (Int. Cl. 9).
First use 1948.

SN 341,140. Burke & James, Inc., Chicago, Ill. Filed Oct. 20, 1969.

SATURN

For Photographic Cameras (Int. Cl. 9).
First use Aug. 29, 1969.

SN 343,718. Jaydee Camera Exchange Inc., New York, N.Y. Filed Nov. 17, 1969.

Jaydee

For Binoculars, Cameras, Projectors and Film (Int. Cls. 1 and 9).
First use Dec. 30, 1959, on film.

Class 27 — Horological Instruments

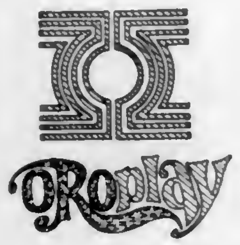
SN 332,299. Waltham Watch Company, Chicago, Ill. Filed July 11, 1969.

ELECTRODYNE

For Watches (Int. Cl. 14).
First use June 26, 1969.

Class 28 — Jewelry and Precious-Metal Ware

SN 315,821. Laboratorio Orafo Nicolis Cola, Vicenza, Italy. Filed Dec. 30, 1968.



The drawing is lined for the colors gold and green.
Owner of Italian Reg. No. 229,196, dated Jan. 19, 1968.
For Personal Jewelry Consisting of Earrings, Brooches, Bracelets and Rings, as Well as Medallions, all Made of Precious Metal—Namely, Gold, Silver and Platinum (Int. Cl. 14).

SN 329,142. Trifari, Krussman & Fishel, Inc., New York, N.Y. Filed June 4, 1969.

ASTRO-GEMS

For Costume Jewelry and Stones set in Such Jewelry (Int. Cl. 14).
First use May 21, 1969.

Class 30 — Crockery, Earthenware, and Porcelain

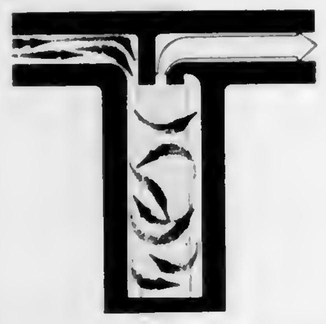
SN 315,338. Royal China, Inc., Sebring, Ohio. Filed Dec. 27, 1968.

ROYAL CHINA

The word "China" is disclaimed apart from the mark as shown.
Owner of Reg. Nos. 542,715 and 649,702.
For Semivitrified China and Pottery—Namely, Saucers, Dishes, Plates, Casseroles, Platters, Cups, Sugars, Creamers and Sets Thereof (Int. Cl. 21).
First use on or about July 1, 1934.

Class 31 — Filters and Refrigerators

SN 309,119. Torite Enterprises, Inc., d.b.a. Torite Filter Company, City of Industry, Calif. Filed Oct. 7, 1968.



Applicant disclaims the use of a line type oil filter apart from the letter "T" as shown.
For Fluid Filters (Int. Cl. 11).
First use in or about June 1965.

SN 318,395. Brunswick Corporation, Chicago, Ill. Filed Feb. 5, 1969.

BRUNSPORE

For Filter Media (Int. Cl. 11).
First use on or about May 8, 1968.

SN 318,563. Mobile Refrigeration Corporation, Des Plaines, Ill. Filed Feb. 6, 1969.

For Truck Refrigeration Units (Int. Cl. 11).
First use Jan. 7, 1969.

SN 325,456. Buell Engineering Company, Inc., Lebanon, Pa. Filed Apr. 24, 1969.

NEW-CLEAIRE

For Air Cleaning Devices—Namely, Bag Type Dust Arresters (Int. Cl. 11).
First use Mar. 4, 1966.

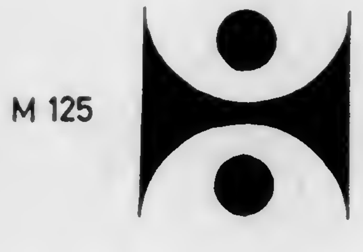
Class 32 — Furniture and Upholstery

SN 268,690. Baby Products Corporation, East Longmeadow, Mass. Filed Apr. 10, 1967.

YOUTH-CRIB

For Crib Which Converts to a Youth Bed (Int. Cl. 20).
First use Mar. 1, 1967.

SN 318,843. Wilhelm Bofinger, Ilsfeld (Wurttemberg), Germany. Filed Feb. 10, 1969.



Owner of German Reg. No. 850,904, dated Oct. 21, 1968; and U.S. Reg. No. 860,548.
For Chairs, Easy Chairs, Cabinets, Tables, Settees, Benches, Beds, Couches, Cupboards, and Modular Cabinets and Cupboards, and Furniture Systems Composed of Modular Cabinets and Cupboards (Int. Cl. 20).

SN 321,381. Cart-O-Sel Corporation, Highland Park, Ill. Filed Mar. 11, 1969.

CART-O-SEL

For Merchandise Sales Display Racks (Int. Cl. 20).
First use Feb. 19, 1969.

SN 344,589. The Tilt-A-Bed Corporation, Minneapolis, Minn. Filed Nov. 25, 1969.

TILT-A-BED

For Furniture, Particularly Combination Bed and Lounges (Int. Cl. 20).
First use about Mar. 1, 1968.

SN 345,383. Sears, Roebuck and Co., Chicago, Ill. Filed Dec. 4, 1969.

MANY MOODS

For Sofas, Sofa Beds, Stainless Steel Sofas, Cane Sofas, Love Seats, Chairs, Ottomans, Cane Chairs, Stainless Steel Chairs, Tables (Cocktail, Lamp, Bunching), Glass Cocktail Tables, Campaign Chests, Bookcases, Desks, Commodes, Floor Screens—Screen Dividers, Mirrors, Bars, Glass Desks, Dresser Bases, Nite Stands, Chests, Headboards w/Frames (Metal), Beds w/Footboards, Buffets, China Cabinets, Dining Tables, Servers, Credenzas, Arm Chairs, Side Chairs, and Pillows—Decorative (Int. Cl. 20).
First use on or about Aug. 26, 1969.

SN 345,681. Select Dineaway, Inc., Bay Harbor Island, Fla. Filed Dec. 8, 1969.

DINEAWAY

For Combined Breakfront, Dining Table and Chairs (Int. Cl. 20).
First use June 17, 1969.

SN 346,623. Intercraft Industries Corporation, Chicago, Ill. Filed Dec. 18, 1969.

For Photo Frames, Picture Frames, Framed Pictures, Framed Three-Dimensional Objects, and Framed Wall Mirrors (Int. Cl. 20).
First use July 1966.

SN 346,624. Intercraft Industries Corporation, Chicago, Ill. Filed Dec. 18, 1969.

ART CREST

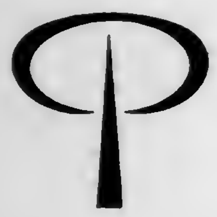
For Photo Frames, Picture Frames, Framed Pictures, Framed Three-Dimensional Objects, and Framed Wall Mirrors (Int. Cl. 20).
First use July 1966.

SN 347,994. Henry Ashenfarb, Edgewater, N.J. Filed Jan. 8, 1970.

For Replacement Frames for Bathroom Medicine Cabinets (Int. Cl. 20).
First use Dec. 15, 1969.

Class 33 — Glassware

SN 322,083. Peill & Putzler Glashuttenwerke G.m.b.H., Duren, Germany. Filed Mar. 18, 1969.



Owner of German Reg. No. 847,135, dated July 12, 1968.
For Glassware—Namely, Drinking Glasses, Tumblers, Glass Plates, Glass Dishes, Glass Bottles, Glass Jugs, and Glass Vases (Int. Cl. 21).

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 303,789. Gardiner Solder Company, Chicago, Ill. Filed July 29, 1968.

TRI GARD

For Alloy Soldering Material (Int. Cl. 6).
First use May 8, 1967.

SN 316,579. Air Reduction Company, Incorporated, New York, N.Y. Filed Jan. 15, 1969.

SUPER-AIRCOMASTER

Owner of Reg. No. 756,428.
For Gas Welding and Cutting Apparatus (Int. Cl. 7).
First use Sept. 19, 1968.

SN 320,798. Continental Manufacturing Company, Baltimore, Md. Filed Mar. 5, 1969.

FLOORLEVEL

Owner of Reg. Nos. 591,480 and 646,507.
For Residential and Commercial Oil, Gas and Electric Heating Systems (Int. Cl. 11).
First use Jan. 1, 1958.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 335,614. Shelcon, Inc., Miami, Fla. Filed Aug. 18, 1969.

SHELCON

For Conveyor Belts (Int. Cl. 7).
First use Aug. 15, 1968.

Class 36 — Musical Instruments and Supplies

SN 308,166. Wilhelm Schimmel, Pianofortefabrik, G.m.b.H., Braunschweig, Germany. Filed Sept. 24, 1968.

SCHIMMEL

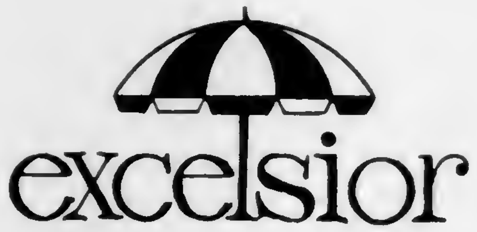
For Musical Instruments—Namely, Grand Pianos and Baby Grands; Manually, Mechanically, Pneumatically and Electrically Driven Instruments of This Kind; Electric Organs, Harmoniums; Glockenspiels; Pluck Instruments—Namely, Guitars, as Well as Parts of the Musical Instruments Mentioned Before, With the Exception of Those Parts Consisting of Rubber and Rubber Substitute (Int. Cl. 15).
First use 1885; in commerce 1958.

SN 323,484. Transitales, Inc., Falls Church, Va. Filed Apr. 2, 1969.

TRAVELTALES

For Magnetic Tape Playback Equipment (Int. Cl. 9).
First use Dec. 23, 1968.

SN 325,180. Deutsche Grammophon Gesellschaft m.b.H., Hamburg, Germany. Filed Apr. 22, 1969.



Owner of German Reg. No. 811,603, dated Oct. 29, 1965.
For Phonograph Records (Int. Cl. 9).

SN 329,422. The Ampeg Co., Inc., Linden, N.J. Filed June 9, 1969.

For Extension Speakers, Bass Stands, Rib Extender for Electronic Basses, Anti-Swivel Endpin for Electronic Basses, Gut Strings, Steel Strings, Accordion Pickups, Bass Pickups, Piano Pickups, Tremolo or Reverb Footswitches, Double Footswitches for Vibrato and Reverb, and Instruments for Distorting Musical Sound (Int. Cls. 9 and 15).
First use Aug. 7, 1968.

SN 347,215. Chisa Records, Inc., Los Angeles, Calif. Filed Dec. 29, 1969.

CHISA

For Phonograph Records (Int. Cl. 9).
First use December 1966.

SN 347,228. Columbia Broadcasting System, Inc., New York, N.Y. Filed Dec. 29, 1969.

STRINGMASTER

For Hawaiian Steel Guitars (Int. Cl. 15).
First use on or about Nov. 11, 1969.

SN 347,335. Walter E. Smith, Caldwell, Idaho. Filed Dec. 29, 1969.

SPEEDBAR

For Guitars and Slide Bars Therefor (Int. Cl. 15).
First use Feb. 1, 1969.

SN 347,369. Conroy Wilson, Baltimore, Md. Filed Dec. 29, 1969.

CW

For Phonograph Records (Int. Cl. 9).
First use Oct. 25, 1969.

Class 37 — Paper and Stationery

SN 305,531. Chemolene Industries, Inc., Bordentown, N.J. Filed Aug. 20, 1968.

EXECUTIP

For Writing Instruments—Namely, Markers and Marking Pens (Int. Cl. 16).
First use July 26, 1968.

SN 306,997. Adams Industries, Inc., Huntington Woods, Mich. Filed Sept. 10, 1968.

PLASTISCRIM

For Laminated Paper With Plastic Strand Interlayer for Use in Heavy Packaging (Int. Cl. 16).
First use July 13, 1968.

SN 328,541. Dri Mark Products, Inc., Mount Vernon, N.Y. Filed May 28, 1969.

THE COMMUNICATOR

For Marking Devices—Namely, Marking Pens for Applying Ink Marking to a Surface (Int. Cl. 16).
First use Apr. 23, 1969.

SN 328,822. Colorcounting Systems, d.b.a. Colorcounting, Los Angeles, Calif. Filed June 2, 1969.

COLORCOUNTING

Owner of Reg. No. 877,805.
For Charts for Accounting Ledgers for Maintaining Business Records (Int. Cl. 16).
First use December 1965.

SN 333,360. The Bates Manufacturing Company, Orange, N.J. Filed July 24, 1969.

DIRECTOR

For List Finders (Int. Cl. 16).
First use October 1957.

SN 334,215. Erving Paper Mills, Erving, Mass. Filed Aug. 1, 1969.

Décorprints

For Paper Napkins, Paper Towels and Place Mats (Int. Cl. 16).
First use July 1, 1968.

SN 334,314. Everite Pen Corporation, New York, N.Y. Filed Aug. 4, 1969.

I

For Ball Point Pens (Int. Cl. 16).
First use Jan. 30, 1967.

SN 336,440. L. & C. Hardmuth, Inc., Bloomsbury, N.J. Filed Aug. 27, 1969.

DUETTE

Owner of Reg. No. 768,793.
For Drawing Leads, Ballpoint Pens and Mechanical Pencils (Int. Cl. 16).
First use at least as early as May 21, 1958.

Class 38 — Prints and Publications

SN 305,418. Francis I. duPont & Co., New York, N.Y. Filed Aug. 19, 1968.

IVT
INVESTMENT VALUES FOR TODAY

The term "Investment Values for Today" is disclaimed apart from the mark as shown.
For Printed Reports Dealing With Stocks and Investments (Int. Cl. 16).
First use Jan. 5, 1968.

SN 311,804. Abbott Laboratories, d.b.a. Ross Laboratories, North Chicago, Ill. Filed Nov. 12, 1968.

FEELINGS AND THEIR MEDICAL SIGNIFICANCE

For Periodic Newsletter Relating to Pediatric Medical Practice (Int. Cl. 16).
First use December 1958.

SN 315,632. Software Sciences Corporation, New York, N.Y. Filed Dec. 27, 1968.

POWER PACK

For Computer Programming Manual (Int. Cl. 16).
First use Oct. 14, 1968.

SN 316,206. Institute for Scientific Information, Inc., Philadelphia, Pa. Filed Jan. 9, 1969.

ROTAFORM INDEX

Applicant disclaims "Index" separate and apart from the mark as shown.
For Index Published Periodically on Chemical Compounds (Int. Cl. 16).
First use Sept. 16, 1962.

SN 320,442. DCA Educational Products, Inc., Philadelphia, Pa. Filed Mar. 3, 1969.

DAILY DIORAMA

For Teaching Kit Comprising a Compilation of Relevant Documents Including Drawings, Portraits, Informational Sheets and Other Similar Materials Which Relate to People, Animals, or Places (Int. Cl. 16).
First use Feb. 19, 1969.

SN 327,220. Basic Education Computers, Inc., Silver Spring, Md. Filed May 14, 1969.

MAGICOLOR

For Books Dealing With Instructional Reading (Int. Cl. 16).
First use Apr. 15, 1969.

SN 329,130. Frank Riessman, Bronx, N.Y. Filed June 4, 1969.

SOCIAL POLICY

For Journal Issued Periodically (Int. Cl. 16).
First use July 1, 1968.

SN 331,487. Alphanumeric, Incorporated, Lake Success, N.Y. Filed July 1, 1969.

ALPHANUMERIC

Owner of Reg. No. 874,862.
For Photoprints Both Positive and Negative (Int. Cl. 16).
First use December 1967.

SN 332,506. McGraw-Hill, Inc., New York, N.Y. Filed July 14, 1969.

Electronics Management Advisory Service

No registration rights are claimed for the expression "Management Advisory Service" apart from the mark as shown.
For Weekly Newsletter (Int. Cl. 16).
First use June 2, 1969; Apr. 15, 1930 as to "Electronics."

SN 333,118. The Franklin Mint, Inc., Yeadon, Pa. Filed July 22, 1969.

THE FRANKLIN MINT ALMANAC

Applicant claims exclusive right to use of the word "Almanac" as part of its mark, but not otherwise.
For Magazine (Int. Cl. 16).
First use July 15, 1969.

SN 335,495. Astro-Occult Press, Inc., Chicago, Ill. Filed Aug. 18, 1969.

Astro-Slide

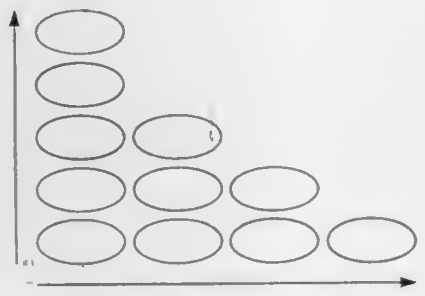
For Printed Zodiac and Planetary Guides in Slide Rule Form (Int. Cl. 16).
First use on or about Oct. 1, 1968.

SN 336,135. Medical Economics, Inc., Oradell, N.J. Filed Aug. 25, 1969.

MEDICAL LABORATORY OBSERVER

For Periodically Issued Magazine (Int. Cl. 16).
First use on or about Aug. 6, 1969.

SN 336,413. Carpenter Technology Corporation, Reading, Pa. Filed Aug. 27, 1969.



For Booklets Containing Information for the Selection of Steel in Various Forms and Shapes (Int. Cl. 16).
First use Nov. 21, 1968.

SN 338,333. Samuel J. Temperato, d.b.a. The Sociables, St. Louis, Mo. Filed Sept. 19, 1969.

VIVE

The mark "Vive" is the French adjective, feminine form, meaning "sprightly" or "animated."
For Periodical Magazine for a Membership Organization (Int. Cl. 16).
First use Sept. 15, 1969.

SN 338,908. P. Buford Harris, Atlanta, Ga. Filed Sept. 25, 1969.

DIXIE PURCHASOR

For Monthly Business Trade Magazine (Int. Cl. 16).
First use Feb. 15, 1954.

SN 339,139. Chilton Company, Philadelphia, Pa. Filed Sept. 29, 1969.

OWNER OPERATOR

For Periodical Publication in the Nature of a Business or Trade Magazine (Int. Cl. 16).
First use Sept. 19, 1969.
Subj. to Intf. with SN 339,587.

SN 339,587. McGraw-Hill, Inc., New York, N.Y. Filed Oct. 2, 1969.

OWNER OPERATOR

For Newsletter Published Monthly (Int. Cl. 16).
First use Sept. 8, 1969.
Subj. to Intf. with SN 339,139.

SN 341,599. RC Publications Inc., Washington, D.C. Filed Oct. 24, 1969.

Print

For Magazine (Int. Cl. 16).
First use July 1, 1940.

SN 345,725. G. & C. Merriam Company, Springfield, Mass. Filed Dec. 9, 1969.

WEBSTER'S NEW IDEAL

Owner of Reg. Nos. 26,273, 793,669, and others.
For Dictionaries (Int. Cl. 16).
First use Nov. 6, 1913.

SN 345,819. Hallmark Cards, Incorporated, Kansas City, Mo. Filed Dec. 10, 1969.

Holiday Flair

For Greeting Cards (Int. Cl. 16).
First use June 1, 1969.

SN 347,414. National Student Marketing Corporation, New York, N.Y. Filed Dec. 30, 1969.

YOUTHMARK

For Newsletter Published Periodically (Int. Cl. 16).
First use Oct. 9, 1969.

SN 347,574. Alpha Research & Development, Inc., Blue Island, Ill. Filed Jan. 2, 1970.

MICRO-VUES

For Periodical Newsletter (Int. Cl. 16).
First use on or about Feb. 20, 1969.

SN 351,585. Black Light, Inc., Kansas City, Mo. Filed Aug. 25, 1969.

BUTTER & BOOP

For Cartoon Strip (Int. Cl. 16).
First use May 19, 1969.

Class 39 — Clothing

SN 308,873. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Oct. 4, 1968.

BART

For Negligee and Dress Shirts (Int. Cl. 25).
First use July 1922.

SN 317,958. Jayson Shoe Manufacturing Co., Inc., Clayton, Mo. Filed Jan. 30, 1969.

Jay-Ettes

For Infants' and Children's Shoes (Int. Cl. 25).
First use Dec. 4, 1968.

SN 320,171. Oxford Industries, Inc., Atlanta, Ga. Filed Feb. 26, 1969.

OXFORD IND., INC.

No claim is made to the term "Oxford" apart from the mark as shown.
For Men's and Boys' Dress Shirts, Sport Shirts, Jackets, Knit Shirts and Sweaters (Int. Cl. 25)
First use November 1968; 1946, as to "Oxford."

SN 326,441. Scott Paper Company, Philadelphia, Pa. Filed May 5, 1969.

RAGGEDY ANN & ANDY

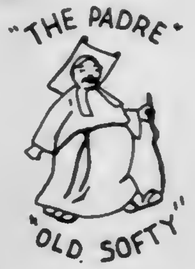
For Disposable Diapers (Int. Cl. 25).
First use Apr. 11, 1969.

SN 328,065. L. E. Massey Shoes, Incorporated, Washington, D.C. Filed May 22, 1969.

TALL Size Shoes

Applicant disclaims the words "Size" and "Shoes" apart from the mark as shown.
For Shoes (Int. Cl. 25).
First use 1950.

SN 328,873. L. E. Massey Shoes, Incorporated, Washington, D.C. Filed June 2, 1969.



For Shoes (Int. Cl. 25).
First use August 1937.

SN 329,765. Herbert Jay Shure, d.b.a. H and M Distributing, Washington, Pa. Filed June 11, 1969.

FASHIONVILLE DESIGNED by Mari

The expression "Designed By" is disclaimed apart from the mark as shown. "Mari" is a fictitious individual.
For Dresses, Shirts and Slacks (Int. Cl. 25).
First use Feb. 15, 1967.

SN 331,419. M. H. Pierce & Co., Inc., Port Chester, N.Y. Filed June 30, 1969.

UNI-TACH

Owner of Reg. No. 834,773.
For Clerical Garments—Namely, Shirts (Int. Cl. 25).
First use June 9, 1969.

SN 331,428. Sally Gee, Inc., New York, N.Y. Filed June 30, 1969.

JANET FRIMIER

"Janet Frimier" is a fanciful name.
For Sweaters and Scarfs (Int. Cl. 25).
First use May 1, 1968.

SN 331,452. U.S. Industries, Inc., New York, N.Y. Filed June 30, 1969.

GREAT LENGTHS

For Hosiery (Int. Cl. 25).
First use on or before Feb. 6, 1969.

SN 331,525. Pantasote Company, New York, N.Y. Filed July 1, 1969.

HOLDING HANDS

For Household Gloves (Int. Cl. 25).
First use May 26, 1969.

SN 331,698. Olofdaughters of Sweden, Inc., New York, N.Y. Filed July 3, 1969.

Olof Daughters

For Shoes, i.e., Clogs and Sandals (Int. Cl. 25).
First use Dec. 14, 1966.

SN 332,073. Qui-Vive N.V., Enschede, Holland. Filed July 9, 1969.

QUI-VIVE

The English translation of the French words "Qui-Vive" is "Who goes there?"
Owner of Dutch Reg. No. 162,596, dated Feb. 7, 1967.
For Men's Handkerchiefs (Int. Cl. 24).

SN 332,553. Miss Dorissa, Inc., Miami, Fla. Filed June 20, 1969.

JILLY GILLY

For Pre-Teen Dresses (Int. Cl. 25).
First use Mar. 24, 1969.

SN 332,854. Russ Togs, Inc., Long Island City, N.Y. Filed July 17, 1969.

UMBERTO

For Ladies' Footwear (Int. Cl. 25).
First use in or before February 1968.

SN 334,593. Knoxville Glove Company, Knoxville, Tenn. Filed Aug. 6, 1969.

BUSY BEA

For Gloves (Int. Cl. 25).
First use Jan. 30, 1969.

SN 334,995. Dayton-Hudson Corporation, Minneapolis, Minn. Filed Aug. 11, 1969.

LILLA MEJ

"Lilla Mej" is Danish and Swedish for "little me."
For Infant's Clothing—Namely, Dresses, Coats, Suits, Pants, Sweaters, Jumpers, Rompers, Jackets, Blouses, Leggings, Stockings and Caps (Int. Cl. 25).
First use on or about Aug. 1, 1967.

SN 335,823. Malcolm Starr, Inc., New York, N.Y. Filed Aug. 21, 1969.

MALCOLM CHARLES

The name "Malcolm Charles" is fanciful. Owner of Reg. No. 873,861.
For Ladies' Dresses, Gowns and Lounge Wear (Int. Cl. 25).
First use April 1969.

SN 336,746. Marcus & Wiesen, Inc., New York, N.Y. Filed Sept. 2, 1969.

PANTY HOSE MATE

Without waiving any of its common law rights, applicant disclaims "Panty Hose" apart from the mark as shown.
For Panty Girdles for Use With Panty Hose or Stockings (Int. Cl. 25).
First use Apr. 15, 1969.

SN 337,690. The Richman Brothers Co., Cleveland, Ohio. Filed Sept. 11, 1969.

THE GEAR BOX

For Men's Suits, Sport Coats, Outer Jackets, Raincoats, Pants, Shirts, Sweaters, and Neckties (Int. Cl. 25).
First use June 6, 1969, on neckties.

SN 338,067. Rooster, Inc., Philadelphia, Pa. Filed Sept. 16, 1969.

SCROOGE

For Knitted Muffler and Beret (Int. Cl. 25).
First use Sept. 3, 1969.

SN 338,261. The Peddler's, Inc., Anderson, Ind. Filed Sept. 18, 1969.

double Standard

For Men's Shoes, Shirts, Ties, Scarves, Pants, Coats, Sweaters, Belts, and Hats (Int. Cl. 25).
First use July 1, 1969.

SN 343,038. Nicholas Brecher, d.b.a. Brevoni Creations, New York, N.Y. Filed Nov. 10, 1969.

BREVONI

For Panty Hose (Int. Cl. 25).
First use Aug. 4, 1969.

SN 344,519. Maidenform, Inc., New York, N.Y. Filed Nov. 25, 1969.

UN-UNDERWEAR

For Foundation Garments and Lingerie (Int. Cl. 25).
First use Oct. 14, 1969.

SN 344,665. Joseph Bancroft & Sons Co., Wilmington, Del., Filed Nov. 26, 1969.

BAN-SYLK

For Sport Shirts (Int. Cl. 25).
First use on or about Oct. 8, 1969.

SN 346,432. Eagle Shirtmakers, Inc., Quakertown, Pa. Filed Dec. 17, 1969.

EAGLE

Owner of Reg. Nos. 110,603 and 573,772.
For Men's Neckties (Int. Cl. 25).
First use Oct. 31, 1969.

SN 346,438. Union Carbide Corporation, New York, N.Y. Filed Dec. 17, 1969.

GLAD HANDS

Owner of Reg. Nos. 738,875 and 811,387.
For Latex and Vinyl Multi-Use Household Gloves (Int. Cl. 25).
First use at least as early as June 24, 1969; on or about July 6, 1965, as to "Glad."

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 318,078. Medline Industries, Inc., Evanston, Ill. Filed Jan. 31, 1969.

MEDLINE

For Towels; Stockinet Fabric; Mattress Covers; Pillow Cases; Blankets; Bleached Broadcloth Fabric; Washcloths; Sheets for Use as Sanitary Coverings; Bath Mats; and Gauze Fabrics (Int. Cls. 24 and 27).
First use on or about Oct. 3, 1968.

SN 333,749. Quaker Fabric Corporation, New York, N.Y. Filed July 28, 1969.

BRICK

For Carpets (Int. Cl. 27).
First use July 1, 1969.

SN 333,828. Hayden Textiles, Inc., New York, N.Y. Filed July 29, 1969.

About Face

For Textile Fabrics in the Piece of Synthetic Fibers or Cellulosic Fibers or Combinations Thereof (Int. Cl. 24).
First use on or about July 21, 1966.

SN 334,221. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 1, 1969.

BALINEAU

For Textile Rugs and Carpeting (Int. Cl. 27).
First use July 9, 1969.

SN 334,222. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 1, 1969.

CHABLEAU

For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 24, 1969.

SN 334,223. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 1, 1969.

ryeau

For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 24, 1969.

SN 334,224. Fieldcrest Mills, Inc., Eden, N.C. Filed Aug. 1, 1969.

Templeau

For Textile Rugs and Carpeting (Int. Cl. 27).
First use June 23, 1969.

SN 334,406. West Point-Pepperell, Inc., West Point, Ga. Filed Aug. 4, 1969.

PETITE ALLURE

For Baby Blankets (Int. Cl. 24).
First use Jan. 26, 1968.

SN 334,407. West Point-Pepperell, Inc., West Point, Ga. Filed Aug. 4, 1969.

PETITE ANNETTE

For Baby Blankets (Int. Cl. 24).
First use Apr. 1, 1968.

SN 344,611. Aimcee Wholesale Corporation, New York, N.Y. Filed Nov. 26, 1969.

Amir

For Oriental Design Rugs (Int. Cl. 27).
First use Sept. 16, 1969.

Class 43 — Thread and Yarn

SN 333,149. Les Fils de Louis Mulliez, Roubaix, France. Filed July 22, 1969.

DULSIAN

Owner of French Reg. No. 729,094, dated Nov. 15, 1967.
For Fibers Used in Filature and Exclusively for Knitting Yarns (Int. Cl. 22).

Class 44 — Dental, Medical, and Surgical Appliances

SN 318,079. Medline Industries, Inc., Evanston, Ill. Filed Jan. 31, 1969.

MEDLINE

For Hospital and Surgical Appliances—Namely, Syringes and Needles; Surgical Scalpels and Blades; Suction Equipment for Surgery; Rubber Bags for Use in Connection With Respiratory Equipment; Blood Pressure Measuring Equipment; Sterilizers; Sanitary Urinals; Stitch Pincers; Surgical Scissors; Blood Lancets; Suture Removal Kits; Specimen Containers; Splints; Intravenous Arm Boards; Blood Collectors; Oral and Rectal Thermometers; Percussion Hammers for Medical Use; Irrigation Trays; Stopcocks; Medicine Droppers; Observation Tube Glass; Surgical Instruments; Needles and Stylets; Drainage Bags; Crutch Tips; Porous Tapes; Swabs; Absorbent Cotton Balls and Sponges; Stomach Tubes; Catheters and Catheter Trays; Emesis Basins and Covers; Latex Bulbs; Finger Splints; Nipple Caps; Plastic Bandages; Pelvic Traction Belts; Clavicle Straps and Pads; Enema Kits; Respiratory Equipment for Infants; Gauze Packing Strips; Gauze Tubing; Cloth Medical Dressing; Bed Pan Covers; Face Masks; Surgical Gloves; Wrist Restraints; Surgical Gowns and Garments (Int. Cls. 5 and 10).
First use on or about Sept. 30, 1968, on medicine droppers.

Class 45 — Soft Drinks and Carbonated Waters

SN 169,049. Kraftco Corporation, New York, N.Y., by change of name from National Dairy Products Corporation, New York, N.Y. Filed May 16, 1963.

SHEFFIELD FARMS

Owner of Reg. Nos. 67,165 and 127,133.
For Carbonated Beverages Used as Soft Drinks (Int. Cl. 32).
First use on or about Dec. 14, 1962.
Subj. to Intf. with SN 187,864 and SN 316,426.

SN 293,584. Edward J. Rovsek and Avery B. Duff (joint owners), Dearborn, Mich. Filed Mar. 18, 1968.

THIS

For Syrups for Making Soft Drinks (Int. Cl. 32).
First use Feb. 26, 1968.

Class 46 — Foods and Ingredients of Foods

SN 267,425. Hawthorn-Mellody Farms Dairy of Wisconsin, Inc., Waukesha, Wis. Filed Mar. 23, 1967.

HO-MADE

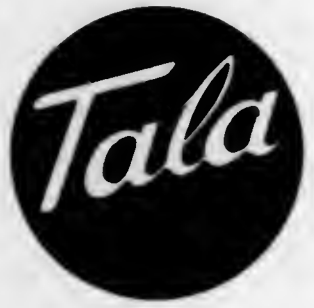
For Pickles (Int. Cl. 29).
First use on or before Dec. 31, 1952.

SN 280,656. Vernors Inc., Detroit, Mich. Filed Sept. 18, 1967.

BOSTON

For Ice Cream Bar (Int. Cl. 30).
First use June 6, 1967.

SN 295,713. Animex Centrala Importowo-Eksportowa Artykulow I Przetworow Pochodzenia Zwierzecego, d.b.a. Centrala Importowo-Eksportowa Artykulow I Przetworow Pochodzenia Zwierzecego "Animex," and Animex, Warsaw, Poland. Filed Apr. 16, 1968.



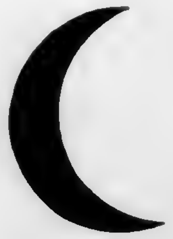
Owner of Polish Reg. No. 46,505, dated Mar. 31, 1967; and U.S. Reg. Nos. 548,340 and 732,213.
For Fresh, Chilled and Frozen Pork, Beef, Veal, Mutton, Horseflesh for Both Human and Animal Consumption, Sausages and Bacon, Canned Meat, Canned Meat With Vegetables, Canned and Frozen Prepared Meat Dishes, Quick Frozen Packs of Meat With Vegetables, Meat Extracts, Soup Concentrates, Meat and Vegetable Sauce Concentrates of Both a Meat and Vegetable Nature, Frozen Poultry, Canned Poultry, Froen Poultry Fillets, Powdered Milk, Melted Cheese, Hard Cheese, Butter, Casein, Condensed Milk, Evaporated Milk, Shell Eggs, Liquid Frozen Whole Eggs, Egg Powder, Albumen, Canned Fish in Natural Sauce, Canned Fish in Oil, Canned Fish in Tomato Sauce, Quick Frozen Fish, Fish Paste, Fresh Dressed, Frozen and Canned Venison and Frozen Prepared Game Products (Int. Cl. 29).

SN 297,046. The Dietene Company, Minneapolis, Minn. Filed May 1, 1968.

DELMARK

Owner of Reg. Nos. 753,774, 825,383, and others.
For Powdered Mixture Adapted for Use With Meat To Form a Meat Loaf (Int. Cl. 30).
First use Jan. 23, 1968.

SN 297,657. Crescent Manufacturing Company, Seattle, Wash. Filed May 8, 1968.



Owner of Reg. Nos. 47,630, 827,940, and others.
For Baking Powder; Food Coloring Materials; Condiments and Seasonings—Namely, Garlic Powder, Onion Powder, and Seasoning Salt of Various Flavor Blends; Food Flavoring Extracts; Ground and Whole Spices; Essential Food Oils of Various Flavors; Food Flavoring Emulsions and Cremols of Various Flavors; Nut Meats; Peanuts in Shell; Dessert Toppings—Namely, Sugar Crystals and Candy Decorations; Caramel, Chocolate Fudge, Strawberry, Pineapple, Butterscotch and Chocolate Syrup; Tea; Coffee; Beef Au Jus Sauce Mix; Spaghetti Sauce Mix; Base Materials for Dip Mixes; Seasoned and Unseasoned Meat Tenderizers; Cream of Tartar Used for Food Purposes; Monosodium Glutamate; Pastry Toppings—Namely, Almond Crunch, Cashew Crunch, Sweet Dough Crunch, Peanut Crunch, and Edible Chocolate and Sugar Crystal Decorations; Meringue Powder; Marshmallow Powder; Fruit Pectin Thickening Agent for Pastry Fruit Fillings; Cornstarch for Food Purposes; Pastry Spreads and Fillings—Namely, Apple and Spice, Date, Date Raisin, Orange Pineapple, Pineapple, Red Raspberry and Strawberry; Cocoa; Cocoa Paste; Food Gelatin and Gelatin Desserts; Flavor Bases; Fillers for Frozen and Other Desserts—Namely, Apple and Spice, Black Raspberry, Butterscotch, Chocolate, Chocolate Fudge, Mint, Pineapple, Red Raspberry and Strawberry; Fudge Bases; Citric and Tartaric Acid Powders Used for Food Purposes; Walnut Glaces; Food Syrups and Syrup Bases Used for Food Purposes; Meat and Gravy Sauces; Soy Sauce; Instant Puddings; Soup Bases, Anti-Oxidant for Fresh Vegetables; Egg Albumen Used for Food Purposes; and Powdered Alum for Food Pickling (Int. Cls. 1, 2, 5, 29, 30, and 31).
First use July 1889.

SN 297,658. Crescent Manufacturing Company, Seattle, Wash. Filed May 8, 1968.

CRESCENT

Owner of Reg. Nos. 47,630, 827,940, and others.
For Baking Powder; Food Coloring Materials; Condiments and Seasonings—Namely, Garlic Powder, Onion Powder, and Seasoning Salt of Various Flavor Blends; Vegetable Flakes; Food Flavoring Extracts; Ground and Whole Spices; Essential Food Oils of Various Flavors; Food Flavoring Emulsions and Cremols of Various Flavors; Nut Meats; Peanuts in Shell; Dessert Toppings—Namely, Sugar Crystals and Candy Decorations, Caramel, Chocolate Fudge, Strawberry, Pineapple, Butterscotch and Chocolate Syrup; Tea; Coffee; Beef Au Jus Sauce Mix; Spaghetti Sauce Mix; Base Materials for Dip Mixes of Various Flavors; Seasoned and Unseasoned Meat Tenderizers; Cream of Tartar Used for Food Purposes; Grated Citrus Fruit Peels; Monosodium Glutamate; Pastry Toppings—Namely, Almond Crunch, Cashew Crunch, Sweet Dough Crunch, Peanut Crunch, and Edible Chocolate and Sugar Crystal Decorations; Meringue Powder; Mashmallow Powder; Fruit Pectin Thickening Agent for Pastry Fruit Fillings; Cornstarch or Food Purposes; Pastry Spreads and Fillings—Namely, Apple and Spice, Date, Date Raisin, Orange Pineapple, Pineapple, Red Raspberry and Strawberry; Cocoa; Cocoa Paste; Food Gelatin and Gelatin Desserts; Flavor Bases; Fillers for Frozen and Other Desserts—Namely, Apple and Spice, Black Raspberry, Butterscotch, Chocolate, Chocolate Fudge, Mint, Pineapple, Red Raspberry and Strawberry; Fudge Bases; Citric and Tartaric Acid Powders Used for Food Purposes, Walnut Glaces; Food Syrups and Syrup Bases Used for Food Purposes; Meat and Gravy Sauces; Soy Sauce; Instant Puddings; Soup Bases; Anti-Oxident for Fresh Vegetables; Egg Albumen Used for Food Purposes; and Powdered Alum for Food Pickling (Int. Cls. 1, 2, 5, 29, 30, and 31).
First use July 1889.

SN 300,360. Layne Calcium Corp., Hallandale, Fla. Filed June 13, 1968.

KO-KĒNA

For Sea Shells in the Form of Chicken Feed and Livestock Feed (Int. Cl. 31).
First use May 6, 1968.

SN 300,987. Taterstate Frozen Foods, Washburn, Maine. Filed June 20, 1968.

MAINE SPECIAL

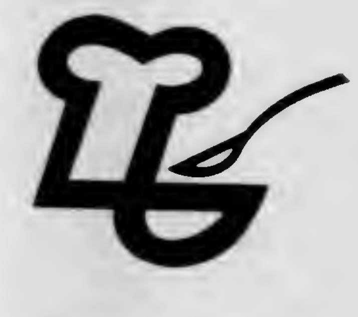
No Claim is made to the word "Maine" apart from the mark as a whole. Owner of Reg. No. 823,815.
For Frozen French Fried Potatoes (Int. Cl. 29).
First use Dec. 1, 1962.

SN 312,430. Carnation Company, Los Angeles, Calif. Filed Nov. 18, 1968.

DISCOVERY DINNERS

The word "Dinners" is disclaimed separate and apart from the mark as a whole, but the applicant waives none of its common law rights in the mark or any feature thereof.
For Packaged Dinners, the Principal Ingredients of Which Are Packaged Pasta, Canned Sauce, Canned Meat or Seafood, and Packaged Cheese (Int. Cl. 29).
First use Sept. 25, 1968.

SN 314,064. General Spice, Inc., Linden, N.J. Filed Dec. 10, 1968.



For All-Purpose Seasonings (Int. Cl. 30).
First use Nov. 13, 1967.

SN 315,647. National Feed Improvement Association, Inc., Castroville, Calif. Filed Dec. 23, 1968.

IM-PRUV-ALL

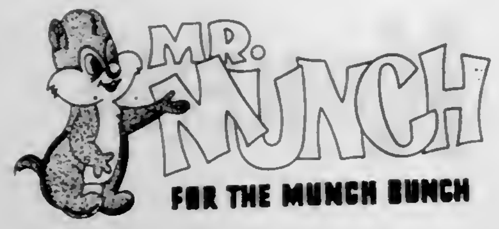
For Silage Preservative Chemical Additive for Use in Storing Forage Crops (Int. Cl. 1).
First use Nov. 20, 1967.

SN 318,467. Sunshine Biscuits, Inc., New York, N.Y. Filed Feb. 5, 1969.

ODD BALLS

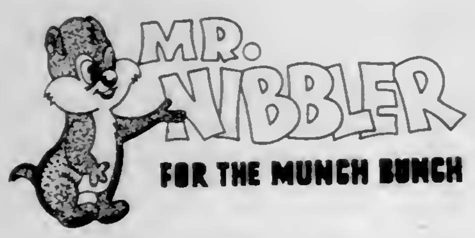
For Puffed and Baked Snack Product (Int. Cl. 30).
First use Nov. 18, 1968.

SN 318,803. National Oats Company, Inc., Cedar Rapids, Iowa. Filed Feb. 10, 1969.



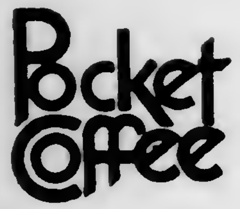
For Popped Corn Confectionery (Int. Cl. 30).
First use Dec. 19, 1968.

SN 318,804. National Oats Company, Inc., Cedar Rapids, Iowa. Filed Feb. 10, 1969.



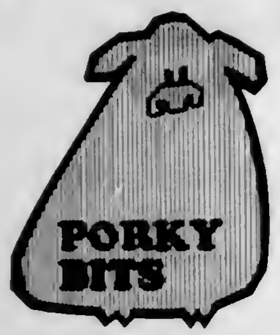
For Popped Corn Confectionery (Int. Cl. 30).
First use Dec. 19, 1968.

SN 318,958. P. Ferrero & C. S.p.A., Alba, Italy. Filed Feb. 12, 1969.



"Coffee" is disclaimed apart from the mark as a whole.
For Chocolates Containing Liquid Coffee (Int. Cl. 30).
First use Sept. 23, 1968; in commerce Sept. 23, 1968; Nov. 15, 1967, in a different form.

SN 319,394. Taylor Food Products, Inc., El Segundo, Calif. Filed Feb. 17, 1969.



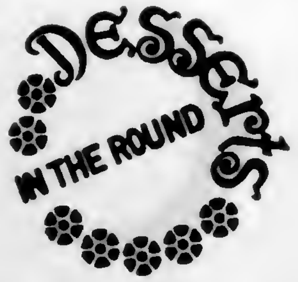
The wording "Porky Bits" is disclaimed apart from the mark as shown. The drawing is lined for the color red, but no claim is made as to the color so named.
For Fried Pork Rinds (Int. Cl. 29).
First use Jan. 3, 1969.

SN 320,105. American Home Products Corporation, New York, N.Y. Filed Feb. 26, 1969.

CHEF PLATE

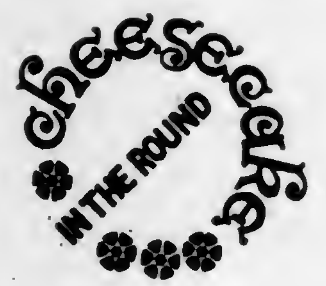
Applicant makes no exclusive claim to the word "Plate" apart from the mark as shown.
For Specially Lined Packaging Containers Sold Only Containing Prepared Food Products—Namely, Meats and Meat Products, Poultry and Poultry Products, Fish and Fish Products, Alimentary Pastes, Soups, Cheese and Chili (Int. Cl. 29).
First use Jan. 30, 1969.

SN 321,806. Just Desserts Inc., Cicero, Ill. Filed Mar. 14, 1969.



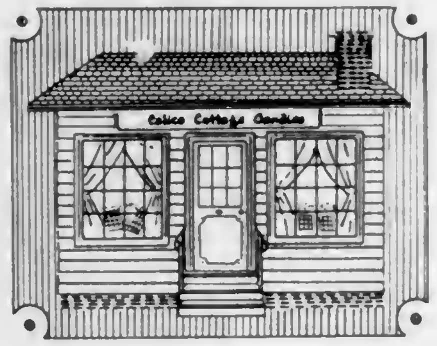
Applicant claims the exclusive right to the use of the word "Desserts" in combination with the words "In the Round" and the design of the mark as shown, but not in any other, dissimilar forms or combinations.
For Cheesecakes (Int. Cl. 30).
First use Feb. 1, 1969.

SN 321,807. Just Desserts Inc., Cicero, Ill. Filed Mar. 14, 1969.



Applicant claims the exclusive right to the use of the word "Cheesecake" in combination with the words "In the Round" and the design of the mark as shown, but not in any other, dissimilar, forms or combinations.
For Cheesecakes (Int. Cl. 30).
First use Feb. 1, 1969.

SN 322,269. Calico Cottage Candies, Inc., Hewlett, N.Y. Filed Mar. 20, 1969.



Applicant disclaims all rights in the word "Candies" apart from the mark as a whole. The drawing is lined for the color red. Owner of Reg. No. 817,094.
For Candies (Int. Cl. 30).
First use June 4, 1965.

SN 322,709. Goode Brothers Poultry Company, Inc., College Park, Ga. Filed Mar. 25, 1969.

GOLDEN GEMS

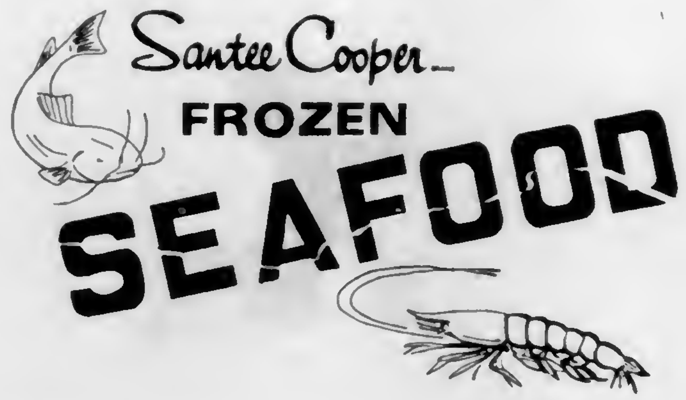
For Fresh Dressed Poultry and Poultry Parts; and Frozen Prepared Poultry Products (Int. Cl. 29).
First use Mar. 24, 1969.
Subj. to Intf. with SN 333,331.

SN 324,016. Morton Foods, Inc., Dallas, Tex., assignee of General Mills, Inc., Minneapolis, Minn. Filed Apr. 9, 1969.

POCOS

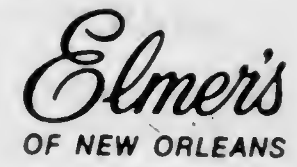
Owner of Reg. No. 843,785.
For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or about Mar. 7, 1969.

SN 325,207. W. R. Livingston, d.b.a. W. R. Livingston Fish Company, Moncks Corner, S.C. Filed Apr. 22, 1969.



The words "Brand," "Frozen," and "Seafood" and the representation of the fish are disclaimed apart from the mark shown.
For Fresh and Frozen Fish, Eels, and Shrimp (Int. Cl. 29).
First use Nov. 15, 1968.

SN 273,374. Elmer Candy Corporation, New Orleans, La. Filed May 15, 1969.



Applicant disclaims any exclusive rights in the words "Of New Orleans" apart from the mark as shown. Owner of Reg. No. 643,763.
For Candy (Int. Cl. 30).
First use Mar. 31, 1969.

SN 327,719. Chocoladefabriken Lindt & Sprungli Aktiengesellschaft, Zurich, Switzerland. Filed Mar. 13, 1969.

BLANCOR

Owner of Swiss Reg. No. 180,674, dated May 5, 1960.
For Chocolate Candy (Int. Cl. 30).
First use September 1960; in commerce Aug. 19, 1967.

SN 330,048. Carter-Wallace, Inc., New York, N.Y. Filed June 16, 1969.

TOOTS SHOR

"Toots Shor" is the name of a particular living individual whose consent is of record. Owner of Reg. No. 853,762.
For Salad Dressings—Namely, Italian Dressing and Thousand Island Dressing (Int. Cl. 29).
First use Jan. 3, 1968.

SN 331,710. American Kitchen Products Company, Jersey City, N.J. Filed July 3, 1969.

STEERO

Owner of Reg. Nos. 502,448 and 667,507.
For Cocktail Mix Containing Vegetable Juice, Beef Extract, Tomato Juice and Other Ingredients (Int. Cl. 32).
First use Aug. 30, 1964.

SN 333,543. Earlibest Orange Assn., Inc., Exeter, Calif. Filed July 25, 1969.

ROCKY HILL

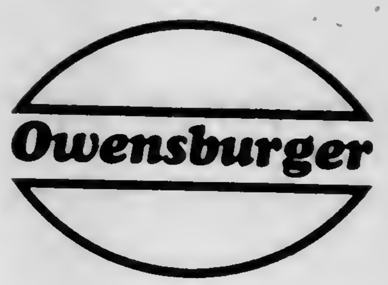
For Fresh Citrus Fruits (Int. Cl. 31).
First use October 1919.

SN 335,178. Ralston Purina Company, St. Louis, Mo. Filed Aug. 13, 1969.

PROTATO

For Protein Fortified Potato Products—Namely, Dehydrated Protein Fortified Au Gratin Potatoes, Dehydrated Protein Fortified Mashed Potatoes and Protein Fortified Potato Chips; Protein Fortified Egg Noodles and Protein Fortified Rice (Int. Cls. 29 and 30).
First use July 31, 1969.

SN 335,303. Owens Country Sausage, Inc., Richardson, Tex. Filed Aug. 14, 1969.



For Sausage Patties (Int. Cl. 29).
First use at least as early as July 1969.

SN 335,461. McCormick & Company, Cockeysville, Md. Filed Aug. 15, 1969.

SEAS-OLEUM

Owner of Reg. No. 768,876.
For Seasoning Oils (Int. Cl. 29).
First use Aug. 3, 1965.

SN 335,565. General Foods Corporation, White Plains, N.Y. Filed Aug. 18, 1969.

ZAP

For Pancake Mix (Int. Cl. 30).
First use June 19, 1969.

SN 335,926. R. J. Reynolds Foods, Inc., New York, N.Y. Filed Aug. 22, 1969.

BAKON BITS

Owner of Reg. Nos. 646,939 and 813,123.
For Fried Pork Rinds (Int. Cl. 29).
First use May 1953.

SN 336,057. P. Ferrero & C. S.p.A., Alba, Cuneo, Italy. Filed Aug. 25, 1969.

BRIOSS

Owner of Italian Reg. No. 157,673, dated Nov. 10, 1961.
For Cakes of Light Flaky Pastry (Int. Cl. 30).

SN 337,081. National Biscuit Company, New York, N.Y. Filed Sept. 4, 1969.

DEALER'S CHOICE

For Biscuits and Crackers (Int. Cl. 30).
First use July 18, 1969.

SN 337,399. Cargill, Incorporated, Minneapolis, Minn. Filed Sept. 9, 1969.

CHLORCYCLINE PORK PRE-MIX

"Pork Pre-Mix" is disclaimed apart from the mark as a whole.
For Medicated Feed for Swine (Int. Cl. 5).
First use June 3, 1969.

SN 337,400. Cargill, Incorporated, Minneapolis, Minn. Filed Sept. 9, 1969.

NEO-T PORK PRE-MIX

"Pork Pre-Mix" is disclaimed apart from the mark as a whole.
For Medicated Feed for Swine (Int. Cl. 5).
First use June 3, 1969.

SN 337,852. General Mills, Inc., Minneapolis, Minn. Filed Sept. 15, 1969.

KASAMS

For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or about Mar. 7, 1969.

SN 337,924. General Mills, Inc., Minneapolis, Minn. Filed Sept. 15, 1969.

CHAMPION OF FITNESS

For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or prior to Dec. 6, 1968.

SN 337,925. General Mills, Inc., Minneapolis, Minn. Filed Sept. 15, 1969.

CHAMPION OF BREAKFASTS

Owner of Reg. No. 342,440.
For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or prior to Dec. 6, 1968.

SN 337,926. General Mills, Inc., Minneapolis, Minn. Filed Sept. 15, 1969.

HONEYDOOS

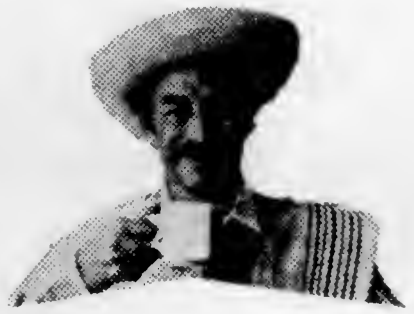
For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or prior to Mar. 13, 1969.

SN 337,927. General Mills, Inc., Minneapolis, Minn. Filed Sept. 15, 1969.

MAGIC PUFFS

For Ready-To-Eat Breakfast Cereal (Int. Cl. 30).
First use on or prior to May 15, 1969.

SN 338,257. National Federation of Coffee Growers of Colombia, New York, N.Y. Filed Sept. 18, 1969.



The person shown is "Jose Duval" whose consent is of record. Owner of Reg. Nos. 726,577, 870,557, and others.
For Coffee (Int. Cl. 30).
First use Jan. 1, 1969.

SN 339,075. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

ALOOF

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,076. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

A'MOUR

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,078. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

CARESS

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,079. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

CHARGE

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,080. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

CHERISH

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,081. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

CHOCO-CLACKERS

Owner of Reg. No. 859,037.
For Ready-To-Eat Breakfast Cereals (Int. Cl. 30).
First use on or about May 9, 1969.

SN 339,082. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

CHOICE CATCH

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,083. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

PRECIOUS

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,084. General Mills, Inc., Minneapolis, Minn. Filed Sept. 29, 1969.

PRESTIGE

For Pet Foods for Dogs and Cats (Int. Cl. 31).
First use on or about Aug. 26, 1969.

SN 339,834. Automated Food Processes Corp., St. Louis Park, Minn. Filed Oct. 6, 1969.

STUFFIES

For Deep Fried Bread-Like Rolls With Meat Fillings (Int. Cl. 30).
First use Mar. 26, 1969.

SN 343,922. Marko Zaninovich, Inc., d.b.a. Vista Del Sol Vineyards, Delano, Calif. Filed Nov. 19, 1969.

VISTA DEL SOL

"Vista Del Sol" may be translated to mean "view of the sun." Owner of Reg. No. 370,194.
For Fresh Grapes and Fresh Deciduous Fruits (Int. Cl. 31).
First use Aug. 18, 1969.

SN 344,083. Tasty Baking Company, Philadelphia, Pa. Filed Nov. 20, 1969.

tasty-klair

Owner of Reg. Nos. 101,657, 836,412, and others.
For Cream-Filled Pie With Chocolate Icing (Int. Cl. 30).
First use Oct. 21, 1969.

SN 344,292. Lever Brothers Company, New York, N.Y. Filed Nov. 24, 1969.

TOAST MATES

For Margarine (Int. Cl. 29).
First use Nov. 12, 1969.

SN 346,186. Ralston Purina Company, St. Louis, Mo. Filed Dec. 15, 1969.

MIX-LASS

For Cattle Feed (Int. Cl. 31).
First use Nov. 24, 1969.

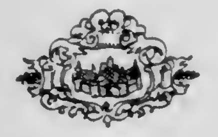
Class 47 — Wines

SN 307,387. E. & J. Gallo Winery, d.b.a. Gallo Vineyards, Modesto, Calif. Filed Sept. 16, 1968.

Tinta Serra

No claim is made to the word "Tinta" apart from the mark as shown.
For Wines (Int. Cl. 33).
First use Aug. 25, 1968.

SN 315,055. Chateau-Gai Wines Limited, Toronto, Ontario, Canada. Filed Dec. 23, 1968.



Château-Bon

For Wines and Champagne (Int. Cl. 33).
First use Oct. 1, 1968; in commerce Oct. 1, 1968.

SN 331,407. Maison Geisweiler et Fils, Societe Anonyme, Nuits-Saint-Georges, Cote d'Or, France. Filed June 30, 1969.

A. ROSSIGNEUX & FILS

Owner of French Reg. No. 1,394, dated Mar. 14, 1963 (Nuits-Saint-Georges); Natl. Inst. No. 202,163.
For Wines (Int. Cl. 33).

Class 48 — Malt Beverages and Liquors

SN 321,767. Cawy Bottling Co., Inc., Miami, Fla. Filed Mar. 14, 1969.

TRIMALTA

For Non-Alcoholic Malt Cereal Beverage (Int. Cl. 32).
First use May 20, 1967.

SN 331,547. Sunshine Brewing Co., d.b.a. Bavarian Brewing Co., Reading, Pa. Filed July 1, 1969.

KEGLET

For Beer (Int. Cl. 32).
First use June 27, 1969.

Class 49 — Distilled Alcoholic Liquors

SN 297,029. Brunswick Corporation, Chicago, Ill. Filed May 1, 1968.

"11TH FRAME"

For Brandy, Gin, Whiskies, and Vodka (Int. Cl. 33).
First use Oct. 13, 1967.

SN 306,168. Pedro Domecq Mexico, S.A. de C.V., Los Reyes, Estado de Mexico, Mexico. Filed Aug. 28, 1968.

PRESIDENTE

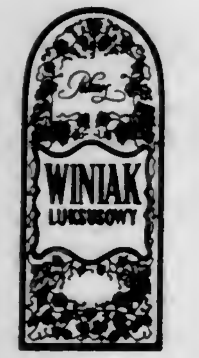
Owner of Mexican Reg. No. 92,993, dated Apr. 30, 1958.
For Brandy (Int. Cl. 33).

SN 310,718. Trader Joe, Inc., Pasadena, Calif. Filed Oct. 28, 1968.

VODKA OF THE GODS

The word "Vodka" is disclaimed apart from the mark as shown.
For Vodka (Int. Cl. 33).
First use July 1967.

SN 314,611. Przedsiebiorstwo Handlu Zagranicznego "Agros," Warsaw, Poland. Filed Dec. 16, 1968.



The word "Luksusowy" in English means "delicious." The English translation of the word "Winiak" is "brandy." No claim is made to the words "Winiak" and "Luksusowy" separately and apart from the mark. Owner of Polish Reg. No. 47,361, dated July 3, 1968; and U.S. Reg. Nos. 757,016, 868,237, and others.
For Brandy (Int. Cl. 33).

SN 323,545. Etablissement Actimonde, Vaduz, Liechtenstein. Filed Apr. 3, 1969.

ACTINISE

Owner of Liechtenstein Reg. No. 1,229, dated Nov. 6, 1961.
For Brandy, Whisky, Gin, and Liqueurs (Int. Cl. 33).

SN 333,357. Austin, Nichols & Co., Incorporated, Maspeth, N.Y. Filed July 24, 1969.

HARVEST

For Whiskey (Int. Cl. 33).
First use July 15, 1935.
Subj. to Intf. with SN 303,426.

SN 337,546. Heublein, Inc., Hartford, Conn. Filed Sept. 10, 1969.

OSTROVA

For Vodka (Int. Cl. 33).
First use July 7, 1969.

SN 337,547. Heublein, Inc., Hartford, Conn. Filed Sept. 10, 1969.

SMIRNOFF SILVER

Owner of Reg. Nos. 328,594, 862,846, and others.
For Vodka (Int. Cl. 33).
First use Aug. 14, 1969.
Subj. to Intf. with SN 338,210.

SN 338,210. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co., New York, N.Y. Filed Sept. 18, 1969.

SILVER

For Whiskey (Int. Cl. 33).
First use Aug. 15, 1969.
Subj. to Intf. with SN 337,547.

Class 50 — Merchandise Not Otherwise Classified

SN 311,053. The McMillan Company, Inc., Atlanta, Ga. Filed Oct. 31, 1968.

MOTORVATOR

For Display Board Used in a System of Salesmanship (Int. Cl. 20).
First use Dec. 3, 1966.

SN 320,515. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HISTORY IN ACTION

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,518. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT ADVENTURE

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,521. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

TOUR THROUGH HISTORY

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,524. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT EXPLORERS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,527. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT EXPLORATIONS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,530. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT DISCOVERIES

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,533. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

GREAT DISCOVERERS

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,544. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HEROES OF THE AMERICAN FRONTIER

For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 320,565. The Franklin Mint, Inc., Yeadon, Pa. Filed Mar. 3, 1969.

HEROES OF HISTORY

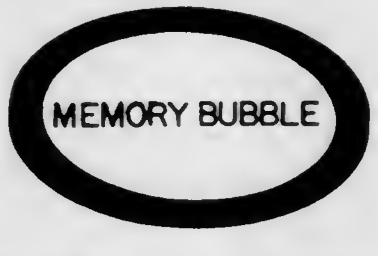
For Non-Monetary Coined Tokens (Int. Cl. 14).
First use Feb. 27, 1969.

SN 326,439. Morris M. Rubin, d.b.a. Rubin & Co., Inc., Milwaukee, Wis. Filed May 5, 1969.

DECO NOB

For Fabric Covers for Door Knobs (Int. Cl. 24).
First use Jan. 24, 1966.

SN 332,676. Milton S. Adair, d.b.a. Adair Associates, San Francisco, Calif. Filed July 16, 1969.



For Convex, Framed, Clear Plastic or Glass Enclosure Within Which an Article or Memento Is Displayed (Int. Cl. 20).
First use on or about Apr. 1, 1969.

SN 337,588. Simplex Industries, Inc., Adrian, Mich. Filed Sept. 10, 1969.

HAYMASTER

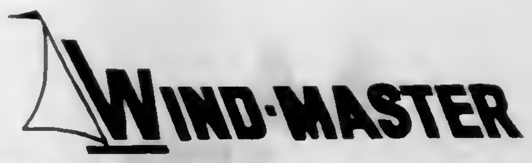
For Sheets of Paper and Polyethylene for Use in Covering Haystacks (Int. Cl. 22).
First use Aug. 1, 1969.

SN 342,990. Mary Manners, Upper Black Eddy, Pa. Filed Nov. 7, 1969.

PIEDART

For Envelope Within Which Dough Is Placed for Rolling (Int. Cl. 21).
First use Jan. 15, 1954.

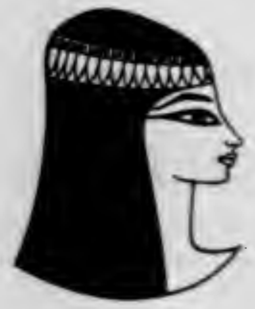
SN 345,541. Admiral Flag Poles, Incorporated, Columbus, Ohio. Filed Dec. 8, 1969.



For Flags, Flag Poles and Accessory Parts Therefor—Namely, Halyards, Halyard Rings, Sheaves, Trucks, Cleats, and Pole Ornaments (Int. Cls. 6 and 24).
First use Sept. 10, 1969.

Class 51 — Cosmetics and Toilet Preparations

SN 305,143. Laboratoire Lachartre S.A., Paris, France. Filed Aug. 14, 1968.



Owner of French Reg. No. 522,345, dated May 29, 1964 (Seine); Natl. Inst. No. 226,631.
For Dry Skin Face Cream, All-Purpose Face Cream, Cold Cream, Face Lotion, Make-Up Removing Cream, Hand Creams and Lotions, Shaving Cream, Skin Moisturizing Cream, Facial Skin Cleanser, Skin Blemish Cover Preparation, Skin Freshener and Astringent, Suntan Lotion and Cream, Facial Masques, and Bath Oil (Int. Cl. 3).

SN 315,175. Compagnie Francaise des Parfums d'Orsay, d.b.a. D'Orsay, Puteaux (Hauts-de-Seine), France. Filed Dec. 26, 1968.

BELLE DE JOUR

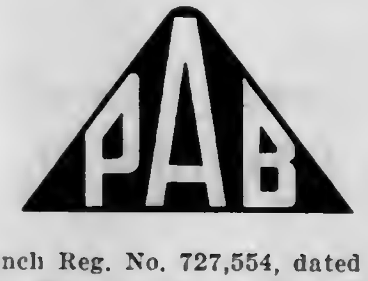
The mark "Belle de Jour" is a French expression meaning "day's beauty" or "day's belle." Owner of French Reg. No. 532,551, dated June 11, 1965 (Paris); Natl. Inst. No. 251,459.
For Perfumes, Toilet Water, and Cologne (Int. Cl. 3).

SN 315,998. Clairol Incorporated, New York, N.Y. Filed Jan. 7, 1969.

LADY LIGHTS

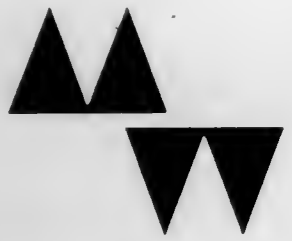
Applicant disclaims "Light" apart from the mark as shown.
For Hair Tinting, Dyeing and Coloring Preparations and Hair Setting Lotion (Int. Cl. 3).
First use Dec. 4, 1968.

SN 316,236. P.A.B. Produits et Appareils de Beauté, Paris, France. Filed Jan. 9, 1969.



Owner of French Reg. No. 727,554, dated Oct. 3, 1967.
For Depilatory Wax, Depilatory Jelly, Waxes for Topical Application, Milk Lotions, Astringents, Cosmetic Facial Masks, Cosmetic Cleansing Creams and Jellies and Lotions, Skin Creams, Massage Creams, Cosmetic Oils, Lipsticks, Eye Shadow, Fluid Makeup, Mascara, Rouge, Lip Pencils, Eyebrow Pencils, Liquid Eye Liner, and Face Powder (Int. Cl. 3).

SN 320,270. Maurer & Wirtz K.G., Stolberg, Rhineland, Germany. Filed Feb. 27, 1969.



The mark consists of a stylized depiction of the letters "M" and "W" which represents the applicant's initials. Owner of German Reg. No. 692,652, dated Nov. 10, 1955; and U.S. Reg. No. 620,547.

For Perfumes, Talcum Powder, Hair Lotion, Toilet Water, Hair Oil, Hair Tonic, Hair Cream, Shaving Lotion, Shaving Soap, Shaving Cream, Shaving Foam, Personal Deodorants, Sun Tan Lotion, and Sun Screening Lotion (Int. Cls. 3 and 5).

SN 320,322. Clairol Incorporated, New York, N.Y. Filed Feb. 28, 1969.

THE COMPLETE BLONDE

Owner of Reg. Nos. 833,841 and 833,842.

For Kit Containing Hair Lightening, Hair Toning and Hair Conditioning Preparations (Int. Cl. 3).

First use Sept. 22, 1965.

SN 322,597. S. C. Johnson & Son, Inc., Racine, Wis. Filed Mar. 24, 1969.

HIGH SEAS

For Sun Tan Lotion (Int. Cl. 3).

First use on or about July 8, 1968.

SN 323,628. Chesebrough-Pond's Inc., New York, N.Y. Filed Apr. 4, 1969.

SURE BODY

Applicant disclaims the word "Body" apart from the mark as shown. Owner of Reg. No. 843,818.

For Hair Conditioner (Int. Cl. 3).

First use Mar. 12, 1969.

SN 326,740. American Home Products Corporation, New York, N.Y. Filed May 8, 1969.

ANNE FRENCH

"Anne French" is not the name of any particular person living or dead. Owner of Reg. No. 543,382.

For Hair Spray (Int. Cl. 3).

First use Apr. 14, 1969.

SN 328,018. Irma Shorell, Inc., New York, N.Y. Filed May 22, 1969.

Irma Shorell's
CONTOUR/35

"Irma Shorell" identifies Irma Shorell Lightman, a living individual whose consent is of record. Applicant disclaims the word "Contour" separate and apart from the mark as shown. Owner of Reg. Nos. 793,778, 831,199, and 831,200.

For Lubricating Cosmetic for Application to Face and Neck (Int. Cl. 3).

First use April 1967.

SN 331,828. Leon Products, Inc., Jacksonville, Fla. Filed July 7, 1969.

DISPOS·A·PAD

Owner of Reg. No. 854,316.

For Pads Impregnated With Cosmetic Skin Moisturizing Oil (Int. Cl. 3).

First use July 1, 1969.

SN 333,703. Florida Tan Products Co., Inc., Miami Beach, Fla. Filed July 28, 1969.

FLORIDA TAN

Applicant disclaims the word "Tan" apart from the mark as shown.

For Sun Tan Lotion (Int. Cl. 3).

First use Jan. 1, 1966.

SN 334,099. Lamarick Beauty System, Inc., Greenville, S.C. Filed July 31, 1969.

PRETTY
SET

The word "Set" is disclaimed apart from the mark as shown.

For Hair Styling Lotion (Int. Cl. 3).

First use May 26, 1969.

SN 334,153. Yardley of London, Inc., New York, N.Y. Filed July 31, 1969.

SLICKER PLUS

Owner of Reg. Nos. 824,581, 860,683, and 869,125.

For Cologne, Foam Bath, Lipstick, and Nail Polish (Int. Cl. 3).

First use June 18, 1969.

SN 334,156. Yardley of London, Inc., New York, N.Y. Filed July 31, 1969.

SLICKER DOLLY LUV

Owner of Reg. Nos. 824,581, 869,125, and others.

For Lipstick and Nail Polish (Int. Cl. 3).

First use May 27, 1969.

SN 335,429. The Casan Company, Dallas, Tex. Filed Aug. 15, 1969.

SYNTRESS

For Wig Holding Spray (Int. Cl. 3).

First use Jan. 1, 1969.

SN 339,107. Union Carbide Corporation, New York, N.Y. Filed Sept. 29, 1969.

DRI PROMISE

The word "Dri" is disclaimed apart from the mark as shown.

For Personal Deodorant (Int. Cl. 5).

First use on or about Sept. 10, 1969.

SN 340,371. Clairol Incorporated, New York, N.Y. Filed Oct. 10, 1969.

TACTILIZER

For Hair Conditioner (Int. Cl. 3).

First use July 31, 1969.

SN 342,795. Pettibone Laboratories, Inc., New York, N.Y. Filed Nov. 6, 1969.

NONHEX

For Deodorizing Skin Cleaner (Int. Cls. 3 and 5).

First use Oct. 25, 1969.

SN 344,283. Du Barry, Inc., Morris Plains, N.J. Filed Nov. 24, 1969.

TRANSDEWCENT

For Fluid Makeup (Int. Cl. 3).

First use Nov. 14, 1969.

SN 344,620. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

AQUA-GARD

For Hand Lotion (Int. Cl. 3).

First use Oct. 16, 1969.

SN 344,624. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

ALWAYS BEAUTIFUL

For Hand Lotion (Int. Cl. 3).

First use Oct. 16, 1969.

SN 344,625. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 26, 1969.

SIMPLY BEAUTIFUL

For Hand Lotion (Int. Cl. 3).

First use Oct. 30, 1969.

SN 345,567. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 8, 1969.

CONQUISTADOR

For After Shave Lotion (Int. Cl. 3).

First use Sept. 2, 1969.

SN 345,792. John H. Breck, Inc., Wayne, N.J. Filed Dec. 10, 1969.

SIMPLY GREAT

For Facial Skin Cleanser (Int. Cl. 3).

First use Oct. 15, 1969.

Class 52 — Detergents and Soaps

SN 246,750. Certified Chemical and Equipment Company, Cleveland, Ohio. Filed May 27, 1966.

CERTIFIED
CHEMICAL
& EQUIPMENT CO.

For Rug and Upholstery Cleaning Compound (Int. Cl. 3).

First use July 1961; January 1925, as to "Certified," and 1950 in another form.

SN 310,944. Tom Fields, Ltd., Northvale, N.J. Filed Oct. 30, 1968.

FLYING
CLIPPER

For Toilet Soap for Personal Use (Int. Cl. 3).

First use Oct. 1, 1968.

SN 314,507. Action Chemicals, Incorporated, Tipp City, Ohio. Filed Dec. 16, 1968.

LYM-A-GO-GO

For Lime Remover for Industrial and Institutional Cleaning Uses (Int. Cl. 3).

First use Sept. 25, 1968.

SN 317,688. Inner Cities Chemical Products, Inc., Jamaica, N.Y. Filed Jan. 28, 1969.

SOUL SUDS

Without waiver of common-law or other rights, applicant claims no registration rights for the word "Suds" apart from the mark shown.

For Laundry Washing Machine Detergent (Int. Cl. 3).

First use Jan. 10, 1969.

SN 322,872. S. S. Kresge Company, Detroit, Mich. Filed Mar. 26, 1969.

Kmart

For Hair Shampoo (Int. Cl. 3).

First use on or before Aug. 21, 1967.

SN 323,976. Western Litho Plate & Supply Co., d.b.a. Western Litho Plate and Supply Company, St. Louis, Mo. Filed Apr. 8, 1969.

TRI-FOUNTAIN

For Composition for Cleaning and Maintaining Printing Presses (Int. Cl. 3).

First use Oct. 1, 1965.

SN 324,385. American Dream Soap Company, Cleveland, Ohio. Filed Apr. 14, 1969.

JET POWER

For All Purpose Household Detergent (Int. Cl. 3).
First use Dec. 11, 1968.

SN 327,152. Lanewood Laboratories, Inc., Framingham, Mass. Filed May 13, 1969.

MICRO-MAGIC

For Aerosol Microwave Oven Cleaner (Int. Cl. 3).
First use May 6, 1969.

SN 338,367. John H. Breck, Inc., Wayne, N.J. Filed Sept. 19, 1969.

SIMPLY GREAT

For Hair Shampoo (Int. Cl. 3).
First use Aug. 28, 1969.

SN 341,071. C. J. Webb, Inc., Dresher, Pa. Filed Oct. 17, 1969.

RUST REMOVER JELEX

"Rust Remover" is disclaimed apart from the mark as shown.
For Rust Remover and Cleaner (Int. Cl. 3).
First use Aug. 27, 1969.

SN 346,563. Lever Brothers Company, New York, N.Y. Filed Dec. 18, 1969.

RICH REWARD

Owner of Reg. No. 805,768.
For Hair Shampoo (Int. Cl. 3).
First use Dec. 2, 1969.

SERVICE MARKS

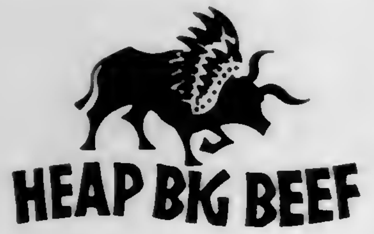
Class 100 — Miscellaneous

SN 292,375. Heap Big Beef, Inc., Hartsdale, N.Y. Filed Mar. 1, 1968.

HEAP BIG BEEF

For Restaurant Services (Int. Cl. 42).
First use Aug. 29, 1967.

SN 292,376. Heap Big Beef, Inc., Hartsdale, N.Y. Filed Mar. 1, 1968.



For Restaurant Services (Int. Cl. 42).
First use Aug. 29, 1967.

SN 305,252. Scotty's of Raleigh, Inc., Raleigh, N.C. Filed Aug. 15, 1968.

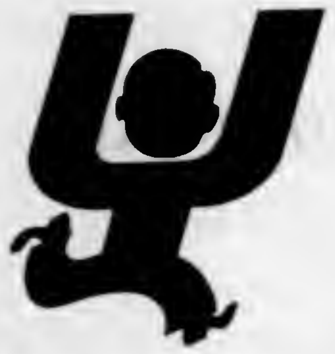
The hat portion of the character is lined for the color brown and this is considered as forming a part of the mark.
For Restaurant Services (Int. Cl. 42).
First use at least as early as Nov. 28, 1967.

SN 309,276. Mechanics Research, Inc., El Segundo, Calif. Filed Oct. 9, 1968.

MRI

For Consulting Services in the Engineering Fields of Structures, Structural Dynamics, Experimental Mechanics, Computer Sciences, Aerodynamics, Thermodynamics, Hydrodynamics, Guidance and Control, Electronics and Communication, Mechanical Design and Marine Sciences (Int. Cl. 42).
First use on or about Jan. 15, 1968.

SN 314,133. Arcoa, Inc., Phoenix, Ariz. Filed Dec. 11, 1968.



The drawing is lined for the color red. Owner of Reg. Nos. 746,034, 786,156, and 795,733.
For Truck and Automobile Trailer Rentals (Int. Cl. 42).
First use during January 1966.

SN 319,058. Kimberly-Clark Corporation, Neenah, Wis. Filed Feb. 13, 1969.

THE LIFE CYCLE CENTER

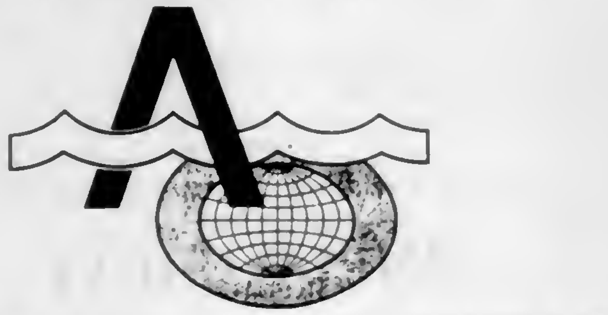
For Educational Information Service Which Disseminates Information Dealing With Feminine Hygiene (Int. Cl. 42).
First use Jan. 8, 1968.

SN 322,145. Chock Full O' Nuts Corporation, New York, N.Y. Filed Mar. 19, 1969.

CHOCK FULL O' NUTS

Owner of Reg. Nos. 546,547, 580,454, and 632,806.
For Restaurant Services (Int. Cl. 42).
First use at least as early as 1932.

SN 322,546. Atwood Oceanics, Inc., Houston, Tex. Filed Mar. 24, 1969.



For Technical Assistance in Exploration and Drilling Offshore Wells (Int. Cl. 42).
First use Feb. 5, 1969.

SN 322,650. United States Leasing Corporation, San Francisco, Calif. Filed Mar. 24, 1969.

INFLATION DEFLATOR

For Leasing of Industrial Equipment, Machinery, and Fixtures (Int. Cl. 42).
First use Jan. 14, 1969.

SN 327,604. Donutland, Inc., Loves Park, Ill. Filed May 19, 1969.

DONUTLAND

For Restaurant Services Primarily for Donuts and Non-Alcoholic Beverages (Int. Cl. 42).
First use Nov. 9, 1964.

SN 327,894. Habana Inn, Oklahoma City, Okla. Filed May 21, 1969.

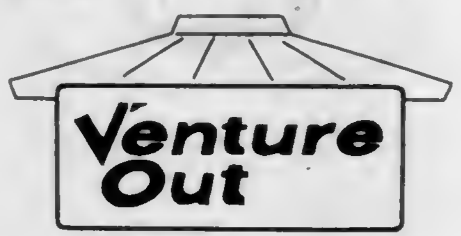
habana inn

For Motel and Restaurant Services (Int. Cl. 42).
First use Sept. 27, 1965.

SN 333,986. Robinex International, Ltd., East Rochester, N.Y. Filed July 30, 1969.

The mark is consisting of two spaced back-to-back R's with an "H" interposed between them and forming the central portion of the design, enclosed in a shield, and the whole crest enclosed in a circle.
For Restaurant Services (Int. Cl. 42).
First use on or about Dec. 1, 1968.

SN 340,209. Venture Out in America, Inc., Knoxville, Tenn. Filed Oct. 8, 1969.



For Maintaining and Operating Travel Trailer Resorts (Int. Cl. 42).
First use May 12, 1969.

SN 340,210. Venture Out in America, Inc., Knoxville, Tenn. Filed Oct. 8, 1969.

VENTURE OUT

For Maintaining and Operating Travel Trailer Resorts (Int. Cl. 42).
First use May 12, 1969.

SN 340,015. Charles L. Hollingsworth, Sr., Centreville, Ala. Filed Oct. 7, 1969.

For Restaurant Services (Int. Cl. 42).
First use June 1, 1969.

SN 343,481. Alfie's Fish & Chips, Inc., Houston, Tex. Filed Nov. 14, 1969.

ALFIE'S

For Restaurant Services (Int. Cl. 42).
First use at least as early as Nov. 24, 1968.

SN 345,899. Marriott Corporation, Washington, D.C. Filed Dec. 11, 1969.

STIRRUP CUP

Owner of Reg. No. 837,670.
For Serving of Food and Beverages (Int. Cl. 42).
First use in or about February 1964.

Class 101 — Advertising and Business

SN 308,157. Stop and Save Trading Stamp Corporation, South Hackensack, N.J. Filed Sept. 24, 1968.

Owner of Reg. Nos. 660,867, 680,556, and 868,797.
For Promoting the Sale of the Services or Goods of Others Through the Medium of Trading Stamps Redeemable by Their Customers in Merchandise or Travel Prizes and Promoting the Productivity of Their Employees Through the Reward Medium of Trading Stamps Redeemable in Merchandise or Travel Prizes (Int. Cl. 35).
First use on or about Mar. 31, 1967.

SN 313,528. Telstaf Counsellors Limited, Toronto, Ontario, Canada. Filed Dec. 3, 1968.

TELSTAF

Owner of Canadian Reg. No. 158,638, dated Oct. 11, 1968.
For Counselling, Supervising, Managing, Forming and Organizing Any Businesses of Others and Any Internal Communications With Respect Thereto (Int. Cl. 35).

SN 316,384. Jerry Miller, Inc., New York, N.Y. Filed Jan. 13, 1969.

SHOE BIZ

The word "Shoe" is disclaimed apart from the mark as shown.
For Retail Shoe Outlet Services Conducted in a Department Store (Int. Cl. 35).
First use at least as early as Aug. 25, 1968.

SN 338,078. American Broadcasting Companies, Inc., New York, N.Y. Filed Sept. 17, 1969.

IMP

For Computerized Research-Marketing Service in the Field of Consumer Products (Int. Cl. 35).
First use June 27, 1969.

SN 339,958. Petroleum Service Advertising, Inc., Blue Island, Ill. Filed Oct. 7, 1969.

SWING FOR CASH

Owner of Reg. No. 881,447.
For Promotion of Gasoline and Oil Service Station Services and Goods or the Benefit of Others by Means of a Program Carried Out Through Advertising, Store Window Advertising Displays and Signs, Game Cards and Instructions, Promotional Literature and Promotional Games (Int. Cl. 35).
First use May 1, 1969.

SN 341,758. Sunlighting Systems, Inc., Chevy Chase, Md. Filed Oct. 27, 1969.

SUNLIGHTING LAMP AND SHADE CENTER

Applicant disclaims the words "Lamp and Shade Center" except as used in conjunction with the other features of the mark.
For Retail Lamp and Shade Store Services (Int. Cl. 35).
First use Aug. 1, 1969.

Class 102 — Insurance and Financial

SN 301,820. Class Student Services, Inc., Rockville, Md., assignee of Campus League To Aid Student Savings, Inc., d.b.a. Class, Bethesda, Md. Filed July 2, 1968.

CLASS

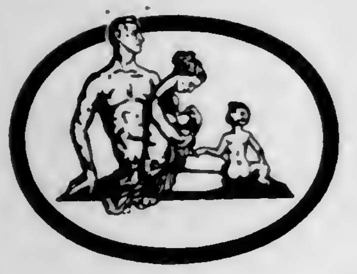
Owner of Reg. No. 879,108.
For Operating a Financial Club Wherein Members Thereof Receive Discounts From Participating Merchants (Int. Cl. 42).
First use May 16, 1968.

SN 321,562. Central States Health & Life Co. of Omaha, Omaha, Nebr. Filed Apr. 7, 1969.

AMERI-GARD

For Underwriting of Health and Life Insurance (Int. Cl. 36).
First use Dec. 27, 1968.

SN 347,811. Independent Life & Accident Insurance Company, Jacksonville, Fla. Filed Jan. 6, 1970.



Owner of Reg. Nos. 865,523 and 865,524.
For Underwriting Fire and Extended Coverage Insurance (Int. Cl. 36).
First use Dec. 10, 1969.

Class 105 — Transportation and Storage

SN 315,220. Executive Airlines, Inc., Boston, Mass. Filed Dec. 26, 1968.

EXECUTIVE AIRLINES FLORIDA SKY-PASS

The words "Airlines" and "Florida Sky-Pass" are disclaimed apart from the mark as shown.
For Airline Transportation Services (Int. Cl. 39).
First use Nov. 1, 1968.

SN 319,960. Rogal/Colpitts Travel Corp., Boston, Mass. Filed Feb. 24, 1969.

MEXICAN ADVENTURE

The term "Mexican" is disclaimed apart from the mark as a whole.
For Tour-Operating and Travel-Agency Services (Int. Cl. 39).
First use Feb. 16, 1969.

SN 328,102. Himalayan Academy, d.b.a. Innersearch World Tours, Virginia City, Nev. Filed May 26, 1969.

INNERSEARCH WORLD TOURS

No claim is made to the words "World Tours" apart from the mark as shown.
For Conducting Combination Travel-Self Study Tours (Int. Cl. 39).
First use October 1967.

SN 330,928. Homeric Tours, Inc., New York, N.Y. Filed June 25, 1969.

HOMERIC TOURS

Applicant disclaims the word "Tours" apart from the mark as shown.
For Arranging and Conducting Travel Tours (Int. Cl. 39).
First use on or before Feb. 5, 1969.

SN 331,240. Priority Air Dispatch, Inc., Washington, D.C. Filed June 27, 1969.

PAD

For Air Transportation of Cargo and Passengers (Int. Cl. 39).
First use May 1, 1968.

Class 106 — Material Treatment

SN 313,806. Centre Stephanois de Recherches Mecaniques Hydromecanique et Frottement, Saint-Etienne (Loire), France. Filed Dec. 6, 1968.

SULF BT

Priority claimed under Sec. 44(d) on French Reg. No. 745,867, dated Aug. 15, 1968.
For Surface Treatment of Metal Parts—Namely, Sulphurization (Int. Cl. 40).

SN 328,531. Capital City Discount Film Developing Service, Richmond, Va. Filed May 28, 1969.

CAPITAL CITY

For Photo Film Developing Services (Int. Cl. 40).
First use Apr. 8, 1969.

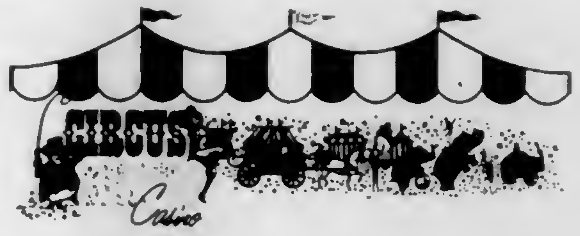
Class 107 — Education and Entertainment

SN 306,889. Cuna Mutual Insurance Society, Madison, Wis. Filed Sept. 9, 1968.

YOUTH-QUAKE

For Conducting Workshops, Seminars and Other Meetings, Committees, Clubs and Programs To Acquaint Policyholders and Non-Policyholders With Company Services, Programs and Policies (Int. Cl. 41).
First use May 6, 1968.

SN 320,125. Circus Circus, Inc., Las Vegas, Nev. Filed Feb. 26, 1969.



Applicant makes no exclusive claim to the word "Casino" apart from the mark as shown.
For Casino Services (Int. Cl. 41).
First use Oct. 18, 1968.

SN 336,545. Gary A. Martin, d.b.a. Cove Productions, Iowa City, Iowa. Filed Aug. 28, 1969.

FIRE & ICE

For Entertainment Services—Namely, Entertainment Rendered by a Musical Group (Int. Cl. 41).
First use Jan. 1, 1969.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

889,904. LASER-GARD. American Cyanamid Company. SN 300,670. Pub. 2–10–70. Filed 6–18–68.

889,905. MAXIGENE. World Seeds, Inc. SN 296,906. Pub. 2–10–70. Filed 4–29–68.

889,906. CHAMPION AND DESIGN. Associated Hardware Supply Company. MULTIPLE CLASS (Classes 1, 10, 23, 32, and 35). SN 300,031. Pub. 2–10–70. Filed 6–10–68.

889,907. KING MOUNTAIN ETC. AND DESIGN. Gilbert Enterprises, Inc. SN 304,912. Pub. 2–10–70. Filed 8–12–68.

889,908. DIBIAR. Dibia, Inc. SN 305,039. Pub. 2–10–70. Filed 8–13–68.

889,909. PELFRAN. Societe Anonyme Peltex. MULTIPLE CLASS (Classes 1, 4, 22, 29, 39, 42, and 50). SN 307,798. Pub. 2–10–70. Filed 9–20–68.

889,910. APLEX. Asbestos Corporation of America. SN 312,008. Pub. 2–10–70. Filed 11–13–68.

889,911. VALERON. Van Leer's Vatenfabrieken N.V. SN 316,262. Pub. 2–10–70. Filed 1–9–69.

889,912. OZO-PRUF. Durkee-Atwood Company. SN 325,018. Pub. 2–10–70. Filed 4–21–69.

889,913. GEBCO. Bonded Fibers, Incorporated. SN 325,160. Pub. 2–10–70. Filed 4–22–69.

889,914. KANDRA. Dow Badische Company. SN 335,292. Pub. 2–10–70. Filed 8–14–69.

Class 2 — Receptacles

889,915. GIFTWOOD AND DESIGN. Giftwood, Inc. SN 300,820. Pub. 2–10–70. Filed 6–19–68.

889,916. MISCELLANEOUS DESIGN. Albeni Corporation. SN 306,864. Pub. 2–10–70. Filed 9–9–68.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

889,917. HELL-BENT FOR LEATHER AND DESIGN. Lawrence Zlatkiss, d.b.a. Hell-Bent for Leather. MULTIPLE CLASS (Classes 3 and 39). SN 284,522. Pub. 2–10–70. Filed 11–9–67.

889,918. CRIB SET. Hankscraft Company. SN 302,940. Pub. 2–10–70. Filed 7–17–68.

Class 4 — Abrasives and Polishing Materials

889,909. (See Class 1 for this trademark.)

889,919. FLEX O LITE AND DESIGN. General Steel Industries, Inc., d.b.a. Flex-O-Lite Division. SN 316,199. Pub. 9–16–69. Filed 1–9–69.

889,920. INMONT. Inmont Corporation. SN 327,547. Pub. 2–10–70. Filed 5–19–69.

Class 5 — Adhesives

889,921. KOOL-IT. Standard Patents & Devices, Inc. SN 325,900. Pub. 2–10–70. Filed 4–29–69.

889,922. ETHIBOND. Ethicon, Inc. SN 334,669. Pub. 2–10–70. Filed 8–7–69.

Class 6 — Chemicals and Chemical Compositions

889,923. GREY OWL AND DESIGN. Grey Owl Laboratories Limited. SN 273,406. Pub. 2–10–70. Filed 6–9–67.

889,924. VELSICOL AND DESIGN. Velsicol Chemical Corporation. SN 278,260. Pub. 2–10–70. Filed 8–14–67.

889,925. COPPERSHIELD. R. H. Miller Company. SN 284,215. Pub. 2–10–70. Filed 11–6–67.

889,926. HUPPERT'S. Jack Huppert Company, Inc. SN 293,829. Pub. 2–10–70. Filed 3–21–68.

889,927. ANTOINE CHIRIS. Universal Oil Products Company. SN 294,332. Pub. 2–10–70. Filed 3–27–68.

889,928. RS ITEK AND DESIGN. Itek Corporation. MULTIPLE CLASS (Classes 6, 23, and 26). SN 295,585. Pub. 2–10–70. Filed 4–15–68.

889,929. GRIVOIS. Givaudan Corporation. SN 307,838. Pub. 2–10–70. Filed 9–20–68.

889,930. KILLA-DILLA. United Co-Operatives, Inc. SN 311,630. Pub. 2–10–70. Filed 11–7–68.

889,931. FANERON. Ciba Limited. SN 315,300. Pub. 2–10–70. Filed 12–27–68.

889,932. OXINON. Polychrome Corporation. SN 321,827. Pub. 2–10–70. Filed 3–14–69.

889,933. FOREST-MIST. The Cello Chemical Company. SN 322,966. Pub. 2–10–70. Filed 3–27–69.

889,934. EM AND DESIGN. E. Merck Aktiengesellschaft. SN 323,772. Pub. 2–10–70. Filed 3–24–69.

889,935. PLANT DESIGN. Gustafson Manufacturing, Incorporated. SN 328,768. Pub. 2–10–70. Filed 6–2–69.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

889,936. DEL MAR AND DESIGN. Del Mar Engineering Laboratories. SN 291,251. Pub. 2–10–70. Filed 2–16–68.

889,937. JETCUTTER. Explosive Technology, Inc. SN 317,216. Pub. 2–10–70. Filed 1–22–69.

889,938. 21 FLAGS AND DESIGN. 21 Flags, Inc. SN 328,517. Pub. 2–10–70. Filed 5–28–69.

Class 10 — Fertilizers

889,906. (See Class 1 for this trademark.)

889,939. NITROZINC–A. Smith & Ardussi, Inc. SN 333,610. Pub. 2–10–70. Filed 7–25–69.

Class 12 — Construction Materials

889,940. CARDINAL. Cardinal Insulated Glass Co. SN 307,969. Pub. 2–10–70. Filed 9–23–68.

889,941. LONG-BELL AND DESIGN. International Paper Company. SN 318,308. Pub. 2–10–70. Filed 2–4–69.

889,942. PACO PLASTIC BLOCKS. North State Pyrophyllite Co., Inc. SN 320,367. Pub. 2–10–70. Filed 2–28–69.

889,943. OZAN. Potlatch Forests, Inc. SN 322,908. Pub. 2–10–70. Filed 3–26–69.

889,944. P.M. Perfect Match Putty Inc. SN 326,958. Pub. 2–10–70. Filed 5–12–69.

889,945. PERFECT MATCH. Perfect Match Putty Inc. SN 326,959. Pub. 2–10–70. Filed 5–12–69.

889,946. TIDEWATER. U.S. Plywood-Champion Papers Inc. SN 328,395. Pub. 2–10–70. Filed 5–27–69.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

889,947. INSUL-LOK. Townsend Company. SN 258,218. Pub. 4–2–68. Filed 11–8–66.

889,948. ENERPAC. Applied Power Industries, Inc. SN 318,283. Pub. 2–10–70. Filed 2–4–69.

889,949. DYNEX. Applied Power Industries, Inc. SN 319,794. Pub. 2–10–70. Filed 2–24–69.

889,950. RIVETT. Applied Power Industries, Inc. SN 319,795. Pub. 2–10–70. Filed 2–24–69.

889,951. MISCELLANEOUS DESIGN. Kunzmann Chain Company. SN 327,027. Pub. 2–10–70. Filed 5–12–69.

Class 15 — Oils and Greases

889,952. ROLFITE NO-SMOGG. Rolfe Chemical Corporation. SN 302,367. Pub. 2–10–70. Filed 7–10–68.

889,953. H.A.E. Herbert Allen Erkert. SN 314,307. Pub. 2–10–70. Filed 12–12–68.

889,954. BEADS. Strohmeyer & Arpe Company. SN 318,107. Pub. 2–10–70. Filed 1–31–69.

Class 17 — Tobacco Products

889,955. FLAV-R-TIP. Bayuk Cigars Incorporated. SN 321,164. Pub. 2–10–70. Filed 3–10–69.

889,956. HOUSE OF LANCASTER. House of Windsor, Inc. SN 323,045. Pub. 2–10–70. Filed 3–27–69.

889,957. BIGARETTE. Consolidated Cigar Corporation. SN 326,500. Pub. 2–10–70. Filed 5–6–69.

889,958. CADENZA. Consolidated Cigar Corporation. SN 326,501. Pub. 2–10–70. Filed 5–6–69.

889,959. LAREDO. Brown & Williamson Tobacco Corporation. SN 328,415. Pub. 2–10–70. Filed 5–27–69.

889,960. TIPSTER. Bayuk Cigars Incorporated. SN 335,191. Pub. 2–10–70. Filed 8–13–69.

889,961. ESCAPADE. General Cigar Co., Inc. SN 335,339. Pub. 2–10–70. Filed 8–14–69.

889,962. OWLET. General Cigar Co., Inc. SN 335,340. Pub. 2–10–70. Filed 8–14–69.

Class 18 — Medicines and Pharmaceutical Preparations

889,963. STRONTOCAINE. Howard C. Van Camerik. SN 295,861. Pub. 2–10–70. Filed 4–17–68.

889,964. CRINITON. Dr. Atzinger & Co. K.G. Pharmazeutische Fabrik. SN 306,867. Pub. 2–10–70. Filed 9–9–68.

889,965. RAFLURVAX. Johnson & Johnson, assignee of The Dow Chemical Company. SN 307,631. Pub. 2–10–70. Filed 9–18–68.

889,966. LIQUI-K. Medcal Pharmaceuticals Inc. SN 309,775. Pub. 2–10–70. Filed 10–16–68.

889,967. A.M. & P.M. Bristol-Myers Company. SN 319,273. Pub. 12–30–69. Filed 2–17–69.

889,968. HARTZ MOUNTAIN. Hartz Mountain Products Corp. SN 319,599. Pub. 2–10–70. Filed 2–19–69.

889,969. ULTRA-SLIM. Benalen Corporation. SN 319,810. Pub. 2–10–70. Filed 2–24–69.

889,970. VIVARIN. The J. B. Williams Company, Inc. SN 319,992. Pub. 2–10–70. Filed 2–24–69.

889,971. MYKOCERT. Beutlich, Inc. SN 325,157. Pub. 2–10–70. Filed 4–22–69.

Class 19 — Vehicles

889,972. DINO AND DESIGN. Ferrari S.p.A. Esercizio Fabbriche Automobili e Corse. SN 286,252. Pub. 10–22–68. Filed 12–5–67.

889,973. COLLET LOCK. Rockwell-Standard Company. SN 286,844. Pub. 2–10–70. Filed 12–13–67.

889,974. HUMP-T-DUMPER. Parker Industries, Inc. SN 300,288. Pub. 3–18–69. Filed 6–12–68.

889,975. CARMOTEL CONVERTIBLE AND DESIGN. Sigmond Welzer, d.b.a. Carmotel Company. SN 306,531. Pub. 2–10–70. Filed 9–3–68.

889,976. TARGA. Firma Dr. Ing. h.c. F. Porsche KG. SN 308,882. Pub. 2–10–70. Filed 10–4–68.

889,977. FISH CART. C. Harrison Williams, Jr., d.b.a. Williams Manufacturing Company. SN 308,938. Pub. 2–10–70. Filed 10–4–68.

889,978. HAULMOR. Westinghouse Air Brake Company. SN 316,853. Pub. 2–10–70. Filed 1–16–69.

889,979. SKI-BOOSE. Bombardier Limited. SN 317,813. Pub. 2–10–70. Filed 1–29–69.

889,980. BONITO AND DESIGN. Pearson Brothers (Littlehampton) Ltd. SN 321,324. Pub. 2–10–70. Filed 3–3–69.

889,981. STOLMASTER. Aircraft International Associates, Inc. SN 322,244. Pub. 2–10–70. Filed 3–20–69.

889,982. ID 20. Societe Anonyme Automobiles Citroen. SN 322,353. Pub. 2–10–70. Filed 3–20–69.

889,983. SEABREEZE. Seabreeze Marine Corporation. SN 332,050. Pub. 2–10–70. Filed 7–8–69.

889,984. KELSEY AND DESIGN. Kelsey-Hayes Company. SN 336,814. Pub. 1–27–70. Filed 9–2–69.

889,985. SKYCART. Universal Oil Products Company, d.b.a. REF Dynamics Division. SN 337,494. Pub. 2–10–70. Filed 9–10–69.

Class 21 — Electrical Apparatus, Machines, and Supplies

889,986. ARGONAUT. Argonaut Associates, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 285,302. Pub. 2–10–70. Filed 11–21–67.

889,987. SUPER-FLEX. Avnet, Inc., assignee of Carol Wire & Cable Corp. SN 287,057. Pub. 11–19–68. Filed 12–18–67.

889,988. BOHEMIA CRYSTAL AND DESIGN. Skloexport, Podnik Zahranicniho Obchodu Pro Vyvoz Skla. MULTIPLE CLASS (Classes 21, 33, and 34). SN 290,110. Pub. 2–10–70. Filed 2–1–68.

889,989. TUCHSWITCH AND DESIGN. R. B. Denison, Inc. SN 292,358. Pub. 2–10–70. Filed 3–4–68.

889,990. GSR. The Susquehanna Corporation. SN 300,380. Pub. 2–10–70. Filed 6–13–68.

889,991. MEIDENSHA. Meidensha Electric Mfg. Co., Ltd. SN 304,697. Pub. 2–10–70. Filed 8–8–68.

889,992. TUDOR. Aktiebolaget Tudor. SN 305,903. Pub. 2–10–70. Filed 8–26–68.

889,993. UNICUT. Tyton Corporation of America. SN 306,824. Pub. 2–10–70. Filed 9–6–68.

889,994. PROGRAM CENTER. JFD Electronics Corporation. SN 307,579. Pub. 2–10–70. Filed 9–17–68.

889,995. STYLIZED S (DESIGN). Harvey Hubbell, Incorporated, d.b.a. Shalda Lighting Products Company. SN 312,196. Pub. 2–10–70. Filed 11–14–68.

889,996. SS K AND DESIGN. S. S. Kresge Company. SN 312,310. Pub. 2-10-70. Filed 11-15-68.

889,997. DIGIVUE. Owens-Illinois, Inc. SN 316,727. Pub. 2-10-70. Filed 1-16-69.

889,998. VERITRAK. Motorola, Inc. SN 317,861. Pub. 2-10-70. Filed 1-29-69.

889,999. EUPHONICS NITE BRITE. Euphonics Corporation. SN 321,053. Pub. 2-10-70. Filed 3-7-69.

890,000. INTENSITRON. The Perkin-Elmer Corporation. SN 327,954. Pub. 2-10-70. Filed 5-21-69.

890,001. MINI-RUPTER. S & C Electric Company. SN 327,957. Pub. 2-10-70. Filed 5-21-69.

890,002. PIT-STOP. M. Black Manufacturing Company, Inc. SN 328,806. Pub. 2-10-70. Filed 6-2-69.

890,003. ACCULINK. Buckbee-Mears Company. SN 328,811. Pub. 2-10-70. Filed 6-2-69.

890,004. DELTA. Delta Products, Inc. SN 329,442. Pub. 12-2-69. Filed 6-9-69.

890,005. S-D AND TRIANGLE DESIGN. Struthers-Dunn, Inc. SN 330,427. Pub. 2-10-70. Filed 6-18-69.

890,006. DUNCO. Struthers-Dunn, Inc. SN 330,428. Pub. 2-10-70. Filed 6-18-69.

890,007. CHEER LIGHTS. Duro-Test Corporation. SN 330,994. Pub. 2-10-70. Filed 6-26-69.

890,008. ATC (DESIGN). American Technical Ceramics. SN 336,509. Pub. 2-10-70. Filed 8-28-69.

Class 22 — Games, Toys, and Sporting Goods

889,909. (See Class 1 for this trademark.)

890,009. STRIP DESIGN. Puma-Sportschuhfabriken Rudolf Dassler KG. MULTIPLE CLASS (Classes 22 and 39). SN 288,345. Pub. 2-10-70. Filed 1-8-68.

890,010. EXPLORATION. Spiring Enterprises Limited, assignee of James Christopher Spiring. SN 288,363. Pub. 2-10-70. Filed 1-8-68.

890,011. WONDER AND DESIGN. Wonder Products Company. SN 303,949. Pub. 2-10-70. Filed 7-30-68.

890,012. KARSTEN. Karsten Solheim. SN 308,154. Pub. 2-10-70. Filed 9-24-68.

890,013. THE SPORT OF KINGS. Joseph W. Bongiorno, d.b.a. JWB Co. SN 312,013. Pub. 2-10-70. Filed 11-13-68.

890,014. SUR-STRIKE AND DESIGN. Bluegill Tackle Manufacturing Company. SN 318,392. Pub. 2-10-70. Filed 2-5-69.

890,015. MONSIG THE MOON BOY. Ed-U-Fun, Inc. SN 318,954. Pub. 2-10-70. Filed 2-12-69.

890,016. PEG-A-WAY. Leisure-Time Distributing Company, Inc. SN 319,612. Pub. 2-10-70. Filed 2-19-69.

890,017. BLUE CHEER ETC. AND DESIGN. Jay G. Stone, d.b.a. Blue Cheer Surfboards. SN 319,972. Pub. 2-10-70. Filed 2-24-69.

890,018. ZEBRA. Beconta Inc. SN 321,379. Pub. 2-10-70. Filed 3-11-69.

890,019. JATE. Jate Industries, Inc. SN 321,392. Pub. 2-10-70. Filed 3-11-69.

890,020. WS AND SHIELD DESIGN. Wilson Sporting Goods Co. SN 321,713. Pub. 2-10-70. Filed 3-13-69.

890,021. HURL-A-ROO. Classic Games Company, Inc. SN 321,773. Pub. 2-10-70. Filed 3-14-69.

890,022. TEE-MATIC. William Hart Adler Inc. SN 321,881. Pub. 2-10-70. Filed 3-17-69.

890,023. CONFIGURATIONS. Autotelic Instructional Materials Corp. SN 321,890. Pub. 2-10-70. Filed 3-17-69.

890,024. LIFECYCLE. Lifecycle, Inc. SN 321,948. Pub. 2-10-70. Filed 3-17-69.

890,025. PANELCRAFT. Sifo Company. SN 321,995. Pub. 2-10-70. Filed 3-17-69.

890,026. REEL KING. Southern Machinery Company. SN 321,997. Pub. 2-10-70. Filed 3-17-69.

890,027. STRATEGY RUMMY. Milton Bradley Company. SN 322,259. Pub. 2-10-70. Filed 3-20-69.

890,028. SCRANIMALS. Rainbow Crafts, Inc. SN 323,367. Pub. 2-10-70. Filed 4-1-69.

890,029. MRI AND DESIGN. Metal Racquets, Inc. SN 326,897. Pub. 2-10-70. Filed 5-9-69.

890,030. TOTEM POLE (DESIGN). Eagle Rubber Co., Inc. SN 327,369. Pub. 2-10-70. Filed 5-15-69.

890,031. FANCY EAGLE HEAD (DESIGN). Eagle Rubber Co., Inc. SN 327,371. Pub. 2-10-70. Filed 5-15-69.

890,032. PORTER. Gabriel Industries, Inc., d.b.a. The Porter-Spear Company. SN 327,481. Pub. 2-10-70. Filed 5-16-69.

890,033. JOKER. Cificap Enterprises Ltd. SN 327,593. Pub. 2-10-70. Filed 5-19-69.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

889,906. (See Class 1 for this trademark.)

889,928. (See Class 6 for this trademark.)

890,034. BOBCAT. Clark Equipment Company, by merger, change of name, and assignment from Melroe Manufacturing Company. SN 268,661. Pub. 6-20-67. Filed 4-10-67.

890,035. FLAME SAFE. The Gorman-Rupp Company. SN 287,291. Pub. 2-10-70. Filed 12-20-67.

890,036. FANTOMFLO. Tobacco Research and Development Institute (Proprietary) Limited. SN 289,731. Pub. 2-10-70. Filed 1-26-68.

890,037. CRESTEX. Crescent Niagara Corporation. SN 299,435. Pub. 11-4-69. Filed 5-31-68.

890,038. ACROMATIC HYPOCHLORINATOR AND DESIGN. The Reece Corporation. SN 303,344. Pub. 2-10-70. Filed 7-22-68.

890,039. KIPP. Madison-Kipp Corporation. SN 307,654. Pub. 2-10-70. Filed 9-18-68.

890,040. APPLEJACK. Vito Truncali. SN 308,052. Pub. 2-10-70. Filed 9-23-68.

890,041. K AND R. K & R Industries, Inc. SN 314,426. Pub. 2-10-70. Filed 12-13-68.

890,042. VR-1. Raymond P. Wolgast, d.b.a. Detroit Autobody Equipment Co. SN 316,156. Pub. 2-10-70. Filed 1-8-69.

890,043. VERNISPEED AND DESIGN. Plessey Airborne Corporation. SN 317,369. Pub. 2-10-70. Filed 1-23-69.

890,044. MC CROSKY COST CUTTING TOOLS AND DESIGN. McCrosky Tool Corporation. SN 318,086. Pub. 2-10-70. Filed 1-31-69.

890,045. TCM. Toyo Umpanki Co., Ltd. SN 318,247. Pub. 2-10-70. Filed 2-3-69.

890,046. MILL-CUT. The Mill-Cut Corporation. SN 318,445. Pub. 2-10-70. Filed 2-5-69.

890,047. CALIBRATOR. Klöckner-Humboldt-Deutz Aktiengesellschaft. SN 321,506. Pub. 2-10-70. Filed 3-12-69.

890,048. GLIDER-PLATE. American Screen Process Equipment Company. SN 323,075. Pub. 2-10-70. Filed 3-28-69.

890,049. PSI AND DESIGN. Cyclo Manufacturing Company. SN 323,268. Pub. 2-10-70. Filed 4-1-69.

890,050. WINDOW PRO AND DESIGN. Feljr Corporation. SN 323,547. Pub. 2-10-70. Filed 4-3-69.

890,051, GYRATRON AND DESIGN. Praschak Machine Co., Inc. SN 325,667. Pub. 2-10-70. Filed 4-28-69.

890,052. CHIPMATE. Kysor Industrial Corporation. SN 326,106. Pub. 2-10-70. Filed 5-1-69.

890,053. SUISEI AND DESIGN. Suisei Industrial Co., Ltd. SN 328,361. Pub. 2-10-70. Filed 5-26-69.

890,054. WILDCAT AND DESIGN. Eig Cutlery, Inc. SN 332,465. Pub. 2-10-70. Filed 7-14-69.

890,055. TIGER CLAW. Illinois Tool Works Inc. SN 332,716. Pub. 2-10-70. Filed 7-16-69.

890,056. SWING 'N SEW. J. C. Penney Company, Inc. SN 333,174. Pub. 2-10-70. Filed 7-22-69.

890,057. BATES 640. The Bates Manufacturing Company. SN 333,361. Pub. 2-10-70. Filed 7-24-69.

890,058. MINIMASTER AND DESIGN. Westinghouse Air Brake Company. SN 333,470. Pub. 2-10-70. Filed 7-24-69.

890,059. TASKMASTER AND DESIGN. Westinghouse Air Brake Company. SN 333,471. Pub. 2-10-70. Filed 7-24-69.

890,060. SEA-POWER. Oceanautic Manufacturing and Research Company. SN 333,599. Pub. 2-10-70. Filed 7-25-69.

890,061. LOC NO. Harbison-Fischer Manufacturing Company, Inc., d.b.a. Harbison-Fischer. SN 333,712. Pub. 2-10-70. Filed 7-28-69.

890,062. DYNAVAC. American Metal Products Company. SN 333,973. Pub. 2-10-70. Filed 7-30-69.

890,063. HOT TIP. International Tool Sales, Inc. SN 334,088. Pub. 2-10-70. Filed 7-31-69.

890,064. DIX-ALIGN. R. & J. Dick Co., Inc. SN 334,562. Pub. 2-10-70. Filed 8-6-69.

890,065. S AND SHIELD DESIGN. Federal-Mogul Corporation. SN 334,570. Pub. 2-10-70. Filed 8-6-69.

890,066. LIF-JIB. Kelley Company, Inc. SN 335,041. Pub. 2-10-70. Filed 8-11-69.

890,067. NITROSORB. Universal Oil Products Company. SN 337,495. Pub. 2-10-70. Filed 9-10-69.

Class 26 — Measuring and Scientific Appliances

889,928. (See Class 6 for this trademark.)

889,986. (See Class 21 for this trademark.)

890,068. MISCELLANEOUS DESIGN. Electronic Laboratories, Inc. SN 287,009. Pub. 2-10-70. Filed 12-15-67.

890,069. ACTION. Nippon Kogaku Kabushiki Kaisha. SN 292,001. Pub. 2-10-70. Filed 2-27-68.

890,070. STRESSDUKTOR. Allmanna Svenska Elektriska Aktiebolaget. SN 295,901. Pub. 2-10-70. Filed 4-18-68.

890,071. VITOOL. Gerard J. Viollet. SN 300,215. Pub. 2-10-70. Filed 6-11-68.

890,072. MAHR. Carl Mahr, G.m.b.H. SN 300,832. Pub. 2-10-70. Filed 6-19-68.

890,073. SPACE SAVER. Becton, Dickinson and Company. SN 301,329. Pub. 2-10-70. Filed 6-25-68.

890,074. LAB-LINE. Lab-Line Instruments, Inc. SN 301,348. Pub. 2-10-70. Filed 6-25-68.

890,075. COLORVAL. Heath Company. SN 310,459. Pub. 2-10-70. Filed 10-24-68.

890,076. AQUATRON. General Bionomics, Inc. SN 310,656. Pub. 2-10-70. Filed 10-28-68.

890,077. OMNI-II. Sloan Instruments Corporation. SN 313,347. Pub. 2-10-70. Filed 11-29-68.

890,078. UMC. UMC Electronics Co. SN 313,363. Pub. 2-10-70. Filed 11-29-68.

890,079. JEFFREY. Jeffrey Gallion Inc. SN 314,083. Pub. 2-10-70. Filed 12-10-68.

890,080. OPTISHROUD. Shumway Optical Instruments Corp. SN 314,273. Pub. 2-10-70. Filed 12-11-68.

890,081. SOI AND DESIGN. Shumway Optical Instruments Corp. SN 314,274. Pub. 2-10-70. Filed 12-11-68.

890,082. KONI-OMEGA. Simmon Omega, Inc. SN 318,334. Pub. 2-10-70. Filed 2-4-69.

890,083. NORTAR. Norman Camera, Incorporated. SN 318,805. Pub. 2-10-70. Filed 2-10-69.

890,084. CARMAC PRODUCTIONS AND DESIGN. Carmen C. McLarey, d.b.a. Carmac Productions. SN 322,896. Pub. 2-10-70. Filed 3-26-69.

890,085. SUN DOWNERS AND DESIGN. A.I.T. Industries, Inc., d.b.a. Sun Downers Hi Style Sunglass Division. SN 324,031. Pub. 2-10-70. Filed 4-9-69.

890,086. G GENERAL INSTRUMENT AND DESIGN. General Instrument Corporation. SN 326,093. Pub. 2-10-70. Filed 5-1-69.

890,087. SESURE. Yarway Corporation. SN 327,788. Pub. 2-10-70. Filed 5-20-69.

890,088. GEAR DESIGN. The Cincinnati Clock and Instrument Company. SN 327,856. Pub. 2-10-70. Filed 5-21-69.

890,089. SILENT EDUCATOR. Scientific Film Company. SN 327,958. Pub. 2-10-70. Filed 5-21-69.

890,090. TRONIC AND DESIGN. Tropical Fish Patterns, Inc. SN 327,972. Pub. 2-10-70. Filed 5-21-69.

890,091. NEOCON. Astrocon Laboratories, Inc. SN 328,025. Pub. 2-10-70. Filed 5-22-69.

890,092. BIRDSEYE. Imperial Camera Corp. SN 329,079. Pub. 2-10-70. Filed 6-4-69.

890,093. MICROKON. HLC Manufacturing Co., Inc. SN 329,352. Pub. 2-10-70. Filed 6-6-69.

890,094. UNIGUIDE. KMS Industries, Inc. SN 329,361. Pub. 2-10-70. Filed 6-6-69.

890,095. PHILAMON. Philamon Incorporated. SN 331,536. Pub. 2-10-70. Filed 7-1-69.

890,096. INSTAMATIC. Fedtro, Inc. SN 336,742. Pub. 2-10-70. Filed 9-2-69.

Class 27 — Horological Instruments

890,097. SONICTRON. Lucien Piccard Watch Corp. SN 318,208. Pub. 12-2-69. Filed 2-3-69.

890,098. PEDRE. The Pedre Co., Inc. SN 327,458. Pub. 2-10-70. Filed 5-16-69.

890,099. SUTER AQUAMASTER. Suter Watch Factory Inc. SN 331,948. Pub. 2-10-70. Filed 7-7-69.

Class 28 — Jewelry and Precious-Metal Ware

890,100. BOUCHER. Marcel Boucher, Inc. SN 306,454. Pub. 2-10-70. Filed 9-3-68.

890,101. BIPPI BUTTON. Bippi Button—Bet Yur Bippi. SN 326,066. Pub. 2-10-70. Filed 5-1-69.

890,102. SEGOVIA. Towle Manufacturing Company. SN 337,624. Pub. 2-10-70. Filed 9-11-69.

Class 29 — Brooms, Brushes, and Dusters

889,909. (See Class 1 for this trademark.)

Class 31 — Filters and Refrigerators

890,103. DURACREST. Metro Wholesale Corporation. SN 309,064. Pub. 2-10-70. Filed 10-7-68.

890,104. SAFILTMOBILE. Marvel Engineering Company. SN 327,830. Pub. 2-10-70. Filed 5-21-69.

890,105. AEROMOLD. Cambridge Filter Corporation. SN 334,515. Pub. 2-10-70. Filed 8-6-69.

Class 32 — Furniture and Upholstery

889,906. (See Class 1 for this trademark.)

890,106. KEEP-A-COIF. The Keep-A-Coif Company. SN 328,703. Pub. 2-10-70. Filed 5-29-69.

890,107. PERSONAL TOUCH. J. C. Penney Company, Inc. SN 329,006. Pub. 2-10-70. Filed 6-3-69.

890,108. MAN'S CASTLE AND CROWN DESIGN. Heywood-Wakefield Company. SN 329,241. Pub. 2-10-70. Filed 6-5-69.

890,109. KNEASEL. Clemens Nicholas. SN 335,519. Pub. 2-10-70. Filed 8-18-69.

Class 33 — Glassware

889,988. (See Class 21 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

889,988. (See Class 21 for this trademark.)

890,110. RUSKIN. Ruskin Manufacturing Company. SN 281,823. Pub. 2-10-70. Filed 10-4-67.

890,111. PHOSBRAZE. Allweld Equipment Corporation. SN 299,742. Pub. 2-10-70. Filed 6-5-68.

890,112. EDSYN. William S. Fortune. SN 310,224. Pub. 2-10-70. Filed 10-22-68.

890,113. V-IFB. Aero-Flow Dynamics, Inc. SN 311,660. Pub. 2-10-70. Filed 11-8-68.

890,114. ALUMAIRE AND DESIGN. Molecular Research, Inc. SN 312,213. Pub. 2-10-70. Filed 11-14-68.

890,115. ECONO SHIELD. Chemetron Corporation. SN 321,042. Pub. 2-10-70. Filed 3-7-69.

890,116. MODUFLEX. The Air Preheater Company, Inc. SN 322,537. Pub. 2-10-70. Filed 3-24-69.

890,117. ARKLA. Arkansas Louisiana Gas Company. SN 322,690. Pub. 2-10-70. Filed 3-25-69.

890,118. VORTEMP. Rite Hardware Manufacturing Co. SN 334,944. Pub. 2-10-70. Filed 8-11-69.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

889,906. (See Class 1 for this trademark.)

890,119. STRIDING MAN (DESIGN). Goetzewerke, Friedrich Goetze Aktiengesellschaft. SN 256,210. Pub. 2-10-70. Filed 10-11-66.

890,120. P AND DESIGN. Warenzeichenverband der Reifenwerke der Deutschen Demokratischen Republik E.V. SN 296,903. COLLECTIVE MARK. Pub. 2-10-70. Filed 4-29-68.

890,121. OPTIBELT. Hoxtersche Gummifadenfabrik Emil Arntz KG. SN 312,999. Pub. 2-10-70. Filed 11-25-68.

890,122. TECH. Technical Rubber Company, Inc. SN 326,456. Pub. 2-10-70. Filed 5-5-69.

890,123. SAFE-T-LINE. W. S. Shamban & Co. SN 333,191. Pub. 2-10-70. Filed 7-22-69.

890,124. HI-TRAC. Ford Motor Company. SN 333,394. Pub. 2-10-70. Filed 7-24-69.

Class 36 — Musical Instruments and Supplies

890,125. SCHENKELAARS AND DESIGN. James H. Neeld, Jr., d.b.a. Neeld Band Instrument Co. SN 313,962. Pub. 2-10-70. Filed 12-9-68.

890,126. THE CHOIRMASTER. Francis E. Fallon. SN 337,442. Pub. 2-10-70. Filed 9-9-69.

890,127. SHARE. The Shelby Singleton Corporation. SN 337,834. Pub. 2-10-70. Filed 9-12-69.

Class 37 — Paper and Stationery

890,128. B. The BD Co. SN 277,506. Pub. 2-10-70. Filed 8-4-67.

890,129. TRANSIL-G.A. Transilwrap Co., Inc. SN 307,766. Pub. 2-10-70. Filed 9-19-68.

890,130. AUTOWEB. Scott Paper Company. SN 328,733. Pub. 2-10-70. Filed 5-29-69.

Class 38 — Prints and Publications

890,131. CULTURCHAT. Becton, Dickinson and Company. SN 285,304. Pub. 2-10-70. Filed 11-21-67.

890,132. EXECUTIVE REPORT. American Society for Metals. SN 294,446. Pub. 2-10-70. Filed S.R. 3-29-68; Am. P.R. 8-6-69.

890,133. TESEC. Dittler Brothers, Inc. SN 302,307. Pub. 2-10-70. Filed 7-9-68.

890,134. ZIP'S. Xerox Corporation. SN 309,924. Pub. 2-10-70. Filed 10-17-68.

890,135. BRI-TONE. Calandra Photo, Inc. MULTIPLE CLASS (Classes 38 and 106). SN 326,946. Pub. 2-10-70. Filed 5-12-69.

890,136. LUCKY STAR ETC. AND DESIGN. Vernon Book Sales Corp. SN 329,170. Pub. 2-10-70. Filed 6-4-69.

890,137. THE ALEXANDRIA GAZETTE. The Alexandria Gazette Corporation. SN 333,351. Pub. 2-10-70. Filed 7-24-69.

890,138. SEAHORSE DESIGN. Addison-Wesley Publishing Company, Inc. SN 335,832. Pub. 2-10-70. Filed 8-21-69.

Class 39 — Clothing

889,909. (See Class 1 for this trademark.)

889,917. (See Class 3 for this trademark.)

890,009. (See Class 22 for this trademark.)

890,139. MACKINAW AND DESIGN. Traverse Bay Woolen Company. MULTIPLE CLASS (Classes 39 and 42). SN 306,962. Pub. 2-10-70. Filed 9-9-68.

890,140. CREST TURTLE KNIT JERSEY AND DESIGN. Crest Uniform Co., Inc. SN 317,212. Pub. 2-10-70. Filed 1-22-69.

890,141. RAND AND DESIGN. Interco, Incorporated. SN 318,908. Pub. 2-10-70. Filed 2-11-69.

890,142. THE SHIRT GALLERY. The Shirt Gallery. SN 323,097. Pub. 2-10-70. Filed 3-28-69.

890,143. TRAVELLURA. Wilroy Inc. MULTIPLE CLASS (Classes 39 and 42). SN 326,709. Pub. 2-10-70. Filed 5-8-69.

890,144. ON-TOP. Cameo Fashion Knit, Inc. SN 327,359. Pub. 2-10-70. Filed 5-15-69.

890,145. BJ'S. Fred Segal, d.b.a. Fred Segal Men's Store. SN 332,746. Pub. 2-10-70. Filed 7-16-69.

890,146. CLIPPITY-CLOGS. Melville Shoe Corporation. SN 337,134. Pub. 2-10-70. Filed 9-5-69.

890,147. MINI-D. The Indiana Fur Co., Inc., d.b.a. Davidson's Fur Salon. SN 337,227. Pub. 2-10-70. Filed 9-8-69.

890,148. KENFORM. Kenrose Manufacturing Co., Inc. SN 337,405. Pub. 2-10-70. Filed 9-9-69.

Class 40 — Fancy Goods, Furnishings, and Notions

890,149. ARMANDO AND DESIGN. Armando Dibonaventura, d.b.a. Armando Flat-Top Comb Company. SN 309,947. Pub. 2-10-70. Filed 10-18-68.

890,150. GYPSYLASH. Zsa Zsa Limited. SN 329,159. Pub. 2-10-70. Filed 6-4-69.

Class 41 — Canes, Parasols, and Umbrellas

890,151. UNCLE SAM UMBRELLA AND DESIGN. Norman Simon, d.b.a. Uncle Sam Umbrella Shop. SN 328,736. Pub. 2-10-70. Filed 5-29-69.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

889,909. (See Class 1 for this trademark.)

890,139. (See Class 39 for this trademark.)

890,143. (See Class 39 for this trademark.)

890,152. RUCAIRE. Hooker Chemical Corporation. SN 314,971. Pub. 2-10-70. Filed 12-20-68.

890,153. SANCHILLA. Klopman Mills, Inc. SN 320,622. Pub. 2-10-70. Filed 3-3-69.

890,154. B BAILY FABRICS AND DESIGN. Joshua L. Baily & Co., Inc. SN 324,395. Pub. 2-10-70. Filed 4-14-69.

890,155. TWEAVE. Debson Mill, Inc. SN 325,013. Pub. 2-10-70. Filed 4-21-69.

890,156. WESTMINISTER ABBEY. Irving B. Prince, Inc. SN 325,072. Pub. 2-10-70. Filed 4-21-69.

890,157. PAMPER TRESS. Richard Gregg Manufacturing Company, Inc. SN 326,373. Pub. 2-10-70. Filed 5-5-69.

890,158. SWEDISH TOUCH ETC. AND DESIGN. The Dow Chemical Company, assignee, by mesne assignment, of Richard Gregg Manufacturing Company, Inc. SN 326,371. Pub. 2-10-70. Filed 5-5-69.

890,159. CIAO. Crown Textile Mfg. Corp. SN 327,240. Pub. 2-10-70. Filed 5-14-69.

890,160. BONA FIDE. Burlington Industries, Inc. SN 327,768. Pub. 2-10-70. Filed 5-20-69.

890,161. DELONG CREATIONS AND DESIGN. Dolly Madison Industries, Inc. SN 329,202. Pub. 2-10-70. Filed 6-5-69.

Class 43 — Thread and Yarn

890,162. SHIMMERETTE. Wm. Hutchinson (Yarns) Limited. SN 296,961. Pub. 2-10-70. Filed 4-30-68.

890,163. TF AND DESIGN. Textured Fibres, Inc. SN 320,871. Pub. 2-10-70. Filed 3-5-69.

890,164. 18TH CENTURY. Lily Mills Company. SN 328,064. Pub. 2-10-70. Filed 5-22-69.

Class 44 — Dental, Medical, and Surgical Appliances

890,165. AIRCO. Air Reduction Company, Incorporated. SN 311,805. Pub. 2-10-70. Filed 11-12-68.

890,166. A AND DESIGN. American Orthodontics Corporation. SN 324,670. Pub. 2-10-70. Filed 4-16-69.

890,167. SUBTLE. Chesebrough-Pond's Inc. SN 337,747. Pub. 2-10-70. Filed 9-12-69.

Class 45 — Soft Drinks and Carbonated Waters

890,168. SWIZZ-FIZZ. Swizzels, Inc. SN 324,534. Pub. 2-10-70. Filed 4-14-69.

Class 46 — Foods and Ingredients of Foods

890,169. BOSTON FARMS. Boston Farm Products, Inc., d.b.a. Boston Farms. SN 254,580. Pub. 2-10-70. Filed 9-16-66.

890,170. SUPER MARKET BRAND AND DESIGN. Statesville Flour Mills Company. SN 288,723. Pub. 2-10-70. Filed 1-12-68.

890,171. RED SEAL. Warner-Jenkinson Manufacturing Company. SN 292,146. Pub. 2-10-70. Filed 2-28-68.

890,172. SWEET STAKES. Zirin Laboratories International, Inc. SN 295,072. Pub. 2-10-70. Filed 4-5-68.

890,173. SWEET TOUCH. Leedpak, Incorporated. SN 298,609. Pub. 2-10-70. Filed 5-20-68.

890,174. MAJORNAS. B. Westergaard & Co., Inc. SN 302,661. Pub. 2-10-70. Filed 7-12-68.

890,175. SUN OCEAN PRAWN CRACKERS AND DESIGN. Yasufumi Saita, d.b.a. Saita Confectionery Company. SN 303,071. Pub. 2-10-70. Filed 7-18-68.

890,176. LONDON CHEF. Mo-Rae Products, Inc. SN 306,793. Pub. 2-10-70. Filed 9-6-68.

890,177. AH VEGETABLES. Carnation Company. SN 307,423. Pub. 2-10-70. Filed 9-16-68.

890,178. CAPTAIN JOHN DERST'S GOOD OLD FASHIONED BREAD AND DESIGN. Derst Baking Company. SN 310,650. Pub. 2-10-70. Filed 10-28-68.

890,179. BAR-SCHEEZE. Quality Restaurant Suppliers, Inc. SN 309,094. Pub. 2-10-70. Filed 10-7-68.

890,180. PIE TONE. Lawrence Foods, Inc. SN 310,792. Pub. 2-10-70. Filed 10-29-68.

890,181. LINDYS DELIGHT. Lindemann Farms, Inc. SN 311,787. Pub. 2-10-70. Filed 11-12-68.

890,182. ONION TWIGGIES. Delicious Foods Co. SN 312,185. Pub. 2-10-70. Filed 11-14-68.

890,183. CONTADINA DISCOVERY DINNERS. Carnation Company. SN 312,431. Pub. 2-10-70. Filed 11-18-68.

890,184. MISCELLANEOUS DESIGN. Kellogg Company. SN 313,118. Pub. 2-10-70. Filed 11-26-68.

890,185. SHER-BANG. Foremost-McKesson, Inc. SN 314,214. Pub. 2-10-70. Filed 12-11-68.

890,186. X-L. Land O'Lakes Creameries, Inc. SN 318,309. Pub. 2-10-70. Filed 2-4-69.

890,187. ENCHIMALES. El Chico Corporation. SN 318,772. Pub. 2-10-70. Filed 2-10-69.

890,188. SCOTIAN GOLD. Scotian Gold Co-Operative Limited. SN 318,834. Pub. 2-10-70. Filed 2-10-69.

890,189. WAWA. The Millville Manufacturing Company. SN 320,166. Pub. 2-10-70. Filed 2-26-69.

890,190. FLAVOR BREW FILTER. General Foods Corporation. SN 320,581. Pub. 2-10-70. Filed 3-3-69.

890,191. SWEDISH DELIGHT. Aktiebolaget Saltsjoqvarn. SN 321,616. Pub. 2-10-70. Filed 3-13-69.

890,192. CHEESECAKE ON THE SQUARE AND DESIGN. Just Desserts Inc. SN 321,808. Pub. 2-10-70. Filed 3-14-69.

890,193. DURLAC 300. SCM Corporation, d.b.a. Durkee Famous Foods. SN 322,344. Pub. 2-10-70. Filed 3-20-69.

890,194. DURKEE KRISTEL. SCM Corporation, d.b.a. Durkee Famous Foods. SN 322,345. Pub. 2-10-70. Filed 3-20-69.

890,195. NORGANIC. Janet Reeder, d.b.a. Norganic Foods Company. SN 322,622. Pub. 2-10-70. Filed 3-24-69.

890,196. THRIFTY MAID. Winn-Dixie Stores, Inc. SN 323,165. Pub. 2-10-70. Filed 3-28-69.

890,197. SLIM TREAT. Bee Zee Candy Co., Inc. SN 323,223. Pub. 2-10-70. Filed 4-1-69.

890,198. FLAVOR ISLAND. General Mills, Inc. SN 324,011. Pub. 2-10-70. Filed 4-9-69.

890,199. SWIZZ-FIZZ. Swizzels, Inc. SN 324,533. Pub. 2-10-70. Filed 4-14-69.

890,200. FOLGER'S ETC. AND DESIGN. The Folger Coffee Company. SN 326,949. Pub. 2-10-70. Filed 5-12-69.

890,201. BRIM. General Foods Corporation. SN 327,486. Pub. 2-10-70. Filed 5-16-69.

890,202. AUNT JEMIMA HOMESTYLE. The Quaker Oats Company. SN 329,204. Pub. 2-10-70. Filed 6-5-69.

890,203. CAFE BEN-YAY. Cafe Ben-Yay, Inc. SN 332,409. Pub. 2-10-70. Filed 7-14-69.

Class 47 — Wines

890,204. MT. ADAMS BRAND AND DESIGN. Towne Properties, Inc. SN 298,162. Pub. 2-10-70. Filed 5-14-68.

890,205. ALDEA AND DESIGN. Schenk S.A. SN 306,811. Pub. 2-10-70. Filed 9-6-68.

890,206. COFFEE D'OR. St. Julian Wine Company, Inc. SN 307,681. Pub. 2-10-70. Filed 9-18-68.

890,207. BAROQUE. Paul Masson, Inc., d.b.a. Paul Masson Vineyards. SN 319,616. Pub. 2-10-70. Filed 2-19-69.

890,208. GAYMER. William Gaymer & Son Limited. SN 322,061. Pub. 2-10-70. Filed 3-18-69.

890,209. "GOLDENER ADLER." Gustav Adolf Schmitt'sches Weingut. SN 329,469. Pub. 2-10-70. Filed 6-9-69.

890,210. LA GARDERIE. Cruse & Fils Freres. SN 332,697. Pub. 2-10-70. Filed 7-16-69.

Class 48 — Malt Beverages and Liquors

890,211. PERMAHOP. Permahop Hopfenpulver GmbH. SN 314,985. Pub. 2-10-70. Filed 12-20-68.

Class 49 — Distilled Alcoholic Liquors

890,212. BON BON ROYAL. Castellanos & Co. Ltd. SN 265,984. Pub. 2-10-70. Filed 3-6-67.

890,213. MUNRAY. Continental Distilling Corporation. SN 325,650. Pub. 2-10-70. Filed 4-28-69.

Class 50 — Merchandise Not Otherwise Classified

889,909. (See Class 1 for this trademark.)

890,214. PLASTIX. Prismo Universal Corporation, assignee of Prismo Safety Corporation. SN 331,067. Pub. 1-13-70. Filed 6-26-69.

890,215. GLADPAD. Technovation Management, Inc. SN 333,455. Pub. 2-10-70. Filed 7-24-69.

890,216. MAX SAF TEE. Robinson Steel Company. SN 333,850. Pub. 2-10-70. Filed 7-29-69.

890,217. CALEDONIA. Eltra Corporation. SN 333,980. Pub. 2-10-70. Filed 7-30-69.

Class 51 — Cosmetics and Toilet Preparations

890,218. STEAM CREAM. Colgate-Palmolive Company. SN 294,725. Pub. 2-10-70: Filed 4-2-68.

890,219. BIG WHEEL. Stanley Home Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 297,447. Pub. 2-10-70. Filed 5-6-68.

890,220. JULEE. E. R. Holloway Limited. SN 302,233. Pub. 2-10-70. Filed 7-8-68.

890,221. TWIGGY STIX. Yardley of London, Inc. SN 310,742. Pub. 2-10-70. Filed 10-29-68.

890,222. HM AND DESIGN. Holiday Magic. MULTIPLE CLASS (Classes 51 and 52). SN 309,494. Pub. 2-10-70. Filed 10-14-68.

890,223. KOKOTAN. Steven R. Abrams. SN 318,615. Pub. 2-10-70. Filed 2-7-69.

890,224. BRECK BASIC SILK 'N' HOLD. John H. Breck, Inc. SN 325,573. Pub. 2-10-70. Filed 4-25-69.

890,225. SILK 'N' HOLD BY BRECK. John H. Breck, Inc. SN 325,574. Pub. 2-10-70. Filed 4-25-69.

890,226. MIS CONDUCT. Clay Industries, Inc. SN 325,581. Pub. 2-10-70. Filed 4-25-69.

890,227. SAUZE 2000. Sauze S.A. SN 327,057. Pub. 2-10-70. Filed 5-12-69.

890,228. HARRY'S BAR. Federated Department Stores, Inc. SN 330,728. Pub. 2-10-70. Filed 6-23-69.

890,229. LOVE'S. Menley & James Laboratories, Ltd. SN 332,069. Pub. 2-10-70. Filed 7-9-69.

890,230. A PERSONAL NOTE. Avon Products, Inc. SN 332,682. Pub. 2-10-76. Filed 7-16-69.

890,231. INEVITABLE. Avon Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 333,030. Pub. 2-10-70. Filed 7-22-69.

890,232. FUNDAMENTALS. Avon Products, Inc. SN 333,081. Pub. 2-10-70. Filed 7-22-69.

890,233. YOUNG FASHIONABLES. Avon Products, Inc. SN 333,082. Pub. 2-10-70. Filed 7-22-69.

890,234. BEAUTY UNLIMITED. Avon Products, Inc. SN 333,083. Pub. 2-10-70. Filed 7-22-69.

890,235. LIGNE PRINCIERE. Beecham Inc. SN 332,575. Pub. 2-10-70. Filed 7-15-69.

890,236. LONGITUDE EAST AND WEST. Chesebrough-Pond's Inc. SN 335,498. Pub. 2-10-70. Filed 8-18-69.

890,237. MOONSHEEN. Schuylkill Chemical Company. SN 335,521. Pub. 2-10-70. Filed 8-18-69.

Class 52 — Detergents and Soaps

890,219. (See Class 51 for this trademark.)

890,222. (See Class 51 for this trademark.)

890,231. (See Class 51 for this trademark.)

890,238. MISSILE STRIP. St. Louis Janitor Supply Co., d.b.a. Navy Brand Manufacturing Company. SN 283,719. Pub. 2-10-70. Filed 10-30-67.

890,239. KLEEN KOIL. Universal Oil Products Company. SN 288,563. Pub. 2-10-70. Filed 1-10-68.

890,240. SOF-TERGE. Madison Chemical Corporation. SN 294,842. Pub. 2-10-70. Filed 4-3-68.

890,241. WOOL-NU. Leedall Products Manufacturing Co., Inc. SN 301,437. Pub. 2-10-70. Filed 6-26-68.

890,242. SAFETY VU AND DESIGN. Speco, Inc. SN 305,690. Pub. 2-10-70. Filed 8-21-68.

890,243. DUST-TEX. American Uniform Company. SN 307,959. Pub. 2-10-70. Filed 9-23-68.

890,244. DUST-TEX AND DESIGN. American Uniform Company. SN 310,436. Pub. 2-10-70. Filed 10-24-68.

890,245. MR. TIME LEMON AND DESIGN. Infinite Products, Inc. SN 311,150. Pub. 2-10-70. Filed 11-1-68.

890,246. BILD-MOR. Economics Laboratory, Inc. SN 323,874. Pub. 2-10-70. Filed 4-4-69.

890,247. BRITE-KLENZ. Economics Laboratory, Inc. SN 323,875. Pub. 2-10-70. Filed 4-4-69.

890,248. LOGESOL. Logetronics, Inc. SN 324,728. Pub. 2-10-70. Filed 4-16-69.

890,249. SCRUBBLE. Scrubbletoys, Inc., assignee of John H. Breck, Inc. SN 325,167. Pub. 10-14-69. Filed 4-22-69.

890,250. DOE BRAND AND DESIGN. Richard W. Devol, d.b.a. I.P. Research Laboratories. SN 327,135. Pub. 2-10-70. Filed 5-13-69.

890,251. FOAM POWER. Glamorene Products Corporation. SN 331,119. Pub. 2-10-70. Filed 6-27-69.

890,252. INTERNATIONALS. Yardley of London, Inc. SN 334,157. Pub. 2-10-70. Filed 7-31-69.

Service Marks

Class 100 — Miscellaneous

890,253. THE BLUE WREATH PLAN AND DESIGN. Blue Wreath, Inc. SN 275,827. Pub. 2-10-70. Filed 7-12-67.

890,254. SAFEGUARD CERTIFIED. American Safeguard Engineers MULTIPLE CLASS (Classes 100, 101, and 103). SN 281,757. Pub. 2-10-70. Filed 10-4-67.

890,255. STEAKS FOR TWO AND DESIGN. Steaks by Wire Association, Inc., d.b.a. Steaks for Two. SN 290,346. Pub. 2-10-70. Filed 2-5-68.

890,256. TORCA, INC. Torca, Inc. SN 290,549. Pub. 2-10-70. Filed 2-7-68.

890,257. HC AND DESIGN. Heavenly Creations, Inc. SN 309,171. Pub. 2-10-70. Filed 10-8-68.

890,258. WELCOME WAGON. Welcome Wagon International, Inc. SN 311,424. Pub. 2-10-70. Filed 11-5-68.

890,259. CLUBAMERICA. ClubAmerica, Inc. SN 313,159. Pub. 2-10-70. Filed 11-27-68.

890,260. CYRO-DYNE ETC. AND DESIGN. Cyrodyne Systems Inc. SN 315,060. Pub. 2-10-70. Filed 12-23-68.

890,261. CLUB BASTILLE AND DESIGN. Young World Corporation. SN 315,135. Pub. 2-10-70. Filed 12-23-68.

890,262. CUMMINGS & CO. Cummings & Co., Inc. MULTIPLE CLASS (Classes 100, 101, and 103). SN 316,041. Pub. 2-10-70. Filed 1-8-69.

890,263. CLUB BASTILLE AND CAT FACE DESIGN. Young World Corporation. SN 318,926. Pub. 2-10-70. Filed 2-11-69.

890,264. A AND DESIGN OF RUNNING HOG. Finnis D. Richards, d.b.a. Razorback Rental Service. SN 320,080. Pub. 2-10-70. Filed 2-25-69.

890,265. CHARTS AND CIRCLE DESIGN. Evans, Goffman & McCormick. SN 321,352. Pub. 2-10-70. Filed 1-17-69.

890,266. TIJUANA TACO AND MALE GROTESQUE. Tijuana Taco, Inc. SN 322,498. Pub. 2-10-70. Filed 3-21-69.

890,267. TACTIC. Tac Technical Instrument Corporation. SN 322,633. Pub. 2-10-70. Filed 3-24-69.

890,268. HAVALARK. Havalark, Inc. SN 324,456. Pub. 2-10-70. Filed 4-14-69.

890,269. IEI EXCHANGE INSTITUTE ETC. AND DESIGN. Exchange Institute, Inc. SN 325,257. Pub. 2-10-70. Filed 4-9-69.

890,270. MOTHER BUTLER PIES AND DESIGN. Denny's Restaurants, Inc. SN 325,730. Pub. 2-10-70. Filed 4-28-69.

890,271. INTER-CONTINENTAL. Intercontinental Hotels Corporation. SN 327,278. Pub. 2-10-70. Filed 5-14-69.

890,272. THREE CROWNS SMORGASBORD. Smorgasbord Management Company. SN 332,427. Pub. 2-10-70. Filed 7-14-69.

890,273. WEDIQUETTE AND DESIGN. Wediquette International, Inc. SN 333,238. Pub. 2-10-70. Filed 7-23-69.

Class 101 — Advertising and Business

890,254. (See Class 100 for this trademark.)

890,262. (See Class 100 for this trademark.)

890,274. SPELL-A-CHECK. Glendinning Companies, Inc. SN 265,623. Pub. 11-7-67. Filed 2-28-67.

890,275. TACO TICO AND RESTAURANT DESIGN. Taco Tico, Inc. SN 294,689. Pub. 2-10-70. Filed 4-1-68.

890,276. SEPTACOLOR. Photo Color Inc. SN 295,763. Pub. 2-10-70. Filed 4-16-68.

890,277. DE VILLE. J. R. Wood & Sons, Inc. SN 303,951. Pub. 2-10-70. Filed 7-30-68.

890,278. MAGIC. Information Management Incorporated. SN 307,478. Pub. 2-10-70. Filed 9-16-68.

890,279. TDG. Information Management Incorporated. SN 307,479. Pub. 2-10-70. Filed 9-16-68.

890,280. SPECTRAGRID. Rigby Printing Company. SN 309,103. Pub. 2-10-70. Filed 10-7-68.

890,281. BULLSHEAD DESIGN. Hilleary & Partners, Ltd., d.b.a. Flaming Pit Restaurants. SN 311,270. Pub. 2-10-70. Filed 11-4-68.

890,282. MUSICLAND. J. L. Marsh, Inc. SN 327,394. Pub. 2-10-70. Filed 5-15-69.

890,283. PTS (DESIGN). Programmed Tax Systems, Inc. SN 328,723. Pub. 2-10-70. Filed 5-29-69.

890,284. RAX. International Timesharing Corporation. SN 335,170. Pub. 2-10-70. Filed 8-13-69.

Class 102 — Insurance and Financial

890,285. THE ONLY BANK YOUR FAMILY EVER NEEDS. First National City Bank. SN 264,812. Pub. 2-10-70. Filed 2-16-67.

890,286. MINUTEMAN (DESIGN). Lexington Income Trust. SN 281,800. Pub. 2-10-70. Filed 10-4-67.

890,287. TEL-CHECK. Wolverine State Bank. SN 301,290. Pub. 2-10-70. Filed 6-24-68.

890,288. GOLDEN KEY PASSBOOK ACCOUNT. Provident National Bank. SN 325,075. Pub. 2-10-70. Filed 4-21-69.

Class 103 — Construction and Repair

890,254. (See Class 100 for this trademark.)

890,262. (See Class 100 for this trademark.)

Class 105 — Transportation and Storage

890,289. FACE IN THE SUN DESIGN. National Airlines Inc. SN 314,247. Pub. 2-10-70. Filed 12-11-68.

890,290. CROWN PETERS. Crown Peters Travel Service, Inc. SN 317,681. Pub. 2-10-70. Filed 1-28-69.

890,291. THE WINGS OF MAN. Eastern Air Lines, Inc. SN 326,864. Pub. 2-10-70. Filed 5-9-69.

Class 106 — Material Treatment

890,135. (See Class 38 for this trademark.)

890,292. JET PHOTO AND DESIGN. Reub's Minot Camera, Inc. SN 312,332. Pub. 10-28-69. Filed 11-15-68.

890,293. SECOA AND S DESIGN. Southeastern Coatings, Inc. SN 322,754. Pub. 2-10-70. Filed 3-25-69.

Class 107 — Education and Entertainment

890,294. EDU TAPE. Erie Technological Products, Inc. SN 301,826. Pub. 2–10–70. Filed 7–2–68.

Collective Membership Marks

Class 200

890,295. THE AMERICAN ACADEMY OF CHEFS AND DESIGN. American Academy of Chefs. SN 298,681. Pub. 2–10–70. Filed 5–21–68.

890,296. G.I.A.N.T.S. GIANT, GLOBE, PLANE ETC. DESIGN. Greater Independent Association of National Travel Services, Inc. SN 317,036. Pub. 2–10–70. Filed 1–21–69.

Certification Mark

Class B — Services

890,297. LETTER I, EAGLE AND POLICY DESIGN. National Association of Insurance Agents, Inc. SN 314,804. Pub. 2–10–70. Filed 12–18–68.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

890,298. Central States Products Company, St. Louis, Mo. SN 318,889. Filed P.R. 2–11–69; Am. S.R. 1–26–70.

BUCKRAM

For Vinyl Film and Sheeting (Int. Cl. 17).
First use Dec. 6, 1968.

Class 28 — Jewelry and Precious-Metal Ware

890,299. Gino Manufacturing Company, Inc., Cranston, R.I. SN 312,456. Filed P.R. 11–18–68; Am. S.R. 1–19–70.

PINCH-LESS

For Earrings (Int. Cl. 14).
First use on or about Nov. 5, 1968.

890,300. Hedison Corp., Providence, R.I. SN 314,348. Filed P.R. 12–12–68; Am. S.R. 1–19–70.

TEENY-CLIPS

For Jewelry—Namely, Women's Earrings (Int. Cl. 14).
First use on or about Nov. 1, 1968.

Class 32 — Furniture and Upholstery

890,301. Schnadig Corporation, Chicago, Ill. SN 300,120. Filed P.R. 6–10–68; Am. S.R. 5–1–69.

A TRADITION IN ELEGANCE

For Living Room Furniture (Int. Cl. 20).
First use in or before May 1967.

890,302. Virginia Highlands Furniture Company, Atkins, Va. SN 302,578. Filed P.R. 7–12–68; Am. S.R. 1–30–70.

VIRGINIA HOUSE

For Chairs, Sofas, Tables, and Cabinets (Int. Cl. 20).
First use June 25, 1968.

890,303. Joanna Western Mills Company, Chicago, Ill. SN 310,463. Filed P.R. 10–24–68; Am. S.R. 10–15–69.

TRIMASHADE

For Decorative Skirt Material for Window Shades and the Like (Int. Cl. 20).
First use Sept. 27, 1968.

Class 38 — Prints and Publications

890,304. Milton S. Kiver Publications, Inc., Chicago, Ill., assignee of Industrial and Scientific Conference Management, Inc., Chicago, Ill. SN 308,299. Filed P.R. 9–26–68; Am. S.R. 1–2–70.

ELECTRO-OPTICAL SYSTEMS DESIGN

For Magazine (Int. Cl. 16).
First use Sept. 17, 1968.

TRADEMARK REGISTRATIONS RENEWED

33,743. EAGLE (DESIGN). Cl. 46 (Int. Cl. 30). 11–14–1899.
34,631. TARTAN. Cl. 18 (Int. Cl. 5). 5–8–1900.
76,711. SWAN SKETCH. Cl.46 (Int. Cl. 1). 2–8–10.
77,509. REPRESENTATION OF SOLE PROTECTORS AND HAMMER. Cl. 13 (Int. Cl. 25). 4–19–10.
77,632. THE FLORSHEIM SHOE. Cl. 39 (Int. Cl. 25). 4–26–10.
78,149. POLAR BRAND. Cl. 15 (Int. Cl. 4). 5–31–10.
78,926. ASH GROVE AND DESIGN. Cl. 12 (Int. Cl. 19). 7–26–10.
257,457. S AND DESIGN. Cl. 7 (Int. Cl. 22). 6–11–29.
259,078. WHITE CROWS. Cl. 46 (Int. Cl. 30). 7–23–29.
260,226. ALPS. Cl. 46 (Int. Cl. 30). 8–20–29.
264,470. WIPEMDRI. Cl. 37 (Int. Cl. 16). 11–26–29.
266,847. AIRDI. Cl. 14 (Int. Cl. 6). 2–4–30.

267,680. STIVERS' BEST AND DRAWING. Cl. 46 (Int. Cl. 30). 2–25–30.
267,753. L'HEURE ROMANTIQUE. Cl. 51 (Int. Cl. 3). 2–25–30.
267,936. SUNKIST. Cl. 6 (Int. Cl. 3). 3–4–30.
267,942. CARBORUNDUM. Cl. 23 (Int. Cl. 7). 3–4–30.
267,944. JEAN MARIE FARINA. Cl. 51 (Int. Cl. 3). 3–4–30.
268,018. MEXKO. Cl. 12 (Int. Cl. 19). 3–4–30.
268,362. BRISK. Cl. 51 (Int. Cl. 3). 3–11–30.
268,367. EAU DE COLOGNE DE JEAN MARIE FARINA AND DESIGN. Cl. 51 (Int. Cl. 3). 3–11–30.
268,741. SUNKIST. Cl. 46 (Int. Cl. 29). 3–18–30.
268,815. THE N.C.R. CO. Cl. 26 (Int. Cl. 9). 3–18–30.
269,319. W.H.B. Cl. 6 (Int. Cl. 4). 4–1–30.
269,426. E-JAY. Cl. 46 (Int. Cl. 30). 4–8–30.
270,000. BEAU BRILLIANT. Cl. 37 (Int. Cl. 16). 4–22–30.
270,363. REDIFORM. Cl. 23 (Int. Cl. 16). 5–6–30.
270,600. CREPE ONDESE. Cl. 42 (Int. Cl. 24). 5–13–30.
270,700. CREPE BARITZA. Cl. 42 (Int. Cl. 24). 5–13–30.
270,919. THE BS TO FOREIGN LANGUAGES. Cl. 38 (Int. Cl. 16). 5–20–30.
271,236. DELTA CHI AND SYMBOL. Cl. 28 (Int. Cl. 14). 5–27–30.
271,428. ENVOY. Cl. 37 (Int. Cl. 16). 6–3–30.
271,429. XPELOR. Cl. 13 (Int. Cl. 6). 6–3–30.
443,923. RELIANCE. Cl. 14 (Int. Cl. 6). 4–18–50.
271,498. SEMESAN BEL. Cl. 6 (Int. Cl. 5). 6–10–30.
271,654. CELLOTYPE. Cl. 37 (Int. Cl. 16). 6–17–30.
271,914. EAU DE COLOGNE JEAN MARIE FARINA AND DESIGN. Cl. 52 (Int. Cl. 3). 6–17–30.
273,272. MANSCO. Cl. 39 (Int. Cl. 25). 7–29–30.
443,317. DIXIE LOGGER. Cl. 19 (Int. Cl. 12). 8–30–49.
443,822. SILVER KNIGHT. Cl. 49 (Int. Cl. 33). 3–7–50.
443,862. SWITAR. Cl. 26 (Int. Cl. 9). 3–28–50.
443,937. LA PROVIDENCIA. Cl. 46 (Int. Cl. 29). 4–25–50.
444,102. WESCO. Cl. 46 (Int. Cl. 32). 7–25–50.
513,069. FRUIT. Cl. 6 (Int. Cl. 1). 8–2–49.
513,501. FUNTOUR. Cl. 105 (Int. Cl. 39). 8–9–49.
513,948. KHAIR. Cl. 51 (Int. Cl. 3). 8–23–49.
515,062. BULL'S HEAD. Cl. 4 (Int. Cl. 3). 9–13–49.
515,862. H.T. GARNET AND DESIGN. Cl. 4 (Int. Cl. 3). 10–4–49.
516,820. RESILITE. Cl. 4 (Int. Cl. 3). 10–25–49.
517,538. S & H. Cl. 101 (Int. Cl. 35). 11–8–49.
517,601. HICKORY HOUSE AND DESIGN. Cl. 46 (Int. Cl. 30). 11–15–49.
517,944. BUTTERCUP. Cl. 17 (Int. Cl. 34). 11–22–49.
518,817. PERIFLEX. Cl. 35 (Int. Cl. 17). 12–13–49.
519,065. GRAFOREL. Cl. 50 (Int. Cls. 16 and 20). 12–20–49.
519,081. SOCIETY. Cl. 17 (Int. Cl. 34). 12–20–49.
519,082. THREE THISTLES. Cl. 17 (Int. Cl. 34). 12–20–49.
419,083. VIKING. Cl. 17 (Int. Cl. 34). 12–20–49.
519,084. 22 AND DESIGN. Cl. 17 (Int. Cl. 34). 12–20–49.
519,318. WORSTERAY. Cl. 42 (Int. Cl. 24). 12–27–49.
519,403. INKROL. Cl. 37 (Int. Cl. 16). 1–3–50.
520,068. POSITIVE. Cl. 19 (Int. Cl. 12). 1–17–50.
520,089. NIAGARA FALLS (DESIGN). Cl. 102 (Int. Cl. 36). 1–17–50.
520,387. COPENHAGEN. Cl. 17 (Int. Cl. 34). 1–31–50.
520,388. MODEL AND DESIGN. Cl. 17 (Int. Cl. 34). 1–31–50.
520,741. DEVOE'S EAGLE AND DESIGN. Cl. 17 (Int. Cl. 34). 2–7–50.
520,789. CIRK-L-VENT. Cl. 34 (Int. Cl. 6). 2–7–50.
520,809. ACMI. Cl. 44 (Int. Cl. 10). 2–7–50.
520,873. MISCELLANEOUS DESIGN. Cl. 46 (Int. Cls. 1 and 30). 2–7–50.
520,971. GLOVER'S IMPERIAL. Cl. 51 (Int. Cl. 5). 2–14–50.
520,977. MOTOROLA. Cl. 21 (Int. Cl. 9). 2–14–50.
521,014. ELRENE. Cl. 42 (Int. Cl. 24). 2–14–50.
521,107. RED BALL (DESIGN). Cl. 39 (Int. Cl. 25). 2–21–50.
521,129. CHIKSAN AND DESIGN. Cl. 23 (Int. Cls. 6 and 7). 2–21–50.
521,286. GOLDEN EAGLE. Cl. 46 (Int. Cl. 31). 2–21–50.
521,288. JOHNSON'S. Cl. 46 (Int. Cl. 30). 2–21–50.
521,380. FRENCH DRIP. Cl. 46 (Int. Cl. 30). 2–21–50.
521,445. CHIKSAN AND DESIGN. Cl. 13 (Int. Cl. 6). 2–28–50.
521,503. WEEDONE. Cl. 6 (Int. Cl. 5). 2–28–50.
521,598. RICHARD BROTHERS. Cl. 13 (Int. Cl. 6). 2–28–50.
521,732. ROBA. Cl. 46 (Int. Cl. 29). 3–7–50.
521,795. BLUE RIBBON (DESIGN). Cl. 48 (Int. Cl. 32). 3–7–50.
521,898. ROBERTS. Cl. 17 (Int. Cl. 34). 3–7–50.
522,232. FUELOIL & OIL HEAT. Cl. 38 (Int. Cl. 16). 3–14–50.
522,336. GOLD COAST. Cl. 46 (Int. Cl. 31). 3–14–50.
522,380. POM POMS. Cl. 46 (Int. Cl. 30). 3–14–50.
522,377. COTMAR. Cl. 46 (Int. Cl. 29). 3–14–50.
522,666. PIN LIFE. Cl. 16 (Int. Cl. 2). 3–21–50.
522,721. JOY. Cl. 52 (Int. Cl. 3). 3–21–50.
523,049. SHAF-TITE. Cl. 23 (Int. Cl. 7). 3–28–50.
523,087. PERMA-FLEX CMC. Cl. 23 (Int. Cl. 17). 3–28–50.
523,138. CALVERT. Cl. 12 (Int. Cl. 19). 3–28–50.
523,145. BOLCAPS. Cl. 18 (Int. Cl. 5). 3–28–50.
523,156. SSP TRU-STEEL SHOT AND DESIGN. Cl. 4 (Int. Cl. 6). 3–28–50.
523,176. KODACOLOR. Cl. 26 (Int. Cls. 1 and 9). 3–28–50.
523,195. BENCO. Cl. 21 (Int. Cl. 9). 3–28–50.
523,221. CHEER. Cl. 52 (Int. Cl. 3). 3–28–50.
523,342. LINDSAY QUEEN. Cl. 46 (Int. Cl. 29). 4–4–50.
524,196. KWIK KOOL. Cl. 21 (Int. Cl. 6). 4–18–50.
524,218. RB AND DESIGN. Cl. 13 (Int. Cl. 6). 4–18–50.
524,271. RIP-N-CUT. Cl. 23 (Int. Cl. 8). 4–18–50.
524,633. HOWE. Cl. 32 (Int. Cl. 20). 5–2–50.
524,659. HEYWOOD WAKEFIELD AND DESIGN. Cl. 19 (Int. Cl. 12). 5–2–50.
524,812. SEMPER UBIQUE. Cl. 102 (Int. Cl. 36). 5–2–50.
524,832. TYRE-WYTE. Cl. 16 (Int. Cl. 2). 5–2–50.
524,911. BOWES SEAL FAST AND DESIGN. Cl. 35 (Int. Cl. 12). 5–9–50.
525,646. LANCASTER PUMPS. Cl. 23 (Int. Cl. 7). 5–30–50.
525,742. SIMPSON. Cl. 23 (Int. Cl. 7). 5–30–50.
525,866. KASCO AND DESIGN. Cl. 46 (Int. Cl. 31). 6–6–50.
526,001. RID-JID. Cl. 50 (Int. Cl. 20). 6–6–50.
526,150. PHYATROMINE. Cl. 18 (Int. Cl. 5). 6–6–50.
526,332. CITATION. Cl. 47 (Int. Cl. 33). 6–13–50.
526,333. FESTIVAL AND DESIGN. Cl. 47 (Int. Cl. 33). 6–13–50.
526,337. TOWER TICKER. Cl. 38 (Int. Cl. 16). 6–13–50.
526,412. W AND DESIGN. Cl. 101 (Int. Cl. 35). 6–13–50.
526,540. MARVELLA. Cl. 28 (Int. Cl. 14). 6–20–50.
526,818. CAREYCLAD. Cl. 12 (Int. Cl. 19). 6–27–50.
527,672. ACCURACY WARNER TOOLS. Cl. 23 (Int. Cl. 8). 7–18–50.
527,690. PAGE BELTING CO. AND DESIGN. Cl. 5 (Int. Cl. 1). 7–18–50.
527,967. FRESH AS PAINT FOREVER. Cl. 12 (Int. Cl. 19). 7–18–50.
527,974. HYDRO-CHECK. Cl. 23 (Int. Cl. 7). 7–25–50.
528,439. TELL-A-TALE BOOKS AND DESIGN. Cl. 38 (Int. Cl. 16). 8–1–50.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued Mar. 10, 1964

766,091. INTERNATIONAL TOASTMISTRESS AND DESIGN. Cl. 107.
766,127. ALABAR. Cl. 1.
766,129. DUCHESS AND DESIGN. Cl. 2.
766,130. CONSOL CARRY-OUT. Cl. 2.
766,132. QUIK-SET. Cl. 2.
766,134. RUMP PAK. Cl. 2.
766,138. CERALITE AND DESIGN. Cl. 4.
766,142. ENERGINE. Cl. 5.
766,149. BLASTICIDIN. Cl. 6.
766,150. BLA-S. Cl. 6.
766,152. ENERGINE. Cl. 6.
766,156. SUPER SALTS AND DESIGN. Cl. 12.
766,157. PAX-FORMS. Cl. 12.
766,159. MIRAFINISH. Cl. 12.
766,169. KENCEL. Cl. 12.

766,171. PERF-O-TUBE. Cl. 12.
766,174. ANGLE-SEAL. Cl. 12.
766,176. QUIETCOTE. Cl. 12.
766,184. VITRI FLOOR. Cl. 12.
766,186. SELBAGRIP. Cl. 12.
766,192. ABFO. Cl. 13.
766,193. SYMBOL. Cl. 13.
766,195. SUNFLEX. Cl. 13.
766,198. SPITZ-ALL. Cl. 13.
766,205. THERA-FLO. Cl. 13.
766,212. KIF AND DESIGN. Cl. 14.
766,223. FINITE. Cl. 17.
766,224. SIREX. Cl. 18.
766,227. UNIAMP. Cl. 18.
766,231. LICATON. Cl. 18.
766,245. SUNMASTER. Cl. 19.
766,247. ASE AND DESIGN. Cl. 19.
766,249. TRAMPOLING. Cl. 20.
766,251. MODERNAGE. Cl. 21.
766,252. METROTER. Cl. 21.
766,255. TERRALINE. Cl. 21.
766,256. RAYOLIN N AND DESIGN. Cl. 21.
766,258. POCKET GLIDE-SWITCH GUARD. Cl. 21.
766,259. SAFE-T-START. Cl. 21.
766,261. ENCON AND DESIGN. Cl. 21.
766,262. MILLISTRIP. Cl. 21.
766,263. MILLI-K. Cl. 21.
766,264. III AND DESIGN. Cl. 21.
766,267. JUMPERITE. Cl. 21.
766,272. ACID-EATERS. Cl. 21.
766,283. TALLY-HO. Cl. 21.
766,284. PARATUF. Cl. 21.
766,286. DIMPLEX. Cl. 21.
766,287. AGV. Cl. 22.
766,288. BUMBLE BEES. Cl. 22.
766,290. SKULLY CHEK. Cl. 22.
766,293. MINI-MEDAL. Cl. 22.
766,300. 4-E. Cl. 23.
766,302. SKIM-MATE AND DESIGN. Cl. 23.
766,304. SIDE-O-SEAL. Cl. 23.
766,307. SNO-COMMANDER. Cl. 23.
766,321. VOTOMATIC. Cl. 23.
766,322. COLLAPSAW. Cl. 23.
766,330. FACITAPE. Cl. 26.
766,339. STEEL CITY. Cl. 26.
766,341. THERMA-BOND. Cl. 26.
766,343. PORT-A-STAT. Cl. 26.
766,347. BN AND DESIGN. Cl. 28.
766,358. AIR-I-DENT. Cl. 28.
766,359. GUTTER GUN AND DESIGN. Cl. 29.
766,361. AQUA-DENT. Cl. 29.
766,363. CLEOPATRA. Cl. 29.
766,366. METASIL. Cl. 31.
766,367. ISO·CON. Cl. 31.
766,371. SUNWAY. Cl. 32.
766,380. LAWNTERN AND DESIGN. Cl. 34.
766,388. SINTERMET. Cl. 35.
766,390. SLIP GRIP. Cl. 36.
766,391. KEGLER AND DESIGN. Cl. 37.
766,392. INVERBOARD. Cl. 37.
766,396. JA-CO LAW AIDS AND DESIGN. Cl. 37.
766,402. MIST. Cl. 37.
766,405. MEDICAL TRIBUNE AND MEDICAL NEWS. Cl. 38.
766,406. J. TERRELL AND DESIGN. Cl. 38.
766,412. THE TWISTETTE AND DESIGN. Cl. 39.
766,414. DALE OF NEW YORK. Cl. 39.
766,419. FEATHERBED. Cl. 39.
766,430. QUEEN NAN AND DESIGN. Cl. 39.
766,431. BRIDGESTREET. Cl. 39.
766,433. JACOAT. Cl. 39.
766,440. CHICRON. Cl. 42.
766,444. VICUNOOR. Cl. 42.
766,445. INSUL-LON. Cl. 42.
766,450. YARN+PLUS. Cl. 43.
766,452. CEPHALOMETRIX. Cl. 44.
766,456. MAGNO-PAD. Cl. 44.
766,460. BUCKSKIN. Cl. 46.
766,462. JAPANESE CHARACTERS. Cl. 46.
766,464. SPICEHYDRATE. Cl. 46.
766,466. AUTUMN GOLD. Cl. 46.
766,473. CHOO SHOO. Cl. 46.
766,485. SWEAT. Cl. 51.
766,486. SHERALEEN. Cl. 51.
766,492. ENCHANTRESS. Cls. 51 and 52.
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Fortune, William S., Arleta, Calif. 890,112, pub. 2–10–70. Cl. 34.
Franco Accoroni, Paris, France. 519,065, ren. 4–28–70. Cl. 50.
Gabriel Industries, Inc., d.b.a. The Porter-Spear Co., New York, N.Y. 890,032, pub. 2–10–70. Cl. 22.
Galion, Jeffrey Inc., Columbus, Ohio. 890,079, pub. 2–10–70. Cl. 26.
Gaymer, William & Son Ltd., Norfolk, England. 890,208, pub. 2–10–70. Cl. 47.
General Bionomics, Inc., Santa Rosa, Calif. 890,076, pub. 2–10–70. Cl. 26.
General Cigar Co., Inc., New York, N.Y. 889,961–2, pub. 2–10–70. Cl. 17.
General Foods Corp., White Plains, N.Y. 890,190, pub. 2–10–70. Cl. 46.
General Foods Corp., White Plains, N.Y. 890,201, pub. 2–10–70. Cl. 46.
General Instrument Corp., Newark, N.J. 890,086, pub. 2–10–70. Cl. 26.
General Mills, Inc., Minneapolis, Minn. 890,198, pub. 2–10–70. Cl. 46.
General Steel Industries, Inc., d.b.a. Flex-O-Lite Division, St. Louis, Mo. 889,919, pub. 9–16–69. Cl. 4.
General Thermostat Corp., Bartlett, N.H. 766,343, canc. Cl. 26.
Giftwood, Inc., Yonkers, N.Y. 889,915, pub. 2–10–70. Cl. 2.
Gilbert Enterprises, Inc., Meansville, Ga. 889,907, pub. 2–10–70. Cl. 1.
Gino Mfg., Co., Inc., Cranston, R.I. 890,299. Cl. 28.
Givaudan Corp., Clifton, N.J. 889,929, pub. 2–10–70. Cl. 6.
Glamorene Products Corp., Clifton, N.J. 890,251, pub. 2–10–70. Cl. 52.
Glendinning Companies, Inc., Westport, Conn. 890,274, pub. 11–7–67. Cl. 101.
Globe Steel Abrasive Co.: *See—*
Steel Shot Producers, Inc.
Globe-Union Inc., Milwaukee, Wis. 766,138, canc. Cl. 4.
Glover, H, Clay, Co., Inc., Garden City, N.Y. 520,971, ren. 4–28–70. Cl. 51.
Goddard, Martha J., W. Orange, N.J. 766,359, canc. Cl. 29.
Goetzewerke, Burscheid, Bezirk, Dusseldorf, Germany. 890,-119, pub. 2–10–70. Cl. 35.
Goode, James A., Westaskiwin, Alberta, Canada. 766,127, canc. Cl. 1.
Gorman-Rupp Co., The, Mansfield, Ohio, 890,035, pub. 2–10–70. Cl. 23.
Greater Independent Association of National Travel Services, Inc., New York, N.Y. 890,296, pub. 2–10–70. Cl. 200.
Green, A. P., Fire Brick Co., to A.P. Green Refractories Co., Mexico, Mo. 268,018, ren. 4–28–70. Cl. 12.
Green, A.P., Refractories Co.: *See—*
Green, A. P., Fire Brick Co.
Gregg, Richard, Mfg. Co., Inc., Huntsville, Ala. 890,157–8, pub. 2–10–70. Cl. 42.
Gregg, Richard, Mfg. Co., Inc.: *See—*
Dow Chemical Co., The.
Grey Owl Laboratories Ltd., Kingswood, Bristol, England. 889,923, pub. 2–10–70. Cl. 6.
Guild Wine Co.: *See—*
Wine Growers Guild.
Gustafson Mfg., Inc., Hopkins, Minn. 889,935, pub. 2–10–70. Cl. 6.
Gustav Adolf Schmitt'sches Weingut, Nierstein (Rhine), Germany. 890,209, pub. 2–10–70. Cl. 47.
HLC Mfg. Co., Inc., Willow Grove, Pa. 890,093, pub. 2–10–70. Cl. 26.
Hamac-Hansella Machinery Corp., Palisades Park, N.J. 766,-304, canc. Cl. 23.
Hammermill Paper Co.: *See—*
Strathmore Paper Co.
Hankscraft Co., Reedsburg, Wis. 889,918, pub. 2–10–70. Cl. 3.
Harbison-Fischer Mfg. Co., Inc., Fort Worth, Tex. 890,061, pub. 2–10–70. Cl. 23.
Harris Votomatic, Inc., Berkeley, Calif. 766,321, canc. Cl. 23.
Hartz Mountain Products Corp., New York, N.Y. 889,968, pub. 2–10–70. Cl. 18.
Havalark, Inc., San Jose, Calif. 890,268, pub. 2–10–70. Cl. 100.
Heath Co., Benton Harbor, Mich. 890,075, pub. 2–10–70. Cl. 26.
Heating Publishers, Inc., Montclair, N.J. 522,232, ren. 4–28–70. Cl. 38.
Hearth Industries, Inc., Friendship, N.Y. 766,264, canc. Cl. 21.
Heavenly Creations, Inc., Norfolk, Va. 890,257, pub. 2–10–70. Cl. 100.
Hedison Corp., Providence, R.I. 890,300. Cl. 28.
Helme, George W., Co., to Helme Products, Inc., New York, N.Y. 517,944, ren. 4–28–70. Cl. 17.
Helme, George W., Co., to Helme Products, Inc., New York, N.Y. 519,081–4, ren. 4–28–70. Cl. 17.
Helme Products, Inc.: *See—*
Helme, George W., Co.
Hexcel Products Inc., Berkeley, Calif. 766,169, canc. Cl. 12.
Heywood-Wakefield Co., Gardner, Mass. 524,659, ren. 4–28–70. Cl. 19.
Heywood-Wakefield Co., Gardner, Mass. 890,108, pub. 2–10–70. Cl. 32.
Hickory House, Inc., to Better Foods, Inc., Dallas, Tex. 517,601, ren. 4–28–70. Cl. 46.
Hilleary & Partners, Ltd., d.b.a. Flaming Pit Restaurants, St. Louis, Mo. 890,281, pub. 2–10–70. Cl. 101.
Holiday Magic, San Rafael, Calif. 890,222, pub. 2–10–70. Multiple Class (Classes 51 and 52).
Hollingshead, R. M., Corp., Camden, N.J. 524,832, ren. 4–28–70. Cl. 16.
Holloway, E. R., Ltd., Hatfield, England. 890,220, pub. 2–10–70. Cl. 51.
Hooker Chemical Corp., Niagara Falls, N.Y. 890,152, pub. 2–10–70. Cl. 42.
Hoover Co., The: *See—*
Knapp-Monarch Co.
House of Windsor, Inc., Windsor, Pa. 889,956, pub. 2–10–70. Cl. 17.
Howe Folding Furniture, Inc., New York, N.Y. 524,633, ren. 4–28–70. Cl. 32.
Hoxtersche Gummifadenfabrik Emil Arntz KG, Hoxter (Weser), Germany. 890,121, pub. 2–10–70. Cl. 35.
Hubbell, Harvey, Inc., d.b.a. Shalda Lighting Products Co., Bridgeport, Conn. 889,995, pub. 2–10–70. Cl. 21.
Hunt, Rodney, Co.: *See—*
Hunt, Rodney, Machine Co.
Hunt, Rodney, Machine Co., to Rodney Hunt Co., Orange, Mass. 523,049, ren. 4–28–70. Cl. 23.
Huppert, Jack, Co., Inc., San Antonio, Tex. 889,926, pub. 2–10–70. Cl. 6.
Hutchinson, Wm., (Yarns) Ltd., Bradford, England. 890,162, pub. 2–10–70. Cl. 42.
Illinois Tool Works Inc., Chicago, Ill. 890,055, pub. 2–10–70. Cl. 23.
Imperial Camera Corp., Chicago, Ill. 890,092, pub. 2–10–70. Cl. 26.
Indiana Fur Co., Inc., The, d.b.a. Davidson's Fur Salon, Indianapolis, Ind. 890,147, pub. 2–10–70. Cl. 39.
Industrial & Scientific Conference Management, Inc.: *See—*
Kiver, Milton S., Publications, Inc.
Infinite Products, Inc., Fort Lauderdale, Fla. 890,245, pub. 2–10–70. Cl. 52.
Information Management Inc., San Francisco, Calif. 890,-278–9, pub. 2–10–70. Cl. 101.
Inland Steel Products Co., Milwaukee, Wis. 766,159, canc. Cl. 12.
Inmont Corp., New York, N.Y. 889,920, pub. 2–10–70. Cl. 4.
Interco Inc.: *See—*
Florsheim Shoe Co., The.
Interco, Inc., St. Louis, Mo. 890,141, pub. 2–10–70. Cl. 39.
Intercontinental Hotels Corp., New York, N.Y. 890,271, pub. 2–10–70. Cl. 100.
International Basic Economy Corp.: *See—*
Smith-Johnson Corp.
International Paper Co., New York, N.Y. 889,941, pub. 2–10–70. Cl. 12.
International Products Co.: *See—*
Bohemian Distributing Co.
International Timesharing Corp., Minneapolis, Minn. 890,284, pub. 2–10–70. Cl. 101.
International Toastmistress Clubs, Inc., Huntington Park, Calif. 766,091, canc. Cl. 107.
International Tool Sales, Inc., Bridgeport, Conn. 890,063, pub 2–10–70. Cl. 23.
Itek Corp., Lexington, Mass. 889,928, pub. 2–10–70. Multiple Class (Classes 6, 23, and 26).
J & F Products Co., Los Angeles, Calif. 766,302, canc. Cl. 23.
JFD Electronics Corp., Brooklyn, N.Y. 889,994, pub. 2–10–70. Cl. 21.
Jacobus, Jay M., d.b.a. Ja-Co., Orinda, Calif. 766,396, canc. Cl. 37.
Jate Industries, Inc., Wilmette, Ill. 890,019, pub. 2–10–70. Cl. 22.
Joanna Western Mills Co., Chicago, Ill. 890,303. Cl. 32.
Johnson Biscuit Co., Sioux City, Iowa. 521,288, ren. 4–28–70. Cl. 46.

Johnson & Johnson, New Brunswick, N.J., from The Dow Chemical Co., Midland, Mich. 889,965, pub. 2-10-70. Cl. 18.
Just Desserts Inc., Cicero, Ill. 890,192, pub. 2-10-70. Cl. 46.
KMS Industries, Inc., Ann Arbor, Mich. 890,094, pub. 2-10-70. Cl. 26.
K & R Industries, Inc., Canton, S. Dak. 890,041, pub. 2-10-70. Cl. 23.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 766,212, canc. Cl. 14.
Kaken Kagaku Kabushiki Kaisha, Tokyo, Japan. 766,149-50, canc. Cl. 6.
Kasco Mills, Inc., Waverly, to Agway, Inc., De Witt, N.Y. 525,866, ren. 4-28-70. Cl. 46.
Keep-A-Colf Co., Paducah, Ky. 890,106, pub. 2-10-70. Cl. 32.
Kegler Club, Inc., The, New York, N.Y. 766,391, canc. Cl. 37.
Kelley Co., Inc., Milwaukee, Wis. 890,066, pub. 2-10-70. Cl. 23.
Kellogg Co., Battle Creek, Mich. 890,184, pub. 2-10-70. Cl. 46.
Kelsey-Hayes Co., Romulus, Mich. 889,984, pub. 1-27-70. Cl. 19.
Kenrose Mfg. Co., Inc., New York, N.Y. 890,148, pub. 2-10-70. Cl. 39.
Kern & Co. AG, to Kern & Co. AG, Aarau, Switzerland. 443,862, ren. 4-28-70. Cl. 26.
Keyes Fibre Co., Waterville, Maine. 766,134, canc. Cl. 2.
Kimberly-Clark Corp., Neenah, Wis. 766,402, canc. Cl. 37.
Kiver, Milton S., Publications, Inc., from Industrial & Scientific Conference Management, Inc., Chicago, Ill. 890,304. Cl. 38.
Klein, Irving, d.b.a. Klein Enterprises, New York, N.Y. 766,290, canc. Cl. 22.
Klockner-Humbold-Deutz Aktiengesellschaft, Cologne, Germany. 890,047, pub. 2-10-70. Cl. 23.
Klopman Mills, Inc., Rockleigh, N.J. 890,153, pub. 2-10-70. Cl. 42.
Knapp-Monarch Co., St. Louis, Mo., to The Hoover Co., North Canton, Ohio. 524,196, ren. 4-28-70. Cl. 21.
Kremers-Urban Co., Milwaukee, Wis. 526,150, ren. 4-28-70. Cl. 18.
Kresge, S. S., Co., Detroit, Mich. 889,996, pub. 2-10-70. Cl. 21.
Kunzmann Chain Co., Providence, R.I. 889,951, pub. 2-10-70. Cl. 13.
Kysor Industrial Corp., Cadillac, Mich. 890,052, pub. 2-10-70. Cl. 23.
Lab-Line Instruments, Inc., Melrose Park, Ill. 890,074, pub. 2-10-70. Cl. 26.
Lancaster Pump & Mfg. Co. Inc., to Lancaster Pump & Mfg. Co., Inc., Lancaster, Pa. 525,646, ren. 4-28-70. Cl. 23.
Land O'Lakes Creameries, Inc., Minneapolis, Minn. 890,186, pub. 2-10-70. Cl. 46.
Lawrence Foods, Inc., Elk Grove Village, Ill. 890,180, pub. 2-10-70. Cl. 46.
Leedall Products Mfg. Co., Inc., Milltown, N.J. 890,241, pub. 2-10-70. Cl. 52.
Leedpak, Inc., Lebanon, Pa. 890,173, pub. 2-10-70. Cl. 46.
Leisure-Time Distributing Co., Inc., Colorado Springs, Colo. 890,016, pub. 2-10-70. Cl. 22.
Les Parfums Jean Desses, Paris, France. 766,486, canc. Cl. 51.
Lexington Income Trust, Englewood, N.J. 890,286, pub. 2-10-70. Cl. 102.
Liberty Industries, Inc., Brooklyn, N.Y. 765,512, canc. Cl. 31.
Lifecycle, Inc., Concord, Calif. 890,024, pub. 2-10-70. Cl. 22.
Lily Mills Co., Shelby, N.C. 890,164, pub. 2-10-70. Cl. 43.
Lindemann Farms, Inc., Los Banos, Calif. 890,181, pub. 2-10-70. Cl. 46.
Lindsay Ripe Olive Co., to Consolidated Olive Growers, Lindsay, Calif. 523,342, ren. 4-28-70. Cl. 46.
Lionel Trading Co. Inc., to Parfums Corday, Inc., New York, N.Y. 267,753, ren. 4-28-70. Cl. 51.
Lobel, Sidney, d.b.a. Dixie Undergarment Co., New York, N.Y. 766,412, canc. Cl. 39.
Logetronics, Inc., Springfield, Va. 890,248, pub. 2-10-70. Cl. 52.
Louisville Optical Co., d.b.a. Thermabond Products, Louisville, Ky. 766,341, canc. Cl. 26.
Lowell Toy Mfg. Corp., New York, N.Y. 766,293, canc. Cl. 22.
Madison Chemical Corp., Maywood, Ill. 890,240, pub. 2-10-70. Cl. 52.
Madison, Dolly, Industries, Inc., Philadelphia, Pa. 890,161, pub. 2-10-70. Cl. 42.
Madison-Kipp Corp., Madison, Wis. 890,039, pub. 2-10-70. Cl. 23.
Mahr, Carl, G.m.b.H., Esslingen (Neckar), Germany. 890,072, pub. 2-10-70. Cl. 26.
Malm, Edward A., d.b.a. Malm Mfg. Co., Anoka, Minn. 520,789, ren. 4-28-70. Cl. 34.
Malvern Brick & Tile Co., Malvern, Arkansas, 527,967, ren. 4-28-70. Cl. 12.
Manhattan Industries, Inc.: *See*—
  Manhattan Shirt Co., The.
Manhattan Shirt Co., The, to Manhattan Industries, Inc., New York, N.Y. 273,272, ren. 4-28-70. Cl. 39.
Mann, Leo, d.b.a. The Medallion Co., Brighton, Mass. 513,948, ren. 4-28-70. Cl. 51.
Marley Co., The, Kansas City, Mo. 766,367, canc. Cl. 31.
Marsh, J. L., Inc., Minneapolis, Minn. 890,282, pub. 2-10-70. Cl. 101.
Marvel Engineering Co., Chicago, Ill. 890,104, pub. 2-10-70. Cl. 31.
Marvella, Inc.: *See*—
  Weinreich Brothers Co.
Mason, Au & Magenheimer Confectionery Mfg. Co., Brooklyn, to Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. 259,078, ren. 4-28-70. Cl. 46.
Mason, Au & Magenheimer Confectionery Mfg Co., Brooklyn, to Mason, Au & Magenheimer Confy. Mfg. Co., Inc., Mineola, N.Y. 260,226, ren. 4-28-70. Cl. 46.
Masson, Paul, Inc., d.b.a. Paul Masson, San Francisco, Calif. 890,207, pub. 2-10-70. Cl. 47.
Mayer, H. J., & Sons Co., Inc., Chicago, Ill. 766,464, canc. Cl. 46.
McCrosky Tool Corp., Meadville, Pa. 890,044, pub. 2-10-70. Cl. 23.
McDevitt, James F., d.b.a. Air-I-Dent Co., Canton, Mass. 766,358, canc. Cl. 28.
McKesson & Robbins, to Foremost-McKesson, Inc., New York, N.Y. 34,631, ren. 4-28-70. Cl. 18.
McLarey, Carmen C., d.b.a. Carmac Productions, Garland, Tex. 890,084, pub. 2-10-70. Cl. 26.
Medcal Pharmaceuticals Inc., Glendale, Calif. 889,966, pub. 2-10-70. Cl. 18.
Medical Tribune, Inc., New York, N.Y. 766,405, canc. Cl. 38.
Meidensha Electric Mfg. Co., Ltd., Tokyo, Japan. 889,991, pub. 2-10-70. Cl. 21.
Melroe Mfg. Co.,: *See*—
  Clark Equipment Co.
Melville Shoe Corp., New York, N.Y. 890,146, pub. 2-10-70. Cl. 39.
Menley & James Laboratories, Ltd., Philadelphia, Pa. 890,229, pub. 2-10-70. Cl. 51.
Merck, E., Aktiengesellschaft, Darmstadt, Germany. 889,934, pub. 2-10-70. Cl. 6.
Metal Racquets, Inc., Paterson, N.J. 890,029, pub. 2-10-70. Cl. 22.
Metro Wholesale Corp., New York, N.Y. 890,103, pub. 2-10-70. Cl. 31.
Metrotek Electronics, Inc., Raleigh, N.C. 766,252, canc. Cl. 21.
Mill-Cut Corp., The, Burnsville, Minn. 890,046, pub. 2-10-70. Cl. 23.
Miller, I., & Sons, Inc., Nashville, Tenn. 766,497, canc. Cl. 51.
Miller, R. H., Co., Homer, N.Y. 889,925, pub. 2-10-70. Cl. 6.
Millville Mfg Co., The, Wawa, Pa. 890,189, pub. 2-10-70. Cl. 46.
Mishawaka Rubber Co., Inc.: *See*—
  Mishawaka Rubber & Woolen Mfg. Co.
Mishawaka Rubber & Woolen Mfg. Co., to Mishawaka Rubber Co., Inc., Mishawaka, Ind. 521,107, ren. 4-28-70. Cl. 39.
Mitsuji Okada, d.b.a. Kino Kuni, Los Angeles, Calif. 766,462, canc. Cl. 46.
Molecular Research, Inc., Palm Beach Gardens, Fla. 890,114, pub. 2-10-70. Cl. 34.
Moore Business Forms, Inc.: *See*—
  American Sales Book Co., Ltd.
Mo-Rae Products, Inc., Baltimore, Md. 890,176, pub. 2-10-70. Cl. 46.
Mosher, L. A., Co., Atlanta, Ga. 523,145, ren. 4-28-70. Cl. 18.
Moss X-Ray & Medical Equipment Co., Chicago, Ill. 766,452, canc. Cl. 44.
Motorola, Inc., Chicago, Ill. 520,977, ren. 4-28-70. Cl. 21.
Motorola, Inc., Franklin Park, Ill. 889,998, pub. 2-10-70. Cl. 21.
National Airlines Inc., Miami, Fla. 890,289, pub. 2-10-70. Cl. 105.
National Association of Insurance Agents, Inc., New York, N.Y. 890,297, pub. 2-10-70. Cl. B.
National Biscuit Co.: *See*—
  Welch, James O., Co.
National Cash Register Co., The, Dayton, Ohio. 268,815, ren. 4-28-70. Cl. 26.
National Engineering Co., Chicago, Ill. 525,742, ren. 4-28-70. Cl. 23.
Neeld, James H., Jr., d.b.a. Neeld Band Instrument Co., Yazoo City, Miss. 890,125, pub 2-10-70. Cl. 36.
Niagara Fire Insurance Co., New York, N.Y. 520,089, ren. 4-28-70. Cl. 102.
Nicholas, Clemens, Clayton, Mo. 890,109, pub. 2-10-70. Cl. 32.
Nippon Kogaku Kabushiki Kaisha, Tokyo, Japan. 890,069, pub. 2-10-70. Cl. 26.
Norman Camera, Inc., Battle Creek, Mich. 890,083, pub. 2-10-70. Cl. 26.
North State Pyrophyllite Co., Inc., Greensboro, N.C. 889,942, pub. 2-10-70. Cl. 12.
Oceanautic Mfg. & Research Co., Cincinnati, Ohio. 890,060, pub. 2-10-70. Cl. 23.
Omni Spectra, Inc., Detroit, Mich 766,255, canc. Cl. 21.
Owens-Illinois, Inc., Toledo, Ohio. 889,997, pub. 2-10-70. Cl. 21.
Pabst Brewing Co., Milwaukee, Wis. 521,795, ren. 4-28-70. Cl. 48
Page Belting Co., Concord, N.H. 527,690, ren. 4-28-70. Cl. 5.
Paper Goods Co., Inc., Cambridge, Mass. 766,132, canc. Cl. 2.
Parfumerie Roger et Gallet, Societe Anonyme, to Roger & Gallet S.A., Paris, France. 267,944, ren. 4-28-70. Cl. 51.
Parfumerie Roger et Gallet, Societe Anonyme, to Roger & Gallet S.A., Paris, France. 268,367, ren. 4-28-70. Cl. 51.
Parfumerie Roger et Gallet, Societe Anonyme, to Roger & Gallet S.A., Paris, France. 271,914, ren. 4-28-70. Cl. 52.
Parfums Corday, Inc.: *See*—
  Lionel Trading Co. Inc.
Parfums Lucien Lelong Corp., New York, N.Y. 766,494, canc. Cl. 51.
Parker Industries, Inc., Silver Lake, Ind. 889,974, pub. 3-18-69. Cl. 19.
Patterson, S. L., d.b.a. The Collapsaw Co., Norman, Okla. 766,322, canc. Cl. 23.
Pax-Products, Des Moines, Iowa. 766,157, canc. Cl. 12.
Pearson Bros. (Littlehampton) Ltd., Ford, Sussex, England. 889,980, pub. 2-10-70. Cl. 19.
Pedre Co., Inc., The, New York, N.Y. 890,098, pub. 2-10-70. Cl. 27.

Penney, J. C., Co., Inc., New York, N.Y. 890,056, pub. 2-10-70. Cl. 23.
Penney, J. C., Co., Inc., New York, N.Y. 890,107, pub. 2-10-70. Cl. 32.
Perfect Mfg. Corp., Newark, N.J. 766,517, canc. Cl. 39.
Perfect Match Putty Inc., Urbandale, Iowa. 889,944-5, pub. 2-10-70. Cl. 12.
Perf-O-Strut, Inc., Wayne, Mich. 766,171, canc. Cl. 12.
Perkin-Elmer Corp., The, Norwalk, Conn. 890,000, pub. 3-10-70. Cl. 21.
Perma-Flex Mold Co., The, Columbus, Ohio. 523,087, ren. 4-28-70. Cl. 23.
Permahop Hopfenpulver GmbH, Lauf, Germany. 890,211, pub. 2-10-70. Cl. 48.
Pharmaceutical Specialties, Inc., Monterey, Calif. 766,224, canc. Cl. 18.
Pharmaton A.G., d.b.a. Pharmaton S.A., and Pharmaton Ltd., Lugano, Switzerland. 766,231, canc. Cl. 18.
Philamon Inc., Westbury, N.Y. 890,095, pub. 2-10-70. Cl. 26.
Photo Color Inc., Wilmington, Del. 890,276, pub. 2-10-70. Cl. 101.
Piccard, Lucien, Watch Corp., New York, N.Y. 890,097, pub. 12-2-69. Cl. 27.
Placentia Orcard Co., Fullerton, Calif. 521,286, ren. 4-28-70. Cl. 46.
Placentia Orchard Co., Fullerton, Calif. 522,336, ren. 4-28-70. Cl. 46.
Plast-O-Craft Co., Detroit, Mich. 766,245, canc. Cl. 19.
Platen Products Co., Detroit, to Flexible Products Co., Southfield, Mich. 518,817, ren. 4-28-70. Cl. 35.
Plessey Airborne Corp., Hillside, N.J. 890,043, pub. 2-10-70. Cl. 23.
Polychrome Corp., Yonkers, N.Y. 889,932, pub. 2-10-70. Cl. 6.
Potlatch Forests, Inc., San Francisco, Calif. 889,943, pub. 2-10-70. Cl. 12.
Praschak Machine Co., Inc., Marshfield, Wis. 890,051, pub. 2-10-70. Cl. 23.
Precision Development Co. Inc., Los Angeles, Calif. 766,361, canc. Cl. 29.
Prince, Irving B., Inc., New York, N.Y. 890,156, pub. 2-10-70. Cl. 42.
Prismo Safety Corp.: *See*—
  Prismo Universal Corp.
Prismo Universal Corp., from Prismo Safety Corp., Huntingdon, Pa. 890,214, pub. 1-13-70. Cl. 50.
Procter & Gamble Co., The, Cincinnati, Ohio. 521,732, ren. 4-28-70. Cl. 46.
Procter & Gamble Co., The, Cincinnati, Ohio. 522,377, ren. 4-28-70. Cl. 46.
Procter & Gamble Co., The, Cincinnati, Ohio. 522,721, ren. 4-28-70. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 523,221, ren. 4-28-70. Cl. 52.
Products of Tomorrow, Inc., Chicago, Ill. 766,485, canc. Cl. 51.
Programmed Tax Systems, Inc., Jamaica, N.Y. 890,283, pub. 2-10-70. Cl. 101.
Provident National Bank, Philadelphia, Pa. 890,288, pub. 2-10-70. Cl. 102.
Puma-Sportschuhfabriken Rudolf, Dassler KG Nurnberg, Germany. 890,009, pub. 2-10-70. Multiple Class (Classes 22 and 39).
Quaker Oats Co., The, Chicago, Ill. 890,202, pub. 2-10-70. Cl. 46.
Quality Restaurant Suppliers, Inc., Marshall, Mich. 890,179, pub. 2-10-70. Cl. 46.
Quick Start Corp., Detroit, Mich. 766,259, canc. Cl. 21.
Rainbow Crafts, Inc., Cincinnati, Ohio. 890,028, pub. 2-10-70. Cl. 22.
Raychem Corp., Redwood City, Calif. 766,256, canc. Cl. 21.
Reece Corp., The, Waltham, Mass. 890,038, pub. 2-10-70. Cl. 23.
Reeder, Janet, d.b.a. Norganic Foods Co., Los Angeles, Calif. 890,195, pub. 2-10-70. Cl. 46.
Reglein, Eugene B., d.b.a., Elkhart, Ind. 766,390, canc. Cl. 30.
Reliance Lead-Solder & Babbitt Co., Buffalo, N.Y. 443,923, ren. 4-28-70. Cl. 14.
Reub's Minot Camera, Inc., Minot, N. Dak. 890,292, pub. 10-28-69. Cl. 106.
Richard Brothers Punch Co.: *See*—
  Allied Products Corp.
Richard, David, Washington, D.C. 766,431, canc. Cl. 39.
Richards, Finnis D., d.b.a. Razorback Rental Service, Rogers, Ark. 890,264, pub. 2-10-70. Cl. 100.
Rigby Printing Co., Kansas City, Mo. 890,280, pub. 2-10-70. Cl. 101.
Rite Hardware Mfg. Co., Glendale, Calif. 890,118, pub. 2-10-70. Cl. 34.
Roberts, J. W., & Son, Inc., Tampa, Fla. 521,898, ren. 4-28-70. Cl. 17.
Robinson Brick & Tile Co., The, Denver, Colo. 766,184, canc. Cl. 12.
Robinson Steel Co., Philadelphia, Pa. 890,216, pub. 2-10-70. Cl. 50.
Rockland Bleach & Dye Works, Co., The, Baltimore, Md. 766,445, canc. Cl. 42.
Rockwell-Standard Co., Pittsburgh, Pa. 889,973, pub. 2-10-70. Cl. 19.
Roger & Gallet S.A.: *See*—
  Parfumerie Roger Et Gallet, Societe
Rolfe Chemical Corp., Stanford, Conn. 889,952, pub. 2-10-70. Cl. 15.
Ruskin Mfg. Co., Grandview, Mo. 890,110, pub. 2-10-70. Cl. 34.
S & C Electric Co., Chicago, Ill. 890,001, pub. 2-10-70. Cl. 21.
SCM Corp., d.b.a. Durkee Famous Foods, Cleveland, Ohio. 890,193-4, pub. 2-10-70. Cl. 46.
St. Julian Wine Co., Inc., Paw Paw, Mich. 890,206, pub. 2-10-70. Cl. 47.
St. Louis Janitor Supply Co., d.b.a. Navy Brand Mfg. Co., St. Louis, Mo. 890,238, pub. 2-10-70. Cl. 52.
Saita Yasufumi, d.b.a. Saita Confectionary Co., Kabo-gun, Fukuoka Prefecture, Japan. 890,175, pub. 2-10-70. Cl. 46.
Sauze S.A. Colombes, France. 890,227, pub. 2-10-70. Cl. 51.
Schachter, Bernard L., Inc., New York, N.Y. 766,414, canc. Cl. 39.
Schenk S.A. Rolle (Canton of Vaud), Switzerland. 890,205, pub. 2-10-70. Cl. 47.
Schnadig Corp., Chicago, Ill. 890,301. Cl. 32.
Schuylkill Chemical Co., Philadelphia, Pa. 890,237, pub. 2-10-70. Cl. 51.
Scientific Film Co., La Grange Park, Ill. 890,089, pub. 2-10-70. Cl. 26.
Scotian Gold Co-operative Ltd., Kentsville, Nova Scotia, Canada. 890,188, pub. 2-10-70. Cl. 46.
Scott Paper Co., Boston, Mass. 890,130, pub. 2-10-70. Cl. 37.
Scrubbletoys, Inc., St. Louis, Mo., from John H. Breck, Inc., Wayne, N.J. 890,249, pub. 10-14-69. Cl. 52.
Seabreeze Marine Corp., Tampa, Fla. 889,983, pub. 2-10-70. Cl. 19.
Segal, Fred, d.b.a. Fred Segal Men's Store, Los Angeles, Calif. 890,145, pub. 2-10-70. Cl. 39.
Selby, Battersby & Co., Philadelphia, Pa. 766,186, canc. Cl. 12.
Shamban, W.S., & Co., Los Angeles, Calif. 890,123, pub. 2-10-70. Cl. 35.
Shelby Singleton Corp., The, Nashville, Tenn. 890,127, pub. 2-10-70. Cl. 36.
Shirt Gallery, The, Beverly Hills, Calif., 890,142, pub. 2-10-70. Cl. 39.
Shumway Optical Instruments Corp., Rochester, N.Y. 890,080-1, pub. 2-10-70. Cl. 26.
Sifo Co., Minneapolis, Minn. 890,025, pub. 2-10-70. Cl. 22.
Simmon Omega, Inc., Woodside, N.Y. 890,082, pub. 2-10-70. Cl. 26.
Simon, Norman, d.b.a. Uncle Sam Umbrella Shop, New York, N.Y. 890,151, pub. 2-10-70. Cl. 41.
Skloexport, Prague, Czechoslovakia. 889,988, pub. 2-10-70. Multiple Class (Classes 21, 33, and 34).
Sloan Instruments Corp., Santa Barbara, Calif., 890,077, pub. 2-10-70. Cl. 26.
Sloan Valve Co., Chicago, Ill. 271,429, ren. 4-28-70. Cl. 13.
Smith & Ardussi, Inc., Seattle, Wash. 889,939, pub. 2-10-70. Cl. 10.
Smith-Johnson Corp., Los Angeles, Calif., to International Basic Economy Corp., New York, N.Y. 527,974, ren. 4-28-70. Cl. 23.
Smorgasbord Management Co., Tampa, Fla. 890,272, pub. 2-10-70. Cl. 100.
Societe Anonyme Automobiles Citroen, Paris, France. 889,982, pub. 2-10-70. Cl. 19.
Societe Anonyme Peltex, Saint Die, Vosges, France. 889,909, pub. 2-10-70. Multiple Class (Classes 1, 4, 22, 29, 39, 42, and 50).
Solheim, Karsten, Phoenix, Ariz. 890,012, pub. 2-10-70. Cl. 22.
Sousa, John B., d.b.a. Across America Travel Service, to Travel Management Corp., Los Angeles, Calif. 513,501, ren. 4-28-70. Cl. 105.
Southeastern Coatings, Inc., West Palm Beach, Fla. 890,293, pub. 2-10-70. Cl. 106.
Southeastern Mills, Inc.: *See*—
  Stivers, Theo., Milling Co.
Southern Coatings & Chemical Co., Sumter, S.C. 766,156, canc. Cl. 12.
Southern Machinery Co., Greer, S.C. 890,026, pub. 2-10-70. Cl. 22.
Speco, Inc., Oklahoma City, Okla. 890,242, pub. 2-10-70. Cl. 52.
Sperry & Hutchinson Co., The, New York, N.Y. 517,538, ren. 4-28-70. Cl. 101.
Spiring Enterprises Ltd., from J. C. Spiring, Dorking, Surrey, England. 890,010, pub. 2-10-70. Cl. 22.
Spiring, James C.: *See*—
  Spiring Enterprises Ltd.
Sponge Specialties Mfg., Brooklyn, N.Y. 766,363, canc. Cl. 29.
Standard Patents & Devices, Inc., Lake Success, N.Y. 889,921, pub. 2-10-70. Cl. 5.
Stanley Home Products, Inc., Westfield, Mass. 890,219, pub. 2-10-70. Multiple Class (Classes 51 and 52).
Statesville Flour Mills Co., Statesville, N.C. 890,170, pub. 2-10-70. Cl. 46.
Stauffer Chemical Co., San Francisco, Calif., to Stauffer Chemical Co., New York, N.Y. 513,069, ren. 4-28-70. Cl. 6.
Steaks by Wire Association, Inc., d.b.a. Steaks for Two, Marion, Ind. 890,255, pub. 2-10-70. Cl. 100.
Steel Shot Producers, Inc., Butler, Pa., to Globe Steel Abrasive Co., Mansfield, Ohio. 523,156, ren. 4-28-70. Cl. 4.
Stella-Meta Filters Ltd., Hampshire, England. 766,366, canc. Cl. 31.
Sterimed, Inc., Brooklyn, N.Y. 766,227, canc. Cl. 18.
Sterling Drug Inc.: *See*—
  U.S. Sanitary Specialties Corp.
Sterling Drug Inc., New York, N.Y. 766,142, canc. Cl. 5.
Sterling Drug Inc., New York, N.Y. 766,152, canc. Cl. 6.
Stivers, Theo., Milling Co., Cleveland, Tenn., to Southeastern Mills, Inc., Rome, Ga. 267,680, ren. 4-28-70. Cl. 46.
Stone, Jay G., d.b.a. Blue Cheer Surfboards, Los Angeles, Calif. 890,017, pub. 2-10-70. Cl. 22.
Strathmore Paper Co., Mittineague, Mass., to Hammermill Paper Co., Erie, Pa. 270,000, ren. 4-28-70. Cl. 37.
Strathmore Paper Co., Mittineague, Mass., to Hammermill Paper Co., Erie, Pa. 271,428, ren. 4-28-70. Cl. 37.
Strohmeyer & Arpe Co., New York, N.Y. 889,954, pub. 2-10-70. Cl. 15.
Struthers-Dunn, Inc., Pitman, N.J. 890,005-6, pub. 2-10-70. Cl. 21.
Suisei Industrial Co., Ltd., Osaka, Japan. 890,053, pub. 2-10-70. Cl. 23.

Sunkist Growers, Inc.: *See—*
  California Fruit Growers Exchange.
Suntemp Industries, Inc., Blenheim, N.J. 766,195, canc. Cl. 13.
Susquehanna Corp., The, Alexandria, Va. 889,990, pub. 2–10–70. Cl. 21.
Suter Watch Factory Inc., Bienne, Switzerland. 890,099, pub. 2–10–70. Cl. 27.
Swimquip, Inc., El Monte, Calif. 766,205, canc. Cl. 13.
Swizzels, Inc., Hoboken, N.J. 890,168, pub. 2–10–70. Cl. 45.
Swizzels, Inc., Hoboken, N.J. 890,199, pub. 2–10–70. Cl. 46.
TAC Technical Instrument Corp., Trenton, N.J. 890,267, pub. 2–10–70. Cl. 100.
Taco Tico, Inc., Wichita, Kans. 890,275, pub. 2–10–70. Cl. 101.
Tayside Floorcloth Co. Ltd., The, Newburgh, Fife, Scotland. 766,249, canc. Cl. 20.
Technical Rubber Co., Inc., Johnstown, Ohio. 890,122, pub. 2–10–70. Cl. 35.
Technovation Management, Inc., Denver, Colo. 890,215, pub. 2–10–70. Cl. 50.
Terrell, John J., Austin, Tex. 766,406, canc. Cl. 38.
Textron, Inc., d.b.a. Griswold Mfg. Co., Sidney, Ohio. 766,193, canc. Cl. 13.
Textured Fibres, Inc., Greensboro, N.C. 890,163, pub. 2–10–70. Cl. 43.
Thomas Industries Inc.: *See—*
  Benjamin Electric Mfg. Co.
Tidewater Equipment Co., to Tidewater Equipment Co., Inc., Brunswick, Ga. 443,317, ren. 4–28–70. Cl. 19.
Tijuana Taco, Inc., Scottsdale, Ariz. 890,266, pub. 2–10–70. Cl. 100.
Tobacco Research & Development Institute (Proprietary) Ltd., Stellenbosch, Republic of South Africa. 890,036, pub. 2–10–70. Cl. 23.
Topco Associates, Inc., Skokie, Ill. 766,508, canc. Cl. 7.
Topco Associates, Inc., Skokie, Ill. 766,510, canc. Cl. 21.
Torca, Inc., Birmingham, Mich. 890,256, pub. 2–10–70. Cl. 100.
Towle Mfg. Co., Newburyport, Mass. 890,102, pub. 4–28–70. Cl. 28.
Towne Properties, Inc., Cincinnati, Ohio. 890,204, pub. 2–10–70. Cl. 47.
Townsend Co., West Newton, Pa. 889,947, pub. 4–2–68. Cl. 13.
Toyo Umpanki Co., Ltd., Osaka, Japan. 890,045, pub. 2–10–70. Cl. 23.
Transilwrap Co., Inc., Chicago, Ill. 890,129, pub. 2–10–70. Cl. 37.
Travel Management Corp.: *See—*
  Sousa, John B.
Traverse Bay Woolen Co., Traverse City, Mich. 890,139, pub. 2–10–70. Multiple Class (Classes 39 and 42).
Tribune Co., to Chicago Tribune Co., Chicago, Ill. 526,337, ren. 4–28–70. Cl. 38.
Trilex Corp., Wayne, Mich. 766,380, canc. Cl. 34.
Tropical Fish Patterns, Inc., Jersey City, N.J. 890,090, pub. 2–10–70. Cl. 26.
Truncali Vito, Marlboro, N.Y. 890,040, pub. 2–10–70. Cl. 23.
Tyton Corp. of America, Metuchen, N.J. 889,993, pub. 2–10–70. Cl. 21.
UMC Electronics Co., North Haven, Conn. 890,078, pub. 2–10–70. Cl. 26.
United Co-Operatives, Inc., Alliance, Ohio. 889,930, pub. 2–10–70. Cl. 6.
U.S. Plywood-Champion Papers Inc., New York, N.Y. 889,946, pub. 2–10–70. Cl. 12.
U.S. Sanitary Specialties Corp., Chicago, Ill., to Sterling Drug Inc., New York, N.Y. 264,470, ren. 4–28–70. Cl. 37.
United States Tobacco Co., New York, N.Y. 520,387–8, ren. 4–28–70. Cl. 17.
United States Tobacco Co., New York, N.Y. 520,741, ren. 4–28–70. Cl. 17.
Universal Oil Products Co., Des Plaines, Ill. 889,927, pub. 2–10–70. Cl. 6.
Universal Oil Products Co., Des Plaines, Ill. 889,985, pub. 2–10–70. Cl. 19.
Universal Oil Products Co., Des Plaines, Ill. 890,067, pub. 2–10–70. Cl. 23.
Universal Oil Products Co., Des Plaines, Ill. 890,239, pub. 2–10–70. Cl. 52.
Van Camerik, Howard C., Riverhead, N.Y. 889,963, pub. 2–10–70. Cl. 18.
Van Leer's Vatenfabrieken N.V., Amstelveen, Netherlands. 889,911, pub. 2–10–70. Cl. 1.
Velsicol Chemical Corp., Chicago, Ill. 889,924, pub. 2–10–70. Cl. 6.
Venetian Vogue Ltd., Slough, England. 766,371, canc. Cl. 32.
Vernon Book Sales Corp., Mt. Vernon, N.Y. 890,136, pub. 2–10–70. Cl. 38.
Viollet, Gerard J., Gardena, Calif. 890,071, pub. 2–10–70. Cl. 26.
Virginia Highlands Furniture Co., Atkins, Va. 890,302. Cl. 32.
Warenzeichenverband Der Reifenwerke Der Deutschen Demokratischen Republik E.V., Fuerstenwalde (Spree), Germany. 890,120, pub. 2–10–70. Cl. 35.
Warner Mfg., Co., Minneapolis, Minn. 527,672, ren. 4–28–70. Cl. 23.
Warner-Jenkinson Mfg. Co., St. Louis, Mo. 890,171, pub. 2–10–70. Cl. 46.
Waterbury Pen Co., Inc., The: *See—*
  Almo Sales Corp., The.
Wediquette International, Inc., New York, N.Y. 890,273, pub. 2–10–70. Cl. 100.
Weinreich Brothers Co., to Marvella, Inc., New York, N.Y. 526,540, ren. 4–28–70. Cl. 28.
Weizer, Sigmond, d.b.a. Carmotel Co., Jupiter, Fla. 889,975, pub. 2–10–70. Cl. 19.
Welch, James O., Co., Cambridge, Mass., to National Biscuit Co., New York, N.Y. 522,380, ren. 4–28–70. Cl. 46.
Welcome Wagon International, Inc., Memphis, Tenn. 890,258, pub. 2–10–70. Cl. 100.
West Coast Grocery Co., Tacoma, Wash. 444,102, ren. 4–28–70. Cl. 46.
Westergaard, B., & Co., Inc., Brooklyn, N.Y. 890,174, pub. 2–10–70. Cl. 46.
Western Lithograph Co., The, to Western Lithograph Co., Inc., Wichita, Kans. 526,412, ren. 4–28–70. Cl. 101.
Western Publishing Co., Inc.: *See—*
  Whitman Publishing Co.
Westinghouse Air Brake Co., Chicago, Ill. 889,978, pub. 2–10–70. Cl. 19.
Westinghouse Air Brake Co., Pittsburgh, Pa. 890,058–9, pub. 2–10–70. Cl. 23.
Whitman Publishing Co., to Western Publishing Co., Inc., Racine, Wis. 528,439, ren. 4–28–70. Cl. 38.
Will & Baumer Candle Co., Inc.: *See—*
  Will & Baumer Co., The.
Will & Baumer Co., The, to Will & Baumer Candle Co., Inc., Syracuse, N.Y. 78,149, ren. 4–28–70. Cl. 15.
Williams, C. Harrison, Jr., d.b.a. Williams Mfg. Co., Montgomery Co., Pa. 889,977, pub. 2–10–70. Cl. 19.
Williams, J. B., Co., Inc., The, New York, N.Y. 889,970, pub. 2–10–70. Cl. 18.
Wilroy Inc., New York, N.Y. 890,143, pub. 2–10–70. Multiple Class (Classes 39 and 42).
Wilson Sporting Goods Co., River Grove, Ill. 890,020, pub. 2–10–70. Cl. 22.
Wine Growers Guild, d.b.a. Citation Wine Co., to Guild Wine Co., Lodi, Calif. 526,332–3, ren. 4–28–70. Cl. 47.
Winn-Dixie Stores, Inc., Jacksonville, Fla. 890,196, pub. 2–10–70. Cl. 46.
Wiss, J., & Sons Co., Newark, N.J. 766,511, canc. Cl. 23.
Wolgast, Raymond P., d.b.a. Detroit Autobody Equipment Co., Royal Oak, Mich. 890,402, pub. 2–10–70. Cl. 23.
Wolverine State Bank, Sandusky, Mich. 890,287, pub. 2–10–70. Cl. 102.
Wonder Products Co., Collierville, Tenn. 890,011, pub. 2–10–70. Cl. 22.
Wood, J. R., & Sons, Inc., New York, N.Y. 890,277, pub. 2–10–70. Cl. 101.
Woodard Research Corp., Herndon, Va. 766,283, canc. Cl. 21.
World Seeds, Inc., Woodstock, Ill. 889,905, pub. 2–10–70. Cl. 1.
Xerox Corp., Rochester, N.Y. 890,134, pub. 2–10–70. Cl. 38.
Yardley & Co. Ltd., London, England. 766,492, canc. Multiple Class (Classes 51 and 52).
Yardley of London, Inc., New York, N.Y. 890,221, pub. 2–10–70. Cl. 51.
Yardley of London, Inc., New York, N.Y. 890,252, pub. 2–10–70. Cl. 52.
Yarway Corp., Blue Bell, Pa. 890,087, pub. 2–10–70. Cl. 26.
Young World Corp., Washington, D.C. 890,261, pub. 2–10–70. Cl. 100.
Young World Corp., Washington, D.C. 890,263, pub. 2–10–70. Cl. 100.
Zirin Laboratories International, Inc., Hialeah, Fla. 890,172, 2–10–70. Cl. 46.
Zlatkiss, Lawrence, d.b.a. Hell-Bent for Leather, Los Angeles, Calif. 889,917, pub. 2–10–70. Multiple Class (Classes 3 and 39).
Zsa Zsa Ltd., New York, N.Y. 890,150, pub. 2–10–70. Cl. 40.

U.S. GOVERNMENT PRINTING OFFICE: O—1970

U. S.
OFFICIAL GAZETTE
UNITED STATES
PATENT OFFICE

VOL 873

APRIL
1970

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